Sterling Control Center

Getting Started Guide

Version 5.3

16102013

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Note
Before using this information and the product it supports, read the information in "Notices" on page 83.

This edition applies to version 5.3 of IBM Sterling Control Center and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. Before You Install Sterling Control Center

Installation Overview

At a high level, installing IBM Sterling Control Center involves completing the following tasks:

- Creating a production and staging database for Sterling Control Center to use
- Installing and configuring the Sterling Control Center engine
- Installing one or more Sterling Control Center consoles
- Logging onto the Sterling Control Center engine and using the console

To install Sterling Control Center, you perform the following activities at computers where you plan to install the Sterling Control Center engine:

Installation Task		**See:**
1	Review the Sterling Control Center Release Notes.	Sterling Control Center Release Notes on the Documentation library
2	Download any product updates from the Customer Center Web site.	http://customer.sterlingcommerce.com
3	Determine the computers where Sterling Control Center will be installed. Based on operating system, estimate engine and database requirements.	Sterling Control Center Configurations and "Estimation Tools" on page 61 IBM® Sterling Control Center Release Notes on the Documentation library lists supported operating systems.
4	Gather database information for use during Sterling Control Center installation.	About the Sterling Control Center Databases and Requirements for Creating the Sterling Control Center Databases Using MySQL, Oracle, DB2, or Microsoft SQL Server
5	Create a production and staging database to store Sterling Control Center processing information either on UNIX or Microsoft Windows	Consult your database documentation.
6	If you will install Sterling Control Center on z/Linux, make sure IBM System z/Linux JRE 1.6.0 SR 5 or later is installed on the computer where the engine is to be installed.	See your z/Linux documentation.
7	If consoles will access the Sterling Control Center engine using a secure connection, gather information to configure the HTTPS connection.	Determine HTTPS Information for the Engine and Console Connection
8	Install the Sterling Control Center engine.	Installing the Engine and Console on UNIX, or Installing the Engine and Console on Microsoft Windows

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Installation Task		See:
9	Configure Sterling Connect:Enterprise® for z/OS® servers to communicate with Sterling Control Center. Skip this step if you are not using Sterling Control Center to monitor Sterling Connect:Enterprise servers.	Configuring Sterling Connect:Enterprise for z/OS

After installing the Sterling Control Center engine, you do the following tasks at computers where you want to run the Sterling Control Center console:

Installation task		See:
1	Install the Sterling Control Center console.	Setting Up a Console
2	If the console will access the Sterling Control Center engine using a secure connection, configure a secure connection between the Sterling Control Center engine and the consoles.	"Configuring the Console for a Secure Connection" on page 25

Sterling Control Center Configurations

When you install Sterling Control Center, you install both the engine and the console. To run the console from other systems, use the Web Start installation, available via a URL connection to the Sterling Control Center engine (see Setting Up a Console). You can configure Sterling Control Center for console access to the engine using the HTTP and HTTPS protocol.

Before installing the Sterling Control Center engine, verify that your platform will support the processing volume. See"Estimation Tools" on page 61 and the various worksheets to determine a suitable platform configuration for the Sterling Control Center engine. The worksheets are also available in Microsoft Excel spreadsheet form in the directory where the engine is installed.

About the Sterling Control Center Databases

The Sterling Control Center engine uses MySQL, Oracle, DB2, or Microsoft SQL Server production and staging databases to store statistics and other information collected from monitored servers. You or your database administrator must create the databases before installing the Sterling Control Center engine. The databases must be located on computers to which the engine has network access. Also, the production database and staging database must be of the same type and version. For example, if you use MySQL for the production database, then the staging database must also be a MySQL database. For information helpful in planning the databases, see the database FAQs provided, such as "Type of Data Stored" on page 79.

To create the databases to store Sterling Control Center information, first review the Production Database Worksheet, then see Requirements for Creating the Sterling Control Center Databases Using MySQL, Oracle, DB2, or Microsoft SQL Server.

Production Database Worksheet

Use the following worksheet to record production database setup information. You will need this information during Sterling Control Center installation.

Parameter	Database Type	Value
Database type **Note:** Staging and production databases must be of the same type and version.	All	
Database name	All	
User name	All	
Password	All	
Database hostname Can be an IP address or the server name. **Note:** For MySQL, if Sterling Control Center will be installed on the same computer where the database is located, specify 127.0.0.1 as the IP address. For MS SQL Server **2005**, if you need to connect to a named instance of SQL server, use the format servername;instancename. Example: CSGPQ2;SCCINSTANCE	All	
Port number to access the database. The default port for MySQL is 3306.	All	
Location of the sqljdbc4.jar	Microsoft SQL Server (2005 and 2008)	
Location of the db2java.zip or db2jcc.jar file.	DB2 (UNIX and Microsoft Windows)	
Location name of the DB2 database	DB2 (z/OS or OS/390)	
Location of the db2jcc.jar database driver	DB2 (z/OS or OS/390)	
Location of the DB2 database license file	DB2 (z/OS or OS/390, Microsoft Windows, UNIX)	
Location of the ojdbc14.jar, ojdbc5.jar, or ojdbc6.jar Oracle file	Oracle	

Note these points concerning the DB2 JDBC driver file:

- The DB2 JDBC driver files can be found in DB2InstallLocation\IBM\SQLLIB\java
- DB2 version 8.x comes with two types of JDBC drivers:
  - Type 3 driver. Typically the name of the driver file is db2java.zip. To use this driver, start the DB2 JDBC Applet Server service on the computer where the DB2 database server is installed.
  - Type 4 driver. This driver comes with two files, dbjcc.jar and db2jcc_license_cu.jar (UNIX and Microsoft Windows) or db2jcc_license_cisuz.jar (z/OS or OS/390).

- When you use the JDBC driver to configure Sterling Control Center with DB2 databases, the JDBC driver files must come from the DB2 database location where Sterling Control Center will connect.

Staging Database Worksheet

Use the following worksheet to record staging database setup information. You will need this information during Sterling Control Center installation.

Note: The staging database should not be used for permanent data storage. A company-specific archival process should be employed to move data from the staging database to a permanent data warehouse/archive database. Sterling Control Center does not archive data. If the staging database is allowed to grow too large, Sterling Control Center performance will be impacted.

To use partitioning for Production database tables, you do not need a separate staging database schema. If you do not use a staging database, you can specify 0.0.0.0 for DB host name. Refer to the Sterling Control Center Database partitioning white paper for more details.

Parameter	Database Type	Value
Database type Staging and production databases must be of the same type and version.	All	
Database name	All	
User name	All	
Password	All	
Database hostname Can be an IP address or the server name. For MySQL, if Sterling Control Center will be installed on the same computer where the database is located (not recommended), specify 127.0.0.1 as the IP address. For MS SQL Server **2005**, if you need to connect to a named instance of SQL server, use the format servername;instancename. Example: CSGPQ2;SCCINSTANCE If you do not want to use a staging database, enter 0.0.0.0 as the database hostname for the staging database.	All	
Port number to access the database. The default port for MySQL is 3306.	All	
Location of the sqljdbc4.jar	Microsoft SQL Server (2005 and 2008)	
Location of the db2java.zip or db2jcc.jar file.	DB2 (UNIX and Microsoft Windows)	
Location name of the DB2 database	DB2 (z/OS or OS/390)	
Location of the db2jcc.jar database driver	DB2 (z/OS or OS/390)	

Parameter	Database Type	Value
Location of the DB2 database license file	DB2 (z/OS or OS/390, Microsoft Windows, UNIX)	
Location of the ojdbc14.jar, ojdbc5.jar, or ojdbc6.jar Oracle file	Oracle	

Note these points concerning the DB2 JDBC driver file:

- The DB2 JDBC driver files can be found in DB2InstallLocation\IBM\SQLLIB\java
- DB2 version 8.x comes with two types of JDBC drivers:
  - Type 3 driver. Typically the name of the driver file is db2java.zip. To use this driver, start the DB2 JDBC Applet Server service on the computer where the DB2 database server is installed.
  - Type 4 driver. This driver comes with two files, dbjcc.jar and db2jcc_license_cu.jar (UNIX and Microsoft Windows) or db2jcc_license_cisuz.jar (z/OS or OS/390).
- DB2 version 7.x comes with a Type 3 JDBC driver. The name of the driver file is typically db2java.zip. To use it, start the DB2 JDBC Applet Server service on the computer where the DB2 database server is installed.
- When you use the JDBC driver to configure Sterling Control Center to use the DB2 databases, the JDBC driver files must come from the DB2 database location to which Sterling Control Center is to connect.

Requirements for Creating the Sterling Control Center Databases Using MySQL, Oracle, DB2, or Microsoft SQL Server

Sterling Control Center requires two databases; one for production data and another for staging data. The MySQL, Oracle, DB2, or Microsoft SQL databases must be created on a computer to which Sterling Control Center has access.

Note: This section does not describe the procedures for creating MySQL, Oracle, DB2, or Microsoft SQL Server databases. Consult your database documentation for those procedures.

If you are going to use partitioning for production database tables, you do not need a separate staging database schema. If you do not use a staging database, you can specify 0.0.0.0 for DB host name. Please refer to the Sterling Control Center Database partitioning white paper for more details.

Requirements for All Database Types

You must have the following information available for both Sterling Control Center databases (staging and production), regardless of database type.

