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EOSDIS Maintenance and Development Project

Release 7.20 Storage Management and Data Distribution Subsystems Database Design and Schema Specifications for the EMD Project

July 2007

Raytheon Company
Upper Marlboro, Maryland

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July 2007

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RESPONSIBLE ENGINEER

Robert Hartranft 7/9/2007

Robert Hartranft Date
EOSDIS Maintenance and Development Project

SUBMITTED BY

7/9/07

Art Cohen, Development Manager Date
EOSDIS Maintenance and Development Project

Raytheon Company
Upper Marlboro, Maryland

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Preface

This document is a formal contract deliverable. It requires Government review and approval within 45 business days. Changes to this document will be made by document change notice (DCN) or by complete revision.

Any questions should be addressed to:

Data Management Office
The EMD Project Office
Raytheon Company
1616 McCormick Drive
Upper Marlboro, Maryland 20774-5301

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This document describes the data design and database specification for the Subscription Server subsystem. It is one of eleven documents comprising the detailed database design specifications for each of the ECS subsystems.

The subsystem database design specifications for the as delivered system include:

311-EMD-100 Release 7.20 INGEST (INS) Subsystem Database Design and Schema Specifications for the EMD Project

311-EMD-101 Release 7.20 Science Data Server Database Design and Schema Specifications for the EMD Project

311-EMD-102 Release 7.20 Storage Management and Data Distribution Subsystems Database Design and Schema Specifications for the EMD Project

311-EMD-103 Release 7.20 Systems Management Subsystem Database Design and Schema Specifications for the EMD Project

311-EMD-104 Release 7.20 Order Manager Database Design and Schema Specifications for the EMD Project

311-EMD-105 Release 7.20 Spatial Subscription Server (SSS) Database Design and Schema Specifications for the EMD Project

311-EMD-106 Release 7.20 Data Pool Database Design and Schema Specifications for the EMD Project

Entity relationship diagrams (ERDs) presented in this document have been exported directly from software tools and in some cases contain too much detail to be easily readable within hard copy page constraints. The reader is encouraged to view these diagrams in portable document format (PDF) on the ECS Data Handling System (EDHS) world wide web (WWW) site. The universal resource locator (URL) is: http://edhs1.gsfc.nasa.gov.

Abstract

This document outlines the Release 7.20 "as-built" database design and database schema specifications for the combined Storage Management (STMGT) and Data Distribution (DDIST) Subsystems. It includes the entity-relationship diagram (ERD), physical database table definitions, and database software which includes listings of triggers and procedures. The ERD describes data entities and the association between these entities used within the STMGT Subsystem. Other information is also included to support database installation and life-cycle maintenance.

Keywords: data**,** database, design, specifications, configuration, installation, parameters, scripts, security, data model, replication, performance tuning, SQL server, Sybase, database security, triggers, procedures, scripts.

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1. Introduction

1.1 Identification

This Storage Management (STMGT) Subsystem Database Design and Database Schema Specifications document, Contract Data Requirement List (CDRL) Item 23, whose requirements are specified in under the Earth Observing System Data and Information System (EOSDIS) Maintenance and Development (EMD) Project, Contract NAS5-03098.

1.2 Scope

The *STMGT Subsystem Database Design and Database Schema Specifications* document describes the database that supports data requirements for the STMGT and DDIST Subsystems, Release 7.

1.3 Purpose

The purpose of the *STMGT Subsystem Database Design and Database Schema Specifications* document is to support the administrators of the combined STMGT/DDIST Subsystem database throughout its life cycle. Also, this document communicates the database specifications in sufficient detail to support other ongoing installation and operational activities (e.g., configuration management, data administration, system installation and maintenance).

1.4 Audience

The *STMGT Subsystem Database Design and Database Schema Specifications* document is intended to be used and maintained by ECS maintenance and operations staff. The document is organized as follows:

Section 1 provides information regarding the identification, scope, purpose and audience.

Section 2 provides a listing of related documents used to develop this document.

Section 3 contains a design overview of the database design including the entity relationship diagram (ERD) representing the physical data model, the database tables and columns, flat file usage and fields, triggers, and stored procedures.

Section 4 provides a description of performance and tuning features, i.e., indexes, caches for the STMGT Subsystem database implementation.

Section 5 provides the database security high level description of the preliminary security infrastructure including listings of anticipated users, groups, and permissions expected for preliminary operational use.

Section 6 provides listings of the scripts used for database installation, de-installation, backup and recovery, and other miscellaneous administration functions.

2. Related Documents

2.1 Applicable Documents

The following documents, including Internet links, are referenced in this document, or are directly applicable, or contain policies or other directive matters that are binding upon the content of this volume.

305-EMD-001	Release 7 Segment Design Specifications for the EMD Project
920-TDN-009	DAAC Hardware Database Mapping/NSIDC
920-TDE-009	DAAC Hardware Database Mapping/EDC
920-TDL-009	DAAC Hardware Database Mapping/LARC
920-TDS-009	DAAC Hardware Database Mapping/SMC
920-TDN-010	DAAC Database Configuration/NSIDC
920-TDE-010	DAAC Database Configuration/EDC
920-TDL-010	DAAC Database Configuration/LARC
920-TDS-010	DAAC Database Configuration/SMC
920-TDN-011	DAAC Sybase Log Mapping/NSIDC
920-TDE-011	DAAC Sybase Log Mapping/EDC
920-TDL-011	DAAC Sybase Log Mapping/LARC
920-TDS-011	DAAC Sybase Log Mapping/SMC
922-TDN-013	Disk Partitions/NSIDC
922-TDE-013	Disk Partitions/EDC
922-TDL-013	Disk Partitions/LARC
922-TDS-013	Disk Partitions/SMC

These documents are maintained as part of the EMD baseline and available on the world-wide web at the URL: http://cmdm.east.hitc.com/baseline. Please note that this is a partial mirror site in that some items are not available (they are identified) since this is OPEN to all. This site may also be reached through the EDHS homepage. Scroll page to the connections line and click on the EMD Baseline Information System link.

2.2 Information Documents

The following documents, although not directly applicable, amplify or clarify the information presented in this document. These documents are not binding on this document.

313-EMD-001	Release 7 Internal ICD for the EMD Project
609-EMD-001	Release 7 Operations Tools Manual for the EMD Project
611-EMD-001	Release 7 Mission Operation Procedures for the EMD Project

These documents are accessible via the EDHS homepage.

3. Database Design

3.1 Design Overview

The combined STMGT/DDIST Subsystem database implements a majority of the persistent data requirements for the STMGT and DDIST Subsystems. Other data requirements, as used for system support, are implemented in flat files, see Section 3.2 for descriptions of these flat files. The database is designed to satisfy business rules while maintaining data integrity, consistency, and performance. Database tables are implemented using the Sybase Relational Database Management System (RDBMS) Version. All components of the combined STMGT/DDIST Subsystem database are described in the following sections; information is presented in sufficient detail to support operational needs.

3.1.1 Physical Data Model Entity Relationship Diagram

An entity relationship diagram (ERD) was developed for use as a "roadmap" to the combined STMGT/DDIST Subsystem database. An ERD is a schematic of the physical data structure that illustrates the dependencies and relationships between database entities, i.e., tables. On ERDs, database entities are represented by rectangles and arrows as shown by the key in Figure 3-1 represent relationships. Details on the syntax used by the *Power Designor Data Architect* Computer Aided Software Engineering (CASE) tool may be found in the *Powersoft: Power Designor for PowerBuilder* Reference Guide. The ERD presented in Appendix A for the STMGT Subsystem database was produced using the *Power Designor* tool.

The ECS Conceptual Model for the Science Data Processing Segment (SDPS) was developed using an Object Oriented (OO) CASE tool. However; since Sybase implements a RDBMS with an Object wrapper, the syntax (model Notation) is converted from OO to relational and the terminology changes-the "attribute" becomes "column" and "class" becomes "table." Since the specifications of some entities in this document are transferred from the OO Conceptual Model repository, there are many cases where the OO terminology is retained—as, for example, in the table and column names and definitions.

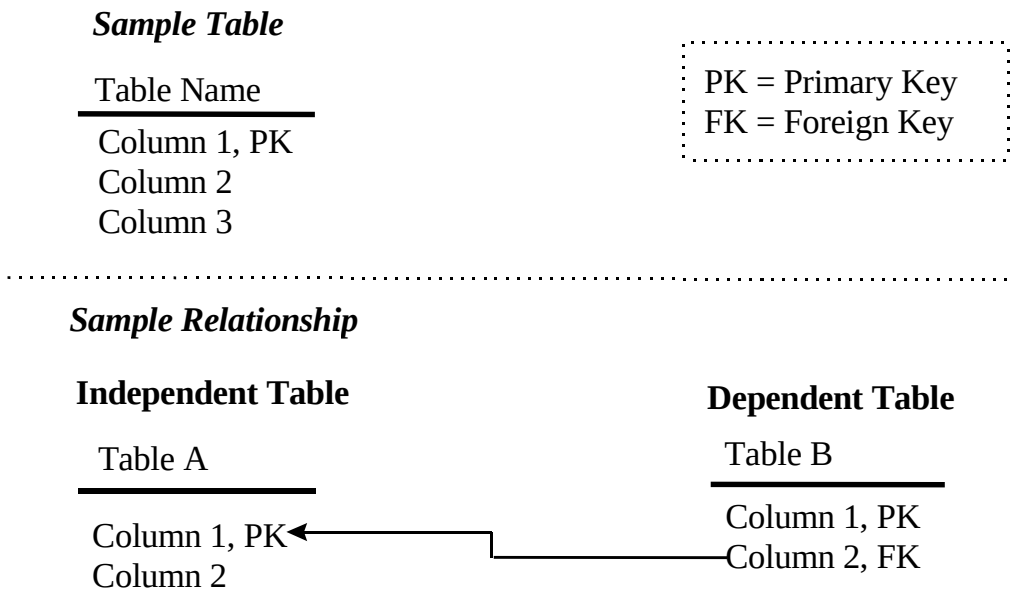

Figure 3-1. ERD Key

3.1.2 Database Table Specifications

Table 3-1 contains a listing of all the database tables within the combined STMGT /DDIST Subsystem databases. This list is presented in alphabetical order corresponding to the database tables illustrated in the ERD (reference Figure 3-2). The database tables listed immediately following Table 3-1 is presented in the same order as the table.

Table 3-1. Database Tables (1 of 3)

Table Name	Logical Grouping
DsDdAssignmentRule	Data Distribution
DsDdAssignmentRuleHWCI	Data Distribution
DsDdFile	Data Distribution
DsDdFileArchive	Data Distribution
DsDdGranule	Data Distribution
DsDdGranuleArchive	Data Distribution
DsDdParameterList	Data Distribution
DsDdParameterListArchive	Data Distribution
DsDdRequest	Data Distribution

Table 3-1. Database Tables (2 of 3)

Table Name	Logical Grouping
DsDdRequestArchive	Data Distribution
DsDdServerGeneric	Data Distribution
DsDdThreadPool	Data Distribution
DsStArchiveFileRequest	Archive Services
DsStArchiveRequest	Request Handling
DsStArchiveResumedRequest	Request Handling
DsStArchiveServer	Server Configuration
DsStBackup	Archive Services
DsStBackupHistory	Archive Services
DsStCDROMServer	Server Configuration
DsStCache	Server Configuration
DsStCacheFile	Cache Management
DsStCacheManagerRequest	Request Handling
DsStCancelledRequest	Request Handling
DsStCompressionStats	Archive Services
DsStConfigParameter	Server Configuration
DsStDeleteLogCacheFile	Cache Management
DsStDependentRequest	Request Handling
DsStDevice	Media Operations
DsStErrorAttribute	Request Handling
DsStErrorText	Request Handling
DsStEventLog	Request Handling
DsStFile	Archive Services
DsStFileLien	Cache Management
DsStFileLink	Cache Management
DsStFreeSpaceLock	Request Handling
DsStFtpHippiHost	FTP Services
DsStFtpRequest	FTP Services
DsStGrClTempGR	Archive Services
DsStFtpServer	Server Configuration
DsStGRCompletedRequest	Request Handling
DsStGenericRequest	Request Handling
DsStManagedCacheDir	Cache Management
DsStMedia	Media Operations
DsStMediaRequest	Request Handling
DsStMediaServer	Server Configuration
DsStMediaServerContacted	Media Operations
DsStMediaSet	Media Operations
DsStNotification	Cache Management
DsStPendingDelete	Archive Services

Table 3-1. Database Tables (3 of 3)

Table Name	Logical Grouping
DsStPendingReservations	Cache Management
DsStPreconfiguredDevice	Media Operations
DsStPreconfiguredStacker	Media Operations
DsStPrintRequest	Request Handling
DsStRequestMedia	Request Operations
DsStRequestMgrServer	Request Operations
DsStSDLock	Staging Disk Operations
DsStServerType	Server Configuration
DsStServiceThreadConfig	Server Configuration
DsStSlot	Media Operations
DsStStacker	Media Operations
DsStStagingDisk	Staging Disk Operations
DsStStagingDiskFile	Staging Disk Operations
DsStStagingDiskLien	Staging Disk Operations
DsStStagingDiskRequest	Staging Disk Operations
DsStStagingDiskServer	Staging Disk Operations
DsStTempGR	Temporary Table for GRCleanup
DsStVolumeGroup	Archive Services
EcDbDatabaseVersions	Database Versioning Information
EMSRequests	EMS

The following report is produced by the Power Designor CASE tool and edited for format consistency. The report provides specifications on the STMGT Subsystem database tables. The report is sorted in alphabetical order by table name. Specifications include the table name, a brief description of the table, and the columns comprising the table. The column information includes the column name and the column attributes, i.e., type (format of the data stored within the database), primary key indicator(s), and a mandatory indicator for determining if the column must contain data when the row exists. In some cases the content of the column specification "Type" will reference a domain value (refer to Section 3.1.4 for more information on the domain values).

Table 3-2 contains the information that establishes the criteria for each threadpool request grouping. Maps a request based on it's attributes into a specific threadpool.

Table 3-2. DsDdAssignmentRule (1 of 2)

Name	Code	Type	P	M
ECSUserId	ECSUSERID	varchar(50)	No	Yes
EmailAddress	EMAILADDRESS	varchar(255)	No	Yes
EsdtType	ESDTTYPE	varchar(50)	No	Yes
MediaType	MEDIATYPE	varchar(50)	No	Yes

Table 3-2. DsDdAssignmentRule (2 of 2)

Name	Code	Type	P	M
NumberOfGranules	NUMBEROFGRANULES	varchar(9)	No	No
Priority	PRIORITY	varchar(15)	No	Yes
SeqNum	SEQNUM	int	No	Yes
ThreadPoolId	THREADPOOLID	int	Yes	Yes

Table 3-3 contains the information, including the hardware ci and the push destination that establishes the criteria for each threadpool request grouping. Maps a request based on it's attributes into a specific threadpool.

Table 3-3. DsDdAssignmentRuleHWCI

Name	Code	Type	P	M
ECSUserId	ECSUSERID	varchar(50)	No	Yes
EmailAddress	EMAILADDRESS	varchar(80)	No	Yes
EsdtType	ESDTTYPE	varchar(50)	No	Yes
HWCI	HWCI	char(12)	No	Yes
MediaType	MEDIATYPE	varchar(50)	No	Yes
PushDest	PUSHDEST	varchar(255)	No	Yes
SeniorClient	SENIORCLIENT	char(4)	No	Yes
SeqNum	SEQNUM	int	No	Yes

Table 3-4 holds the distribution files currently being maintained and processed by the EcDsDistributionServer. Table abbreviation is "F" to be used as standard naming convention for stored procedures.

Table 3-4. DsDdFile (1 of 2)

Name	Code	type	P	M
ArchiveId	ARCHIVEID	varchar(255)	No	No
BackupId	BACKUPID	varchar(255)	No	No
BeginningDateTime	BEGINNINGDATETIME	datetime	No	No
Checksum	CHECKSUM	varchar(128)	No	No
ChecksumType	CHECKSUMTYPE	varchar(15)	No	No
DistName	DISTNAME	varchar(200)	No	No
EstFileSize	ESTFILESIZE	float(8)	No	No
FileSize	FILESIZE	float(8)	No	No
File_Id_No	FILE_ID_NO	numeric(5)	Yes	Yes
Gran_Id_No	GRAN_ID_NO	numeric(5)	Yes	Yes
GranuleId	GRANULEID	varchar(150)	Yes	Yes

Table 3-4. DsDdFile (2 of 2)

Name	Code	type	P	M
OffsiteId	OFFSITEID	varchar(255)	No	No
RequestId	REQUESTID	varchar(50)	Yes	Yes
SourceName	SOURCENAME	varchar(200)	Yes	Yes
SourcePath	SOURCEPATH	varchar(255)	No	No
StageDiskSize	STAGEDISKSIZE	float(8)	No	No

Table 3-5 stores the distribution files currently being maintained and processed by the EcDsDistributionServer. It is intended for backup, historical, and recovery purposes.

Table 3-5. DsDdFileArchive

Name	Code	type	P	M
ArchiveId	ARCHIVEID	varchar(255)	No	No
BackupId	BACKUPID	varchar(255)	No	No
CheckSum	CHECKSUM	int	No	No
DistName	DISTNAME	varchar(200)	No	No
EstFileSize	ESTFILESIZE	float(8)	No	No
FileSize	FILESIZE	float(8)	No	No
GranuleId	GRANULEID	varchar(150)	No	Yes
OffsiteId	OFFSITEID	varchar(255)	No	No
RequestId	REQUESTID	varchar(50)	No	Yes
SourceName	SOURCENAME	varchar(200)	No	Yes
SourcePath	SOURCEPATH	varchar(255)	No	No
StageDiskSize	STAGEDISKSIZE	float(8)	No	No

Table 3-6 holds the distribution granules currently being maintained and processed by the EcDsDistributionServer. The table abbreviation is "G" to be used as standard naming convention for stored procedures.

Table 3-6. DsDdGranule (1 of 2)

Name	Code	Type	P	M
Compressability	COMPRESSABILITY	Int	No	No
EsdtType	ESDTTYPE	varchar(50)	No	No
EstGranuleSize	ESTGRANULESIZE	float(8)	No	No
GranStatus	GRANSTATUS	Int	No	No
Gran_Id_No	GRAN_ID_NO	numeric(5)	Yes	Yes
GranuleId	GRANULEID	varchar(150)	Yes	Yes
GranuleSize	GRANULESIZE	float(8)	No	No

Table 3-6. DsDdGranule (2 of 2)

Name	Code	Type	P	M
NrGranFiles	NRGRANFILES	int	No	No
RequestId	REQUESTID	varchar(50)	Yes	Yes
StageDiskSize	STAGEDISKSIZE	float(8)	No	No

Table 3-7 stores the distribution granules currently being maintained and processed by the EcDsDistributionServer. It is intended for backup, historical, and recovery purposes.

Table 3-7. DsDdGranuleArchive

Name	Code	type	P	M
Compressability	COMPRESSABILITY	int	No	No
EsdtType	ESDTTYPE	varchar(50)	No	No
EstGranuleSize	ESTGRANULESIZE	float(8)	No	No
GranStatus	GRANSTATUS	int	No	No
GranuleId	GRANULEID	varchar(150)	No	Yes
GranuleSize	GRANULESIZE	float(8)	No	No
NrGranFiles	NRGRANFILES	int	No	No
RequestId	REQUESTID	varchar(50)	No	Yes
ShortName	SHORTNAME	varchar(8)	No	No
StageDiskSize	STAGEDISKSIZE	float(8)	No	No
VersionID	VERSIONID	tinyint	No	No

Table 3-8 holds the GLParameter list for each request currently being maintained and processed by the EcDsDistributionServer. This data is provided from external metadata (MCF) by SDSRV. Request information is initiated here first. The table's abbreviation is "PL" to be used as standard naming convention for stored procedures.

Table 3-8. DsDdParameterList (1 of 2)

Name	Code	Type	P	M
FtpHost	FTPHOST	varchar(255)	No	No
FtpPassword	FTPPASSWORD	varchar(50)	No	No
FtpPullExp	FTPPULLEXP	varchar(50)	No	No
FtpPullHost	FTPPULLHOST	varchar(255)	No	No
FtpPushDest	FTPPUSHDEST	varchar(255)	No	No
FtpUser	FTPUSER	varchar(50)	No	No
MediaFormat	MEDIAFORMAT	varchar(50)	No	Yes
MediaType	MEDIATYPE	varchar(50)	No	Yes

Table 3-8. DsDdParameterList (2 of 2)

Name	Code	Type	P	M
Notify	NOTIFY	varchar(255)	No	No
NotifyType	NOTIFYTYPE	varchar(255)	No	No
RequestId	REQUESTID	varchar(50)	Yes	Yes
Site	SITE	varchar(50)	No	No
UserProfile	USERPROFILE	varchar(50)	No	No
UserString	USERSTRING	varchar(255)	No	No

Table 3-9 stores the GLParameter list for each request currently being maintained and processed by the EcDsDistributionServer. It is intended for backup, historical, and recovery purposes.

