z/OS Communications Server

IBM

APPC Application Suite User's Guide

Version 1 Release 2

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> **Note:**
>
> Before using this information and the product it supports, be sure to read the general information under "Appendix E. Notices" on page 169.

Contents

Figures

vii

Tables

About This Book

This book documents the end-user interface (concepts and commands) for the APPC Application Suite. It assumes that the ∏ has already been installed and configured for use by the system administrator and is ready for use. The administrator's tasks are documented in *z/OS Communications Server APPC Application Suite Administration*.

This book uses a graphical presentation for describing command syntax. If you are unfamiliar with this notation, see "Appendix A. How to Read the Syntax Diagrams" on page 113.

This book is for the end users of the APPC Application Suite. This book assumes that you know how to perform basic APPC configuration tasks for the operating system platform you are using.

You can use this book to reference procedures, testing, commands, and troubleshooting for the APPC Application Suite.

Where to Find More Information

This section contains:
- Pointers to information available on the Internet
- Information about licensed documentation
- Information about LookAt, the online message tool
- A set of tables that describes the books in the z/OS Communications Server (z/OS CS) library, along with related publications

Where to Find Related Information on the Internet

Home Page **Web address**
z/OS   http://www.ibm.com/servers/eserver/zseries/zos/
z/OS Internet Library
               http://www.ibm.com/servers/eserver/zseries/zos/bkserv/
IBM Communications Server product
               http://www.software.ibm.com/network/commserver/
IBM Communications Server support
               http://www.software.ibm.com/network/commserver/support/
IBM Systems Center publications
               http://www.redbooks.ibm.com/
IBM Systems Center flashes
               http://www-1.ibm.com/support/techdocs/atsmastr.nsf
VTAM and TCP/IP
               http://www.software.ibm.com/network/commserver/about/csos390.html
IBM   http://www.ibm.com
RFC   http://www.ietf.org/rfc.html

Information about Web addresses can also be found in informational APAR II11334.

DNS Web Sites
For information about DNS, see the following Web sites:

USENET news groups:
       comp.protocols.dns.bind

For BIND mailing lists, see:

- http://www.isc.org/ml-archives/
  - BIND Users
    - Subscribe by sending mail to bind-users-request@isc.org
    - Submit questions or answers to this forum by sending mail to bind-users@isc.org
  - BIND 9 Users (Note: This list may not be maintained indefinitely.)
    - Subscribe by sending mail to bind9-users-request@isc.org
    - Submit questions or answers to this forum by sending mail to bind9-users@isc.org

For definitions of the terms and abbreviations used in this book, you can view or download the latest *IBM Glossary of Computing Terms* at the following Web address:

> http://www.ibm.com/ibm/terminology

Note: Any pointers in this publication to Web sites are provided for convenience only and do not in any manner serve as an endorsement of these Web sites.

Licensed Documents

z/OS Communications Server licensed documentation in PDF format is available on the Internet at the IBM Resource Link Web site at http://www.ibm.com/servers/resourcelink. Licensed books are available only to customers with a z/OS Communications Server license. Access to these books requires an IBM Resource Link Web user ID and password, and a key code. With your z/OS Communications Server order, you received a memo that includes this key code. To obtain your IBM Resource Link Web user ID and password, log on to http://www.ibm.com/servers/resourcelink. To register for access to the z/OS licensed books perform the following steps:

1. Log on to Resource Link using your Resource Link user ID and password.
2. Click on **User Profiles** located on the left-hand navigation bar.
3. Click on **Access Profile**.
4. Click on **Request Access to Licensed books.**
5. Supply your key code where requested and click on the **Submit** button.

If you supplied the correct key code, you will receive confirmation that your request is being processed. After your request is processed, you will receive an e-mail confirmation.

You cannot access the z/OS licensed books unless you have registered for access to them and received an e-mail confirmation informing you that your request has been processed. To access the licensed books:

1. Log on to Resource Link using your Resource Link user ID and password.
2. Click on **Library.**
3. Click on **zSeries**.
4. Click on **Software**.
5. Click on **z/OS Communications Server**.
6. Access the licensed book by selecting the appropriate element.

LookAt, an Online Message Help Facility

LookAt is an online facility that allows you to look up explanations for z/OS CS messages and system abends.

Using LookAt to find information is faster than a conventional search because LookAt goes directly to the explanation.

LookAt can be accessed from the Internet or from a TSO command line.

To use LookAt as a TSO command, LookAt must be installed on your host system. You can obtain the LookAt code for TSO from the LookAt Web site by clicking on **News and Help** or from the z/OS V1R2 Collection, SK3T-4269.

To find a message explanation from a TSO command line, simply enter **lookat+message ID**, as in the following example:

```
lookat ezz8477i
```

This results in direct access to the message explanation for message EZZ8477I.

You can use LookAt on the Internet at the following Web site: www.ibm.com/servers/eserver/zseries/zos/bkserv/lookat/lookat.html

To find a message explanation from the LookAt Web site, simply enter the message ID. You can select the release, if applicable.

How to Contact IBM® Service

For telephone assistance in problem diagnosis and resolution (in the United States or Puerto Rico), call the IBM Software Support Center anytime (1-800-237-5511). You will receive a return call within 8 business hours (Monday – Friday, 8:00 a.m. – 5:00 p.m., local customer time).

Outside of the United States or Puerto Rico, contact your local IBM representative or your authorized IBM supplier.

z/OS Communications Server Information

This section contains descriptions of the books in the z/OS Communications Server library.

z/OS Communications Server publications are available:

- Online at the z/OS Internet Library web page at http://www.ibm.com/servers/eserver/zseries/zos/
- In hardcopy and softcopy
- In softcopy only

Softcopy Information

Softcopy publications are available in the following collections:

Titles	Order Number	Description
z/OS V1R2 Collection	SK3T-4269	This is the CD collection shipped with the z/OS product. It includes the libraries for z/OS V1R2, in both BookManager and PDF formats.

Titles	Order Number	Description
z/OS Software Products Collection	SK3T-4270	This CD includes, in both BookManager and PDF formats, the libraries of z/OS software products that run on z/OS but are not elements and features, as well as the *Getting Started with Parallel Sysplex* bookshelf.
z/OS V1R2 and Software Products DVD Collection	SK3T-4271	This collection includes the libraries of z/OS (the element and feature libraries) and the libraries for z/OS software products in both BookManager and PDF format. This collection combines SK3T-4269 and SK3T-4270.
z/OS Licensed Product Library	SK3T-4307	This CD includes the licensed books in both BookManager and PDF format.
System Center Publication IBM S/390 Redbooks Collection	SK2T-2177	This collection contains over 300 ITSO redbooks that apply to the S/390 platform and to host networking arranged into subject bookshelves.

z/OS Communications Server Library

The following abbreviations follow each order number in the tables below.

HC/SC — Both hardcopy and softcopy are available.

SC — Only softcopy is available. These books are available on the CD Rom accompanying z/OS (SK3T-4269 or SK3T-4307). Unlicensed books can be viewed at the z/OS Internet library site.

Updates to books are available on RETAIN and in the document called *OS/390 DOC APARs and ++HOLD DOC data* which can be found at http://www.s390.ibm.com/os390/bkserv/ new_tech_info.html. See "Appendix D. Information Apars" on page 167 for a list of the books and the informational apars (info apars) associated with them.

Planning and Migration:

Title	Number	Format	Description
z/OS Communications Server: SNA Migration	GC31-8774	HC/SC	This book is intended to help you plan for SNA, whether you are migrating from a previous version or installing SNA for the first time. This book also identifies the optional and required modifications needed to enable you to use the enhanced functions provided with SNA.
z/OS Communications Server: IP Migration	GC31-8773	HC/SC	This book is intended to help you plan for TCP/IP Services, whether you are migrating from a previous version or installing IP for the first time. This book also identifies the optional and required modifications needed to enable you to use the enhanced functions provided with TCP/IP Services.

Resource Definition, Configuration, and Tuning:

Title	Number	Format	Description
z/OS Communications Server: IP Configuration Guide	SC31-8775	HC/SC	This book describes the major concepts involved in understanding and configuring an IP network. Familiarity with the z/OS operating system, IP protocols, z/OS UNIX System Services, and IBM Time Sharing Option (TSO) is recommended. Use this book in conjunction with the *z/OS Communications Server: IP Configuration Reference*.
z/OS Communications Server: IP Configuration Reference	SC31-8776	HC/SC	This book presents information for people who want to administer and maintain IP. Use this book in conjunction with the *z/OS Communications Server: IP Configuration Guide*. The information in this book includes: • TCP/IP configuration data sets • Configuration statements • Translation tables • SMF records • Protocol number and port assignments
z/OS Communications Server: SNA Network Implementation Guide	SC31-8777	HC/SC	This book presents the major concepts involved in implementing an SNA network. Use this book in conjunction with the *z/OS Communications Server: SNA Resource Definition Reference*.
z/OS Communications Server: SNA Resource Definition Reference	SC31-8778	HC/SC	This book describes each SNA definition statement, start option, and macroinstruction for user tables. It also describes NCP definition statements that affect SNA.Use this book in conjunction with the *z/OS Communications Server: SNA Network Implementation Guide*.
z/OS Communications Server: SNA Resource Definition Samples	SC31-8836	SC	This book contains sample definitions to help you implement SNA functions in your networks, and includes sample major node definitions.
z/OS Communications Server: AnyNet SNA over TCP/IP	SC31-8832	SC	This guide provides information to help you install, configure, use, and diagnose SNA over TCP/IP.
z/OS Communications: Server AnyNet Sockets over SNA	SC31-8831	SC	This guide provides information to help you install, configure, use, and diagnose sockets over SNA. It also provides information to help you prepare application programs to use sockets over SNA.

Operation:

Title	Number	Format	Description
z/OS Communications Server: IP User's Guide and Commands	SC31-8780	HC/SC	This book describes how to use TCP/IP applications. It contains requests that allow a user to: log on to a remote host using Telnet, transfer data sets using FTP, send and receive electronic mail, print on remote printers, and authenticate network users.
z/OS Communications Server: IP System Administrator's Commands	SC31-8781	HC/SC	This book describes the functions and commands helpful in configuring or monitoring your system. It contains system administrator's commands, such as NETSTAT, PING, TRACERTE and their UNIX counterparts. It also includes TSO and MVS commands commonly used during the IP configuration process.

Title	Number	Format	Description
z/OS Communications Server: SNA Operation	SC31-8779	HC/SC	This book serves as a reference for programmers and operators requiring detailed information about specific operator commands.
z/OS Communications Server: Operations Quick Reference	SX75-0124	HC/SC	This book contains essential information about SNA and IP commands.

Customization:

Title	Number	Format	Description
z/OS Commmunications Server: SNA Customization	LY43-0092	SC	This book enables you to customize SNA, and includes the following: • Communication network management (CNM) routing table • Logon-interpret routine requirements • Logon manager installation-wide exit routine for the CLU search exit • TSO/SNA installation-wide exit routines • SNA installation-wide exit routines
z/OS Communications Server: IP Network Print Facility	SC31-8833	SC	This book is for system programmers and network administrators who need to prepare their network to route SNA, JES2, or JES3 printer output to remote printers using TCP/IP Services.

Writing Application Programs:

Title	Number	Format	Description
z/OS Communications Server: IP Application Programming Interface Guide	SC31-8788	SC	This book describes the syntax and semantics of program source code necessary to write your own application programming interface (API) into TCP/IP. You can use this interface as the communication base for writing your own client or server application. You can also use this book to adapt your existing applications to communicate with each other using sockets over TCP/IP.
z/OS Communications Server: IP CICS Sockets Guide	SC31-8807	SC	This book is for people who want to set up, write application programs for, and diagnose problems with the socket interface for CICS using z/OS TCP/IP.
z/OS Communications Server: IP IMS Sockets Guide	SC31-8830	SC	This book is for programmers who want application programs that use the IMS TCP/IP application development services provided by IBM's TCP/IP Services.
z/OS Communications Server: IP Programmer's Reference	SC31-8787	SC	This book describes the syntax and semantics of a set of high-level application functions that you can use to program your own applications in a TCP/IP environment. These functions provide support for application facilities, such as user authentication, distributed databases, distributed processing, network management, and device sharing. Familiarity with the z/OS operating system, TCP/IP protocols, and IBM Time Sharing Option (TSO) is recommended.

Title	Number	Format	Description
z/OS Communications Server: SNA Programming	SC31-8829	SC	This book describes how to use SNA macroinstructions to send data to and receive data from (1) a terminal in either the same or a different domain, or (2) another application program in either the same or a different domain.
z/OS Communications Server: SNA Programmers LU 6.2 Guide	SC31-8811	SC	This book describes how to use the SNA LU 6.2 application programming interface for host application programs. This book applies to programs that use only LU 6.2 sessions or that use LU 6.2 sessions along with other session types. (Only LU 6.2 sessions are covered in this book.)
z/OS Communications Server: SNA Programmers LU 6.2 Reference	SC31-8810	SC	This book provides reference material for the SNA LU 6.2 programming interface for host application programs.
z/OS Communications Server: CSM Guide	SC31-8808	SC	This book describes how applications use the communications storage manager.
z/OS Communications Server: CMIP Services and Topology Agent Guide	SC31-8828	SC	This book describes the Common Management Information Protocol (CMIP) programming interface for application programmers to use in coding CMIP application programs. The book provides guide and reference information about CMIP services and the SNA topology agent.

Diagnosis:

Title	Number	Format	Description
z/OS Communications Server: IP Diagnosis	GC31-8782	HC/SC	This book explains how to diagnose TCP/IP problems and how to determine whether a specific problem is in the TCP/IP product code. It explains how to gather information for and describe problems to the IBM Software Support Center.
z/OS Communications Server: SNA Diagnosis V1 Techniques and Procedures and *z/OS Communications Server: SNA Diagnosis V2 FFST Dumps and the VIT*	LY43-0088 LY43-0089	HC/SC	These books help you identify an SNA problem, classify it, and collect information about it before you call the IBM Support Center. The information collected includes traces, dumps, and other problem documentation.
z/OS Communications Server: SNA Data Areas Volume 1 and *z/OS Communications Server: SNA Data Areas Volume 2*	LY43-0090 LY43-0091	SC	These books describe SNA data areas and can be used to read an SNA dump. They are intended for IBM programming service representatives and customer personnel who are diagnosing problems with SNA.

Messages and Codes:

Title	Number	Format	Description
z/OS Communications Server: SNA Messages	SC31-8790	HC/SC	This book describes the ELM, IKT, IST, ISU, IUT, IVT, and USS messages. Other information in this book includes: • Command and RU types in SNA messages • Node and ID types in SNA messages • Supplemental message-related information

Title	Number	Format	Description
z/OS Communications Server: IP Messages Volume 1 (EZA)	SC31-8783	HC/SC	This volume contains TCP/IP messages beginning with EZA.
z/OS Communications Server: IP Messages Volume 2 (EZB)	SC31-8784	HC/SC	This volume contains TCP/IP messages beginning with EZB.
z/OS Communications Server: IP Messages Volume 3 (EZY)	SC31-8785	HC/SC	This volume contains TCP/IP messages beginning with EZY.
z/OS Communications Server: IP Messages Volume 4 (EZZ-SNM)	SC31-8786	HC/SC	This volume contains TCP/IP messages beginning with EZZ and SNM.
z/OS Communications Server: IP and SNA Codes	SC31-8791	HC/SC	This book describes codes and other information that appear in z/OS Communications Server messages.

APPC Application Suite:

Title	Number	Format	Description
z/OS Communications Server: APPC Application Suite User's Guide	GC31-8809	SC	This book documents the end-user interface (concepts, commands, and messages) for the AFTP, ANAME, and APING facilities of the APPC application suite. Although its primary audience is the end user, administrators and application programmers may also find it useful.
z/OS Communications Server APPC Application Suite Administration	SC31-8835	SC	This book contains the information that administrators need to configure the APPC application suite and to manage the APING, ANAME, AFTP, and A3270 servers.
z/OS Communications Serverz: APPC Application Suite Programming	SC31-8834	SC	This book provides the information application programmers need to add the functions of the AFTP and ANAME APIs to their application programs.

Redbooks

The following Redbooks may help you as you implement z/OS Communications Server.

Title	Number
TCP/IP Tutorial and Technical Overview	GG24–3376
SNA and TCP/IP Integration	SG24–5291
IBM Communication Server for OS/390 V2R10 TCP/IP Implementation Guide: Volume 1: Configuration and Routing	SG24–5227
IBM Communication Server for OS/390 V2R10 TCP/IP Implementation Guide: Volume 2: UNIX Applications	SG24–5228
IBM Communication Server for OS/390 V2R10 TCP/IP Implementation Guide: Volume 3: MVS Applications	SG24–5229
OS/390 Secureway Communication Server V2R8 TCP/IP Guide to Enhancements	SG24–5631
TCP/IP in a Sysplex	SG24–5235
Managing OS/390 TCP/IP with SNMP	SG24–5866
Security in OS/390–based TCP/IP Networks	SG24–5383
IP Network Design Guide	SG24–2580

Related Information

For information about z/OS products, refer to *z/OS Information Roadmap* (SA22-7500). The Roadmap describes what level of documents are supplied with each release of z/OS Communications Server, as well as describing each z/OS publication.

The table below lists books that may be helpful to readers.

Title	Number
z/OS SecureWay Security Server Firewall Technologies	SC24-5922
S/390: OSA-Express Customer's Guide and Reference	SA22-7403
z/OS MVS Diagnosis: Procedures	GA22-7587
z/OS MVS Diagnosis: Reference	GA22-7588
z/OS MVS Diagnosis: Tools and Service Aids	GA22-7589

Determining If a Publication Is Current

As needed, IBM updates its publications with new and changed information. For a given publication, updates to the hardcopy and associated BookManager softcopy are usually available at the same time. Sometimes, however, the updates to hardcopy and softcopy are available at different times. Here is how to determine if you are looking at the most current copy of a publication:

1. At the end of a publication's order number there is a dash followed by two digits, often referred to as the dash level. A publication with a higher dash level is more current than one with a lower dash level. For example, in the publication order number GC28-1747-07, the dash level 07 means that the publication is more current than previous levels, such as 05 or 04.

2. If a hardcopy publication and a softcopy publication have the same dash level, it is possible that the softcopy publication is more current than the hardcopy publication. Check the dates shown in the Summary of Changes. The softcopy publication might have a more recently dated Summary of Changes than the hardcopy publication.

3. To compare softcopy publications, you can check the last two characters of the publication's filename (also called the book name). The higher the number, the more recent the publication. Also, next to the publication titles in the CD-ROM booklet and the readme files, there is an asterisk (*) that indicates whether a publication is new or changed.

Summary of Changes

This book contains minor terminology, maintenance, and editorial changes. Technical changes or additions to the text and illustrations are indicated by a vertical line to the left of the change.

xxi

Chapter 1. Overview

The IBM APPC Application Suite is a set of common applications designed to enhance the value of SNA networks for end users. These applications simplify the use of SNA networks, providing solutions for common end-user tasks such as file transfer, terminal emulation, connectivity testing, and name registration. The APPC Application Suite also includes application programming interfaces (APIs) for use by programmers, and special services to assist administrators in making SNA networks easier to use.

These applications can be used in both traditional SNA networks and peer APPN networks. Designed to promote multivendor connectivity, the APPC Application Suite functions are intended to work with APPC Application Suite implementations on other IBM and non-IBM operating environments as those offerings become available.

Product Overview

The Communications Manager/2 Release 1.11 includes the APPC Application Suite package, and consists of the following three facilities:
- APING—a tool to check connectivity
- AFTP—a file transfer program modeled after TCP/IP's FTP
- ANAME—a name server for mapping SNA LU names to aliases

The APPC Application Suite ∏ is a set of client/server facilities that runs on advanced program-to-program communications (APPC) sessions. Some of the facilities also provide an application programming interface (API) so that additional applications can be developed which access these facilities.

The following parts are shipped in the IBM APPC Application Suite for MVS™ and VM:

Facility	Client	Server	API
APPC Connectivity Tester (APING)	X	X	
APPC NameServer (ANAME)	X	X	X
APPC File Transfer Protocol (AFTP)	X	X	X
APPC 3270 Emulator Server (A3270)		X	

Some of the clients and servers for these facilities are also available on other operating systems, enabling communication across platforms. For example, SNA Desktop/6000 V1.1 provides the APPC Application Suite functions on the AIX platform, including an A3270 client application.

APPC Connectivity Tester (APING)

APING is an application that verifies network connections. It is very useful for end users, system administrators, and support personnel in establishing network connectivity, problem determination, and simple performance measurements. APING's operation and its command line interface are modeled after similar programs widely used in other networks. APING should be the first program you run after configuring APPC to test the new configuration. APING returns detailed error information if problems are detected.

APING provides the following functions for APPC verification:
- Determines whether a session can be set up between two computers
- Exchanges data packets
- Times the length of time for a data transfer
- Displays error data if session allocation fails

APPC File Transfer Protocol

The APPC File Transfer Protocol (AFTP) facility provides file manipulation and transfer services to application programs and end-users. With AFTP, you can copy text and binary files between your computer and any computer running the AFTP server.

The AFTP facility also has commands that help you locate the files you want to work with and allow you to:
- Set and query the current directory
- List files in a selected directory

APPC NameServer

The APPC NameServer (ANAME) facility reduces some of the complexity of APPC by simplifying network naming. It allows users to register nicknames associated with their fully qualified LU names in a globally accessible directory. It also allows you to associate multiple LUs with a group and to identify transaction programs available at an LU. All of the clients and servers in the APPC Application Suite are able to access the information in the ANAME database.

A3270 Emulator Server

The A3270 server allows users on workstations to establish a 3270 emulator connection to the host using APPC communications. The A3270 server function does not have a user interface. The user interface is provided by the client code on the workstation and is documented in the client documentation. Information on the A3270 server is provided in the *z/OS Communications Server APPC Application Suite Administration*.

An APPC Primer

This section briefly introduces some of the terminology and concepts of advanced program-to-program communication (APPC) that you will need to understand to use the APPC Application Suite. For more details on APPC, check the documentation for the software that provides APPC on your system.

What Is APPC?

Advanced program-to-program communication (APPC) is software that enables high-speed communications between programs on different computers, from portables and workstations to midrange and host computers. APPC software is available for many different IBM and non-IBM operating systems, either as part of the operating system or as a separate software package.

APPC serves as a translator between application programs and the network. When an application on your computer passes information to the APPC software, APPC translates the information and passes it to a network interface, such as a local area network (LAN) adapter card. The information travels across the network to another computer, where the APPC software receives the information from the network interface. APPC translates the information back into its original format and passes it to the corresponding partner application.

What are Transaction Programs and Conversations?

The part of an application that initiates or responds to APPC communications is called a *transaction program* or TP. A transaction program on your workstation is not an entire, stand-alone program. Instead, it is the part of the program that handles transactions (exchanges of data) with another program.

When people talk with each other, they are having a conversation. Likewise, the communication between two transaction programs is called a *conversation*. The two programs having the conversation are said to be *partners*.

A conversation between two programs is similar to conversation between two people. When you talk with another person, you follow unwritten rules that govern how you begin and end the conversation, take turns speaking, and exchange information. Similarly, APPC is called a *protocol* because it provides the rules that govern how conversations between transaction programs start and stop, which program speaks first, and how data is exchanged.

A program in your computer can have several conversations active at one time, with the same transaction program or with different transaction programs.

What are Logical Units and Sessions?

When two people in different buildings want to talk to each other, they must use their telephones. Similarly, transaction programs in different computers cannot talk directly to each other. Instead, they converse over sessions between two logical units.

A *logical unit* or LU is APPC software that serves as an interface or translator between a transaction program and the network. A logical unit manages the exchange of data between transaction programs.

An *LU* is located on your computer. A *partner LU* is located on a partner computer.

Before a transaction program can start a conversation with a partner transaction program, APPC must establish a *session*, the session that connects the local LU and the partner LU.

There is a one-to-one relationship between a conversation and a session. A session can support only one conversation at a time. However, as soon as that conversation ends, another conversation can use the session. So, compared to conversations, sessions are long-lived connections.

What Is a Mode?

A mode is a set of parameters that defines the characteristics of a session between two LUs. Modes have names that must match exactly. There are 4 modes predefined that can be used by most applications. (Two more modes, SNASVCMG and CPSVCMG, are also defined, but they are not used directly by applications.) The SC suffix in the mode name means the definitions require a secure transmission route.
- #INTER—For interactive jobs, minimal delay
- #BATCH—For batch jobs, delay is acceptable but high bandwidth may be required
- #INTERSC—For interactive jobs with security
- #BATCHSC—For batch jobs with security

The exact list of modes supported depends on how your APPC system was configured. Contact the person who installed your APPC software if you need information about the supported mode values or about how your system is configured to act if an unsupported value is used.

What Is CPI-C Side Information?

CPI-C, Common Programming Interface Communications, provides a consistent application programming interface for network applications.

CPI-C programming provides a mechanism, called side information, which associates a set of parameters with a specified symbolic destination name. The CPI-C program then uses the symbolic destination name to initialize a conversation. This information includes:

CPI-C symbolic destination name
> The name used to refer to the CPI-C side information entry

TP name
> The name used to identify which program to start on the partner computer

LU name
> The name of the partner LU

mode name
> The characteristics associated with the session between the LUs

What are Clients and Servers?

Clients and servers are special transaction programs that interact with each other. The client program provides the end user interface. The server program provides the services requested by the end user. Typically a server program is a central resource accessed by many end users.

What is APPC Security?

Owners of APPC server transaction programs may want to allow only a limited set of users to start the program. APPC provides a mechanism for the client transaction program to identify its user to the server system. This is called APPC conversation security.

APPC defines 3 levels of security for client programs:

none The client system sends no security information (user ID or password).

same APPC tries to determine a user ID for the client program. If the server system requires a password and the client system permits APPC to retrieve one for the user ID, APPC will also send the password to the server system. If no user ID is available, or if the server requires a password but the client system does not allow APPC to retrieve a password, then no security information is sent to the server. (This is sometimes called "downgraded to security NONE".)

program
> The client transaction program will override any security information the local system may provide. The client program must supply both a user and a password. CPI-C programs may get the user ID and password from one of two sources:
> * Prompting the user to enter the information
> * Checking the CPI-C side information

Note: Not all systems allow this option.

If the client program uses security=same or security=program, APPC on the server must check the user ID and password regardless of the server transaction's security requirements. This requirement can cause some unexpected behavior. For example, the APING server typically requires no security but the user may still receive a "security not valid" message. This happens when the default security for APPC is same causing the APING client to send a user ID and password, which may not be recognized by the APING server system.

Specifying Destinations in the APPC Application Suite

Several of the commands in the APPC Application Suite require you to specify the destination address of the server you want to access. The destination address you specify may be in one of the following formats:

- Fully qualified LU name

  Every resource in the SNA network has a unique address in the format `NETID.LUNAME`. This network address is known as the fully qualified LU name. This address is defined when the resource is added to the network.

  Platform Restriction: You cannot specify fully qualified LU names in commands issued from VM clients.

- Locally defined LU alias or CPI-C symbolic destination name

  You can associate easy-to-remember aliases with the fully qualified LU names (network addresses) that you access most often. The methods used vary by operating system, but are usually either locally defined LU aliases or CPI-C symbolic destination names.

  The table of personal aliases you create is stored on your system and is accessible only to you.

- User name from ANAME database

  The ANAME database is a central resource in which users associate an alias or user name with their own fully qualified LU name, transaction programs, and group names. All users in the ANAME network can use the user names defined in this database.

Each of your personally defined aliases (locally defined LU aliases and CPI-C symbolic destination names) will be unique. Likewise, each of the ANAME user names maps to a single fully qualified LU name within that database.

It is possible, however, that there will be conflicts between your personally defined aliases and the ANAME user names. In case of such a conflict, the clients and servers of the APPC Application Suite use your personally defined alias information.

Note: On host systems, a single LU can represent multiple users. On those systems, you need to also specify a user ID and password. See "Specifying Security in the APPC Application Suite" on page 6 for more information.

Specifying Security in the APPC Application Suite

The aping, acopy, and AFTP open commands allow you to explicitly specify the conversation security if the default security level fails.

For a brief description of security levels, see "What is APPC Security?" on page 4.

The security requirements for a transaction program may depend on:
* The client's operating system and its configuration
* The server's operating system and its configuration
* The configuration of server software

This section describes the typical security processing for the components of the APPC Application Suite. The actual security requirements on your system may be different because of the configuration of the systems involved.

ANAME Security

The ANAME clients do not need to provide user ID and password security authorization to the ANAME servers on any of the supported platforms. Instead ANAME uses the fully qualified LU name as its security key. Security requirements depend on the requested functions:

* Query requests

    All clients are authorized to issue queries against all records in the ANAME data base. Any ANAME client is authorized to access any ANAME server.

* Register and delete requests

    In general, any user can register (add) or delete all records associated with his own fully qualified LU name. However, on host systems like MVS and VM, many users share the same fully qualified LU name. When configuring the ANAME server, the ANAME administrator may choose to prevent users from issuing register and delete requests.

* Administrator functions

    Only ANAME administrators can issue requests for other fully qualified LU names and can add records to the data base with duplicate user names.

See *z/OS Communications Server APPC Application Suite Administration* for more information on administrator functions and restricting register and delete requests.

APING Security

The aping command uses flags to indicate desired security. Use the -n flag to connect to the APING server with security = none. Use the -u and -p flags to provide a user ID and password.

If no security flags are specified on the aping command and APING detects a security error, APING will try to establish the connection with security=none.

APING Server
If the APING server is on VM, the client must provide a user ID and password. The APING server cannot be a VM shared user ID.

Security requirements for APING servers on other platforms depend on the configuration of those systems.

APING Clients

The APING client can be a VM shared user ID, but cannot connect to the APING server with security=same. The client will need to specify security=none or specify another user ID and password combination that is valid on the target system.

APING Security Summary

The following table summarizes the security requirements and security restrictions for the APING components on different operating system platforms:

Table 1. APING Security Summary

Platform	Component	Requirements	Restrictions
MVS	APING server		
	APING client		
VM	APING server	user ID and password required	user ID and password must be uppercase cannot be shared user ID
	APING client		access from shared user ID is limited cannot aping self

AFTP Security

In AFTP, security is checked when a client requests a connection to the AFTP server.

AFTP Server

If the AFTP server is on VM, the client must provide a user ID and password. The AFTP server cannot be a VM shared user ID.

Security requirements for other platforms depend on the configuration of those systems.

AFTP Client

With the AFTP client (the AFTP command environment), the connection is requested by specifying a destination on the aftp command or by issuing the open command.

Before attempting to make the connection, the AFTP client will prompt you for a user ID and password. To connect with security=same, press enter at the user ID prompt with no value. If you do not provide a user ID and AFTP detects a security error, AFTP will try to establish the connection with security=none.

To explicitly connect with security=none, specify a user ID of "ANONYMOUS".

The AFTP client can be a VM shared user ID, but cannot connect to the AFTP server with security=same. The client will need to specify security=none or specify another user ID and password combination that is valid on the target system.

Acopy Client

The acopy command (the AFTP command line environment) uses flags to indicate desired security. Use the -n flag to connect to the AFTP server with security=none. Use the -u and -p flags to specify a user ID and password.

The acopy client can be a VM shared user ID, but cannot connect to the AFTP server with security=same. The client will need to specify security=none or specify another user ID and password combination that is valid on the target system.

AFTP Security Summary

The following table summarizes the security requirements and security restrictions for the AFTP components on different operating system platforms:

Table 2. AFTP Security Summary

Platform	Component	Requirements	Restrictions
MVS	AFTP server		
	AFTP client		
	acopy client		
VM	AFTP server	user ID and password	user ID and password must be uppercase cannot be shared user ID
	acopy client		access from shared user ID is limited
	AFTP client		access from shared user ID is limited

Default Security Processing

The default security level used for the aping, acopy, and AFTP open commands depends on the way you specify the destination value on the command and what is coded in your CPI-C side information file:

- If destination is a symbolic destination name:
  - The default security is the security level specified in the CPI-C side information file for that symbolic destination name.
  - If no security is specified, security=same will be used.
- If destination is a fully qualified LU name or a user name in the ANAME database:
  - If the CPI-C side information file contains a symbolic destination definition for the server transaction program name (APINGD or AFTPD), use the security defined on that definition.
  - If you are already logged on with a user ID and password, use security=same.
  - Otherwise, use security=none.

Chapter 2. End User Installation Procedures

The client and server transaction programs for the APPC Application Suite are installed and customized by an administrator following instructions found in *z/OS Communications Server APPC Application Suite Administration*. This chapter provides instructions that each end user must follow to enable the APPC Application Suite transaction programs to run on his personal user ID.

VM Users

Before using any of the APPC Application Suite, issue the following commands:

```
SET SERVER ON
SET FULLSCREEN OFF
SET AUTOREAD OFF
```

You may want to place these commands in your PROFILE EXEC so they will be issued each time you log on.

MVS Users

All installation is done by the administrator.

Chapter 3. APPC Connectivity Tester (APING)

The APPC Connectivity Tester (APING) facility should be the first program executed after modifying the APPC configuration on your computer. The APING facility exchanges data packets with a partner computer, and measures how long the data transfer takes. It can be used to get a coarse measure of the session setup time between two computers, and the throughput and turnaround time on that APPC session. APING can determine whether a session can be set up between two computers, and displays extensive error information if session setup fails.

APING consists of two transaction programs; APING, which runs on the client, and APINGD, which runs on the server.

Using APING

The simplest way to use APING is to specify only the server destination name. For example, you can start APING with:

```
APING destination
```

Note: The full syntax of the command and its parameters are described in "aping" on page 14.

When you issue the APING command, a conversation is allocated. This sets up a session if one is not already available. All of this activity is timed and reported as the "Allocate Duration". By default, APING sends 100 bytes to the partner and receives the same number of bytes, which is also timed. This is done twice (also the default).

The aping command has parameters to tailor the size of packets sent (-s), the number of packets sent each time (-c), and the number of exchanges between partners to be measured (-i). For example, you can request that 4 packets of 500 bytes each be exchanged for each throughput measurement and request that 2 sets of measurements be done. The command for this request is:

```
APING destination -s 500 -c 4 -i 2
```

On your display, that command provides the following information:

```
APING version 2.43 APPC echo test with timings.
Licensed Materials - Property of IBM
5654-025
(C) Copyright 1994 by IBM Corp. All rights reserved.

Allocate duration:                             130 ms

Connected to a partner running on: VM/CMS

Program startup and Confirm duration:      1692 ms

        Duration        Data Sent       Data Rate       Data Rate
        (msec)          (bytes)         (KB/s)          (Mb/s)
        --------        ---------       ---------       ---------
            408            4000             9.6            0.077
            194            4000            20.1            0.161
Totals:     602            8000            13.0            0.104

Duration statistics:  Min = 194   Ave = 301   Max = 408
```

Allocation duration
> The amount of time it takes for the Allocate call to return to the program. If a session already exists, the allocation duration will be 0.

> **Note:** If you used an ANAME user name to specify the partner name, the time used to resolve that user name to a fully qualified LU name will be included in the allocation duration.

Connected to a partner running on
> The platform on which your partner is running.

Program startup
> This is an approximate measure of the time needed to start the partner transaction program.

Duration (msec)
> The time needed to complete each iteration of data transfer. There will be one line of data for each iteration requested (controlled by the -i parameter) and a Totals line to summarize all iteration measurements.

Data Sent (bytes)
> The total bytes sent during the iteration from client to server and server to client (controlled by the -c, -s, and -1 parameters).

> This field (in each iteration and in the Totals line) is limited to 4 000 000 000 bytes of data. If that limit is exceeded, the value will wrap and the data rate calculations will be incorrect. Select your combination of parameters so that the total data sent is below the limit.

Data Rate (KB/s)
> The data transfer rate in kilobytes per second.

Data Rate (Mb/s)
> The data transfer rate in megabits per second.

Duration Statistics
> A summary showing minimum, maximum, and average durations across all iterations.

If the session cannot be allocated, you get error messages that should help identify possible configuration problems. See "Appendix C. Messages" on page 121 for a more detailed description of the messages you received and suggested corrective actions.

Chapter 4. APING Command Reference

See "Appendix A. How to Read the Syntax Diagrams" on page 113 for instructions if you are unfamiliar with reading graphical syntax diagrams.

aping

Purpose

Use this command to test the connection to an APPC partner and to measure throughput and turnaround time on that session.