Parameter
Description

dbname

The name that you assign to the database. Do not use spaces. For example, CtrlCenterProd.

username

The user name that you assign to access the database.

Note: The user must have permission to access all the table spaces in the database.

For MS SQL 2005, the user name must be an SQL server-authenticated one.

password

The password for the user name that you assign to access the database.

Requirements by Database Type and Operating System

The following table lists additional requirements based on the database type and operating system for your installation.

Database Type	Operating System	Additional Information or Software
DB2	UNIX	• The DB2 databases must each have one buffer pool with a page size of 32K and another with a page size of 4K. • The DB2 databases must each have one system temporary table space with a page size of 32K and another system temporary table space with a page size of 4K. • The DB2 databases must each have one regular table space with a page size of 32K and another table space with a page size of 4K. • Determine the location of db2java.zip or db2jcc.jar IBM DB2 database driver file. Record this information on the Production Database Worksheet.
DB2	Microsoft Windows	• The DB2 databases must each have one buffer pool with a page size of 32K and another with a page size of 4K. • The DB2 databases must each have one system temporary table space with a page size of 32K and another system temporary table space with a page size of 4K. • The DB2 databases must each have one regular table space with a page size of 32K and another table space with a page size of 4K. • Determine the location of db2java.zip or db2jcc.jar IBM DB2 database driver file. Record this information on the Production Database Worksheet.

Database Type	Operating System	Additional Information or Software
DB2	z/OS or OS/390	• The DB2 databases must each have at least one buffer pool with a page size of 32K and another with a page size of 4K. • The DB2 databases must each have one system temporary table space with a page size of 32K and another system temporary table space with a page size of 4K. • The DB2 databases must each have one regular table space with a page size of 32K and another table space with a page size of 4K. • For each database, determine the DB2 database location. This is the path that specifies the DB2 Location name and was defined during the DB2 installation. • Determine the location of the db2jcc.jar database driver. Record this information on the Production Database Worksheet • Determine the location of the DB2 database license file, which begins with db2jcc_license_. Record this information on the Production Database Worksheet.
Microsoft SQL Server (2005 or 2008)	N/A	• Download and install the Microsoft SQL Server JDBC drivers setup.exe program from www.microsoft.com. • Determine the location of the sqljdbc4.jar
MySQL	N/A UNIX	• Download and install the MySQL JDBC driver from MYSQL's website. • Determine the location of the MySQL JDBC driver. • Verify that groupadd and useradd commands can be executed by root. These commands are located in /usr/sbin, so add /usr/sbin to the PATH for Linux.
Oracle	N/A	• Determine the location of the classes12.zip or ojdbc14.jar Oracle database driver file. Record this information on the Production Database Worksheet.

Requirements by Database Type and Component

In addition to the operating system-specific information listed above, the following table provides further requirements based on database type.

Database Type	Database Component	Requirement
All	SQL Statement privileges	The database user must be able to execute the following types of SQL Statements: • CREATE TABLE • ALTER TABLE • DROP TABLE • CREATE INDEX • DROP INDEX • CREATE VIEW • ALTER VIEW • DROP VIEW • SELECT FROM <table> • INSERT INTO <table> • UPDATE <table> • DELETE FROM <table>
Oracle	Database user privileges	CREATE SESSION UNLIMITED_TABLESPACE
Oracle	Database Settings	Sterling Control Center requires the following parameter settings in your Oracle database: Number of open cursors ≥ 2000 Database block buffers ≥ 19200 Shared pool size ≥ 90000000 Large pool size ≥ 614400 Number of processes ≥ 500 Log buffer ≥ 163840 Database block size ≥ 8192 Sort area size ≥ 65536 Sort area retained size ≥ 65536 Max extends = Unlimited Character set = AL32UTF8 **Note:** If you are using multi-byte character set, set the following and restart Oracle: `nls_length_semantics=CHAR` in INIT<INSTANCE_NAME>.ORA file
MS SQL Server	Database user privileges	Grant the DBO (Database Owner) database role to the database user. Also grant DB_DDLADMIN database role to the user.

Database Type	Database Component	Requirement
MS SQL Server	Database Settings	Sterling Control Center requires the following parameter settings in your MS SQL database: Collation Setting = SQL_Latin1_General_CP850_BIN Sort order = Binary Security authentication = SQL Server and Windows Torn Page = Detection Off **Note:** Sterling Control Center supports only SQL Server authentication.
DB2	Database User privileges	Grant Database Administrator Authority (DBADM) to the database user on this database.
DB2	Database Settings	Sterling Control Center requires the following parameter settings in your DB2 database: APPLHEAPSZ > 10000 APP_CTL_HEAP_SZ > 512 MAXAPPLS > 150 LOCKLIST > 30000 MAXLOCKS = 100 Database code page = UTF-8

Determine HTTPS Information for the Engine and Console Connection

If the Sterling Control Center console will use the HTTPS protocol to communicate with the Sterling Control Center engine, gather the following information before installation:

1. The host name of any computer where the Sterling Control Center engine or console is to be installed. Obtain the host name by doing the following:

   Open a command line prompt at the computer.

   Type **hostname** from the command line. The system returns a text string. For example, **WIN2000**. This string is the host name.
2. Determine a password to access the keystore (the file that contains certificates which include the identity and private key for an entity) and a password to access the trust store file (the file that contains the entities to be trusted. Each entity includes an identity and its public key).
3. Determine the HTTPS port the Sterling Control Center engine will use.
4. Record this information in the HTTPS Worksheet. Complete one worksheet for each computer where Sterling Control Center will be installed. Use this worksheet during Sterling Control Center installation.

After you install Sterling Control Center, when you are ready to create a connection between the Sterling Control Center engine and a Sterling Control Center console or a Sterling Connect:Direct® managed server, see “About Creating

a Secure Connection Between the Engine and the Console" on page 23 or "About Creating a Secure Connection between the Engine and a Managed Sterling Connect:Direct Server" on page 26

HTTPS Worksheet

Enter your HTTPS requirements in the following worksheet and refer to it during Sterling Control Center installation. Complete a worksheet for every computer on which the engine or a console is to be installed. Make additional copies as needed.

Field	Description	Value
Host name	The computer where the Sterling Control Center engine or console will be installed.	
Keystore file	The default location is install directory/conf/security/ CCenter.keystore.	
Keystore password	There is no default password. The password must be at least six characters. Spaces are not allowed.	
Trust store file	The default location is install directory/jre/lib/ security/cacerts. **Important:** The default JKS trust store file (cacerts) installed with Sterling Control Center should only be used in a nonproduction environment. During upgrade, maintenance, and reinstallation this file is overwritten (or removed as with uninstallation). If you customize this file and use it as your truststore, you will lose all of your updates. Instead, create a copy of cacerts to store your CA authentication information, and update the directory path as appropriate.	
Trust store password	The default password is **changeit**. If you use the default trust store file, you must use **changeit** as the password.	
HTTPS port	The default port is 58081.	
HTTPS web port	The default port is 58083.	

Chapter 2. Installing Sterling Control Center

Installing the Engine and Console on UNIX

About this task

Use this procedure to install the Sterling Control Center engine and the console on a UNIX operating system from either a console or a command line. Be sure to complete the Production Database Worksheet, the Staging Database Worksheet, and, if consoles will access the Sterling Control Center engine using HTTPS, the HTTPS Worksheet.

Note: If you are upgrading from a prior version of Sterling Control Center, refer first to the upgrading section in the IBM Sterling Control Center Release Notes.

To install the console only, refer to Setting Up a Console.

Procedure

1. Navigate to the UNIX directory in the folder where you extracted the files. If using an installation DVD, insert it in the computer where you are installing Sterling Control Center. Open the folder that corresponds to your UNIX platform on the DVD.
2. Copy the CCInstall.bin file to a directory on your computer. (If you are installing in a 64-bit operating system environment, use CCInstall64. bin for the installation file name.)
3. Change to the directory where you copied CCInstall.bin.
4. Do one of the following:
   - To start a UNIX command line-based installation, type **sh CCInstall.bin -i console** at the command line.
   - To start a UNIX GUI-based installation, type **sh CCInstall.bin -i gui** at the command line.
5. If you started a command line-based installation, then configure Sterling Control Center by running the **configCC.sh** command from the install directory/bin directory.
6. Follow the installation prompts using the information from the Production Database Worksheet).

   If the installation fails, review the installation log to determine the cause. This log is named Sterling_Control_Center_v5.3_InstallLog.log and is located in the installation directory.

   Note: If the problem lies in the settings used to configure the installation, you can run configCC.sh to reconfigure the settings. See "Changing Engine Settings After Installation" on page 15.

   The installation program installs the Java Runtime Environment (JRE) required to run Sterling Control Center.

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Special Considerations for Installing HP-UX

The default HP-UX configuration does not support Java programs, including Sterling Control Center. Specific kernel parameters and system tunables must be modified for Java applications to function.

Hewlett-Packard provides a stand-alone bundle for HP-UX 11 and 11i. Java Out-of-Box installs startup (RC) scripts, modifies kernel parameters, rebuilds the kernel, and reboots the system. During startup, the startup scripts modify system tunables, which improve the performance of Java.

Refer to the HP-UX Web site at http://www.hp.com/products1/unix/java/java2/outofbox/ for details on this product.