Table 3-9. DsDdParameterListArchive

Name	Code	Type	P	M
FtpHost	FTPHOST	varchar(255)	No	No
FtpPassword	FTPPASSWORD	varchar(50)	No	No
FtpPullExp	FTPPULLEXP	varchar(50)	No	No
FtpPullHost	FTPPULLHOST	varchar(255)	No	No
FtpPushDest	FTPPUSHDEST	varchar(255)	No	No
FtpUser	FTPUSER	varchar(50)	No	No
MediaFormat	MEDIAFORMAT	varchar(50)	No	Yes
MediaType	MEDIATYPE	varchar(50)	No	Yes
Notify	NOTIFY	varchar(255)	No	No
NotifyType	NOTIFYTYPE	varchar(255)	No	No
RequestId	REQUESTID	varchar(50)	No	Yes
Site	SITE	varchar(50)	No	No
UserProfile	USERPROFILE	varchar(50)	No	No
UserString	USERSTRING	varchar(255)	No	No

Table 3-10 holds the distribution requests currently being maintained and processed by the EcDsDistributionServer. This table's abbreviation is "R" to be used as standard naming convention for stored procedures.

Table 3-10. DsDdRequest (1 of 2)

Name	Code	Type	P	M
AuxState	AUXSTATE	varchar(155)	No	No
CallBackFunction	CALLBACKFUNCTION	varchar(50)	No	No
CurrDdistStageDisk	CURRDDISTSTAGEDISK	varchar(255)	No	No
EcsUserId	ECSUSERID	varchar(50)	No	No

Table 3-10. DsDdRequest (2 of 2)

Name	Code	Type	P	M
EndTime	ENDTIME	varchar(255)	No	No
EsdtType	ESDTTYPE	varchar(50)	No	No
FirstEmailAddress	FIRSTEMAILADDRESS	varchar(80)	No	No
LastArchIdIdx	LASTARCHIDIDX	int	No	No
LastFRIdx	LASTFRIDX	int	No	No
LastSuccMediaNr	LASTSUCCMEDIANR	int	No	No
LastSuccStageNr	LASTSUCCSTAGENR	int	No	No
MediaBlockSize	MEDIABLOCKSIZE	float(8)	No	No
MediaCapacity	MEDIACAPACITY	float(8)	No	No
NrGranules	NRGRANULES	int	No	No
NrMedia	NRMEDIA	int	No	No
NrReqFiles	NRREQFILES	int	No	No
OrderId	ORDERID	varchar(50)	No	No
OrderedState	ORDEREDSTATE	varchar(50)	No	No
Priority	PRIORITY	int	No	No
RequestId	REQUESTID	varchar(50)	Yes	Yes
ResourceHWCI	RESOURCEHWCI	varchar(12)	No	No
RetChunkSize	RETCHUNKSIZE	int	No	No
RPCId	RPCID	varchar(175)	No	No
SDSRVStageArea	SDSRVSTAGEAREA	varchar(255)	No	No
SizeInMB	SIZEINMB	float(8)	No	No
StartTime	STARTTIME	varchar(255)	No	No
State	STATE	varchar(50)	No	No
Status	STATUS	int	No	No
ThreadPoolId	THREADPOOLID	int	No	Yes
WarmStartCounter	WARMSTARTCOUNTER	int	No	No

Table 3-11 stores the distribution requests currently being maintained and processed by the EcDsDistributionServer. It is intended for backup, historical, and recovery purposes.

Table 3-11. DsDdRequestArchive (1 of 2)

Name	Code	Type	P	M
AuxState	AUXSTATE	varchar(255)	No	No
CallBackFunction	CALLBACKFUNCTION	varchar(50)	No	No
CurrDdistStageDisk	CURRDDISTSTAGEDISK	varchar(255)	No	No
EcsUserId	ECSUSERID	varchar(50)	No	No
EndTime	ENDTIME	varchar(255)	No	No
EsdtType	ESDTTYPE	varchar(50)	No	No

Table 3-11. DsDdRequestArchive (2 of 2)

Name	Code	Type	P	M
LastSuccMediaNr	LASTSUCCMEDIANR	int	No	No
LastSuccStageNr	LASTSUCCSTAGENR	int	No	No
MediaBlockSize	MEDIABLOCKSIZE	float(8)	No	No
MediaCapacity	MEDIACAPACITY	float(8)	No	No
NrGranules	NRGRANULES	int	No	No
NrMedia	NRMEDIA	int	No	No
NrReqFiles	NRREQFILES	int	No	No
OrderId	ORDERID	varchar(50)	No	No
OrderedState	ORDEREDSTATE	varchar(50)	No	No
Priority	PRIORITY	int	No	No
RPCId	RPCID	varchar(175)	No	No
RequestId	REQUESTID	varchar(50)	No	Yes
SDSRVStageArea	SDSRVSTAGEAREA	varchar(255)	No	No
ShortName	SHORTNAME	varchar(8)	No	No
SizeInMB	SIZEINMB	float(8)	No	No
StartTime	STARTTIME	varchar(255)	No	No
State	STATE	varchar(50)	No	No
Status	STATUS	int	No	No
VersionID	VERSIONID	tinyint	No	No
WarmStartCounter	WARMSTARTCOUNTER	int	No	No
dt_EndTime	DT_ENDTIME	datetime	No	No
dt_StartTime	DT_STARTTIME	datetime	No	No

Table 3-12 holds generic configuration settings for the EcDsDistributionServer.

Table 3-12. DsDdServerGeneric

Name	Code	Type	P	M
GenericName	GENERICNAME	varchar(40)	Yes	Yes
GenericValue	GENERICVALUE	varchar(40)	No	Yes

Table 3-13 defines the amount of threads to be allocated to each request grouping defined based on a request criteria. It controls the maximum number of active threads that the Ddist Server will have per threadpool.

Table 3-13. DsDdThreadPool

Name	Code	Type	P	M
ThreadLimit	THREADLIMIT	int	No	Yes
ThreadPoolId	THREADPOOLID	int	Yes	Yes
ThreadPoolName	THREADPOOLNAME	varchar(25)	No	Yes

Table 3-14 stores file level information associated with store and retrieve requests. Abbreviated table name "AFR" for consistency of stored procedure naming.

Table 3-14. DsStArchiveFileRequest

Name	Code	Type	P	M
FileIndex	FILEINDEX	int	No	Yes
OriginalRPCId	ORIGINALRPCID	varchar(175)	No	Yes
RPCId	RPCID	varchar(175)	Yes	Yes

Table 3-15 contains information for Archive specific requests. Subsequently, when additional servers' requests are handled, the appropriate server's request table will be created. Abbreviated table name "AR" for consistency of stored procedure naming.

Table 3-15. DsStArchiveRequest

Name	Code	Type	P	M
ArchiveId	ARCHIVEID	varchar(30)	No	No
BackupId	BACKUPID	varchar(30)	No	No
CompressionType	CompressionType	int	No	No
CurrentFileIndex	CurrentFileIndex	int	No	Yes
NumFiles	NumFiles	int	No	No
OffsiteId	OFFSITE	varchar(30)	No	No
RPCId	RPCID	varchar(175)	Yes	Yes

Table 3-16 stores entries to notify the archive server when a request has been completed.

Table 3-16. DsStArchiveResumedRequest

Name	Code	Type	P	M
LockEntry	LOCKENTRY	smallint	No	Yes
SRPCId	SRPCID	varchar(175)	No	Yes
ServerId	SERVERID	numeric(5)	No	Yes

Table 3-17 contains the configuration parameters for archive server. Abbreviated table name "AS" for consistency of stored procedure naming.

Table 3-17. DsStArchiveServer

Name	Code	Type	P	M
IsRetrieveCksumEnabled	ISRETRIEVECKSUMENABLED	tinyint	No	No
IsStoreCksumEnabled	ISSTORECKSUMENABLED	tinyint	No	No
ServerId	SERVERID	numeric(5)	Yes	Yes

Table 3-18 looks to the outside world to varchar to for Archive. Abbreviated table name "B" for consistency of stored procedure naming.

Table 3-18. DsStBackup

Name	Code	type	P	M
ArchiveId	ARCHIVEID	varchar(30)	No	Yes
BackupId	BACKUPID	varchar(30)	No	No
BackupTransferStage	BACKUPTRANSFERSTAGE	varchar(50)	No	No
BackupTransferStatus	BACKUPTRANSFERSTATUS	varchar(50)	No	No
CompressionType	COMPRESSIONTYPE	int	No	No
CreateDate	CREATEDATE	datetime	No	No
EndDate	ENDDATE	datetime	No	No
FileName	FILENAME	varchar(200)	Yes	Yes
OffsiteId	OFFSITEID	varchar(30)	No	No
OffsiteTransferStage	OFFSITETRANSFERSTAGE	varchar(50)	No	No
OffsiteTransferStatus	OFFSITETRANSFERSTATUS	varchar(50)	No	No
OriginalFileName	ORIGINALFILENAME	varchar(200)	No	No
Priority	PRIORITY	smallint	No	No
StartDate	STARTDATE	datetime	No	No
StillStoring	STILLSTORING	tinyint	No	No

Table 3-19 contains a historical record of all (Archive related) backup activity. Abbreviated table name "BH" for consistency of stored procedure naming.

Table 3-19. DsStBackupHistory

Name	Code	Type	P	M
ArchiveId	ARCHIVEID	varchar(30)	No	Yes
BackupId	BACKUPID	varchar(30)	No	No
BackupTransferStage	BACKUPTRANSFERSTAGE	varchar(50)	No	No
BackupTransferStatus	BACKUPTRANSFERSTATUS	varchar(50)	No	No
CompressionType	COMPRESSIONTYPE	int	No	No
CreateDate	CREATEDATE	datetime	No	No
DeleteDate	DELETEDATE	datetime	No	No
EndDate	ENDDATE	datetime	No	No
FileName	FILENAME	varchar(200)	No	Yes
OffsiteId	OFFSITEID	varchar(30)	No	No
OffsiteTransferStage	OFFSITETRANSFERSTAGE	varchar(50)	No	No
OffsiteTransferStatus	OFFSITETRANSFERSTATUS	varchar(50)	No	No
OriginalFileName	ORIGINALFILENAME	varchar(200)	No	No
Priority	PRIORITY	smallint	No	No
StartDate	STARTDATE	datetime	No	No
StillStoring	STILLSTORING	tinyint	No	No

Table 3-20 contains configurable parameters for CDROM Server.

Table 3-20. DsStCDROMServer

Name	Code	Type	P	M
BufferNumber	BUFFERNUMBER	int	No	No
BufferSize	BUFFERSIZE	int	No	No
Format	FORMAT	varchar(15)	No	No
RecorderSpeed	RECORDERSPEED	varchar(5)	No	No
ServerId	SERVERID	numeric(5)	Yes	Yes

Table 3-21 identifies every instance of a cache related to Pull Monitor Cache Management. Abbreviated table name "C" for consistency of stored procedure naming.

Table 3-21. DsStCache

Name	Code	type	P	M
AvailableCacheSpace	AVAILABLECACHESPACE	numeric(15)	No	Yes
CacheBlockSize	CACHEBLOCKSIZE	int	No	No
CacheId	CACHEID	numeric(5)	Yes	Yes
ConfirmDelete	CONFIRMDELETE	smallint	No	No
Description	DESCRIPTION	varchar(255)	No	Yes
ExpirationThreshold	EXPIRATIONTHRESHOLD	int	No	Yes
HighWaterMark	HIGHWATERMARK	decimal(5,2)	No	No
LowWaterMark	LOWWATERMARK	decimal(5,2)	No	No
ManagedDirectoryArea	MANAGEDDIRECTORYAREA	varchar(255)	No	No
RootPath	ROOTPATH	varchar(255)	No	Yes
ServerId	SERVERID	numeric(5)	No	Yes
TotalCacheSpace	TOTALCACHESPACE	numeric(15)	No	Yes

Table 3-22 contains an entry for each file that the Storage Management is currently processing (pull-list). An entry is inserted into the entity for each file retrieved from the archive (AMASS). DsStFileLocation (pull-link) will track the individual cache locations of the file. Abbreviated table name “CF” for consistency of stored procedure naming.

Table 3-22. DsStCacheFile

Name	Code	Type	P	M
AlwaysInCache	ALWAYSINCACHE	char(1)	No	No
CacheId	CACHEID	numeric(5)	Yes	Yes
DeleteFlag	DELETEFLAG	char(1)	No	Yes
FileName	FILENAME	varchar(200)	Yes	Yes
FileSize	FILESIZE	int	No	Yes
LastAccessed	LASTACCESSED	datetime	No	No
State	STATE	varchar(16)	No	No
UncompressedFileSize	UNCOMPRESSEDFILESIZE	int	No	No

Table 3-23 contains requests to be serviced by the Cache Manager Server. Abbreviated table name "CMR" for consistency of stored procedure naming.

Table 3-23. DsStCacheManagerRequest

Name	Code	Type	P	M
Checksum	CHECKSUM	varchar(128)	No	No
ChecksumType	CHECKSUMTYPE	varchar(15)	No	No
ChecksumFlag	CHECKSUMFLAG	tinyint	No	No
CompressionType	COMPRESSIONTYPE	int	No	No
DirectoryName	DIRECTORYNAME	varchar(200)	No	No
ExternalRequestId	EXTERNALREQUESTID	varchar(50)	No	No
FileSize	FILESIZE	int	No	No
NoWaitFlag	NOWAITFLAG	tinyint	No	No
RestartMode	RESTARTMODE	int	No	No
RPCId	RPCID	varchar(175)	No	Yes
Size	SIZE	int	No	No
SourceFileName	SOURCEFILENAME	varchar(200)	No	No
SourceLocation	SOURCELOCATION	varchar(255)	No	No
SourceServerId	SOURCESERVERID	numeric(5)	No	No
TargetFileName	TARGETFILENAME	varchar(200)	No	No
TargetPath	TARGETPATH	varchar(255)	No	No
Username	USERNAME	varchar(50)	No	No

Table 3-24 contains information on requests that have been cancelled. Abbreviated table name "CR" for consistency of stored procedure naming.

Table 3-24. DsStCancelledRequest

Name	Code	Type	P	M
ErrorCode	ERRORCODE	int	No	No
ProcessedFlag	PROCESSEDFLAG	tinyint	No	No
RPCId	RPCID	varchar(175)	Yes	Yes

Table 3-25 Abbreviated table name “CS” for consistency of stored procedure naming.

Table 3-25. DsStCompressionStats

Name	Code	Type	P	M
CompressionFactor	COMPRESSIONFACTOR	real	No	No
CompressionId	COMPRESSIONID	numeric(9)	Yes	Yes
CompressionMean	COMPRESSIONMEAN	real	No	No
CompressionType	COMPRESSIONTYPE	varchar(16)	No	Yes
Confidence80	CONFIDENCE80	real	No	No
Confidence85	CONFIDENCE85	real	No	No
Confidence90	CONFIDENCE90	real	No	No
Confidence95	CONFIDENCE95	real	No	No
Confidence99	CONFIDENCE99	real	No	No
NumFiles	NUMFILES	int	No	No
VolumeGroupId	VOLUMEGROUPID	numeric(5)	No	Yes

Table 3-26 contains an entry for information necessary to initialize each DsStServerType supported by Storage Management. The data will consist of information currently available in the configuration files plus information as it pertains to the status and node of each server. An entry is inserted for each parameter that a server uses. Abbreviated table name "CP" for consistency of stored procedure naming.

Table 3-26. DsStConfigParameter

Name	Code	Type	P	M
FileIOBlockSize	FILEIOBLOCKSIZE	int	No	Yes
HostName	HOSTNAME	varchar(64)	No	No
HWCI	HWCI	char(12)	No	No
PortNumber	PORTNUMBER	int	No	No
Retries	RETRIES	smallint	No	No
RPCSubTag	RPCSUBTAG	char(4)	No	No
ServerId	SERVERID	numeric(5)	Yes	Yes
ServerName	SERVERNAME	varchar(50)	No	Yes
ServerType	SERVERTYPE	varchar(20)	No	Yes
Sleeptime	SLEEPTIME	smallint	No	No

Table 3-27 contains an entry for each file that Storage Management deletes from its cache or the DsStCacheFile table. This entity is used for maintaining a history of file and cache usage for reporting and analysis purposes. An entry is inserted into the entity via a delete trigger on the DsStCacheFile table. Abbreviated table name "DL" for consistency of stored procedure naming.

Table 3-27. DsStDeleteLogCacheFile

Name	Code	Type	P	M
AlwaysInCache	ALWAYSINCACHE	char(1)	No	No
CacheId	CACHEID	numeric(5)	No	No
DeleteDate	DELETEDATE	datetime	No	Yes
Expiration	EXPIRATION	datetime	No	No
FileName	FILENAME	varchar(200)	No	Yes
FileSize	FILESIZE	int	No	No
LastAccessed	LASTACCESSED	datetime	No	No
State	STATE	varchar(16)	No	No
UncompressedFileSize	UNCOMPRESSEDFILESIZE	int	No	No

Table 3-28 indicates requests whose presumption is predicated on the completion of active requests. Abbreviated table name "DR" for consistency of stored procedure naming.

Table 3-28. DsStDependentRequest

Name	Code	Type	P	M
ActiveRPCId	ACTIVERPCID	Rpcid(175)	No	Yes
DependReqId	DEPENDREQID	numeric(9)	No	Yes (identity)
RPCId	RPCID	Rpcid(175)	No	Yes

Table 3-29 contains an entry for each peripheral device that Storage Management uses to service requests to Ingest or Distribution data. A Server Type's DsStConfigParameter record is associated with each piece of hardware for configuration parameters required to operate the Device/Resource. Abbreviated table name "D" for consistency of stored procedures naming.

Table 3-29. DsStDevice

Name	Code	type	P	M
ControllerId	CONTROLLERID	int	No	No
CurrentOperation	CURRENTOPERATION	smallint	No	No
Description	DESCRIPTION	varchar(255)	No	No
DeviceName	DEVICENAME	varchar(20)	Yes	Yes
DriveNumber	DRIVENUMBER	smallint	No	No
ElementNo	ELEMENTNO	smallint	No	No
IsDriveAllocated	ISDRIVEALLOCATED	tinyint	No	No
IsDriveOnline	ISDRIVEONLINE	tinyint	No	No
IsMediaInDrive	ISMEDIAINDRIVE	tinyint	No	No
MediaId	MEDIAID	varchar(32)	No	No
Model	MODEL	char(20)	No	No
Node	NODE	varchar(255)	No	No
OperationStatus	OPERATIONSTATUS	smallint	No	No
PathName	PATHNAME	varchar(255)	No	No
SCSIId	SCSIID	int	No	No
ServerId	SERVERID	numeric(5)	No	Yes
StackerId	STACKERID	varchar(20)	No	No

Table 3-30 is required for all clients that wish to use the DsStErrorDetails class. This provides a mapping between character mnemonics and numeric error codes. It also defines the attributes for each error, providing adequate characterization for clients to infer appropriate retry/recovery procedures from the error attributes. Abbreviated table name "EA" for consistency of stored procedure naming.

Table 3-30. DsStErrorAttribute

Name	Code	Type	P	M
ErrorCode	ERRORCODE	int	Yes	Yes
Scope	SCOPE	char(1)	No	No
Severity	SEVERITY	char(1)	No	No

Table 3-31 provides text descriptions and suggested recovery actions for each error code; presents errors in a meaningful manner. Abbreviated table name "ET" for consistency of stored procedure naming.

Table 3-31. DsStErrorText

Name	Code	type	P	M
Description	DESCRIPTION	varchar(255)	No	No
ErrorCode	ERRORCODE	int	Yes	Yes
Mnemonic	MNEMONIC	varchar(50)	No	Yes
Suggestion	SUGGESTION	varchar(255)	No	No

Table 3-32 contains a history of STMGT Subsystem events and COTS errors encountered by Storage Management. The STMGT Subsystem software will insert records into the table using the DsStELInsert.sp stored procedure. The calling sequence is DsStELInsert @EventNumber= value,@ EventMessage= value,@ EventDate= value,@ EventType= value.

Events and errors included in the entity are: Errors received from AMASS, Sybase, and other COTS software; Checksum errors received during archive monitoring; Operator Notification levels for Cache Management; Device errors; Other errors generated by the Storage Management Software.

The Storage Management software will insert a new ERROR_LOG entry each time an event occurs or an error is encountered. The operator will have the ability to purge this entity periodically based on a date/time value.

Abbreviated table name "EL" for consistency of stored procedure naming.

Table 3-32. DsStEventLog

Name	Code	Type	P	M
EventDate	EVENTDATE	datetime	No	Yes
EventLevel	EVENTLEVEL	varchar(11)	No	No
EventLogId	EVENTLOGID	numeric(9)	Yes	Yes
EventMessage	EVENTMESSAGE	varchar(255)	No	Yes
EventNumber	EVENTNUMBER	int	No	No
EventType	EVENTTYPE	varchar(10)	No	Yes
RPCId	RPCID	varchar(175)	No	No

Table 3-33 contains an entry for each file that Storage Management is currently processing related to a DsStArchiveRequest entry. Abbreviated table name "F" for consistency of stored procedure naming.

