

SHADOW[®]

Release Notes

Shadow Server Version 5.1.2 Build 2189
Shadow Client Version 5.1.2 Build 95

Release Date: October 13, 2004

The Shadow[®] line of products from NEON Systems, Inc. offers two packaging options to meet various implementation needs: **Shadow Direct**, a programmatic integration server infrastructure for the integration of multiple application platforms and z/OS resources, and **Shadow Connect**, for the integration of one application with one z/OS resource. Both Shadow Direct and Shadow Connect consist of two components:

- **Shadow Server:** The Shadow Server component resides on the mainframe. It supports access to z/OS data, programs, and screens for thousands of users.
- **Shadow Client:** The Shadow Client component resides on the client-side machine, either at the application developer or application server level. It consists of the Shadow J2CA, JDBC, and ODBC Adapters, which are multi-threaded, high-performance adapters offering connectivity to z/OS resources.

These release notes cover the new features, considerations, and problem resolutions offered by the Shadow Server and Client as follows:

- What's New
- Version and Platform Support
- Upgrade Considerations
- Enhancement and Problem Resolution Details
- Working with Customer Support



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What's New

The Shadow Server and Client v5.1.2 offer the following significant new features:

- Shadow Studio
- Shadow Interface for Enterprise Applications
- DB2 v8 support
- J2CA 1.5 support
- New Shadow Client platforms
- Improved, ISPF-based task interface
- Metadata enhancements
- Test connection feature for ODBC Data Source Administrator

Shadow Studio

The Shadow Studio is a graphical user interface (GUI) tool for application developers or system integrators to facilitate the performance of their roles in using or managing the Shadow line of products.

The Shadow Studio provides facilities to do the following:

- Explore resources on the host (mainframe). Users can obtain information about Shadow components and data resources via a browsing connection to the Shadow Server on the host.
- Manage Shadow data source (DSN) definitions for connections to the Shadow Server.
- Generate SQL statements and/or stored procedure calls for accessing host resources.
- Manage other Shadow products by installing and using Shadow Studio plug-ins. For example, the Shadow Studio Events plug-in allows users to monitor and manage the Shadow z/Events product.



Note:

The Shadow Studio component replaces the jDemo and jConfig components previously distributed by NEON Systems, Inc.

Shadow Interface for Enterprise Applications

The Shadow Interface for Enterprise Applications is a comprehensive, integration solution for enabling rapid deployment of 3270 applications with Service-Oriented Architectures and distributed environments. Shadow Interface for Enterprise Applications provides the flexibility and facilities for Web-enabled application re-facing and service-enable application re-modeling of 3270 applications. The Shadow Interface for Enterprise Applications provides for composite applications to be sourced non-invasively from existing mainframe applications.

With Shadow Interface for Enterprise Applications, mission critical 3270 applications can be made more Web-friendly with simple, automatic HTML re-facing or provide an expanded Web interface utilizing more advanced HTML conversion. Shadow Interface for

Enterprise Applications offers robust service-enable transaction integration with composite applications, supporting granular services for individual 3270 transactions or the ability to fuse multiple 3270 transactions into a single service.

DB2 v8 Support

With the 5.1 release of Shadow, NEON is exploiting the new capabilities in DB2 v8. Some of these include the following:

- Index keys: 2,000 characters.
- Literal strings: 32,704 characters.
- Predicates: 32,704 characters.
- Column names: 30 characters.
- Table names and other SQL objects: 128 characters.
- SQL statements: 2 MB.
- Enhancements to the Shadow Interface for DB2 dynamic caching.



Note:

Shadow Dynamic-to-Static Analyzer (DSA) and the autostatic feature do not support SQL statements greater than 32K.

J2CA 1.5 Support

With the 5.1 release, NEON has added support for the J2CA (J2EE Connector Architecture) 1.5 specification to its line of J2CA adapters. The Shadow J2CA Adapter for J2CA 1.5 offers support for the asynchronous message inflow feature that is part of the J2CA 1.5 specification. Inbound communication support allows data to flow from backend EISs into J2EE application servers asynchronously. This support allows the Shadow J2CA Adapter to receive Shadow Event Publisher (SEP) events and pass them on to applications residing in J2EE application servers.

Requirements for Use: Use of the Shadow J2CA Adapter for J2CA 1.5 requires a Java 2 Platform, Standard Edition (J2SE) 1.4 Software Development Kit (SDK).



Note:

Currently, the Shadow J2CA Adapter for J2CA 1.5 does not support the transaction inflow feature, which is part of the J2CA 1.5 specification.

New Shadow Client Platforms

The Shadow Client now provides support for the following additional platforms:

- HP-UX Itanium
- Red Hat Linux Enterprise AS 3.0 for Intel

Improved, ISPF-Based Task Interface

NEON has added an alternative view to the ISPF interface provided with Shadow. This interface has a task-based orientation based on feedback from our customers as to how they use the ISPF interface. NEON recognizes that it needed to provide a transition to this new interface and allowed for both the new and old interfaces to coexist. By default, the new ISPF interface (PNLVER(2)) will be displayed.

The typical Shadow installation startup commands for both the old and new interfaces are shown below:

```
SHADOW SUB(SDBB) PNLVER(1)    -- Old ISPF interface
SHADOW SUB(SDBB) PNLVER(2)    -- New ISPF interface
```

The same facilities are available in Shadow Web Server.

Metadata Enhancements

Enhanced metadata support is available for non-DB2 data sources. This enhanced metadata is stored and accessed via the SDBMAP catalog within the Shadow Data Mapping Facility (DMF).

With these metadata enhancements, NEON stored procedures for CICS/TS and IMS/TM are no longer dependent on DB2 to store metadata about the procedures. Previously, NEON stored procedure metadata was stored in DB2 catalogs; thus, DB2 was required to access such metadata. With this enhancement, the NEON stored procedure metadata will be stored in the Shadow Data Mapping Facility (DMF), with no dependency on DB2.