Removing Temporary Files

On some UNIX platforms, the installation program may leave temporary files.

Remove these files by typing the following commands at a command prompt:

```
rm /tmp/ia_remove.*
rm /tmp/persistent_state
rm -R /tmp/install.dir.* command
```

Note: If there is insufficient space in the /tmp directory, the installation program will use the home directory. In this case, the above commands must be performed substituting the home directory for /tmp.

Installing the Engine and Console on Microsoft Windows

About this task

Use this procedure to install the Sterling Control Center engine and console on a Microsoft Windows operating system environment. If you want to install the console only, refer to Setting Up a Console.

Note: If you are upgrading from a prior version of Sterling Control Center, refer first to the upgrading section in the IBM Sterling Control Center Release Notes.

Before starting this installation, complete the Production Database Worksheet, the Staging Database Worksheet, and, if consoles will access the Sterling Control Center engine using HTTPS, the HTTPS Worksheet.

Procedure

1. Close all open applications.
2. Navigate to the Microsoft Windows directory in the folder where you extracted the files. If using an installation DVD, insert it in the computer where you are installing Sterling Control Center. Open the folder that corresponds to your Microsoft Windows platform on the DVD.
3. Double-click the **CCInstall.exe** file. (If you are installing in a 64-bit operating system environment, double-click the CCInstall64. exe file.)
4. Follow the installation prompts using the information from the Production Database Worksheet and the Staging Database Worksheet.

   If the installation fails, review the installation log to determine the cause. This log is named Sterling_Control_Center_v5.3_InstallLog.log and is located in the installation directory.

Note: If the problem lies in the settings used to configure the installation, you can run configCC.bat to reconfigure the settings. See Changing Engine Settings After Installation .

The installation program installs the JRE.

Installing the Engine and Console on z/Linux

Use this procedure to install the engine and console in a z/Linux environment. Before you install Sterling Control Center using the Java installer, you must install IBM System z/Linux JRE 1.6.0 SR 5 or later.

About this task

Note: If you are upgrading from a prior version of Sterling Control Center, refer first to the upgrading section in the IBM Sterling Control Center Release Notes.

Procedure

1. Transfer the CCInstall.jar file to the computer where Sterling Control Center will be installed.
2. Start the installer using the following syntax:

```
/absolute_path_to_java  -jar CCInstall.jar
```

   Example:

```
/opt/ibm/java-s390x-60/jre/bin/java -jar CCInstall.jar
```

3. Specify appropriate values for all the prompts including the install location. During installation, Sterling Control Center updates various scripts with the location of the JRE.
4. Once the installation is done, run configCC.sh to configure the engine.

   Note: The location of the JRE must not be changed after Sterling Control Center is installed. If so, Sterling Control Center will no longer run.

   To upgrade the JRE, first install the newer version of the JRE on the computer where Sterling Control Center has been installed. Then reinstall Sterling Control Center at the same location.

Configuring the Engine to Connect to an Oracle RAC Database

To configure the Sterling Control Center engine to connect to an Oracle RAC database, either install the engine via a graphical user interface or configure it through the configCC.sh or configCC.bat command after the engine is installed.

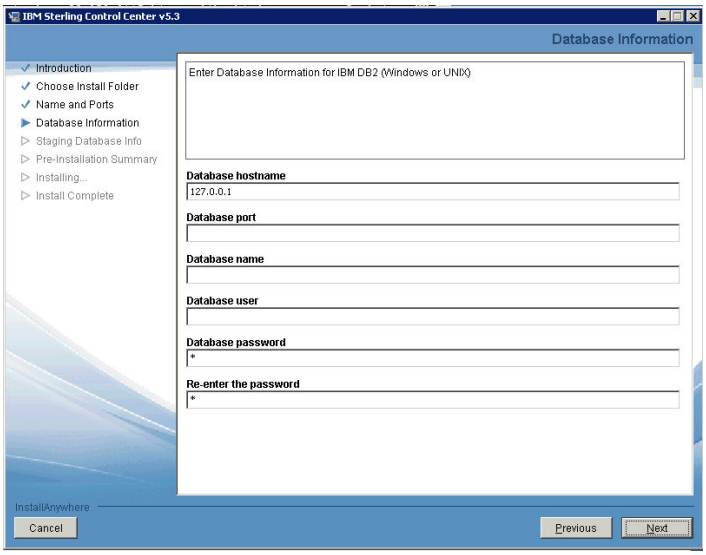
Configuring the Engine to Connect to Oracle RAC through the GUI Installer

About this task

When setting up the Production database, specify the following information in the Database Information dialog box. For the Staging database, you can configure the same Oracle RAC similarly.

Procedure

1. Specify Oracle RAC cluster nodes separated by semicolons in the **Database hostname** field.
2. In the **Database port** field, specify the port number separated by semicolons for the corresponding hosts in the hostname field.
3. In the **Database name** field, specify the Oracle Service Name.



Configuring the Engine to Connect to Oracle RAC through Command Line Installation

In the Database Connection Parameters configuration step, when you specify the database type as Oracle, you are prompted as to whether the installation is for an Oracle RAC environment. To configure connections to an Oracle RAC database, specify **Y** and press Enter. Then follow the prompts, as shown below, to specify all Oracle hosts in the cluster.

Before you begin

Staging database connection details can be configured in the same way.

```
Config step :  Database connection parameters configuration ...
-----------------------------------------------------------------------
Please provide the following DB Parms...
Database Type(MySQL or Oracle or DB2 or MSSQL or DB2zOS)[MySQL] : oracle
Is this an Oracle RAC environment(Y/N)?[N]Y
How many nodes in the cluster? 2
Database cluster host #1 : []reseph
Database port for cluster host#1 :[]1521
Database cluster host #2 : []marduk
Database port for cluster host#2 :[]1521
Database User[] : SCCUSER
Database Password (no blanks):
Re-enter Database Password :
Database Name (SID) [] : gisr1.sci.local
```

Changing Engine Settings After Installation

About this task

To change Sterling Control Center engine settings (such as database connection details, the HTTP connector port, or HTTPS settings) you can run a configuration program to reconfigure the Sterling Control Center setup.

Procedure

1. From a command line, run configCC.bat (Microsoft Windows) or configCC.sh (UNIX) in the install directory/bin subdirectory.

   You are prompted for each step of configuration.
2. Changing the engine time zone setting involves making entries similar to the following. These time zone settings take into account regional variations in Daylight Saving Time. Type the number that corresponds to your preferred setting.

```
------------------------------------------------------------------
Config step :  Engine Time Zone configuration ...
------------------------------------------------------------------

Engine Time Zone has been defined for this install.

Do you want to select a different Time Zone(Y/N)?y

Are you sure(Y/N)?y
Default Time Zone : (UTC-05:00) Central Time (US & Canada)

1. (UTC-05:00) Central Time (US & Canada)
2. (UTC-05:00) Mexico City
3. (UTC-05:00) Bogota, Lima, Quito
4. (UTC-05:00) Brasilia (ACT)
Please choose TimeZone by number [1] :
```

3. To skip any step in which no change is required, type **n** and press **Enter**, then **y** and press **Enter**.

Setting Up a Console

For computers other than the one Sterling Control Center was installed on, you install the console using a browser such as Microsoft Internet Explorer or Firefox.

About this task

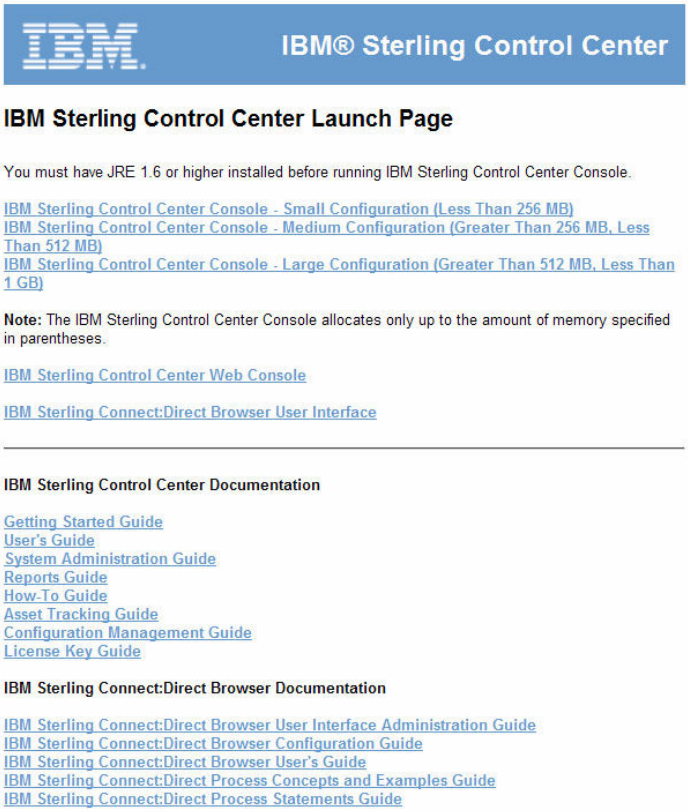
Note: To access many Sterling Control Center user features without installing files locally on your computer, you can use the Sterling Control Center web console.