Table 3-33. DsStFile

Name	Code	Type	P	M
BackupVolumeGroupSource	BACKUPVOLUMEGROUPSOURCE	varchar(24)	No	No
BeginningDateTime	BEGINNINGDATETIME	datetime	No	No
CheckPointState	CHECKPOINTSTATE	varchar(50)	No	No
Checksum	CHECKSUM	varchar(128)	No	No
ChecksumOnInsFlag	CHECKSUMONINSFLAG	tinyint	No	No
ChecksumType	CHECKSUMTYPE	varchar(15)	No	No
DiskTag	DISKTAG	varchar(35)	No	No
ErrorCode	ERRORCODE	int	No	No
EventMessage	EVENTMESSAGE	varchar(255)	No	No
FileIndex	FILEINDEX	int	No	Yes
FileLocation	FILELOCATION	varchar(255)	No	No
FileName	FILENAME	varchar(200)	No	No
FileSize	FILESIZE	int	No	No
LastArchiveVolumeGroup	LASTARCHIVEVOLUMEGROUP	numeric(5)	No	No
LastBackupVolumeGroup	LASTBACKUPVOLUMEGROUP	numeric(5)	No	No
LastOffsiteVolumeGroup	LASTOFFSITEVOLUMEGROUP	numeric(5)	No	No
OffsiteVolumeGroupSource	OFFSITEVOLUMEGROUPSOURCE	varchar(24)	No	No
OriginalFileName	ORIGINALFILENAME	varchar200)	No	No
RetrievedFileSize	RETRIEVEDFILESIZE	int	No	No
RPCId	RPCID	varchar(175)	Yes	Yes
ServerId	SERVERID	numeric(5)	No	No
Source	SOURCE	varchar(8)	No	No
SourcePosition	SOURCEPOSITION	int	No	No
VolumeGroupSource	VOLUMEGROUPSOURCE	varchar(30)	No	No

Table 3-34 Notes the client’s expressed intent to link or copy files into cache. Abbreviated table name "CM" for consistency of stored procedure naming.

Table 3-34. DsStFileLien (1 of 2)

Name	Code	type	P	M
CacheId	CACHEID	numeric(5)	No	Yes
Expiration	EXPIRATION	datetime	No	No
FileLienId	FILELIENID	numeric(9)	Yes	Yes

Table 3-34. DsStFileLien (2 of 2)

Name	Code	type	P	M
FileName	FILENAME	varchar(200)	No	Yes
LienHolder	LIENHOLDER	varchar(150)	No	Yes

Table 3-35 tracks links assosciated with files in cache and their associated expiration date. Abbreviated table name "CM" for consistency of stored procedure naming.

Table 3-35. DsStFileLink

Name	Code	type	P	M
CacheId	CACHEID	numeric(5)	No	Yes
DirectoryId	DIRECTORYID	numeric(9)	Yes	No
Expiration	EXPIRATION	datetime	No	No
FileName	FILENAME	varchar(200)	No	Yes
LinkHolder	LINKHOLDER	varchar(5)	No	No
LinkName	LINKNAME	varchar(150)	No	Yes

Table 3-36 contains information of the computer on the network with the high-speed connection.

Table 3-36. DsStFtpHippiHost

Name	Code	Type	P	M
HostName	HOSTNAME	varchar(30)	Yes	Yes
ServerId	SERVERID	numeric(5)	Yes	Yes

Table 3-37 contains information for Ftp specific Requests. Subsequently, when additional servers' requests are handled, the appropriate server's request table will be created. Abbreviated table name "FR" for consistency of stored procedure naming.

Table 3-37. DsStFtpRequest (1 of 2)

Name	Code	Type	P	M
Cipher	CIPHER	varchar(200)	No	No
DestinationPath	DESTINATIONPATH	varchar(255)	No	No
EncryptedPassword	ENCRYPTEDPASSWORD	varchar(50)	No	No
Expiration	EXPIRATION	datetime	No	No
ExternalRequestId	EXTERNALREQUESTID	varchar(50)	No	No
FileName	FILENAME	varchar(200)	No	No

Table 3-37. DsStFtpRequest (2 of 2)

Name	Code	Type	P	M
FileSize	FILESIZE	int	No	No
Host	HOST	varchar(64)	No	No
LoopIndex	LOOPINDEX	int	No	No
PullHost	PULLHOST	varchar(64)	No	No
PullServerId	PULLSERVERID	numeric(5)	No	No
RPCId	RPCID	varchar(175)	Yes	Yes
RequestDirectoryId	REQUESTDIRECTORYID	numeric(9)	No	No
SourcePath	SOURCEPATH	varchar(255)	No	No
Username	USERNAME	varchar(50)	No	No

Table 3-38 contains the FTP Server Configuarion Parameters. Abbreviated table name "F" for consistency of stored procedure naming.

Table 3-38. DsStFtpServer

Name	Code	Type	P	M
Datalist	DATALIST	varchar(255)	No	No
MaxRequestSize	MAXREQUESTSIZE	int	No	No
ServerId	SERVERID	numeric(5)	Yes	Yes

Table 3-39 contains information that indicates the notification of the Request Manager when a request has been completed. It reduces the amount of contention on the DsStGenericRequest table.

Table 3-39. DsStGRCompletedRequest

Name	Code	Type	P	M
HouseKeeperNotified	HOUSEKEEPERNOTIFIED	int	No	Yes
RPCId	RPCID	varchar(175)	No	Yes

Table 3-40 contains common information related to all Storage Management requests regardless of type. Abbreviated table name "GR" for consistency of stored procedure naming.

Table 3-40. DsStGenericRequest (1 of 2)

Name	Code	Type	P	M
CheckPointState	CHECKPOINTSTATE	varchar(50)	No	No
CreationTime	CREATIONTIME	datetime	No	No

Table 3-40. DsStGenericRequest (2 of 2)

Name	Code	Type	P	M
ErrorCode	ERRORCODE	int	No	Yes
InMemoryQueue	INMEMORYQUEUE	int	No	Yes
LastUpdated	LASTUPDATED	datetime	No	No
Priority	PRIORITY	smallint	No	No
ProcessingState	PROCESSINGSTATE	char(1)	No	No
ProgressPartial	PROGRESSPARTIAL	int	No	No
ProgressTotal	PROGRESSTOTAL	int	No	No
ProgressUnits	PROGRESSUNITS	varchar(12)	No	No
RPCId	RPCID	varchar(175)	No	Yes
ServerId	SERVERID	numeric(5)	No	No
Submitter	SUBMITTER	varchar(150)	No	No
ThreadId	THREADID	int	No	No
TypeOperation	TYPEOPERATION	varchar(16)	No	Yes

Table 3-41 is used to hold temporary results for cleanup of requests that have not been checkpointed, but are older than 7 days.

Table 3-41. DsStGrClTempGR

Name	Code	Type	P	M
SequenceNo	SEQUENCENO	numeric(9,0)	Yes	Yes
RPCId	RPCID	varchar(175)	Yes	Yes

Table 3-42 maintains information regarding user request directory in the pull area. Abbreviated table name "CM" for consistency of stored procedure naming.

Table 3-42. DsStManagedCacheDir

Name	Code	Type	P	M
CacheId	CACHEID	numeric(5)	No	Yes
DirectoryId	DIRECTORYID	numeric(9)	Yes	Yes
DirectoryName	DIRECTORYNAME	varchar(200)	No	Yes
Expiration	EXPIRATION	datetime	No	No
OwnerName	OWNERNAME	varchar(150)	No	Yes
UsedFlag	USEDFLAG	tinyint	No	Yes

Table 3-43 contains individual pieces of media and their associated status. Abbreviated table name "M" for consistency of stored procedure naming.

Table 3-43. DsStMedia

Name	Code	Type	P	M
CompletedLocation	COMPLETEDLOCATION	varchar(255)	No	No
MediaCapacity	MEDIACAPACITY	int	No	No
MediaId	MEDIAID	varchar(32)	Yes	Yes
MediaStatus	MEDIASTATUS	smallint	No	No
MediaUse	MEDIAUSE	smallint	No	No
ServerType	SERVERTYPE	varchar(20)	No	No

Table 3-44 tracks the requests associated with media operations. Abbreviated table name "MR" for consistency of stored procedure naming.

Table 3-44. DsStMediaRequest

Name	Code	Type	P	M
DeviceName	DEVICENAME	varchar(20)	No	No
DistributionEstSize	DISTRIBUTIONESTSIZE	int	No	No
ExternalRequestId	EXTERNALREQUESTID	varchar(50)	No	No
FileList	FILELIST	varchar(30)	No	No
Format	FORMAT	varchar(15)	No	No
LastOperation	LASTOPERATION	varchar(16)	No	No
MediaId	MEDIAID	varchar(32)	No	No
MediaStagingDisk	MEDIASTAGINGDISK	varchar(35)	No	No
RPCId	RPCID	varchar(175)	Yes	Yes
SlotId	SLOTID	numeric(5)	No	No
SourceStagingDisk	SOURCESTAGINGDISK	varchar(35)	No	No
StackerId	STACKERID	varchar(20)	No	No
WorkingDirectory	WORKINGDIRECTORY	varchar(50)	No	No

Table 3-45 contains configurable parameters for each media server. Abbreviated table name "MS" for consistency of stored procedure naming.

Table 3-45. DsStMediaServer (1 of 2)

Name	Code	Type	P	M
Capacity	CAPACITY	int	No	No
DefaultBlockFactor	DEFAULTBLOCKFACTOR	smallint	No	No
MediaBlockSize	MEDIABLOCKSIZE	int	No	No

Table 3-45. DsStMediaServer (2 of 2)

Name	Code	Type	P	M
NetworkDistribution	NETWORKDISTRIBUTION	tinyint	No	No
NumColumns	NUMCOLUMNS	smallint	No	No
NumRows	NUMROWS	smallint	No	No
PrintQue	PRINTQUE	varchar(200)	No	No
ServerId	SERVERID	numeric(5)	Yes	Yes

Table 3-46 correlates with media servers that have made an attempt to service a given request. Abbreviated table name "ST" for consistency of stored procedure naming.

Table 3-46. DsStMediaServerContacted

Name	Code	Type	P	M
ErrorCode	ERRORCODE	int	No	Yes
RPCId	RPCID	varchar(175)	Yes	Yes
ServerId	SERVERID	numeric(5)	No	Yes

Table 3-47 contains the logical aggregation of media objects. Abbreviated table name "MS" for consistency of stored procedure naming.

Table 3-47. DsStMediaSet

Name	Code	Type	P	M
MediaId	MEDIAID	varchar(32)	Yes	Yes
MediaSetId	MEDIASETID	varchar(150)	Yes	Yes

Tables 3-48 frequently conduct polls to check for user pulled files from the pull area.

Table 3-48. DsStNotification

Name	Code	Type	P	M
CacheId	CACHEID	numeric(5)	Yes	Yes
Datalist	DATALIST	varchar(255)	No	No
PollingFrequency	POLLINGFREQUENCY	smallint	No	No

Table 3-49 is used for batch deletion of files from the archive. Abbreviated table name "PD" for consistency of stored procedure naming.

Table 3-49. DsStPendingDelete

Name	Code	type	P	M
BeginningDateTime	BEGINNINGDATETIME	datetime	No	No
CreationTime	CREATIONTIME	datetime	No	No
ErrorCode	ERRORCODE	int	No	No
FileName	FILENAME	varchar(200)	Yes	Yes
InsertTime	INSERTTIME	datetime	No	No
ReprocessingFlag	REPROCESSINGFLAG	char(1)	No	No
ServerId	SERVERID	numeric(5)	No	No
Stage	STAGE	varchar(50)	No	No
Status	STATUS	nvarchar(12)	No	No
VersionedDataType	VERSIONEDDATATYPE	varchar(24)	Yes	Yes
VolumeGroupId	VOLUMEGROUPID	numeric(5)	No	No

Table 3-50 contains requests waiting on the staging disk. Abbreviated table name "CM" for consistency of stored procedure naming.

Table 3-50. DsStPendingReservations

Name	Code	Type	P	M
CacheId	CACHEID	numeric(5)	No	Yes
FileName	FILENAME	varchar(200)	No	Yes
FileSize	FILESIZE	int	No	Yes
OwnerName	OWNERNAME	varchar(150)	No	Yes
PendingId	PENDINGID	numeric(9)	Yes	Yes
RPCId	RPCID	varchar(175)	No	Yes

Table 3-51 stores configuration information about various devices.

Table 3-51. DsStPreconfiguredDevice

Name	Code	Type	P	M
ControllerId	CONTROLLERID	int	No	No
CurrentOperation	CURRENTOPERATION	smallint	No	No
Description	DESCRIPTION	varchar(255)	No	No
DriveNumber	DRIVENUMBER	smallint	No	No
ElementNo	ELEMENTNO	smallint	No	No
IsDriveAllocated	ISDRIVEALLOCATED	tinyint	No	No
IsDriveOnline	ISDRIVEONLINE	tinyint	No	No
IsMediaInDrive	ISMEDIAINDRIVE	tinyint	No	No
Model	MODEL	char(20)	Yes	Yes
Node	NODE	varchar(255)	No	No
OperationStatus	OPERATIONSTATUS	smallint	No	No
PathName	PATHNAME	varchar(255)	No	No
SCSIId	SCSIID	int	No	No
ServerType	SERVERTYPE	varchar(20)	No	No

Table 3-52 holds the requests to print packing list for media distribution. Abbreviated table name "F" for consistency of stored procedure naming.

Table 3-52. DsStPrintRequest

Name	Code	Type	P	M
ExternalRequestId	EXTERNALREQUESTID	varchar(50)	No	No
PrintFileName	PRINTFILENAME	varchar(200)	No	No
PrintUser	PRINTUSER	varchar(50)	No	No
PrinterSource	PRINTERSOURCE	varchar(35)	No	No
RPCId	RPCID	varchar(175)	Yes	Yes

Table 3-53 maps media distribution requests to media used to fullfill requests. Abbreviated table name "RM" for consistency of stored procedure naming.

Table 3-53. DsStRequestMedia

Name	Code	Type	P	M
CreateDate	CREATEDATE	datetime	No	No
MediaId	MEDIAID	varchar(32)	Yes	Yes
MediaNumber	MEDIANUMBER	int	No	Yes
RequestId	REQUESTID	varchar(50)	Yes	Yes

Table 3-54 holds the cleanup parameters for the GRCleanup processing.

Table 3-54. DsStRequestMgrServer

Name	Code	Type	P	M
BackupHistFrequency	BACKUPHISTFREQUENCY	numeric(5,2)	No	Yes
BackupHistRetention	BACKUPHISTRETENTION	numeric(5,2)	No	Yes
DdistArchiveFrequency	DDISTARCHIVEFREQUENCY	numeric(5,2)	No	Yes
DdistArchiveRetention	DDISTARCHIVERETENTION	numeric(5,2)	No	Yes
EventLogFrequency	EVENTLOGFREQUENCY	numeric(5,2)	No	Yes
EventLogRetention	EVENTLOGRRETENTION	numeric(5,2)	No	Yes
RequestFrequency	REQUESTFREQUENCY	numeric(5,2)	No	Yes
RequestRetention	REQUESTRETENTION	numeric(5,2)	No	Yes
ServerId	SERVERID	numeric(5)	Yes	Yes

Table 3-55 provides serial access to the staging disk table. Abbreviated table name "SD" for consistency of stored procedure naming.

Table 3-55. DsStSDLock

Name	Code	Type	P	M
LockVal	LOCKVALUE	int	No	No

Table 3-56 provides a description and type of server. Abbreviated table name "ST" for consistency of stored procedure naming.

Table 3-56. DsStServerType

Name	Code	Type	P	M
DefaultRPCTag	DEFAULTRPCTAG	char(4)	No	No
MaxReroutes	MAXREROUTES	int	No	No
ServerDescription	SERVERDESCRIPTION	varchar(255)	No	No
ServerType	SERVERTYPE	varchar(20)	Yes	Yes

Table 3-57 describes the disposition of server threads. Abbreviated table name "STC" for consistency of stored procedure naming.

Table 3-57. DsStServiceThreadConfig

Name	Code	Type	P	M
HighThreads	HIGHTHREADS	int	No	No
LowThreads	LOWTHREADS	int	No	No
NormalThreads	NORMALTHREADS	int	No	No
NumThreads	NUMTHREADS	int	No	No
PoolType	POOLTYPE	char(16)	Yes	Yes
ServerId	SERVERID	numeric(5)	Yes	Yes
VHighThreads	VHIGHTHREADS	int	No	No
XpressThreads	XPRESSTHREADS	int	No	No

Table 3-58 contains a record of every individual slot and its status currently accessible for managing Storage Management requests. Abbreviated table name “SL” for consistency of stored procedure naming.

Table 3-58. DsStSlot

Name	Code	Type	P	M
ElementNo	ELEMENTNO	smallint	No	No
IsMediaInSlot	ISMEDIAINSLOT	tinyint	No	No
IsSlotAllocated	ISSLOTALLOCATED	tinyint	No	No
IsSlotOnline	ISSLOTONLINE	tinyint	No	No
MediaId	MEDIAID	varchar(32)	No	No
SlotId	SLOTID	numeric(5)	Yes	Yes
SlotNumber	SLOTNUMBER	smallint	No	Yes
StackerId	STACKERID	varchar(20)	No	No

Table 3-59 contains information on stackers. A DsStDevice record may exist in Stacker form (containing more than one device/drive). It is necessary to track which devices are controlled by which stacker to adequately support the reservation requirements. Reserving a stacker automatically reserves the associated devices controlled by that stacker. Related to 4MM and 8MM Tape (Device) drives. Abbreviated table name "SK" for consistency of stored procedure naming.

Table 3-59. DsStStacker

Name	Code	Type	P	M
Barcode	BARCODE	tinyint	No	No
Description	DESCRIPTION	varchar(255)	No	No
ElementNo	ELEMENTNO	smallint	No	No
FixedSlot	FIXEDSLOT	smallint	No	No
IsStackerOnline	ISSTACKERONLINE	tinyint	No	No
MediumType	MEDIUMTYPE	varchar(50)	No	Yes
OnlineDrives	ONLINEDRIVES	smallint	No	Yes
OnlineSlots	ONLINESLOTS	smallint	No	Yes
ServerId	SERVERID	numeric(5)	No	No
StackerId	STACKERID	varchar(20)	Yes	Yes
StackerModel	STACKERMODEL	char(20)	No	No
StackerNumber	STACKERNUMBER	varchar(10)	No	No
StackerPath	STACKERPATH	varchar(255)	No	No
TotalDrives	TOTALDRIVES	smallint	No	Yes
TotalRoSlots	TOTALROSLOTS	smallint	No	Yes
TotalRwSlots	TOTALRWSLOTS	smallint	No	Yes
TotalSlots	TOTALSLOTS	smallint	No	Yes

Table 3-60 tracks staging disk usage. Abbreviated table name "SD" for consistency of stored procedure naming.

Table 3-60. DsStStagingDisk (1 of 2)

Name	Code	type	P	M
Access	ACCESS	varchar(10)	No	No
AvailableSpace	AVAILABLESPACE	int	No	Yes
CompressionType	COMPRESSIONTYPE	int	No	No
DiskNum	DISKNUM	numeric(9)	No	Yes
DiskPath	DISKPATH	varchar(255)	No	Yes
DiskTag	DISKTAG	varchar(35)	No	Yes
LastAccessed	LASTACCESSED	datetime	No	Yes
OwnerName	OWNERNAME	varchar(150)	No	No

Table 3-60. DsStStagingDisk (2 of 2)

Name	Code	type	P	M
Persistent	PERSISTENT	smallint	No	No
Retention	RETENTION	int	No	Yes
ServerId	SERVERID	numeric(5)	No	Yes
Size	SIZE	int	No	Yes

Table 3-61 contains information on links to files stored in staging disks. Abbreviated table name "SDF" for consistency of stored procedure naming.

Table 3-61. DsStStagingDiskFile

Name	Code	Type	P	M
DiskTag	DISKTAG	varchar(35)	Yes	Yes
FileName	FILENAME	varchar(200)	Yes	Yes
FileSize	FILESIZE	int	No	No
FileType	FILETYPE	int	No	No
SourceDiskTag	SOURCEDISKTAG	varchar(35)	No	No
SourceFile	SOURCEFILE	varchar(255)	No	No

Table 3-62 tracks the client processes attached to staging disks. Abbreviated table name "SD" for consistency of stored procedure naming.

Table 3-62. DsStStagingDiskLien

Name	Code	Type	P	M
CreationTime	CREATIONTIME	datetime	No	No
DiskTag	DISKTAG	varchar(35)	No	Yes
LienHolder	LIENHOLDER	varchar(150)	No	Yes
StagDiskLienId	STAGDISKLIENID	numeric(9)	No	Yes

Table 3-63 makes requests for staging disks to be created. Abbreviated table name "SDR" for consistency of stored procedure naming.

Table 3-63. DsStStagingDiskRequest (1 of 2)

Name	Code	Type	P	M
CompressionType	COMPRESSIONTYPE	int	No	No
DiskTag	DISKTAG	varchar(35)	No	No

Table 3-63. DsStStagingDiskRequest (2 of 2)

Name	Code	Type	P	M
IntValue	INTVALUE	int	No	No
Persistent	PERSISTENT	smallint	No	No
RPCId	RPCID	varchar(175)	No	Yes
RealValue	REALVALUE	real	No	No
Size	SIZE	numeric(15)	No	No
SourceDiskTag	SOURCEDISKTAG	varchar(255)	No	No
SourceFileName	SOURCEFILENAME	varchar(200)	No	No
TargetDisk	TARGETDISK	varchar(255)	No	No
TargetFileName	TARGETFILENAME	varchar(200)	No	No

Table 3-64 maintains configurable parameters for staging disks. Abbreviated table name "SDS" for consistency of stored procedure naming.