Note:

For existing users, use of this enhancement requires user administration. For details, see “Upgrade Considerations” on page 6.

Test Connection Feature for ODBC Data Source Administrator

The ODBC Data Source Administrator now offers a feature to test the connection based on the data source settings that have been configured.

Version and Platform Support

With this release of Shadow, NEON will be implementing a more formal support policy for existing and new releases of the products. NEON recognizes that there are still customers on older releases of the product and that upgrading requires significant planning prior to the upgrade itself. NEON Customer Support is available to assist with this planning effort. Please contact them at <http://www.neonsys.com/support> if you have any questions.

Release Types

NEON has several release types. With the 5.1 release of Shadow, NEON has standardized the version nomenclature for both the Shadow Server and Shadow Client components of the product. This allows you to use the version number format to determine the type of release and subsequently the degree of change between releases. The new version format is Version v.r.m Build nnnn (e.g., Version 5.1.2 Build 2000).

Major Release

- Major new features, architectural improvements
- Error corrections
- Full regression testing
- General availability (GA); available on the website or on CD
- Changes the first digit (v) of the version number (e.g., 4.1 → 5.1)

Minor Release

- Smaller enhancements
- Error corrections
- Full regression testing
- General availability (GA); available on the website or on CD
- Changes the middle digit (r) of the version number (e.g., 5.1 → 5.2)

Maintenance Release

- Typically limited to error corrections; the main purpose is to make the fixes previously released in hotfixes publicly available in a fully tested release
- Full regression testing
- General availability (GA); available on the website or on CD
- Changes the last digits (m) of the version number (e.g., 5.1.1 → 5.1.2).

Hotfix

- Targeted correction for a specific customer issue
- Testing limited to correction only
- Limited availability; made available by Customer Support as needed
- Changes the build number (also known as the SVFX level for the server (mainframe) release)

Version Support

The following chart outlines the schedule for when support will no longer be available for older versions of the NEON products.

Version	End of Life (EOL) Date
Shadow Server	
3.1	11/01/2004
4.1	02/01/2005
4.5	06/01/2005
Shadow Client	
3.04 and below	11/01/2004
3.05-3.07	06/01/2005
3.8	06/01/2005
Shadow Enterprise Direct¹	06/01/2005

1 This product will no longer be offered by NEON.

Shadow Client Platform Support

For information on the platforms supported by the Shadow Client, refer to the following website:

<http://www.neonsys.com/support>

Upgrade Considerations

Users upgrading from previous versions of the Shadow products should be aware of the following upgrade considerations, which may affect the installation or use of the product:

- Shadow Server upgrade considerations
- Shadow Client upgrade considerations

Shadow Server Upgrade Considerations

Shadow Server upgrade considerations include the following:

- Distribution changes
- Obsolete or eliminated parameters
- Shadow Event Publisher updates
- ISPF library definition syntax change for library concatenation
- Shadow Event Facility GLV ruleset space requirements
- Metadata enhancements
- Shadow Interface for ADABAS RPC library refresh requirements

Distribution Changes

- The Shadow Server component is now delivered on CD. It consists of two files:
 - **README.TXT:** This file contains complete instructions and JCL to install the CD or FTP version of the product.
 - **INSTALL.BIN:** This file is the entire Shadow Server component of the Shadow product in TERSE/MVS format. It requires the TRSMAN product from IBM to untermse the file into a format that can then be copied into the various product PDS libraries.

Obsolete or Eliminated Parameters

The following Shadow Server parameters are now obsolete:

- **IBMPORNUMBER:** Because IBM dropped support for TCP/IP IUCV in OS/390 2.4, the TCP/IP IUCV parameters within the Shadow Server have been removed. Customers may receive the following message when starting their Shadow Servers if they are using their previous SDBxIN00:

```
SDx7314S IBMPORNUMBER IS NOT A VALID PRODUCT PARAMETER NAME
```

Resolution: Delete the IBMPORNUMBER parameter from the SDBxIN00.

- **SEFV3COMPATIBLE:** Shadow Event Facility (SEF) V3 and below compatibility modes are no longer supported. Customers may receive the following message when starting their Shadow Servers if they are using their previous SDBxIN00:

```
SDx7314S SEFV3COMPATIBLE IS NOT A VALID PRODUCT PARAMETER NAME
```

Resolution: Delete the SEFV3COMPATIBLE parameter from the SDBxIN00.

Shadow Event Publisher Updates -- Renamed to z/Events

The following updates were made to Shadow Event Publisher (SEP) or z/Events (ZEV):

- The product has been renamed from Shadow Event Publisher to Shadow z/Events (ZEV). With this release all the previous SEP configuration must be redone. Please refer to the *Shadow z/Events Installation and Reference Guide* for the new configuration steps.
- Shadow Event Facility (SEF) CHG rules have been changed to PUB rules. At Shadow Server startup the following error message may be received:

```
SDx7009I SYNTAX ERROR: OPERAND OF RULETYPE IS INVALID OR MISSING
```

```
SDx7302I PARSER ROUTINE (OPSPR) FAILED WITH RC=X'00000004'
```

Resolution: This is very likely caused by the unrecognized CHG rule. Change the CHG rule definition to PUB using the following command in the SDBxIN00:

```
"DEFINE RULESET NAME(PUB) "
      "RULETYPE(PUB) "
      "DSNAME('NEON.SV050100.SDBB.PUB.EXEC')"
```

- All Shadow z/Events configuration and administration is now performed using the Shadow Studio, a graphical user interface (GUI) available in the Shadow Client v5.1.2 release.

ISPF Library Definition Syntax Change for Library Concatenation

The syntax for the definitions for the ISPF libraries in the IN00 has changed to use the DEFINE statement. Please reference the new sample SDBBIN00 provided with Shadow Server v5.1.