Format

```
►►──aping──destination──┬──────────────┬──┬──────────┬──┬──────────────┬──►
                        │   -m#INTER   │  │ -tAPINGD │  │    -s100     │
                        └──-mmode_name─┘  └──-ttp_name┘  └──-spacket_size┘
```

```
►──┬────────────┬──┬──────────────────────┬──┬──────────────────────────┬──►
   │    -i2     │  │        -c1           │  │        ┌──-n──┐           │
   └──-iiterations┘  └──-cconsecutive_packets┘  │        -u──userid       │
                                              └──-uuserid──-ppassword──┘
```

```
►──┬────┬──┬────┬──┬──────────┬──►◄
   └-q──┘  └-1──┘  └-llevel────┘
```
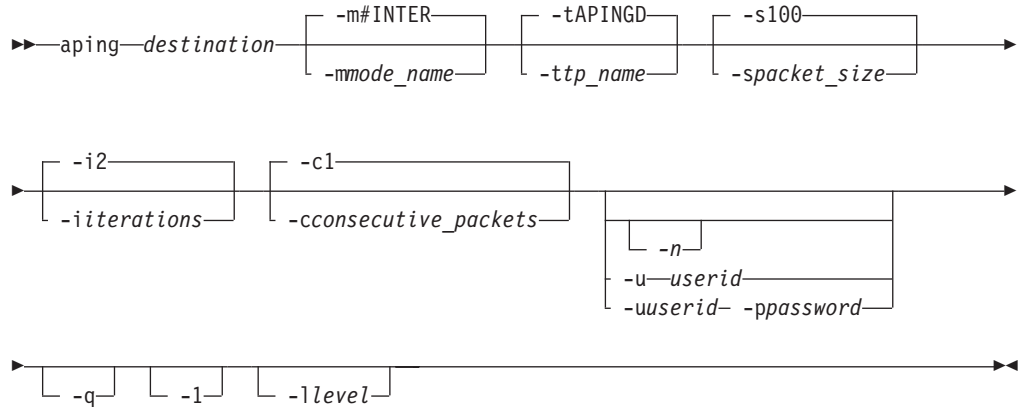
Parameters

destination
> Identifies the partner you want to connect to. The APING server must be installed on the partner. A destination may be a fully qualified LU name, a CPI-C symbolic destination name, or a nickname defined in the ANAME database. See "Specifying Destinations in the APPC Application Suite" on page 5 for more information on specifying this parameter.

-m
> Mode name; sets the properties to use for the APPC conversation. This value is case-insensitive. See "What Is a Mode?" on page 3 for more information on setting conversation modes.
>
> Default: **#INTER**
>
> **Platform Restriction:** On many VM systems, the # character is used as the logical line end character. If your VM system is set this way, use the `CP TERMINAL LINEND OFF` command to disable the line end character before issuing a command to set a mode name containing the # character.

-t Transaction program name; name of the program to start on the server. This value is case-sensitive.

> **Platform Restriction:** In MVS, if you enter all of the attributes of a command in uppercase, the entire set of attributes will be folded to lowercase. That is, if you type this command:
>
> `APING MYNAME -T APINGD`
>
> The following command is processed:
>
> `aping myname -t apingd`

Default: **APINGD**

-s Size; the number of bytes in the packet to be transmitted in each send call by each side.

Range: 0 – 32763

Default: 100

-i Iterations; the number of times that data packets are exchanged between partners and the number of timing measurements taken.

Range: 1 – 2^{31} (2,147,483,647)

Default: 2

-c Consecutive packets; the number of send calls issued by each side before giving the partner permission to send. For each iteration (-i), each partner will send this number of data packets of the specified packet size (-s).

Range: 1 – 2^{31} (2,147,483,647)

Default: 1

-n

No security; forces APING to use no security on the conversation (APPC security=none). Try this parameter if using the default security results in an error that conversation security is not valid. See "Specifying Security in the APPC Application Suite" on page 6 for an explanation of using security parameters in the APPC Application Suite.

-u

User ID; your user ID on the server. The user ID can be 1 – 8 characters in length. If you specify a user ID, then you must also specify a password (-p).

Specify the user ID and password parameters when error messages indicate that you must provide security information and specifying the **-n** parameter does not solve the problem. See "Specifying Security in the APPC Application Suite" on page 6 for an explanation of using security parameters in the APPC Application Suite.

Platform Restrictions:
1. In VM, the user ID must be specified in uppercase.
2. In VM, you cannot specify a shared user ID on this parameter.

-p

Password; the assigned security code associated with your user ID on the server. The password can be 1 – 8 characters in length.

Platform Restriction: In VM, the password must be specified in uppercase.

-q Quiet; do not issue any messages. If you specify this flag you will not get any informational messages (for example, the name of the program or the performance numbers) or any error messages if APING fails to complete. If the command succeeds, you will get a return code of 0. If the command fails, you will get a nonzero return code and the error messages will be written to your error log.

-1 One way; send data from client to server but do not echo the data back to the client.

Note: This flag is a number one, not the letter L.

-l Trace level; the amount of trace data to be written into the trace log when

processing this command. See "Capturing APING Trace Data" on page 120 for additional information about APING tracing.

Default: 0 (no trace data collected)

Note: This flag is the letter L, not the number 1.

Examples

- This example tests the connection to destination NETASERV using all of the default values for this command.

  ```
  APING NETASERV
  ```
- This example tests the connection to destination NETASERV but changes the parameters controlling the amount of data exchanged. In this example, 3 packets of data will be sent by each partner and a total of 5 iterations will be measured.

  ```
  APING NETASERV -i 5 -c 3
  ```
- This example includes a user ID and password on the command.

  ```
  APING NETASERV -U MEPETERS -P ABC123
  ```

Chapter 5. APPC NameServer (ANAME)

The APPC NameServer (ANAME) provides a global aliasing facility which allows you to easily identify and remember the name of a partner in a computer network. Since LU names are generally non-intuitive, it is often difficult to associate an LU name such as USIBMNR.NR51069I with the name of the person or resource using that LU. However, the LU name must be used to identify the partner in a transaction program unless a local name for that partner is defined. ANAME eliminates the need for users to be aware of LU names by mapping the LU names to more usable nicknames (user names) which are accessible across the network. The user can then use these nicknames in place of LU names without locally defining them. For example, rather than trying to remember a fully qualified LU name like USIBMNR.NR51069I, you can use a simple user name like PrintServer.

In addition to providing a global aliasing facility, the group membership function of ANAME allows LUs to be categorized according to common function or group association. This assists in locating specific services or in identifying characteristics of an LU. For example, all LUs that serve as global gateways can be identified by registering as a member of a group named Gateways.

An additional use of ANAME is to identify transaction programs which reside on particular LUs. Certain transaction programs require a server which is shared by all users in the network. In many cases, the server for this transaction program must be defined on every workstation using the service. ANAME allows these network-wide servers to be identified by registering specific transaction programs with an LU in the ANAME database. This eliminates the complexity of reconfiguration when the transaction program server is relocated.

The APPC NameServer consists of two transaction programs: ANAME, which runs on the client, and ANAMED, which runs on the server.

Understanding ANAME Basic Concepts

Before you start using the APPC NameServer (ANAME) facility, you need to understand a few basic concepts.

Understanding the ANAME Network

An *ANAME network* is comprised of one machine providing name services, called the *ANAME server*, and one or more clients requesting these services, called *ANAME clients*. Many clients can belong to the same ANAME network regardless of the actual physical location of the client machines. An ANAME client becomes part of an ANAME network when the location of the ANAME server is configured on the client machine. [1] A user does not have to register with the ANAME network to be considered part of the network. All ANAME clients in the ANAME network can issue queries.

ANAME Naming Considerations

Names that are registered with the ANAME network should be values that are easy to remember and will not change frequently. When selecting names to register with the ANAME network, consider how the names will be used when the ANAME network grows and changes. Keep in mind the following rules and conventions:

---

1. The user can access other ANAME networks by using the -s flag on the ANAME commands.

- Use names that will always be unique within a specific ANAME network. For example, first names or initials are discouraged.
- Use defined and understood domains as group names. For example, if users are naturally divided into teams or departments, use team or department names as group names.
- Use names that are easily or already associated with the person using the name. For example, use LAN or host user IDs.
- Consider how you will be using the names and any special criteria that might impose. For example, APPC partner aliases must be 1 – 8 characters in length. Therefore, if an ANAME user name is to be used as an APPC partner alias, it must meet this size limitation.
- The same value cannot be used as a user name and as a group name.

The administrator for your ANAME network might request that you follow a specific set of naming rules.

Understanding the Database

The ANAME database is the core of the APPC NameServer. The ANAME database is created and stored on the ANAME server machine. It contains all of the names that are registered in the ANAME network.

As an ANAME client, you can create and delete entries that are associated with your fully qualified LU name in the ANAME database. The administrator for the ANAME server can manage entries for any user.

Field Characteristics

The ANAME database is comprised of the following 4 fields:
- User name
- Fully qualified LU name
- Group name
- Transaction program name

Each time a user adds a name to the ANAME network, a new record is created in the database. Every record contains all four fields. However, some records may contain blanks in up to two of the fields. The fully qualified LU name field will never be blank since this is automatically filled in by the ANAME server when the record is added.

The following sections describe the characteristics of the fields.

User Name Field: The user name should be an easy-to-remember value associated with a fully qualified LU name. This is the name that others will use to identify you in the ANAME network.

Each user name must map to only one fully qualified LU name. You can create several records with the same user name for your fully qualified LU name. However, if a user name is already mapped to another fully qualified LU name, you must select a different user name.

Also, the same value cannot be used as a user name and as a group name. If you try to register with a user name that is already used in the database as a group name, the register request will fail.

Fully Qualified LU Name Field: The fully qualified LU name value of the ANAME client is determined by the ANAME server and added to the ANAME database

during registration. There are no restrictions on the number of existences of a fully qualified LU name. For example, a fully qualified LU name might map to several user names, several group names, and several transaction program names.

Group Name Field: The group name value is specified by a user upon registration. There are no restrictions on the number of existences of a group name or on the number of users registered as members of one group. Several users can register with the same group name and one user can register with several group names. For example, all members of a department might register as members of a particular group.

The same value cannot be used as a user name and as a group name. If you try to register with a group name that is already used in the database as a user name, the register request will fail.

Transaction Program Name Field: The transaction program name can be used to let others in the network know which transaction programs are installed on your machine. There are no restrictions on the number of existences of a transaction program name or the number of users registered with the same transaction program name.

Character Sets

The character set for the ANAME database includes upper and lower case A – Z, the numbers 0 – 9, and the following special characters:

	Blank
″	Double quote
#	Number sign
$	Dollar sign
%	Percent sign
&	Ampersand
'	Single Quote
(	Left parenthesis
)	Right parenthesis
+	Plus sign
,	Comma
.	Period
-	Hyphen
/	Slash
:	Colon
;	Semicolon
<	Less than sign
=	Equal sign
>	Greater than sign
@	At sign
_	Underscore

There are a few restrictions on using some of the nonalphanumeric characters.

Restrictions:

1. Although the blank character is a valid character in the ANAME database, operating system restrictions will not allow you to enter an ANAME value that contains a blank character from an MVS or VM client. Use the placeholder or full wildcard to query existing database values that contain a blank character.
2. The hyphen (-) character cannot be used as the first character of any field value.

3. The period (.) character cannot be used in the group name and user name field values. The period character is reserved for use in future enhancements of ANAME.

4. On many VM systems, the # character is used as the logical line end character. If your VM system is set this way, use the `CP TERMINAL LINEND OFF` command to disable the line end character before issuing a command to set a mode name containing the # character.

Case Sensitivity

ANAME does not convert the case of any values that are added to the ANAME database. The values are stored exactly as they are specified.

When searching the database for a specific value on a query request, all of the fields except for the transaction program name field are not case-sensitive. Therefore, a match is found by alphabetic value regardless of the case of the value.

The SNA architecture has defined transaction program names to be case sensitive. The transaction program name *APING* is different than the transaction program name *aping*. (Check the documentation for your transaction program for the correct way to specify your transaction program name.) Consequently, ANAME maintains case sensitivity in this field. When searching the database for a transaction program name match, the value in the transaction program name field must have the identical letters in the identical case that was specified.

Platform Restriction: In MVS, if you enter all of the attributes of a command in uppercase, the entire set of attributes will be folded to lowercase. That is, if you type this command:

```
ANAME REG -U MYNAME -T APINGD
```

The following command is processed:

```
aname reg -u myname -t apingd
```

Wildcards

A user can view or delete multiple records containing a common field value by using a wildcard. The following uses of wildcards are recognized by ANAME:

- Full wildcard

  The asterisk (*) is used as a wildcard for searching. If a user wishes to view or delete all records in a certain field, the asterisk (*) character can be used.

  For example, the following command is used to list all records associated with any user name (including blank user names):

  ```
  aname qry -u *
  ```

- Partial wildcard

  An asterisk (*) can be used in combination with specific characters. The asterisk represents 0 or more characters.

  For example, the following query would locate records with group names DEPTAB7, DEPTMARKET, DEPT:

  ```
  aname qry -g dept*
  ```

  The asterisk can also be used in the middle of a value. For example, the following query would locate records with user names MARTINM and MARYM, but not MARKP:

  ```
  aname qry -u mar*m
  ```

- Placeholder wildcard

The question mark (?) is used for placeholder wildcard searching. A question mark (?) between characters will cause a search on every value containing all the specified characters and any character in place of the question mark (?). Each question mark (?) indicates only one character.

For example, the following query would locate records containing the user names John, Joan, and Jean:

```
aname qry -u J??n
```

Blank fields

Many records in the ANAME database will contain values in only some of the fields. The fields that do not contain values will contain blanks.

You can explicitly specify a blank as a search value for a particular field by specifying a field flag without a value. The blank field flag can either be the last value specified on the command line or it can be followed by another flag.

For example, the following command would delete all of your records containing a blank user name:

```
aname del -u
```

The following command would locate all records containing the user name TMCCARTY and a blank group name:

```
aname qry -g -u TMCCARTY
```

Using ANAME Database with Other Programs

Many APPC commands and programs require you to identify a partner or destination. Typically the value requested is the fully qualified LU name.

The APPC NameServer facility and its database give you an easy way to look up (query) the correct fully qualified LU name for partners registered in your ANAME network. You can then use the fully qualified LU name as the destination for your program.

The APPC Application Suite clients accept user names as destination values in commands and query the database to obtain the fully qualified LU name. Therefore you can use:

```
APING BODINE
```

Note: The client and the server must belong to the same ANAME network in order for this to work.

See "Specifying Destinations in the APPC Application Suite" on page 5 for a more complete description of how destinations are specified and processed by the APPC Application Suite.

See *z/OS Communications Serverz: APPC Application Suite Programming* if you want to know more about writing your own applications that use the ANAME API.

Using ANAME

A user can request one of the following actions on the ANAME database:
- Add a name to the database (register)
- Remove a name from the database (delete)
- View a name or names in the database (query)

A status message is displayed upon the completion of all ANAME actions indicating whether the request succeeded or failed. If the action failed, the error and return code are displayed and logged. "Appendix C. Messages" on page 121 documents the ANAME messages and codes.

Obtaining Help

You can get help on the aname command by placing the help parameter (-h) after the command name (aname) or after the subcommand name (for example aname del).

The following are examples of commands that will give you help information:

```
aname -h

aname del -h
```

Registering Yourself in the ANAME Database

The register function lets you create an ANAME database record containing your fully qualified LU name and other associated values.

Your fully qualified LU name is automatically determined. You must supply at least one additional value (user name, group name, or transaction program name). A new record is created in the database if the register is successful and the record does not already exist.

Note: On host systems, many users share the same fully qualified LU name. Other users or programs (like AFTP) trying to connect to you will need to specify a user ID and password.

There are three different types of information you might want to put in the database about yourself:

- Your user name

  The simplest entry to add to the ANAME database is a record associating a user name with your fully qualified LU name, for example:

  ```
  aname reg -u Bodine
  ```

  If your fully qualified LU name is LU.A, then this record is added to the database:

  ```
  User Name  Fully Qualified LU Name   Group Name    TP Name
  ---------------------------------------------------------------
   Bodine      LU.A
  ```

  Because you did not specify a transaction program name, the ANAME server assumes that an unregistered transaction program might be available on your machine and may include this record in any query requests with the -t parameter specified. See "Finding Transaction Program Names in the ANAME Database" on page 27 for more information.

  The user name must be unique to your fully qualified LU name. That is, once the user name Bodine is associated with the fully qualified LU name LU.A, LU.A can register additional records the name Bodine. However, no other fully qualified LU name can register with the name Bodine.

  Note: The ANAME administrator does have the authority to override this restriction and create records with duplicate user names.

The same value cannot be used as a user name and as a group name. If you try to register with a user name that is already used in the database as a group name, the register request will fail.

The user name should follow any naming convention guidelines provided by the administrator for the ANAME server machine. See "ANAME Naming Considerations" on page 17 for suggestions on selecting a user name.

- Names of groups you belong to

  If you belong to any groups in the ANAME network, you should add those entries to the database so others can find you. You can use the same user name you used on your other entries or you can use a new user name.

  If you belong to the applications team and to department E38, you might register as:

  ```
  aname reg -u Bodine -g APPTEAM
  aname reg -u Bodine -g DEPTE38
  ```

  If your fully qualified LU name is LU.A, the following records will be added to the database:

  ```
  User Name  Fully Qualified LU Name   Group Name    TP Name
  ----------------------------------------------------------------
   Bodine     LU.A                      APPTEAM
   Bodine     LU.A                      DEPTE38
  ```

- Your transaction program names

  If you want to make it easier for others in your ANAME network to know what transaction programs are installed on your machine, register the names of those programs in the database.

  If you have the APING server program (APINGD) installed, you might register the following:

  ```
  aname reg -t APINGD
  ```

  If your fully qualified LU name is LU.A, the following record is added to the database:

  ```
  User Name  Fully Qualified LU Name   Group Name    TP Name
  ----------------------------------------------------------------
             LU.A                                    APINGD
  ```

  You can register a transaction program in the same record in which you register your user name and/or your group name, although you may want to register each transaction program only once. If the APPTEAM used the APINGD transaction program frequently, you might register the following:

  ```
  aname reg -u Bodine -g APPTEAM -t APINGD
  ```

  If your fully qualified LU name is LU.A, the following record is added to the database:

  ```
  User Name  Fully Qualified LU Name   Group Name    TP Name
  ----------------------------------------------------------------
   Bodine     LU.A                      APPTEAM       APINGD
  ```

If you later move to a new fully qualified LU name, you need to change the information in the database. Before you move, delete all of the records for your fully qualified LU name. After you move to the new fully qualified LU name, register yourself again in the database. If you forget to delete your records before you move, your ANAME administrator will have to delete the records for you.

Removing a Record from the ANAME Database

The delete function lets you remove a record or records containing your fully qualified LU name from the ANAME database.

All records which match the specified search values and contain your fully qualified LU name are removed from the ANAME database. You may enter a full or partial wildcard to indicate more than one value with which to search. You must specify at least one search value.

Note: You will not be asked to confirm your delete request so take care to set your search values to exactly what you want to delete. If you are not sure which records will be deleted, you can issue a query command with the same parameters first.

Following is a sample list of valid delete commands with examples of how they are used. For all delete examples, assume the following ANAME database exists:

```
User Name  Fully Qualified LU Name   Group Name    TP Name
-----------------------------------------------------------------
 Bodine     LU.A                      APPTEAM
 JBodine    LU.A
 JBodine    LU.A                                    APING
 JCarley    LU.B                      DEPTAB7
 JCarley    LU.B                      DEMOTEAM      APING
 JCarley    LU.B                      DEMOTEAM
 JCraven    LU.C
 BMyers     LU.D                      DEPTEA6
 BMyers     LU.D                      APPTEAM
 BAM        LU.D                      DEPTEA6       AFTP
 BAM        LU.D
 BAMYERS    LU.D                      DEMOTEAM
            LU.E                      NSTEAM
```

* Delete the records with a specific user name:

  ```
  aname del -u Bodine
  ```

  Removes your records with the user name Bodine. If your fully qualified LU name is LU.A, the following record is deleted:

  ```
          Bodine          LU.A        APPTEAM
  ```

* Delete a record with the specified user name and group name:

  ```
  aname del -u B* -g DEPTEA6
  ```

  Removes your records containing a user name with the first character ″B″ and the group name DEPTEA6. If your fully qualified LU name is LU.D, the following records are deleted:

  ```
        BMyers            LU.D        DEPTEA6
        BAM               LU.D        DEPTEA6           AFTP
  ```

* Delete a record with the specified transaction program name:

  ```
  aname del -t APING
  ```

  Removes your records containing the transaction program name APING. If your fully qualified LU name is LU.A, the following record is deleted:

  ```
      JBodine        LU.A                                 APING
  ```

  Notice the following record is NOT deleted since the fully qualified LU name in the record (LU.B) does not match your fully qualified LU name (LU.A):

  ```
      JCarley        LU.B              DEMOTEAM           APING
  ```

* Delete all records registered by a particular user:

```
aname del -u *
```

Removes all records containing your fully qualified LU name. If your fully qualified LU name is LU.D, the following records are deleted:

```
BMyers      LU.D                DEPTEA6
BMyers      LU.D                APPTEAM
BAM         LU.D                DEPTEA6      AFTP
BAM         LU.D
BAMYERS     LU.D                DEMOTEAM
```

Finding Users in the ANAME Database

The query function lets you view records in the ANAME database.

ANAME returns all records which contain the values you specified. At least one search value must be specified. See "Wildcards" on page 20 for information about wildcard searching. See "Finding Transaction Program Names in the ANAME Database" on page 27 for additional information about searching for transaction program names.

You can query records for any fully qualified LU name. The query will display the values of all fields in each record.

Following is a sample list of valid query commands with examples of how they are used. For all query examples, assume the following ANAME database exists:

```
User Name  Fully Qualified LU Name   Group Name   TP Name
------------------------------------------------------------------
 Bodine    LU.A                      APPTEAM
 JBodine   LU.A
 JBodine   LU.A                                    APING
 JCarley   LU.B                      DEPTAB7
 JCarley   LU.B                      DEMOTEAM     APING
 JCarley   LU.B                      DEMOTEAM
 JCraven   LU.C
 BMyers    LU.D                      DEPTEA6
 BMyers    LU.D                      APPTEAM
 BAM       LU.D                      DEPTEA6      AFTP
 BAM       LU.D
 BAMYERS   LU.D                      DEMOTEAM
           LU.E                      NSTEAM
```

- Query the records that match a specific field value (case-insensitive match):

```
aname qry -u Bodine
```

  The following record is displayed:

```
1>
  User Name:   Bodine
  FQLU Name:   LU.A
  Group:       APPTEAM
  TP Name:
```

- Query the records that match two specified field values:

```
aname qry -u BMyers -g APPTEAM
```

  The following record is displayed:

```
1>
  User Name:   BMyers
  FQLU Name:   LU.D
  Group:       APPTEAM
  TP Name:
```

- Query the records that match a value specified with a wildcard character:

```
aname qry -u J*
```

The following records are displayed:

```
1>
  User Name:    JBodine
  FQLU Name:    LU.A
  Group:
  TP Name:
2>
  User Name:    JBodine
  FQLU Name:    LU.A
  Group:
  TP Name:      APING
3>
  User Name:    JCarley
  FQLU Name:    LU.B
  Group:        DEPTAB7
  TP Name:
4>
  User Name:    JCarley
  FQLU Name:    LU.B
  Group:        DEMOTEAM
  TP Name:      APING
5>
  User Name:    JCarley
  FQLU Name:    LU.B
  Group:        DEMOTEAM
  TP Name:
6>
  User Name:    JCraven
  FQLU Name:    LU.C
  Group:
  TP Name:
```

- Query the records that match a partial value specified with a place holder character (?):

```
aname qry -u ?Craven
```

The following records are displayed:

```
1>
  User Name:    JCraven
  FQLU Name:    LU.C
  Group:
  TP Name:
```

- Query the records that have a blank value in a specified field:

```
aname qry -g
```

The following records are displayed:

```
1>
  User Name:    JBodine
  FQLU Name:    LU.A
  Group:
  TP Name:
2>
  User Name:    JBodine
  FQLU Name:    LU.A
  Group:
  TP Name:      APING
3>
  User Name:    JCraven
  FQLU Name:    LU.C
  Group:
  TP Name:
4>
```

```
User Name:    BAM
FQLU Name:    LU.D
Group:
TP Name:
```

- Query the records that match specified values, where no records in the database match:

```
aname qry -u notthere
```

The following is displayed:

```
No records found matching search criteria.
Query completed successfully.
```

Finding Transaction Program Names in the ANAME Database

On host systems, many LUs can be identified by the same user name. In many cases, some of the LUs are configured to run certain transaction programs that others are not. ANAME is very helpful in identifying the LUs configured to run certain transaction programs. An ANAME administrator can register with ANAME the transaction programs that can run on each LU. A query of the ANAME database with a user name and the transaction program name indicates the appropriate LU for the specified user name.

However, in workstations, simply knowing the user name should be enough to determine from ANAME the correct fully qualified LU name to run a desired transaction program. In this case, a user should not assume a specific transaction program is registered with the workstation LU in the ANAME database. It would not be necessary for each user to register with ANAME each transaction program that is available on the user's system. The user could query the ANAME database and specify only the desired user name.

In order to provide a consistent interface regardless of the type of system the fully qualified LU name specifies, ANAME has implemented a ″Return Default″ algorithm. This algorithm allows a user to obtain a requested fully qualified LU name when a query is issued with a transaction program name even if the transaction program name is not registered for that particular user name.

The algorithm is implemented when a user specifies a transaction program name on a query request. For all user names which match the user name specified on the query request, if there is no record that matches the specified transaction program name, the record containing a blank transaction program name is returned if one exists. Otherwise, no matching record is returned for this user name.

Following is a sample list of valid query commands with examples of how they are used. For all query examples, assume the following ANAME database exists:

```
  User Name  Fully Qualified LU Name  Group Name   TP Name
 ----------------------------------------------------------------
   Bodine     LU.A                     APPTEAM
   JBodine    LU.A
   JCarley    LU.B                     DEPTAB7      APINGD
   JCarley    LU.B                     DEMOTEAM     APINGD
   JCraven    LU.C
   BMyers     LU.D                     DEPTEA6
   BMyers     LU.D                     APPTEAM
   BAM        LU.D
   BAMYERS    LU.D                     DEMOTEAM
              LU.E                     NSTEAM
   HOST1      LU.H1A                                APINGD
```

```
         HOST1    LU.H1B
         HOST1    LU.H1C
         HOST2    LU.H2A                                    AFTPD
         HOST2    LU.H2B
```

> **Note:** Some host systems have several LUs defined. To save end users from
> having to know which applications are associated with which LU, the ANAME
> administrator may define all LUs for the host to have the same user name.

- Query the records that match a specified transaction program name
  (case-sensitive match, default matching):

```
aname qry -t AFTPD
```

The following records are displayed:

```
1>
  User Name:   Bodine
  FQLU Name:   LU.A
  Group:       APPTEAM
  TP Name:
2>
  User Name:   JBodine
  FQLU Name:   LU.A
  Group:
  TP Name:
3>
  User Name:   JCraven
  FQLU Name:   LU.C
  Group:
  TP Name:
4>
  User Name:   BMyers
  FQLU Name:   LU.D
  Group:       DEPTEA6
  TP Name:
5>
  User Name:   BMyers
  FQLU Name:   LU.D
  Group:       APPTEAM
  TP Name:
6>
  User Name:   BAM
  FQLU Name:   LU.D
  Group:
  TP Name:
7>
  User Name:   BAMYERS
  FQLU Name:   LU.D
  Group:       DEMOTEAM
  TP Name:
8>
  User Name:
  FQLU Name:   LU.E
  Group:       NSTEAM
  TP Name:
9>
  User Name:   HOST1
  FQLU Name:   LU.H1B
  Group:
  TP Name:
10>
  User Name:   HOST1
  FQLU Name:   LU.H1C
  Group:
  TP Name:
11>
```

```
User Name:    HOST2
FQLU Name:    LU.H2A
Group:
TP Name:      AFTPD
```

No records are returned for user name JCarley since both of those records explicitly name another transaction program. There is no record for JCarley with a blank transaction program name.

The record for HOST2 with a fully qualified LU name of LU.H2B is not returned because a record matching that user name (HOST2) with an explicit match to the TP name was already found.

- Query the records that match a specified transaction program name (case-sensitive match, default matching) and user name (not case-sensitive, wildcard matching):

```
aname qry -t APINGD -u host*
```

The following records are returned:

```
1>
  User Name:    HOST1
  FQLU Name:    LU.H1A
  Group:
  TP Name:      APINGD
2>
  User Name:    HOST2
  FQLU Name:    LU.H2B
  Group:
  TP Name:
```

Only records matching the user name specified are considered for matching this query request.

The records for HOST1 with fully qualified LU names of LU.H1B and LU.H1C were not returned because a record matching that user name (HOST1) with an explicit match to the TP name was already found.

Chapter 6. ANAME Command Reference

See "Appendix A. How to Read the Syntax Diagrams" on page 113 for instructions if you are unfamiliar with reading graphical syntax diagrams.

aname -h

Purpose

Use this command to request help information on the APPC NameServer facility.

Format

```
►►──aname── -h────────────────────────────────────────────────◄◄
```

Parameters

-h
An explicit request for help information on the ANAME command.

Examples

This example requests general help on the ANAME command.

```
aname -h
```

aname delete

Purpose

Use this command to delete one or more entries from the database. You can only delete entries which match your fully qualified LU name.

Note: Your ANAME administrator may restrict your access to this function. See "ANAME Security" on page 6 for more information.

Format
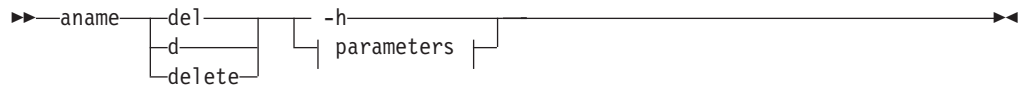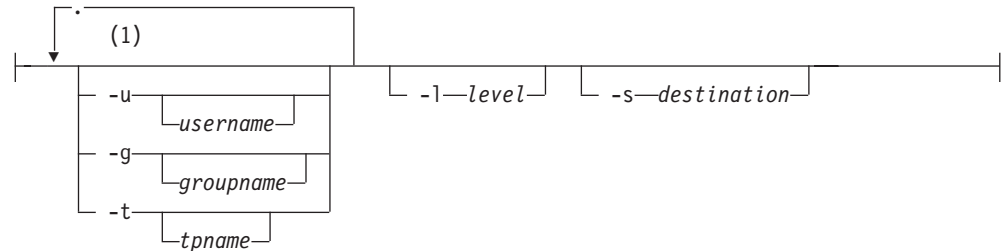
```
►►──aname──┬─del────┬──┬─────────────┬──────────────────────────────►◄
           ├─d──────┤  │ -h          │
           └─delete─┘  └─ parameters ─┘
```

parameters

```
        ┌──────────.────────────┐
        │        ▼  (1)          │
├───────┴──┬─-u──┬──────────┬──┬─┴───┬──────────────┬──┬──────────────────┬──┤
           │     └─username─┘  │     └─-l─level─┘    │  └─-s─destination─┘
           ├─-g──┬──────────┬──┤
           │     └─groupname─┘  │
           └─-t──┬─────────┬────┘
                 └─tpname──┘
```

Notes:

1 You must choose one or more parameters from this group, but you can choose each parameter only once.

Parameters

-h
Help; requests that the help information for this command be displayed.

-u
User name; this value can be up to 64 characters in length and must conform to the character set rules described in "Character Sets" on page 19. Values are matched without regard to case.

You can use wildcard characters in the value.

If you specify this flag but do not specify a value, records that have a blank for this field will be matched.

-g
Group name; this value can be up to 64 characters in length and must conform to the character set rules described in "Character Sets" on page 19. Values are matched without regard to case.

You can use wildcard characters in the value.

If you specify this flag but do not specify a value, records that have a blank for this field will be matched.

-t Transaction program name; this value can be up to 64 characters and must conform to the character set rules described in "Character Sets" on page 19. Transaction program names are case-sensitive.

You can use wildcard characters in the value.

If you specify this flag but do not specify a value, records that have a blank for this field will be matched.

-s Destination; the name of the server at which the database is located. This value can be either a symbolic destination name, a fully qualified LU name, or a locally defined partner alias.

Default: Uses LU name for the ANAMED symbolic destination name defined in your CPI-C side information table.

-l Tracing level; determines the amount of trace data to be recorded. Use this parameter when directed to do so by the Support Center.

Default: 0 (no trace)

See "Capturing ANAME Trace Data" on page 120 for more information on ANAME traces.

Examples

This example will delete all records associated with the user's fully qualified LU name that have a user name of "ELAINE". For more detailed examples, see "Removing a Record from the ANAME Database" on page 24.
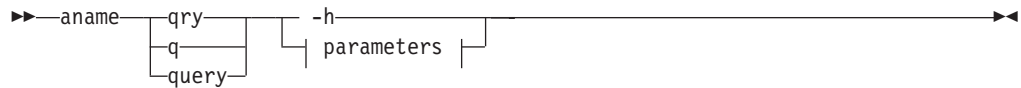
```
aname del -u elaine
```

aname query

Purpose

Use this command to view one or more records in the ANAME database.

Format
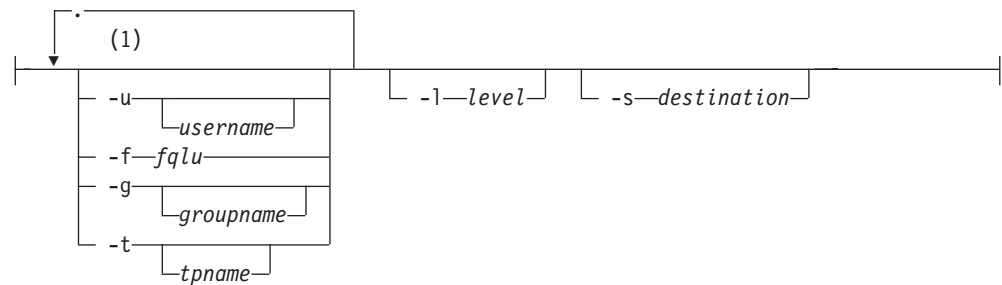
```
►►──aname──┬─qry───┬──┬─-h──────────────┬─────────────────────────────►◄
           ├─q─────┤  └─┤ parameters ├───┘
           └─query─┘
```

parameters

```
       ┌────────────.──────────────┐
       │           (1)             │
   ├───▼──┬─-u──┬──────────────┬────┴──┬─────────────┬──┬─────────────────┬──┤
          │     └─username─────┘       └─-l─level────┘  └─-s─destination──┘
          ├─-f──fqlu──────────────────┤
          ├─-g──┬──────────────┬──────┤
          │     └─groupname────┘
          └─-t──┬──────────────┐
                └─tpname───────┘
```

Notes:

1   You must choose one or more parameters from this group, but you can choose each parameter only once.

Parameters

-h

Help; requests that the help information for this command be displayed.

-u

User name; this value can be up to 64 characters in length and must conform to the character set rules described in "Character Sets" on page 19. Values are matched without regard to case.

You can use wildcard characters in the value.

If you specify this flag but do not specify a value, records that have a blank for this field will be matched.

-f   Fully qualified LU name; the combination of network and LU address that uniquely identifies a destination in the network. This value can be up to 17 characters in length and must conform to the character set rules described in "Character Sets" on page 19. Values are matched without regard to case.

You can use wildcards in this value.

-g

Group name; this value can be up to 64 characters in length and must conform to the character set rules described in "Character Sets" on page 19. Values are matched without regard to case.

You can use wildcard characters in the value.

If you specify this flag but do not specify a value, records that have a blank for this field will be matched.

-t   Transaction program name; this value can be up to 64 characters and must conform to the character set rules described in "Character Sets" on page 19. Transaction program names are case-sensitive.

You can use wildcard characters in the value.

If you specify this flag but do not specify a value, records that have a blank for this field will be matched.

-s   Destination; the name of the server at which the database is located. This value can be either a symbolic destination name, a fully qualified LU name, or a locally defined partner alias.

Default: Uses LU name for the ANAMED symbolic destination name defined in your CPI-C side information table.

-l   Tracing level; determines the amount of trace data to be recorded. Use this parameter when directed to do so by the Support Center.

Default: 0 (no trace)

See "Capturing ANAME Trace Data" on page 120 for more information on ANAME traces.