Procedure

1. Check with the administrator to ensure that the Sterling Control Center engine is running.
2. Open the URL associated with the Sterling Control Center engine. The URL format is https://hostname:port for a secure connection or http://hostname:port for a nonsecure connection, where hostname is the DNS name or IP address where the engine is running and port is the port number for the Jetty Web server. (The default secure Jetty Web port is 58083. The default nonsecure Jetty Web port is 58082.)

If Web Start determines that JRE 1.6.0 is not installed, or if you are not using Internet Explorer as your Web browser, a JRE 1.6.0 installation link is displayed. Click the link to install JRE 1.6.0.

The following Java Launch Page is displayed:



3. Click the Sterling Control Center Console link you want to use.

   The Sterling Control Center components are downloaded to your local computer. When all components are downloaded, a security warning informs you that Sterling Control Center is requesting unrestricted access to your computer.
4. Click **Start** to continue to the Sterling Control Center console installation. A security warning informs you that Java Mail is requesting unrestricted access to your computer. This access is necessary to install Sterling Control Center.
5. Click **Install**.

   When the Sterling Control Center console installation is complete, you are given the opportunity to create a shortcut for running the console from your desktop.
6. Do one of the following:
   - To create a shortcut on your desktop, click **Yes**.
   - To finish the installation without creating a shortcut, click **No**.
   - To defer creation of a shortcut, click **Ask Later**.

   Note: The Configure option in the shortcut creation window is not used for Sterling Control Center.

Clearing the Cache Before Upgrading Your Console

About this task

If you are upgrading from a previous version of Sterling Control Center, after installing the upgrade but before installing the console, clear the browser cache on the computer on which you are launching the console.

Procedure

1. Click **Start** > **Run**.
2. Type **javaws -viewer** and click **Run**.
3. In the Java Control Panel, click **Settings**, **Delete Files**, then **OK**.

   Note: Deleting temporary internet files only is not sufficient.
4. Proceed with installing the console by following the steps in Setting Up a Console.

Troubleshoot Engine/Console Installations

The following Sterling Control Center engine and console installation issues are presented along with steps to take should you encounter them.

Problem

Solution

Data Execution Prevention in Microsoft Windows Server 2003, SP1, prevents installation.

When installing the Sterling Control Center Engine on Microsoft Windows Server 2003 with Service Pack 1, you may get a message like the following: "Data Execution Prevention. To help protect your computer, Microsoft Windows has closed this program."

Click **Change Settings** in the Data Execution Prevention window and select the current InstallAnywhere instance to exclude it from Data Execution Prevention. The product should then install correctly.

The automatic installation of JRE 1.6.0 fails.

Sterling Control Center requires a JRE 1.6.0 installation. If you have an older version, Sterling Control Center attempts to install JRE 1.6.0 automatically. If this installation process should fail, go to the Java Launch web page and click **Click Here to Download and Install JRE 1.6 for Microsoft Windows**. The JRE installation will be updated.

Installation fails.

If the installation fails, review the installation log to determine the cause. The log is named Sterling_Control_Center_v.5.3_InstallLog.log and is located in the installation directory. To reconfigure installation, see Changing Engine Settings After Installation.

The client computer on which a console has been installed does not recognize the engine name and location when the user attempts to run Sterling Control Center via Java Web Start. (An error message is displayed at the console computer stating that it is unable to launch Sterling Control Center, followed by a Java Web Start "unable to load resource" download error.)

Run configCC.bat (Microsoft Windows) or configCC.sh (UNIX). (See Changing Engine Settings After Installation.) Respecify the domain name and location from which the console computer is to download Web Start files.

Internet Explorer generates a warning message that part of the application is missing the digital signature.

Access the Java Control Panel by typing javaws - viewer, and then navigate to the Advanced tab > Expand Security > Expand Mixed Code.Select the Enable Hide Warning - Run with protections option.

For Microsoft Windows platforms, add the deployment.config file to either C:\Windows\Sun\java\Deployment or C:\Program Files\Java\jre6\lib.

For the Linux platform, add deployment.config to either /etc/.java/deployment/deployment.config or ${deployment.java.home}/lib/deployment.config where ${deployment.java.home} is the location of the JRE from which the deployment products are run.

Configuring Sterling Connect:Enterprise for z/OS

About this task

Before a Sterling Connect:Enterprise for z/OS server (version 1.3 or later) can communicate with Sterling Control Center, you must provide the z/OS server with the address of the Sterling Control Center engine and the port that the Sterling Control Center engine listens on. You use the Sterling Connect:Enterprise for z/OS Scheduler and Logging application agents for this. Sterling Control Center provides Scheduler and Logging application agent files for you to modify.

Procedure

1. After successfully installing Sterling Control Center, use a text editor such as Notepad to open the $RLOG file in the ControlCenter\conf\CEOS390 directory (ControlCenter/conf/CEOS390 on UNIX). This file contains the Logging application agent rules.
2. Locate the following lines:

```
IPADDR=DNS.CONTROL.CENTER,
             PORT=162,
```

3. Replace all occurrences of **DNS.CONTROL.CENTER** with the IP address or DNS name of the Sterling Control Center engine.
4. Replace all occurrences of **162** with the port number the Sterling Control Center engine will listen on for SNMP traps from the Sterling Connect:Enterprise server.

   For example, if the Sterling Control Center engine IP address is 10.20.41.9 and the port number it listens on is 8080, the revised file would look like the following example:

```
*********************************************************************
* LOGGING APPLICATION AGENT RULES *
*********************************************************************
RULE NAME=ACNEW
     SNMPTRAP TEXT='FUNC=&ACFUNC BNO=&BATCH# ID=&IDFIELD BID="&BID24" +
                    KEY=&KEY RMT=&RMTNAME LINE=&LINNAME STC=&STCNAME L+
                    IST=&LISTNAM FC=&FAILCODE',
              IPADDR=10.20.41.9,
              PORT=8080,
              GROUP1=STATUS,
              GROUP2=1,
              ERROR=CONTINUE
RULE NAME=ACUPD
     SNMPTRAP TEXT='FUNC=&ACFUNC BNO=&BATCH# ID=&IDFIELD BID="&BID24" +
                    KEY=&KEY RMT=&RMTNAME LINE=&LINNAME STC=&STCNAME L+
                    IST=&LISTNAM FC=&FAILCODE',
              IPADDR=10.20.41.9,
              PORT=8080,
              GROUP1=STATUS,
              GROUP2=2,
 ERROR=CONTINUE
```

5. Save the $RLOG file.
6. Use the text editor to open the $RSCH file. This file contains the Scheduler application agent rules.
7. Replace the highlighted information in the following example with the IP address or DNS name of the Sterling Control Center engine and the port number on which Sterling Control Center will listen for SNMP traps from the Sterling Connect:Enterprise server.

```
*********************************************************************
*  SCHEDULER APPLICATION AGENT RULES EXAMPLE                        *
*********************************************************************
RULE NAME=TIMER0
     SNMPTRAP  TEXT='APKEY="&APKEY" FUNC=0',
               IPADDR=DNS.CONTROL.CENTER,
               PORT=162,
               GROUP1=ALARM,
               GROUP2=8888,
               ERROR=CONTINUE
.
.
```

For example, if the Sterling Control Center engine IP address is 10.20.41.9 and the port number is 8080, this file would contain the following:

```
*********************************************************************
*  SCHEDULER APPLICATION AGENT RULES EXAMPLE                        *
*********************************************************************
RULE NAME=TIMER0
     SNMPTRAP  TEXT='APKEY="&APKEY" FUNC=0',
               IPADDR=10.20.41.9,
               PORT=8080,
               GROUP1=ALARM,
               GROUP2=8888,
               ERROR=CONTINUE
.
.
```

8. Save the $RSCH file.
9. Upload the $RLOG and $RSCH file to the Sterling Connect:Enterprise for z/OS server.

If your Sterling Connect:Enterprise for z/OS installation already uses Logging and Scheduler application agents, you can insert the new statements into the existing rules.

See the IBM Sterling Connect:Enterprise for z/OS Application Agents and User Exits Guide for instructions on implementing rules.

10. Perform a rules refresh on the Sterling Connect:Enterprise server. The server can now communicate with Sterling Control Center.
11. Repeat this procedure for each Sterling Connect:Enterprise server that Sterling Control Center will monitor.

    Note: Each Sterling Connect:Enterprise for z/OS server that Sterling Control Center will monitor must use a unique port number for sending the SNMP traps.

Configuring Sterling B2B Integrator

To use Sterling Control Center with Sterling B2B Integrator servers, including IBM® Sterling File Gateway, set up a Sterling Control Center service in Sterling B2B Integrator. See the topic called Monitoring Sterling B2B Integrator with Sterling Control Center in the Sterling B2B Integrator documentation for more information.

For Sterling Control Center to monitor all the steps of Sterling B2B Integrator business processes, set the persistence level on Sterling B2B Integrator to PERSISTENCE_FULL for the business processes.

Sterling Control Center issues Ops commands to Sterling B2B Integrator to get adapter status. To avoid server down alerts, set the Ops command timeout on Sterling B2B Integrator to more than 2 minutes.

Uninstalling Sterling Control Center

About this task

Read the following note before you uninstall Sterling Control Center.

Important: The default trust store (*installation directory*/jre/lib/security/cacerts) provided with the installed Java JRE is removed when you uninstall Sterling Control Center. If you customized this file, avoid losing trust store information that may be used by other applications by copying the file to another directory before uninstalling. Reinstalling Sterling Control Center installs a new copy of the default trust store.