Shadow Event Facility GLV Ruleset Space Requirements

The default has been changed to not define Shadow Event Facility (SEF) GLV rulesets because SEF GLV rulesets require additional Shadow Server virtual storage to be allocated and SEF GLV rules are seldom used. Customers may receive the following message when starting their Shadow Servers if they are using their previous SDBxIN00:

```
SD57330S GLV RULESET DEFINITION REJECTED - NOT AUTHORIZED FOR Shadow
Server SEFGLVEVENTS NOT SET TO 'YES'
```

```
SD57313S AUTHORIZATION CHECK FAILED FOR 'DEFINE RULESET' STATEMENT
```

If SEF GLV rulesets are required, then the following parameter can be set to allow the definition of this ruleset:

```
"MODIFY PARM NAME(SEFGLVEVENTS) VALUE(YES) "
```

In order to determine if the SEF GLF ruleset is being used, go to the SEF Event Procedure Rulesets ISPF panel to view the ruleset and see if any GLV rules are enabled. The only rule shipped with the base installation is the sample ALL rule, which should not be enabled and is only meant as an example, unless it has been modified for your installation.

Using the Metadata Enhancements

Enhanced metadata support is available for non-DB2 data sources. This enhanced metadata is stored and accessed via the SDBMAP catalog within the Shadow Data Mapping Facility (DMF).

In order to utilize the enhanced metadata support, existing users **must** re-initialize the catalog maps on the Shadow Server by going to the Shadow Server Primary Option Menu (via ISPF) and selecting the Data Mapping → Map Extract → Initialize Catalog option.



Note:

In addition, the Shadow Client data source configuration must be updated. For details, see “Using the Metadata Enhancements” on page 10 (for Windows) or page 11 (for UNIX).

Shadow Interface for ADABAS RPC Library Refresh Requirements

Shadow Interface for ADABAS users who use RPCs (remote procedure calls) to call ADABAS (i.e, using SDADAB), must refresh their RPC library to pick up the new version of SDADAB.

Shadow Client Upgrade Considerations

Shadow Client upgrade considerations include the following:

- Windows considerations
- UNIX considerations



Note:

The j/Demo and j/Config were removed from the Client install and were placed in the Shadow Studio

Windows Considerations for Upgrading from Previous Versions

When upgrading from previous versions, users should be aware of the following, depending on their previous version, when installing and using the Shadow Client v5.1.2 on Windows systems:

- Upgrading from versions prior to v5.1
 - Installation program updates
 - Installer properties syntax change for installation directory
 - Using the metadata enhancements
- Upgrading from versions prior to v3.9
 - Shadow JDBC/J2CA Adapter improvements
- Upgrading from versions prior to v3.8
 - Requirement to uninstall previous versions
 - Default installation directory
 - Location of driver DLL files
 - Start menu structure

Upgrading from Versions Prior to v5.1

Installation Program Updates

The Shadow Console components will no longer be included with the Shadow Client installation; thus the “Full” installation type option no longer includes any of the Shadow Console components. However, Shadow Console components previously installed **will not** be removed during the Shadow Client v5.1.2 installation.

Installer Properties Syntax Change for Installation Directory

If using an installer properties file (`installer.properties`) to specify the installation directory, the syntax has changed to the following:

```
USER_INSTALL_DIR=C:\\Program Files\\NEON Systems\\Shadow
```

Using the Metadata Enhancements

Enhanced metadata support is available for non-DB2 data sources. This enhanced metadata is stored and accessed via the SDBMAP catalog within the Shadow Data Mapping Facility (DMF).

In order to utilize the enhanced metadata support, existing users **must** set the CPFIX (Catalog Prefix) Shadow Client keyword to SDBMAP within the data source configuration or in the connection string.



Note:

In addition, the catalog maps must be re-initialized on the Shadow Server. For details, see “Using the Metadata Enhancements” on page 8.

Upgrading from Versions Prior to v3.9

Shadow JDBC/J2CA Adapter Improvements

Shadow JDBC/J2CA Adapter improvements result in important changes for users upgrading from versions prior to v3.9:

- JDBC/J2CA data sources are now stored in the `SHADOW.INI` configuration file. Existing Shadow Client data sources will be automatically copied and migrated for use with the Shadow JDBC/J2CA Adapters upon the installation of the Shadow Client.
- The Shadow Client locates the `SHADOW.INI` configuration file by searching the `bin` directory within the installation location, which is defined in the following Windows registry key:

```
HKEY_LOCAL_MACHINE\SOFTWARE\NEON Systems\NEON 32-Bit\InstallLocation
```



Note:

Prior to v3.9, the Shadow JDBC/J2CA Adapters were dependent on the Shadow ODBC Adapter. Thus, JDBC/J2CA data sources were previously stored in the `ODBC.INI` configuration file and configured with the ODBC Data Source Administrator like ODBC data sources.

Upgrading from Versions Prior to v3.8

Requirement to Uninstall Previous Versions

Users upgrading from existing Shadow Client installations prior to v3.07 should manually uninstall the Shadow Client before installing the new version.

Default Installation Directory

The Shadow Client v3.8 and higher installation uses a default installation directory of `C:\Program Files\NEON Systems\Shadow` (although that location can be changed during the install); however, if the installation program finds a previously installed version

of the Shadow Client at v3.8 or higher, it will use the location of the previous version as the installation location for the current installation.

**Note:**

Shadow Client installations prior to v3.8 used a default installation directory of `C:\SHADOW`.

Location of Driver DLL Files

The Shadow Client v3.8 and higher installation places the driver DLL files in the `bin` directory created by the install (by default, the entire path would be `C:\Program Files\NEON Systems\Shadow\bin`).

**Note:**

Shadow Client installations prior to v3.8 placed the driver DLL files in the Windows system directory (such as `C:\WINNT\System32`). If you have existing driver files in the Windows system directory, you can elect to place the new DLLs there.