Examples

- This example will locate all records which have a user name of "TomTully". For more detailed examples, see "Finding Users in the ANAME Database" on page 25.

```
aname qry -u TomTully
```

- This example will locate all users who have a record defined with the transaction program name of "APINGD" or have a blank (default) transaction program name. For more detailed examples, see "Finding Transaction Program Names in the ANAME Database" on page 27.

```
aname qry -t APINGD
```

aname register

Purpose

Use this command to add a record to the database. Users can add records only for their own fully qualified LU name.
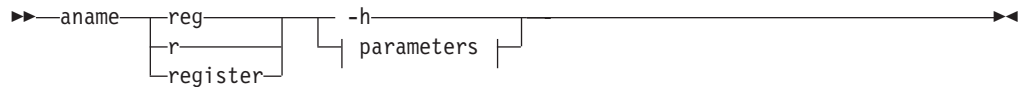
Notes:

1. Your ANAME administrator may restrict your access to this function. See "ANAME Security" on page 6 for more information.
2. If you try to register a record with the same fields as another record already in the database (although the case may vary), the second record will replace the first. For example, if you enter the following 2 commands:

```
aname reg -u ellenm
aname reg -u EllenM
```

Only one record will actually be in the database:

```
Username  Fully Qualified LU
EllenM    NET1.LUSVT
```

Format
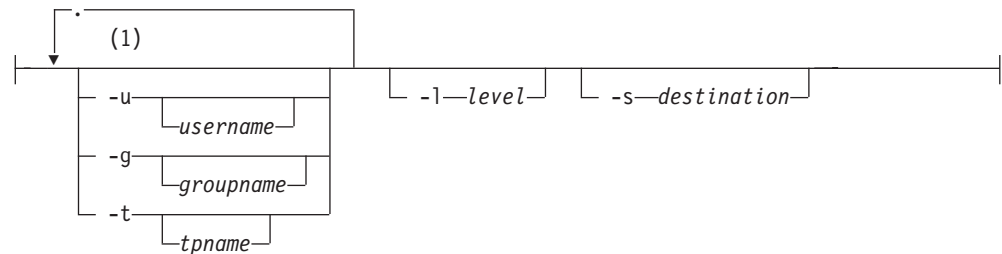
```
►►──aname──┬─reg──────┬──┬──────────────┬──►◄
           ├─r────────┤  │  -h          │
           └─register─┘  └──┤ parameters ├──┘
```

parameters

```
         ┌────────────────◄────────────────┐
         │         (1)                      │
├────────┼───────────────────┤──┬──────────────┬──┬────────────────────┬──┤
         ├─-u─┬───────────┬──┤  └─-l──level──┘  └─-s──destination──┘
         │    └─username──┘
         ├─-g─┬────────────┐
         │    └─groupname──┘
         └─-t─┬──────────┐
              └─tpname───┘
```

Notes:

1   You must choose one or more parameters from this group, but you can choose each parameter only once.

Parameters

-h

Help; requests that the help information for this command be displayed.

-u

User name; This value can be up to 64 characters in length and must conform to the character set rules described in "Character Sets" on page 19.

You cannot use wildcard characters in the value.

The user name you select cannot be used by any other fully qualified LU name in the database.

-g
Group name; this value can be up to 64 characters in length and must conform to the character set rules described in "Character Sets" on page 19.

You cannot use wildcard characters in the value.

-t Transaction program name; this value can be up to 64 characters and must conform to the character set rules described in "Character Sets" on page 19. Transaction program names are case-sensitive.

See "Finding Transaction Program Names in the ANAME Database" on page 27 to understand the implications of leaving this field blank.

You cannot use wildcard characters in the value.

-s Destination; the name of the server at which the database is located. This value can be either a symbolic destination name, a fully qualified LU name, or a locally defined partner alias.

Default: Uses LU name for the ANAMED symbolic destination name defined in your CPI-C side information table.

-l Tracing level; determines the amount of trace data to be recorded. Use this parameter when directed to do so by the Support Center.

Default: 0 (no trace)

See "Capturing ANAME Trace Data" on page 120 for more information on ANAME traces.

Examples

- This example will create a record in the database with the requestor's fully qualified LU name and a user name of "ELAINE". For more detailed examples, see "Registering Yourself in the ANAME Database" on page 22.

  ```
  aname reg -u elaine
  ```

- This example will create a record in the database with the requestor's fully qualified LU name, a user name of "MARKP", and a group name of "APPTEAM". For more detailed examples, see "Registering Yourself in the ANAME Database" on page 22.

  ```
  aname reg -u markp -g appteam
  ```

Chapter 7. APPC File Transfer Protocol (AFTP)

APPC File Transfer Protocol (AFTP) allows you to manage files on a server computer. You can copy files to or from the AFTP server, rename server files, and even erase server files.

Using APPC File Transfer Protocol, you can distribute files for:

- Use on different platforms

  You can share files among different platforms that support APPC File Transfer Protocol if the format of your files is supported by the operating system on each platform. Text files are supported by many different operating systems, so text files can often be shared among different platforms. Binary files can be shared only if the operating system on each platform supports a common binary format, and your binary files conform to the common binary format.

- Storage on different platforms

  You can store files on different platforms that support APPC File Transfer Protocol if the files can be represented as a binary stream of bytes, even if the computer's operating system cannot use the file. For example, you can transfer a DOS program to an AIX® or mainframe computer for storage, even though the operating systems cannot use DOS programs. You can then redistribute the file to other DOS computers, where the file can again be used.

  If you want to store files that have unique file system encodings, you must convert the files into a new file that can be treated as a binary stream. You can convert your files using an archiving program such as COPYFILE with the PACK option on VM.

To simplify the task of remembering your file names, AFTP supports a directory file organization scheme on all platforms. Commands are provided to create and remove directories on the AFTP server. Commands are also provided to list directory contents on either the AFTP client or AFTP server, and to identify the directory in which you wish to work (current directory).

AFTP provides two different user interfaces:

- The first interface is a simple command line interface which provides file exchange between the AFTP client and server, but does not provide the directory or other file management capabilities. Use the acopy command when you want a quick way to transfer files and know the complete file names involved.

- The second interface is the AFTP command environment, opened by the aftp command. Once you have opened the AFTP command environment you can use the full set of AFTP commands to manipulate files and directories. Only AFTP commands are accepted in this environment. A prompt on your display reminds you that you are in the AFTP command environment.

See "Using the Interfaces: Command Line versus Command Environment" on page 48 for a more detailed comparison of these two interfaces.

APPC File Transfer Protocol consists of three transaction programs: AFTP and ACOPY which run on the client, and AFTPD which runs on the server.

Understanding AFTP Basic Concepts

Before you start using the APPC File Transfer Protocol (AFTP) facility, you need to understand a few basic concepts.

File Transfer Types

Both the acopy command and the AFTP command environment support both text and binary file transfers.

In a binary file transfer, the file is treated as a stream of bytes. None of the characters within the file are interpreted. Executable programs and other non-text files are usually transferred as binary files.

In an ASCII file transfer, files are transferred using ASCII characters and the text file format is preserved. If either the source or destination is an EBCDIC computer (for example, an IBM host system), AFTP on the EBCDIC computer will do ASCII-to-EBCDIC translation when it receives a file, and EBCDIC-to-ASCII translation when it sends a file.

Note: Text files on some systems contain an end-of-file (EOF) character, which is the last character in the file. When AFTP transfers a text file containing an EOF character, AFTP does not send the EOF character, so the file appears to be one character smaller when it is received by the server. If the file is transferred in binary mode, AFTP sends the EOF character.

See "Setting File Transfer Defaults" on page 48 for information about setting default transfer types based on file name patterns.

Special File Structure

If the file you want to transfer has special file structure based on record format and record length (for example, binary files with variable length records like MODULEs and LIST3820 files on VM), then you may be limited in your ability to transfer that file.

If you want to send the file to a system which supports the record formats and record length of the file, use the recfm and lrecl commands first to ensure the file is correctly transferred.

If you send the file to a system which does not maintain the record format and length, you may lose that critical information and not be able to restore it when you receive the file back on the client.

Note: You might be able to use an archiving tool to convert the file into a format that can be transferred to other platforms. You would transfer the archived file across other platforms. When you want to use the file again on the original platform, use the archive tool to restore the file to its original format.

For example, a LIST3820 file on VM is a binary file with variable length records:
- If you want to send that file to a VM server, you must use the recfm and lrecl commands before you send the file.
- If you send that file to OS/2®, which does not support record structure, all record boundaries are lost. There will be no way to re-create the record boundaries when you try to receive the file back on your VM client.

Working with AFTP Directories

In AFTP, directories represent the structures used to subset a file system into multiple portions. An AFTP directory can contain one or more files. Directories are organized in a hierarchical structure.

The topmost node in the directory structure is called the root.

AFTP allows you to designate a directory as the current directory. The major advantage to setting a current directory is that you work with those files without having to always type out their full directory specification in commands.

You can type the fully qualified file specification in each command:

```
put /direct3/direct5/file1
put /direct3/direct5/file2
put /direct3/direct5/file3
put /direct3/direct5/file4
put /direct3/direct5/file5
```

Or you can designate direct5 as your current directory, and use just the file names in your commands:

```
cd /direct3/direct5
put file1
put file2
put file3
put file4
put file5
```

MVS Directories

In MVS, you can set your current directory to be a complete partitioned data set name or you can set it to be one or more qualifiers of a data set name. The current directory is used to create a file prefix that can be used with both partitioned data sets and sequential file names.

For an MVS-based AFTP client or server, the root represents the list of all partitioned data sets and sequential files.

VM Directories

In VM, filemodes act as a simple directory structure. A current directory in VM is a filemode letter. Multiple directory levels are not supported.

For a VM-based AFTP client or server, the root directory represents the list of all accessed mini-disks (filemodes).

Restriction: VM shared file system (SFS) is not supported.

OS/2 Directories

The native OS/2 operating system has a directory structure. AFTP builds on that structure by making the drive the first segment of the directory path. For an OS/2-based AFTP client or server, the AFTP root directory represents all of the drives available.

In the native OS/2 operating system, a current directory setting is maintained for each drive. For example, the following series of commands will delete the files in the C:\work\aftp directory:

```
[C:\]  cd \work\aftp
[C:\WORK\AFTP\]  cd e:\new\data\
[C:\WORK\AFTP\]  erase C:*.*
```

AFTP, however, uses a virtual root that encompasses all of the drives and the drive is treated as the first segment of a path name. Only one current directory setting is kept. If a path is not specified for the non-active drive, the root directory of that drive is used. The same set of commands, issued in AFTP, will result actually result in the files of the C:\ directory being erased:

```
aftp> cd  c:\work\aftp
aftp> cd  e:\new\data
aftp> delete c:*.*
```

If you want to use files on a drive other than the one set in the current directory, always use fully qualified file names to ensure that the correct directory and files are used.

Using File and Directory Specifications in Commands

The acopy command and other AFTP commands require you to indicate which files or directories you want to use. The AFTP facility was designed to offer flexibility in how you specify these files:

- You can enter the fully qualified name using the syntax native to the operating system being accessed or using AFTP common naming format.
- You can set a current directory and then use a partial file name (either in native or AFTP common naming format).
- You can use wildcard characters to specify a list of related files.

This section discusses particular rules you must follow when specifying file and directory names for different operating systems. The section discusses:
- AFTP common naming format
- MVS file specifications
- VM file specifications
- OS/2 file specifications
- AFTP wildcard characters

AFTP Common Naming Format

Different operating systems use different file naming conventions, file attributes, and file directory structures. AFTP provides a common file naming format that allows you to locate and transfer files without knowing how the files are actually named and stored on the server computer.

A file specification is a combination of directory name and file name. This example illustrates how to specify a file specification using AFTP's common naming format:

`/direct1/direct2/filepart1.filepart2`

Following are the syntax rules for the AFTP common naming format:
- Forward slashes (/) are used to separate the various levels of directories and the file name. The forward slash used as the first character of a file specification represents the AFTP root directory.
- The file name may contain one or more parts. Those parts must be joined by periods, not spaces or parentheses.
- A backslash (\) can be used to represent the highest-level directory of the current directory.
  - In MVS, the backslash represents the highest-level qualifier of the current directory.
  - In OS/2, the backslash represents the current drive.

There are specific examples of how to use this notation in the sections describing the specific file specification transformations for each operating system later in this chapter.

MVS File Specifications

MVS data files fall into two distinct categories:

- Partitioned data set members
- Physical sequential files

Restriction: AFTP does not support VSAM data sets or load module libraries (LOADLIBs).

Partitioned data sets can be viewed as directories that contain a list of members or files. The usual MVS syntax for naming a member in a partitioned data set is `neals.src.c(aping)`. In common format, the data set name becomes the directory and the member name becomes the file name.

Table 3 shows the various ways you can specify the PDS member `NEALS.SRC.C(APING)` using acopy and AFTP commands.

Table 3. Specifying File Specifications for PDS Members

Type of Entry	Rules for Filespec	Examples
Native syntax, fully qualified	Filespec='qual.qual.qual(member)' **Note:** Fully qualified file specifications using native TSO syntax must be enclosed in single quotes.	get 'neals.src.c(aping)'
Native syntax, partial	Set the current directory to one or more qualifiers, then Filespec=qual(member) or Filespec=(member)	cd neals. get src.c(aping)
		cd neals.src.c get (aping)
AFTP common naming format, fully qualified	Filespec=/qual.qual.qual/member	/neals.src.c/aping
AFTP common naming format, partial, using current directory	Set the current directory to one or more qualifiers, then Filespec=qual/member or Filespec=member	cd /neals. get src.c/aping
		cd /neals.src.c/ get aping
AFTP common naming format, partial, using backslash	Set the current directory to multiple qualifiers. Backslash (\) character represents the highest-level qualifier, Filespec=\qual2.qual3(member)	cd /neals.bin. get \src.c/aping

A sequential file is a flat file which is not a member of a partitioned data set. Since sequential files are not organized into any structure analogous to a directory, all sequential files are treated as if they reside in the root directory:

```
  MVS native                        AFTP Common Name ◄ ◄  neals.src.c.a        ◄ - - - - - - - - - - - - -
►     /neals.src.c.a ◄
```

Figure 1. Example of a Sequential File

Table 4 shows the various ways you can specify the sequential file `ELAINE.LETTERS.DEPT` using acopy and AFTP commands.

Table 4. Specifying File Specifications for Sequential Files

Type of Entry	Rules for Filespec	Examples
Native syntax, fully qualified	Filespec='qual.qual.qual' **Note:** Fully qualified file specifications using native TSO syntax must be enclosed in single quotes.	get 'elaine.letters.dept'
Native syntax, partial	Set the current directory to be one or more qualifiers, then Filespec=qual.qual or Filespec=qual	cd elaine. get letters.dept
		cd elaine.letters. get dept
AFTP common naming format, fully qualified	Filespec=/qual.qual.qual	get /elaine.letters.dept
AFTP common naming format, partial, using current directory	Set the current directory to one or more qualifiers, then Filespec=qual.qual	cd /elaine.letters. get dept
		cd /elaine. get letters.dept
AFTP common naming format, partial, using backslash	Set the current directory to multiple qualifiers. Backslash (\) character represents the highest-level qualifier, filespec=\qual2.qual3(member)	cd /elaine.source get \letters.dept

AFTP makes a distinction between a directory (a partitioned data set) and a data set qualifier. AFTP makes this distinction by terminating partitioned data sets with a slash (/) as a directory, and by terminating data set qualifiers with a period (.) as a partial file name.

VM File Specifications

Native file names in VM are: `file name filetype filemode`

Filemodes in VM represent its directory structure. The file name and filetype are joined with a period (.) to create the file name field in the common naming convention.

```
VM native                     AFTP Common Name ◄ ELAINE.TEXT.A    ◄·········►    /A/ELAINE.TEXT◄
```

Figure 2. Example of a VM File Specification

Note: In AFTP, spaces are not permitted in file specifications. Use periods to join the parts of a VM native file specification.

Table 5 shows the various ways you can specify the VM file `ELAINE LETTER D` in acopy and AFTP commands.

Table 5. Specifying File Specifications for VM Files

Type of Entry	Rules for Filespec	Example
Native syntax, fully qualified	Filespec=fname.ftype.fmode **Note:** Since AFTP does not accept spaces within the value, you must join the parts of the file specification with periods, even when using native file naming conventions.	get elaine.letter.d
Set the current directory to the filemode, then Filespec=fname.ftype	cd d get elaine.letter	
AFTP common naming format, fully qualified	Filespec=/fmode/fname.ftype	/d/elaine.letter
AFTP common naming format, partial	Set the current directory to the filemode, then Filespec=fname.ftype	cd /d get elaine.letter

OS/2 File Specifications

File names in OS/2 already use a directory structure. In the AFTP common naming syntax, the drive designation is used as the first segment of the common name.

```
 OS/2 native                              AFTP Common Name◄ ◄/c:/d1/d2/filename.ext    ◄············
►   /c:/d1/d2/filename.ext◄
```

Figure 3. Example of an OS/2 File Specification

AFTP supports both the file allocation table (FAT) and high performance file system (HPFS) file systems of OS/2.

Table 6 shows the various ways you can specify the OS/2 file `D:\PROJECT\MTG\0894.TXT` using acopy and AFTP commands.

Table 6. Specifying File Specifications for OS/2 Files

Type of Entry	Rules for Filespec	Examples
Native syntax, fully qualified	Filespec=d:\d1\d2\file name.ext	get d:\project\mtg\0894.txt
Native syntax, partial	Set the current directory to one or more directory levels, then Filespec=d2\file name.ext or Filespec=file name.ext	cd d:\project\mtg get 0894.txt
		cd d:\project get mtg\0894.txt
AFTP common naming format, fully qualified	Filespec=/d:/d1/d2/file name.ext	get /d:/project/mtg/0894.txt
AFTP common naming format, partial, using current directory	Set the current directory to one or more directory levels, then Filespec=d2/file name.ext or Filespec=file name.ext	cd /d:/project/mtg get 0894.txt
		cd /d: get project/mtg/0894.txt
AFTP common naming format, partial, using backslash	Set the current directory to multiple qualifiers. Backslash (\) character represents the drive, Filespec=\d1/d2/file name.ext	cd /d:/budjets/project2 get \project/mtg/0894.txt

AFTP Wildcard Characters

You can use wildcard characters in your file specifications to request that certain commands be issued against multiple files. If you are using native naming conventions, use the wildcard characters supported by the native operating system.

AFTP common naming format defines three sets of wildcard characters:

*   Global match in a single naming segment, for zero or more characters

         Platform Differences:

         1. In MVS, a naming segment can be any qualifier or PDS member.

         2. In VM, a naming segment can be the directory, file name, or filetype.

         3. In OS/2, a naming segment can only be the file name or extension. You cannot use wildcard characters in directory names.

**   In MVS only, global match across multiple segments, for one or more characters. See "Using Wildcards on the MVS File System" on page 46 for specific examples on using this wildcard character.

?   Global match for a single character

Platform Difference: In MVS, you can also use the % character which is native to MVS.

Using Wildcards on the MVS File System: Wildcards in the MVS file system are used a little differently than in the other AFTP operating systems. When using wildcards for specifying data set names, a single asterisk (*) represents any group of characters of any length within a single qualifier level. A double asterisk (**) is used to specify zero or more qualifiers. The double asterisk (**) must either immediately precede a period (.) delimiter, or follow a period (.) delimiter and cannot be used with other characters.

Note: If you use the double asterisk as the highest-level qualifier you refer to all sequential files and partitioned data sets to which you have access. The command you have issued, for example a dir command, can take quite a while to complete.

Both the percent sign (%) and question mark (?) can be used to represent a single wildcard character. The question mark (?) is part of the AFTP common format, and the percent sign (%) is supported native MVS syntax.

Table 7 provides some detailed examples of how to use the MVS wildcards. For the purposes of the examples, assume that you have the following list of files:

```
NEALS.A
NEALS.S
NEALS.SECOND.FILE
NEALS.SRC.C.APPL
NEALS.SRC.C(APPFTPD)
NEALS.SRC.C(BFILE)
NEALS.SRC.H
NEALS.SRC.NEW.FILE
NEALS.SYSFILE
NEALS.SYSTEM.LOG.FILE
SYS1.PARMLIB
```

Table 7. Examples of Using Wildcard Characters in MVS File Specifications

File Specification with Wildcard Character	Files included	Files not included
/NEALS.SRC.* (all files with 3 qualifiers where the first 2 qualifiers are NEALS.SRC)	NEALS.SRC.C NEALS.SRC.H	NEALS.A NEALS.S NEALS.SECOND.FILE NEALS.SRC.NEW.FILE NEALS.SYSFILE NEALS.SYSTEM.LOG.FILE SYS1.PARMLIB
/NEALS.S*.FILE (all files with 3 qualifiers where the first qualifier is NEALS, the second qualifier starts with S, and the third qualifier is FILE)	NEALS.SECOND.FILE	NEALS.A NEALS.S NEALS.SRC.C.APPL NEALS.SRC.C(APPFTPD) NEALS.SRC.C(BFILE) NEALS.SRC.H NEALS.SRC.NEW.FILE NEALS.SYSFILE NEALS.SYSTEM.LOG.FILE SYS1.PARMLIB

File Specification with Wildcard Character	Files included	Files not included
/NEALS.SRC.C/A* (members of the partitioned data set NEALS.SRC.C beginning with A)	NEALS.SRC.C(APPFTPD)	NEALS.A NEALS.S NEALS.SECOND.FILE NEALS.SRC.C.APPL NEALS.SRC.C(BFILE) NEALS.SRC.H NEALS.SRC.NEW.FILE NEALS.SYSFILE NEALS.SYSTEM.LOG.FILE SYS1.PARMLIB
/NEALS.* (all files with first qualifier NEALS and one additional qualifier)	NEALS.A NEALS.S NEALS.SYSFILE	NEALS.SECOND.FILE NEALS.SRC.C.APPL NEALS.SRC.C(APPFTPD) NEALS.SRC.C(BFILE) NEALS.SRC.H NEALS.SRC.NEW.FILE NEALS.SYSTEM.LOG.FILE SYS1.PARMLIB
/NEALS.S* (all files with first qualifier NEALS and one additional qualifier starting with the letter S)	NEALS.S NEALS.SYSFILE	NEALS.A NEALS.SECOND.FILE NEALS.SRC.C.APPL NEALS.SRC.C(APPFTPD) NEALS.SRC.C(BFILE) NEALS.SRC.H NEALS.SRC.NEW.FILE NEALS.SYSTEM.LOG.FILE SYS1.PARMLIB
/NEALS.** (all files with the first qualifier NEALS, and one or more additional qualifiers)	NEALS.A NEALS.S NEALS.SECOND.FILE NEALS.SRC.C.APPL NEALS.SRC.C(APPFTPD) NEALS.SRC.C(BFILE) NEALS.SRC.H NEALS.SRC.NEW.FILE NEALS.SYSFILE NEALS.SYSTEM.LOG.FILE	SYS1.PARMLIB
/NEALS.S*.** (All files with first qualifier NEALS, second qualifier beginning with the letter S, and one or more additional qualifiers)	NEALS.SECOND.FILE NEALS.SRC.C NEALS.SRC.H NEALS.SRC.NEW.FILE NEALS.SYSTEM.LOG.FILE	NEALS.A NEALS.S NEALS.SYSFILE SYS1.PARMLIB
/NEALS.S*.* (All files with first qualifier NEALS, second qualifier beginning with the letter S, and one additional qualifiers)	NEALS.SECOND.FILE NEALS.SRC.C NEALS.SRC.H	NEALS.A NEALS.S NEALS.SRC.NEW.FILE NEALS.SYSFILE NEALS.SYSTEM.LOG.FILE SYS1.PARMLIB
/NEALS.S**	Not valid; the double asterisk does not immediately follow or precede a period.	

Setting File Transfer Defaults

As you have already seen in this chapter, different operating systems have different naming conventions. As you transfer files between your client machine and your server, you will probably want to establish a set of consistent file name transforms. You may even want to associate default file transfer characteristics (ASCII or binary) with certain types of files.

For example, you might have a set of executable files in OS/2 (*.EXE) that you want to store on a VM server. You always want those files transferred in binary and you want the filetype in VM to be EXEBIN to reflect the binary content. You can use the AFTP type command to specify the file transfer type and always give the complete file specification of both the source and target files each time you transfer a file. Or, you can create a set of personal defaults based on file name patterns.

AFTP lets you create a set of default file name mappings and transfer defaults in the AFTP initialization (INI) file. Your system administrator may have already created such a file for your installation and placed it in a common location for all users to access. If you want to further customize these defaults, copy the file to your personal disk or data set and make the changes you desire.

See *z/OS Communications Server APPC Application Suite Administration* for details on how to define the AFTP initialization file.

Using the Interfaces: Command Line versus Command Environment

The AFTP command line interface is the acopy command. The acopy command allows you to transfer files between the AFTP client and server in a single command. This interface is sufficient for many simple file transfers. See "acopy" on page 58 for the full syntax and description of the acopy command.

The AFTP command environment gives you more control over some file transfer characteristics (for example, record format and length). It also contains a set of commands for managing directories and files on the server. See "Using the AFTP Command Environment" on page 49 for an overview of the commands available in the AFTP command environment.

Table 8 summarizes the different capabilities of the AFTP command line and command environment interfaces:

Table 8. Functions of the ACOPY Command and AFTP Command Environment

Function	acopy Command	AFTP Command Environment
Send file from client to server	yes	yes
Receive file from server to client	yes	yes
Control file transfer characteristics	ASCII/binary and modename only	ASCII/binary, record format, record length, date format, modename, prompting for multiple files
Set and use current directory	no	yes
Create or remove directories on server	no	yes
Rename or delete files on server	no	yes

Table 8. Functions of the ACOPY Command and AFTP Command Environment (continued)

Function	acopy Command	AFTP Command Environment
List files on server	no	yes
Trace operations for debugging	yes	yes

Using the AFTP Command Environment

Typically you will enter the AFTP environment, establish a connection to a server, transfer several files, issue other AFTP commands, and then exit the AFTP environment.

AFTP supports a wide variety of commands. These commands allow you to:
- Enter and exit the AFTP environment
- Start or end a connection to the AFTP server
- Set or query AFTP file transfer attributes
- Transfer files
- Manipulate directories and files on the AFTP server
- Manipulate directories and files and issue miscellaneous local commands on the AFTP client computer
- Get help for AFTP commands
- Log trace data to diagnose problems

Each of these command sets is described in the next several sections. "Chapter 8. AFTP Command Reference" on page 55 is an alphabetical command reference of all of the commands which can be issued in the AFTP command environment.

Enter and Exit AFTP

The AFTP environment is opened with a simple aftp command. Once AFTP is started, a prompt (aftp>) is displayed on your screen to remind you that you are in the AFTP environment. (See "aftp" on page 62 for the full syntax and description of the aftp command.)

The exit command closes the AFTP command environment. If you have an open connection to an AFTP server when you exit from AFTP, AFTP closes the connection for you before exiting. Following is a summary of the commands that allow you to exit AFTP:

Table 9. AFTP Commands Exit the AFTP Environment

AFTP Command	Description	See Page
bye	Alias for exit.	68
exit	Exits the AFTP environment.	78
quit	Alias for exit.	99

Start or End a Connection to the AFTP Server

Before you can use AFTP commands on an AFTP server computer, you must first open a connection to that computer. From the AFTP client, you can connect to only one AFTP server at a time.

To open a connection, use the open command and specify a destination. A destination can be a partner LU name, a symbolic destination name, or an ANAME user name.

After specifying your destination on the open command, you will be prompted for your user ID. See "Specifying Security in the APPC Application Suite" on page 6 for details on the security requirements and restrictions for AFTP clients and servers and for instructions on how to respond to the user ID prompt.

The following example opens a connection to a server computer without specifying a user ID and password. The *netid.remotelu* represents the fully qualified LU name of a computer in your APPC network that is running the AFTP server program:

```
aftp> open netid.remotelu
userid:
Connected to netid.remotelu
aftp>
```

To close the connection to the current remote computer, but remain in the AFTP environment, use the close command:

```
aftp> close
Goodbye.
aftp>
```

At this point you can either open a new connection to a different partner or exit AFTP.

Following is a summary of the AFTP commands associated with opening and closing a connection to a partner computer:

Table 10. AFTP Commands to Start and End a Connection to a Server

AFTP Command	Description	See Page
close	Closes the current open AFTP session without exiting from the AFTP environment.	70
disconnect	Alias for close.	77
open	Opens a connection to an AFTP server computer.	94

Set or Query AFTP File Transfer Attributes

When you start AFTP, the file transfer attributes take default settings. You can change these settings based on specific file transfer requirements.

Once these attributes (except modename) are set, they remain set until you update them or close your connection. You can set attributes at any time during an AFTP session, but must be connected to an AFTP server.

The modename command does not work like the others in this group. You must issue this command before you connect to the AFTP server and the value will remain set across connections until you change it or exit the AFTP command environment.

Following is a summary of the AFTP commands that affect file transfer attributes:

Table 11. AFTP Commands to Set File Transfer Attributes

AFTP Command	Description	See Page
alloc	Sets the allocation size for created files (MVS servers only)	64
ascii	Changes the data transmission type to ASCII.	65
binary	Changes the data transmission type to binary.	66
block	Sets the block size for created files	67
date	Sets how the file date will be handled during file transfers.	71
lrecl	Sets the logical record length.	86
modename	Sets the mode name used in the transfer of files.	93
prompt	Sets whether or not to use file-by-file confirmation when acting on multiple files.	95
recfm	Sets the record format.	101
status	Provides information about the current transfer characteristics.	106
system	Provides information about the AFTP server computer.	108
tpname	Sets the name of the transaction program to be started when connecting to the server.	109
type	Sets the data transmission type or displays the current value.	111

Transfer Files

AFTP provides commands that allow you to transfer files between your client computer and an AFTP server computer to which you are connected. You can transfer a single file at a time, multiple files by listing them explicitly, or multiple files by using wildcards. You can issue transfer commands only after you have opened a connection with an AFTP server. Following is a summary of the AFTP commands that transfer files:

Table 12. AFTP Commands to Transfer Files

AFTP Command	Description	See Page
get	Transfers one or more files from the server computer to the client computer.	79

Table 12. AFTP Commands to Transfer Files (continued)

AFTP Command	Description	See Page
put	Transfers one or more files from the client computer to the server computer.	96
receive	Alias for get.	100
send	Alias for put.	105

Directory and File Manipulation on the AFTP Server Computer

There are additional commands provided by AFTP that are used for directory and file manipulation on the AFTP server computer. These include functions such as making and removing directories, listing the contents of directories, and renaming files. Following is a summary of the AFTP commands used for directory and file manipulation on the server computer:

Table 13. AFTP Commands to Manipulate Directories and Files on the AFTP Server

AFTP Command	Description	See Page
cd	Sets the current directory on the server computer.	69
delete	Deletes a file on the server computer.	72
dir	Provides a full directory listing (files and their attributes) from the server computer.	74
ls	Displays a short directory listing (files only) from the server computer.	87
lsd	Provides a short directory listing from the server computer that contains only directories.	90
mkdir	Creates a new directory on the server computer.	92
pwd	Displays the current directory of the server computer.	98
rename	Renames a file on the server computer.	103
rmdir	Removes a directory on the server computer.	104

Local Commands on the Client Computer

You can perform commands on the local computer while in AFTP. Local commands can be issued at any time during an AFTP session. It is not necessary to be connected to an AFTP server to issue non-AFTP commands using the ! command. Following is a summary of the AFTP commands that affect the local computer:

Table 14. AFTP Commands That Affect the Client

AFTP Command	Description	See Page
!	Issues a miscellaneous non-AFTP command on the local computer.	56
lcd	Changes the current directory on the local client computer.	84
lpwd	Displays the current directory of the local client computer.	85

Get Help for AFTP Commands

You can get online help within the AFTP environment by issuing any of the following commands:

Table 15. AFTP Commands to Provide Help

AFTP Command	Description	See Page
?	Alias for help.	57
help	Provides a list of topics for which help is available, or provides help on a specific AFTP command.	82

Log Trace Data

You can use the following command to capture internal trace data while using AFTP commands:

Table 16. AFTP Commands to Control Tracing

AFTP Command	Description	See Page
trace	Sets the level of trace data to be collected.	110

Chapter 8. AFTP Command Reference

See "Appendix A. How to Read the Syntax Diagrams" on page 113 for instructions if you are unfamiliar with reading graphical syntax diagrams.

!

Purpose

Use this command to execute non-AFTP commands on the client.

This command is valid only inside the AFTP command environment.

Format

```
►►──!──────────────────────────────────────────────────►◄
      └─command─┘
```

Parameters

command
> A command and its arguments, to be issued on the client computer. The
> arguments are passed to the specified command uninterpreted and unchanged
> by AFTP. If a nonzero return code is returned by the operating system, it will be
> reported.
>
> **Note:** In OS/2, you cannot use ! `CD` to set the current directory; you must use
> the LCD command.

Examples

- If you are a VM user and wish to check your reader for incoming mail without
  leaving the AFTP command environment, you can use the following:

  ```
  aftp> ! rdrlist
  ```

- If you are a VM user and request a file list for a set of files which does not exist,
  you get the following:

  ```
  aftp> ! filelist abcdefg* *
  DMSWLF002E File ABCDEFG* not found
  RC from the system() call was 28
  ```

- If you are an MVS user and want to see what is listed in the catalog under your
  high level qualifier, you can use the LISTC command:

  ```
  aftp>
  ! listc

  IN CATALOG:WORK01.CATALOG
  TTULLY.ASUITE.LOGS.APPCOPYE
  TTULLY.ASUITE.LOGS.APPCOPYT
  TTULLY.ASUITE.LOGS.APPFTPE
  TTULLY.ASUITE.LOGS.APPFTPT
  TTULLY.ASUITE.LOGS.APPPINGE
  TTULLY.ASUITE.LOGS.APPPINGT
  TTULLY.SPF.ISPPROF
  TTULLY.SPFLOG1.LIST
  aftp>
  ```

Related Commands

- lcd
- lpwd

?

Purpose

Use this command to get help information about AFTP commands.

This command is valid only inside the AFTP command environment.

Format

```
►►──?─┬──────────────┬──────────────────────────────────────────►◄
      ├─command──┤
      └─commands─┘
```

Parameters

command
    Requests specific help for an AFTP command.

commands
    Requests a list of the AFTP commands.

Aliases

help

acopy

Purpose

The acopy command provides basic file transfer operations in a single command. The acopy command transfers the source file from the source computer to the destination file on the destination computer.

When you transfer a file, you should make sure that you set the correct file transfer characteristics for that file. If you need to control the record format or record length of the file during transfer, use the AFTP get or put commands. See "File Transfer Types" on page 40 and "Special File Structure" on page 40 for additional information.

This command cannot be used inside the AFTP environment.

Format

```
►►──acopy──── -h──── │ transfer parameters │───────────────────────►◄
```

transfer parameters:

```
    ┌─source_lu:source_file──target_file─┐                    ┌─-m──#BATCH──────┐
│───┤                                    ├──┬─────┬────┬──────┤                 ├──►
    └─source_file──target_lu:target_file─┘  ├─-a──┤    │      └─-m──mode_name──┘
                                            └─-b──┘

    ┌─-t──AFTPD──┐
►───┤            ├──┬──────────────────────┬──────┬─-l──level─┬──────────────│
    └─-t──tp_name┘  ├─-n──────────────────┤       └───────────┘
                    ├─-u──userid──────────┤
                    └─-u──userid── -p──password┘
```
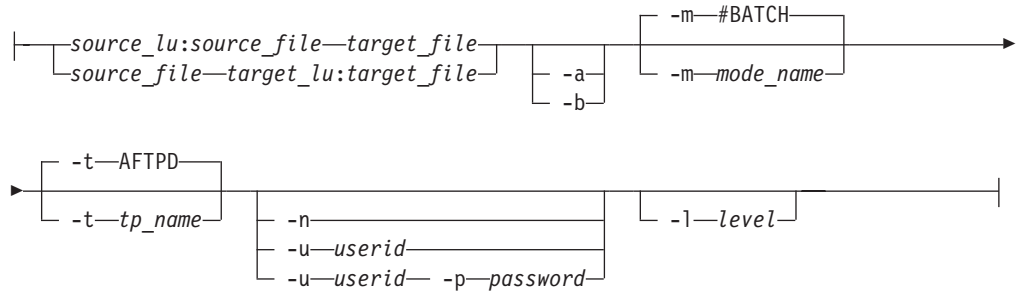
Parameters

The acopy command uses flags to specify transfer characteristics and security options. The flags can be specified in either uppercase or lowercase. However, each flag can be specified only once.

Note: Some values are case-sensitive and some are not. Read the parameter descriptions carefully.

Platform Restriction: In MVS, if you enter all of the attributes of a command in uppercase, the entire set of attributes will be folded to lowercase. That is, if you type this command:

```
ACOPY MYFILE.SCRIPT   SERVER:  -T AFTPD
```

The following command is processed:

```
acopy myfile.script   server:  -t aftpd
```

-h
Help; requests that the help information for this command be displayed.

source_lu
The network address at which the file to be transferred is located. A network

address can be a fully qualified LU name, a CPI-C symbolic destination name, or a nickname defined in the ANAME database. See "Specifying Destinations in the APPC Application Suite" on page 5 for more information on specifying this parameter.

If the *source_lu* is not provided, the source file is assumed to be a client file.

You cannot specify both the *source_lu* and the *target_lu* value. One of those values must be allowed to default to your network address.

source_file
The file specification of the file to be copied. You may use native file names or the AFTP common naming convention (described in "AFTP Common Naming Format" on page 42) appropriate to the operating system on the source machine.

You can use wildcard characters in the file name specifications.

target_lu
The network address to which the file will be copied. A network address can be a fully qualified LU name, a CPI-C symbolic destination name, or a nickname defined in the ANAME database. See "Specifying Destinations in the APPC Application Suite" on page 5 for more information on specifying this parameter.

If the *target_lu* is not provided, the target file is assumed to be a client file.