Procedure

1. Back up the <install dir>/conf subdirectory in the Sterling Control Center installation directory. This subdirectory contains all setup information unique to your installation (SLCs, users, and other objects that you have defined).

   Note: Although uninstalling Sterling Control Center should not delete the setup information, taking this step ensures against losing any data.
2. In Microsoft Windows:

   Select **Start > All Programs >IBM Sterling Control v**x.x **> Uninstall IBM Sterling Control Center v**x.x.

   In the Uninstall Sterling Control Center vx.x window, click **Uninstall**.
3. In UNIX:

Change to the Sterling Control Center installation directory and type the following at the command line (where x.x is your version of the product:

```
UninstallerData/Uninstall Sterling Control Center vx.x
```

When prompted, press **Enter**.

In both Microsoft Windows and UNIX, existing data files and folders are left intact after Sterling Control Center is uninstalled.

4. To uninstall Sterling Control Center in z/Linux, run the uninstaller.jar from the UninstallerData directory.

Reinstalling Sterling Control Center

About this task

During reinstallation, the installation program asks if you want to reinitialize the Sterling Control Center database tables. Make a note of these values before reinitializing the database and reconfigure them later. See Managing Metadata Type Mapping in the IBM Sterling Control Center System Administration Guide for instructions on how to map metadata types.

. If you select not to reinitialize, the existing statistic and event information is available with the reinstalled Sterling Control Center. The default selection is not to reinitialize.

Important: Reinstalling Sterling Control Center installs a new copy of the default trust store file (cacerts). If you created a copy of this file for customization, make sure that you update the directory path (*installation directory*/jre/lib/security/cacerts)after reinstall with the correct filename.

Procedure

1. Back up the <install dir>\conf subdirectory in the Sterling Control Center installation directory. This subdirectory contains all setup information unique to your installation (SLCs, users, and so on that you have defined).

   Note: Although uninstalling Sterling Control Center in the following step should not delete the setup information, taking this step ensures against losing any data.
2. Run the Sterling Control Center uninstall program. (See Uninstalling Sterling Control Center.)

   This removes the Sterling Control Center executable programs from your computer. It does not remove any data items defined in Sterling Control Center (such as rules, actions, SLCs, users, or servers).
3. Restore the <install dir>/conf directory you backed up in step 1.
4. Run the installation program again.

Chapter 3. Configuring a Secure Connection

Overview

You can configure the following secure connections for use with Sterling Control Center:

- A secure connection between the Sterling Control Center engine and a Sterling Control Center console. This secure connection uses Secure Hypertext Transfer Protocol (HTTPS).
- A secure connection between the Sterling Control Center engine and a managed Sterling Connect:Direct server. This secure connection uses Secure Sockets Layer (SSL) or Transport Layer Security (TLS).

The Sterling Control Center engine uses the same trust store file for both types of secure connections.

Use the information recorded on the HTTPS Worksheet on page 14 to complete the configuration procedures.

To configure IBM® Sterling Connect:Direct® Secure Plus objects on a Sterling Connect:Direct server, you must have a secure connection between the server and the Sterling Connect:Direct engine, or the Sterling Connect:Direct server must allow Sterling Connect:Direct Secure Plus configuration over an unsecure connection in its initialization parameters.

About Creating a Secure Connection Between the Engine and the Console

To ensure the secure transfer of information between Sterling Control Center and a console, use an HTTPS connection between the two locations. This type of secure connection is client and server authenticated, where the console is the client and the Sterling Control Center engine is the server.

Requirements for Client-Server Authentication

For client and server authentication, the following files must be stored at the location of both client and server:

- Keystore file—A database of key material used for authentication and data integrity.
- Trust store file—A keystore which is used when making decisions about what to trust.

IBM provides IBM® Sterling Certificate Wizard to assist you in generating self-signed certificates and the certificate signing requests (CSRs) used to obtain certificates from a Certificate Authority (CA).

Summary of Tasks Table

The following table presents a summary of the tasks you must complete before you can configure a secure connection between the Sterling Control Center engine and the console using the procedures described in Configuring the Engine for a Secure Connection on page 33 and Configuring the Console for a Secure

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Connection on page 33. When appropriate, the table refers to the Sterling Certificate Wizard Help for procedures to complete these tasks.

Before you begin the tasks listed in the table, consult your system security administrator for any site-specific security requirements.

Task **How to Accomplish**

Obtain certificates.The console needs the private key and certificate for the console and the root certificate for the engine.The Sterling Control Center engine needs the private key and certificate for the engine as well as the root certificate for the console.

Take one of the following actions:

- Use Sterling Certificate Wizard or any other available certificate-generation tool to generate the CSR to obtain the certificate from a third-party CA.
- Create a self-signed certificate.

  See the Sterling Certificate Wizard Help for instructions on generating a CSR and creating a self-signed certificate.

On the computers running the console and the engine, create and save keystore files in JKS format (using Sterling Certificate Wizard).

See Generate a Key Certificate, PKCS12, or Java Keystore File in Sterling Certificate Wizard Help for instructions on creating a valid JKS keystore file from your private key and certificate.

Note: The passphrase for the certificate and the keystore must be the same.

On the computers running the console and engine, create and save trust store files that contain CA information in JKS format.

If a trust store file in JKS format is not available on the server or the console, take one of the following actions:

- On the engine, use the default trust store file (**cacerts**) located in the <Sterling Control Center installation directory>/jre/lib/security directory. This trust store file contains authentication information for most CAs.

  Important: The default JKS trust store file (cacerts) installed with Sterling Control Center should only be used in a nonproduction environment. During upgrade, maintenance, and reinstallation this file is overwritten (or removed as with uninstallation). If you customize this file and use it as your truststore, you will lose all of your updates. Instead, create a copy of cacerts to store your CA authentication information, and update the directory path as appropriate.
- For a self-signed certificate, refer to Create a Self-Signed Certificate in the Sterling Certificate Wizard Help to import the certificate into a JKS trust store.

  Note: A trust store file is not automatically installed at the console location.

Configure the Sterling Control Center engine for a secure connection.

See Configuring the Engine for a Secure Connection on page 33 .

Configure the Sterling Control Center console for a secure connection.

See Configuring the Console for a Secure Connection on page 33 .

After you complete the tasks listed in the table, you are ready to configure the Sterling Control Center engine and console for a secure connection.

Configuring the Engine for a Secure Connection

To configure a secure HTTPS connection at the Sterling Control Center engine:

About this task

Procedure

1. If necessary, stop the engine.
2. Do one of the following:
   - On a UNIX computer, run the configCC.sh program from the <install directory>/bin location.
   - On a Microsoft Windows computer, double-click configCC.bat in the <install directory>\bin directory.
3. In the Keystore and Trust Store configuration steps, specify the keystore location and passphrase and the trust store location and passphrase as well as a port for the secure HTTP connector server to listen on.

   Note: The passphrase for the keystore and the certificate must be the same.
4. Restart the Sterling Control Center engine.

Configuring the Console for a Secure Connection

After you exchange keystore and trust store information between the Sterling Control Center engine and the console, you are ready to configure the console for a secure connection.

About this task

Procedure

1. Verify that the Sterling Control Center engine is running.
2. Open the URL associated with the engine. The Sterling Control Center Java Launch Page is displayed.
3. Click the Sterling Control Center Console link corresponding to your memory requirements.
4. From the Login panel, click **Config**.
5. Provide the following information about the keystore:
   - Keystore Type
   - Keystore Location
   - Keystore Password
6. Provide the following information about the trust store:
   - Trust Store Type
   - Trust Store Location
   - Trust Store Password
7. Click **OK.**

Note: If any of the keystore and trust store configuration information is invalid, you are notified after you click **Finish**.

About Creating a Secure Connection between the Engine and a Managed Sterling Connect:Direct Server

A secure connection between the Sterling Control Center engine and a managed Sterling Connect:Direct server is server authenticated. The engine is the client and the managed Sterling Connect:Direct server is the server.

Note: Before you configure a secure connection, consult your system security administrator for any site-specific security requirements.

Configuring the Managed Server For a Secure Connection

The managed server must first be configured to support secure client connections. Use the Sterling Connect:Direct Secure Plus Administration tool, SPAdmin, to configure each managed server. Keep these points in mind:

Before you begin

- The name of the configuration record used for client connections is **.Client**.
- The Sterling Connect:Direct server merges the contents of the **.Client** record, if it exists, with the contents of the **.Local** record to create a merged **.Client** record, similar to the way records representing remote nodes are merged with the **.Local** record.
- If the value for Node or Copy Statement Override for the merged **.Client** record is Disable Override, then client connections must abide by the value specified for Sterling Connect:Direct Secure Plus Protocol in the merged **.Client** record.
- If the value for Sterling Connect:Direct Secure Plus Protocol for the merged **.Client** record is:
  - Disable Sterling Connect:Direct Secure Plus, then only non-secure client connections will be permitted
  - Enable TLS Protocol, then only TLS client connections will be permitted
  - Enable SSL Protocol, then only SSL client connections will be permitted
  - Enable STS Protocol, then no client connections will be permitted (as no clients support the STS protocol).
  - Enable Override, then client connections may be secure, TLS/SSL, or non-secure.