Start Menu Structure

Shadow Client components will be placed under **Start** → **Programs** → **NEON Systems** → **Shadow Client** (note the “Shadow Client” sub-folder, which was not present with Shadow Client installations prior to v3.8).

UNIX Considerations for Upgrading from Previous Versions

When upgrading from previous versions, users should be aware of the following, depending on their previous version, when installing and using the Shadow Client v5.1.2 on UNIX systems:

- Upgrading from versions prior to v5.1
 - Installation program updates
 - Using the metadata enhancements
- Upgrading from versions prior to v3.9
 - Shadow JDBC/J2CA Adapter improvements
- General considerations

Upgrading from Versions Prior to v5.1

Installation Program Updates

The Shadow Console Agent will no longer be included with the Shadow Client installation; thus, the “Full” installation type option is no longer offered. However, Shadow Console components previously installed **will not** be removed during the Shadow Client v5.1.2 installation.

Using the Metadata Enhancements

Enhanced metadata support is available for non-DB2 data sources. This enhanced metadata is stored and accessed via the SDBMAP catalog within the Shadow Data Mapping Facility (DMF).

In order to utilize the enhanced metadata support, existing users **must** set the CPFIX (Catalog Prefix) Shadow Client keyword to SDBMAP within the data source configuration or in the connection string.

**Note:**

In addition, the catalog maps must be re-initialized on the Shadow Server. For details, see “Using the Metadata Enhancements” on page 8.

Upgrading from Versions Prior to v3.9

Shadow JDBC/J2CA Adapter Improvements

Shadow JDBC/J2CA Adapter improvements result in important changes for users upgrading from versions prior to v3.9:

- JDBC/J2CA data sources are now stored in the `SHADOW.INI` configuration file.
- The `SHADOW_INI` environment variable is now used to specify the location of the `SHADOW.INI` configuration file. For JDBC/J2CA data sources, the `ODBCINI` and `ODBC_INI` environment variables are no longer supported. Thus, if users reference the `ODBCINI` or `ODBC_INI` environment variables in any script that uses JDBC or J2CA access (for example, startup scripts for application servers such as WebSphere Application Server, WebLogic, or Jrun), they need to change the script to set the `SHADOW_INI` environment variable.

**Note:**

Prior to v3.9, the Shadow JDBC/J2CA Adapters were dependent on the Shadow ODBC Adapter. Thus, JDBC/J2CA data sources were previously stored in the `ODBC.INI` configuration file and configured manually like ODBC data sources.

General Considerations

When upgrading the Shadow Client on UNIX, if your installation receives errors indicating that certain files could not be upgraded, check the installation log for errors such as the following:

```
Install File: /path/file
             Status: ERROR
             Additional Notes: ERROR - ZeroGnd: /path/file
                               (Cannot open or remove a file containing a running
                               program.)
```

If such errors were noted, do the following:

1. Ensure that no programs are currently using any of the Shadow Client components.
2. Manually remove any files that cannot be removed by the installation, such as `install.dir.xxx` (an NFS mount file).
3. Rerun the upgrade, checking the installation log to verify a successful installation.

Enhancement and Problem Resolution Details

The following enhancements and problem resolutions are included with the Shadow Server Version 5.1.2 Build 2189 and Shadow Client Version 5.1.2 Build 95 release:

SI-2095 Shadow Data Mapping Facility

Enhancement: User requests a parameter to turn off interval records written to sessions table (and SMF). This enhancement adds the parameter `LOGLSESSIONINTERVALS`. The VALUE can be YES or NO. The default is YES. When set to YES, session and interval records are written to the session log. When set to NO, session records are written but interval records are not written to the session log.

SI-8183 Shadow Interface for ADABAS

Enhancement: A new INSERT statement syntax is now supported: `INSERT INTO table VALUES(column1,...,column)`. The number of columns in VALUES should match the number of selectable columns in the table (excluding superdescriptor and redefined field).

SI-8192-186 Shadow Client

Incident Description: User reports VCF connections in DB2 data sharing environment are experiencing a delay in "seeing" updated data.

Resolution: Added a new parameter called `WATR`, meaning "Wait for Transaction Completion" with values of YES or NO. The default value is NO. If this parameter is set to YES and the client is connected in VCF mode, the client will wait for the server to respond before proceeding.

SI-8353 Shadow z/Events

Enhancement: A new `SHADOW_ZEV` interface was added to display the J2CA filters for ZEV on Shadow Studio.

SI-8647 Shadow Base Client

Incident Description: When using a .NET program to bind a parameter containing a decimal value, a SQL code -301 would result.

Resolution: A new Shadow Client keyword, `DIVA` (Perform Describe Input for Variable Adjustment) was added. This keyword controls whether the Shadow Server will perform a `DESCRIBE-INPUT` to check the parameter types, possibly modifying incompatible types. Possible values are as follows:

- **SERVER:** (Default) The Shadow Server will determine whether to perform a `DESCRIBE-INPUT` based on the setting of a Shadow Server parameter.
- **YES:** This setting forces the Shadow Server to perform a `DESCRIBE-INPUT`, regardless of the setting of the Shadow Server parameter.

- NO: This setting prevents the Shadow Server from performing a DESCRIBE-INPUT, regardless of the setting of the Shadow Server parameter. This value implies the assumption that all parameters are described correctly.

SI-11726 Shadow z/Events

Enhancement: Tibco Rendezvous support was added for Shadow z/Events.

SI-12184 Shadow Interface for Natural

Incident Description: When a client sends a number of parameters that is less than the number of parameters defined in the CMI, the CMI validation does not flag this as invalid.

Resolution: A parameter validation was added for SEND functions. The number of parameters passed as data map input must equal number of enabled fields in data map.

SI-12431 Shadow Server Dynamic to Static Analyzer

Incident Description: User reports that when a substring of a LONGVARCHAR appears in either a case statement or in the where clause, the length is forced to be a HV_NOCAST variable.