You cannot specify both the *source_lu* and the *target_lu* value. One of those values must be allowed to default to your network address.

target_file
The file specification of the file at the *target_lu*. You can use native file names or the AFTP common naming convention (described in "AFTP Common Naming Format" on page 42) appropriate to the operating system on the target machine.

Hint: If the target machine is an OS/2 workstation with an attached printer, you can use the acopy command to transfer host files directly to the printer, by specifying LPT1 as the *target_file*.

-a ASCII text file transfer. If neither -a or -b are specified, acopy will check the INI file to determine the file transfer type to use. If no type is specified in the INI file, a default transfer type of ASCII will be used.

-b
Binary file transfer. If neither -a or -b are specified, acopy will check the INI file to determine the file transfer type to use. If no type is specified in the INI file, a default transfer type of ASCII will be used.

-m
Mode name; sets the properties to use for the APPC conversation. This value is case-insensitive. See "What Is a Mode?" on page 3 for more information on setting conversation modes.

Default: **#BATCH**

Platform Restriction: On many VM systems, the # character is used as the logical line end character. If your VM system is set this way, use the `CP TERMINAL LINEND OFF` command to disable the line end character before issuing a command to set a mode name containing the # character.

-t Transaction program name; name of the program to start on the server. This value is case-sensitive.

Default: **AFTPD**

-n

No security; forces acopy to use no security on the conversation (APPC security=none). Try this parameter if using the default security results in an error that conversation security is not valid. See "Specifying Security in the APPC Application Suite" on page 6 for an explanation of using security parameters in the APPC Application Suite.

-u

User ID; your user ID on the server. The user ID can be 1 – 8 characters in length. If you specify a user ID, then you must also specify a password (-p). If you do not specify the password, acopy will prompt you for it.

Specify the user ID and password parameters when error messages indicate that you must provide security information and specifying the **-n** parameter does not solve the problem. See "Specifying Security in the APPC Application Suite" on page 6 for an explanation of using security parameters in the APPC Application Suite.

Platform Difference:
1. In VM, the user ID must be specified in uppercase.
2. Shared user IDs (VM operating system) are not supported.

-p

Password; the assigned security code associated with your user ID on the server. The password can be 1 – 8 characters in length.

Platform Difference:

In VM, the password must be specified in uppercase.

-l Trace level; the amount of trace data to be written into the trace log when processing this command. See "Capturing AFTP Trace Data" on page 119 for additional information about AFTP tracing.

Default: 0 (no trace data collected)

Examples

- Send a file to the AFTP server (usibmnr.nr123456). The client is MVS and the file is a member of a PDS. The server is OS/2.

```
acopy /nasrin.compile.c(acopy)   usibmnr.nr123456:/d:/misc/acopy  -b

IBM ACOPY version 1.0.
Licensed Materials - Property of IBM
5654-025
(C) Copyright 1994 by IBM Corp. All rights reserved.

Opening INI file from DD:APPFTPI.  INI load successful.



Sending "/nasrin.compile.c/ACOPY".

File was transferred in BINARY and stored as "/d:/misc/acopy".
185600 bytes sent in 28.566 seconds (6.34 Kbytes/s)
```

- Receive a set of files from the AFTP server (pc). The server is OS/2, the client is VM.

```
acopy pc:d:\temp\any*.*
IBM ACOPY version 1.0.
Licensed Materials - Property of IBM
```

```
5654-025
(C) Copyright 1994 by IBM Corp. All rights reserved.
Opening INI file from DD:APPFTPI.  INI load successful.


Receiving "/d:/temp/ANYDAYCD.SCR".
File was transferred in ASCII and stored as "/A/ANYDAYCD.SCRIPT".
89032 bytes received in 2.431 seconds (35.77 Kbytes/s)

Receiving "/d:/temp/ANYONE.TXT".
File was transferred in ASCII and stored as "/A/ANYONE.TXT".
49 bytes received in 0.890 seconds (0.05 Kbytes/s)
Ready;
```

aftp

Purpose

Use this command to start the AFTP command environment, in which you can use AFTP commands to manipulate files and directories.

The aftp command cannot be used inside the AFTP command environment.

Format

```
►►──aftp──────────────────────────────────────────────►◄
         ├──-h──────┤
         └─destination─┘
```
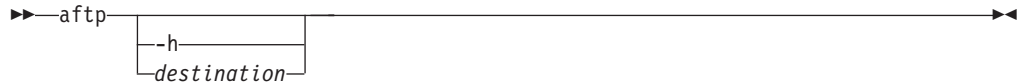
Parameters

-h
Help; brief help on the aftp command.

destination
The network address of the destination computer. A network address can be a fully qualified LU name, a CPI-C symbolic destination name, or a nickname defined in the ANAME database. See "Specifying Destinations in the APPC Application Suite" on page 5 for more information on specifying this parameter.

Specifying the destination on the aftp command takes the place of using the open command. You are prompted for a user ID and password. See "Specifying Security in the APPC Application Suite" on page 6 for more information on responding to these prompts.

Examples

- Start the AFTP environment.

  ```
  aftp

  IBM AFTP version 1.0.
  Licensed Materials - Property of IBM
  5654-025
  (C) Copyright 1994 by IBM Corp. All rights reserved.
  Opening INI file from DD:APPFTPI.  INI load successful.
  aftp>
  ```

- Start the AFTP environment and connect to the server MYPC. The server does not require security, so press enter when prompted for the user ID.

  ```
  aftp mypc

  IBM AFTP version 1.0.
  Licensed Materials - Property of IBM
  5654-025
  (C) Copyright 1994 by IBM Corp. All rights reserved.
  Opening INI file from DD:APPFTPI.  INI load successful.
  userid:

  Connected to mypc
  aftp>
  ```

Related Commands

- exit
- open

alloc

Purpose

Use this command to set the allocation size to use when creating files or data sets (partitioned or sequential).

Platform Restriction: This command is used only by AFTP servers running on MVS.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──alloc──────────────────────────────────────────────────────►◄
          └─size─┘
```

Parameters

If no parameter is specified, the current setting is displayed.

size
    The number of bytes to be allocated for primary and secondary extents. AFTP will divide this value by the current block size value to determine the number of allocation units to be used.

    The initial setting is 0, which sets the allocation size to the default used by C/370* runtime. See the *IBM C/370 Programming Guide* for specific information on the default value used.

Examples

- Set the allocation size to 4096.

  ```
  aftp> alloc 4096
  Allocation size set to 4096.
  ```

- Reset the allocation size to the default.

  ```
  aftp> alloc 0
  Allocation size set to 0
  ```

Related Commands

- block
- lrecl
- recfm
- status

ascii

Purpose

Use this command to change the transmission data type to ASCII. All subsequent transmissions following this command will be transferred with a data type of ASCII until the setting is explicitly changed or the connection ends. Refer to "File Transfer Types" on page 40 for more information on the ASCII transmission type.

Accepted abbreviation: asc

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──ascii──asc─────────────────────────────────────────────────►◄
```

Parameters

There are no parameters for this command.

Examples

```
aftp> ascii
Data type set to ASCII.
```

Related Commands

- binary
- status
- type

binary

Purpose

Use this command to change the transmission data type to binary. All subsequent transmissions following this command will be transferred with a data type of binary until the setting is explicitly changed or the connection ends. Refer to "File Transfer Types" on page 40 for more information on the binary transfer data type.

Accepted abbreviation: bin

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──binary──bin─────────────────────────────────────────────────────►◄
```

Parameters

There are no parameters for this command.

Examples

```
aftp> binary
Data type set to BINARY.
```

Related Commands

- ascii
- status
- type

block

Purpose

Use this command to set the block size to use when writing files (get to the AFTP client or put to the AFTP server).

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►─block──────────────────────────────────────────────────────►◄
        └─size─┘
```

Parameters

If no parameter is specified, the current setting is displayed.

size
The amount of space to block for the data set.

The initial setting is 0, which sets the block size to the default used by C/370 runtime. See the *IBM C/370 Programming Guide* for specific information on the default value used.

Examples

- Set the block size to 1024.

  ```
  aftp> block 1024
  Block size set to 1024.
  ```

- Reset the block size to the default.

  ```
  aftp> block 0
  Block size set to 0
  ```

Related Commands

- block
- lrecl
- recfm
- status

bye

Purpose

Use this command to exit the AFTP command environment.

This command is valid only inside the AFTP command environment.

Format

```
►►──bye─────────────────────────────────────────────────────────────►◄
```

Parameters

There are no parameters for this command.

Aliases

exit

cd

Purpose

Use this command to change the current directory on the server.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──cd──┬──directory_spec──┬────────────────────────────────────────────►◄
        └──..──────────────┘
```

Parameters

directory_spec
> Any valid native or common syntax directory specification. You can provide a fully qualified specification or a partial specification. See "Using File and Directory Specifications in Commands" on page 42 for specific examples.

.. Parent directory; changes directory to the next higher directory in the directory chain. You cannot use this value if the current directory is already set to the root directory.

Examples

- This example uses the fully qualified native directory name for OS/2:

  ```
  aftp> cd c:\cmlib
  CD command successful.
  ```

- This example uses the fully qualified AFTP common naming format for an MVS partitioned data set:

  ```
  aftp> cd /neals.src.c/
  CD command successful.
  ```

- This example uses two steps to set the current directory to the neals.src.c PDS, using partial directory specifications:

  ```
  aftp> cd /neals.
  CD command successful.

  aftp> cd src.c/
  CD command successful.
  ```

- This example uses the special double period (..) value to change to a higher-level directory. After the commands are complete, the current directory will be set to /neals.src.

  ```
  aftp> cd /neals.src.c/
  CD command successful.
  aftp> cd ..
  CD command successful.
  ```

Related Commands

- pwd
- lcd

close

Purpose

Use this command to close an AFTP session with a server without exiting from the AFTP command environment.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

►►──close──►◄

Parameters

There are no parameters for the command.

Purpose

```
aftp> close
Goodbye.
aftp>
```

Aliases

disconnect

Related Commands

open

date

Purpose

Use this command to set how the file date will be handled during file transfers.

This command is only valid inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►─date────────────────────────────────────────────────────►◄
        ─new─
        └old─
```
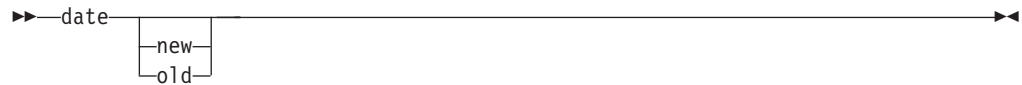
Parameters

If no parameter is specified, the current setting is displayed.

new
Assign the current time and date to the newly copied file. This is the initial setting on MVS.

old
The copied files will inherit the date of the original file. This is the initial setting on VM.

Platform Restriction: The old parameter is not supported on MVS.

Examples

- View the current date mode setting.

  ```
  aftp> date
  Date Mode     : OLD
  aftp>
  ```

- Set the date mode to **new**.

  ```
  aftp> date new
  Date Mode set to NEW.
  aftp>
  ```

Related Commands

status

delete

Purpose

Use this command to delete one or more files on the server computer. If you want confirmations before you delete the files, set the prompt command to on. (See "prompt" on page 95.)

Platform Restriction: The delete command cannot be used to remove an MVS PDS. The rmdir command must be used to remove an MVS PDS.

Accepted abbreviation: del

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──┬─delete─┬──file_spec───────────────────────────────►◄
    └─del────┘
```

Parameters

file_spec
The file specification of the file to be deleted on the server computer. You can use native or common format, and can use either fully qualified names or partially specified names for files in the current directory. See "Using File and Directory Specifications in Commands" on page 42 for specific examples.

Wildcards are permitted in the file name.

Examples

- Delete a VM file using fully qualified native file name:

```
aftp> delete elaine.letter.d
Deleting /D/ELAINE.LETTER
```

- Delete a PDS member using fully qualified AFTP common file naming format:

```
aftp> delete /neals.src.c/test4
Deleting /NEALS.SRC.C/TEST4
```

- Delete a set of OS/2 files in the D:\TEMP\NEW directory. Assume that the current directory is set to: D:\TEMP\NEW and that prompting has been turned on:

```
aftp>
delete aftp*.*
Delete AFTP_PC.CON? (Yes,No,Go,Quit)
y
Deleting /d:/temp/new/AFTP_PC.CON
Delete AFTP.TRC? (Yes,No,Go,Quit)
y
Deleting /d:/temp/new/AFTP.TRC
aftp>
```

Related Commands

- prompt
- rmdir

dir

Purpose

Use this command to display a directory listing from the server. Directories and files are displayed, along with attributes.

Use "ls" on page 87 to list file names and directory entries without the attributes. Use "lsd" on page 90 to list only directory entries.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──dir──┬──────*──────┬──────────────────────────────────────────►◄
         └─ file_spec ─┘
```

Parameters

file_spec
> The file specification of the files to be listed on the server computer. You can use native or common format, and can use either fully qualified names or partially specified names for files in the current directory. See "Using File and Directory Specifications in Commands" on page 42 for specific examples.

> Wildcards are permitted in the file name.

> If the file specification is a directory name, a listing of the files under that directory will be listed.

> Default: List files in the current directory on the AFTP server.

Examples

The exact output of this command depends on the AFTP server's operating system.

MVS Examples

- With the current directory set to `/nasrin.`, list directory contents (same as `dir *`). This command will list partitioned data sets (PO) and sequential files (PS) which meet the criteria.

```
aftp> dir
directory for /nasrin.
Volser   Date    Org Recfm Lrecl Ext   Blks Cyls Dataset Name
APPC01 94/05/18 PO  FB       80    1   6160    9 CLIST
APPC01 94/05/18 PO  U      3120   16   3120  135 LOADLIB
WORK02 94/05/16 PS  F        80    1     80    0 MIS
APPC01 94/05/17 PO  VB      132    1   3120    0 MISC
ESAWK2 94/05/16 PO  VB      255    1   3280    0 NEWDIR

Directory listing complete.
aftp>
```

- This example also uses the current directory /nasrin. but uses the double asterisk wildcard (MVS only) to extend the list to include multiple qualifiers. MVS wildcards are described in "Using Wildcards on the MVS File System" on page 46.

CAUTION:

If you use the double asterisk wildcard when the current directory is set to the root, you will be requesting that AFTP list of all files that you have access to. This will take a long time.

```
aftp> dir **
directory for /nasrin.
Volser  Date     Org Recfm Lrecl Ext  Blks Cyls Dataset Name
APPC01 94/05/17 PO  FB       80   2  3120   33 C.OBJ
APPC01 94/05/18 PO  FB       80   1  6160    9 CLIST
WORK01 94/05/16 PO  FB       80   1  6160    0 ISPF.ISPPROF
WORK02 94/05/16 PO  FB       80   1  3120    1 JCL.CNTL
APPC01 94/05/18 PO  U      3120  16  3120  135 LOADLIB
FRE2AF 94/05/18 PS  VB      132   1  3120    0 LOGS.APPCOPYE
ESAWRK 94/04/26 PS  VB      132   1  3120    0 LOGS.APPCOPYT
ESAWRK 94/04/26 PS  VB      132   1  3120    0 LOGS.APPFTPE
ESAWRK 94/05/16 PS  VB      132   1  3120    0 LOGS.APPFTPT
WORK02 94/05/16 PS  F        80   1    80    0 MIS
APPC01 94/05/17 PO  VB      132   1  3120    0 MISC
ESAWK2 94/05/16 PO  VB      255   1  3280    0 NEWDIR
APPC01 94/05/13 PO  VB      256   1  6233    0 NEWDIR2.CLIST
APPC01 94/05/02 PO  FB       80   1  3120   29 SOURCE.ASM
APPC01 94/05/18 PO  FB       80   1  3120   29 SOURCE.C
APPC01 94/05/13 PO  FB       80   1  3120    9 SOURCE.H
APPC01 94/05/13 PO  FB       80   1  3120   29 SOURCE.INC
ESAWRK 94/05/16 PS  VA      125   1   129    0 SPFLOG1.LIST
ESAWK2 94/05/16 PS  FB       80   1   800    0 SPFTEMP0.CNTL
ESAWK2 94/03/15 PS  FB       80   1   800    0 SPFTEMP1.CNTL
ESAWRK 94/03/15 PS  FBA     121   1  3146    0 SPFTEMP1.LIST
WORK02 94/05/17 PS  VB     1028   1  6144    0 TESTDIR.PDS.TESTFIL6

Directory listing complete.
aftp>
```

- With the current directory set to /nasrin.clist/, which is a PDS, the directory list will show members of the PDS.

```
aftp> dir
directory for /nasrin.clist/
Name     VV.MM  Created   Changed   Time    Size   Init Mod  ID
ACOPY    01.05  94/02/25  94/03/04 09:38     69     70   0 NASRIN
AFTP     01.08  94/02/25  94/03/15 15:08     70     71   0 NASRIN
ANAME    01.04  94/02/25  94/03/04 09:41     85     86   0 NASRIN
APING    01.04  94/02/25  94/03/04 09:41     68     69   0 NASRIN
A3270    01.03  94/02/25  94/03/04 09:42     68     69   0 NASRIN
MEMTEST  01.00  94/02/25  94/02/25 19:43      2      2   0 MEM

Directory listing complete.
aftp>
```

VM Examples

- With the current directory set to /a/, list all files beginning with the characters "ANY".

```
aftp> dir any*.*
directory for /a/
ANYNET   NOTEBOOK A0 V       83    7902      84  7/23/93 16:32:40
ANYNETCD SCRIPT   A1 V       97    4154      23  7/13/93 19:07:32
ANYNET2  NOTEBOOK A0 V       79     140       2  6/30/93 14:48:17
ANYONE   TXT      A1 V       14       1       1  5/05/94 13:25:40
ANYTWO   TXT      A1 V       14       1       1  5/05/94 13:25:40
ANY3     TXT      A1 V       14       1       1  5/05/94 13:25:40
ANY4     SCRIPT   A1 V       14       1       1  5/05/94 13:25:40

Directory listing complete.
aftp>
```

- This example lists the contents of the root directory (/) on an AFTP server on VM. The root directory on VM contains a list of directories (filemodes) but does not contain files.

```
aftp> dir /*
directory for /
LABEL  VDEV M  STAT    CYL TYPE BLKSZ    FILES  BLKS USED-(%) BLKS LEFT  BLK TOTAL

EBP191 191  A   R/W    20 3380 4096      613       2832-94        168        3000

EPE192 192  B   R/W    20 3380 4096      237       2453-82        547        3000

IDT191 201  E   R/O   150 3380 4096     1696      14618-65       7882       22500

IDP195 202  F   R/O    60 3380 4096      884       6626-74       2374        9000


Directory listing complete.
aftp>
```

OS/2 Examples

- With the current directory set to /d:/temp/, list all files in the directory.

```
aftp>
dir
directory for /d:/temp/
11-18-92   3:34p       <DIR>  .
11-18-92   3:34p       <DIR>  ..
 7-13-93   4:07p       93187  ANYNETCD.SCR
 5-05-94  10:25a          17  ANYONE.TXT
 5-05-94  10:25a          17  ANYTWO.TXT
 5-05-94  10:25a          17  ANY3.TXT
 5-05-94  10:25a          17  ANY4.SCR

Directory listing complete.
aftp>
```

- This example lists the contents of the root directory (/) on an AFTP server on OS/2. The root directory on OS/2 contains a list of drives available but does not contain files.

```
aftp>
dir /
directory for /
FAT                    81726      2104    97   C:
FAT                    35736     12154    65   D:
FAT                    77638     67312    13   E:

Directory listing complete.
aftp>
```

Related Commands

- ls
- lsd

disconnect

Purpose

Use this command to close the AFTP session with a server without exiting the AFTP command environment.

Accepted abbreviation: disc

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──┬─disconnect─┬──────────────────────────────────────────────────►◄
    └─disc───────┘
```

Parameters

There are no parameters for this command.

Aliases

close

exit

Purpose

Use this command to exit from the AFTP command environment and return to the operating system prompt. If you currently have an open connection, it will be closed.

This command is valid only inside the AFTP command environment.

Format

```
►►──exit──────────────────────────────────────────────────────────►◄
```

Parameters

There are no parameters for this command.

Examples

```
aftp> exit
```

Aliases

- bye
- quit

get

Purpose

Use this command to copy one or more files from the AFTP server to the client. If you want confirmations before each file is transferred, turn prompting on (see "prompt" on page 95).

Before you use this command to transfer a file, you should make sure that you set the correct file transfer characteristics for that file (for example, ASCII or binary, record format, record length). See "File Transfer Types" on page 40 and "Special File Structure" on page 40 for additional information.

Platform Restriction: On MVS, a load module library PDS (LOADLIB PDS) must be archived before it can be transferred to ensure that all data associated with that PDS is transferred.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──get──server_file──────────────────────────────────────►◄
                     └─client_file─┘
                     └─ _ ─┘
```

Parameters

server_file
> The name of the file on the server to be copied. Wildcards are permitted in the name to generate the list of files to copy.

client_file
> The name on the client to which the server files are copied. Wildcards are permitted in this parameter to specify a list of file names.
>
> Default: Use the same file name as on the server

– Instead of creating a file on the client, display the contents of the file on the display screen.

Examples

• This example copies the server file to a client file in the current directory with the same name. The optional client file parameter is left off. Prompting is off.

```
aftp> get any*.t*
Receiving "/a/ANYONE.TXT".
File was transferred in ASCII and stored as "/d:/temp/ANYONE.TXT".
15 bytes received in 0.690 seconds (0.02 Kbytes/s)
Receiving "/a/ANYTWO.TXT".
File was transferred in ASCII and stored as "/d:/temp/ANYTWO.TXT".
15 bytes received in 0.720 seconds (0.02 Kbytes/s)
Receiving "/a/ANY3.TXT".
File was transferred in ASCII and stored as "/d:/temp/ANY3.TXT".
15 bytes received in 0.880 seconds (0.02 Kbytes/s)
aftp>
```

- This example copies a server file in the server current directory to a client file with a different name in the client current directory.

```
aftp>
get any4.scr newtest.txt
Receiving "/d:/temp/ANY4.SCR".
File was transferred in ASCII and stored as "/A/newtest.txt".
15 bytes received in 0.933 seconds (0.02 Kbytes/s)
aftp>
```

- This example copies the server file list to client files in the current directory with the same name. The prompting feature is turned on in this case. The optional client file parameter has been left off.

```
aftp>
get any*.*
Get ANYNETCD.SCR? (Yes,No,Go,Quit)
y
Receiving "/d:/temp/ANYNETCD.SCR".
File was transferred in ASCII and stored as "/A/ANYNETCD.SCRIPT".
89032 bytes received in 2.411 seconds (36.06 Kbytes/s)
Get ANYONE.TXT? (Yes,No,Go,Quit)
y
Receiving "/d:/temp/ANYONE.TXT".
File was transferred in ASCII and stored as "/A/ANYONE.TXT".
15 bytes received in 0.780 seconds (0.02 Kbytes/s)
Get ANYTWO.TXT? (Yes,No,Go,Quit)
n
Get ANY3.TXT? (Yes,No,Go,Quit)
g
Receiving "/d:/temp/ANY3.TXT".
File was transferred in ASCII and stored as "/A/ANY3.TXT".
15 bytes received in 0.838 seconds (0.02 Kbytes/s)
Receiving "/d:/temp/ANY4.SCR".
File was transferred in ASCII and stored as "/A/ANY4.SCRIPT".
15 bytes received in 0.793 seconds (0.02 Kbytes/s)
aftp>
```

- This example copies a server file list in the server current directory to a set of client files with different names in the client's current directory. The prompting feature is turned off.

```
get any*.txt /b/any*.script
Receiving "/d:/temp/ANYONE.TXT".
File was transferred in ASCII and stored as "/b/anyONE.script".
15 bytes received in 0.848 seconds (0.02 Kbytes/s)
Receiving "/d:/temp/ANYTWO.TXT".
File was transferred in ASCII and stored as "/b/anyTWO.script".
15 bytes received in 0.736 seconds (0.02 Kbytes/s)
Receiving "/d:/temp/ANY3.TXT".
File was transferred in ASCII and stored as "/b/any3.script".
15 bytes received in 0.502 seconds (0.03 Kbytes/s)
aftp>
```

Aliases

receive

Related Commands

- alloc
- ascii
- binary
- block
- lrecl
- prompt

- put
- recfm
- type

help

Purpose

Use this command to get a list of topics for which help is available. This command also can output a brief help message for the input command parameter. The text displays the correct command syntax.

This command is valid only inside the AFTP command environment.

Format

```
►►──help──────────────────────────────────────────────────────────────►◄
         ├──command──┤
         └─commands──┘
```

Parameters

command
  Requests specific help for an AFTP command.

commands
  Requests a list of the AFTP commands.

Examples

- This example displays the topics for which help is available:

```
aftp> help
Commands to get you started:
  OPEN   - connect to the AFTPD server on a partner system
  GET    - copy files from the server to the client
  PUT    - copy files from the client to the server
  TYPE   - change the data type for file transfers to either
           BINARY or ASCII
  DIR    - list files that are on the server
  CLOSE  - end your connection to the server
  EXIT   - close any active connection and end AFTP

Help is available for all AFTP commands.
(enter HELP "command_name")

Help is available for the following topics:
(enter HELP "topic_name")
   COMMANDS  - Lists all available commands.
aftp>
```

- This example displays all available commands:

```
aftp> help commands
help commands
 Help is available for the following commands:
 (Enter HELP "command-name")
 Commands are:
 !          close      lpwd       pwd        tpname
 ?          date       lrecl      quit       trace
 alloc      delete     ls         receive    type
 ascii      dir        lsd        recfm
 bell       disconnect mkdir      rename
 binary     exit       modename   rmdir
```

```
block      get       open      send
bye        help      prompt    status
cd         lcd       put       system
aftp>
```

- This example retrieves the help text for the type command:

```
aftp> help type
TYPE [ascii|binary|default]
    Sets the data type.  If no argument is given, the current
    data type setting will be displayed.  The default is
    DEFAULT.

    The TYPE command can only be used when a connection is
    OPEN.  The default is reset during OPEN processing.

    See also: ASCII, BINARY, GET, PUT
aftp>
```

Aliases

lcd

Purpose

Use this command to change the current directory on the client. When this command is invoked without any parameters, the name of the client current directory is displayed.

This command is valid only inside the AFTP command environment.

Format

```
►►──lcd────────────────────────────────────────────────►◄
         └─directory_spec─┘
```

Parameters

directory_spec
> Any valid native or common syntax directory specification. You can provide a fully qualified specification or a partial specification. See "Using File and Directory Specifications in Commands" on page 42 for specific examples.

> Default: Display the name of the client current directory

Examples

- This example uses the fully qualified native directory name for OS/2:

  ```
  aftp> lcd c:\cmlib
  "/c:/cmlib/" is the client's current directory.
  ```
- This example uses the AFTP common naming format for VM:

  ```
  aftp> lcd /x
  "/x/" is the client's current directory.
  ```
- This example uses two steps to set the current directory to the neals.src.c PDS, using partial directory specifications:

  ```
  aftp> lcd /neals.
  "/neals." is the client's current directory.

  aftp> lcd src.c/
  "/neals.src.c/" is the client's current directory.
  ```

Related Commands

- lpwd
- cd

lpwd

Purpose

Use this command to display the name of the current directory of the client. The output of the command uses the AFTP common naming format.

This command is the same as issuing the LCD command without any parameters.

This command is valid only inside the AFTP command environment.

Format

```
►►──lpwd─────────────────────────────────────────────────────────────────────►◄
```

Parameters

There are no parameters for this command.

Examples

Display the AFTP client's current directory:

```
aftp> lpwd
"/neals.src.c/" is the client's current directory.
aftp>
```

Related Commands

- lcd
- pwd

lrecl

Purpose

Use this command to set the record length to use when writing files (get to the AFTP client or put to the AFTP server). This value takes effect only when the files are stored on a computer that handles record-oriented files (for example, VM and MVS). On other systems, this value is ignored.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──lrecl───────────────────────────────────────────────────►◄
         └─size─┘
```

Parameters

If no parameter is specified, the current setting is displayed.

size
: The size of the record to write. The range of values varies by operating system.

    The initial setting is 0, which sets the record length to the default record length used by C/370 runtime. See the *IBM C/370 Programming Guide* for specific information on the default value used.

    estrictio: The maximum record length for binary files is 28672 (28K). If your file has a longer record length use an archiving tool to pack it into smaller records.

Examples

• Set the record length to 132.

```
aftp> lrecl 132
Record length set to 132.
```

• Reset the record length to the default.

```
aftp> lrecl 0
Record length set to 0
```

Related Commands

• alloc
• block
• recfm
• status

ls

Purpose

Use this command to display a directory listing from the AFTP server that contains the file names and directory entries only (no file attributes).

Use "dir" on page 74 to list file names, directory entries, and attributes. Use "lsd" on page 90 to list only directory entries.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──ls──┬──────────────┬──────────────────────────────►◄
        │      ┌─*─┐    │
        └──file_spec────┘
```

Parameters

file_spec
: The file specification of the files to be listed on the server computer. You can use native or common format, and can use either fully qualified names or partially specified names for files in the current directory. See "Using File and Directory Specifications in Commands" on page 42 for specific examples.

: Wildcards are permitted in the file name.

: If the file specification is a directory name, a listing of the files under that directory will be displayed.

: Default: List files in the current directory on the server

Examples

MVS Examples

- This example shows the output of the ls command when the current directory is set to be a PDS:

```
aftp> ls
directory for /nasrin.clist/
ACOPY
AFTP
ANAME
APING
A3270
MEMTEST

Directory listing complete.
aftp>
```

- This example shows an LS command when the current directory is a file prefix:

```
aftp> LS **
directory for /nasrin.
AFTPD.JOBLOG
C.OBJ
CLIST
ISPF.ISPPROF
```

```
                        JCL.CNTL
                        LOADLIB
                        LOG.MISC
                        LOGS.APPCOPYE
                        LOGS.APPCOPYT
                        LOGS.APPFTPDE
                        LOGS.APPFTPDT
                        LOGS.APPFTPE
                        LOGS.APPFTPT
                        NEWDIR
                        NEWDIR2
                        NEWDIR2.CLIST
                        SOURCE.ASM
                        SOURCE.C
                        SOURCE.H
                        SPFLOG1.LIST
                        SPFTEMP0.CNTL
                        SPFTEMP1.CNTL
                        SPFTEMP1.LIST

                        Directory listing complete.
                        aftp>
```

VM Examples

- This example lists the files in the current directory /a/ with the file name "TEST" and any filetype.

```
aftp> ls test.*
directory for /a/
TEST.LABELS
TEST.PACKAGE
TEST.SCRIPT
TEST.XEDIT

Directory listing complete.
aftp>
```

OS/2 Examples

- This example lists file with the extension "EXE" in the directory "e:\work\aftp" on the AFTP server.

```
aftp> ls e:\work\aftp\*.exe
directory for /e:/work/aftp/
AFTP.EXE
AFTPD.EXE
ACOPY.EXE

Directory listing complete
aftp>
```

- This example lists all files in the current directory on the AFTP server.

```
aftp> ls

directory for /e:/work/
.
..
PING
TEMP
WORK
C600
QIK2.SCD
AFSDOC.PS
HEADER.DAT

Directory listing complete
aftp>
```

Related Commands

- dir
- lsd

lsd

Purpose

Use this command to display a list of directories on the AFTP server. The listing will not contain files or file attributes.

Platform Difference: If the server is MVS, this command will list only the partitioned data sets which match the *directory_spec*. PDS members and sequential files will not be included in the output.

Use "dir" on page 74 to display a full listing of file names, directories, and attributes. Use "ls" on page 87 to list only the file names and directory entries.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
                    *
►►──lsd──┬──────────────────┬────────────────────────────────────►◄
         └─directory_spec───┘
```

Parameters

directory_spec
> Any valid native or common syntax directory specification. You may provide a fully qualified specification or a partial specification. See "Using File and Directory Specifications in Commands" on page 42 for specific examples.
>
> Wildcards are permitted.
>
> Default: List files in the current directory on the AFTP server

Purpose

MVS Examples
In MVS, the lsd command will only display the partitioned data sets which match the *directory_spec*:

```
aftp> lsd **
directory for /nasrin.
C.OBJ
CLIST
ISPF.ISPPROF
JCL.CNTL
LOADLIB
NEWDIR
NEWDIR2
NEWDIR2.CLIST
SOURCE.ASM
SOURCE.C
SOURCE.H

Directory listing complete.
aftp>
```

VM Examples

VM supports only a single level directory structure; all directories are located at the root.

```
aftp> lsd /
directory for /
A
B
E
F
Q
R
S
T
U
X
Y

Directory listing complete.
aftp>
```

OS/2 Examples

- This example performs an lsd directory listing using a native syntax directory specification and wildcards, in OS/2.

  ```
  aftp> lsd e:\work\a*
  directory for /e:/work/
  AFTP

  Directory listing complete
  aftp>
  ```

- This example displays an lsd directory listing for the current directory on the server:

  ```
  aftp> lsd

  directory for /e:/work/
  PING
  TEMP
  WORK
  C600
  AFTP

  Directory listing complete
  aftp>
  ```

Related Commands

- dir
- ls

mkdir

Purpose

Use this command to create a new directory on the server.

Accepted abbreviation: md

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Platform Differences
- This command is not supported on VM.
- On MVS, this command can only be used to create partitioned data sets.

Format
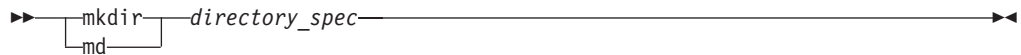
```
►►──┬─mkdir─┬──directory_spec────────────────────────────────────────►◄
    └─md────┘
```

Parameters

directory_spec
> Any valid native or common syntax directory specification. You can provide a fully qualified specification or a partial specification. See "Using File and Directory Specifications in Commands" on page 42 for specific examples.
>
> Wildcard characters are not permitted in this value.

Examples

- This example creates a new MVS PDS whose parent is the current directory (\RLGRAY.) on the server.

  ```
  aftp> mkdir testdir
  Directory RLGRAY.TESTDIR created.
  aftp>
  ```

- This example creates a new directory using a full path specification.

  ```
  aftp> mkdir e:\work\testdir
  Directory e:\work\testdir created.
  aftp>
  ```

Related Commands

- alloc
- block
- rmdir

modename

Purpose

Use this command to change the mode used for the APPC conversation.

See "What Is a Mode?" on page 3 for more information on setting conversation modes.

This command is valid only inside the AFTP command environment. You cannot have an open connection when you issue this command.

Format

```
►►──modename──────────────────────────────────────────────►◄
            └─mode_name─┘
```

Parameters

If no parameter is specified, the current setting is displayed.

mode_name
The name associated with a set of properties to use for the APPC conversation.

The initial setting is #BATCH.

Platform Difference: On many VM systems, the # character is used as the logical line end character. If your VM system is set this way, use the `CP TERMINAL LINEND OFF` command to disable the line end character before issuing a command to set a mode name containing the # character.

Examples

This example sets the conversation mode name to interactive.

```
aftp> modename #INTER
Mode Name set to "#INTER".
aftp>
```

Related Commands

status

open

Purpose

Use this command to open a connection to a destination computer. If this command is invoked without any parameters you are prompted for the destination. Once the destination is entered, you will be prompted for your user ID and password. See "Specifying Security in the APPC Application Suite" on page 6 for details on responding to the user ID and password prompts.

Platform Difference: On VM, a user ID and password must be provided. Shared user IDs are not supported.

This command is valid only inside the AFTP command environment.

Format

```
►►──open────────────────────────────────────────────────────►◄
         └─destination─┘
```

Parameters

destination
> The network address of the destination computer. A network address can be a fully qualified LU name, a CPI-C symbolic destination name, or a nickname defined in the ANAME database. See "Specifying Destinations in the APPC Application Suite" on page 5 for more information on specifying this parameter.

> If this parameter is not entered after the open command AFTP will prompt you for it.

Examples

Note: The password you type at the prompt may or may not be visible at the display, depending on the operating system.

- In this example the destination is entered along with the open command. The destination in this case is a fully qualified LU name.

```
aftp> open USIBMNR.NR50FFFI
userid: MARKP
password: password
Connected to USIBMNR.NR50FFFI
aftp>
```

- This example prompts for the destination. The destination provided in this case is an LU alias.

```
aftp> open
(to) MY_SERVER
userid: MARKP
password: password
Connected to MY_SERVER
aftp>
```

Related Commands

- close
- disc

prompt

Purpose

Use this command to set the prompt mode used when get, put, or delete commands are issued on multiple files. When prompting is turned on, AFTP will ask you to confirm the operation on each file.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
▶▶──prompt─────────────────────────────────────────────────────────────────────────◀◀
             ├─off─┤
             └─on──┘
```

Parameters

If no parameter is specified, the current setting is displayed.

on

Prompt user when multiple files are being processed, for example:

```
Get filename.ext? (Yes,No,Go,Quit)
```

You must respond to continue:

Yes   Process this individual file, then prompt for the next file.
No   Do not process this file, prompt for the next file.
Go   Process this and all remaining files with no further prompting.
Quit   Do not process this or any other files; end the command.