Table 3-64. DsStStagingDiskServer

Name	Code	Type	P	M
AvailableStagingSpace	AVAILABLESTAGINGSPACE	numeric(15)	No	Yes
RootPath	ROOTPATH	varchar(255)	No	Yes
ServerId	SERVERID	numeric(5)	No	Yes
StagingBlockSize	STAGINGBLOCKSIZE	int	No	Yes
TotalStagingSpace	TOTALSTAGINGSPACE	numeric(15)	No	Yes

Table 3-65 contains temporary worktable for GRCleanup.

Table 3-65. DsStTempGR

Name	Code	Type	P	M
RPCId	RPCID	varchar(175)	No	Yes

Table 3-66 contains 'volume group' (section of Archive you are dealing with) information from configuration files such as the path currently pointed to and a history of paths related ONLY to a particular Archive server type. Abbreviated table name "VG" for consistency of stored procedure naming.

Table 3-66. DsStVolumeGroup

Name	Code	Type	P	M
SelectionDate	SELECTIONDATE	datetime	No	No
ServerId	SERVERID	numeric(5)	No	Yes
VersionedDataType	VERSIONEDDATATYPE	varchar(24)	No	Yes
VolumeEndDate	VOLUMEENDDATE	datetime	No	No
VolumeGroupId	VOLUMEGROUPID	numeric(5)	Yes	Yes
VolumeGroupPath	VOLUMEGROUPPATH	varchar(255)	No	Yes
VolumeStartDate	VOLUMESTARTDATE	datetime	No	Yes

Table 3-67 contains information about the current database version for Storage Management databases.

Table 3-67. EcDbDatabaseVersions

Name	Code	Type	P	M
EcDbComments	ECDBCOMMENTS	varchar(255)	No	No
EcDbCurrentVersionFlag	ECDBCURRENTVERSIONFLAG	char(1)	No	No
EcDbDatabaseName	ECDBDATABASENAME	varchar(255)	No	No
EcDbDropDescription	ECDBDROPDESCRIPTION	varchar(255)	No	No
EcDbDropInstallDate	ECDBDROPINSTALLDATE	datetime	No	No
EcDbDropVersion	ECDBDROPVERSION	char(64)	Yes	Yes
EcDbSchemaVersionId	ECDBSCHEMAVERSIONID	smallint	Yes	Yes
EcDbSybaseServer	ECDBSYBASESERVER	varchar(255)	No	No
EcDbSybaseVersion	ECDBSYBASEVERSION	varchar(255)	No	No
EcDbUpdateProcess	ECDBUPDATEPROCESS	varchar(255)	No	No

Table 3-68 contains a dummy row so that it can be locked when it's necessary to insert a row in the DsStFreeSpaceLock table so that only one version of freespace will be running at any given time.

Table 3-68. DsStFreeSpaceLock

Name	Code	Type	P	M
ServerId	ServerId	numeric(5)	Yes	Yes
dummyColumn	dummyColumn	int	No	Yes
padding	padding	char(1952)	No	Yes

Table 3-69 contains information about various stackers.

Table 3-69. DsStPreconfiguredStacker

Name	Code	Type	P	M
StackerModel	STACKERMODEL	char(20)	Yes	Yes
TotalSlots	TOTALSLOTS	smallint	No	Yes
OnlineSlots	ONLINESLOTS	smallint	No	Yes
TotalDrives	TOTALDRIVES	smallint	No	Yes
OnlineDrives	ONLINEDRIVES	smallint	No	Yes
TotalRoSlots	TOTALROSLOTS	smallint	No	Yes
TotalRwSlots	TOTALRWSLOTS	smallint	No	Yes
StackerPath	STACKERPATH	varchar(255)	No	No
ElementNo	ELEMENTNO	smallint	No	No
FixedSlot	FIXEDSLOT	smallint	No	No
MediumType	MEDIUMTYPE	varchar(50)	No	Yes
StackerNumber	STACKERNUMBER	varchar(10)	No	No
StackerStatus	STACKERSTATUS	smallint	No	Yes
Barcode	BARCODE	tinyint	No	No
Description	DESCRIPTION	varchar(255)	No	No
ServerType	SERVERTYPE	varchar(20)	No	No

Table 3-70 contains table layout for EMSRequests. This table is used for EMS processing.

Table 3-70. EMSRequests (1 of 2)

Name	Code	Type	P	M
RequestId_key	RequestId_key	numeric(8,0)	No	Yes
RequestId	RequestId	varchar(50)	No	No
State	State	varchar(50)	No	No

Table 3-70. EMSRequests (2 of 2)

Name	Code	Type	P	M
EcsUserId	EcsUserId	varchar(50)	No	No
dt_StartTime	dt_StartTime	datetime	No	No
dt_EndTime	dt_EndTime	datetime	No	No
FtpHost	FtpHost	varchar(255)	No	No

3.1.3 Column Specifications

Brief definitions of each of the columns within the STMGT and DDIST Subsystems database and their valid values, or references to other documents containing the valid values, are contained in the Table 3-71. "Valid Values" identify the permissible data content of the column where there is a finite set of acceptable values that can be defined. Other columns are simply formatted/free text or numeric.

Table 3-71. Column Descriptions (1 of 27)

Column	Table	Description	Valid Values
Access	DsStStagingDisk	Level of permission allowed for that staging disk (i.e. RW, RO)	
ActiveRPCId	DsStDependentRequest	Points to the RPCId location of the active requests.	
AlwaysInCache	DsStCacheFile DsStDeleteLogCacheFile	"Y"es or "N"o if file should always remain in cache file and Not be given delete authorization.	Y (yes); N (No)
ArchiveId	DsDdFile DsDdFileArchive DsStArchiveRequest DsStBackup DsStBackupHistory	The Archive Id from science data server (SDSRV). Relative to Archive Backup & Restore, it is external data received from SDSRV. Format: "<HWCI>_<mode>:<VG name>" or "<HWCI>_<mode>:<disk name>". Only one of ArchiveId or StagingId is populated; both are never filled.	
AuxState	DsDdRequest DsDdRequestArchive	Auxiliary State	
AvailableCacheSpace	DsStCache	Remaining disk space allocated/ available (in the Pull Monitor). Determined at start time and recalculated after each process performed; could be different on start up (e.g., 10000000).	

Table 3-71. Column Descriptions (2 of 27)

Column	Table	Description	Valid Values
AvailableSpace	DsStStagingDisk	Current space on the staging disk server.	
AvailableStagingSpace	DsStStagingDiskServer	Remaining space on the staging disk server.	
BackupHistFrequency	DsStRequestMgrServer	How often the procedures get executed.	
BackupHistRetention	DsStRequestMgrServer	How long the request should be held in the backuphistory table before it is deleted.	
BackupId	DsDdFile DsDdFileArchive DsStArchiveRequest DsStBackup DsStBackupHistory	Relative to Archive Backup and Restore, it is external data received from SDSRV. Format: <HWCI>_<mode>:<VGname> or <HWCI>_<mode>:<diskname> Relative to Archive Backup & Restore, it is external data received from SDSRV. Format: <HWCI>_<mode>:<VG name> or <HWCI>_<mode>:<disk name>. Only one of ArchiveId or StagingId is populated; both are never filled.	
BackupTransferStage	DsStBackup DsStBackupHistory	Indicates a stage of a restart backup request. (i.e. Executing, Failed)	
BackupTransferStatus	DsStBackup DsStBackupHistory	Status of a restart backup request. (i.e. Blank, Failed, Completed, Successful)	
BackupVolumeGroupSource	DsStFile	Stores the name of the backup VersionedDataType (when it exists) of a file.	
Barcode	DsStPreconfiguredStacker DsStStacker	Indicates whether or Not the stacker automatic inventorying of media through the use of a built in barcode reader	
BeginningDateTime	DsDdFile DsStFile DsStPendingDelete	Stores the granule temporal coverage of a file.	
BufferNumber	DsStCDROMServer	(NOT USED)	
BufferSize	DsStCDROMServer	(NOT USED)	
CacheBlockSize	DsStCache	Size of blocks in bytes for the cache used for copying files in and out of the cache and allocating space in the cache.	

Table 3-71. Column Descriptions (3 of 27)

Column	Table	Description	Valid Values
CacheId	DsStCache DsStCacheFile DsStDeleteLogCacheFile DsStFileLien DsStFileLink DsStManagedCacheDir DsStNotification DsStPendingReservations	Unique cache id (of Pull Monitor and Staging Monitor/ Disk).	
CallBackFunction	DsDdRequest DsDdRequestArchive	(NOT USED)	
Capacity	DsStMediaServer	Total amount of space available for (Distribution and Ingest FTP, 4MM and 8MM Tapes) utilization (e.g., 1200000000). AnNotation: Should accept either the HighCapacity or LowCapacity of its corresponding ServerId record on DsStConfigParameter table.	

Table 3-71. Column Descriptions (4 of 27)

Column	Table	Description	Valid Values
CheckPointState	DsStFile DsStGenericRequest	For Table DsStDistributedFile: Processing state of a file; used for the purpose of getting back to an initial state.	0 (= Initial) 1 (= Checkpointed) 2 (= Staging Disk Created) 3 (= Ready to Copy (after the release)) 4 (= Copy Attempted (we did the copy)) 5 (= Checksum Computed) 6 (= Backed-up Online) 7 (= Completed)) For Table DsStGenericRequest: Processing state of a Request; used for the purpose of getting back to an initial state. 0 (= Initial) 1 (= Checkpointed) 2 (= Failed) 3 (= Completed)
CheckSum	DsDdFileArchive	The checksum of the Archive.	
Checksum	DsStCacheManagerRequest DsDdFile DsStFile	Computed. Used for the purpose of identifying a file's and its processed state.	
ChecksumFlag	DsStCacheManagerRequest	Flag to determine if the checksum is calculated on cache copy.	
ChecksumOnInsFlag	DsStFile	Stores the flag that indicates whether or not the checksum for this file was to be computed by ingest.	TRUE FALSE

Table 3-71. Column Descriptions (5 of 27)

Column	Table	Description	Valid Values
ChecksumType	DsDdFile DsStCacheManagerRequest DsStFile	The checksum type of the Archive. Used for the purpose of identifying a file's checksumtype and its processed state in DsStCacheManagerRequest and DsStFile.	CKSUM | ECS
Cipher	DsStFtpRequest	Stores Ingest cipher method code	
CompletedLocation	DsStMedia	Text description provided by operator where the media is located after having been unloaded.	
Compressability	DsDdGranule DsDdGranuleArchive	The compressability of the granule.	
CompressionFactor	DsStCompressionStats	Indicates the percentage reduction in the filesize by applying the specific compression type.	
CompressionId	DsStCompressionStats	(GOING AWAY)	
CompressionMean	DsStCompressionStats	The average reduction in filesize experienced to date for the assoc. compression method and datatype.	
CompressionType	DsStCompressionStats DsStStagingDisk DsStStagingDiskRequest DsStArchiveRequest DsStBackup DsStBackupHistory DsStCacheManagerRequest	Type of compression required to process the data.	0 (No compression (default)); 1 (compressed); 2 (decompressed)
Confidence80	DsStCompressionStats	Based on experiential data the minimum reduction in filesize predicted with a 80% level of confidence.	
Confidence85	DsStCompressionStats	Based on experiential data the minimum reduction in filesize predicted with a 85% level of confidence.	
Confidence90	DsStCompressionStats	Based on experiential data the minimum reduction in filesize predicted with a 90% level of confidence.	

Table 3-71. Column Descriptions (6 of 27)

Column	Table	Description	Valid Values
Confidence95	DsStCompressionStats	Based on experiential data the minimum reduction in filesize predicted with a 95% level of confidence.	
Confidence99	DsStCompressionStats	Based on experiential data the minimum reduction in filesize predicted with a 99% level of confidence.	
ConfirmDelete	DsStCache	Flag whether to automatically Delete upon reaching PullExpirationTime (Pull Monitor and Staging Monitor/ Disk).	
ControllerId	DsStDevice DsStPreconfiguredDevice	The numeric identifier associated with the device as required ioctal calls to the device.	
CreateDate	DsStBackup DsStBackupHistory DsStRequestMedia	Date and Time at which a record is inserted/created. Used for uniqueness of repeated record details and for historical reference.	
CreationTime	DsStGenericRequest DsStStagingDiskLien DsStPendingDelete	Date and Time at which a record is inserted/ created. Used for uniqueness of repeated record details and for historical reference.	
CurrDdistStageDisk	DsDdRequest DsDdRequestArchive	The staging disk tag (or its fully qualified name) of the current (unfinished) DDIST target staging disk associated with the current media.	
CurrentFileIndex	DsStArchiveRequest	Which file is being requested for processing (e.g., file 4 of 12).	
CurrentOperation	DsStDevice DsStPreconfiguredDevice	Operation of the device at the present.	"Read", "Write", "Null"
Datalist	DsStFtpServer DsStNotification	Path and name of (Staging Monitor/ Disk) list of files in cache area (e.g., /home/dsst/pull.list).	
DdistArchiveFrequency	DsStRequestMgrServer	How often the procedures get executed.	
DdistArchiveRetention	DsStRequestMgrServer	How long a request should be kept before it is deleted.	

Table 3-71. Column Descriptions (7 of 27)

Column	Table	Description	Valid Values
DefaultBlockFactor	DsStMediaServer	Specifies the size in bytes of blocks for the remote tape device or disk that is being written. Platform specific (for all servers).	The only certain kNown value is 2048 (bytes) which is used by default. 65K is the maximum value that can be specified (e.g., 1024 for Sun, 4096 for SGI).
DefaultRPCTag	DsStServerType	Initial RPC setting	
DeleteDate	DsStDeleteLogCacheFile DsStBackupHistory	Date and Time the file was removed from cache (Pull Monitor or Staging Monitor/ Disk). Set with the current system date upon insert into the table.	
DeleteFlag	DsStCacheFile	Indicator for items to be deleted	
DependReqId	DsStDependentRequest	(GOING AWAY)	
Description	DsStCache DsStDevice DsStErrorText DsStPreconfiguredDevice DsStPreconfiguredStacker DsStStacker	1) For Table: DsStCache. For elaboration on or further identification of unique cache. 2) For Table: DsStDevice. Detailed description of the type of device (e.g., Large capacity 4MM Tape stacker device) 3) For Table: DsStErrorText. Textual information regarding errors.	
DestinationPath	DsStFtpRequest	The path in which files to be transferred are to be placed.	
DeviceName	DsStDevice DsStMediaRequest	Unique identifier of the device record. A device can be either stand alone as with a 4MM Tape Drive, or a device can be related to a Stacker as with a 4MM Tape Stacker which would have more than one device/ drives associated with it. If a Device is related to a Stacker, concatenating the DeviceName and StackerId columns as the DeviceName column value formats the unique identifier.	

Table 3-71. Column Descriptions (8 of 27)

Column	Table	Description	Valid Values
DirectoryId	DsStFileLink DsStManagedCacheDir	Unique identifier of each directory record inserted to table. Sequentially generated from the DsStNextId table.	
DirectoryName	DsStManagedCacheDir DsStCacheManagerRequest	The name of the directory	
DiskNum	DsStStagingDisk	A unique integer given to a disk by the staging manager.	
DiskPath	DsStStagingDisk	Unix path to the disk.	
DiskTag	DsStFile DsStStagingDisk DsStStagingDiskFile DsStStagingDiskLien DsStStagingDiskRequest	Unique identifier that identifies the disk.	
DistName	DsDdFile DsDdFileArchive	The user-given name that a file to be distributed will ultimately have upon distribution onto media or ftp.	
DistributionEstSize	DsStMediaRequest	The estimated volume of data to be distributed as calculated by DDIST based on expected compression rates.	
DriveNumber	DsStDevice DsStPreconfiguredDevice	Which drive of the available drives in the stacker hardware is being used (e.g., 1, 2, or 3).	
dt_EndTime	DsDdRequestArchive	Converts to sybase datetime for endtime so that inquiries can be made easier in the requestarchive table.	
dt_StartTime	DsDdRequestArchive	Converts to sybase datetime for starttime so that inquiries can be made easier in the requestarchive table.	
dummyColumn	DsStFreeSpaceLock	Column serves as a locking mechanism for the DsStFreeSpaceLock table	
EcDbComments	EcDbDatabaseVersions	Notes or comments on the database version level.	
EcDbCurrentVersionFlag	EcDbDatabaseVersions	Flag indicating if this row represents the current database version entry	
EcDbDatabaseName	EcDbDatabaseVersions	The name of the database for which this database versions level is applied.	

Table 3-71. Column Descriptions (9 of 27)

Column	Table	Description	Valid Values
EcDbDropDescription	EcDbDatabaseVersions	The official name of the ECS software drops for this database version level.	
EcDbDropInstallDate	EcDbDatabaseVersions	The date and time that the database versions level was installed.	
EcDbDropVersion	EcDbDatabaseVersions	The official description of the ECS software drops for this database version level.	
EcDbSchemaVersionId	EcDbDatabaseVersions	The subsystem-specific identifier for this database schema version	
EcDbSybaseServer	EcDbDatabaseVersions	The name of the baseline Sybase SQL server controlling this database.	
EcDbSybaseVersion	EcDbDatabaseVersions	The software release version of the Sybase SQL server in place when this database version level was initially installed.	
EcDbUpdateProcess	EcDbDatabaseVersions	The installation method by which this database version level was installed	
ECSUserId	DsDdAssignmentRule DsDdAssignmentRuleHWCI	The User ID of the user initiating request.	
EcsUserId	DsDdRequest DsDdRequestArchive	The User ID of the user initiating request.	
ElementNo	DsStDevice DsStPreconfiguredDevice DsStPreconfiguredStacker DsStSlot DsStStacker	An identifying number (for robotic arm) to find location of a drive device.	
EmailAddress	DsDdAssignmentRule DsDdAssignmentRuleHWCI	The emailAddress criteria is used to map specific ECSGuest requests to a thread pool.	
EncryptedPassword	DsStFtpRequest	The encrypted ftp password.	
EndDate	DsStBackup DsStBackupHistory	Date and Time at which activity or record processing has completed.	
EndTime	DsDdRequest DsDdRequestArchive	The time that distribution ended.	

Table 3-71. Column Descriptions (10 of 27)

Column	Table	Description	Valid Values
ErrorCode	DsStCancelledRequest DsStErrorAttribute DsStErrorText DsStFile DsStGenericRequest DsStPendingDelete DsStMediaServerContacted	Numeric value used to uniquely identify specific error record. Will be referenced in storage management software code (if and when an error occurs) for Standard Error Handling.	
EsdtType	DsDdGranule DsDdAssignmentRuleHWCI DsDdRequest DsDdAssignmentRule DsDdGranuleArchive DsDdRequestArchive	The ESDT (Earth Science Data Type) Type. A Request is of one EsdtType and can include many Granules, but all Granules associated with a Request must be of the same EsdtType.	
EstFileSize	DsDdFile DsDdFileArchive	The estimated size of the file.	
EstGranuleSize	DsDdGranule DsDdGranuleArchive	The sum of the estimated size of the files in the granule.	
EventDate	DsStEventLog	Date and time of occurrence of (table insertion) error/ event on event log. Supplied by calling the application.	
EventLevel	DsStEventLog	Fatal or Retry related to Error.	
EventLogFrequency	DsStRequestMgrServer	How often scripts should be ran.	
EventLogId	DsStEventLog	Unique identifier of an entry on the event log. Sequentially generated from DsStNextId table via an insert Trigger.	
EventLogRetention	DsStRequestMgrServer	How long request should be kept before it is deleted.	
EventMessage	DsStFile DsStEventLog	The associated text for a STMGT event or COTS error message.	
EventNumber	DsStEventLog	Created independently of the Database; it is a number that is associated with a STMGT event message or COTS error number.	
EventType	DsStEventLog	Categorization of an entry on the event log (e.g., Server, Pull Monitor, Cache, Sybase).	

Table 3-71. Column Descriptions (11 of 27)

Column	Table	Description	Valid Values
Expiration	DsStDeleteLogCacheFile DsStFileLien DsStFileLink DsStFtpRequest DsStManagedCacheDir	The lifespan of the request.	
ExpirationThreshold	DsStCache	Number of hours it takes for files to expire in the cache.	
ExternalRequestId	DsStPrintRequest DsStCacheManagerRequest DsStFtpRequest DsStMediaRequest	The RequestId the client sends to Stmgt.	
File_Id_No	DsDdFile	Used to synchronize the c++ order of files within a granule.	
FileIndex	DsStArchiveFileRequest DsStFile	This is file n of m files (e.g., file 2 of 12)	
FileIOBlockSize	DsStConfigParameter	The blocks to be used for file IO.	
FileLienId	DsStFileLien	(GOING AWAY)	
FileList	DsStMediaRequest	The name of the file containing the list of the files to be distributed.	
FileLocation	DsStFile	Physical file location or directory path.	
FileName	DsStBackup DsStBackupHistory DsStCacheFile DsStDeleteLogCacheFile DsStFile DsStFileLien DsStFileLink DsStFtpRequest DsStPendingDelete DsStPendingReservations DsStStagingDiskFile	The 'unique filename'. Relative to PullMonitor caching, it is the unique identifier of the metadata file (uniq_file). Relative to Archive Backup & Restore, it is the unique identifier of the metadata file provided as external data from SDSRV.	
FileSize	DsDdFile DsDdFileArchive DsStCacheFile DsStCacheManagerRequest DsStDeleteLogCacheFile DsStFile DsStPendingReservations DsStStagingDiskFile DsStFtpRequest	The size of the file. The size of the cache file in bytes. File sizes of greater that 2 gigabytes are Not expected.	