Resolution: This occurs on DB2 versions prior to version 8. The workaround is:

```
SUBSTR(ColIsLongvarchar,1,100 /* _HV_NOCAST_ */)
```

This tells DSA not to create the length as a host variable. As long as the len is <= 255, the statement can successfully bound.

SI-14802 Shadow Interface for IMS/TM

Enhancement: Support for IMS/OTMA conversational transactions via NEON Stored Procedures was added. Specifically the conversation ID needs to be exposed via the stored procedure metadata. This enhancement can also apply to CICS stored procedures.

SI-14979 Shadow z/Events

Enhancement: The information in the ZEV work file panel can now be viewed in a more user friendly display, showing all the relevant information and removing the unnecessary information. Previously the display was in raw format.

SI-15061 Shadow Interface for Natural

Incident Description: User reports that Shadow incorrectly interprets the SENDERR call as a SEND call.

Resolution: The problem is caused when the Natural program issues a RECEIVE with CONV-ID=NEW after issuing a SENDERR call. This causes Shadow to not able to detect it as a SENDERR call but rather a SEND function. This has been fixed in 5.1.1887 and above. For Natural programs running in a lower server version, the workaround is to either issue a RECEIVE without setting CONV-ID=NEW (which is not recommended for non-

persistent service regardless) or if the Natural program issues RECEIVE with CONV-ID=NEW, it should wait for a second after the SENDERR call.

SI-15315 Shadow Data Mapping Facility

Enhancement: The Shadow Data Mapping facility for CICS Stored procedures now identifies a field as either INPUT or OUTPUT depending on if they come from the INPUT MAP or the OUTPUT MAP which have to be passed when creating the stored procedure.

SI-15425 Shadow z/Events

Enhancement: Support was added for ADABAS event capture.

SI-15855 Shadow Server

Incident Description: The Shadow z/Events requires a Shadow RPC that returns CICS/TS connection names and IMS subsystem names.

Resolution: A call was added to SHADOW_SERVER to return IMS subsystem information. Format of the call is "CALL SHADOW_SERVER('GETIMSSUBSYSIDS')". The call returns a result set of n rows of three columns.

- Col#1 - SUBSYSTEM NAME - A 4-char string
- Col#2 - CONNECTION TYPE - ODBA|OTMA|DBCTL
- Col#3 - SUBSYSTEM STATUS:
 - For ODBA the status is always "Not available" meaning that the status information is not available but the connection is defined.
 - For DBCTL, it is one of the following:
 - Active, Inactive - Retry, Inactive
 - No retry, Inactive - Terminated
 - Inactive - Abended.
 - For OTMA, it is one of the following:
 - IMS Terminating
 - Shadow Terminating
 - Support initialization failed
 - Not Active.

Also added a call to SHADOW_SERVER to return the CICS connection information. Format of the call is "CALL SHADOW_SERVER('GETCICSCONNECTIDS')". The call returns a result set of n rows of seven columns.

- Col#1 - CONNECTION NAME
- Col#2 - CICS APPLID NAME
- Col#3 - NETNAME
- Col#4 - GROUPNAME
- Col#5 - CONNECTION TYPE
- Col#6 - PROTOCOL TYPE
- Col#7 - CONNECTION STATUS

SI-15957 Shadow z/Events

Enhancement: A ZEV API was added to give the user the ability to "test" a ZEV destination. It is run on the server so that all of the normal code used when publishing to a destination can be used to test the validity of the destination. It is also valid for any destination, active or not. The call is similar to the following:

```
call NEON.shadow_sep('TestDestination', 'dest_name');
```

The call returns enough information so that, in the case of a failure, the Shadow Studio can present an appropriate error message dialog to the user and help the user fix the settings in the destination to get it to work.

SI-16066 Shadow Client

Incident Description: User would like to be able to hook up their local PC or any user's PC to the Network Admin.

Resolution: If install detects prior install, the classpath and path are not updated. Files are copied to network drive for JDBC and JCA. A workaround for this is the manual delete key via regedit HKEY LM\SOFTWARE\NEON Systems.

SI-16339 Shadow Interface for DB2

Incident Description: User reports a mix of DB2 Stored Procedures that perform updates and return result sets. Shadow has a requirement to set AUTOCOMMITCALL to NO for DB2 SPs that return result sets, otherwise a SQLCode -480 occurs. Setting AUTOCOMMITCALL to NO leaves locks for the DB2 SPs that do Updates since no commits occur due to no CLOSE-CURSOR happening.

Resolution: There was Incorrect COMMIT/ROLLBACK behavior for IBM Stored Procedures. COMMITs for IBM Stored Procedures that return result sets have been postponed until after the data has been fetched and the cursor has been closed.

SI-16466 Shadow Client

Enhancement: The SQL limit was raised from 32k to 2M for all data sources.

SI-16596 Shadow Client: JDBC Adapter

Incident Description: User would like to be able to use NEONTRACE to capture trace for the 3.9 Shadow JDBC adapter.

Resolution: The problem is resolved as follows:

- If LOG is specified in NEONTRACE **environment variable**, you will get both JDBC and ODBC trace (and for J2CA, both J2CA and ODBC trace)
- If JDBCLOG (or JCALOG) is specified in NEONTRACE **environment variable**, you will get just JDBC (or J2CA) trace
- When using NEONTRACE setting in shadow.ini, the LOG keyword only captures ODBC trace. The JDBCLOG and JCALOG keywords do not have any affect when specifying in NEONTRACE setting in shadow.ini

- NEONTRACE **environment variable** setting will have precedence over NEONTRACE setting in shadow.ini.

SI-16752 Shadow Server

Incident Description: User reports that the define NEON*** CICS profiles do not count on the CICS defaults.

Resolution: The CICSCSD member in the CNTL library was updated.

SI-16780 Shadow Interface for IMS/DB

Incident Description: User reports RC -1013 error when they specify GRAPHIC column in WHERE phrase.