See the get and put commands for examples of the different output caused by the prompt command.

off

Do not prompt user. This is the original setting.

Purpose

This example explicitly sets the value of the prompt to ON.

```
aftp> prompt ON
prompt is ON
```

Related Commands

- delete
- get
- put

put

Purpose

Use this command to copy one or more files from the AFTP client to the AFTP server. If you want a confirmation before each file is transferred, set the prompt command to on. (See "prompt" on page 95.)

Before you use this command to transfer a file, you should make sure that you set the correct file transfer characteristics for that file (for example, ASCII or binary, record format, record length). See "File Transfer Types" on page 40 and "Special File Structure" on page 40 for additional information.

Platform Restriction: On MVS, a load module library PDS (LOADLIB PDS) must be archived before it can be transferred to ensure that all data associated with that PDS is transferred.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──put──client_file─────────────────────────────────────►◄
                   └─server_file─┘
```

Parameters

client_file
    The name of the AFTP client file to be copied. Wildcards are permitted in the name to generate a list of files to copy.

server_file
    The name on the AFTP server to which the client files are copied. Wildcards are permitted in this parameter to specify a list of file names.

    Default: The client file name(s)

Examples

- This example copies a client file to a server file in the current directory with the same name. The optional server file parameter has been left off.

```
aftp>
put /a/test.script
Sending "/a/TEST.SCRIPT".
File was transferred in ASCII and stored as "/d:/temp/new/TEST.SCR".
193 bytes sent in 0.689 seconds (0.27 Kbytes/s)
aftp>
```

- This example copies a client file which is not in the client current directory to a server file with a different name which is not in the server current directory.

```
aftp> put e:\work\aftp.doc n:\u\aftpdoc.txt
Sending "/e:/work/aftp.doc"
File was transferred in ASCII and stored as "/n:/u/aftpdoc.txt"
1232 bytes sent in 0.340 seconds (3.54 Kbytes/s)
aftp>
```

- This example copies a client file list to server files in the current directory with the same name. The prompting feature is turned on in this case. The optional server file parameter has been left off.

```
aftp> put appfcd*.*
Put APPFCDRH.H? (Yes,No,Go,Quit) y
Sending "/E:/WORK/APPFCDRH.H".
File was transferred in ASCII and stored as "/D:/AFTP/SERVER/APPFCDRH.H".
10002 bytes sent in 0.280 seconds (34.88 Kbytes/s)
Put APPFCDRO.C? (Yes,No,Go,Quit) n
Put APPFCDRO.OBJ? (Yes,No,Go,Quit) g
Sending "/E:/WORK/APPFCDRO.OBJ".
File was transferred in BINARY and stored as "/D:/AFTP/SERVER/APPFCDRO.OBJ".
3157 bytes sent in 0.150 seconds (20.55 Kbytes/s)
aftp>
```

Aliases

send

Related Commands

- alloc
- ascii
- binary
- block
- get
- lrecl
- prompt
- recfm
- type

pwd

Purpose

Use this command to display the current directory of the AFTP server computer.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──pwd──────────────────────────────────────────────────────────►◄
```

Parameters

There are no parameters for this command.

Examples

- The AFTP server is on MVS and the current directory is a partitioned data set:

  ```
  aftp> pwd
  "/neals.src.c/" is the server's current directory.
  aftp>
  ```

- The AFTP server is on MVS and the current directory is a file prefix for a PDS or sequential file:

  ```
  aftp> pwd
  "/elaine.letter." is the server's current directory.
  aftp>
  ```

- The AFTP server is on VM:

  ```
  aftp> pwd
  "/b" is the server's current directory.
  aftp>
  ```

- The AFTP server is on OS/2:

  ```
  aftp> pwd
  "/e:/work/aftp/" is the server's current directory.
  ```

Related Commands

- cd
- lpwd

quit

Purpose

Use the command to exit the AFTP command environment.

This command is valid only inside the AFTP command environment.

Format

►►──quit──►◄

Parameters

There are no parameters for this command.

Aliases

exit

receive

Purpose

Use this command to copy a file from the AFTP server to the AFTP client.

Accepted abbreviation: recv

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►─┬─receive─┬──server_file──────────────────────────────────────►◄
   └─recv────┘            └─client_file─┘
```

Parameters

server_file
> The name of the file on the server to be copied. Wildcards are permitted in the name to generate the list of files to copy.

client_file
> The name on the client to which the server files are copied. Wildcards are permitted in this parameter to specify a list of file names.
>
> Default: Use the same file name as on the server
>
> Instead of creating a file on the client, display the contents of the file on the display screen.

Aliases

get

recfm

Purpose

Use this command to set the record format to use when writing files (get to the AFTP client or put to the AFTP server). This value takes effect only when the files are stored on a computer that handles record-oriented files (for example, VM and MVS). On other systems, this value is ignored.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──recfm─────────────────────────────────────────────────────►◄
            ├─0────┤
            ├─V────┤
            ├─VA───┤
            ├─VB───┤
            ├─VM───┤
            ├─VS───┤
            ├─VBA──┤
            ├─VBM──┤
            ├─VBS──┤
            ├─VSA──┤
            ├─VSM──┤
            ├─VBSA─┤
            ├─VBSM─┤
            ├─F────┤
            ├─FA───┤
            ├─FB───┤
            ├─FM───┤
            ├─FBA──┤
            ├─FBM──┤
            ├─FBS──┤
            ├─FBSM─┤
            ├─FBSA─┤
            ├─U────┤
            ├─UA───┤
            └─UM───┘
```
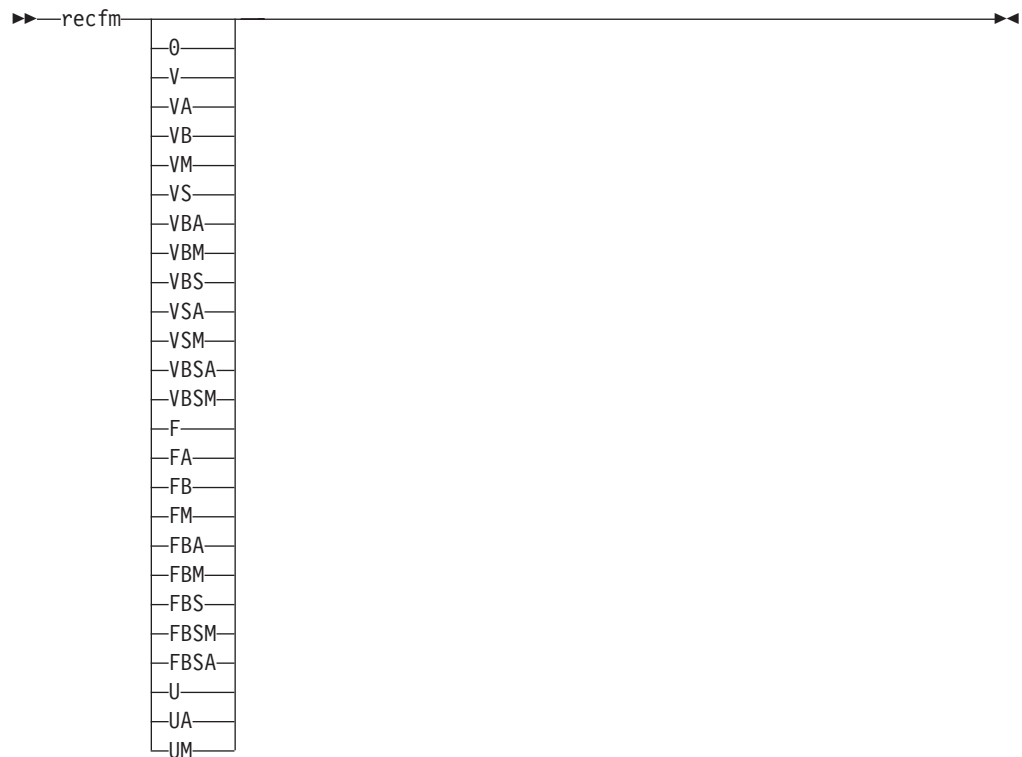
Parameters

If no parameter is specified, the current setting is displayed.

0   The initial setting; sets the record format to the default record format used by C/370 runtime. See the *IBM C/370 Programming Guide* for specific information on the default value used.

V   Variable length record, unblocked.

VA

   Variable length record, unblocked, ASA print-control characters.

VB

   Variable length record, blocked.

VM

   Variable length record, unblocked, machine print-control codes.

VS

   Variable length record, unblocked, spanned.

VBA
Variable length record, blocked, ASA print-control characters.
VBM
Variable length record, blocked, machine print-control codes.
VBS
Variable length record, blocked, spanned.
VSA
Variable length record, unblocked, spanned, ASA print-control characters.
VSM
Variable length record, unblocked, spanned, machine print-control codes.
VBSA
Variable length record, blocked, spanned, ASA print-control characters.
VBSM
Variable length record, blocked, spanned, machine print-control codes.
F   Fixed length record, unblocked.
FA
Fixed length record, unblocked, ASA print-control characters.
FB
Fixed length record, blocked.
FM
Fixed length record, unblocked, machine print-control codes.
FBA
Fixed length record, blocked, ASA print-control characters.
FBM
Fixed length record, blocked, machine print-control codes.
FBS
Fixed length record, blocked, standard.
FBSM
Fixed length record, blocked, machine print-control codes, standard.
FBSA
Fixed length record, blocked, ASA print-control characters, standard.
U   Undefined length record.
UA
Undefined length record, ASA print control characters.
UM
Undefined length record, machine print control codes.

Examples

- Set the record format to variable

```
aftp> recfm V
Record Format set to V.
aftp>
```

- Reset the record format to the default.

```
aftp> recfm 0
Record Format set to Default.
aftp>
```

Related Commands

- alloc
- block
- lrecl
- status

rename

Purpose

Use this command to move a file on the AFTP server computer to a new name or directory. The use of the AFTP rename command is subject to the same limitations of rename commands native to the AFTP server's operating system. **Platform Differences**

- On MVS, you cannot rename a sequential file to a partitioned data set member. You cannot rename a member of one PDS to be a member of another PDS.
- On VM, you cannot rename a file from one filemode to another.
- On OS/2, you cannot rename a file from one drive to another.

Accepted abbreviation: ren

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►─┬─rename─┬──old_filename──new_filename──────────────────────────►◄
   └─ren────┘
```

Parameters

old_filename
> The file specification of the file on the AFTP server computer that is to be renamed. Wildcard characters are not permitted in this value.

new_filename
> The file specification to which the file is to be renamed. Wildcard characters are not permitted in this value.

Examples

- The first example renames a file to a new name in the current directory.

```
aftp> rename aftp.doc userman.txt
Renamed aftp.doc to userman.txt
aftp>
```

- The second example renames a file to a new name in a new directory.

```
aftp> rename userman.txt e:\work\aftp.doc
Renamed userman.txt to e:\work\aftp.doc
aftp>
```

rmdir

Purpose

Use this command to remove a directory on the AFTP server computer.

Platform Differences:

1. This command is not supported on VM.
2. On MVS, this command will delete a partitioned data set and its members.

Accepted abbreviation: rd

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──┬─rmdir─┬──directory_spec─────────────────────────────────────────►◄
    └─rd────┘
```

Parameters

directory_spec
> The directory specification of the directory which is to be removed. Wildcard characters are not permitted in this value.

Examples

- This example removes a directory with a fully qualified path.

```
aftp> rmdir e:\work\test
Directory e:\work\test removed.
aftp>
```

Related Commands

mkdir

send

Purpose

Use this command to copy a file on the AFTP client to the AFTP server.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──send──client_file──────────────────────────────────────►◄
              └─server_file─┘
```

Parameters

client_file
> The name of the AFTP client file to be copied. Wildcards are permitted in the name to generate a list of files to copy.

server_file
> The name on the AFTP server to which the client files are copied. Wildcards are permitted in this parameter to specify a list of file names.
>
> Default: The client file names

Aliases

put

status

Purpose

Use this command to output the current transfer characteristics set by the AFTP client. Items such as the data type and date mode are output.

Accepted abbreviation: stat

This command is valid only inside the AFTP command environment.

Format

```
►►──┬─status─┬──────────────────────────────────────────────►◄
    └─stat───┘
```
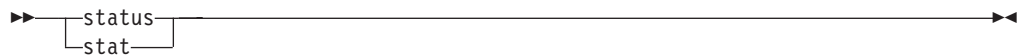
Parameters

There are no parameters for this command.

Examples

The output of this command may vary slightly on different operating systems.

- In this first example, there is no connection to an AFTP server:

```
aftp> status
AFTP version is 1.0
Operating system is MVS

Mode Name      : "#BATCH"
TP Name        : "AFTPD"
aftp>
```

- In the second example, there is a connection to an AFTP server:

```
aftp> status
AFTP version is 1.0
Operating system is MVS

Data Type      : DEFAULT
Date Mode      : NEW
Record Format  : Default
Record Length  : 0
Block Size     : 0
Allocation Size : 0
Mode Name      : "#BATCH"
TP Name        : "AFTPD"
aftp>
```

Related Commands

- alloc
- ascii
- binary
- block
- date
- lrecl
- modename

- recfm
- tpname
- type

system

Purpose

Use this command to output information about the AFTP server computer. This information can include the type of computer you are communicating with and the operating system. The information displayed will be system-specific.

Accepted abbreviation: sys

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►─┬─system─┬────────────────────────────────────────────────────►◄
   └─sys────┘
```

Parameters

There are no parameters for this command.

Examples

This example outputs system information about the AFTP server. The output of this command may vary slightly by operating system.

```
aftp> system
Server information:

AFTPD Version is 1.0
Operating system is OS/2
Logged in userid is NASRIN

aftp>
```

tpname

Purpose

Use this command to change the transaction program name to be started on the server.

This command is valid only inside the AFTP command environment. You cannot have an open connection when you issue this command.

Format

```
►►──tpname──────────────────────────────────────────────────────────►◄
           └─tp_name─┘
```

Parameters

If no parameter is specified, the current setting is displayed.

tp_name
The name of the transaction program to start.

The initial setting is AFTPD.

Examples

This example sets the TP name to MYAFTP.

```
aftp> tpname MYAFTP
TP Name set to "MYAFTP".
aftp>
```

Related Commands

status

trace

Purpose

Use this command to set or query the current trace level. The trace level determines how much data is written into the trace log during AFTP command processing.

Typically, you will use this command only when directed to do so by your system administrator or by other support personnel trying to diagnose a problem.

This command is valid only inside the AFTP command environment.

See "Capturing AFTP Trace Data" on page 119 for additional information about AFTP tracing.

Format

```
►►──trace──────────────────────────────────────────►◄
          └─level─┘
```

Parameters

If no parameter is specified, the current setting is displayed.

level
A numeric value indicating trace level. A value of 0 turns tracing off, and is the initial setting. Use other values as directed by service personnel.

Examples

- Check the current trace level:

  ```
  aftp> trace
  Trace level: 0
  ```

- Set a new trace level:

  ```
  aftp> trace 100
  Trace level: 100
  ```

type

Purpose

Use this command to view the current data type used for file transfers, or to change the current data type used for transfers. See "File Transfer Types" on page 40 for a description of the possible data types.

This command is valid only inside the AFTP command environment. You must have an open connection to the server to issue this command.

Format

```
►►──type──┬─────────┬──────────────────────────────────────────────►◄
          ├─ascii───┤
          ├─binary──┤
          └─default─┘
```

Parameters

If no parameter is specified, the current setting is displayed.

ascii
Set transfer type to ASCII.

binary
Set transfer type to binary.

default
Set AFTP to check the INI file for transfer type. If no value is specified in the INI file, ASCII will be used.

Examples

- Set the data type to binary, and then views the current value:

```
aftp> type binary
Data Type set to BINARY.
aftp> type
data type: BINARY
aftp>
```

- Set the data type to ASCII, and the views the current value:

```
aftp> type ascii
Data Type set to ASCII.
aftp> type
data type: ASCII
aftp>
```

Related Commands

- ascii
- binary
- status

Appendix A. How to Read the Syntax Diagrams

How to Read a Syntax Diagram

The syntax diagram shows you how to specify a command so that the operating system can correctly interpret what you type. Read the syntax diagram from left to right and from top to bottom, following the horizontal line (the main path).

Symbols and Punctuation

The following symbols are used in syntax diagrams:

►►   Marks the beginning of the command syntax.

►   Indicates that the command syntax is continued.

| Marks the beginning and end of a fragment or part of the command syntax.

►◄   Marks the end of the command syntax.

You must include all punctuation such as colons, semicolons, commas, quotation marks, and minus signs that are shown in the syntax diagram.

Parameters

The following types of parameters are used in syntax diagrams.

Required
> Required parameters are displayed on the main path.

Optional
> Optional parameters are displayed below the main path.

Default
> Default parameters are displayed above the main path.

Parameters are classified as keywords or variables. Keywords are displayed in uppercase letters and can be entered in uppercase or lowercase. For example, a command name is a keyword.

Variables are italicized, appear in lowercase letters, and represent names or values you supply. For example, a data set is a variable.

Syntax Examples

In the following example, the USER command is a keyword. The required variable parameter is *user_id*, and the optional variable parameter is *password*. Replace the variable parameters with your own values.

```
►►──USER──user_id─────────────────────────────────►◄
              └─password─┘
```
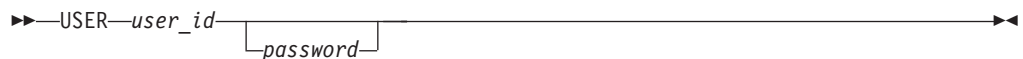
Longer than one line: If a diagram is longer than one line, the first line ends with a single arrowhead and the second line begins with a single arrowhead.

```
►►──┤ First Line ├──OPERAND1──OPERAND2──OPERAND3──OPERAND4──OPERAND5────────►
```

     113

```
►─OPERAND6─┤ Second Line ├─────────────────────────────────────────────────────►◄
```
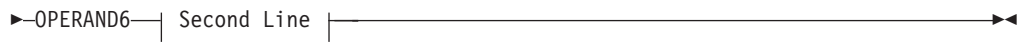
Required operands: Required operands and values appear on the main path line.

```
►►──REQUIRED_OPERAND──────────────────────────────────────────────────────────►◄
```

You must code required operands and values.

Choose one required item from a stack: If there is more than one mutually exclusive required operand or value to choose from, they are stacked vertically in alphanumeric order.

```
►►──┬─REQUIRED_OPERAND_OR_VALUE_1─┬─────────────────────────────────────────────►◄
    └─REQUIRED_OPERAND_OR_VALUE_2─┘
```
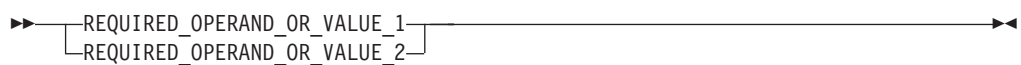
Optional values: Optional operands and values appear below the main path line.

```
►►──┬──────────┬───────────────────────────────────────────────────────────────►◄
    └─OPERAND─┘
```
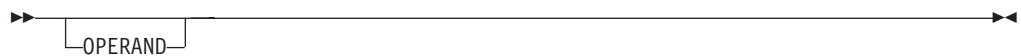
You can choose not to code optional operands and values.

Choose one optional operand from a stack: If there is more than one mutually exclusive optional operand or value to choose from, they are stacked vertically in alphanumeric order below the main path line.

```
►►──┬───────────────────┬───────────────────────────────────────────────────────►◄
    ├─OPERAND_OR_VALUE_1─┤
    └─OPERAND_OR_VALUE_2─┘
```

Repeating an operand: An arrow returning to the left above an operand or value on the main path line means that the operand or value can be repeated. The command means that each operand or value must be separated from the next by a comma.

```
        ┌─,─────────────────┐
        ▼                   │
►►────────REPEATABLE_OPERAND─┴──────────────────────────────────────────────────►◄
```

Selecting more than one operand: An arrow returning to the left above a group of operands or values means more than one can be selected, or a single one can be repeated.

```
►►─┬──────────────────────────────────────────────┬─►◄
   │      ┌─,─────────────────────────────┐        │
   │      │                               │        │
   └──▼──┬─REPEATABLE_OPERAND_OR_VALUE_1─┬─┘
         ├─REPEATABLE_OPERAND_OR_VALUE_2─┤
         ├─REPEATABLE_OPER_OR_VALUE_1────┤
         └─REPEATABLE_OPER_OR_VALUE_2────┘
```
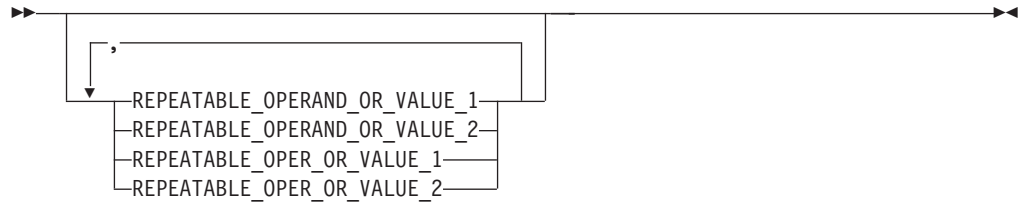
If an operand or value can be abbreviated, the abbreviation is described in the text associated with the syntax diagram.

Case Sensitivity: VTAM commands are not case sensitive. You can code them in upppercase or lowercase.

Nonalphanumeric characters: If a diagram shows a character that is not alphanumeric (such as parentheses, periods, commas, and equal signs), you must code the character as part of the syntax. In this example, you must code OPERAND=(001,0.001).

```
►►──OPERAND=(001,0.001)──────────────────────────────►◄
```

Blank spaces in syntax diagrams: If a diagram shows a blank space, you must code the blank space as part of the syntax. In this example, you must code OPERAND=(001 FIXED).

```
►►──OPERAND=(001 FIXED)───────────────────────────────►◄
```

Default operands: Default operands and values appear above the main path line. VTAM uses the default if you omit the operand entirely.

```
      ┌─DEFAULT─┐
►►────┼─────────┼─────────────────────────────────────►◄
      └─OPERAND─┘
```

Variables: A word in all lowercase italics is a *variable*. Where you see a variable in the syntax, you must replace it with one of its allowable names or values, as defined in the text.

```
►►──variable──────────────────────────────────────────►◄
```

Syntax fragments: Some diagrams contain syntax fragments, which serve to break up diagrams that are too long, too complex, or too repetitious. Syntax fragment names are in mixed case and are shown in the diagram and in the heading of the fragment. The fragment is placed below the main diagram.

```
►►──┤ Reference to Syntax Fragment ├────────────────────────────────────◄◄
```

Syntax Fragment:

```
├──1ST_OPERAND,2ND_OPERAND,3RD_OPERAND────────────────────────────────┤
```

References to syntax notes appear as numbers enclosed in parentheses above the line. Do not code the parentheses or the number.

```
              (1)
►►──OPERAND──────────────────────────────────────────────────────────────◄◄
```

Notes:

1   An example of a syntax note.

Appendix B. Problem Determination Aids

This chapter describes the various tools and logs available to help in diagnosing problems with the APPC Application Suite programs.

Error Logs

When an APPC Application Suite application detects an error, the application records diagnostic information in a log. On MVS, the error logs are stored as either sequential files or partitioned data set members and have dataset definition (DD) names. On VM, the error logs are created on the user's A disk.

This section describes each application's error logging procedures.

AFTP, ANAME, and APING Error Logs

Each program records error information in a separate error log:

Log Generated By	MVS DD Name	VM File Name
AFTP client	APPFTPE	AFTP ERR
ACOPY client	APPCOPYE	ACOPY ERR
AFTP server	APPFTPDE	AFTPD ERR
ANAME client	APPNAMEE	ANAME ERR
ANAME server	APPNAMDE	ANAMED ERR
APING client	APPPINGE	APING ERR
APING server	APPPNGDE	APINGD ERR

The information fields in each error log entry will vary depending on the error that was reported. The entries in the AFTP, ANAME, and APING error logs can have these information fields.

Error Log For Program
> The name of the AFTP program that detected the error.

Program Version Number
> The AFTP program version number.

Program Log Entry Time
> The date and time the error occurred.

Displayed Message
> The message or messages that were displayed at the time the error occurred.

Diagnostic Information
> A message or messages that provide additional information about the error. Messages contained in this field are not displayed to the user.

Service Details
> A message or messages that contain information that could be requested by support personnel. Messages contained in this field are not displayed to the user.

Figure 4 is an example of error log entries from an AFTP client error log.

```
------------------------------------------------------------
Error Log For Program     : "AFTP" APPC File Transfer Program
Program Version Number    : 1.0
Program Log Entry Time    : Thu May 05 13:19:24 1994

Displayed Message:

Problem detected on local side.
APP0208: Connection failed.  Check the destination name, then check the
         modename.

Service Details:

APP0235: CPIC return code: 19, CM_PARAMETER_ERROR
CPIC Verb: 2, CMALLC
Partner LU name: NETID.LUNAME
Mode name: #BATCH

File name         : $Workfile:   appzcobc.c  $ $Revision:   1.95  $
Line number       : 3269


------------------------------------------------------------
Error Log For Program     : "AFTP" APPC File Transfer Program
Program Version Number    : 0.92
Program Log Entry Time    : Thu May 05 13:19:36 1994

Displayed Message:

Problem detected on remote side.
APP0614: No entries were found matching the search specification.

Diagnostic Information:

APP0664: Opsys return code was 18.
-----------------------------------------------------------------
```

Figure 4. Sample AFTP Error Log

A3270 Server Error Logs

The A3270 server routes messages to a console. A3270 does not create a separate error log.

On MVS, messages are routed to the MVS console and are recorded in a job log.

On VM, messages are routed to the A3270 server's virtual machine. VM operators can monitor and log A3270 server messages in one of these ways:

- The operator can choose to spool the A3270 service machine console to maintain a permanent record of all A3270 server messages.
- The operator can designate another virtual machine on the same system as the secondary operator. This causes all A3270 server messages to be copied to the console of the secondary operator.

Trace Tools

AFTP, ANAME, and APING provide trace tools that are used when a support organization such as the IBM Software Support Center requests trace information to help diagnose a problem. This section describes how to capture trace data for each application.

Capturing AFTP Trace Data

You can capture trace data for the AFTP programs by setting the trace level to a nonzero value. The trace level determines how much trace data is captured during AFTP or ACOPY command processing. Your support organization will give you the trace value to use when trace data is needed to diagnose a problem.

Trace is activated for by setting the set_trace verb in the initialization file to a nonzero value. For the AFTP clients, trace can also be activated using commands.

Note: Because AFTP, ACOPY, and AFTPD share the same initialization file, when trace is turned on in the AFTP initialization file, trace data is captured for all three programs.

The following list describes how trace is turned on and off for each AFTP program.

AFTP Client

Set the set_trace verb to a nonzero value in the AFTP initialization file, or issue the AFTP trace command with a nonzero value.

When trace is set in the initialization file, trace is activated automatically each time the AFTP command environment is started. Tracing continues until the AFTP command environment is stopped, or until the AFTP trace command is issued again with a value of zero (0). Trace is activated again the next time the AFTP command environment is started.

When trace is set using the AFTP trace command in the AFTP command environment, trace is started immediately. Tracing continues until the AFTP command environment is stopped, or until the trace command is issued with a value of zero (0). Trace is *not* activated again the next time the AFTP command environment is started.

ACOPY Client

Set the set_trace verb to a nonzero value in the AFTP initialization file, or issue the ACOPY command and specify a nonzero value on the -l flag.

When trace is set in the AFTP initialization file, trace data is captured each time the ACOPY command is issued unless the command is issued with a zero (0) specified on the -l flag.

When trace is set using the ACOPY command with a zero (0) specified on the -l flag, trace data is only captured for the processing of that ACOPY command.

AFTP Server

Set the set_trace verb to a nonzero value in the AFTP initialization file. Trace data will be captured each time the AFTP server processes a command for an AFTP client. To stop tracing the AFTP server, you must set the set_trace verb to a zero value in the AFTP initialization file.

Each AFTP program records trace data separate trace file.

Log Generated By	MVS DD Name	VM File Name
AFTP client	APPFTPT	AFTP TRC
ACOPY client	APPCOPYT	ACOPY TRC
AFTP server	APPFTPDT	AFTPD TRC

For the syntax of commands used to control AFTP tracing, see "acopy" on page 58 or "trace" on page 110.

For information about setting trace in the AFTP initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

Capturing ANAME Trace Data

You can capture trace data for the ANAME client and server programs by setting trace to a nonzero value. Your support organization will give you the trace value to use when trace data is needed to diagnose a problem.

Trace is set for the ANAME client program using the -l flag on the aname commands. Trace is set for the ANAME server program by setting the set_trace verb to a nonzero value in the ANAMED initialization file.

Each ANAME program records trace data in a separate trace file.

Log Generated By	MVS DD Name	VM File Name
ANAME client	APPNAMET	ANAME TRC
ANAMED server	APPNAMDT	ANAMED TRC

For the syntax of commands used to control ANAME tracing, see "Chapter 6. ANAME Command Reference" on page 31.

For information about setting trace in the ANAMED initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

Capturing APING Trace Data

You can capture trace data for the APING client by using the -l flag on aping commands. Your support organization will give you the trace value to use when trace data is needed to diagnose a problem.

Note: Trace data cannot be captured for the APING server.

APING records trace data in a trace file.

Log Generated By	MVS DD Name	VM File Name
APING client	APPPINGT	APING TRC

Appendix C. Messages

APP0100E   **Message** *messagenum* **could not be found.**

Explanation: This message is issued when the APPC Application Suite is unable to locate the message file.

On VM, it is possible that the set language command was not issued or that the command failed. On MVS, it is possible that the MVS Message Service (MMS) is not started.
  messagenum is the message number that could not be found.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: On VM, enter the set language command. On MVS, make sure MMS is installed correctly and is started.

APP0102I   **Messages are displayed in language** *language*.

Explanation: This message is issued by the A3270 server as it is starting to identify the language that will be used for displaying messages.
  language is the 3-character code for the language that messages will be displayed in.

User Response: None.

System Programmer Response: None.

APP0117E   **Lineflow buffer size error**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0118E   **String length value is incorrect**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0119E   **Number of bytes available is less than expected**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem

to the IBM Software Support Center.

APP0120E   **Block length value is incorrect**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0121E   **Major code buffer size error**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0122E   **Key buffer size error**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0123E   **Unrecognized conversation type**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0124E   **Parameter number** *parm_num* **was null. Call:** *call_name***() Connection ID:** *connection_id*

Explanation: This message provides additional information for message APP0129E and is written to an APPC Application Suite facility's error log.

APP0125E   **String parameter number** *parm_num* **contained a null character. Call:** *call_name***() Connection ID:** *connection_id*

Explanation: This message provides additional information for message APP0129E and is written to an APPC Application Suite facility's error log.

APP0126E   **Parameter number** *parm_num* **was not valid. Call:** *call_name***() Connection ID:** *connection_id*

Explanation: This message provides additional information for message APP0129E and is written to an APPC Application Suite facility's error log.

APP0127E   **Parameter buffer size error**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0128E   **Parameter value not recognized.**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0129E   **An API parameter was not valid.**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0130E   **The requested function is not recognized.**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0132E   **One of the parameters was not valid for this function.**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0133E   **The requested function is not supported.**

Explanation: The command you entered is not supported on this server.

User Response: None.

System Programmer Response: None.

APP0134E   **Unknown or unexpected response received.**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0135E   **One of the parameters was not valid for this function.**

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0136E   **Not enough memory to complete this operation.**

Explanation: The APPC Application Suite facility you are using cannot obtain enough memory to process commands.

User Response: Contact the system programmer.

System Programmer Response: Correct the memory problem using diagnostic information provided by operating system messages and VTAM® messages.

APP0137E   **Major code value =** *majorcode*

Explanation: This message provides additional information for messages APP0130E and APP0133E, and is written to an APPC Application Suite facility's error log.

APP0138E   **Key value =** *keyvalue*

Explanation: This message provides additional information for message APP0132E and is written to an APPC Application Suite facility's error log.

APP0139E   **Major code value =** *majorcode*

Explanation: This message provides additional information for message APP0134E, and is written to an APPC Application Suite facility's error log.

APP0140E   **Key value =** *keyvalue*

Explanation: This message provides additional information for message APP0135E and is written to an APPC Application Suite facility's error log.

APP0141E   **Supplied buffer size =** *supplied_bytes***. Required buffer size =** *required_bytes***.**

Explanation: This message provides additional information for message APP0117E and is written to an APPC Application Suite facility's error log.

APP0142E   **Expected string length =** *string_length*

Explanation: This message provides additional information for message APP0118E and is written to an APPC Application Suite facility's error log.

APP0143E   **Expected block length =** *block_length***.**

Explanation: This message provides additional information for message APP0120E and is written to an APPC Application Suite facility's error log.

APP0144E   **Supplied major code buffer size =** *supplied_bytes***. Expected major code buffer size =** *expected_bytes***.**

Explanation: This message provides additional information for message APP0121E and is written to an APPC Application Suite facility's error log.

APP0145E   **Supplied key buffer =** *supplied_bytes***. Expected key buffer =** *expected_bytes***.**

Explanation: This message provides additional information for message APP0122E and is written to an APPC Application Suite facility's error log.

APP0146E   **Supplied buffer size =** *supplied_bytes***. Required buffer size =** *required_bytes***.**

Explanation: This message provides additional information for message APP0127E and is written to an APPC Application Suite facility's error log.

APP0147E   **External interrupt received. Program terminated.**

Explanation: An APPC Application Suite server was stopped by an end user or system programmer.

User Response: Try to connect to the server again later.

System Programmer Response: None.

APP0180E   **The ANAME initialization file is not readable after line** *linenum***.**

Explanation: An error was detected in the ANAME initialization file. The error was detected on or near line *linenum*.

User Response: Contact your system programmer. When the error has been corrected, start the ANAME server again.

System Programmer Response: Correct the initialization file. For additional information about the ANAME initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0181E   **The AFTP initialization file is not readable after line** *linenum***.**

Explanation: An error was detected in the AFTP initialization file. The error was detected on or near line *linenum*.

User Response: Contact your system programmer. When the error has been corrected, start the application again.

System Programmer Response: Correct the initialization file. For additional information about the AFTP initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0201E   **An allocation failure occurred.**

Explanation: A session could not be obtained for an APPC conversation between the client and the server. This error can occur when:
- The network is experiencing problems.
- There is no route through the network that satisfies the requirements of the mode name.
- The server is not powered on.
- The server's APPC or CPI-C software is not active.

User Response: Contact your system programmer.

System Programmer Response: Check the console log to locate the SNA sense code associated with the error. The sense code provides additional information about the cause of the error. For a description of the sense code, see *Systems Network Architecture: Formats* , GA27-3136.

APP0202E   **The APPC conversation terminated prematurely.**

Explanation: The APPC conversation with an APPC Application Suite server failed.

User Response: Enter the command again. If the command fails, contact your system programmer.

System Programmer Response: Check for connectivity problems in the network between the client and server computers.

APP0203E   The server terminated abnormally.

Explanation: The APPC Application Suite server to which you were connected ended unexpectedly.

User Response: Enter the command again. If the command fails, contact your system programmer.

System Programmer Response: To determine the cause of the error, check the operating system error logs and server error logs for additional messages related to this error. If the problem persists, contact the IBM Software Support Center.

APP0204E   CPI-C not loaded.

Explanation: The APPC subsystem on the local system is not started. The APPC subsystem is required to use the APPC Application Suite facilities.

User Response: When the problem has been corrected, enter the command again.

System Programmer Response: Start the APPC subsystem.

APP0205E   The server TP name is not known on the remote system.

Explanation: The remote computer does not recognize the server transaction program name. Either the server is not configured correctly, or it is not installed.

User Response: Contact your system programmer.

System Programmer Response: If the server is installed, check the server's configuration to make sure that a transaction program (TP) definition exists for the server, and that the TP name contained in the TP definition is correct.

If the client's configuration contains either an alias or CPI-C side information for the server, make sure the server's TP name is correct. For additional information about configuring the APPC Application Suite, see *z/OS Communications Server APPC Application Suite Administration*.

APP0206E   The server program could not be started on the remote system.

Explanation: The server did not start. A valid transaction program (TP) definition was found on the server's computer for the TP name that was sent by the client, but the program named in the TP definition could not be started. This error can occur when:
- The server is not installed.
- There is not enough memory to start the server.
- There are problems with the APPC attach manager.

User Response: Contact your system programmer.

System Programmer Response: First, make sure the server is installed. If so, make sure the location of the

server is specified correctly in the transaction program definition. For additional information about configuring the APPC Application Suite, see *z/OS Communications Server APPC Application Suite Administration*. If the error persists, make sure that the server has adequate memory and that the APPC attach manager is working correctly.

APP0207E   Conversation security not valid.

Explanation: If you are using ANAME, conversation security is configured incorrectly in the server's transaction program definition. If you are using APING or AFTP, either the user ID or password specified on a command was rejected by the server.