Table 3-71. Column Descriptions (12 of 27)

Column	Table	Description	Valid Values
FileType	DsStStagingDiskFile	Type of file in the staging disk. (i.e. Link, ROCacheLink, Directory, File)	
FirstEmailAddress	DsDdRequest	First Email Address	
FixedSlot	DsStPreconfiguredStacker DsStStacker	Fixed slot of the Stacker	
Format	DsStCDROMServer DsStMediaRequest	Media format for distribution. (i.e. Rockridge (DsStCDROMServer), Tar (DsStMediaRequest))	
FtpHost	DsDdParameterList DsDdParameterListArchive	Holds the hostname to connect to for FTP push.	
FtpPassword	DsDdParameterList DsDdParameterListArchive	Holds the password to use for FTP push.	
FtpPullExp	DsDdParameterList DsDdParameterListArchive	The expiration date-time that a completed FtpPull is granted before it will be automatically removed from the pull area.	
FtpPullHost	DsDdParameterList DsDdParameterListArchive	The host name that the user is to ftp into to get his requested FtpPull files.	
FtpPushDest	DsDdParameterList DsDdParameterListArchive	Holds the target system directory.	
FtpUser	DsDdParameterList DsDdParameterListArchive	Holds the login to use for the FTP push.	
GenericName	DsDdServerGeneric	Holds the generic name for EcDsDistributionServer	
GenericValue	DsDdServerGeneric	Holds the generic value for EcDsDistributionServer	
Gran_Id_No	DsDdFile DsDdGranule	Used to synchronize the c++ order of granules within a request.	
GranStatus	DsDdGranule DsDdGranuleArchive	For partial orders, non-zero status indicates granule was not delivered although other granules may have been delivered in the order.	
GranuleId	DsDdFile DsDdGranule DsDdFileArchive DsDdGranuleArchive	The granule Id of the actual granule.	
GranuleSize	DsDdGranule DsDdGranuleArchive	The sum of the sizes of files in the granule.	

Table 3-71. Column Descriptions (13 of 27)

Column	Table	Description	Valid Values
HighThreads	DsStServiceThreadConfig	Number of service threads in the pool allocated at the priority high.	
HighWaterMark	DsStCache	Highest allowable percentage usage of space allocated (for the Pull Monitor and Staging Monitor/ Disk) (e.g., 74.80).	
Host	DsStFtpRequest	The host in which to connect to for the ftp transfer.	
HostName	DsStConfigParameter DsStFtpHippiHost	The host on which the server instance is running.	
HouseKeeperNotified	DsStGRCompletedRequest	Indicates if request has been pickedup.	
HWCI	DsDdAssignmentRuleHWCI DsStConfigParameter	HardWare CI. Used to allow multiple instances of a ServerType to exist such as EcDsStArchiveServeDRP1 and EcDsStArchiveServerICL1.	
InMemoryQueue	DsStGenericRequest	Stores the size of the Ingest Memory Queue	
InsertTime	DsStPendingDelete	The time a particular file was stored in the archive.	
IntValue	DsStStagingDiskRequest	Houses request values that are integer types.	
IsDriveAllocated	DsStDevice DsStPreconfiguredDevice	Tells whether or Not the drive is allocated.	
IsDriveOnline	DsStDevice DsStPreconfiguredDevice	Tells whether or Not the drive is online.	
IsMediaInDrive	DsStDevice DsStPreconfiguredDevice	Tells whether or Not any media is in the drive.	
IsMediaInSlot	DsStSlot	Tells whether or Not any media is in the slot.	
IsRetrieveCksumEnabled	DsStArchiveServer	Tells whether or Not the checksum is enabled for an archive retrieve.	
IsSlotAllocated	DsStSlot	Tells whether or Not the slot is allocated	
IsSlotOnline	DsStSlot	Tells whether or Not the slot is online.	
IsStackerOnline	DsStStacker	Tells whether or Not the stacker is online.	
IsStoreCksumEnabled	DsStArchiveServer	Tells whether or Not the checksum is enabled for an archive store.	

Table 3-71. Column Descriptions (14 of 27)

Column	Table	Description	Valid Values
LastAccessed	DsStCacheFile DsStDeleteLogCacheFile DsStStagingDisk	Time stamp in which a file was last accessed.	
LastArchIdIdx	DsDdRequest	Used by the Ddist Server for internal bookkeeping.	
LastArchiveVolumeGroup	DsStFile	The volumegroupid that identifies the primary archive local location that an archive server has stored a file.	
LastBackupVolumeGroup	DsStFile	The volumegroupid that identifies the backup archive local location that an archive server has stored a file.	
LastFRIdx	DsDdRequest	An internal DDIST server counter that is used to keep a track of the index of the last file requested from the ArchiveServer for a given request.	
LastOffsiteVolumeGroup	DsStFile	The volumegroupid that identifies the offsite archive local location that an archive server has stored a file.	
LastOperation	DsStMediaRequest	For media ingest operation this indicates the last step which is completed.	
LastSuccMediaNr	DsDdRequest DsDdRequestArchive	The last successful media number.	
LastSuccStageNr	DsDdRequest DsDdRequestArchive	The value of the counting index of the last media for which staging was completed. The index is zero for the first media.	
LastUpdated	DsStGenericRequest	Time stamp indicating when a request was last modified.	
LienHolder	DsStStagingDiskLien DsStFileLien	The client that owns the lien on the cache file or staging disk.	
LinkHolder	DsStFileLink	Indicates who owns the link.	
LinkName	DsStFileLink	The name of the file as it appears, which is a link to the cache.	
LockEntry	DsStArchiveResumedRequest	Used to avoid synchronization problems.	
LockVal	DsStSDLock	An integer column	

Table 3-71. Column Descriptions (15 of 27)

Column	Table	Description	Valid Values
LoopIndex	DsStFtpRequest	An integer indicating the current file being processed in a list of files.	
LowThreads	DsStServiceThreadConfig	Number of service threads in the pool allocated at the priority low.	
LowWaterMark	DsStCache	Delete down to limit when High Water Mark is reached (for the Pull Monitor and Staging Monitor/ Disk) (e.g., 24.50).	
ManagedDirectoryArea	DsStCache	The base path of managed directories contained within a cache.	
MaxRequestSize	DsStFtpServer	Maximum size for a requested media.	
MaxReroutes	DsStServerType	For media servers the maximum number of times a request will be rerouted to a different server instance.	
MediaBlockSize	DsDdRequest DsDdRequestArchive DsStMediaServer	The media blocksize format. The blocksize used for the media for reading and writing this parameter is also used for specifying media capacity.	
MediaCapacity	DsDdRequest DsDdRequestArchive DsStMedia	The capacity for media.	
MediaFormat	DsDdParameterList DsDdParameterListArchive	The media distribution format (ie: FILEFORMAT,TARFORMAT)	
MediaId	DsStDevice DsStMedia DsStMediaRequest DsStMediaSet DsStRequestMedia DsStSlot	Unique identifier used to identify a certain piece of hard media. (i.e. Tape, CD, DLT Tape)	
MediaNumber	DsStRequestMedia	The order in a sequence of numbers for media distribution. (i.e. 1 of 3, 2 of 3, 3 of 3)	
MediaSetId	DsStMediaSet	The description identifying the media set.	
MediaStagingDisk	DsStMediaRequest	A local staging disk used for media distribution.	
MediaStatus	DsStMedia	The status of a DLT media distribution.	

Table 3-71. Column Descriptions (16 of 27)

Column	Table	Description	Valid Values
MediaType	DsDdParameterList DsDdAssignmentRule DsDdAssignmentRuleHWCI DsDdParameterListArchive	The type of media used for a request.(i.e.:8MMTAPE, CDRom)	
MediaUse	DsStMedia	Whether or Not media is in use. Set to one if in use and zero if Not in use.	
MediumType	DsStStacker DsStPreconfiguredStacker	Type of medium this particular Stacker resource accommodates (e.g., 8mm Tape, 4mm Tape, D3 Tape).	
Mnemonic	DsStErrorText	Defined by internal standards for symbolic constants (e.g., DsCSt*).	
Model	DsStDevice DsStPreconfiguredDevice	Particular model number or reference for this device (for 4MM, 8MM Tapes and Stackers) (e.g., CM1).	
NetworkDistribution	DsStMediaServer	A flag indicating whether or Not the server will permit media distribution from a remote (NSF mounted) staging disk.	
Node	DsStPreconfiguredDevice DsStDevice	The Node on which the server is currently running when it is brought up (e.g., kodiak, soe2sun, dss2). When the server is taken down, the Node field will be set to NULL (default) or blank. Automatically set by application software.	
NormalThreads	DsStServiceThreadConfig	Number of service threads in the pool allocated at the priority Normal.	
Notify	DsDdParameterList DsDdParameterListArchive	Indicates the mail address to use for Notification.	
NotifyType	DsDdParameterList DsDdParameterListArchive	If MAIL is specified, a Distribution Notification message will be sent, either to email address of logical queue specified in the NOTIFY parameter. If LIST is specified, a GLparameter list of distributive files will be returned to the RPC caller.	

Table 3-71. Column Descriptions (17 of 27)

Column	Table	Description	Valid Values
NoWaitFlag	DsStCacheManagerRequest	Flag used in reserving space in the cache to indicate whether a client wants to wait for space to be freed.	
NrGranFiles	DsDdGranule DsDdGranuleArchive	The number of files in a granule.	
NrGranules	DsDdRequest DsDdRequestArchive	The number of granules per media object.	
NrMedia	DsDdRequest DsDdRequestArchive	The number of distinct physical media to distribute onto for a single DDIST request. This is always one for FtpPull requests, and in practice it is one for FtpPushes.	
NrReqFiles	DsDdRequest DsDdRequestArchive	The number of files in the distribution request.	
NumberOfGranules	DsDdAssignmentRule	The number of granules per media object.	
NumColumns	DsStMediaServer	The number of columns for formatting a page to print. Required for the printer server.	
NumFiles	DsStArchiveRequest DsStCompressionStats	Total files related to the RequestId.	
NumRows	DsStMediaServer	The number of rows for formatting a page to print. Required for the printer server configuration.	
NumThreads	DsStServiceThreadConfig	Number of service threads in the pool.	
OffsiteId	DsDdFile DsDdFileArchive DsStArchiveRequest DsStBackup DsStBackupHistory	Relative to Archive Backup and Restore, it is external data received from SDSRV. The value is three characters (i.e. GSF, ERC.)	
OffsiteTransferStage	DsStBackup DsStBackupHistory	Indicates a stage of a restart offsite request. (i.e. Executing, Failed)	
OffsiteTransferStatus	DsStBackup DsStBackupHistory	Status of restart offsite request. (i.e. Blank, Failed, Completed, Successful)	
OffsiteVolumeGroupSource	DsStFile	Stores the name of the Offsite VersionedDataType (if it exists) for a particular granule file.	

Table 3-71. Column Descriptions (18 of 27)

Column	Table	Description	Valid Values
OnlineDrives	DsStStacker DsStPreconfiguredStacker	Number of drives that are on-line versus off-line in this stacker.	
OnlineSlots	DsStStacker DsStPreconfiguredStacker	Number of slots that are on-line versus off-line in this stacker.	
OperationStatus	DsStDevice DsStPreconfiguredDevice	Status of the Operation.	Free, Allocated, Mounted, Completed
OrderedState	DsDdRequest DsDdRequestArchive	The ordered state of a request. (i.e. Cancel, Suspend, Marked Shipped...)	
OrderId	DsDdRequest DsDdRequestArchive	The OrderId for the distribution request.	
OriginalFileName	DsStBackup DsStBackupHistory DsStFile	Relative to PullMonitor caching, it is the original file name received from the satellite-transmitted data. Relative to Archive Backup & Restore, it is the original file name received as external data from SDSRV.	
OriginalRPCId	DsStArchiveFileRequest	Points to the RPCId location of data that a subrequest should use to get file data.	
OwnerName	DsStManagedCacheDir DsStPendingReservations DsStStagingDisk	The name of the client whom the disk belongs.	
padding	DsStFreeSpaceLock	The padding is used to make 1 row occupy exactly one page.	
PathName	DsStDevice DsStPreconfiguredDevice	Directory path of device/resource files used (e.g., /ecs/usr/TS1/CUSTOM/bin/).	
PendingId	DsStPendingReservations	Unique identifier for DsStPendingReservations	
Persistent	DsStStagingDisk DsStStagingDiskRequest	Indicates if the staging disk should be retained or deleted when the last attached client detaches.	
PollingFrequency	DsStNotification	'Poll' the database to see if there is any work for this server.	Y(es); N(o)
PoolType	DsStServiceThreadConfig	Classification of threads within a certain pool. (i.e. ReadThreads, WriteThreads)	
PortNumber	DsStConfigParameter	The port that a server listens on to get woken up.	

Table 3-71. Column Descriptions (19 of 27)

Column	Table	Description	Valid Values
PrinterSource	DsStPrintRequest	The staging disk on which the file to be printed resides.	
PrintFileName	DsStPrintRequest	The file to be printed.	
PrintQue	DsStMediaServer	The destination printer queue to print to. Required for the printer server configuration.	High, Medium, Low
PrintUser	DsStPrintRequest	The client process requesting the print.	
Priority	DsDdRequest DsDdRequestArchive DsStGenericRequest DsStBackup DsStBackupHistory DsDdAssignmentRule	The priority for the DistRequest object. Priority assigned.	
ProcessedFlag	DsStCancelledRequest	Indicates whether or Not this request cancellation has been seen by the affected server. This does Not mean the request has been serviced.	
ProcessingState	DsStGenericRequest	The state of a request. (i.e. P = Processing, S = Suspended, C = Completed)	
ProgressPartial	DsStGenericRequest	The portion of a certain request that is completed.	
ProgressTotal	DsStGenericRequest	The total portion needed to complete the request.	
ProgressUnits	DsStGenericRequest	The units of portion used in ProgressPartial and ProgressTotal.	
PullHost	DsStFtpRequest	The machine on which the pull area resides.	
PullServerId	DsStFtpRequest	The serverid of the pull monitor server.	
PushDest	DsDdAssignmentRuleHWCI	Stores the push destination for request media	
RealValue	DsStStagingDiskRequest	Houses request values that are real types	
RecorderSpeed	DsStCDROMServer	Speed 2 or 4, which depends on the hardware configuration.	
ReprocessingFlag	DsStPendingDelete	Indicates whether or not a particular file corresponds to a reprocessing volume group.	
RequestDirectoryId	DsStFtpRequest	The directory id associated with an ftp pull request.	

Table 3-71. Column Descriptions (20 of 27)

Column	Table	Description	Valid Values
RequestFrequency	DsStRequestMgrServer	How often the procedures get executed.	
RequestId	DsDdParameterList DsDdGranule DsDdFile DsDdRequest DsDdFileArchive DsDdGranuleArchive DsDdParameterListArchive DsDdRequestArchive DsStRequestMedia	The RequestID of the distribution request that came from science data server (SDSRV). For DsStRequestMedia table received from the DDIST (Data Distribution) CI as the RPCId	
RequestRetention	DsStRequestMgrServer	How long request should be kept before it is deleted.	
ResourceHWCI	DsDdRequest	Stores the hardware ci that should be accessed for the processing of a particular request	
RestartMode	DsStCacheManagerRequest	The mode in which the server was restarted.	
RetChunkSize	DsDdRequest	Number of files requested at one time from the archive server to the Ddist server.	
Retention	DsStStagingDisk	Refers to how long (in hours) an incomplete request will be held in the checkpoint table (staging disk) before being discarded as an abandoned request	
Retries	DsStConfigParameter	Number of retries if (Distribution and Ingest FTP) request fails (e.g., 1).	
RetrievedFileSize	DsStFile	File size capacity.	
RootPath	DsStStagingDiskServer DsStCache	Path to Device/ Resource (staging area cache) (for the Staging Monitor/ Disk) (e.g., /home/dsst/pullmonitor)	

Table 3-71. Column Descriptions (21 of 27)

Column	Table	Description	Valid Values
RPCId	DsDdRequest DsDdRequestArchive DsStArchiveFileRequest DsStArchiveRequest DsStCacheManagerRequest DsStCancelledRequest DsStDependentRequest DsStEventLog DsStFile DsStFtpRequest DsStGenericRequest DsStGrClTempGR DsStGRCompletedRequest DsStMediaRequest DsStMediaServerContacted DsStPendingReservations DsStPrintRequest DsStStagingDiskRequest DsStTempGR	For rebinding/restarting. The format is a combination of a RequestId from a system level and a TransactionId that is fixed whenever the system restarts. SDSRVStagingArea DsDdRequest. The Location where science data server is staging the request data.	
RPCSubTag	DsStConfigParameter	String identifying a server that is used to create submessages within a RPCId.	
Scope	DsStErrorAttribute	Targeted level of the operation.	'R' (request); 'A' (application); 'S' (system); 'E' (enterprise)
SCSIId	DsStDevice DsStPreconfiguredDevice	(NOT USED)	
SDSRVStageArea	DsDdRequest DsDdRequestArchive	(Not Currently Used)	
SelectionDate	DsStVolumeGroup	Stores the date that divides reprocessing and forwardprocessing volume groups	
SeniorClient	DsDdAssignmentRuleHWCI	Originator of request.	
SeqNum	DsDdAssignmentRule DsDdAssignmentRuleHWCI	Used to fire the assignmentrule. The AssignmentRules with the lower seqnum are fired first.	
SequenceNo	DsStGrClTempGR	Monotonic key in the DsStGrClTempGR table	

Table 3-71. Column Descriptions (22 of 27)

Column	Table	Description	Valid Values
ServerDescription	DsStServerType	Description of server type (e.g., Large capacity 4MM Tape stacker device).	
ServerId	DsStArchiveResumedRequest DsStArchiveServer DsStCache DsStCDROMServer DsStConfigParameter DsStDevice DsStFile DsStFreeSpaceLock DsStFtpHippiHost DsStFtpServer DsStGenericRequest DsStMediaServer DsStMediaServerContacted DsStPendingDelete DsStRequestMgrServer DsStServiceThreadConfig DsStStacker DsStStagingDisk DsStStagingDiskServer DsStVolumeGroup	Unique identifying name of server using pre-defined naming convention (e.g., EcDsStArchiveServer<HWCI>_<mode>, EcDsStPullMonitorServer<HWCI>_<mode>).	
ServerName	DsStConfigParameter	The text name of the server instance including HWCI but Not MODE.	
ServerType	DsStConfigParameter DsStMedia DsStServerType DsStPreconfiguredStacker DsStPreconfiguredDevice	Unique identifier of type of server (e.g., Pull Monitor, Archive, Distribution FTP, D3, 4MM TAPE)	
Severity	DsStErrorAttribute	Assessed degree of the error encountered.	F'(atal); E(rror); W(arning)
ShortName	DsDdGranuleArchive DsDdRequestArchive	Standard ECS Shortname.	
Site	DsDdParameterList DsDdParameterListArchive	Site to be Notified.	
Size	DsStStagingDisk DsStCacheManagerRequest DsStStagingDiskRequest	The measurement of the staging disk referenced in blocks.	
SizeInMB	DsDdRequest DsDdRequestArchive	The total size of bytes in the distribution request.	
Sleeptime	DsStConfigParameter	Duration in minutes to wait between retries (for Distribution and Ingest FTP) (e.g., 10).	

Table 3-71. Column Descriptions (23 of 27)

Column	Table	Description	Valid Values
SlotId	DsStSlot DsStMediaRequest	Number of slots within a stacker.	
SlotNumber	DsStSlot	Indicates which slot of the available slots in the stacker hardware is being used (e.g., 1, 2, 3).	
Source	DsStFile	Indicates on a retrieve request whether or Not the place where the server is looking for the file is Primary, Backup, or Offsite.	
SourceDiskTag	DsStStagingDiskRequest DsStStagingDiskFile	The location where files to be linked or copied exist.	
SourceFile	DsStStagingDiskFile	The name of the Unix file of the link.	
SourceFileName	DsStStagingDiskRequest DsStCacheManagerRequest	The name of the Unix file to be linked to.	
SourceLocation	DsStCacheManagerRequest	The location of the source files to be linked.	
SourceName	DsDdFile DsDdFileArchive	Input file name from science data server (SDSRV).	
SourcePath	DsDdFile DsDdFileArchive DsStFtpRequest	The Staging file path. The Unix path from which to copy or ftp a file.	
SourcePosition	DsStFile	A number indicating the current location in a list when the server is searching through volume groups. (Retrieve Request only)	
SourceServerId	DsStCacheManagerRequest	The serverid from the cache manager from, which to copy the file.	
SourceStagingDisk	DsStMediaRequest	The disktag from which to copy or ftp a file.	
SRPCId	DsStArchiveResumedRequest	Suspended RPCId	
StackerId	DsStDevice DsStMediaRequest DsStStacker DsStSlot	Unique (Medium) type and (model) number of the stacker hardware (e.g., 4MMEXB218).	
StackerModel	DsStStacker DsStPreconfiguredStacker	The manufacture name and model for the stacker.	
StackerNumber	DsStStacker DsStPreconfiguredStacker	An identifier for a Stacker such as "Stacker1_OPS"	
StackerPath	DsStStacker DsStPreconfiguredStacker	Directory path of device or resource files used.	