Resolution: The default fill byte for graphic data has been changed from low values to a space.

SI-16805 Shadow z/Events for CICS/TS

Incident Description: User reports that they receive hundreds of records in the SDBEVENT file, however they are not getting processed or read by the Shadow z/Events for CICS/TS.

Resolution: COCIGTSE was not properly exiting when a specific session request was made for a session that was busy. This led OPCIEC to think it could clear the ECB, even though COCMEDRU was waiting on it. A subsequent POST by OPMAEC turned on the post bit, but left COCMEDRU hanging in a wait.

The following zap was sent to the user:

```
NAME SDLINK OPSMMG
VER 7A48 BA01,8000,B20A,2000,4770
VER 7E3C BA01,8000,B20A,2000,4770
REP 7A50 4700
REP 7E44 4700
```

SI-17282 Shadow Interface for IMS/DB

Incident Description: User is able to run a SQL successfully, but during certain scenarios, user is receiving a “?Host communication failed?”.

Resolution: Incident was resolved by user setting CHECKRPCAUTHORITY to NO. The procedure length was not being set.

SI-17295 Shadow Server

Incident Description: User reports doing a prepare/bind and execute of an IMS SQL statement and is receiving an assertion failed message on the SQLExecute.

Resolution: Incident was resolved by setting parameter marker type as input for parameters whose type cannot be determined.

SI-17331 SIEA

Enhancement: Add automatic conversation termination capability for SIEA. Add single network round trip capability for aggregated transactions. This capability works with client managed and non-client managed SIEA conversations.

SI-17339 Shadow Interface for DB2

Incident Description: User reports memory leak running WAS under Unix.

Resolution: Storage leak discovered in SQLDescribeParam for applications using JDBC and stored procedure calls with parameter markers. Issue was resolved.

SI-17357 Shadow Server

Incident Description: User reports a Gaiji support conversion problem when configuring a Gaiji table into SDBxIN00.

Resolution: The CMBUALFU field is being overwritten by COPRDSGJ when the Gaiji table information is requested by client during logon. Code was added to save a copy of this for later testing.

SI-17397 Shadow Interface for VSAM

Enhancement: GDG support has been implemented. There is no change to the Shadow Data Mapping Facility. To activate this support, specify at extract time DSN(0) for current, DSN(-N) for previous. No relative GDG results in ALL GDGs being returned.

SI-17516 Shadow Interface for ADABAS

Enhancement: In order to execute the ADABAS TRACE ON and TRACE OFF commands, the user must be authorized for the following newly defined resource: <racf classname>.ADATRACE i.e., RSDB.ADATRACE. Otherwise the password is visible via the TRACE ON - TRACE OFF ADABAS calls.

SI-17518 Shadow Data Mapping Facility

Incident Description: User needs password encrypted within the data map PDS member.

Resolution: The password is now always encrypted within the ADABAS MAP Display and PDS member. Any new maps you create will automatically encrypt the password.

SI-17523 Shadow Server

Incident Description: User reports a 80Aabend.

Resolution: The problem is due to Storage usage related to an incorrect CCTL reconnect interval. If IMS is down, then Shadow is checking for IMS every second. User should apply the following zap:

```
NAME SDLINK OPIMSR
```

VER 000A64 0000,0064

REP 000A64 0000,7530

SI-17535 Shadow z/Events

Incident Description: User reports that when using Compuware's CICS Xpediter and updating VSAM records that are to be Event Published, the debugging transaction, if stopped in the correct program location, will place a lock on the SDBEVENT file and prevent the CALL SHADOW_CICS("EXVS","DELETE FROM SDBEVENT" from executing. This results in a AFCY abend.

Resolution: Using a debugger on any transaction that is updating a CICS VSAM dataset monitored by ZEV can potentially lock the SDBEVENT database. This includes the CICS commands CECI and CEDF. If the SDBEVENT file is locked, CICS AFCY timeout abends can result when the Shadow Server attempts to read the event file.

SI-17628 Shadow Server

Enhancement: A new Shadow Server parameter, OELISTENQDEPTH, was added to the PRODCOMM group of parameters. The OELISTENQDEPTH parameter specifies the listen queue depth, which is the maximum length for the connection request queue created for the LISTEN socket. This value cannot exceed the installation defined maximum that is specified in the SOMAXCONN statement in the TCP/IP profile. The value for OELISTENQDEPTH can be from 5 to 100. The default value is 10, which is the default for the IBM SOMAXCONN value.

SI-17641 Shadow Server

Incident Description: User reports Unexpected Signal : EXCEPTION_ACCESS_VIOLATION (0xc0000005) occurred at PC=0x77FCC024. During execution of a particular SQL statement the driver crashes the server process.

Resolution: IGNOREPOSTIVESC was changed to not reset all RPC SQLCODEs and SEF RPCs which return SUCCESS_WITH_INFO.

SI-17646 Shadow Web Server

Incident Description: User reports getting several error messages when bringing up Shadow Web Server V51 for the first time.

Resolution: The routine OPCOSL.COVLRSDDS was passing the ALIAS data set name to the OBTAIN routine in OPDAIO31. OBTAIN requires the REAL data set name. OPCOSL.COVLRSDDS is updated to use the REAL data set name when the RULESET DSNAME parameter specifies an ALIAS type object. The DEFINE RULESET DSNAME parameter validation routine has been changed to use the real data set name for MVS OBTAIN service calls.

SI-17647 Shadow Web Server

Incident Description: User reports receiving error messages for certain SWS parameters indicating they are invalid.

Resolution: The code was checking for the server's message ID (i.e., SWT for subsystem SWST) and not the product id (i.e., SWS for all subsystems). Code was added code to module OPPAFU to allow for both the product ID and the subsystem's message ID.