User Response: If you are using APING or AFTP, correct either the user ID or password and enter the command again. If you are using ANAME or if the problem persists with APING or AFTP, contact your system programmer.

System Programmer Response: For ANAME, check the server's transaction program definition, and ensure that conversation security is set to none. For APING and AFTP, ensure that the user is using a user ID and password that are defined on the server.

If APPC security=same was used, it is possible that the server's APPC subsystem is not configured to support security=same. APPC security=SAME is used when the -u flag is not given on an acopy or aping command, when the -c flag is given on an aname command, or when no user ID is entered at the AFTP `Userid:` prompt.

See *z/OS Communications Server APPC Application Suite Administration* for information about configuring APPC subsystems to support security=same on VM or MVS.

APP0208E   Connection failed.

Explanation: A command failed because an APPC Application Suite client was unable to establish a connection to a server. This error is most often caused by:
- An incorrect or misspelled destination name
- An incorrect or misspelled mode name
- An incorrect or misspelled user ID or password

Message APP0235E follows this message in the error log and might help you determine the error's cause.
- If the CPI-C verb shown in the message is Set_Mode_Name, the mode name was incorrect.
- If the CPI-C verb shown in the message is APPC/MVS Allocate, the mode name, the destination, the user ID, or the password was incorrect.
- Otherwise, the destination was incorrect.

User Response: If you misspelled the destination name, the mode name, the user ID, or the password,

enter the command again. Otherwise, contact the system programmer.

System Programmer Response: First, make sure the destination name and mode name are correct. If the destination name caused the error but you believe it was entered correctly, use APING to obtain additional error information. If the mode name caused the error, use the mode name that is defined in the server's transaction program (TP) definition, or omit the mode name from the command.

If APPC security=same was used, it is possible that the server's APPC subsystem is not configured to support security=same. APPC security=SAME is used when the -u flag is not given on an acopy or aping command, when the -c flag is given on an aname command, or when no user ID is entered at the AFTP `Userid:` prompt.

See *z/OS Communications Server APPC Application Suite Administration* for information about configuring APPC subsystems to support security=same on VM or MVS.

APP0209E   CPI-C call was not valid for the current conversation state.

Explanation: This is an internal error.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0210E   The server expected a different conversation type.

Explanation: This is an internal error.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0211E   Synchronization level specified not supported on the remote system.

Explanation: This is an internal error.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0212E   Connection failed. Unsupported program initialization parameters.

Explanation: This is an internal error.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0213E   A CPI-C product specific error occurred.

Explanation: The APPC Application Suite application you were using issued a CPI-C call that failed. This error is generally caused by a problem with Communications Manager or some other platform-related condition, such as:

- Communications Manager is stopped or is not fully active
- Communications Manager could not obtain enough memory to process the CPI-C call
- Communications Manager detected an internal error.

User Response: Save the facility's error log and contact the system programmer. On VM systems, CPI-C error information is appended to the CPICOMM LOGDATA file. On MVS systems, CPI-C error information is appended to SYS1.LOGREC.

System Programmer Response: First, make sure Communications Manager is started. If Communications Manager was started when the error occurred, check Communications Manager error logs for additional information about the error. For information about CPI-C product-specific errors, refer to the *SAA CPI-C Reference*.

APP0214E   The CPI-C call issued did not execute successfully.

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Contact the IBM Software Support Center. Check Communications Manager error logs for additional information about the error.

APP0215E   Connection terminated unexpectedly. Connection could not be restarted.

Explanation: The connection between a client and server closed unexpectedly and cannot be restarted automatically. It is possible that the link between the client and server computers is down, or that either the client or server computer is no longer connected to the network.

User Response: Re-establish a connection to the server. If the error occurs again, contact your system programmer.

System Programmer Response: Check the link between the client and server computers, and make sure that both computers are connected to the network.

APP0216E   An unexpected CPI-C return code occurred.

Explanation: The APPC Application Suite facility you were using received a return code from CPI-C that is not recognized. It is possible that the CPI-C product installed on the server computer is a different version from the CPI-C product installed on the client.

User Response: Save the facility's error log and contact the system programmer. On VM systems, CPI-C error information is appended to the CPICOMM LOGDATA file. On MVS systems, CPI-C error information is appended to SYS1.LOGREC.

System Programmer Response: For information about CPI-C product-specific errors, refer to the *SAA CPI-C Reference*

APP0217E   The specified destination name was too long.

Explanation: A command was entered that contained a destination name that was too long. Fully qualified LU names must be 17 characters or less. ANAME alias' must be 64 characters or less.

User Response: Correct the destination name and enter the command again.

System Programmer Response: None.

APP0218E   The specified TP name was too long.

Explanation: If you entered a command and used the -t parameter, the transaction program name was too long. Transaction program names cannot exceed 64 characters. Otherwise, this is an internal error.

User Response: If you entered a command with the -t parameter, correct the transaction program name and enter the command again. Otherwise, save the facility's error log and contact the system programmer.

System Programmer Response: If this is an internal error, report the problem to the IBM Software Support Center.

APP0219E   The specified user ID was too long.

Explanation: A command was entered that contained a user ID that was too long. User IDs must be eight characters or less.

User Response: Correct the user ID and enter the command again.

System Programmer Response: None.

APP0220E   The specified password was too long.

Explanation: A command was entered that contained a password that was too long. Passwords must be eight characters or less.

User Response: Correct the password and enter the command again.

System Programmer Response: None.

APP0221E   A password must be specified for the conversation security used.

Explanation: A command was entered that contained a user ID, but the password was missing. When a user ID is entered, a password is required.

User Response: Enter the command again. If you enter a user ID, you must also enter a password.

System Programmer Response: None.

APP0222E   A user ID must be specified for the conversation security used.

Explanation: A command was entered that contained a password, but the user ID was missing. When a password is entered, a user ID is required.

User Response: Enter the command again. If you enter a password, you must also enter a user ID.

System Programmer Response: None.

APP0223E   Unexpected status received.

Explanation: This is an internal error.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0224E   Unexpected data received indicator.

Explanation: This is an internal error.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0225E   The specified default symbolic destination was too long.

Explanation: This is an internal error.

Operator Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0226E **The specified mode name was too long.**

Explanation: A command was entered that contained a mode name that was too long. Mode names must be eight characters or less.

User Response: If you specified an explicit mode name on a command, enter the command again using a mode name that is eight characters or less. Otherwise, contact the system programmer.

System Programmer Response: Make sure the mode names configured for the APPC Application Suite facilities do not contain more than eight characters.

APP0227E **Buffer size of parameter is not sufficient to hold output value.**

Explanation: This is an internal error.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0228E **Supplied buffer size:** *supplied* **bytes, required buffer size** *required*

Explanation: This message provides additional information for message APP0227E and is written to an APPC Application Suite facility's error log.

APP0230E **Data received was** *data*. **Status was** *status*.

Explanation: This message provides additional information for message APP0224E and is written to an APPC Application Suite facility's error log.

APP0231E **The server program terminated abnormally.**

Explanation: This is an internal error.

User Response: Save the facility's error log and contact your system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0232E **The APPC conversation terminated prematurely.**

Explanation: This is an internal error.

User Response: Save the facility's error log and contact your system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0233E **The partner program incorrectly closed the conversation.**

Explanation: This is an internal error.

User Response: Save the facility's error log and contact your system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0234E **SAA resource recovery backout call required.**

Explanation: This is an internal error.

User Response: Save the facility's error log and contact your system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0235E **CPIC return code :** *return_code return_code_name* **CPIC Verb :** *verb, verb_name* **Partner LU name:** *partner_LU_name* **Mode name:** *mode_name*

Explanation: This message is written to an APPC Application Suite facility's error log and provides additional information for a preceding message.

APP0236E **The specified destination was zero length.**

Explanation: This is an internal error.

User Response: Save the ANAME error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0237E **The symbolic destination name is not recognized.**

Explanation: A command was entered that contained a symbolic destination name that is not recognized. Either the name has not been defined in a side information definition, or it was not spelled correctly.

User Response: If the name is not spelled correctly, correct the name and enter the command again. Otherwise, enter the command again using the fully qualified LU name for the destination. If you do not know the fully qualified LU name or need to define side information, contact the system programmer.

System Programmer Response: Add a side information definition to your APPC configuration for the symbolic destination name that was not recognized.

See *z/OS Communications Server APPC Application Suite Administration* for information about side information.

APP0238E   Additional information can be found in CPICOMM LOGDATA

Explanation: A CPI-C error occurred on the VM operating system. This message follows message APP0213E and is written to an APPC Application Suite facility's error log.

APP0310E   A CPI-C error occurred on a VM specific call. The call *cpic_call* **failed with the return code** *return_code***.**

Explanation: A CPIC-C error occurred on a VM specific call.

> *cpic_call* is the name of the CPI-C call that failed.
> *return_code* is the return code.

User Response: Contact the system programmer.

System Programmer Response: Correct the problem using diagnostic information provided in the CPICCOMM LOGDATA file. See the *SAA CPI-C Reference* for information on understanding CPI-C codes.

APP0501E   Could not open the error log file *errlog_name***. Complete error description follows:**

Explanation: An error occurred while you were using an APPC Application Suite facility, but the error log for that facility could not be opened. The information that would have been logged is displayed following this message.

> *errlog_name* is the name of the error log that could not be opened.

User Response: Write down the error information that follows this message and contact the system programmer.

System Programmer Response: Move the error log to a drive to which the user has write-access. If the problem persists, report the problem to the IBM Software Support Center.

APP0510E   An internal error occurred.

Explanation: This is an internal error.

User Response: Save the facility's error log and contact your system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0514E   Unable to generate an error log file. Complete error description follows:

Explanation: An error occurred while you were using an APPC Application Suite facility, but an error log file could not be created. The information that would have been logged is displayed following this message.

In most cases, this error occurs when there is not enough memory to create an error log. If a memory problem is not the cause, an internal error occurred.

User Response: Write down the error information that follows this message and contact the system programmer.

System Programmer Response: Determine whether a memory problem exists and correct the problem as necessary. Otherwise, report the problem to the IBM Software Support Center.

APP0518E   Unknown command *command***. For a list of available commands, enter HELP COMMANDS.**

Explanation: The command displayed in *command* is not recognized.

User Response: Correct the command and try again. To display a list of commands, enter help commands.

System Programmer Response: None.

APP0520E   Security none was specified more than once.

Explanation: The acopy command failed because the -n flag was specified more than once. Only one -n flag is allowed.

User Response: Enter the acopy command again using one -n flag.

System Programmer Response: None.

APP0521E   You cannot specify security none with user ID and password.

Explanation: The acopy command failed because the command contained a -u flag with a user ID, a -p flag with a password, and a -n flag, which sets security to none. The -n flag is not allowed when the -u flag and the -p flags are specified.

User Response: Enter the acopy command again and omit either the -n flag or the user ID and password.

System Programmer Response: None.

APP0522E   You must specify a destination.

Explanation: The acopy command failed because a destination was not specified, and a destination is required.

User Response: Enter the command again and specify a destination.

System Programmer Response: None.

APP0524E   You must specify a password value with the -p flag.

Explanation: The acopy command failed because a password was not found following the -p flag. A password is required when the -p flag is used.

User Response: Enter the acopy command again. If you use the -p flag, make sure you specify a password.

System Programmer Response: None.

APP0525E   More than one password flag (-p) was specified.

Explanation: The acopy command failed because more than one -p flag was found. Only one -p flag is allowed.

User Response: Enter the acopy command again using only one -p flag.

System Programmer Response: None.

APP0526E   You cannot specify a password with security none.

Explanation: The acopy command failed because the command contained both a -p flag with a password and a -n flag, which sets security to none. The -p flag is not allowed when the -n flag is used.

User Response: Enter the acopy command again and use either the -n flag or the -p flag, but not both.

System Programmer Response: None.

APP0527E   You must specify a user ID value with the -u flag.

Explanation: The acopy command failed because a user ID was not found following the -u flag. A user ID is required when the -u flag is used.

User Response: Enter the acopy command again. If you use the -u flag, make sure you specify a user ID.

System Programmer Response: None.

APP0528E   More than one user ID flag (-u) was specified.

Explanation: The acopy command failed because more than one -u flag was found. Only one -u flag is allowed.

User Response: Enter the acopy command again using only on -u flag.

System Programmer Response: None.

APP0529E   You cannot specify user ID with security none.

Explanation: The acopy command failed because the command contained both a -u flag with a user ID and a -n flag, which sets security to none. A -u flag is not allowed when the -n flag is used.

User Response: Enter the acopy command again and use either the -n flag or the -u flag, but not both.

System Programmer Response: None.

APP0530E   You must specify a TP name with the -t flag.

Explanation: The acopy command failed because a transaction program (TP) name was not found following the -t flag. A TP name is required when the -t flag is used.

User Response: Enter the acopy command again. If you use the -t flag, make sure you specify a TP name.

System Programmer Response: None.

APP0531E   More than one TP name flag (-t) was specified.

Explanation: The acopy command failed because more than one -t flag was found. Only one -t flag is allowed.

User Response: Enter the acopy command again, using only one -t flag.

System Programmer Response: None.

APP0532E   You must specify a mode name value with the -m flag.

Explanation: The acopy command failed because a mode name was not found following the -m flag. A mode name is required when the -m flag is used.

User Response: Enter the acopy command again. If you use the -m flag, make sure it is followed by a mode name.

System Programmer Response: None.

APP0533E   More than one mode name flag (-m) was specified.

Explanation: The acopy command failed because more than -m flag was found. Only one -m flag is allowed.

User Response: Enter the acopy command again using only one -m flag.

System Programmer Response: None.

APP0534E   More than one data type flag was specified.

Explanation: The acopy command failed because more than one data type flag was found. Only one data type flag is allowed.

User Response: Enter the acopy command again using either the ASCII (-a) or the binary (-b) data type flag, but not both.

System Programmer Response: None.

APP0535E   Too many parameters were specified on the ACOPY command.

Explanation: The acopy command failed because too many parameters were specified.

User Response: Correct the parameters and enter the command again.

System Programmer Response: None.

APP0536E   You must specify at least a source file name.

Explanation: An acopy command was entered that did not specify a source file. A source file is required.

User Response: Enter the acopy command again, and make sure you specify a source file.

System Programmer Response: None.

APP0537E   You specified what appears to be two destinations, each one character in length.

Explanation: The acopy command failed because the destination was not specified correctly.

User Response: Correct the destination and enter the acopy command again.

System Programmer Response: None.

APP0538E   You can only specify one destination.

Explanation: A command was entered that contained more than one destination. Only one destination is allowed.

User Response: Enter the command again using only one destination.

System Programmer Response: None.

APP0539E   There is not enough memory available to process the requested command.

Explanation: An ACOPY or AFTP command failed because the application cannot obtain enough memory to process the command.

User Response: Contact the system programmer.

Either reduce the number of active applications running on your OS/2 workstation, or add memory.

System Programmer Response: Correct the memory problem using diagnostic information provided by operating system messages and VTAM messages. None.

APP0540E   *flag* is not a valid flag. Use acopy -h for online help.

Explanation: The acopy command failed because a flag was specified that is not valid.
   flag is the flag that is not valid.

User Response: Enter the acopy command again using valid flags. To display a list of valid flags, use the acopy command with the -h flag.

System Programmer Response: None.

APP0541E   *TP_name* is too long for an APPC transaction program name.

Explanation: An AFTP command failed because the specified transaction program name is too long. Transaction program names must be 64 characters or less.
   TP_name is the transaction program name that is too long.

User Response: Correct the transaction program name and enter the command again.

System Programmer Response: None.

APP0542E   *Mode_name* is too long for an APPC mode name.

Explanation: An AFTP mode name command failed because the specified mode name is too long. Mode names must be eight characters or less.
   mode_name is the mode name that is too long.

User Response: Correct the mode name and enter the command again.

System Programmer Response: None.

APP0543E   Too many parameters were entered for this command.

Explanation: An AFTP command failed because too many parameters were specified. For additional information about AFTP commands, see "Chapter 8. AFTP Command Reference" on page 55.

User Response: Correct the parameters and enter the command again.

System Programmer Response: None.

APP0545E   No password entered.

Explanation: This is an internal error.

User Response: Save the AFTP error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0550E   Users parameter required near line *line_number***.**

Explanation: On OS/2, the AFTP initialization file contains a users parameter that is either spelled incorrectly or is missing. The users parameter is a required provide_access verb parameter. The error was detected on or near *line_number*. When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0551E   Directory parameter required near line *line_number***.**

Explanation: On OS/2, the AFTP initialization file contains a directory parameter that is either spelled incorrectly or is missing. The directory parameter is a required provide_access verb parameter. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0552E   Permissions parameter required near line *line_number***.**

Explanation: On OS/2, the AFTP initialization file contains a permissions parameter that is either spelled incorrectly or is missing. The permissions parameter is a required provide_access verb parameter. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0553E   Only one users parameter allowed near line *line_number***.**

Explanation: On OS/2, the AFTP initialization file contains a provide_access verb with more than one users parameter. Only one users parameter is allowed. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0554E   Only one directory parameter allowed near line *line_number***.**

Explanation: On OS/2, the AFTP initialization file contains a provide_access verb with more than one directory parameter. Only one directory parameter is allowed. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0555E   Only one permissions parameter allowed near line *line_number***.**

Explanation: On OS/2, the AFTP initialization file contains a provide_access verb with more than one permissions parameter. Only one permissions parameter is allowed. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0556E   Only 16 users can be specified on the users parameter near line *line_number***.**

Explanation: On OS/2, the AFTP initialization file contains a users parameter with more than 16 users. Only 16 users are allowed. The users parameter is contained in the provide access verb. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Reduce the number of users defined on the users parameter to 16 or less. You can add a new provide access verb for the users that were deleted from the verb that contained the error.

System Programmer Response: None.

APP0557E   Source parameter required near line *line_number***.**

Explanation: The AFTP initialization file contains a source_mask parameter that is either spelled incorrectly or is missing. The source_mask parameter is a required map verb parameter. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0558E   Target parameter required near line *line_number***.**

Explanation: The AFTP initialization file contains a target_mask parameter that is either spelled incorrectly or is missing. The target_mask parameter is a required map verb parameter. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0559E   Too many source_mask parameters on a map verb near line *line_number***.**

Explanation: The AFTP initialization file contains a map verb with more than one source_mask parameter. Only one source_mask parameter is allowed. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0560E   Too many target_mask parameters on a map verb near line *line_number***.**

Explanation: The AFTP initialization file contains a map verb with more than one target_mask parameter. Only one target_mask parameter is allowed. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0561E   Users parameter requires a value near line *line_number***.**

Explanation: On OS/2, the AFTP initialization file contains a provide_access verb that is missing a user ID on the users parameter. At least one user ID must be specified on the users parameter. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0562E   The end of verb indicator could not be found near line *line_number***.**

Explanation: The semicolon was left off the end of an AFTP initialization file verb. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0563E   Unknown or unexpected token: *token* **near line** *line_number***.**

Explanation: A syntax error was detected in the AFTP initialization file. The *token* is the string or keyword encountered that could not be processed by AFTP. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and AFTP continues.

User Response: Correct the initialization file and enter the command again.

System Programmer Response: None.

APP0564E   The AFTP initialization file contains a parameter on line *line_number* **that is too long:** *value*

Explanation: The AFTP initialization file contains a parameter value that is more than 128 characters. Parameter values in the AFTP initialization file must be 128 characters or less. The error was detected on or near *line_number*.

When an error is found in the initialization file, the file is ignored and &aftp continues.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0566E   **The directory parameter requires a value near line** *line_number***.**

Explanation: On OS/2, the AFTP initialization file contains a directory parameter that is missing a value, and a value is required. The incorrect parameter was found on or near the line *line_number*.

When an error is found in the initialization file, the file is ignored and the application continues.

Operator Response: Contact the system programmer.

System Programmer Response: Correct the initialization file. For additional information about the AFTP initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0567E   **The permissions parameter requires a value near line** *line_number***.**

Explanation: On OS/2, the AFTP initialization file contains a permissions parameter that is missing a value, and a value is required. The incorrect parameter was found on or near the line *line_number*.

When an error is found in the initialization file, the file is ignored and the application continues.

Operator Response: Contact the system programmer.

System Programmer Response: Correct the initialization file. For additional information about the AFTP initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0568E   **Too many options parameters were found near** *line_number***.**

Explanation: The AFTP initialization file contains a map verb with too many options parameters. The incorrect map verb was found on or near the line *line_number*.

When an error is found in the initialization file, the file is ignored and the application continues.

Operator Response: Contact the system programmer.

System Programmer Response: Correct the initialization file. For additional information about the AFTP initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0569E   **Errors were found in the AFTP initialization file. The file will be ignored. All AFTP parameters will be set to their default values.**

Explanation: The AFTP initialization file contains errors. When an error is found in the initialization file, the file is ignored and the application continues.

Operator Response: Contact the system programmer.

System Programmer Response: Correct the initialization file. For additional information about the AFTP initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0570E   **The AFTP initialization file failed to open.**

Explanation: The AFTP initialization file failed to open.

User Response: Contact the system programmer.

System Programmer Response: Correct the initialization file. For additional information about the AFTP initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0571E   **There is not enough memory available to process the AFTP initialization file.**

Explanation: There is not enough memory available to process the AFTP initialization file.

Operator Response: On VM, save the console log. On MVS, save the job log. Contact the system programmer

System Programmer Response: Correct the memory problem using diagnostic information provided by operating system messages and VTAM messages.

APP0572E   **The specified trace level is not valid.**

Explanation: AFTP detected a trace level that is not valid. This error can occur when the trace level specified on the trace command is not valid, or when the AFTP initialization file contains a trace level that is not valid.

Operator Response: If you entered the trace command, correct the trace level and enter the command again. Otherwise, contact the system administrator.

System Programmer Response: Correct the initialization file. For assistance with the AFTP trace facility, contact the IBM Software Support Center.

APP0574E   **More than one trace level was specified.**

Explanation: The AFTP initialization file contains a set_trace parameter that contains more than one trace level. Only one trace level is allowed.

Operator Response: Contact the system programmer

System Programmer Response: Correct the initialization file. For assistance with the AFTP trace facility, contact the IBM Software Support Center.

APP0575E   You must specify a trace level with the -l flag.

Explanation: The acopy command failed because a trace level was not found following the -l flag. A trace level is required when the -l flag is used.

Operator Response: Enter the acopy command again. If you use the -l flag, make sure you specify a trace level. For assistance with the AFTP trace facility, contact the IBM Software Support Center.

System Programmer Response: None.

APP0584E   The server does not support the default file transfer type.

Explanation: The AFTP type command failed because the server does not support the default parameter. This error occurs if the server is running an earlier version of AFTP that does not support this parameter.

User Response: None.

System Programmer Response: None.

APP0585E   You must be connected to a server to use this command.

Explanation: An AFTP command failed because you can only use this command while connected to an AFTP server.

Operator Response: Use the open command to open a connection to an AFTP server and enter the command again.

System Programmer Response: None.

APP0586E   This command may not be issued while you are connected to a server. Use the close command to close the connection to the server.

Explanation: An AFTP command failed because you cannot use the command while connected to an AFTP server.

Operator Response: Use the close command to close the connection to the server and enter the command again.

System Programmer Response: None.

APP0587E   Valid settings are ON and OFF. When a setting is not specified, the current setting is displayed.

Explanation: The AFTP prompt command was entered. Either the setting was incorrect or a setting was not specified. Valid settings are ON or OFF. When a setting is not specified, the current setting is displayed.

Operator Response: To change the prompt setting,

enter the prompt command again and specify either on or off. For additional information about the prompt command, see "Chapter 8. AFTP Command Reference" on page 55.

System Programmer Response: None.

APP0588E   Valid setting are OLD and NEW. When a setting is not specified, the current setting is displayed.

Explanation: The AFTP date command was entered. Either the setting was incorrect or a setting was not specified. Valid settings are old and new. When a setting is not specified, the current setting is displayed.

Operator Response: To change the date setting, enter the date command again and specify either old or new. For additional information about the date command, see "Chapter 8. AFTP Command Reference" on page 55.

System Programmer Response: None.

APP0589E   Valid settings are ASCII, BINARY, and DEFAULT. When a setting is not specified, the current setting is displayed.

Explanation: The AFTP type command was entered. Either the setting was incorrect or a setting was not specified. Valid settings are ASCII, binary, and default. When a setting is not specified, the current setting is displayed.

Operator Response: To change the type setting, enter the type command again and specify either ASCII, binary or default. For additional information about the type command, see "Chapter 8. AFTP Command Reference" on page 55.

System Programmer Response: None.

APP0590E   A parameter must be specified with this command.

Explanation: A command was entered that requires at least one parameter. When the user was prompted for a parameter, a parameter was not entered.

Operator Response: Enter the command again and specify the required parameter. For information about AFTP commands, see "Chapter 8. AFTP Command Reference" on page 55.

System Programmer Response: None.

APP0601E   Action could not be performed.

Explanation: An AFTP command failed. When possible, AFTP logs additional error messages in the AFTP error log.

User Response: Check the AFTP error log for

additional error messages. If you are not able to correct the problem, save the error log and contact the system programmer.

System Programmer Response: Correct the problem using the additional error messages contained in the error log. If the messages in error log indicate that an internal error occurred, contact the IBM Software Support Center.

APP0602E   File or directory not found.

Explanation: You attempted to access a file or directory that does not exist.

User Response: Enter the command again using an existing file or directory name.

System Programmer Response: None.

APP0603E   Permission denied.

Explanation: An AFTP or ACOPY command failed because you do not have permission to access the specified file or directory.

User Response: Enter the command again using a file or directory name to which you have access.

System Programmer Response: None.

APP0604E   File is protected or locked.

Explanation: An AFTP or ACOPY command failed because the specified file is either protected from write, or locked.

User Response: Determine whether the file is locked temporarily or is in write-protect mode (also called read-only mode). If the file is locked temporarily, retry the command later. If the file is in write-protect mode, use a different file name or obtain write access to the file.

System Programmer Response: None.

APP0605E   This operation cannot be performed on an existing directory.

Explanation: A command was entered that contained a directory name that already exists. This operation cannot be performed on an existing directory.

User Response: Enter the command again using a new directory name.

System Programmer Response: None.

APP0606E   This operation cannot be performed on an existing file.

Explanation: A command was entered that contained a file name that already exists. This operation cannot be performed on an existing file.

User Response: Enter the command again using a new file name.

System Programmer Response: None.

APP0607E   The specified path does not exist.

Explanation: An AFTP command failed because the path specification was not valid.

User Response: Enter the command again. Use the pwd, dir, ls, and lsd commands to determine the correct path specification. For additional information about AFTP commands, see "Chapter 8. AFTP Command Reference" on page 55.

System Programmer Response: None.

APP0608E   The file specification does not match naming conventions.

Explanation: An AFTP or ANAME command failed be a file name was specified that either was too long or that contained characters which are not supported by the server's file system.

User Response: Correct the file name and enter the command again.

System Programmer Response: None.

APP0609E   The file specification contains characters that are not valid.

Explanation: An AFTP or ACOPY command failed because the specified filename contained characters that are not supported by the server's file system.

User Response: Correct the file name and enter the command again.

System Programmer Response: None.

APP0610E   The specified device or disk is full.

Explanation: The specified device or disk is full.

User Response: If the target device is a personal computer, increase disk space by deleting unneeded files. Otherwise, contact your system programmer.

System Programmer Response: Free up space on the target device or disk. On systems that restrict file allocations, increase the disk allotment on the target system.

APP0611E   The specified path exceeds the supported directory depth.

Explanation: An AFTP or ACOPY command failed because the path specification contains more directory levels than are supported by the server's file system.

User Response: Correct the path specification and enter the command again.

System Programmer Response: None.

APP0612E   Rename does not work across devices.

Explanation: The AFTP rename command cannot be used to copy or move a file from one device to another.

User Response: Copy the file to the target device using the either the AFTP send or AFTP receive command. You can then delete the file from the source device.

System Programmer Response: None.

APP0613E   The specified path would be above the file system root.

Explanation: An AFTP or ACOPY command failed because the specified file or directory name would be above the root of the server's file system.

User Response: Correct the file specification and enter the command again.

System Programmer Response: None.

APP0614E   No files were found matching the search specification.

Explanation: A command was entered to search for a file or list of files, but none were found that match the search specifications.

User Response: None.

System Programmer Response: None.

APP0615E   The file specification was too long.

Explanation: An AFTP or ACOPY command was entered that contained a file name or directory name that is too long.

User Response: Correct the file or directory specification and enter the command again.

System Programmer Response: None.

APP0616E   Maximum limit of open files exceeded.

Explanation: A file transfer failed because the maximum number of open files allowed on OS/2 has been exceeded.

User Response:

For AFTP:
- If the problem was detected on the remote side, close the connection to server, then open the connection again and try to transfer the file. If the error persists, close the connection and try again later.

- If the problem was detected on the local side, exit and re-start AFTP and try to transfer the file again. If the error persists, either end other applications or try again later.

For ACOPY:
- If the problem was detected on the remote side, try to transfer the file again. If the error persists, try again later.
- If the problem was detected on the local side, try to transfer the file again. If the error persists, either end other applications or try again later.

System Programmer Response: None.

APP0617E   The MKDIR command failed.

Explanation: The AFTP mkdir command failed.

User Response: For information about the mkdir command, see "Chapter 8. AFTP Command Reference" on page 55.

System Programmer Response: None.

APP0618E   Wildcards are not allowed with this command.

Explanation: A command was entered that contained wildcard characters. Wildcard characters are not allowed with this command.

User Response: Enter the command again and omit wildcard characters.

System Programmer Response: None.

APP0619E   File or directory not found or the specification does not match naming conventions.

Explanation: This error occurs when either the file name or directory name does not exist, is too long, or contains characters that are not allowed by the target system.

User Response: Correct the file or directory name and enter the command again.

System Programmer Response: None.

APP0621E   Cannot write to dataset.

Explanation: An AFTP or ACOPY command failed because the dataset specified in the command is either write-protected or is full.

User Response: Contact your system programmer. When the problem has be corrected, enter the command again.

System Programmer Response: Refer to MVS console messages to determine the cause of the error. Either increase the size of the dataset, or, if appropriate,

allow the user to access the dataset.

APP0651E   Error number was *errornum*

Explanation: An error code was issued by the C runtime library that the APPC Application Suite did not recognize. This message provides the error information that was obtained from the C runtime library.

> *error_number* is the error number returned from the C runtime library.

This message provides additional information for message APP0601E and is written to the AFTP or ACOPY error log.

Information about common error codes is provided below:

> Error number 7 and error number 41 can occur on MVS when you attempt to transfer an unsupported file type. It is likely that a get or put command specified an empty dataset (record length of zero) with a block size of 0 and a record format of U. To transfer an empty dataset with a block size of 0, a record format of F must be specified.

Operator Response: Correct the record format and enter the command again.

System Programmer Response: If the error persists, verify that the C runtime library is installed correctly, or contact the IBM Software Support Center.

APP0653E   File names *file1* **and** *file2* **must represent the same file type; either sequential file names or partitioned data set member names.**

Explanation: The AFTP rename command failed because the specified files were not the same file type.
- You cannot rename a sequential file to a partitioned dataset member.
- You cannot rename a partitioned dataset member to a sequential file.
- You cannot rename a member of one partitioned dataset to be a member of another partitioned dataset.

This message provides additional information for APP0601E and is written to the AFTP error log.

> *file1* is the source file name.
> *file2* is the requested new file name.

User Response: Correct the requested new file name and enter the command again.

System Programmer Response: None.

APP0654E   Wildcards in the file specification *filename* **have been used incorrectly.**

Explanation: An AFTP or acopy command failed because wildcard characters were used incorrectly in the file name. Wildcards can be used to list multiple datasets, or to list multiple members of a single dataset, but not both.

This message provides additional information for message APP0609E and is written to either the AFTP or ACOPY error log.

> *filename* is the incorrect file name.

User Response: Correct the file name and enter the command again.

System Programmer Response: None.

APP0655E   File specification *filename* **is not a valid sequential file name or partitioned data set member name.**

Explanation: An AFTP or acopy command failed because the file name format is not correct. The file must be either a sequential dataset or a partitioned data set member.

This message provides additional information for message APP0608E and is written to either the AFTP or ACOPY error log.

> *filename* is the incorrect file name.

User Response: Correct the file name and enter the command again.

System Programmer Response: None.

APP0656E   File specification *dirname* **is not a valid partitioned data set name.**

Explanation: The AFTP mkdir command failed because the directory name format is not correct. New directories must be partitioned data sets.

This message provides additional information for message APP0608E and is written to the AFTP error log.

> *dirname* is the incorrect directory name.

User Response: Correct the directory name and enter the command again.

System Programmer Response: None.

APP0657E   Directory name length = *n* **characters. Maximum name length =** *max_length***.**

Explanation: This message provides additional information for message APP0615E and is written to the AFTP or ACOPY error log.

> *n* is the number of characters found in the directory specification.
> *max_length* is the maximum number of characters allowed for a directory specification.

APP0659E   The partitioned data set member name *member* **exceeds the maximum allowed length of 8.**

Explanation: An AFTP or acopy command failed because the member name was too long. Member names must be eight characters or less.

This message provides additional information for message APP0615E and is written to either the AFTP or &acopy error log.
   member is the member name that is too long.

User Response: Correct the member name and enter the command again.

System Programmer Response: None.

APP0662E   Error number was *error_number*, *error_string*

Explanation: An error code was issued by the C runtime library that the APPC Application Suite did not recognize. This message provides the error information that was obtained from the C runtime library.
   error_number is the error number returned from the C runtime library.
   error_string is a string containing a description of the error.

Information about common error codes is provided below:

- Error number 7 or error number 41 can occur on MVS when you attempt to transfer an unsupported file type.
  - Error number 7 indicates that a get or put command specified an empty dataset (record length of zero) with a block size of 0 and a record format of U.
  - Error number 41 indicates that a get or put command specified an empty dataset (record length of zero) with a block size of 0 and a record format of V.

  To transfer an empty dataset with a block size of 0, a record format of F must be specified.

  If the error persists, verify that the C runtime library is installed correctly, or contact the IBM Software Support Center.
- Error number 61, ″Error trying to define file to system″ can occur on MVS when the AFTP or ACOPY client and the AFTP server are on the same host, and an attempt is made to copy a member of a partitioned dataset (PDS) to a different member of the same PDS.
- Error number 46, ″File could not be removed″, or error number 49, ″Cannot locate file specified″ can occur on MVS when an attempt is made to delete a dataset that is in use.

This message follows message APP0601E and is written to the AFTP or ACOPY error log.

APP0664E   Operating system return code was *return_code***.**

Explanation: An operating system error occurred that the APPC Application Suite did not recognize.
   return_code is the return code from the operating system on which the error occurred.

This message is issued with message APP0601E and is written to the AFTP or ACOPY error log.

APP0666E   VM return code was *return_code***.**

Explanation: This message provides additional information for message APP0601E and is written to the AFTP or ACOPY error log.
   return_code is the return code from the VM operating system.

APP0667E   The MVS data set name *dataset_name* **exceeds the maximum allowed length of 44.**

Explanation: An AFTP or acopy command failed because the dataset name was too long. Data set names must be 44 characters or less.

This message provides additional information for message APP0615E is written to either the AFTP or ACOPY error log.
   dataset_name is the incorrect dataset name.

User Response: Correct the dataset name and enter the command again.

System Programmer Response: None.

APP0668E   The resulting MVS data set name *dataset_name* **contains an improper use of delimiters.**

Explanation: An AFTP or acopy command failed because the delimiters (slashes or periods) used in the dataset name were not in the correct format. Either the dataset name contained two delimiters that are next to each other, or a delimiter was the first character or last character of a dataset name.

The message provides additional information for message APP0609E and is written to either the AFTP or ACOPY error log.
   dataset_name is the incorrect dataset name.

User Response: Correct the dataset name and enter the command again.

System Programmer Response: None.

APP0669E **The resulting MVS partitioned data set member name** *member_name* **contains delimiters.**

Explanation: An AFTP or acopy command failed because the partitioned data set member name contains delimiters (slashes or periods), and delimiters are not allowed.

This message provides additional information for message APP0609E and is written to either the AFTP or ACOPY error log.
   member_name is the incorrect member name.

User Response: Correct the member name and enter the command again.

System Programmer Response: None.

APP0670E **The MVS data set name** *dataset_name* **contains a qualifier that exceeds a maximum allowed length of 8.**

Explanation: An AFTP or acopy command failed because the dataset name contained a qualifier that is too long. Qualifiers cannot exceed eight characters.

This message provides additional information for message APP0615E and is written to either the AFTP or ACOPY error log.
   dataset_name is the incorrect dataset name.

User Response: Correct the dataset name and enter the command again.

System Programmer Response: None.

APP0671E **LAN drive names such as** *name* **are not supported - use a drive letter.**

Explanation: You entered a file specification that contained a LAN drive name, and LAN drive names are not supported.

This message provides additional information for message APP0602E and is written to the AFTP or ACOPY error log.
   name is the name of the LAN drive specified in the command.