Table 3-71. Column Descriptions (24 of 27)

Column	Table	Description	Valid Values
StackerStatus	DsStPreconfiguredStacker	Indicates whether the stacker is online or offline.	
StagDiskLienId	DsStStagingDiskLien	Unique identifier for the StagingDiskLien table	
Stage	DsStPendingDelete	On a batch delete request indicates the stage of processing of a file (i.e. Blank, Checkpointed, Submitted)	
StageDiskSize	DsDdGranule DsDdFile DsDdFileArchive DsDdGranuleArchive	The staging disk size.	
StagingBlockSize	DsStStagingDiskServer	The size of the blocks used for staging disk allocation.	
StartDate	DsStBackup DsStBackupHistory	Date and time at which a scheduled activity begins.	
StartTime	DsDdRequest DsDdRequestArchive	The start time of the distribution request.	
State	DsDdRequest DsDdRequestArchive DsStDeleteLogCacheFile DsStCacheFile	The queue state of the distribution request. (i.e.: Pending, Active, Shipped,...) Indicates whether the file is in the cache or enroute to the cache.	
Status	DsDdRequest DsDdRequestArchive DsStPendingDelete	The status for the distribution Request object. 1) For Table: DsStConfigParameter. Status of server. Application software automatically sets to 'ONLINE' when server is brought up and 'OFFLINE'. (default) when brought down. Note: The associated column domain is "state." Valid Values: "ONLINE" ; "OFFLINE" 2) For Table: DsStDevice. Status of server (e.g., "0" for ONLINE or "1" for OFFLINE). 3) For Table: DsStSchedule. Status of server. Queued (initial), Complete, Inprogress, Reserved. Note: The associated column domain is "status."	0 (= online); 1 (=offline)

Table 3-71. Column Descriptions (25 of 27)

Column	Table	Description	Valid Values
StillStoring	DsStBackup DsStBackupHistory	A flag indicating whether a file is presently being written to the cache.	
Submitter	DsStGenericRequest	Client who has sent the request.	
Suggestion	DsStErrorText	Recommendation for handling recovery related to an experienced error (mnemonic).	
TargetDisk	DsStStagingDiskRequest	The disktag of the disk to which staging disk request occur.	
TargetFileName	DsStStagingDiskRequest DsStCacheManagerRequest	The resulting file of the staging disk operation request. The resulting file of the cache operation request.	
TargetPath	DsStCacheManagerRequest	The Unix path to which cache copies are written.	
ThreadId	DsStGenericRequest	Unique identifier of a thread, which a request is assigned to.	
ThreadLimit	DsDdThreadPool	Holds the limit for threads.	
ThreadPoolId	DsDdAssignmentRule DsDdThreadPool DsDdRequest	Unique integer per threadpool	
ThreadPoolName	DsDdThreadPool	name of thread to be allocated to each request grouping defined based on a request criteria.	
TotalCacheSpace	DsStCache	The overall size of the cache in blocks.	
TotalDrives	DsStStacker DsStPreconfiguredStacker	Total number of drives/devices available in this stacker (for Distribution and Ingest FTP, 4MM and 8MM Tapes) (e.g., 1, 2).	
TotalRoSlots	DsStStacker DsStPreconfiguredStacker	Number of (cartridge) slots that are read-only.	
TotalRwSlots	DsStStacker DsStPreconfiguredStacker	Number of (cartridge) slots that is read-write.	
TotalSlots	DsStStacker DsStPreconfiguredStacker	Total number of slots available in this stacker (e.g., 10, 12, 20).	
TotalStagingSpace	DsStStagingDiskServer	The overall size of the staging space in blocks available for the staging disk.	

Table 3-71. Column Descriptions (26 of 27)

Column	Table	Description	Valid Values
TypeOperation	DsStGenericRequest	Stores a brief description of the type of operation that is being requested, whether the request be a “get” operation (Ex. “ArRetrieve”) or a “put” operation (Ex. “ArStore”).	
UncompressedFileSize	DsStCacheFile DsStDeleteLogCacheFile	The uncompressed file size of the block space.	
UsedFlag	DsStManagedCacheDir	A flag indicating whether a managed directory has been written to.	
Username	DsStCacheManagerRequest DsStFtpRequest	The Unix username used to ftp.	
UserProfile	DsDdParameterList DsDdParameterListArchive	Holds the profile ID.	
UserString	DsDdParameterList DsDdParameterListArchive	Free text string supplied by the user. Returned in the Distribution Email message as "UserString: <supplied string>"	
VersionedDataType	DsStPendingDelete DsStVolumeGroup	The ESDT with the versionid appended to it used to specify a volume group.	
VersionID	DsDdGranuleArchive DsDdRequestArchive	Standard ECS granule versionid.	
VHighThreads	DsStServiceThreadConfig	Number of service threads in the pool allocated at the priority vhigh.	
VolumeEndDate	DsStVolumeGroup	Date and time the volume group use was completed.	
VolumeGroupId	DsStCompressionStats DsStPendingDelete DsStVolumeGroup	(GOING AWAY)	
VolumeGroupPath	DsStVolumeGroup	Location of the files associated with the volume group (e.g., /amass/volumegroupone).	
VolumeGroupSource	DsStFile	Original location of the volume group	
VolumeStartDate	DsStVolumeGroup	Date and time the volume group use was created.	
WarmStartCounter	DsDdRequest DsDdRequestArchive	The warmstart counter.	

Table 3-71. Column Descriptions (27 of 27)

Column	Table	Description	Valid Values
WorkingDirectory	DsStMediaRequest	Directory on local host used for media distribution.	
XpressThreads	DsStServiceThreadConfig	Number of service threads in the pool allocated at the priority xpress.	

3.1.4 Column Domains

Domains specify the ranges of values allowed for a given table column. Sybase supports the definition of specific domains to further limit the format of data for a given column. Sybase domains are, in effect, user-defined data types. There are No domains defined for STMGT.

3.1.5 Column Default Values

Defaults are used to supply a value for a column when one is not defined at row insert time. Defaults defined in Sybase for the STMGT Subsystem database are described herein.

Column Name	Default Name	Default Value
DsStCache.AvailableCacheSpace	DsStCache_Availa_941298463	0
DsStCacheFile.DeleteFlag	DsStCacheF_Delete_1299587768	“N”
DsStGenericRequest.ErrorCode	DsStGeneri_ErrorC_432108680	0
DsStManagedCacheDir.UsedFlag	DsStManage_UsedFl_91915449	0
DsStPreconfiguredStacker.OnlineDrives	DsStPrecon_Online_1453300287	0
DsStPreconfiguredStacker.OnlineSlots	DsStPrecon_Online_1485300401	0
DsStPreconfiguredStacker.TotalDrives	DsStPrecon_TotalD_1469300344	0
DsStPreconfiguredStacker.TotalRoSlots	DsStPrecon_TotalR_1501300458	0
DsStPreconfiguredStacker.TotalRwSlots	DsStPrecon_TotalR_1517300515	0
DsStPreconfiguredStacker.StackerStatus	DsStPrecon_Stacke_1533300572	1
DsStStacker.OnlineDrives	DsStStacke_Online_1325299831	0
DsStStacker.OnlineSlots	DsStStacke_Online_1357299945	0
DsStStacker.TotalDrives	DsStStacke_TotalD_1341299888	0

(Cont'd)

Column Name	Default Name	Default Value
DsStStacker.TotalRoSlot	DsStStacke_TotalR_1373300002	0
DsStStacker.TotalRwSlot	DsStStacke_TotalR_1389300059	0
DsStStagingDisk.Retention	DsStStagin_Retent_1326015855	720
DsDdThreadPool.ThreadLimit	DsDdThread_Thread_14011181	0
DsDdAssignmentRule.ECSUserId	DsDdAssign_ECSUse_766013860	"ANY"
DsDdAssignmentRule.Priority	DsDdAssign_Priori_782013917	"ANY"
DsDdAssignmentRule.EsdtType	DsDdAssign_EsdtTy_798013974	"ANY"
DsDdAssignmentRule.MediaType	DsDdAssign_MediaT_814014031	"ANY"

3.1.6 Referential Integrity Rules

Sybase supports the definitions of rules. Rules provide a means for enforcing domain constraints on a given column.

Rule Name	Rule Logic
DsDdAssign_HWCI_1014346728	CHECK ((MediaType != "scp") or ((MediaType = "scp") and (HWCI like "%[_]%aes%")) or ((MediaType = "scp") and (HWCI like "%[_]%des%")) or ((MediaType = "scp") and (HWCI like "%[_]none")) or ((MediaType = "scp") and (HWCI like "%[_]auto")))
DsDdAssign_SeqNum_310344220	CHECK (SeqNum >= 0)
DsDdAssign_SeqNum_486344847	CHECK (SeqNum >= 0)
DsDdAssign_SeqNum_998346671	CHECK (SeqNum >= 0)
DsDdThread_Thread_1390680052	CHECK (ThreadLimit >= 0)
DsSiRequest_RULE	CREATE RULE DsSiRequest_RULE as @state in (1, 2, 3, 4, 5, 6, 7)
RuleDeleteFromArchive	CREATE RULE RuleDeleteFromArchive as @DeleteFromArhcive in ('Y','N')
RuleSpatialType	CREATE RULE RuleSpatialType AS @spatial IN ('Orbit', 'Rectangle', 'GPolygon', 'Point', 'Circle', 'NotSupported', 'Unknown')
UpdateQATimeRange_RULE	CREATE RULE dbo.UpdateQATimeRange_RULE AS @UpdateQATimeRange >= 0 AND @UpdateQATimeRange <= 32767
accessPermission_RULE	CREATE RULE dbo.accessPermission_RULE AS @accessPermission like ('[PRN]') or @accessPermission like ('[PRN][PRN]') or @accessPermission like ('[PRN][PRN][PRN]')

3.1.7 Views

Sybase allows the definition of views as a means of limiting an application or users access to data in a table or tables. Views create a logical table from columns found in one or more tables. A view is defined in DDIST Subsystem database for EMS processing.

EMSDistFTP_View

Object Type	View

Columns

NAME	Datatype	Null
RequestId	varchar(50)	Yes
State	varchar(50)	Yes
EcsUserId	varchar(50)	No
dt_StartTime	varchar(18)	Yes
transferDuration	int	Yes
ShortName	varchar(8)	Yes
VersionID	tinyint	Yes
GranuleId	granuleid	No
SourceName	source200	No
SourcePath	path	Yes
FileSize	float(8)	Yes
FtpHost	varchar(255)	Yes

Privileges

Object Name	Delete	Execute	Insert	References	Select	Update
EMSgroup					Y	

Dependencies

Referenced Objects

Object Name	Object Type
DsDdFileArchive	TABLE
DsDdGranuleArchive	TABLE
EMSRequests	TABLE
granuleid	USER DATATYPE
path	USER DATATYPE
source200	USER DATATYPE

Figure 3.1.7-1. EMSDistFTP_View

3.1.8 Declarative Integrity Constraints

Sybase allows the enforcement of referential integrity via the use of declarative integrity constraints. Integrity constraints allow the SQL server to enforce primary and foreign key integrity checks automatically without requiring programming. Sybase is ANSI-92 compliant, therefore, its constraints support "restrict-only" operations. This means that a row cannot be deleted or updated if there are rows in other tables having a foreign key dependency on that row. Cascade delete and update operations can not be performed if a declarative integrity constraint has been used. Declarative integrity constraints used in the STMGT and DDIST Subsystem database are found here. Referential integrity is also maintained through use of user-defined triggers and procedures.

3.1.8.1 Dependencies on Table: DsDdGranule

Reference by List

Referenced by	Primary Key	Foreign Key
DsDdFile	RequestId GranuleId Gran_Id_No	RequestId GranuleId Gran_Id_No

3.1.8.2 Dependencies on Table: DsDdParameterList

Reference by List

Referenced by	Primary Key	Foreign Key
DsDdRequest	RequestId	RequestId

3.1.8.3 Dependencies on Table: DsDdRequest

Reference by List

Referenced by	Primary Key	Foreign Key
DsDdGranule	RequestId	RequestId
DsStRequestMedia	RequestId	RequestId

3.1.8.4 Dependencies on Table: DsDdThreadPool

Reference by List

Referenced by	Primary Key	Foreign Key
DsDdRequest	ThreadPoolId	ThreadPoolId
DsDdAssignmentRule	ThreadPoolId	ThreadPoolId

3.1.8.5 Dependencies on Table: DsStArchiveRequest

Reference by List

Referenced by	Primary Key	Foreign Key
DsStFile	RPCId	RPCId

3.1.8.6 Dependencies on Table: DsStArchiveServer

Reference by List

Referenced by	Primary Key	Foreign Key
DsStVolumeGroup	ServerId	ServerId
DsStPendingDelete	ServerId	ServerId

3.1.8.7 Dependencies on Table: DsStCache

Reference by List

Referenced by	Primary Key	Foreign Key
DsStCacheFile	CacheId	CacheId
DsStNotification	CacheId	CacheId
DsStManagedCacheDir	CacheId	CacheId

3.1.8.8 Dependencies on Table: DsStCacheFile

Reference by List

Referenced by	Primary Key	Foreign Key
DsStFileLien	FileName, CacheId	FileName, CacheId
DsStFileLink	FileName, CacheId	FileName, CacheId

3.1.8.9 Dependencies on Table: DsStConfigParameter

Reference by List

Referenced by	Primary Key	Foreign Key
DsStArchiveResumedRequest	ServerId	ServerId
DsStCache	ServerId	ServerId
DsStFile	ServerId	ServerId
DsStFtpServer	ServerId	ServerId
DsStMediaServer	ServerId	ServerId
DsStArchiveServer	ServerId	ServerId
DsStStagingDiskServer	ServerId	ServerId
DsStServiceThreadConfig	ServerId	ServerId
DsStFtpRequest	ServerId	PullServerId
DsStGenericRequest	ServerId	ServerId
DsStRequestMgrServer	ServerId	ServerId

3.1.8.10 Dependencies on Table: DsStDevice

Reference by List

Referenced by	Primary Key	Foreign Key
DsStMediaRequest	DeviceName	DeviceName

3.1.8.11 Dependencies on Table: DsStErrorAttribute

Reference by List

Referenced by	Primary Key	Foreign Key
DsStFile	ErrorCode	ErrorCode
DsStEventLog	ErrorCode	EventNumber
DsStGenericRequest	ErrorCode	ErrorCode
DsStMediaServerContacted	ErrorCode	ErrorCode
DsStPendingDelete	ErrorCode	ErrorCode
DsStCancelledRequest	ErrorCode	ErrorCode

3.1.8.12 Dependencies on Table: DsStErrorText

Reference by List

Referenced by	Primary Key	Foreign Key
DsStErrorAttribute	ErrorCode	ErrorCode

3.1.8.13 Dependencies on Table: DsStFile

Reference by List

Referenced by	Primary Key	Foreign Key
DsStArchiveFileRequest	RPCId FileIndex	OriginalRPCId FileIndex

3.1.8.14 Dependencies on Table: DsStFtpServer

Reference by List

Referenced by	Primary Key	Foreign Key
DsStFtpHippiHost	ServerId	ServerId

3.1.8.15 Dependencies on Table: DsStGenericRequest

Reference by List

Referenced by	Primary Key	Foreign Key
DsStCacheManagerRequest	RPCId	RPCId
DsStFtpRequest	RPCId	RPCId
DsStMediaRequest	RPCId	RPCId
DsStPrintRequest	RPCId	RPCId
DsStArchiveRequest	RPCId	RPCId
DsStDependentRequest	RPCId	RPCId
DsStDependentRequest	ActiveRPCId	RPCId
DsStStagingDiskRequest	RPCId	RPCId
DsStCancelledRequest	RPCId	RPCId
DsStArchiveFileRequest	RPCId	RPCId

3.1.8.16 Dependencies on Table: DsStManagedCacheDir

Reference by List

Referenced by	Primary Key	Foreign Key
DsStFileLink	DirectoryId	DirectoryId
DsStFtpRequest	DirectoryId	RequestDirectoryId

Additionally, stored procedures identified in the PDL section will be added to the 311.

3.1.8.17 Dependencies on Table: DsStMedia

Reference by List

Referenced by	Primary Key	Foreign Key
DsStSlot	MediaId	MediaId
DsStDevice	MediaId	MediaId
DsStMediaSet	MediaId	MediaId
DsStRequestMedia	MediaId	MediaId
DsStMediaRequest	MediaId	MediaId

3.1.8.18 Dependencies on Table: DsStMediaRequest

Reference by List

Referenced by	Primary Key	Foreign Key
DsStMediaServerContacted	RPCId	RPCId

3.1.8.19 Dependencies on Table: DsStMediaServer

Reference by List

Referenced by	Primary Key	Foreign Key
DsStDevice	ServerId	ServerId
DsStStacker	ServerId	ServerId
DsStCDROMServer	ServerId	ServerId
DsStMediaServerContacted	ServerId	ServerId

3.1.8.20 Dependencies on Table: DsStServerType

Reference by List

Referenced by	Primary Key	Foreign Key
DsStMedia	ServerType	ServerType
DsStConfigParameter	ServerType	ServerType

3.1.8.21 Dependencies on Table: DsStSlot

Reference by List

Referenced by	Primary Key	Foreign Key
DsStMediaRequest	SlotId	SlotId

3.1.8.22 Dependencies on Table: DsStStacker

Reference by List

Referenced by	Primary Key	Foreign Key
DsStMediaRequest	StackerId	StackerId
DsStSlot	StackerId	StackerId
DsStDevice	StackerId	StackerId

3.1.8.23 Dependencies on Table: DsStStagingDisk

Reference by List

Referenced by	Primary Key	Foreign Key
DsStStagingDiskFile	DiskTag	DiskTag
DsStStagingDiskLien	DiskTag	DiskTag

3.1.8.24 Dependencies on Table: DsStStagingDiskServer

Reference by List

Referenced by	Primary Key	Foreign Key
DsStStagingDisk	ServerId	ServerId

3.1.8.25 Dependencies on Table: DsStVolumeGroup

Reference by List

Referenced by	Primary Key	Foreign Key
DsStFile	LastBackupVolumeGroup	VolumeGroupId
DsStFile	LastArchiveVolumeGroup	VolumeGroupId
DsStFile	LastOffsiteVolumeGroup	VolumeGroupId
DsStPendingDelete	VolumeGroupId	VolumeGroupId
DsStCompressionStats	VolumeGroupId	VolumeGroupId

3.1.9 Triggers

Sybase supports the enforcement of business rules via the use of triggers. A trigger is best defined as a set of activities or checks that should be performed automatically whenever a row is inserted, updated, or deleted from a given table. Sybase version allows the definition of insert, update, and delete triggers at the table level. A summary listing of the triggers in the STMGT Subsystem database are given in Table 3-72 along with the database table it is associated with and a brief description of the purpose for the trigger. A listing of the code follows this listing.

Table 3-72. Summary List of Triggers (1 of 2)

Table	Trigger	User Defined	Description
DsDdFile	DsDdFDeleteTrig	Yes	DsDdFile table delete trigger. Removes all parent table references to the deleted record(s).
DsDdGranule	DsDdGDeleteTrig	Yes	DsDdGranule table delete trigger. Removes all parent table references to the deleted record(s).
DsDdParameterList	DsDdPDeleteTrig	Yes	DsDdParameterList table delete trigger. Removes all parent table references to the deleted record(s).
DsDdRequest	DsDdRDeleteTrig	Yes	DsDdRequest table delete trigger
DsDdRequest	DsDdUpdRequestStatusTrig	Yes	Keeps DDIST State/MSS Request Status consistent
DsStBackup	DsStBDeleteTrig	Yes	Delete trigger on the DsStBackup table that logs deletions to another table using a cursor if DELETE has more than 1 row. TABLES ACCESSED:DsStBackup DsStBackupHistory RETURNS:Status (Success = 0)
DsStCacheFile	DsStCFDeleteTrig	Yes	Delete trigger for the DsStCacheFile table.
DsStFileLink	DsStFLDeleteTrig	Yes	Delete trigger for the DsStFileLink table.

Table 3-72. Summary List of Triggers (2 of 2)

Table	Trigger	User Defined	Description
DsStVolumeGroup	DsStVGDeleteTrig	Yes	Delete trigger for the DsStVolumeGroup table.
DsStVolumeGroup	DsStVGInsertTrig	Yes	Insert trigger for the DsStVolumeGroup table.
DsStVolumeGroup	DsStVGUpdateTrig	Yes	Update trigger for the DsStVolumeGroup table.

3.1.10 Stored Procedures

Sybase also supports business rules via the use of stored procedures. Stored procedures are typically used to capture a set of activities or checks that will be performed on the database repeatedly to enforce business rules and maintain data integrity. Stored procedures are parsed and compiled SQL code that reside in the database and may be called by name by an application, trigger or another stored procedure. A summary list of the stored procedures in the STMGT Subsystem database are given in Table 3-73 followed by listings of the code.