Configuring Sterling Control Center For a Secure Connection

You can configure a secure connection between the Sterling Control Center engine and a managed Sterling Connect:Direct server:

Procedure

1. Obtain a root certificate for the Sterling Connect:Direct server.
   - Use Sterling Certificate Wizard or any other available tool to generate the CSR to obtain the certificate from a third-party CA.
   - Create a self-signed certificate. (See the Sterling Certificate Wizard Help for instructions on generating a CSR and generating a self-signed certificate.)
2. Create a trust store file that contains CA information in JKS format on the Sterling Control Center engine. If a trust store file in JKS format is not available, use the default trust store file (**cacerts**) located in the <Sterling

Control Center installation directory>/jre/lib/security directory. This trust store file contains authentication information for most CAs.

Important: The default JKS trust store file (cacerts) installed with Sterling Control Center should only be used in a nonproduction environment. During upgrade, maintenance, and reinstallation this file is overwritten (or removed as with uninstallation). If you customize this file and use it as your truststore, you will lose all of your updates. Instead, create a copy of cacerts to store your CA authentication information, and update the directory path as appropriate.

3. Import the root certificate of the Sterling Connect:Direct server into the trust store on the Sterling Control Center engine. Use the Import to Trust Store feature of Sterling Certificate Wizard.
4. Configure the Sterling Control Center engine for a secure connection. Refer to Configuring the Engine for a Secure Connection.

Chapter 4. Setting Up Sterling Control Center to Monitor FTP Servers

Configuring Sterling Control Center For a Secure Connection

You can configure a secure connection between the Sterling Control Center engine and a managed Sterling Connect:Direct server:

Procedure

1. Obtain a root certificate for the Sterling Connect:Direct server.
   - Use Sterling Certificate Wizard or any other available tool to generate the CSR to obtain the certificate from a third-party CA.
   - Create a self-signed certificate. (See the Sterling Certificate Wizard Help for instructions on generating a CSR and generating a self-signed certificate.)
2. Create a trust store file that contains CA information in JKS format on the Sterling Control Center engine. If a trust store file in JKS format is not available, use the default trust store file (**cacerts**) located in the `<Sterling Control Center installation directory>/jre/lib/security` directory. This trust store file contains authentication information for most CAs.

   Important: The default JKS trust store file (cacerts) installed with Sterling Control Center should only be used in a nonproduction environment. During upgrade, maintenance, and reinstallation this file is overwritten (or removed as with uninstallation). If you customize this file and use it as your truststore, you will lose all of your updates. Instead, create a copy of cacerts to store your CA authentication information, and update the directory path as appropriate.
3. Import the root certificate of the Sterling Connect:Direct server into the trust store on the Sterling Control Center engine. Use the Import to Trust Store feature of Sterling Certificate Wizard.
4. Configure the Sterling Control Center engine for a secure connection. Refer to Configuring the Engine for a Secure Connection.

About Monitoring FTP Servers

By monitoring an FTP server using Sterling Control Center, you can gather information on the files transferred to and from the server. Sterling Control Center SLCs can be written to make sure that FTP file transfers occur on time. Rules can be written to check FTP server status (up or down) and make sure that files are transferred successfully. Finally, reports can be generated to show historical server activity.

Sterling Control Center monitoring of FTP servers is enabled via an FTP agent. Sterling Control Center ships with FTP agents for z/OS, UNIX, Linux, and Microsoft Windows platforms. A separate FTP agent must be installed on each FTP server to be monitored.

Sterling Control Center supports the monitoring of two types of FTP servers:

- FTP servers that use FTP logs to record transfer activities (W3C, xferlog, and IIS)
- FTP servers that use SNMP traps to record transfer activities (Ipswitch's WS_FTP and z/OS-based FTP servers)

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FTP servers also differ according to the types of environments in which they can operate. Refer to the following chart to see where you can run a particular FTP server:

Environment	FTP servers using FTP Logs (W3C, xferlog, IIS)	WS_FTP Server	z/OS FTP Server
Microsoft Windows	X	X	
UNIX	X		
z/OS			X

Sterling Control Center monitors FTP servers through an FTP agent that is installed on the machine where the FTP server is running. This topic tells you what information Sterling Control Center gathers from all FTP servers and how that information maps to general Sterling Control Center terms in displays and reports. To install and configure a non-z/OS Sterling Control Center FTP agent, go to the appropriate section for the platform and type of FTP agent you are using. For Sterling Control Center FTP agents that use FTP logs, review the information in About Validating Log Formats to Use with Sterling Control Center on page 44. To install and configure z/OS-based FTP servers, go to About Installing an FTP Agent on z/OS on page 46.

Based on Monitor Rest Time, Sterling Control Center periodically collects information on the transfer activities of the FTP server via the FTP agent. It generates notifications for each transfer. Some mapping is done between the transfer log information and these Sterling Control Center notifications. For example, for an FTP PUT, Sterling Control Center reports a Process name of "PUT." Source file name is mapped to the ID of the user who did the transfer, and destination file name is the name of the file found in the transfer log. When an FTP GET is done, the Process name value is "GET," the source file name is the name of the file received and the destination file name is the ID of the user who initiated the transfer. In terms of FTP commands, RETR, SENT, and DOWNLOADED display as a GET in Sterling Control Center while STOR, STOU, CREATED, UPLOADED, and APPENDED display as a PUT.

In addition, all other FTP commands will generate Statistic records. GET and PUT commands will generate Event Types: Process Start, Process Step Start, Process Step End and Process End. All other FTP commands will generate Event Type: Server Command and the Process Name will be the FTP Command. Possible Process Names are USER, PASS, RNFR, RNFO, REN, DELE, MKD, LIST, CWD, PORT, PASV and LOGN.

For a complete list of fields used in Sterling Control Center statistics, server property displays, and reports, see Parameters and Fields in the IBM Sterling Control Center System Administration Guide. In this section, the fields in FTP logs are mapped to Sterling Control Center terms.

High-Level Process to Set Up Non-z/OS FTP Servers

About this task

The following list described the high-level steps involved in setting up for monitoring of non-z/OS FTP servers. Detailed instructions for all steps except for defining the FTP server in Sterling Control Center are included later in this chapter.

Note: The Sterling Control Center FTP agent must be installed on the machine where the FTP server is running. For FTP agents that use FTP logs, Sterling Control Center must have read access to the FTP server's log file and know the name and directory location of the FTP logs.

After you install Sterling Control Center and start the product:

Procedure

1. Enable the FTP server to write transfer activities to a log file or SNMP trap.
2. Enable read access to the FTP server log file for the Sterling Control Center FTP agent.
3. Install and configure the Sterling Control Center FTP agent on the computer where the FTP server resides and start the agent.

   Note: If the Sterling Control Center FTP agent fails to start, consult the FTP agent log file in the FTPAgentInstallDir/log folder (where FTPAgentInstallDir is the directory where the agent is installed) to isolate the cause of the problem. The log file name begins with SCCFTPAgent_.
4. Define the FTP server in Sterling Control Center by providing relevant details about the server and the Sterling Control Center FTP agent, and the log formats, if necessary. For specific instructions on adding an FTP server for Sterling Control Center to monitor, see the Managing Servers chapter in the IBM Sterling Control Center System Administration Guide. For more information on log formats, see About Validating Log Formats to Use with Sterling Control Center on page 44.
5. To test whether Sterling Control Center is collecting information from the FTP server, use Sterling Control Center to view the FTP server activity. For more information, see the Monitoring Server Activity chapter in the IBM Sterling Control Center System User Guide.

About Working with an FTP Agent in Windows

These following procedures tell you how to install, configure, start, and stop an FTP agent in the Windows environment. The installation and configuration procedures for WS_FTP, which differ slightly from those for W3C, IIS, and xferlog, are presented in Installing an FTP Agent in Microsoft Windows for WS_FTP on page 41 and Configuring the FTP Agent in Microsoft Windows for WS_FTP on page 41, and Configuring the WS_FTP Server to Use the FTP Agent on page 42.

Installing an FTP Agent in Microsoft Windows for W3C, IIS, and xferlog

About this task

Use this procedure to install the Sterling Control Center FTP agent on a Microsoft Windows system for use with W3C, IIS, and xferlog.

To install the Sterling Control Center FTP agent on Microsoft Windows:

Procedure

1. Close all open applications.
2. Navigate to the Sterling Control Center Windows folder on the computer where you are installing the FTP agent.
3. Double-click the SCCFTPAgentInstall.exe file.
4. Follow the installation prompts.

Results

If the installation fails, review the installation log to determine the cause. This log is called Sterling_Control_Center_-_FTP_Agent_v5.3_InstallLog.log and is located in the FTP agent installation directory.

The installer creates a Microsoft Windows service to run the FTP agent. The installation program also installs the Java Runtime Environment (JRE) required to run the FTP agent.

Configuring the FTP Agent in Microsoft Windows for W3C, IIS, and xferlog

About this task

By default, the FTP agent listens on port 58084 on the computer where it is installed. To change the default port, use this procedure to reconfigure the FTP agent on Microsoft Windows.

Procedure

1. Open a Command Prompt window on the computer where the FTP agent is installed. (Click Start > Programs > Accessories > Command Prompt.)
2. Change the current working directory to FTPAgentInstallDir/bin, where FTPAgentInstallDir is the directory where the FTP agent is installed.
3. If the FTP agent is already running, stop it by typing **stopFtpAgent.bat**.
4. Type **configFtpAgent.bat**.
5. Follow the configuration prompts to change the FTP agent listening port.