SI-17794 Shadow Data Mapping Facility

Enhancement: A new utility for existing maps is being provided in the NEON.CNTL dataset in member ADABAS3 which will encrypt any maps with an unencrypted password to one that does. The Shadow Server will support both maps with encrypted and unencrypted passwords.

SI-17827 Shadow Client

Incident Description: User reports that there is a problem with multiple updates. When an update statement with parameters is created, the parameters are bound, and the parameters are set to run SQLExecute, everything works fine. But when user tries to set the parameters and run SQLExecute again, there is an error message about the parameter number count.

Resolution: A new data member was added to odst structure: st->odstva.odstdi.odstwrqr to save the original sql statement. For non-DB2 and non-VSAMCICS data sources, the current implementation saves the original sql statement in sqda->sqlvar[1].

SI-17853 Shadow Dynamic to Static Analyzer

Incident Description: User reports DSA shows a change log, indicating that the that DSA has not changed.

Resolution: The change log has been removed.

SI-17905 Shadow Web Server

Incident Description: User reports AUTOHTML for IMS NEON/IMSINIT failing. The error message indicated that access to this system is limited to authorized users only, and you must sign on using your MVS Userid and Password.

Resolution: The code in rule IMSCNTL has been corrected to extract the right password. If the user does not want to get the SWS IMS SIGNON screen, then they need to disable this rule. If this is done, then /NEON/IMS url will match the IMS rule in NEON ruleset and that rule is executed.

SI-17921 Shadow Client

Enhancement: The j/Demo and j/Config were removed from the Client install and were placed in the Shadow Studio.

SI-18034 Shadow Data Mapping Facility

Incident Description: User reports a -514 error after installing Shadow Server, Version 5.1.

Resolution: The TRNASACT and TRANSBLOCK forms of MESSAGE MODE now check to see if the client has pending data, and do not close the cursor nor commit until the client has fetched all of the data.

SI-18057 Shadow Client

Incident Description: User reports wants to find out what the DSA/G setting is for DB2, v7.

Resolution: The /G option is obsolete and should either be removed or set to DB2. The option is still available but only for DB2, DB2 v5, and DB2 v6.

SI-18064 Shadow ODBC Adapter

Incident Description: User reports that period offset array is too small when executing a SQL statement, producing an internal error.

Resolution: This error is triggered when TQOP is NULL or ZERO and the number of periods in table or columns exceeds 50. The section of code used to handle some tools generate table names that start with a period. It replaces those periods with blanks. The actual code that replaces those periods has been disabled so this section of code is useless. The code was removed and the issue was resolved.

SI-18072 Shadow Data Mapping Facility

Incident Description: User reports error during DBD Mapping.

Resolution: The execfb(sddmixqt) needed to be replaced.

SI-18089 Shadow Data Mapping Facility

Incident Description: User reports receiving a REXX error when generating a map from Shadow Server option 11.2.

Resolution: This was resolved by correcting the logic for array processing.

SI-18167 Shadow Server

Incident Description: User reports seeing the following message when both SDBEVENT and SDBWORK are on volumes where there is space to take secondary extents:

```
SDD2419E PUBLISH DESTINATION IMITMSUM FAILURE PAGE SET DATA SET IS FULL
-
STATUS=X'0000000D' RC=X'00000002' REASON=X'00000890' DIAG=X'00000010'
X'00000000' - WILL RETRY
```

Resolution: This is an MQ return code. It appears that the MQ storage areas on the remote system are full. User should check which queues contain messages and look for applications that might be filling the queues unintentionally. Be aware that the queue that has caused the page set or coupling-facility structure to become full is not necessarily the queue referenced by the MQI call that returned MQRC_PAGESET_FULL. Check that all of the usual server applications are operating correctly and processing the messages on the queues. If the applications and servers are operating correctly, increase the number of

server applications to cope with the message load, or request the system programmer to increase the size of the page-set data sets.

SI-18307 Shadow Interface for ACI/Natural

Incident Description: The Shadow Interface for ACI/Natural was attempting to start too many services (more than the maximum allowed via the Max Allowed setting in the server definition). This was due to timing differences between Shadow Interface for ACI/Natural counters and CICS counters.

Resolution: The timing window that existed between the routine to find an available server and the actual registering of the server was closed to ensure that only the maximum number of services could be started.

SI-18384 Shadow Client

Incident Description: User is asking if it is possible to modify a code page on the mainframe. The translation for the registered trademark symbol and the copyright symbol are not coming across properly.

Resolution: This was resolved by correcting the translation of ASCII character x99 (trademark symbol) to EBCDIC x39 and well as the reverse, EBCDIC x39 to ASCII x99.

SI-18401 Shadow Server

Incident Description: User reports receiving new error messages after applying the new Neon Software License Code.

Resolution: The problem is caused by the license code including ZEV features, but not including the SEF feature which is currently used by ZEV. This causes the global variable subtask not to be initialized, which in turn, causes the abend. Shadow will now start the global variable subtask for SEF and z/EVENTS feature codes.

SI-18456 Shadow Server

Incident Description: User would like more information about the TCPMAXSESSIONS parameter.

Resolution: TCPMAXSESSIONS is an obsolete parameter which was used for IBM IUCV TCP/IP support. This support was dropped by IBM after OS/390 2.4. Interlink TCP/IP is another TCP/IP stack which is not owned by Computer Associates and has been renamed TCP-Access. We now use IBM OE Sockets.

If you want to limit connections, use either DB2CONCURRENTMX or REUSETHEADS and TARGETTHREADCOUNT. DB2CONCURRENTMX is a hard fail limit and will return a failure to any clients that exceed the limit, whether they are using DB2 or not.

If you have REUSETHEADS set to YES, then you can use the TARGETTHREADCOUNT parameter to limit the number of connections also, but in this case any connections that exceed the limit will wait indefinitely for a connection to become available

SI-18457 Shadow JDBC Adapter

Incident Description: User reports that when a DB2 SELECT is issued followed by a `rs.getString()` on a column (defined on the host as LONG VARCHAR) that has null value in it, the string is truncated at the null value. This occurs only in UNIX and not in Windows.