User Response: Change the LAN drive name to a drive letter and enter the command again.

APP0672E **MVS dynamic allocation failed for data set** *dataset_name*. **SVC99 RC=** *return_code*, **Infocode =** *info_code*, **Error code =** *error_code*.

Explanation: This message provides additional information for message APP0617E and is written to the AFTP or ACOPY error log.
   dataset_name is the dataset name.
   return_code is the SVC99 return code.
   info_code is the information code.

   error_code is the error code.

APP0673E **DSSTAT function failed with return code** *return_code*.

Explanation: This message provides additional information for message APP0510E and is written to an APPC Application Suite facility's error log.

APP0674E **Catalog Search Interface (CSI) reported an error. CSI RC=** *CSI_return_code*, **Module =** *module_identification_code*, **Reason code =** *reason_code*, **Return code =** *return_code*.

Explanation: This message provides additional information for message APP0601E and is written to the AFTP or ACOPY error log.
   CSI_return_code is the CSI return code.
   module_identification_code is the module identification code.
   reason_code is the reason code.
   return_code is the return code.

When the CSI return code is 4, the reason area information is meaningful and the following applies:

The module identification code is a two character EBCDIC code that can be used by IBM Service Personnel to determine which Catalog Management module set the reason and return code. The module identification information is not otherwise useful.

Reason and return codes returned by Catalog Management are documented in the *z/OS Communications Server: SNA Messages*.

Return codes 100 (hex'64') and 122 (hex'7A') are not documented in the *z/OS Communications Server: SNA Messages*. The meaning of these return codes are:

• 100 - For reason code 4, at least one data set entry is returned with an error. For reason code 8, at least one catalog entry is returned with an error. Causes of this return code include, but are not limited to, trying to access unsupported data set organizations, such as VSAM, or trying to access datasets or catalogs you are not authorized for.

• 122 - This is caused by entering a dataset qualifier that is not valid.

When the CSI return code is 8, an internal error occurred. Save the facility's error log and contact the IBM Software Support Center.

APP0675E **MVS dynamic free failed for data set** *dataset_name*. **SVC99 RC=** *return_code*, **Infocode =** *info_code*, **Error code =** *error_code*.

Explanation: This message provides additional information for message APP0617E and is written to the AFTP or ACOPY error log.

    dataset_name is the dataset name.
    return_code is the SVC99 return code.
    info_code is the information code.
    error_code is the error code.

Explanation: For more information about SVC99, see the *z/OS MVS Programming: Assembler Services Reference ABE-HSP*.

APP0676E **An error was detected reading a catalog entry.**

Explanation: This message provides additional information for message APP0674E and is written to the AFTP or ACOPY error log.

APP0677E **An error was detected reading a dataset entry.**

Explanation: This message provides additional information for message APP0674E and is written to the AFTP or ACOPY error log.

APP0685E **Internal RECFM value** *value* **not recognized.**

Explanation: An internal error occurred.

This message provides additional information for message APP0128E.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Contact the IBM Software Support Center.

APP0686E **Block size value** *value* **is too large. The maximum allowed is 32760.**

Explanation: The block size is too large; the largest possible value is 32760.

This message provides additional information for message APP0617E.

User Response: Retry the operation with a value less than 32760.

System Programmer Response: Retry the operation with a value less than 32760.

APP0687E **LRECL value** *value* **is too large. The maximum allowed is 32760.**

Explanation: The LRECL is too large; the largest possible value is 32760.

This message provides additional information for message APP0617E.

User Response: Retry the operation with a value less than 32760.

System Programmer Response: Retry the operation with a value less than 32760.

APP0688E **Allocation size value** *value* **is too large. The maximum allowed is 32760.**

Explanation: The allocation size is too large; the largest possible value is 32760.

This message provides additional information for message APP0617E.

User Response: Retry the operation with a value less than 32760.

System Programmer Response: Retry the operation with a value less than 32760.

APP0689E **The common filename** *filename* **is not appropriate for function.**

Explanation: An internal error occurred.

This message provides additional information for message APP0608E.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Contact the IBM Software Support Center.

APP0690E **CSI work area with size** *actual_size* **bytes is smaller than required size of** *required_size*.

Explanation: An internal error occurred.

This message provides additional information for message APP0608E.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Contact the IBM Software Support Center.

APP0691E **RECFM** *record_format* **is not allowed for partitioned datasets.**

Explanation: Record formats containing the S attribute are not supported for partitioned datasets (PDSs). PDSs contain short blocks; short blocks are not allowed with standard datasets.

This message provides additional information for message APP0617E.

User Response: Retry the operation with a valid record format.

System Programmer Response: Retry the operation with a valid record format.

APP0702E   There is no record to receive. Either no records were returned on the query or all records have already been received.

Explanation: This is an internal error.

User Response: Save the ANAME error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0703E   Security type has been set to SAME but a user ID or a password were supplied. A user id and a password cannot be supplied with security type SAME.

Explanation: An ANAME administrator entered an ANAME register or delete command that contained APPC security=same (-c), a user ID (-a) and a password (-p). When the -c flag is used, the -a flag and -p flags are not allowed.

Operator Response: None.

System Programmer Response: Enter the command again using corrected security parameters.

APP0704E   This command requires at least one field (other than the fully qualified LU name field) to be set. You must supply a non-blank user name, group name, or TP name.

Explanation: The ANAME register command failed because no parameters were set, and at least one parameter other than the fully qualified LU name is required.

User Response: Enter the command again using at least one parameter other than the fully qualified LU name. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0705E   The fully qualified LU name parameter is not allowed. This function only supports the fully qualified LU name parameter if it is non-blank and supplied by the ANAME system administrator.

Explanation: A register or delete command was entered that contained a -f flag (fully qualified LU name), but you are not authorized to use the -f flag.

User Response: To register or delete a record containing your own fully qualified LU name, enter the command again and omit the -f flag. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: If an ANAME administrator attempts to update the database and receives this message, make sure that the administrator's user ID or LU name is defined correctly in the ANAME server's initialization file. If an ANAME administrator receives this message when using the -c flag, it is possible that:

- The ANAME server's APPC subsystem does not support security=SAME.
- The ANAME server's APPC subsystem is not configured correctly.

See *z/OS Communications Server APPC Application Suite Administration* for additional information about configuring security=SAME.

APP0706E   The buffer size provided indicates that the buffer is too small for the requested action.

Explanation: This is an internal error.

User Response: Save the ANAME error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0707E   You are not authorized to use the duplicate flag. The duplicate flag can only be used by an ANAME system administrator.

Explanation: An ANAME register command was entered that contained a -d (duplicate) flag, and you are not authorized to register duplicate names.

User Response: To register a record containing your own fully qualified LU name, enter the command again and omit the -d flag. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response:

If an ANAME administrator attempts to update the database and receives this message, make sure that

the administrator's user ID or LU name is defined correctly in the ANAME server's initialization file. If an ANAME administrator receives this message when using the -c flag, it is possible that:

- The ANAME server's APPC subsystem does not support security=SAME.
- The ANAME server's APPC subsystem is not configured correctly.

See *z/OS Communications Server APPC Application Suite Administration* for additional information about configuring security=SAME.

APP0708E   Data was found that was not valid.

Explanation: An internal error occurred.

User Response: Save the ANAME error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0709E   You are not allowed to delete the record or records containing the specified values. If you are not the ANAME system administrator, you are only allowed to delete your own records.

Explanation: An ANAME delete command was entered for a record which contained a fully qualified LU name other than your own. You can only delete records from the ANAME database that contain your fully qualified LU name.

User Response: To delete a record containing your own fully qualified LU name, correct the fully qualified LU name and enter the command again. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: If an ANAME administrator receives this message, make sure that the administrator's user ID or LU name is defined correctly in the ANAME server's initialization file. An ANAME administrator receiving this message when using the -c flag should check the section about ″Considerations for using security=SAME″ in *z/OS Communications Server APPC Application Suite Administration*.

APP0711E   No records found matching search criteria. Examine the log file for more details.

Explanation: The ANAME delete command failed because either the parameters specified on the command did not match any records in the ANAME database, or the record you tried to delete does not contain your fully qualified LU name.

ANAME automatically associates the parameters you enter on the delete command with your fully qualified

LU name. This error occurs if the record you specify contains a fully qualified LU name other than your own. If you do not have system administrator authority, you can only delete records that contain your fully qualified LU name.

User Response: Enter the command again. You can use the ANAME query command to determine if the name you want to delete is in the database and contains your fully qualified LU name. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: If an ANAME administrator receives this message when using the -c flag, it is possible that:

- The ANAME server's APPC subsystem does not support security=SAME.
- The ANAME server's APPC subsystem is not configured correctly.

See *z/OS Communications Server APPC Application Suite Administration* for additional information about configuring security=SAME.

APP0712E   The user name specified is greater than 64 characters in length. The length of the user name must be 64 characters or less.

Explanation: An ANAME command was entered that contains a user name that was too long. The user name must be 64 characters or less.

User Response: Correct the user name and enter the command again. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0713E   The user name field contains a character that is not valid.

Explanation: An ANAME command failed because the user name contained a character that is not valid.

User Response: Correct the user name and enter the command again. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0714E   The specified fully qualified LU name is too long. The length of the fully qualified LU name must be 17 characters or less.

Explanation: An ANAME command failed because the fully qualified LU name is too long. Fully qualified LU names must be 17 characters or less.

User Response: Correct the fully qualified LU name

and enter the command again. For additional
information about ANAME commands, see "Chapter 6.
ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0715E   **The fully qualified LU name field
contains a character that is not valid.**

Explanation: An ANAME command failed because the
fully qualified LU name contains a character that is not
valid.

User Response: Correct the fully qualified LU name
and enter the command again. For additional
information about ANAME commands, see "Chapter 6.
ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0716E   **A group name specified is greater than
64 characters in length. The length of
the group name must be 64 characters
or less.**

Explanation: The ANAME command failed because
the group name is too long. Group names must be 64
characters or less.

User Response: Correct the group name and enter
the command again. For additional information about
ANAME commands, see "Chapter 6. ANAME Command
Reference" on page 31.

System Programmer Response: None.

APP0717E   **The group name field contains a
character that is not valid.**

Explanation: An ANAME command failed because the
group name contains a character that is not valid.

User Response: Correct the group name and enter
the command again. For additional information about
ANAME commands, see "Chapter 6. ANAME Command
Reference" on page 31.

System Programmer Response: None.

APP0718E   **The TP name specified is greater than
64 characters in length. The length of
the TP name must be 64 characters or
less.**

Explanation: An ANAME command failed because the
transaction program (TP) name is too long. TP names
must be 64 characters or less.

User Response: Correct the TP name and enter the
command again. For additional information about
ANAME commands, see "Chapter 6. ANAME Command
Reference" on page 31.

System Programmer Response: None.

APP0719E   **The TP name field contains a character
that is not valid.**

Explanation: An ANAME command failed because the
transaction program (TP) name contains a character
that is not valid.

User Response: Correct the TP name and enter the
command again. For additional information about
ANAME commands, see "Chapter 6. ANAME Command
Reference" on page 31.

System Programmer Response: None.

APP0720E   **The destination specified is greater
than 17 characters in length. The
length of the destination must be 17
characters or less.**

Explanation: An ANAME command failed because the
destination name is too long. Destination names be 17
characters or less.

User Response: Correct the destination name and
enter the command again. For additional information
about ANAME commands, see "Chapter 6. ANAME
Command Reference" on page 31.

System Programmer Response: None.

APP0721E   **The fully qualified logical unit name in
the request was** *luname***.**

Explanation: This message follows message
APP0711E and is written to the ANAME error log.

If you did not specify a fully qualified logical unit name,
the fully qualified logical unit name defined for your
system was used. Unless you are an ANAME
administrator, you can only delete records with this
machine's fully qualified logical unit name.
   luname is the fully qualified LU name found in the
   command.

APP0722E   **The group name matches an existing
user name in the database. Request
failed.**

Explanation: The ANAME register command failed
because the group name specified on the command is
already being used as a user name. A name can be
either or group name or a user name, but not both.

User Response: Change the group name and enter
the command again. To determine whether a group
name is already being used, use the query command to
search for the name in the database before you attempt
to register.

System Programmer Response: None.

APP0723E   The user name matches an existing group name in the database. Request failed.

Explanation: The ANAME register command failed because the user name specified on the command is already being used as a group name. A name can be either or group name or a user name, but not both.

User Response: Change the user name and enter the command again. To determine whether a user name is already being used, use the ANAME query command to search for the name in the database. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0724E   A user name already exists with another fully qualified logical unit name. Request failed.

Explanation: An ANAME register command was entered that contained a user name that already exists in the database. Duplicate user names are not allowed unless they are entered by and ANAME system administrator. To determine whether a user name is already being used, use the query command to search for the name in the database before you try to register.

User Response: Enter the command again, and make sure the user name you specify is not already in the database. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0725E   The record input is not valid. The user name and group name are equal.

Explanation: An ANAME register command was entered that contained a user name and a group name that are the same. A name can be either a group name or a user name but not both.

User Response: Change either the user name or the group name and enter the command again. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0726E   An error occurred while accessing the database file.

Explanation: ANAME is unable to access the database file and records may have been lost. The most likely causes of this error are hardware failures or severe resource constraints.

User Response: Contact the system programmer.

System Programmer Response: Either restore the

database from your backup files or create a new database.

APP0727E   A corrupt database record was found. The record was ignored on the delete.

Explanation: This is an internal error.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0730E   Could not open database file. On VM, a new database will be created with a successful register request. On MVS, the database file must be installed.

Explanation: The ANAME database file was not found. On VM, the ANAME server looks for the file ANAMED DB. Since the file does not exist, a new database will be created with a successful register command. On MVS, the ANAME server could not find the file with DD Name APPNAMDF. The database file must be installed.

On VM, it is possible that:
* The database file was erased.

On MVS, it is possible that:
* The database file was erased.
* The database file was not installed.
* The DD Name specification for the database file is incorrect.

User Response: On VM, if you are starting a new database, no action is required. Otherwise, contact the system programmer.

On MVS, contact the system programmer.

System Programmer Response: On VM, make sure that the ANAME database file exists as ANAMED DB.

On MVS, install the database file as DD Name APPNAMDF.

If the database file was erased, and if you have backed up the file, recover the most recent database file from your backup files.

APP0731E   A partial record was found while reading the database. The current database file is not usable.

Explanation: The ANAME server contains corrupted records, so the database file is not usable. The most likely causes of this error are:
* hardware failures
* severe resource constraints.

The server will not operate until the problem is corrected.

User Response: Contact the system programmer.

System Programmer Response: It is likely that a system error occurred previously. Check both ANAME and operating system error logs for other messages related to this error. Then, either restore the database from a backup file, or create a new database.

APP0732E **An error occurred while trying to recover the backup of the data base on the server. The bad database file could not be removed for the backup to be restored.**

Explanation: On VM, when ANAME adds or deletes a record in the database, the database information in memory is changed. To prevent records from being lost, the database file (ANAMED DB) file is renamed to ANAMED DBK. A new ANAMED DB file is opened and the updated database in memory is written to the new file. If the new database is written successfully, ANAMED DBK is erased. Otherwise, the new ANAMED DB file is erased, the ANAMED DBK file is renamed ANAMED DB, and the register or delete command fails.

This message is issued when the database file in memory is not written successfully to the new ANAMED DB file, but the ANAMED DBK could not be renamed. The most likely causes of this error are hardware failures or severe resource constraints.

User Response: Contact the system programmer. When the problem has been corrected, reenter the last command.

System Programmer Response: Erase ANAME DB and rename ANAMED DBK to ANAME.DB. It is likely that a system error occurred previously. Check both ANAME and operating system error logs for other messages related to this error.

APP0733E **The user name field may not contain a dash character as the first character.**

Explanation: An ANAME command was entered containing a user name with a dash as the first character. A dash cannot be used as the first character of a name.

User Response: Correct the user name and enter the command again. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0734E **The fully qualified logical unit name field may not contain a dash character as the first character.**

Explanation: An ANAME command was entered containing a fully qualified LU name with a dash as the first character. A dash cannot be used as the first character of a name.

User Response: Correct the fully qualified LU name and enter the command again. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0735E **The group name field may not contain a dash character as the first character.**

Explanation: An ANAME command was entered containing a group with a dash as the first character. A dash cannot be used as the first character of a name.

User Response: Correct the group name and enter the command again. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0736E **The TP name field may not contain a dash character as the first character.**

Explanation: An ANAME command was entered containing a transaction program (TP) name with a dash as the first character. A dash cannot be used as the first character of a name.

User Response: Correct the TP name and enter the command again. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0738E **Could not backup the database file. Your request could not be performed.**

Explanation: On VM, when ANAME adds or deletes a record in the database, the database information in memory is changed. To prevent records from being lost, the database file (ANAMED DB) file is renamed to ANAMED DBK. A new ANAMED DB file is opened and the updated database in memory is written to the new file. If the new database is written successfully, ANAMED DBK is erased. Otherwise, the new ANAMED DB file is erased, the ANAMED DBK file is renamed ANAMED DB, and the register or delete command fails.

This message is issued when the backup database file cannot be created. Is it likely that the backup database file was not erased after the last successful update because hardware failures or severe resource constraints occurred.

User Response: Contact the system programmer. When the problem is corrected, enter the last command again.

System Programmer Response: First, look for both an ANAME DB file and an ANAME DBK file. If you find both files, erase the ANAME DBK file. Otherwise, rename the ANAME DBK file to ANAME DB. It is likely

that a system error occurred previously. Check both ANAME and operating system error logs for other messages related to this error.

APP0739E   Could not remove the backup database file on server. Your request was performed but backup database file still exists on the server.

Explanation: On VM, when ANAME adds or deletes a record in the database, the database information in memory is changed. To prevent records from being lost, the database file (ANAMED DB) file is renamed to ANAMED DBK. A new ANAMED DB file is opened and the updated database in memory is written to the new file. If the new database is written successfully, ANAMED DBK is erased. Otherwise, the new ANAMED DB file is erased, the ANAMED DBK file is renamed ANAMED DB, and the register or delete command fails.

This message is issued when the backup database file cannot be erased.

User Response: Contact the system programmer.

System Programmer Response: Erase the ANAME DBK file. It is likely that a system error occurred previously. Check both ANAME and operating system error logs for other messages related to this error.

APP0740E   An error occurred while trying to recover the backup of the database on the server. The database could not be restored.

Explanation: On VM, when ANAME adds or deletes a record in the database, the database information in memory is changed. To prevent records from being lost, the database file (ANAMED DB) file is renamed to ANAMED DBK. A new ANAMED DB file is opened and the updated database in memory is written to the new file. If the new database is written successfully, ANAMED DBK is erased. Otherwise, the new ANAMED DB file is erased, the ANAMED DBK file is renamed ANAMED DB, and the register or delete command fails.

This message is issued when ANAMED DB is erased, but ANAME DBK cannot be renamed to ANAME DB.

User Response: Contact the system programmer.

System Programmer Response: Rename the ANAME DBK file to ANAMED DB. It is likely that a system error occurred previously. Check both ANAME and operating system error logs for other messages related to this error.

APP0742E   An unrecognized value was received in the lineflow.

Explanation: Either a configuration error or an internal error occurred.

User Response: Save the facility's error log and

contact the system programmer.

System Programmer Response: The ANAME error log contains additional messages related to this error which provide further diagnostic information. If an internal error occurred, report the problem to the IBM Software Support Center.

APP0746E   The end of verb indicator could not be found near line *line_number*.

Explanation: The semicolon was left off the end of an ANAME initialization file verb. The error was detected on or near *line_number*.

When an error is found in the initialization file, initialization file parameters are set to defaults.

User Response: Correct the initialization file and try the command again.

System Programmer Response: None.

APP0747E   The ANAME initialization file is empty. Default settings will be used.

Explanation: The ANAME server's initialization file was not found. The initialization file parameters are set to default values.

User Response: Contact the system programmer.

System Programmer Response: Correct the initialization file and restart the ANAME server. For additional information about the ANAME initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0748E   Errors were found while loading the initialization file.

Explanation: The ANAME server's initialization file contains errors. The initialization file parameters are set to default values.

User Response: Contact the system programmer.

System Programmer Response: Correct the initialization file and restart the ANAME server. For additional information about the ANAME initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0751E   An error was found with the set_system_administrator keyword in the ANAME initialization file. Defaults will be used for this and all keywords after this one.

Explanation: An error was found in the set_system_administrator statement contained in the ANAME server's initialization file. The system administrator is not defined, and all parameters that

follow the set_system_administrator statement are set to defaults.

User Response: Contact the system programmer.

System Programmer Response: Correct the initialization file and restart the server. For additional information about the ANAME initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0752E   On OS/2, an error was found with the set_database_path keyword in the ANAME initialization file. Defaults will be used for this and all keywords after this one.

Explanation: An error was found in the set_database_ path statement contained in the ANAME initialization file. The error log, trace log, and database file will be created in the directory in which the ANAME server program (ANAMED) is located.

User Response: Contact the system programmer.

System Programmer Response: Correct the initialization file and restart the server. For additional information about the ANAME initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0753E   An error was found with the set_trace keyword in the ANAME initialization file. Defaults will be used for this and all keywords after this one.

Explanation: An error was found in the set_trace statement contained in the ANAME server's initialization file. Set_trace and the parameters that follow this statement are set to defaults. The default for trace is 0 (off).

User Response: Contact the system programmer.

System Programmer Response: Correct the initialization file and restart the server. For additional information about the ANAME initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP0754E   The ANAME initialization file was not found. Defaults will be used.

Explanation: The ANAME server's initialization file was not found. On VM, the ANAME initialization file must be located on the server's virtual machine.

The initialization file parameters are set to default values.

User Response: Contact the system programmer.

System Programmer Response: Relocate or reinstall the initialization file and restart the ANAME server. For additional information about the ANAME initialization file,

see *z/OS Communications Server APPC Application Suite Administration*.

APP0758E   Errors occurred that prevented the ANAME server from starting. Check the error log file *file_name* for more information.

Explanation: An error occurred which has prevented the ANAME server from starting.

User Response: Contact the system programmer.

System Programmer Response: Check the ANAME error log and the console log for additional APPC Application Suite, operating system, or VTAM messages that might provide additional information about the error.

APP0761E   Unrecognized command.

Explanation: An ANAME command was entered that was not recognized.

User Response: Correct the command and try again. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0763E   Your fully qualified logical unit name is not authorized to update the ANAME database.

Explanation: Your fully qualified LU name is not authorized to add or delete records from the ANAME database.

User Response: To obtain authority to add or delete ANAME database records, contact the ANAME system administrator.

System Programmer Response: The user's LU name matches an LU name contained in a prevent_update verb in the ANAME initialization file. You can either perform the requested update, or update the ANAME initialization file to remove the user's LU name from the prevent_update verb. If an ANAME administrator receives this message when using the -c flag, it is possible that:

- The ANAME server's APPC subsystem does not support security=SAME.
- The ANAME server's APPC subsystem is not configured correctly.

See *z/OS Communications Server APPC Application Suite Administration* for additional information about configuring security=SAME.

APP0801E   You used a flag that is not recognized.

Explanation: An ANAME command was entered that contains a flag that is not recognized. The command failed.

User Response: Correct the flag and enter the command again. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0802E   You used the duplicate flag for a function that does not support it. The duplicate flag can only be used for a register request.

Explanation: The duplicate (-d) flag was used with either the ANAME query or delete command. The duplicate flag may only be used for a register request.

User Response: Enter the command again and omit the -d parameter. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0804E   You specified the -f flag without a fully qualified logical unit name.

Explanation: An ANAME command failed because a fully qualified LU name was not found following the -f flag. When a -f flag is entered, a fully qualified LU name is required.

User Response: Enter the command again. Be sure to enter a fully qualified LU name following the -f flag. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0807E   You specified the -s flag without specifying a destination. The -s flag must be followed by a symbolic destination name, partner LU name, or partner alias.

Explanation: An ANAME command failed because a destination was not found following the -s flag. When a -s flag is entered, a destination is required.

User Response: Enter the command again. Be sure to enter a destination following the -s flag. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0808E   You specified the -l flag without a trace level value.

Explanation: An ANAME command failed because a trace level value was not found following the -l flag. When a -l flag is entered, a trace level value is required.

User Response: Enter the command again. Be sure to enter a trace-level value following the -l flag. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0809E   You used the -d flag more than once. Only one duplicate flag is allowed per request.

Explanation: An ANAME command failed because more than one duplication flag (-d) was found. Only one -d flag is allowed.

User Response: None.

System Programmer Response: Enter the command again, and make sure you only use one duplication flag. For additional information about using the duplication flag, see *z/OS Communications Server APPC Application Suite Administration*.

APP0810E   You used the -u flag more than once. Only one user name value is allowed per request.

Explanation: An ANAME command failed because more than one user name flag (-u) was found. Only one -u flag is allowed.

User Response: Enter the ANAME command again. Make sure you only use one user name flag. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None

APP0811E   You used the -f flag more than once. Only one fully qualified logical unit name value is allowed per request.

Explanation: The ANAME command failed because more than one fully qualified LU name flag (-f) was found. Only one -f flag is allowed.

User Response: Enter the ANAME command again. Make sure you only use one fully qualified LU name flag. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0812E   You used the -g flag more than once. Only one group name value is allowed per request.

Explanation: The ANAME command failed because more than one group name (-g) was found. Only one -g flag is allowed.

User Response: Enter the ANAME command again. Make sure you only use one group name flag. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None

APP0816E   The ANAME command parameter must be entered before any flags are used.

Explanation: An ANAME command failed because flags were found in front of the command name.

User Response: Enter the ANAME command again. Make sure the flags follow the command name. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0817E   You used the -l flag more than once. Only one trace level may be set per request.

Explanation: An ANAME command failed because more than one trace flag (-l) was found. Only one -l flag is allowed.

User Response: Enter the ANAME command again. Make sure you only use one trace flag. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None

APP0818E   You used the -s flag more than once. Only one symbolic destination name value is allowed per request.

Explanation: The ANAME command failed because more than one destination flag (-s) was found. Only one -s flag is allowed.

User Response: Enter the ANAME command again. Make sure you only use one destination flag. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None

APP0819E   More than one ANAME command parameter was entered on the command line.

Explanation: The ANAME command failed because more than one subcommand was found. Only one subcommand is allowed.

User Response: Enter the ANAME command again. Make sure you only use one subcommand. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0820E   At least one flag (-u -f -g -t) is required to execute this command successfully.

Explanation: The ANAME command failed because no parameters were found, and at least one parameter is required.

User Response: Enter the ANAME command again. Make sure you use at least one parameter. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0821E   The connection ID is not created. An aname_create call is required.

Explanation: This is an internal error.

User Response: Save the ANAME error log and contact the system programmer

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0822E   You used the -t flag more than once. Only one TP name value is allowed per request.

Explanation: The ANAME command failed because more than one transaction program name flag (-t) was found. Only one -t flag is allowed.

User Response: Enter the ANAME command again. Make sure you only use one transaction program name flag. For additional information about ANAME commands, see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None

APP0823E   An ANAME command must be specified on the command line.

Explanation: An ANAME command failed because the command was incomplete.

User Response: Enter the ANAME command again. For additional information about ANAME commands,

see "Chapter 6. ANAME Command Reference" on page 31.

System Programmer Response: None.

APP0830E   Waiting for the next incoming request failed.

Explanation: The ANAME server was waiting for an incoming request, but waiting on the request failed.

User Response: None.

System Programmer Response: Check the ANAME error log and the console log for related APPC Application Suite, operating system, or VTAM messages that provide additional diagnostic information.

APP0831E   Get_Transaction (ATBGTRN) failed with return code *return_code***.**

Explanation: This message provides additional information for message APP0831E and is written to an APPC Application Suite facility's error log.
   return_code is the return code from the call that failed.

User Response: None.

System Programmer Response: The most common return codes for this error are 12 and 16.

- A return code of 12 indicates that the APPC/MVS transaction scheduler is not active. The APPC/MVS transaction scheduler must be started before the ANAME server is started.

- A return code of 16 indicates that the ANAME server was not installed correctly.

For additional information about ATBGTRN return codes, see *z/OS MVS Planning: APPC/MVS Management*.

APP0832E   The -c flag was used more than once in this command. Only one -c flag is allowed.

Explanation: An ANAME command was entered that contained more than one -c flag. Only one -c flag is allowed.

User Response: None.

System Programmer Response: Enter the command again using only one -c flag.

APP0833E   The -a flag was used more than once in this command. Only one -a flag is allowed.

Explanation: An ANAME command was entered that contained more than one -a flag. Only one -a flag is allowed.

User Response: None.

System Programmer Response: Enter the command again using only one -a flag.

APP0834E   The -p flag was used more than once in this command. Only one -p flag is allowed.

Explanation: An ANAME command was entered that contained more than one -p flag. Only one -p flag is allowed.

User Response: None.

System Programmer Response: Enter the command again using only one -p flag.

APP0835E   A user ID was not specified. If a password is specified, a user ID is required.

Explanation: An ANAME command was entered that contained a password, but the user ID was missing. When a password is specified, a user ID is required.

User Response: None.

System Programmer Response: Enter the command again and specify both a user ID and a password.

APP0836E   A password was not specified. If a user ID is specified, a password is required.

Explanation: An ANAME command was entered that contained a user ID, but the password was missing. When a user ID is specified, a password is required.

User Response: None.

System Programmer Response: Enter the command again and specify both a user ID and a password.

APP0837E   The security type set through the aname_set_security_type call is not a recognized security type.

Explanation: An internal error occurred.

An unrecognized value was specified as the security type parameter on the aname_set_security_type call. The recognized values are ANAME_SECURITY_NONE, ANAME_SECURITY_SAME, and ANAME_SECURITY_PROGRAM.

User Response: Save the ANAME error log and contact the system programmer.

System Programmer Response: Report the error to IBM Software Support Center.

APP0838E   The user ID is too long. The user ID must be between 1 and 8 characters in length.

Explanation: An ANAME command was entered that contained a user ID that was too long. The user ID must be 8 characters or less.

User Response: None.

System Programmer Response: Correct the user ID and enter the command again.

APP0839E   The password is too long. The password must be between 1 and 8 characters in length.

Explanation: An ANAME command was entered that contained a password that was too long. The password must be 8 characters or less.

User Response: None.

System Programmer Response: Correct the password and enter the command again.

APP0840E   A user ID was not supplied. The specified security setting requires a user ID and a password.

Explanation: The security setting ANAME_SECURITY_PROGRAM was specified. This security setting requires both a user ID and a password. A password was specified but a user ID was not. If a password is specified, a user ID is required.

User Response: None.

System Programmer Response: Enter the command again using both a user ID and password.

APP0841E   A password was not supplied. The specified security setting requires a user ID and a password.

Explanation: The security setting ANAME_SECURITY_PROGRAM was specified. This security setting requires both a user ID and a password. A user ID was specified but a password was not. If a user ID is specified, a password is required.

User Response: None.

System Programmer Response: Enter the command again using both a user ID and password.

APP0845E   The buffer supplied for the user name field was too small to store the user name. Supplied buffer = *length* bytes. Required = *required* bytes.

Explanation: An internal error occurred.

User Response: Save the ANAME error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0846E   The buffer supplied for the fully qualified LU name field was too small to store the fully qualified LU name. Supplied buffer = *length* bytes. Required = *required* bytes.

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0847E   The buffer supplied for the group name field was too small to store the group name. Supplied buffer = *length* bytes. Required = *required* bytes.

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0848E   The buffer supplied for the transaction program name field was too small to store the transaction program name. Supplied buffer = *length* bytes. Required = *required* bytes.

Explanation: An internal error occurred.

User Response: Save the facility's error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0849E   The field key *key* was returned in the lineflow and is not recognized.

Explanation: If the preceding message indicates that this error was detected on the local side, it is possible that the server's transaction program (TP) definition is configured to start the wrong program.

If the preceding message indicates that this error was detected on the remote side, an internal error occurred.

User Response: Save the ANAME error log and contact the system programmer.

System Programmer Response: First, check the ANAME configuration to make sure that the server's TP definition is configured to start the ANAMED transaction program. For additional information about ANAME configuration, see *z/OS Communications Server APPC Application Suite Administration*.

If a configuration error is not found, report the problem to the IBM Software Support Center.

APP0850E   The major code *code* **was returned in the lineflow and is not recognized.**

Explanation: If the preceding message indicates that this error was detected on the local side, it is possible that the server's transaction program (TP) definition is configured to start the wrong program. Otherwise, an internal error occurred.

If the preceding message indicates that this error was detected on the remote side, an internal error occurred.

User Response: Save the ANAME error log and contact the system programmer.

System Programmer Response: First, check the ANAME configuration to make sure that the server's TP definition is configured to start the ANAME server program. (The default ANAME server program name is ANAMED.) For additional information about ANAME configuration, see *z/OS Communications Server APPC Application Suite Administration*.

If a configuration error is not found, report the problem to the IBM Software Support Center.

APP0900E   You must specify a destination.

Explanation: The APING command was entered without a destination.

User Response: A destination must be given for APING to operate. Enter the command again supplying a destination.

System Programmer Response: None.

APP0901E   Error allocating memory buffer.

Explanation: There is not enough memory to process commands.

User Response: Contact the system programmer. When the problem is corrected, enter the command again.

System Programmer Response: Correct the memory problem using diagnostic information provided by operating system messages and VTAM messages.

APP0902E   Partner did not send the expected number of records.

Explanation: An internal error occurred.

User Response: Save the APING error log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP0903E   Only one destination may be specified

Explanation: The APING command failed because more than one destination was specified and only one destination is allowed.

User Response: Enter the APING command again using only one destination.

System Programmer Response: None.

APP0904E   Size (-s) of *packet_size* **too large. Setting size to** *max_size***.**

Explanation: The packet size (-s) specified on the APING was too large. APING set the size to 32763 bytes, which is the maximum allowed, and continued.
   packet_size is the packet size (-s) that was specified in the APING command.
   max_size is 32763 bytes

User Response: If the packet size specified was typed incorrectly, correct the packet size and enter the command again.

System Programmer Response: None.

APP0905E   Invalid flag. Use APING - ? for usage.

Explanation: The APING command contained a flag that is not recognized.

User Response: Correct the flag and enter the command again.

System Programmer Response: None.

APP0912E   You cannot specify security none with user ID and password.

Explanation: The aping command failed because the command contained a -u flag with a user ID, a -p flag with a password, and a -n flag, which specifies security none. The -n flag is not allowed with the -u and -p flags are specified.

User Response: Enter the aping command and omit either the -n flag or the user ID and password.

System Programmer Response: None.

APP0913E   An incorrect parameter value was entered.

Explanation: The aping command contained a parameter value that is not valid. An additional message will follow indicating which parameter value is incorrect.

User Response: Correct the parameter value and enter the aping command again.

System Programmer Response: None.

APP0914E **The** *flag* **flag parameter value must be a positive integer.**

Explanation: The aping command contained a parameter value that either was not a number, or was a negative number. Only positive numbers greater than or equal to 0 are allowed.

 flag is the flag that contained the incorrect parameter value.

User Response: Correct the parameter value and enter the aping command again.

System Programmer Response: None.

APP0915E **A parameter value is required following the** *flag* **flag.**

Explanation: A flag was found on the aping command that is missing a parameter value. A parameter value is required

 flag is the flag that was specified on the aping command.

User Response: Enter the APING command again, and specify a parameter value with the *flag* flag.

System Programmer Response: None.

APP0916E **When a password is specified, a user ID is required.**

Explanation: The aping command failed because the command contained a -p flag (password), but the -u flag (user ID) was missing. When a password is specified, a user ID is required.

User Response: Enter the aping command again, and specify both the -u flag and the -p flag.

System Programmer Response: None.

APP0917E **The block received from the server was not the correct size.**

Explanation: A server sent an incorrect amount of data. This error can occur when the server you are connected to is not an APING server.

If you are connected to an APING server, an internal error occurred.

User Response: Contact your system programmer.

System Programmer Response: First, check APING server's configuration to make sure that the server's TP definition is configured to start the APINGD transaction program.

If the APING server's configuration is correct, contact the IBM Software Support Center.

APP0918E **Expected blocks:** *expected*. **Send permission received after block** *block*.

Explanation: This message supplies additional information for message APP0902E, and is written to the APING error log.

APP0919E **The server would not exchange APING version information.**

Explanation: An internal error occurred.

User Response: Save the APING error log and contact your system programmer.

System Programmer Response: Contact the IBM Software Support Center.

APP1005E **A connection to** *client_luname* **was closed because the A3270 server detected a protocol error.**

Explanation: The A3270 server closed a connection to an A3270 client because the client violated the A3270 protocol. Although the client negotiated to provide the RH and sequence number, the client sent a record of less than 5 bytes.

System Action: The A3270 server closes the connection to the client. Processing continues for other clients.

Operator Response: Contact the system programmer.

System Programmer Response: Report the problem to the client's system programmer.

APP1006E **A connection to** *client_luname* **was terminated due to an internal error in the A3270 server.**

Explanation: An internal error occurred.
 client_luname is the LU name of the A3270 client to which a connection was closed.