Manually Starting the FTP Agent in Microsoft Windows for W3C, IIS, and xferlog

Before you begin

To manually start the FTP agent in Microsoft Windows, do one of the following:

- Click Start > Settings > Control Panel > Administrative Tools > Services to display the Services window, then right-click IBM Sterling Control Center - FTP Agent v5.3, and click Start.
- Display a command window (click Start > All Programs > Accessories > Command Prompt), change to the root directory, and type FTPAgentInstallDir\bin\runFtpAgent$.exe, where FTPAgentInstallDir is the directory where you installed the FTP agent.
- In Microsoft Windows Explorer, navigate to the FTPAgentInstallDir\bin directory and double-click **runFtpAgent$.exe**.
- In Microsoft Windows Explorer, navigate to the FTPAgentInstallDir\bin directory and double-click **runFtpAgent.bat**.

By default, the FTP agent listens on port 58084. You will need this information when you define a managed FTP server in Sterling Control Center.

Automatically Starting the FTP Agent in Microsoft Windows for W3C, IIS, and xferlog

About this task

To set the Sterling Control Center FTP agent to start automatically in Microsoft Windows:

Procedure

1. Click Start > Settings > Control Panel > Administrative Tools > Services. The Services window is displayed.
2. Right-click IBM Sterling Control Center - FTP Agent v5.3 and select Properties.
3. In the Startup Type list, click Automatic.

Stopping the FTP Agent from the Microsoft Windows Start Menu for W3C, IIS, and xferlog

About this task

To stop the FTP agent from the Microsoft Windows Start menu:

Procedure

1. Click Start > Settings > Control Panel > Administrative Tools > Services.
2. Right-click IBM Sterling Control Center - FTP Agent v5.3.
3. Click Stop.

Stopping the FTP Agent from a Microsoft Windows Command Line for W3C, IIS, and xferlog

About this task

To stop the FTP agent from a Microsoft Windows command line:

Procedure

1. Open a Command Prompt window on the computer where the FTP agent is installed. (Click Start > Programs > Accessories > Command Prompt.)
2. Change the current working directory to FTPAgentInstallDir/bin, where FTPAgentInstallDir is the directory where the agent is installed.
3. Type **stopFtpAgent.bat**.

   Note: You may see communication exceptions when you stop the FTP agent from the command line. Please ignore these exceptions.

Installing an FTP Agent in Microsoft Windows for WS_FTP

About this task

Use this procedure to install the Sterling Control Center FTP agent on a Microsoft Windows system for use with WS_FTP.

To install the Sterling Control Center FTP agent on Microsoft Windows:

Procedure

1. Close all open applications.
2. Do one of the following:
   - Navigate to the Microsoft Windows directory underneath the folder where you downloaded and extracted the files from the ESD portal.

- Insert the Sterling Control Center installation DVD in the drive of the computer where you are installing Sterling Control Center. Open the folder that corresponds to your Microsoft Windows platform on the DVD.

3. Double-click the SCCFTPAgentInstall.exe file.
4. Follow the installation prompts.

Results

CAUTION:
To install the Sterling Control Center FTP agent in a directory other than the default, make sure the name of the directory does not contain any blanks. The installation will proceed as usual, but Sterling Control Center will not be able to monitor the WS_FTP server.

If the installation fails, review the installation log to determine the cause. This log is named IBM_Sterling_Control_Center_-_FTP_Agent_v5.3_InstallLog.log and is located in the FTP agent installation directory.

The installation program installs the Java Runtime Environment (JRE) required to run the FTP agent.

Configuring the FTP Agent in Microsoft Windows for WS_FTP

By default, the FTP Agent sends traps to SNMP port 58094 and host address 0.0.0.0. To change the default port and host address to the port/host address where Sterling Control Center is running, use this procedure to reconfigure the FTP agent on Microsoft Windows using SNMP Connector.

About this task

Procedure

1. Open a Command Prompt window on the computer where the FTP agent is installed. (Click Start > Programs > Accessories > Command Prompt.)
2. Change the current working directory to FTPAgentInstallDir/bin, where FTPAgentInstallDir is the directory where the FTP agent is installed.
3. Type config**WsFtpAgent.bat**.
4. Follow the configuration prompts to change the FTP agent SNMP port and host address. (The host address is where Sterling Control Center is running. The SNMP port is the port Sterling Control Center monitors for WS_FTP activity.)

Configuring the WS_FTP Server to Use the FTP Agent

About this task

To enable the WS_FTP Server to communicate with the Sterling Control Center FTP Agent, you must configure WS_FTP Server to execute the Sterling Control Center batch file, notifySCC.bat, when it performs actions on files, such as uploading, downloading, and deleting. To configure WS_FTP, you set up and name a Folder Action Rule, such as SCCWsFtpAgent, and specify additional information for that Folder Action Rule to tell it how to work with Sterling Control Center.

Note: The WS_FTP configuration steps below are based on the most current release of WS_FTP that was available at the time of this publication. An earlier version of WS_FTP was configured a different way, by setting up a Program Notification, and then creating a rule to execute the Programs Notification when files are uploaded, downloaded, deleted, etc. In a future release of WS_FTP, there may yet be another way to configure the server. Therefore, to determine how to

configure WS_FTP, consult the documentation for the version of WS_FTP you are using, in conjunction with the following steps.

Procedure

1. To send notifications for all actions that the WS_FTP performs on files, select all FTP events that you want Sterling Control Center to monitor in the Rules Notifications section, (Upload, Download, Delete, etc.).
2. To instruct the WS_FTP server to execute the Sterling Control Center notifySCC.bat batch file when it sends a notification, browse to the notifySCC.bat file in the directory where the Sterling Control Center FTP Agent is installed, and select it for the Executable.
3. To pass the parameters Sterling Control Center needs to monitor the WS_FTP server when the WS_FTP server sends a notification, type %Event %User %Status %File for the Arguments.

   Note: Make sure you type the parameters in the order specified for the Arguments field. These parameters must be in that exact order and are case-sensitive.

About Working with an FTP Agent in UNIX

The following procedures tell you how to install, configure, start, and stop an FTP agent in the UNIX environment. Only FTP agents that use FTP logs to record transfer activities (W3C, xferlog, and IIS) can run in a UNIX environment.

Installing the FTP Agent in UNIX

Use this procedure to install the Sterling Control Center FTP agent on a UNIX system.

About this task

If the installation fails, review the installation log to determine the cause. The log is called IBM_Sterling_Control_Center_-_FTP_Agent_v5.3_InstallLog.log and is located in the Sterling Control Center installation directory.

The installation program installs the Java Runtime Environment (JRE) required to run the FTP agent.

Procedure

1. Navigate to the Sterling Control Center folder that corresponds to your UNIX platform.
2. Copy the SCCFTPAgentInstall.bin file from the folder to a directory on your computer.

   Note: If you are installing in a 64-bit operating system environment (Solaris AMD64 or HP-UX Itanium), copy the SCCFTPAgentInstall64. bin file.
3. Change to the directory where you copied SCCFTPAgentInstall.bin.
4. Type **chmod 777 *.bin**.
5. Do one of the following:
   - To start a console-based installation, type **sh SCCFTPAgentInstall.bin -i console** at the command line.
   - To start a GUI-based installation, type **sh SCCFTPAgentInstall.bin -i gui** at the command line.
6. Follow the installation prompts.

Note: The installation procedure may leave temporary files you want to get rid of. For more information, see Removing Temporary Files on page 18 .

Configuring the FTP Agent in UNIX
About this task

By default, the Sterling Control Center FTP agent listens on port 58084 on the computer where it is installed. You can change this default port using the following procedure.

Procedure

1. Change the current working directory on the computer where the FTP agent is installed to FTPAgentInstallDir/bin, where FTPAgentInstallDir is the directory where the FTP agent is installed.
2. If the FTP agent is running, stop it by typing **./stopFtpAgent.sh**
3. Type **./configFtpAgent.sh**
4. Follow the configuration prompts to change the FTP agent listening port.

Manually Starting the FTP Agent on a UNIX Computer
About this task

By default, the FTP agent listens on port 58084. You will need this information when you define the FTP server as a managed server in Sterling Control Center:

Procedure

1. Log in as root, or as the user who installed the engine.
2. Change the current working directory on the computer where the FTP agent is installed to FTPAgentInstallDir/bin.
3. Type **./runFtpAgent.sh**.

Starting the FTP Agent Automatically in UNIX
To set the FTP agent to start automatically in UNIX, insert a command line into a startup file to automatically start the agent.

Before you begin

Note: Because UNIX configurations vary, consult your UNIX administrator for the exact procedure and command syntax.

Stopping the FTP Agent in UNIX
About this task

To manually stop the FTP agent in UNIX:

Procedure

1. On the computer where the FTP agent is installed, change the current working directory to FTPAgentInstallDir/bin, where FTPAgentInstallDir is the directory where the agent is installed.
2. Type **./stopFtpAgent.sh**.

About Validating Log Formats to Use with Sterling Control Center

When you add an FTP server in Sterling Control Center, you first give Sterling Control Center information to tell it how to connect to the server. Then for FTP servers using xferlog or IIS logs to record transfer activities, you should validate the log formats to ensure that Sterling Control Center can properly interpret the layout of the log. The layout of a W3C log file is contained in the data itself so you do not have to define the record format of an FTP server that generates log files in a W3C-format. However, because there are some things you should consider, see W3C FTP Server Logs on page 45.