Resolution: A test was added to detect strings with zeros in the middle and, once found, will create strings from array of UTF-8 bytes rather than JNI's `NewStringUTF()` which will stop on first zero.

SI-18795 Shadow Client

Incident Description: User reports a segmentation violation problem when using the Shadow Client 5.1 against Shadow Server 4.8. User receives the following Shadow return-code is: -2019; MAXIMUM RECORD BUFFER EXCEEDED.

Resolution: User was advised to run 5.1.280 instead of 5.1.249. There were two known issues that have been fixed in 5.1.280. These issues can cause the JVM to crash. The '-2019; MAXIMUM RECORD BUFFER EXCEEDED' error is caused by a SELECT against an ADABAS map that is too big to be handled. The general guideline is to generate the map with no more than 1000 columns since this is the maximum number of columns supported by the driver (DB2 7.1 allows up to 750 columns per table only).

SI-18862 Shadow z/Events

Incident Description: User reports that statistics view goes from showing events to showing no events as events are being processed.

Resolution: Retry logic has been added to VSAM POINT and VSAM READ in the case of an exclusive use conflict. It will now retry up to 5 minutes to read a record. Also, VSAM ENDREQ processing in the source task, OPPHSO has been modified. Now it will issue ENDREQ more frequently, releasing exclusive control of buffers more often.

SI-18884 Shadow ODBC Adapter

Incident Description: User reports problem with passing binary data to ADABAS.

Resolution: Problem was due to the BINARY types not being handled correctly for wrapperless ADABAS. Issue was resolved.

SI-18895 Shadow Interface for ADABAS

Incident Description: User reports SYSTEM ABEND X'0C3' AT CKRQTY/OPAUCK+X'000043FE' running ADABAS TRACE ON.

Resolution Added request type to authorization rule processing.

SI-18947 Shadow Server

Incident Description: User reports a commit occurring after a failed CALL SHADOW_CICS call.

Resolution: IMS and CICS interfaces (Stored Procedure, shadow_, and SQL) do not ROLLBACK when AUTOCOMMIT is ON. Each of these interfaces will now ROLLBACK if an error occurs and AUTOCOMMIT is ON.

SI-19014 Shadow z/Events for IMS/DB

Enhancement: Support was added to Shadow z/Events for compressed data in IMS/DB segments.

SI-19138 Shadow ODBC Adapter

Incident Description: User reports receiving correct values after using SQLGetData() on the first call, but sometimes receiving incorrect values on subsequent calls.

Resolution: SQLGetData() was not storing enough of the 'raw' data for DECIMAL data types resulting in apparent truncation of the data value.

SI-19343 Shadow Interface for ADABAS

Incident Description: When issuing an INSERT statement with a VALUES clause containing a literal string where the first character is a closing parenthesis character, “)”, the following error occurs:

```
[NEON][SCODBCTS DLL][DB2]SHADOW_ADABAS ERROR HAS OCCURRED RC -2015; ... IS NOT A VALID KEYWORD
```

The Shadow Interface for ADABAS was incorrectly interpreting the closing parenthesis character as the end of the VALUES clause.

Resolution: The Shadow Interface for ADABAS now properly handles VALUES clauses containing literal strings where the first character is a closing parenthesis character, “)”.

Other Updates

JDBC Compliance -- ConnectionPoolDataSource

The `com.neon.jdbc.ConnectionPoolDataSource` class, which implements `javax.sql.ConnectionPoolDataSource`, is now deprecated and has been replaced by the `com.neon.jdbc.DataSource` class.

Known Issues

If you are using an Operating System with a version level lower than OS/390 2.10, you will need to contact NEON Customer Support for a patch to enable the product to run.

Working with Customer Support

NEON Systems, Inc. provides a number of ways for you to obtain assistance for our products. All product support inquiries are handled by the same support group, regardless if you are a trial or a licensed customer. The following are available support options:

Support Option	How to Access	How it Works	This Option is Best for:
E-mail	To contact Customer Support via e-mail: support@neonsys.com E-mail is available for receipt 24 hours a day, 7 days a week and is answered between 9AM-7PM CST Monday through Friday.	E-mail goes to the support queue, which is continuously monitored by a staff of cross-functional technical experts. It is answered in the order it is received. It is logged in the support database and assigned a trouble ticket number for tracking purposes.	This type of support is excellent for low to medium priority requests. It is a proven method for providing further information on critical problems that may have been phoned in. E-mail is a convenient way of sending us a list of lower priority items you have collected at a time that is convenient for you.
Phone	To contact U.S. Customer Support, please call: U.S. / Canada: 1-800-505-6366 Outside North America: 1-281-491-4200 U.K.: +44 1 81 607 9911	During normal working hours you will be transferred to someone who can usually answer your question on the first call. You may be required to page a support person via our phone mail system after hours.	This type of support is best for high priority requests and initial installation questions. Use this option for any obvious system errors or anytime you need the most rapid reply to your question.
Internet	To access Internet support, please visit our website at: www.neonsys.com	Simply visit our website. NEON Systems works to keep current, relevant materials on our Web site to support our trial and licensed customers.	This option provides immediate access to documentation, updated client-side adapters, and our product Knowledge Base. The Knowledge Base is a collection of questions answered by support. Use this option to answer your own questions or to get a better understanding of what customers ask on an ongoing basis.
Account Manager	To contact your NEON Systems Sales Representative (U.S.), please call: U.S. / Canada: 1-800-505-6366 Outside North America: 1-281-491-4200 U.K.: +44 1 81 607 9911	Your Sales Representative is your account manager. This person is ultimately responsible for your complete satisfaction with NEON Systems, Inc.	Contact your Sales Representative for pricing information, contract details, password renewal or if you feel your needs are not being met.