System Action: Processing continues for other clients.

Operator Response: Save the console log and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center

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APP1007E **A connection request from** *client_luname* **could not be accepted because the server has reached the maximum number of supported clients.**

Explanation: The A3270 server rejected a connection request from an A3270 client because the server has reached the maximum number of clients it can support.
 client_luname is the LU name of the A3270 client that was rejected.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: The maximum number of clients that the A3270 server can support is specified on the maxclients parameter in the A3270 server initialization file. To increase the number of clients the A3270 server can support, shutdown the server and increase the value on the maxclients parameter.

Note: The maxclients parameter cannot be changed when the server is running.

APP1008E   A connection to *client_luname* **was closed because the client sent an unrecognized data record.**

Explanation: This error is caused by an internal error in the client software.
  client_luname is the LU name of the client that sent the unrecognized data record.

System Action: The A3270 server closes the connection to the client. Processing continues for other clients.

Operator Response: Contact the system programmer.

System Programmer Response: Report the problem to the client's system programmer.

APP1009E   A connection to *client_luname* **was closed because the client was not following the A3270 protocol.**

Explanation: This error is caused by an internal error in the client software.

System Action: The A3270 server closes the connection to the client. Processing continues for other clients.

Operator Response: Contact the system programmer.

System Programmer Response: Report the problem to the client's system programmer.

APP1010E   APPC conversation *conversation_ID* **was closed because the conversation was not following the A3270 protocol.**

Explanation: Either an internal error occurred in the A3270 client software, or the A3270 client is not configured correctly.
  conversation_ID is the APPC conversation.

System Action: The A3270 server closes the connection to the client. Processing continues for other clients.

Operator Response: Contact the system programmer.

System Programmer Response: Report the problem to the client's system programmer.

APP1011E   A connection to *client_luname* **was closed because A3270 could not read data from its logical terminal.**

Explanation: The A3270 server closed a connection to an A3270 client because the server was not able to read data from the client's logical terminal. This message may be preceded or followed by operating system messages or VTAM messages that provide additional information about the error.
  client_luname is the client's LU name.

System Action: The A3270 server closes the connection to the client. Processing continues for other clients.

Operator Response: Contact the system programmer.

System Programmer Response: Report the problem to the client's system programmer.

APP1012E   A connection to *client_luname* **was closed because A3270 could not write data to its logical terminal.**

Explanation: The A3270 server closed a connection to an A3270 client because the server was not able to write data to the client's logical terminal. This message may be preceded or followed by operating system messages or VTAM messages that provide additional information about the error.
  client_luname is the client's LU name.

System Action: The A3270 server closes the connection to the client. Processing continues for other clients.

Operator Response: In VM, save the console log, In MVS, save the job log. Contact the system programmer.

System Programmer Response: Use the diagnostic information provided by operating system messages and VTAM messages to determine the cause of the error.

APP1013E   A connection to *client_luname* **was closed because A3270 could not open a logical terminal for the client.**

Explanation: The A3270 server closed a connection to an A3270 client because the server was not able to open a logical terminal for the client. This message is preceded or followed by operating system messages or VTAM messages that provide additional information about the error.
  client_luname is the client's LU name

System Action: Processing continues for other clients.

Operator Response: In VM, save the console log, In MVS, save the job log. Contact the system programmer.

System Programmer Response: Use the diagnostic information provided by operating system messages

and VTAM messages to determine the cause of the error.

APP1014E   A connection to *client_luname* **was terminated because the client sent a sense code of** *sense_code*.

Explanation: The A3270 server closed a connection to an A3270 client because the client sent a LU 2 sense code that indicates a problem with the LU 2 datastream.

System Action: Processing continues for other clients.

Operator Response: Save the console log and, in MVS, the job log, and contact the system programmer.

System Programmer Response: Use the diagnostic information provided by the A3270 client to determine the cause of the error.

APP1015E   APPC conversation *conversation_ID* **was terminated due to an unexpected internal error in the A3270 server.**

Explanation: The A3270 server ended a conversation with an A3270 client because an internal error occurred. *conversation_ID* is the conversation identifier.

System Action: The A3270 server closes the connection to the client. Processing continues for other clients.

Operator Response: In VM, save the console log, In MVS, save the job log. Contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP1016E   APPC conversation *conversation_ID* **was terminated because the server had no memory available to support it.**

Explanation: The A3270 server ended a conversation with an A3270 client because the server did not have enough memory to process the conversation.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: Correct the memory problem using diagnostic information provided by operating system messages and VTAM messages.

APP1017E   The defaultlus parameter was specified twice in the A3270 initialization file. Only one defaultlus parameter is allowed.

Explanation: More than one defaultlus parameter was found in the A3270 initialization file. Only one is allowed.

System Action: The server exits.

Operator Response: None.

System Programmer Response: Correct the A3270 initialization file and start the A3270 server again. For additional information about the A3270 initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP1018E   The defaultappl parameter was specified twice in the A3270 initialization file. Only one defaultappl parameter is allowed.

Explanation: More than one defaultappl statement was found in the A3270 initialization file. Only one is allowed.

System Action: The server exits.

Operator Response: None.

System Programmer Response: Correct the A3270 initialization file and start the A3270 server again. For additional information about the A3270 initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP1019I   Shutdown has been requested; the A3270 server will exit shortly.

Explanation: The operator issued a HALT command. The server is stopping.

System Action: The A3270 server stops.

Operator Response: None.

System Programmer Response: None.

APP1020E   Unrecognized A3270 command; enter HELP for help.

Explanation: A command was issued that the A3270 server did not recognize.

System Action: Processing continues.

Operator Response: Correct the command and try again. For additional information about A3270 commands, enter the help command or see *z/OS Communications Server APPC Application Suite Administration*.

System Programmer Response: None.

APP1021I   Connection *logical device* **will be terminated.**

Explanation: The operator entered the A3270 terminate command to close the connection to a logical device.
logical device is the name of the logical device specified on the A3270 command.

System Action: The A3270 server closes the connection to the logical device.

Operator Response: None.

System Programmer Response: None.

APP1022E **Enter "help** *command_name*" **for help on how to use the "***command***" command.**

Explanation: An A3270 command was entered incorrectly.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: Correct the command and try again. For additional information about the A3270 commands, see *z/OS Communications Server APPC Application Suite Administration*.

APP1023I **1 connection to** *resource* **is being terminated.**

Explanation: The operator entered the A3270 terminate command to close all connections to an &a3270 client or logical device. There is one connection to close.

    resource is the name of the resource specified on the terminate command

System Action: The A3270 server closes the connection to the resource.

Operator Response: None.

System Programmer Response: None.

APP1024I *number* **connections to** *client_luname* **are being terminated.**

Explanation: The operator entered an A3270 terminate command to close all connections to an &a3270 client.

    number is the number of connections that are closing
    client_luname is the LU name of the client specified on the terminate command

System Action: The A3270 server closes all connections to the A3270 client.

Operator Response: None.

System Programmer Response: None.

APP1025I **There is no connection to resource** *resource*. **Enter display clients to list all the currently active users.**

Explanation: The operator issued an A3270 command to close all connections to an A3270 client or to a logical device, but there are no connections to that resource.

    resource is the name of the resource specified on the command.

System Action: Processing continues.

Operator Response: If the resource name was typed incorrectly, correct the resource name and enter the command again. For additional information about the A3270 commands, see *z/OS Communications Server APPC Application Suite Administration*.

System Programmer Response: None.

APP1026I **Clients will be polled every** *n* **seconds.**

Explanation: The A3270 set polling command was either entered by the operator or found in the A3270 profile. The server will poll each client every *n* seconds to determine if the client is still active.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1027E **Please use a positive number for number of seconds between polling of clients, or 0 to turn off polling of clients.**

Explanation: The A3270 set polling command failed because a negative number was specified, and negative numbers are not allowed.

System Action: Processing continues.

Operator Response: Correct the number of seconds and enter the command again. For additional information about the A3270 commands, see *z/OS Communications Server APPC Application Suite Administration*.

System Programmer Response: None.

APP1028E **Enter help for a list of valid A3270 commands.**

Explanation: To display a list of valid A3270 commands, enter the help command.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1029E **The &a3270 set timeout command failed. The timeout value must be more than** *n* **seconds.**

Explanation: The A3270 set timeout command failed because the requested timeout value was lower than the minimum timeout value allowed.

System Action: Processing continues.

Operator Response: Correct the command and try again. For additional information about the A3270 commands, see *z/OS Communications Server APPC Application Suite Administration*.

System Programmer Response: None.

APP1030E **A syntax error in the A3270 initialization file near token** *token* **on line** *line_number***.**

Explanation: The A3270 initialization file contains a syntax error.
> *token* is a string or character near the error.
> *line_number* is the line number on which the error was found.

System Action: The A3270 server stops.

Operator Response: None.

System Programmer Response: Correct the A3270 initialization file and start the server again. For additional information about the A3270 initialization file, see *z/OS Communications Server APPC Application Suite Administration*.

APP1031I **Maximum number of clients served:** *maxclients*

Explanation: This message is part of the A3270 status display and indicates the maximum number of clients that can be connected to the A3270 server at one time.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1032I **Inactive clients will be terminated after** *seconds* **seconds.**

Explanation: Inactive clients will be terminated after *seconds* seconds. The A3270 server issues this message when the operator queries or sets the inactivity timeout parameter.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1033I **Inactive clients will not be terminated.**

Explanation: The inactivity timeout parameter is set to zero. The inactivity timeout parameter either was omitted from the A3270 initialization file or was set to 0 using the set command.

System Action: Processing continues.

Operator Response: You can change the inactivity timeout timer using the A3270 set command. For information about the set command, see the *z/OS Communications Server APPC Application Suite Administration*.

System Programmer Response: None.

APP1034I **The A3270 server will shut down when all clients have closed their connections.**

Explanation: The operator issued an A3270 halt normal command. When connections to all clients are closed, the A3270 server will shut down. The server will not accept new connections.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1035E **The command you entered was not read successfully. Please enter it again.**

Explanation: An A3270 command failed because an input/output error occurred.

System Action: Processing continues.

Operator Response: Enter the command again.

System Programmer Response: None.

APP1036I **Current clients being served:** *n*

Explanation: The A3270 server displays this message when the operator enters either a status command or a display clients command.
> *n* is the number of clients currently connected to the A3270 server.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1037I **There are no clients currently connected to the A3270 server.**

Explanation: The A3270 server displays this message when the operator enters either a status command or a display clients command and no A3270 clients are connected to the A3270 server.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1038I **There is no connection to address** *logical_terminal***. Enter the display clients command to list active clients.**

Explanation: The operator issued a terminate command to close the connection to an A3270 client, but there is no A3270 client connected to the logical terminal address specified in the terminate command.

System Action: Processing continues.

Operator Response: Correct the logical terminal address and enter the command again. You can verify the client's logical terminal address using the display clients command.

System Programmer Response: None.

APP1039I   **Clients will not be polled.**

Explanation: The A3270 server displays this message when the operator sets or queries the polling frequency, or when a set polling command is found in the server profile. This message indicates that clients will not be polled.

System Action: Processing continues.

Operator Response: None if A3270 clients should not be polled. Otherwise start client polling using the set polling command. For information about the set polling command, see *z/OS Communications Server APPC Application Suite Administration*.

System Programmer Response: None.

APP1040I   **The server has been running for** *time*

Explanation: This message is one of several messages in the status display and indicates the length of time the server has been active.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1041I   **A3270 server version** *major*.*minor*

Explanation: This message is one of several messages in the status display and indicates the version number of the server that is active.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1042I   **Total number of clients served:** *n*

Explanation: This message is one of several messages in the status display and indicates the number of clients served by the A3270 server since the server was started.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1044I   **Clients being terminated:** *n*

Explanation: This message is one of several messages in the status display and indicates the number of clients that are being terminated.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1045I   **Data blocks sent to clients:** *blocks*

Explanation: This message is one of several messages in the status display and indicates that the A3270 server has sent a total of *blocks* data blocks to clients since it was started.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1046I   **Clients performing negotiation:** *n*

Explanation: This message is one of several messages in the A3270 status display and indicates the number of clients that are negotiating startup options with the A3270 server.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1047I   **Clients performing setup:** *n*

Explanation: This message is one of several messages in the A3270 status display and indicates the number of clients that are setting up their APPC connection to the A3270 server.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1048I   **Total data blocks received from clients:** *blocks*

Explanation: This message is one of several messages in the A3270 status display and indicates that a total of *blocks* data blocks have been received from clients.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1049I   A3270 terminal server version
**   *major*.*minor* starting.**

Explanation: This message is displayed as the A3270
server starts up and indicates which version of the
server is being used.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1050E   A connection to *partner* was
**   terminated. The A3270 server could not**
**   obtain enough memory to support the**
**   APPC conversation.**

Explanation: The A3270 server ended a conversation
with an A3270 client because the server could not
obtain enough memory to process the APPC
conversation.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: Correct the memory
problem using diagnostic information provided by
operating system messages and VTAM messages.

APP1051I   A3270 server is ready to accept clients.

Explanation: This message indicates that the A3270
server is started and is ready to accept connections
from clients.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1053I   Connection to *client_luname* timed out.

Explanation: The A3270 server closed a connection to
an A3270 client because the client was inactive.
      client_luname is the LU name of the A3270 client.

System Action: The A3270 server closes the
connection to the client. Processing continues for other
clients.

Operator Response: None.

System Programmer Response: None.

APP1054I   Terminating a connection to
**   *client_luname*.**

Explanation: The A3270 server closed the connection
to an A3270 client.
      client_luname is the LU name of the A3270 client.

System Action: The A3270 server closes the
connection to the client. Processing continues for other
clients.

Operator Response: None.

System Programmer Response: None.

APP1055E   There is not enough memory to start
**   the A3270 server.**

Explanation: There is not enough memory to start the
A3270 server.

System Action: The A3270 server exits.

Operator Response: None.

System Programmer Response: Correct the memory
problem using diagnostic information provided by
operating system messages and VTAM messages.
When the problem is corrected, start the A3270 server
again.

APP1056E   The A3270 server cannot start because
**   another instance of this server is**
**   already running.**

Explanation: An attempt was made to start a second
instance of the A3270 server. Only one instance of the
A3270 server can be running in a given VM system,
and an instance of the server is already running.

System Action: The second instance of the A3270
fails.

Operator Response: None.

System Programmer Response: None.

APP1057E   Error with the C runtime library. Make
**   sure you have a supported version of**
**   the C runtime library.**

Explanation: An error was detected in the C runtime
library. It is possible that an unsupported version of the
C runtime library is installed.

System Action: The A3270 server exits.

Operator Response: Contact the system programmer.

System Programmer Response: Insure that you
have a supported version of the C runtime library
installed. If the problem persists, contact the IBM
Software Support Center.

APP1058I   The A3270 server is unable to use the
**   timer delay facility.**

Explanation: The A3270 server uses the virtual timer
facility for its operation, but the server could not make
use of the virtual timer.

System Action: The A3270 server exits.

Operator Response: None.

System Programmer Response: Contact the IBM
Software Support Center.

APP1059E   The A3270 server could not start APPC/VM; the return code was *return_code***.**

Explanation: The A3270 server could not start APPC/VM, and APPC/VM is required to run the server.

System Action: The A3270 server exits.

Operator Response: None.

System Programmer Response: Insure that APPC/VM is installed and operational and that a global gateway is defined for the A3270 server. If the problem persists, contact the IBM Software Support Center.

APP1060E   The A3270 server could not be started due to an unexpected error condition.

Explanation: An internal error occurred.

System Action: The A3270 server exits.

Operator Response: Save the console logs and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP1061E   The A3270 server cannot start.

Explanation: This message is displayed when the server was unable to start. This message is preceded by operating system messages or VTAM messages that provide additional information about the error.

System Action: The A3270 server exits.

Operator Response: None.

System Programmer Response: Use the information provided by the preceding messages to determine the cause of the error.

APP1062E   The A3270 initialization file *filename* **is not in a valid format.**

Explanation: When the server starts, it attempts to open the A3270 initialization file. This message indicates that the initialization file was opened, but the file format is incorrect. This error can occur when the initialization file:
- Has a logical record length greater than 254
- Contains a comment which is not terminated.
- Contains binary data rather than EBCDIC text.
     filename is the name of the A3270 initialization file.

System Action: The server exits.

Operator Response: None.

System Programmer Response: Correct the initialization file and start the server again.

APP1063E   The A3270 initialization file *filename* **was not found. The A3270 server will use its default settings**

Explanation: When the server starts, it attempts to open the A3270 initialization file. This message indicates that initialization file was not found.
     filename is the name of the A3270 initialization file.

System Action: Processing continues.

Operator Response: If you do not want the A3270 server to operate with default settings, stop the server and contact the system programmer. Otherwise, no action is necessary.

System Programmer Response: Make sure the A3270 initialization file is installed correctly.

APP1064I   The A3270 initialization file *filename* **was opened successfully.**

Explanation: The A3270 initialization file was opened successfully. The A3270 server will now process the statements in file.
     filename is the name of the A3270 initialization file.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1065E   The ACB name *name* **in the A3270 initialization file profile is too long. ACB names cannot exceed** *maxlen***.**

Explanation: The A3270 initialization file contains an ACB name that is too long.
     name is the ACB name that is too long.
     maxlen is the maximum length allowed in an ACBNAME.

System Action: Processing continues. The ACB name is truncated to the maximum number of characters allowed.

Operator Response: None.

System Programmer Response: Correct the ACB name in the initialization file and start the A3270 server again.

APP1066I   Beginning self tests.

Explanation: The server is running internal self-tests, either as a result of an operator request or for periodic self-testing.

System Action: Processing continues. If self-tests detect an error, an error message will be displayed.

Operator Response: None.

System Programmer Response: None.

APP1067I   Self tests have completed.

Explanation: The server has completed running its self-tests. If errors were found, error messages will have been displayed.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1068E   Outgoing data queue *queue* **is** *current_size* **elements long, but should be** *correct_size* **elements long.**

Explanation: This message indicates that one of the server self-tests failed.

System Action: Processing continues.

Operator Response: Contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP1069E   The selftest command cannot be used in the A3270 initialization file. The command was ignored.

Explanation: The selftest command cannot be used in the A3270 initialization file. The selftest command is used to verify that the server is operating correctly, and it can only be issued while the server is active.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: Correct the A3270 initialization file and start the server again.

APP1070E   There are *active* **active users, but CurrentClients holds** *number***.**

Explanation: An A3270 self-test failed.

System Action: Processing continues.

Operator Response: Save the console log and, in MVS, the job log, and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP1071E   The read path to partner *client_luname.* **failed the self test. IUCV return code was** *return_code***.**

Explanation: One of the A3270 self tests failed.

System Action: Processing continues.

Operator Response: In VM, save the console log. In MVS, save the job log. Contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center.

APP1072E   The write path to *client_luname* **failed the self-test; IUCV return code was** *return_code***.**

Explanation: This message indicates that one of the server self-tests failed.

System Action: Processing continues.

Operator Response: Save the console log and, in MVS, the job log, and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center

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APP1073E   The incoming queue tail was not properly terminated. The problem was corrected automatically.

Explanation: An A3270 server self-test failed.

System Action: Processing continues.

Operator Response: Save the console log and, in MVS, the job log, and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center

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APP1074E   The incoming queue has lost *n* **elements.**

Explanation: An A3270 server self-test failed. *n* is the number of elements that were lost.

System Action: Processing continues.

Operator Response: Save the console log and, in MVS, the job log, and contact the system programmer.

System Programmer Response: Report the problem to the IBM Software Support Center

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APP1075E   This virtual machine is not authorized to define a global resource.

Explanation: In VM, virtual machines must be authorized to define a global resource. To authorize a virtual machine to define a global gateway, place the following statement in the virtual machine's profile:

```
IUCV *IDENT RESANY GLOBAL
```

System Action: The A3270 server exits.

Operator Response: None.

System Programmer Response: Correct the A3270 server virtual machine's profile and start the A3270 server again.

APP1076I **The beginvtam command and related configuration commands are used only in the MVS version of the A3270 server. The command was ignored.**

Explanation: The A3270 initialization file contained a beginvtam command, but this statement is only used on the MVS operating system. The beginvtam command and associated sub-commands are ignored.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: Correct the A3270 server initialization file and start the server again.

APP1077E **The application name *name* in the A3270 initialization file profile is too long. The name was truncated to 8 characters.**

Explanation: An application name was found in the A3270 server profile that is too long.
name is the application name that is too long.

System Action: Processing continues. The application name is truncated to the maximum number of characters allowed, which is 8 characters.

Operator Response: None.

System Programmer Response: Correct the application name and start the A3270 server again.

APP1078I **LDSF ID Partner LU Name Read path Write path State**

Explanation: This line is output as a header when in response to a display clients command. This line describes the fields which will make up the client listing. The fields are as follows:

Field   Meaning

LDSF ID
This is the logical terminal number which has been opened for this client session. If this field is blank, then no logical terminal has been opened for this client yet.

Partner LU Name
This gives the LU name of this client.

Read path
This field gives the conversation ID assigned to the APPC conversation the server will use for reading data from this client.

Write path
This field gives the conversation ID assigned to the APPC conversation the server will use for writing data to this client.

State   This indicates what state the client is in. See
z/OS Communications Server APPC

Application Suite Administration for a description of the states of A3270 clients.

System Action: Processing continues

Operator Response: None

System Programmer Response: None

APP1080I **LU Name Partner LU Name Read path Write path State**

Explanation: This line is output as a header when in response to a display clients command. This line describes the fields which will make up the client listing. The fields are as follows:

Field   Meaning

LU Name
This is the LU name of the logical terminal number which has been opened for this client session. If this field is blank, then no logical terminal has been opened for this client yet.

Partner LU Name
This gives the LU name of this client.

Read path
This field gives the conversation ID assigned to the APPC conversation the server will use for reading data from this client.

Write path
This field gives the conversation ID assigned to the APPC conversation the server will use for writing data to this client.

State   This indicates what state the client is in. See
z/OS Communications Server APPC Application Suite Administration for a description of the states of A3270 clients.

System Action: Processing continues

Operator Response: None

System Programmer Response: None

APP1082E **The VTAM ACB used by A3270 for APPC communication is no longer available. The A3270 server will now shut down.**

Explanation: The A3270 server is no longer able to access its APPC ACB to communicate with VTAM. Common causes of this problem:
• VTAM has been shut down.
• Either the application program minor node or major node is stopped.

System Action: The A3270 server exits.

Operator Response: None

System Programmer Response: Correct the error and start the server again.

APP1083E   The A3270 server could not open the VTAM ACB *name***.**

Explanation: The APPC ACB name specified in the A3270 initialization file could not be opened. Common causes of this problem:
- VTAM has been shut down.
- Either the application minor node or major node is not active.
- The ACB name is specified incorrectly in the A3270 initialization file.
- Another application, most likely an A3270 server, is already started and opened the ACB.

System Action: The A3270 server stops.

Operator Response: None.

System Programmer Response: Determine whether VTAM, the application major node, and the application minor node are active. If so:
- Ensure that the ACB name is specified correctly in the A3270 initialization file.
- Ensure that the ACB name is unique.

When the problem is corrected, start the server again.

APP1084E   An ACBNAME command was found in the A3270 initialization file. The ACBNAME command is not supported on VM.

Explanation: An ACBNAME command was found in the A3270 initialization file, but the ACBNAME command is not supported on VM. On VM, the server's LU name is determined by the LU name of the global gateway defined in APPC/VM VTAM support (AVS).

System Action: The A3270 server stops.

Operator Response: None.

System Programmer Response: Remove the ACBNAME command from the initialization file and start the server again.

APP1085E   The terminal type name *name* **specified in the A3270 initialization file is too long. Terminal type names must be** *max_length* **or less.**

Explanation: The A3270 initialization file contains a terminal type name that is too long.

System Action: The A3270 server stops.

Operator Response: None.

System Programmer Response: Correct the terminal type name in the initialization file and start the server again.

APP1086E   The logmode name *name* **specified in the A3270 initialization file is too long. Logmode names must be** *max_length* **or less.**

Explanation: The A3270 server profile contains a logmode name that is too long. Logmode names are used with terminal type definitions.

System Action: The A3270 server stops.

Operator Response: None.

System Programmer Response: Correct the logmode name in the A3270 initialization file and start the server again.

APP1087I   *Terminal ID LU name Read path ID Write path ID Conversation state*

Explanation: This message is output as part of a client display. It gives information about a single connection to the A3270 server. This message will be preceded by either message APP1078I or APP1080I. For information about the fields displayed, see the explanation for the preceding message.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1088E   Clients may not be polled more frequently than every *period* **seconds.**

Explanation: A set polling command was issued, but the interval between polling clients was incorrect. The polling interval must be at least *period* seconds.

System Action: Processing continues. The command is ignored.

Operator Response: Correct the command and try again. For additional information about the set polling command, see *z/OS Communications Server APPC Application Suite Administration*.

System Programmer Response: None.

APP1089E   A VTAM API call for client *client_luname* **failed:**

Explanation: A call to the VTAM API failed. This message begins a series of messages that display return code information.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: Investigate the return codes indicated in message APP1090E to determine whether configuration or network problems caused the failure.

APP1090E Request Type=*request_type*
RC=*return_code* FDB2=*fdb2*
ARG=*argument* SENSE=*sense_code*

Explanation: A call to the VTAM API failed. This message is one of a series of messages that display return code information.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: If the Request Type is APPCCMD, additional return code information is displayed in message APP1091E. See *z/OS Communications Server: SNA Programmers LU 6.2 Guide* and *z/OS Communications Server: SNA Programmers LU 6.2 Reference* for information regarding the RC, FDB2, ARG, and SENSE values displayed in the message.

APP1091E APPCCMD type=*type* RCPRI=*rcpri*
RCSEC=*rcsec* CONVID=*convid*

Explanation: A call to the VTAM APPCCMD API failed. This message is one of a series of messages that display return code information.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: Use this information to determine the cause of the VTAM APPCCMD problem. See *z/OS Communications Server: SNA Programmers LU 6.2 Guide* and *z/OS Communications Server: SNA Programmers LU 6.2 Reference* for information about the RCPRI, RCSEC, and CONVID values displayed in the message.

APP1092E The A3270 server has experienced a severe storage shortage. Stop the server as soon as possible to avoid loss of data.

Explanation: The A3270 server does not have enough storage to continue operation. Data might be lost.

System Action: Processing continues.

Operator Response: Stop the A3270 server as soon as possible and contact the system programmer.

System Programmer Response: Correct the memory problem using diagnostic information provided by operating system messages and VTAM messages. It is possible that you need to allocate more storage to the server's VM ID or MVS job. When the problem has been corrected, start the server again.

APP1093E A connection to *client_luname* ended due to an unexpected deallocate-abend on one of the APPC conversations.

Explanation: The A3270 server received a deallocate from an A3270 client indicating that the client ended abnormally.

System Action: The A3270 server closes the connection to the client. Processing continues for other clients.

Operator Response: None.

System Programmer Response: None.

APP1094E A connection to *client_luname* ended due to an unexpected return code on one of the APPC conversations.

Explanation: VTAM received an unexpected return code from one of the APPC conversations with an A3270 client and the APPC conversation failed. *client_luname* is the LU name of the client with which the APPC conversation failed.

System Action: The A3270 server closes the connection to the client. Processing continues for other clients.

Operator Response: None.

System Programmer Response: None.

APP1095I The A3270 server is now exiting.

Explanation: The A3270 server has shut down either as a result of an operator request or an error condition.

System Action: None. The A3270 server is no longer active.

Operator Response: None.

System Programmer Response: None.

APP1097E The HALT command was found in the A3270 initialization file.

Explanation: The HALT command was found in the A3270 server initialization file. The command is not allowed in the initialization file.

System Action: The server stops.

Operator Response: None.

System Programmer Response: Remove the HALT command from the initialization file and start the server again.

APP1098E   The maximum number of connections may not be set to more than *maxclients*.

Explanation: The maxclients command in the A3270 server initialization specified a number of clients greater than the maximum allowed.
  maxclients is the maximum number of clients that the A3270 server can support.

System Action: The A3270 server stops.

Operator Response: Correct the A3270 server initialization file and start the server again.

System Programmer Response: None.

APP1099I   Clients active: *n*

Explanation: This message is one of several messages in the A3270 status display and indicates the number of active clients. A client is considered active when a 3270 session is established for that client.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1100E   The maxclients command cannot be entered on the command line.

Explanation: The maxclients command was entered on the command line, but this command can only be issued from the A3270 initialization file.

System Action: Processing continues.

Operator Response: To change the maximum number of clients supported by the A3270 server, you must change the maxclients command in the initialization file and restart the server.

System Programmer Response: None.

APP1101E   The maximum number of connections must be set to a number.

Explanation: The maxclients command found in the A3270 initialization file contained a value that was not a number. The maxclients command must be set to a numeric value of up to 32 000.

System Action: The server stops.

Operator Response: Correct the maxclients command in the A3270 initialization file and restart the server.

System Programmer Response: None.

APP1102E   The maxclients command may only be given once in the server profile.

Explanation: The A3270 initialization file contains more than one maxclients command. Only one maxclients command is allowed.

System Action: The server stops.

Operator Response: Correct the A3270 initialization file and restart the server.

System Programmer Response: None.

APP1105I   Current connections from *lu_name***:** *number*

Explanation: This message is output when the operator requests a list of clients from a specific remote LU. It indicates the number of clients from that remote LU.

System Action: Processing continues.

Operator Response: None.

System Programmer Response: None.

APP1180E   The command *command name* **may not be given in the A3270 initialization file.**

Explanation: The specified command, *command name*, was entered in the A3270 initialization file. However, that command may not be given in the A3270 initialization file; it may only be given as a command to the A3270 server once it is operational.

System Action: The server stops.

Operator Response: Remove the command from the A3270 initialization file and restart the A3270 server.

System Programmer Response: None.

APP1181E   The name supplied in the initialization file for the default application ID is too long; application IDs must be no more than 17 characters long.

Explanation: A defaultappl statement was encountered in the A3270 initialization file, but the application ID that was specified was too long. Application IDs must not be more that 17 characters long.

System Action: The server stops.

Operator Response: Correct the DEFAULTAPPL statement to specify a valid application ID, and restart the A3270 server.

System Programmer Response: None.

APP3930E   Flag *flag* **can only be used once.**

Explanation: The aping command failed because the command contained more than one *flag* flag. This flag can only be used once.
  flag is the flag that was specified more than once.

User Response: Enter the aping command again, but only specify *flag* flag once.

System Programmer Response: None.

APP3931E   Expected block size was *expected***, but the received block size was** *actual***.**

Explanation: This message supplies additional information for message APP0917E, and is written to the APING error log.

Appendix D. Information Apars

This appendix lists information apars for IP and SNA books.

Notes:

1. Information apars contain updates to previous editions of the manuals listed below. Books updated for V1R2 are complete except for the updates contained in the information apars that may be issued after V1R2 books went to press.

2. Information apars are predefined for z/OS V1R2 Communications Server and may not contain updates.

IP Information Apars

Table 17 lists information apars for IP books.

Table 17. IP Information Apars

Title	z/OS CS V1R2	CS for OS/390 2.10 and z/OS CS V1R1	CS for OS/390 2.8	CS for OS/990 2.7	CS for OS/390 2.6	CS for OS/390 2.5
IP API Guide	ii12861	ii12371	ii11635	ii11558	ii11405	ii11144
IP CICS Sockets Guide	ii12862		ii11626	ii11559	ii11406	ii11145
IP Configuration			ii11620 ii12068 ii12353 ii12649	ii11555 ii11637 ii11995 ii12325	ii11402 ii11619 ii12066 ii12455	ii11159 ii11979 ii12315
IP Configuration Guide	ii12498	ii12362 ii12493				
IP Configuration Reference	ii12499	ii12363 ii12494 ii12712				
IP Diagnosis	ii12503	ii12366 ii12495	ii11628	ii11565	ii11411	ii11160 ii11414
IP Messages Volume 1	ii12857	ii12367	ii11630	ii11562	ii11408	ii11636
IP Messages Volume 2	ii12858	ii12368	ii11631	ii11563	ii11409	ii11281
IP Messages Volume 3	ii12859	ii12369	ii11632 ii12883	ii11564 ii12884	ii11410 ii12885	ii11158
IP Messages Volume 4	ii12860					
IP Migration	ii12497	ii12361	ii11618	ii11554	ii11401	ii11204
IP Network Print Facility	ii12864		ii11627	ii11561	ii11407	ii11150
IP Programmer's Reference	ii12505		ii11634	ii11557	ii11404	ii12496

Table 17. IP Information Apars (continued)

Title	z/OS CS V1R2	CS for OS/390 2.10 and z/OS CS V1R1	CS for OS/390 2.8	CS for OS/990 2.7	CS for OS/390 2.6	CS for OS/390 2.5
IP and SNA Codes	ii12504	ii12370	ii11917	Added TCP/IP codes to VTAM codes V2R6 ii11611	ii11361	ii11146 ii11097
IP User's Guide		ii12365	ii11625	ii11556	ii11403	ii11143
IP User's Guide and Commands	ii12501					
IP System Admin Guide	ii12502					
Quick Reference	ii12500	ii12364				

SNA Information Apars

Table 18 lists information apars for SNA books.

Table 18. SNA Information Apars

Title	z/OS CS V1R2	CS for OS/390 2.10 and z/OS CS V1R1	CS for OS/390 2.8	CS for OS/390 2.7	CS for OS/390 2.6	CS for OS/390 2.5
Anynet SNA over TCP/IP			ii11922	ii11633	ii11624	ii11623
Anynet Sockets over SNA			ii11921	ii11622	ii11519	ii11518
CSM Guide						
IP and SNA Codes		ii12370	ii11917	ii11611	ii11361	ii11097
SNA Customization	ii12872	ii12388	ii11923	ii11925 ii12008	ii11924 ii12007	ii11092 ii11621 ii12006
SNA Diagnosis	ii12490	ii12389	ii11915	ii11615	ii11357	ii11585
SNA Messages	ii12491	ii12382	ii11916	ii11610	ii11358	ii11096
SNA Network Implementation Guide	ii12487	ii12381	ii11911	ii11609 ii12683	ii11353 ii11493	ii11095
SNA Operation	ii12489	ii12384	ii11914	ii11612	ii11355	ii11098
SNA Migration	ii12486	ii12386	ii11910	ii11614	ii11359	ii11100
SNA Programming		ii12385	ii11920	ii11613	ii11360	ii11099
Quick Reference	ii12500	ii12364	ii11913	ii11616	ii11356	
SNA Resource Definition Reference	ii12488	ii12380 ii12567	ii11912 ii12568	ii11608 ii12569	ii11354 ii12259 ii12570	ii11094 ii11151 ii12260 ii12571
SNA Resource Definition Samples						

Appendix E. Notices

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Index

Special Characters

! command   52, 56
? command   53, 57
-1 parameter
   aping command   15
-a parameter
   acopy command   59
-b parameter
   acopy command   59
#BATCH   3
#BATCHSC   3
-c parameter
   aping command   15
-f parameter
   aname query command   35
-g parameter
   aname delete command   33
   aname query command   35
   aname register command   38
-h parameter
   acopy command   58
   aftp command   62
   aname command   32
   aname delete command   33
   aname query command   35
   aname register command   37
-i parameter
   aping command   15
#INTER   3
#INTERSC   3
-l parameter
   aname query command   36
   aname register command   38
-m parameter
   acopy command   59
   aping command   14
   modename command   93
-n parameter
   acopy command   60
   aping command   15
-p parameter
   acopy command   60
   aping command   15
-s parameter
   aname delete command   34
   aname query command   36
   aname register command   38
   aping command   15
-t parameter
   acopy command   59, 60
   aname delete command   34
   aname query command   36
   aname register command   38
   aping command   14, 15
   tpname command   109
-u parameter
   acopy command   60

-u parameter *(continued)*
   aname delete command   33
   aname query command   35
   aname register command   37
   aping command   15

Numerics

1-way (-1) parameter
   aping command   15

A

A3270 Emulator
   description   2
acopy command   58
   compared to AFTP command environment   48
adding directory to server   52, 92
adding records to ANAME database   22, 37
advanced program-to-program communication
   description   2
AFTP
   command environment   48
   command line interface   48
   common naming format   42
   current directory   41
   default settings for file transfer   48
   description   2, 39
   directories
      MVS   41
      OS/2   41
      VM   41
   file name mapping   48
   file structure, preserving   40
   file transfer type   40
   INI file   48
   MVS partitioned data sets, specifying   43
   MVS sequential files, specifying   43
   OS/2 files, specifying   45
   record format   40
   root directory   41
   user interface comparison   48
   user interfaces   39
   VM files, specifying   44
   wildcard characters   45, 46
aftp command   49, 62
AFTP command environment
   compared to acopy   48
   entering   49, 62
   leaving   49, 68, 78, 99
   overview   49
alias for network address
   ANAME description   2, 17
   locally defined alias   5
   symbolic destination name   4, 5
   user name   5, 18
   using   5

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