Table 3-73. Summary List of Procedures (1 of 10)

Procedure Name
EMSProcRequestExtract
DsDdARDelete
DsDdARInsert
DsDdFDelete
DsDdFInsert
DsDdFSelectAll
DsDdFSelectAllFiles
DsDdFSelectByReqGranSrc
DsDdFUpdate
DsDdGDelete
DsDdGInsert
DsDdGSelectAll
DsDdGSelectAllGranules
DsDdGSelectByReqGran
DsDdGUpdate
DsDdGetErrorList
DsDdGetScpParameters
DsDdIdInEMChecksumRequests
DsDdPLAuxUpdate
DsDdPLDelete
DsDdPLInsert

Table 3-73. Summary List of Procedures (2 of 10)

Procedure Name
DsDdPLSelectAll
DsDdPLSelectByReq
DsDdPLUpdate
DsDdRDelete
DsDdRInsert
DsDdRMapToHWCI
DsDdRSelectAll
DsDdRSelectAllReq
DsDdRSelectByRequestId
DsDdRSelectByState
DsDdRSelectByTape
DsDdRSelectTape
DsDdRTSelectByReq
DsDdRUpdate
DsDdRUpdateOrdState
DsDdRUpdateState
DsDdSGInsert
DsDdSGSelectAll
DsDdSGUpdateGenValue
DsDdTMapReqToThread
DsDdTPDelete
DsDdTPInsert
DsDdTPSelectLimit
DsDdTPSelectNamesLimits
DsStAFRInsert
DsStAFRSelect
DsStAFUpdateForRetry
DsStARDeleteByServerId
DsStARGetNextReadRequest
DsStARGetNextRequest
DsStARGetNextWriteRequest
DsStARInsert
DsStARRestartReadRequest
DsStARRestartWriteRequest
DsStARSelectByRPCId
DsStASSelectByServerId
DsStBDelete
DsStBDeleteComplete
DsStBInsert
DsStBSelect
DsStBSelectByName

Table 3-73. Summary List of Procedures (3 of 10)

Procedure Name
DsStBUpdBackupStageAndStatus
DsStBUpdOffsiteStageAndStatus
DsStBUpdatePriority
DsStBUpdateStillStoring
DsStCFSelectByCacheId
DsStCMCleanupOrSleep
DsStCMCreateManDir
DsStCMDeleteByOwner
DsStCMDeleteByServerId
DsStCMDeleteCache
DsStCMDeleteExpiredLiens
DsStCMDeleteFile
DsStCMGetNextRequest
DsStCMIsCached
DsStCMIsLinked
DsStCMLinkToCache
DsStCMMakeSpace
DsStCMMarkDeleted
DsStCMPeriodic
DsStCMRInsert
DsStCMRRoute
DsStCMRSelect
DsStCMSelectAvailCacheSpace
DsStCMRTriggerMakeSpace
DsStCMRUpdate
DsStCMRUpdateByOper
DsStCMReleaseLien
DsStCMRemoveLink
DsStCMRemoveManDir
DsStCMReserveCache
DsStCMReserveFile
DsStCMSelectCache
DsStCMSelectCacheDirs
DsStCMSelectCacheFile
DsStCMSelectCacheFiles
DsStCMSelectCacheId
DsStCMSelectCacheLinks
DsStCMSelectExpiredDirs
DsStCMSelectExpiredLinks
DsStCMSelectFiles
DsStCMSelectNextJob

Table 3-73. Summary List of Procedures (4 of 10)

Procedure Name
DsStCMSelectNextRequest
DsStCMSelectNextRequestByOper
DsStCMSyncCacheSpace
DsStCMUnMarkDeleted
DsStCMUpdateExpireDir
DsStCMUpdateFileSize
DsStCMUpdateFileState
DsStCMUpdateLastAccess
DsStCPDelete
DsStCPGetLocalStagDiskServer
DsStCPInsert
DsStCPInsertArchiveServer
DsStCPInsertCacheMgrServer
DsStCPInsertFtpServer
DsStCPInsertMediaServer
DsStCPInsertRequestMgrServer
DsStCPInsertStagingDiskServer
DsStCPRegisterServer
DsStCPSelect
DsStCPSelectById
DsStCPSelectByName
DsStCPSelectByType
DsStCPSelectServerId
DsStCPSelectServerIdByTypeHWCI
DsStCPUnregisterServer
DsStCPUpdate
DsStCPUpdateArchiveServer
DsStCPUpdateCacheMgrServer
DsStCPUpdateFtpServer
DsStCPUpdateMediaServer
DsStCPUpdateRequestMgrServer
DsStCPUpdateStagingDiskServer
DsStCRSelectRPCId
DsStCSInsert
DsStCSSelect
DsStCSUpdate
DsStCSelect
DsStCSelectByServerId
DsStDAllocateDevice
DsStDAllocateDeviceForIngest
DsStDDeallocateDevice

Table 3-73. Summary List of Procedures (5 of 10)

Procedure Name
DsStDAllocateStackerDevice
DsStDDelete
DsStDInsert
DsStDIsDeviceAllocated
DsStDRInsert
DsStDRSelectRPCId
DsStDSelect
DsStDSelectByDeviceName
DsStDSelectByMediaId
DsStDSelectByRequestId
DsStDSelectByStackerId
DsStDSelectElemNo
DsStDSelectIsDriveOnline
DsStDSelectIsMediaInDrive
DsStDSelectOnlineByStackerId
DsStDTFRCleanup
DsStDUpdateDevice
DsStDUpdateIsDriveAllocated
DsStDUpdateIsDriveOnline
DsStDUpdateIsMediaInDrive
DsStDetermineRoutedErrorCode
DsStEAInsert
DsStEASelectSeverityByCode
DsStEATSelectByCode
DsStEATSelectByMnemonic
DsStEAUpdate
DsStELDeleteByDate
DsStELDeleteByNum
DsStELInsert
DsStELSelectAny
DsStELSelectByTime
DsStETInsert
DsStETUpdate
DsStFBeginningDateTimeCheck
DsStFHDeleteSingleFtp
DsStFHInsertAllFtp
DsStFHInsertSingleFtp
DsStFHSelectAll
DsStFHSelectByServerId
DsStFHSelectByServerName
DsStFInsert

Table 3-73. Summary List of Procedures (6 of 10)

Procedure Name
DsStFRCheckpointExpiration
DsStFRCheckpointLoopIndex
DsStFRCheckpointPath
DsStFRGetNextRequest
DsStFRInsert
DsStFRSelectRpcId
DsStFSSelectById
DsStFSSelectByName
DsStFSelect
DsStFSelectByRPCId
DsStFUpdLastArchiveVolGroup
DsStFUpdLastBackupVolGroup
DsStFUpdLastOffsiteVolGroup
DsStFUpdRetrievedFileSize
DsStFUpdateChecksum
DsStFUpdateCkPtState
DsStFUpdateDiskTag
DsStFUpdateEventMsg
DsStFUpdateFailure
DsStFUpdateFileLocation
DsStFUpdateFileSize
DsStFUpdateServerId
DsStFUpdateSource
DsStFtpDeleteByServerId
DsStGRAckCancel
DsStGRCancel
DsStGRCancelByRequestId
DsStGRCancelDependent
DsStGRClaimRequest
DsStGRCleanup
DsStGRCleanupDetail
DsStGRCleanupSD
DsStGRDelete
DsStGRDeleteById
DsStGRDeleteByServerId
DsStGREnableBDRequests
DsStGRFUpdateCkPtState
DsStGRFUpdateFailure
DsStGRGetNewlyCancelled
DsStGRInsert
DsStGRLogProgress

Table 3-73. Summary List of Procedures (7 of 10)

Procedure Name
DsStGRMapLogicalArchiveId
DsStGRRequestCompleted
DsStGRRestartNotification
DsStGRSelectCancelled
DsStGRSelectErrorCode
DsStGRSelectFiltered
DsStGRSelectNextRequest
DsStGRSelectNotNotified
DsStGRSelectRPCId
DsStGRSelectUniqOperation
DsStGRSelectUniqSubmitter
DsStGRSuspend
DsStGRSuspendIfDependent
DsStGRUpdRequestProcessState
DsStGRUpdateCkPtState
DsStGRUpdateCompletedRequest
DsStGRUpdateNotifiedFlag
DsStGRUpdateRpcNotified
DsStGRUpdateStatus
DsStGetEcMsOpGeneral
DsStGetPrimaryVG
DsStGetPullAreaLocation
DsStGetServerIdForVolumeGroup
DsStGetStateCnt
DsStGetVGForDataType
DsStInsertDsStGrClTempGR
DsStMDDeleteByServerId
DsStMInsert
DsStMRGetNextRequest
DsStMRInsert
DsStMRSelectByRPCId
DsStMRSelectReqByServerId
DsStMRSelectWorkDirectory
DsStMRUpdWorkDirectory
DsStMRUpdateMediaOperation
DsStMRUpdateMediaStagingDisk
DsStMRUpdateRpcId
DsStMRUpdateSourceStagingDisk
DsStMSDelete
DsStMSDeleteBySetId
DsStMSInsert

Table 3-73. Summary List of Procedures (8 of 10)

Procedure Name
DsStMSSelect
DsStMSSelectById
DsStMSSelectByMediaId
DsStMSSelectByName
DsStMSSelectByServerType
DsStMSSelectBySetId
DsStMSelectByMediaId
DsStMSelectBySetId
DsStMUpdateMediaUse
DsStMUpdateStatus
DsStMediaIngest
DsStOMSVGGetHostName
DsStOMSVGGetVolumeGroupInfo
DsStPCDSelectByModel
DsStPCDSelectByServerType
DsStPCSSelectByServerType
DsStPCSSelectByStackerModel
DsStPDDeleteComplete
DsStPDEnableEntries
DsStPDFileCancel
DsStPDFileRelease
DsStPDFileSuspend
DsStPDInsertComplete
DsStPDSelectBatchDeleteFiles
DsStPDSelectFailed
DsStPDSelectResumeFiles
DsStPDSelectSummed
DsStPDTestComplete
DsStPDUpdBatchStatus
DsStPDUpdStatus
DsStPRSelectByRPCId
DsStProcNumObjects
DsStRMDeleteBH
DsStRMDeleteByServerId
DsStRMDeleteDdistArchive
DsStRMDeleteDdistArchiveTables
DsStRMDeleteEL
DsStRMInsert
DsStRMSelectAll
DsStRMSelectByServerId
DsStRMSelectDdistArchFrequency

Table 3-73. Summary List of Procedures (9 of 10)

Procedure Name
DsStRMSelectELFrequency
DsStRMSelectHistFrequency
DsStRMSelectReqFrequency
DsStSDAllocateByBlocks
DsStSDAllocateDisk
DsStSDAttachDisk
DsStSDColdStart
DsStSDDecrementDiskSpace
DsStSDDeleteByDiskPath
DsStSDDeleteByDiskTag
DsStSDDeleteByServerId
DsStSDDetachDisk
DsStSDExtendDisk
DsStSDFSelectFiles
DsStSDInsertFile
DsStSDRInsert
DsStSDRSelectAllocatedDisk
DsStSDRSelectByRPCId
DsStSDRSelectNextRequest
DsStSDRemoveFile
DsStSDRenameFile
DsStSDSSelectById
DsStSDSelectDisk
DsStSDSelectDiskById
DsStSDSelectDiskByPath
DsStSDSelectSourceFiles
DsStSDUpdateOwnerName
DsStSDUpdatePersistent
DsStSKDelete
DsStSKInsert
DsStSKSelect
DsStSKSelectAll
DsStSKSelectByServerId
DsStSKUpdate
DsStSKUpdateIsStackerOnline
DsStSLCheckOpenSlot
DsStSLInsert
DsStSLMoveDriveSlot
DsStSLMoveSlotDrive
DsStSLSelectByMediaId
DsStSLSelectByRequestId

Table 3-73. Summary List of Procedures (10 of 10)

PROCEDURE NAME
DsStSLSelectByStackerId
DsStSLSelectElemNo
DsStSLSelectOnlineByStackerId
DsStSLSelectOpenSlotDrive
DsStSLUpdateIsMediaInSlot
DsStSLUpdateIsSlotAllocated
DsStSLUpdateIsSlotOnline
DsStSLUpdateMediaId
DsStSTCInsert
DsStSTCSelectForServer
DsStSTCUpdate
DsStSTSelect
DsStSTUpdateMaxReroutes
DsStVGCheckAltVGHSAddable
DsStVGGetVGInfoByDataType
DsStVGGetVolumeGroupInfo
DsStVGHistorySelect
DsStVGInsert
DsStVGInsertAltVghs
DsStVGMapVolumeGroupPath
DsStVGSelect
DsStVGSelectById
DsStVGSelectDataType
DsStVGSelectHistory
DsStVGSelectServerId
DsStVGSelectVersionDataType
DsStVGSelectWithSort
DsStVGUpdate
datawarning
Logdump
logwarning
sp_thresholdaction

3.2 Flat File Usage

A flat file is an operating system file that is written and subsequently read serially, generally independent of other files that exist, and usually static in nature. There are cases when the implementation of persistent data is better suited to a flat file than to a database (e.g., system configuration data, external interface data). There are no flat files used by the STMGT/DDIST Subsystems. Configuration information is stored in the STMGT and DDIST database. Additional configuration information may be found in the configuration registry.

3.2.1 File Descriptions

Not Applicable

3.2.2 Field Specifications

Not Applicable

3.2.3 Domain Definitions

Not Applicable

4. Performance and Tuning Factors

4.1 Indexes

An index provides a means of locating a row in a database table based on the value of a specific column(s), without having to scan all data in the table. When properly implemented, indexes can significantly decrease the time it takes to retrieve data, thereby increasing performance. Sybase allows the definition of two types of indexes, clustered and non-clustered.

In a clustered index, the rows in a database table are physically stored in sequence-determined by the index. Clustered indexes are particularly useful, when the data is frequently retrieved in sequential order. Only one clustered index may be defined per table.

Non-clustered indexes differ from their clustered counterpart, in that, data is not physically stored in sorted order—newly added rows are stored at the end of the related database table.

A key of the types of indexes found in STMGT is provided in Table 4-1 Index Type Key. A list a description of each of the defined indexes is given in Table 4-2 Index List. The segment descriptions are defined in Table 4-3 Segment Descriptions.

Table 4-1. Index Type Key

Index Type Key	Description
P	Primary Key
F	Foreign Key
U	Unique - Only one for the column code combination
C	Clustered or Non-clustered index
Sort	ASC (ascending) of DESC (descending) order

Table 4-2. Index List (1 of 4)

Table	Index Code	Column Code	P	F	U	C	Sort
DsDdAssignmentRule	pk_dsddassignmentrule	SeqNum, ThreadPoolId	YES	NO	YES	NO	ASC
DsDdAssignmentRule	DsDdAssign_SeqNum_16851252942	SeqNum	NO	NO	YES	NO	ASC
DsDdAssignmentRuleHWCI	DsDdAssign_SeqNum_18041297682	SeqNum	NO	NO	YES	NO	ASC
DsDdFile	sk_dsddfilesourcename	SourceName	NO	NO	NO	NO	ASC
DsDdFile	pk_dsddfile	RequestId, Gran_Id_No, GranuleId, File_Id_No, SourceName	YES	NO	YES	YES	ASC
DsDdFileArchive	dsddfilearchreqid	RequestId, GranuleID, SourceName	NO	NO	NO	NO	ASC

Table 4-2. Index List (2 of 4)

Table	Index Code	Column Code	P	F	U	C	Sort
DsDdGranule	pk_dsddgranule	RequestId, Gran_Id_No, GranuleId	YES	NO	YES	YES	ASC
DsDdGranuleArchive	dsddgranarchreqid	RequestId	NO	NO	NO	NO	ASC
DsDdParameterList	dsddparalistUserString	UserString	NO	NO	NO	NO	ASC
DsDdParameterList	pk_dsddparameterlist	RequestId	YES	NO	YES	YES	ASC
DsDdParameterListArchive	dsddparalistarchreqid	RequestId	NO	NO	NO	NO	ASC
DsDdParameterListArchive	dsddparalistarchUserString	UserString	NO	NO	NO	NO	ASC
DsDdRequest	pk_dsddrequest	RequestId	YES	NO	YES	YES	ASC
DsDdRequestArchive	dsddreqarchstarttime	dt_StartTime	NO	NO	NO	NO	ASC
DsDdRequestArchive	dsddreqarchreqid	RequestId	NO	NO	NO	NO	ASC
DsDdServerGeneric	pk_dsddservergeneric	GenericName	YES	NO	YES	YES	ASC
DsDdThreadPool	pk_dsddthreadpool	ThreadPoolId	NO	NO	YES	NO	ASC
DsDdThreadPool	DsDdThread_Thread_6546253752	ThreadPoolName	NO	NO	YES	NO	ASC
DsStArchiveFileRequest	sk_dsstafrrpcfindex	OriginalRPCId, FileIndex	NO	NO	NO	NO	ASC
DsStArchiveFileRequest	pk_dsstarchivefilerequest	RPCId	YES	NO	YES	YES	ASC
DsStArchiveRequest	pk_dsstarchiverequest	RPCId	YES	NO	YES	YES	ASC
DsStArchiveServer	pk_dsstarchiveserver	ServerId	YES	NO	YES	YES	ASC
DsStBackup	sk_dsstbstillstoring	StillStoring	NO	NO	NO	NO	ASC
DsStBackup	pk_dsstbackup	FileName	YES	NO	YES	YES	ASC
DsStCDROMServer	pk_dsstcdromserver	ServerId	YES	NO	YES	YES	ASC
DsStCache	pk_dsstcache	CacheId	YES	NO	YES	YES	ASC
DsStCache	sk_dsstcmanageddirectoryarea	ManagedDirectoryArea	NO	NO	NO	NO	ASC
DsStCache	sk_dsstcserverid	ServerId	NO	NO	YES	NO	ASC
DsStCacheFile	pk_dsstcachefile	CacheId, FileName	YES	NO	YES	YES	ASC
DsStCacheFile	sk_dsstcfstatecacheid	State	NO	NO	NO	NO	ASC
DsStCacheManagerRequest	pk_dsstcachemanrequest	RPCId	YES	NO	YES	YES	ASC
DsStCacheManagerRequest	sk_dsstcmrtargetfile	TargetFileName	NO	NO	NO	NO	ASC
DsStCancelledRequest	pk_dsstcancelledrequest	RPCId	YES	NO	YES	YES	ASC
DsStCompressionStats	sk_dsstcsvolgrpidcomtype	VolumeGroupId, CompressionType	NO	NO	YES	NO	ASC
DsStCompressionStats	pk_dsstcompressionstats	CompressionId	YES	NO	YES	YES	ASC
DsStConfigParameter	pk_dsstconfigparameter	ServerId	YES	NO	YES	YES	ASC
DsStConfigParameter	sk_dsstcpservername	ServerName	NO	NO	YES	NO	ASC
DsStConfigParameter	sk_dsstcpservertype	ServerType	NO	NO	NO	NO	ASC
DsStConfigParameter	sk_dsstcphwci	HWCI	NO	NO	NO	NO	ASC
DsStDependentRequest	pk_dsstdependentrequest	DependReqId	YES	NO	YES	YES	ASC
DsStDependentRequest	sk_dsstdractiverpcid	ActiveRPCId	NO	NO	NO	NO	ASC

Table 4-2. Index List (3 of 4)

Table	Index Code	Column Code	P	F	U	C	Sort
DsStDependentRequest	sk_dsstdrrpcid	RPCId	NO	NO	NO	NO	ASC
DsStDevice	sk_dsstddrivenumber	DriveNumber	NO	NO	NO	NO	ASC
DsStDevice	sk_dsstdmediaid	MediaId	NO	NO	NO	NO	ASC
DsStDevice	sk_dsstdstackerid	StackerId	NO	NO	NO	NO	ASC
DsStDevice	sk_dsstdservidpathname	ServerId, PathName	NO	NO	YES	NO	ASC
DsStDevice	pk_dsstdevice	DeviceName	YES	NO	YES	YES	ASC
DsStErrorAttribute	pk_dssterrorattribute	ErrorCode	YES	NO	YES	YES	ASC
DsStErrorText	sk_dsstetmnemonic	Mnemonic	NO	NO	YES	NO	ASC
DsStErrorText	pk_dssterrortext	ErrorCode	YES	NO	YES	YES	ASC
DsStEventLog	pk_dssteventlog	EventLogId	YES	NO	YES	YES	ASC
DsStFile	pk_dsstfile	RPCId, FileIndex	YES	NO	YES	YES	ASC
DsStFileLien	sk_dsstflfilenamecacheid	FileName, CacheId	NO	NO	NO	NO	ASC
DsStFileLien	pk_dsstfilelien	FileLienId	YES	NO	YES	YES	ASC
DsStFileLink	pk_dsstfllinknamedirid	LinkName, DirectoryId	YES	NO	YES	NO	ASC
DsStFileLink	sk_dsstflinkfilenamecacheid	FileName , CacheId	NO	NO	NO	NO	ASC
DsStFileLink	sk_dsstfldirectory	DirectoryId	NO	NO	YES	NO	ASC
DsStFileLink	sk_dsstflexpiration	Expiration	NO	NO	NO	YES	ASC
DsStFreeSpaceLock	pk_dsfreespacelock	ServerId	YES	NO	YES	YES	ASC
DsStFtpHippiHost	pk_dsstservidhostname	ServerId, HostName	YES	NO	YES	YES	ASC
DsStFtpRequest	sk_dsstfrreqid	RequestDirectoryId	NO	NO	NO	NO	ASC
DsStFtpRequest	pk_dsstftprequest	RPCId	YES	NO	YES	YES	ASC
DsStFtpServer	pk_dsstftpserver	ServerId	YES	NO	YES	YES	ASC
DsStGrClTempGR	xDsStGrClTempGR	SequenceNo	NO	NO	YES	YES	ASC
DsStGRCompletedRequest	DsStGRComp_RPCId_10567228171	RPCId	NO	NO	YES	YES	ASC
DsStGenericRequest	pk_dsstgenericrequest	RPCId	YES	NO	YES	YES	ASC
DsStGenericRequest	sk_dsstgrserverid	ServerId	NO	NO	NO	NO	ASC
DsStManagedCacheDir	sk_dsstmcdcacheid	CacheId	NO	NO	NO	NO	ASC
DsStManagedCacheDir	sk_dsstmcddirectoryname	DirectoryName	NO	NO	NO	NO	ASC
DsStManagedCacheDir	sk_dsstmcddiridcacheid	DirectoryId, CacheId	NO	NO	YES	NO	ASC
DsStManagedCacheDir	pk_dsstmanagedcachedir	DirectoryId	YES	NO	YES	YES	ASC
DsStMedia	pk_dssmmedia	MediaId	YES	NO	YES	YES	ASC
DsStMediaRequest	pk_dssmmediarequest	RPCId	YES	NO	YES	YES	ASC
DsStMediaRequest	sk_dsstmrexternalrequestid	ExternalRequestId	NO	NO	NO	NO	ASC
DsStMediaRequest	sk_dsstmrstackerid	StackerId	NO	NO	NO	NO	ASC
DsStMediaServerContacted	pk_dsstmediaservercontacted	RPCId	YES	NO	YES	YES	ASC
DsStMediaServer	pk_dssmmediaserver	ServerId	YES	NO	YES	YES	ASC
DsStMediaSet	pk_dsstmediaset	MediaSetId, MediaId	YES	NO	YES	YES	ASC
DsStNotification	pk_dsstnotification	CacheId	YES	NO	YES	YES	ASC

Table 4-2. Index List (4 of 4)

Table	Index Code	Column Code	P	F	U	C	Sort
DsStPendingDelete	pk_dsstpendingdelete	VersionedDataType, FileName	YES	NO	YES	YES	ASC
DsStPendingDelete	sk_dsstpdstage	Stage	NO	NO	NO	NO	ASC
DsStPendingReservations	sk_dsstprcacheidfn	CacheId	NO	NO	NO	NO	ASC
DsStPendingReservations	sk_dsstprrpcid	RPCId	NO	NO	NO	NO	ASC
DsStPendingReservations	pk_dsstpendingreservations	PendingId	YES	NO	YES	YES	ASC
DsStPreconfiguredDevice	pk_dsstpreconfigureddevice	Model	YES	NO	YES	YES	ASC
DsStPreconfiguredStacker	pk_dsstpreconfiguredstacker	StackerModel	YES	NO	YES	YES	ASC
DsStPrintRequest	pk_dsstprintrequest	RPCId	YES	NO	YES	YES	ASC
DsStRequestMedia	pk_dsstrequestmedia	RequestMedia	YES	NO	YES	YES	ASC
DsStRequestMgrServer	pk_dssreqmgrserver	ServerId	YES	NO	YES	YES	ASC
DsStServerType	pk_dsstservertype	ServerType	YES	NO	YES	YES	ASC
DsStServiceThreadConfig	pk_dsstservicethreadconfig	ServerId, PoolType	YES	NO	YES	YES	ASC
DsStSlot	sk_dsstsslotnumber	SlotNumber	NO	NO	NO	NO	ASC
DsStSlot	sk_dsstsstackerid	StackerId	NO	NO	NO	NO	ASC
DsStSlot	sk_dsstsmediaid	MediaId	NO	NO	NO	NO	ASC
DsStSlot	pk_dsstslot	SlotId	YES	NO	YES	YES	ASC
DsStStacker	sk_dssttservidstackpath	ServerId, StackerPath	NO	NO	YES	NO	ASC
DsStStacker	pk_dsststacker	StackerId	YES	NO	YES	YES	ASC
DsStStagingDisk	pk_dsststagingdisk	DiskNum, DiskTag	YES	NO	YES	YES	ASC
DsStStagingDisk	sk_dsstsddisktag	DiskTag	NO	NO	YES	NO	ASC
DsStStagingDisk	sk_dsstsdserverid	ServerId	NO	NO	NO	NO	ASC
DsStStagingDiskFile	pk_dsststagingdiskfile	DiskTag, FileName	YES	NO	YES	YES	ASC
DsStStagingDiskLien	pk_dsststagingdisklien	StagDiskLienId	YES	NO	YES	YES	ASC
DsStStagingDiskLien	sk_dsstsdldisktag	DiskTag	NO	NO	NO	NO	ASC
DsStStagingDiskRequest	pk_dsststagingdiskrequest	RPCId	YES	NO	YES	YES	ASC
DsStStagingDiskServer	pk_dsststagingdiskserver	ServerId	YES	NO	YES	YES	ASC
DsStStagingDiskServer	sk_dsstsdsrootpath	RootPath	NO	NO	YES	NO	ASC
DsStTempGR	sk_dssttempgrrpcid	RPCId	YES	NO	YES	NO	ASC
DsStVolumeGroup	pk_dsstvolumegroup	VolumeGroupId	YES	NO	YES	YES	ASC
DsStVolumeGroup	sk_dsstvgdatatypeenddate	VersionedDataType VolumeEndDate	NO	NO	YES	NO	ASC
DsStVolumeGroup	sk_dsstvgserverid	ServerId	NO	NO	NO	NO	ASC
EcDbDatabaseVersions	pk_ecdbversions	EcDbSchemaVersionId EcDbDropVersion	YES	NO	YES	YES	ASC

Table 4-3. Segment Descriptions

Segment Name	Description
default	Default data segment used if No other segment specified in the create statement.
logsegment	SYSLOGS, Transaction Logs
systemsegment	System tables and indexes.

4.2 Caches

A cache is a block of memory that is used by Sybase to retain and manage pages that are currently being processed. By default, each database contains three caches:

- Data cache – retains most recently accessed data and index pages
- Procedure cache – retains most recently accessed stored procedure pages
- User transaction log cache – transaction log pages that have not yet been written to disk for each user

The size of each of these default caches is a configurable item which must be managed on a per DAAC basis. These caches may be increased or decreased by the DAAC DBA as needed.

The data cache can be further subdivided into named caches. A *named cache* is a block of memory that is named and used by the DBMS to store data pages for select tables and/or indexes. Assigning a database table to named cache causes accessed pages to be loaded into memory and retained. The named cache does not need to be allocated to accommodate the entire database table since the DBMS manages the cache according to use. Named caches greatly increase performance by eliminating the time associated for disk input and output (I/O). There are no named caches that are currently defined for the STMGT Subsystem database. Named caches may be defined as the memory usage of the STMGT database becomes better known and the DAACs move into an operational environment. As named caches are defined this portion of the document will be updated.

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5. Database Security

5.1 Approach

The database security discussed within this section is bounded to security implementation within the Sybase SQL Server DBMS. A Sybase general approach to security is adopted as illustrated in Figure 5-1.

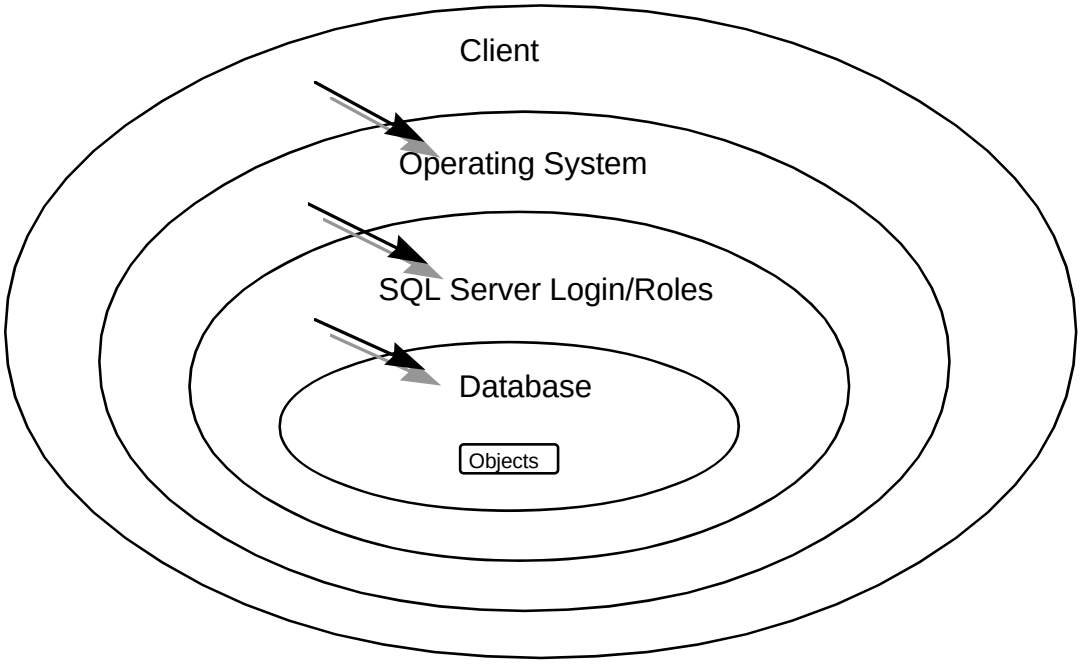

Figure 5-1. Sybase General Approach to SQL Server Security[1]

The client (user) requires a SQL Server login to access the DBMS The login is assigned to a user with certain related permissions for gaining access to particular objects (e.g., database tables, views, commands) within the database. The System Administrator may grant or revoke objects permissions for a login individually or based on defined group or roles.

Groups are a means of logically associating users with similar data access needs. Once a group has been defined, object and command permissions can be granted to that group. A user who is member of a group inherits all of the permissions granted to that group. No groups have been initially defined in the STMGT Subsystem "default database. The DAACs should define

[1] Reference Sybase Student Guide: *Advanced SQL Server Administration.*

database groups to support the database security requirements of their individual DAACs. Security for local DAAC users should be controlled by assigning each user to the appropriate group.

Roles were introduced in Sybase to allow a structured means for granting users the permissions needed to perform standard database administration activities and also provide a means for easily identifying such users. There are six pre-defined roles that may be assigned to a user. A definition of each of these roles follows, as well as a description of the types of activities that may be performed by each role.

System Administrator (*sa_role*): This role is used to grant a specific user permissions needed to perform standard system administrator duties including:

installing SQL server and specific SQL server modules

managing the allocation of physical storage

tuning configuration parameters

creating databases

Site Security Officer (*sso_role*): This role is used to grant a specific user the permissions needed to maintain SQL server security including:

adding server logins

administrating passwords

managing the audit system

granting users all roles except the *sa_role*

Operator (*oper_role*): This role is used to grant a specific user the permissions needed to perform standard functions for the database including:

dumping transactions and databases

loading transactions and databases

Navigator (*navigator_role*): This role is used to grant a specific user the permissions needed to manage the navigation server.

Replication (*replication_role*): This role is used to grant a specific user the permissions needed to manage the replication server.

Sybase Technical Support (*sybase_ts_role*): This role is used to grant a specific user the permissions needed to execute *database consistency checker (dbcc)*, a Sybase supplied utility supporting commands that are normally outside of the realm of routine system administrator activities.

The DAACs should review these roles and assign them to the appropriate login and/or groups.

5.2 Login/Group Object Permissions

During initial database installation logins used by the ECS custom code were created and permissions assigned for access to the STMGT Subsystem database. In addition, special database installation login, stmgt_role, was created to support database installation needs. For each login, the level of access is limited to that associated with their login, group or assigned group/role. Object Permissions are set within the installation scripts of the STMGT Subsystem for each object and group/role.

Permissions are identified in Table 5-1. A specification of the object permissions is contained in Table 5-2.

Table 5-1. Permission Key

Permission	Description
A	All
S	Select
I	Insert
U	Update
D	Delete
E	Execute

Table 5-2. Group Specifications (1 of 2)

Group/Role	SYBASE LOGIN	Object	A	S	I	U	D	E
EMSGroup	EcDbEMSdataExtractor	DistFTP		X				
EMSGroup	EcDbEMSdataExtractor	DsDdGranuleArchive		X				
EMSGroup	EcDbEMSdataExtractor	DsDdParameterListArchive		X				
EMSGroup	EcDbEMSdataExtractor	DsDdRequestArchive		X				
EMSGroup	EcDbEMSdataExtractor	ProcRequestExtract						X
EMSGroup	EcDbEMSdataExtractor	Requests		X		X	X	
software	EcDsDdistGui	All	X					
software	EcDsDistributionServer	All	X					
software	EcDsSt8MMServer	All	X					
software	EcDsStArchiveServer	All	X					
software	EcDsStCDROMServer	All	X					
software	EcDsStCacheManagerServer	All	X					
software	EcDsStD3Server	All	X					
software	EcDsStDLTServer	All	X					
software	EcDsStDTFServer	All	X					
software	EcDsStFtpServer	All	X					
software	EcDsStRequestManagerServer	All	X					

Table 5-2. Group Specifications (2 of 2)

Group/Role	SYBASE LOGIN	Object	A	S	I	U	D	E
software	EcDsStmgtGui	All	X					
software	PDS	All	X					
software	EcDsStStagingDiskServer	All	X					
software	EcOmOrderManager	All	X					
public	sdsrv_role	All	X					
public	stmgt_role	All	X					
public	EcDlInsertUtility	All		X				

6. Scripts

Script files in this section may be found in the directory /ecs/formal/DSS/stmgmt/src/database.

6.1 Installation Scripts

Any scripts used to support installation of the STMGT Subsystem database are described in Table 6-1.

Table 6-1. Installation Scripts

Script File	Description
EcDsStDbLogin	Adds Unix Logins pre-defined for STMGT applications to the SQL server.
EcDsStDbUser	Adds user IDs pre-defined for STMGT applications to the SQL Server.
EcDsStDbBuild	Create and empty database and pre-loads initialization data.
EcDsStDbPatch	Upgrades a Release 7 Drop 6A08 database to Drop 7

6.2 De-Installation Scripts

No de-installation scripts are provided for the STMGT subsystem database.

6.3 Backup and Recovery Scripts

Any scripts used to facilitate backup or recovery of the STMGT Subsystem database are described in Table 6-2.

Table 6-2. Backup and Recovery Scripts

Script File	Description
EcDsStDbDump	Dumps the database to a backup device
EcDsStDbLoad	Restores the database from a backup copy.

6.4 Miscellaneous Scripts

There are no miscellaneous scripts applicable to the STMGT Subsystem.

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Appendix A. Storage Management Entity Relationship Diagrams

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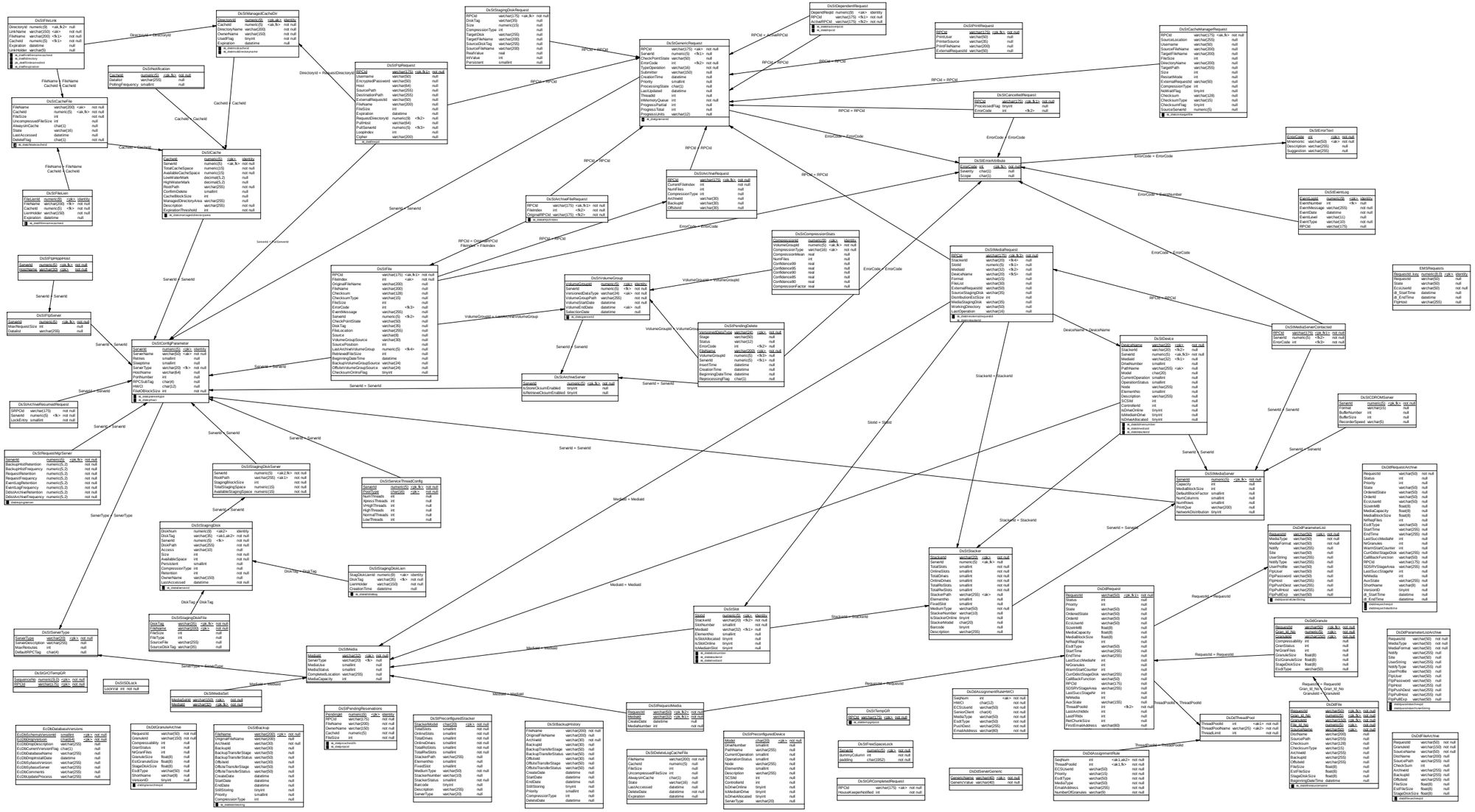

Figure A-1. STMGT Database

Abbreviations and Acronyms

ANSI	American National Standards Institute
ASC	Ascending
ASCII	American Standard Code for Information Exchange
CASE	Computer Aided Software Engineering
CD	contractual delivery 213-001
CDRL	contract data requirements list
CI	configuration item
CONFIG	Configuration Registry Subsystem
COTS	commercial off-the-shelf (hardware or software)
CSCI	computer software configuration item
DAAC	Distributed Active Archive Center
DBCC	Database Consistency Checker
DBMS	Database Management System
DCN	Document Change Notice
DDIST	Data Distribution
DESC	Descending
DID	data item description
DM	Data Management
DMS	Data Management Subsystem
ECS	EOSDIS Core System
EDC	EROS Data Center
EDHS	ECS Data Handling System
EMD	EOSDIS Maintenance and Development
EOSDIS	Earth Observing System Data and Information System
EROS	Earth Resources Observation System
ERD	Entity Relationship Diagram
ESDIS	Earth Science Data and Information System (GSFC)

ESDT	Earth science data types
ESN	EOSDIS Science Network (ECS)
FK	Foreign Key
GSFC	Goddard Space Flight Center
GUI	graphic user interface
HDF	hierarchical data format
HDF-EOS	an EOS proposed standard for a specialized HDF data format
HTML	HyperText Markup Language
HTTP	Hypertext Transport Protocol
I/O	input/output
ICD	interface control document
INGST	Ingest Services CSCI
IOS	Interoperability Subsystem
LaRC	Langley Research Center (DAAC)
MM	Millimeter
MSS	Management Support Subsystem
N/A	Not applicable
NAS	National Academy of Science
NASA	National Aeronautics and Space Administration
NSIDC	National SNow and Ice Data Center (DAAC)
ODL	Object Definition Language
OO	Object Oriented
PCF	Process Control File
PDF	Portable Document Format
PDPS	Planning and Data Processing Subsystem
PGE	Product Generation Executive
PK	Primary Key
QA	Quality Assurance
RDBMS	Relational Data Base Management System
SDPS	Science Data Processing Segment

SDSRV	Science Data Server CSCI
SQL	Structured Query Language
SSS	Spatial Subscription Server
STMGT	Storage Management Software CSCI
SUBSRV	Subscription Server
URL	Universal Resource Locator
WWW	World-Wide Web

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