FTP xferlog and IIS Log Formats

Before Sterling Control Center can read the contents of an FTP xferlog or IIS log file, it needs the layout of all fields in the record.

When you add an FTP xferlog or IIS server, print out a sample log record and confirm that your field layouts match the default from the Log File Format Advanced Settings page. If they do not match, modify the layout on this page by accessing it from the Server Properties - Connection page. For more information, see the Managing Servers chapter in the IBM Sterling Control Center System Administration Guide.

The following sample shows a typical FTP xferlog record with each field separated by a space:

```
Mon Jun 25 08:40:16 2007 1 10.20.9.84 40 /etc/gre.conf a _ o r pgoun1 ftp 0 * c
```

The following sample shows a typical FTP IIS record with each field separated by a comma:

```
192.168.114.201, SMITH, 03/20/10, 7:30:00, W3SVC2, DALLAS, 172.21.13.45, 4502, 163,
3223, 200, 0, GET, /Crossref.xls, -
```

W3C FTP Server Logs

Sterling Control Center can monitor FTP servers that produce logs in W3C standard as long as the log adheres to the following rules:

- #Fields—Must begin in column 1 and be followed by the file layout key. For example:

```
#Fields: date time c-ip cs-bytes sc-bytes cs-method sc-status cs-uri-stem
```

- Fields are delimited by blanks.
- Fields cannot contain embedded blanks unless surrounded by single quotes. For example, if cs-uri-stem has filename with embedded blanks, cs-uri-stem must be surrounded by single quotes:

```
#Fields: date time c-ip cs-bytes sc-bytes cs-method sc-status cs-uri-stem
2009-04-07 14:20:56 10.20.201.3 738 0 STOR  226 'DATA FROM CE FTP SERVER'
```

- The date and time fields must be present in the log in the form, YYYY-MM-DD HH:MM:SS. You must set the Time Zone setting for the FTP server to the zone used in log date/time (for more information on this setting, see the Managing the Servers chapter in the IBM Sterling Control Center System Administration Guide).

- The FTP command must be found in either the cs-method or cs-uri-stem field. If the FTP is in the cs-method field, use one of the following forms:

```
[nn...nnn]cmd
```

  or

```
cmd
```

  If the FTP command is in the cs-uri-stem field, it must be in the following form:

```
cmd
```

- The status must be in either the sc-win31-status or ws-status field or else the FTP command will be reported as Return Code=8. The return code is determined from the sc-win32-status field if it is present (and not manifested by a **-** symbol); otherwise, the return code is determined from the sc-status field. The following tables summarize how the status of the FTP server can be manifested in either the sc-win32-status or sc-status field:

  sc-win32-status
  Return Code

  Not in log record
  Check sc-status

  -
  Check sc-status

  0
  0 which indicates a successful execution

  otherwise
  8 which indicates an error occurred

  sc-status
  Return Code

  Not in log record
  8 which indicates an error occurred

  -
  8 which indicates an error occurred

  1nn, 2nn, 3nn
  0 which indicates a successful execution

  otherwise
  8 which indicates an error occurred

Use the alphabetical listing in Keys and Fields in the IBM Sterling Control Center System Administration Guide to see how the fields in W3C logs are mapped to Sterling Control Center terms. For example, the value in the Orig Node field in the

Statistics Detail display corresponds to the value in the cs-username field if it is present in the log; otherwise, the value in the c-ip field is used.

About Installing an FTP Agent on z/OS

The following describes how to install, configure, and work with an FTP agent in the z/OS environment.

Perform these steps to install the Sterling Control Center FTP agent on z/OS from the Sterling Control Center DVD or the Sterling Control Center folder downloaded from the IBM website.

Step 1: Installing the FTP Agent

Procedure

1. Using Connect:Direct or a similar tool, copy the installation file (CSDDIST.CCFTP420. MVS.DIST.FILE, located in the zOS directory on the DVD or the Sterling Control Center folder) to the z/OS computer as $SCC.DIST.FILE, where $SCC is the high-level qualifier of the z/OS system where you are installing the Sterling Control Center FTP agent. Transfer the file as binary.

   The following sample FTP session uploads the installation file to the z/OS computer. Modify as necessary for your site:

```
ftp 10.20.129.2
binary
put d:\zOS\CSDDIST.CCFTP420.MVS.DIST.FILE $SCC.DIST.FILE
```

   Note: The target file ($SCC.DIST.FILE) on the z/OS computer must be pre-defined as LRECL=80, BLKSIZE=3120, RECFM=FB.

   You can also use the PC's file transfer capability (IND$FILE) to upload the installation file to the z/OS computer. See your computer's documentation for instructions on using this feature.

2. Create and submit the following job to unpack the flat file uploaded to z/OS into $SCC.TXLIB and $SCC.LKLIB files. Replace $SCC with your high-level qualifier.

```
//SCCRECV JOB (SCCFTP),'SCC FTP AGENT RECV',
//SYSTSIN DD *
// CLASS=O,MSGCLASS=X,REGION=4096K,TIME=1440
//*MAIN CLASS=PROD,SYSTEM=SYZ
//*************************************************
//* CHANGE '$SCC' TO YOUR HIGH LEVEL QUALIFIER
//*************************************************
//DELETES EXEC PGM=IEFBR14
//DISTTX DD DISP=(MOD,DELETE),DSN=$SCC.TXLIB,
// UNIT=SYSDA,SPACE=(TRK,1)
//DISTLK DD DISP=(MOD,DELETE),DSN=$SCC.LKLIB,
// UNIT=SYSDA,SPACE=(TRK,1)
//RECVPDS EXEC PGM=IKJEFT01,REGION=4M,COND=(0,NE)
//SYSTSIN DD *
RECEIVE INDSNAME('$SCC.DIST.FILE') NONAMES
DSNAME('$SCC.DIST') RELEASE
//SYSTSPRT DD SYSOUT=*
//*
//RECVLK EXEC PGM=IKJEFT01,REGION=4M,COND=(0,NE)
//SYSTSIN DD *
RECEIVE INDSNAME('$SCC.DIST(LKLIB)') NONAMES
DSNAME('$SCC.LKLIB') RELEASE
//SYSTSPRT DD SYSOUT=*
//*
//RECVTX EXEC PGM=IKJEFT01,REGION=4M,COND=(0,NE)
//SYSTSIN DD *
RECEIVE INDSNAME('$SCC.DIST(TXLIB)') NONAMES SYSTSIN DD *
DSNAME('$SCC.TXLIB') RELEASE
//SYSTSPRT DD SYSOUT=*
//*
//
//CLEANUP EXEC PGM=IEFBR14
//DISTFILE DD DISP=(MOD,DELETE),DSN=$SCC.DIST.FILE,
// UNIT=SYSDA,SPACE=(TRK,1)
//DIST DD DISP=(MOD,DELETE),DSN=$SCC.DIST,
// UNIT=SYSDA,SPACE=(TRK,1)
//SYSTSIN DD *
```

3. After the $SCC.TXLIB and $SCC.LKLIB PDS files have been created, continue with Step 2: Generate the Installation JCL.

Step 2: Generating the Installation JCL

The following procedure describes how to generate the JCL used to install the Sterling Control Center FTP agent on z/OS. It executes a CLIST that displays panels that enable you to customize the FTP agent installation for your system.

About this task

Procedure

1. From the ISPF/PDF TSO Command option, type the following command to execute the CCFINST CLIST, replacing $SCC with the high-level qualifier of the system on which you are installing the Sterling Control Center FTP agent:

```
EXEC '$SCC.TXLIB(CCFINST)'  '$SCC'
```

2. The CCFINST CLIST tries to allocate the $SCC.CNTL and $SCC.JCL datasets. If these datasets already exist, invoke the CCFINST CLIST using the RESTART parameter as shown in the following example:

```
EXEC '$SCC.TXLIB(CCFINST)'  '$SCC RESTART'
```

Note: To access Help with the CCFINST CLIST, type the following command: EXEC '$SCC.TXLIB(CCFINST)' '?'

The Sterling Control Center FTP Agent Installation Main Menu is displayed:

```
           IBM Sterling
Control Center FTP Agent 4.02.00
                    Installation Main Menu                    TIME-09:18
                                                              DATE-2009/09/01
CMD ==>
 IBM SCC FTP Agent System High Level Qualifier ... TPYLA1.TEST.CCFTP_______
 Permanent DASD Device Type ..................... SYSDA_
 Permanent DASD Volume Serial Number ............ ______
 Temporary DASD Device Type ..................... SYSDA_
 SMP/E Install (Y,N) ............................ Y
 Job Card Information
 ==>  //SCCFTP   JOB (SCCFTP),'SCC FTP AGENT',_____________________________
 ==>  //          CLASS=O,MSGCLASS=X,REGION=4096K,TIME=1440___________
 ==>  //*___________________________________________________________________
 ==>  //*___________________________________________________________________
            Press ENTER to continue, PF5 to Terminate the Install
```

Your choices on this menu determine which subsequent panels are displayed.

Step 3: Installing the Sterling Control Center FTP Agent

You can install the Sterling Control Center FTP agent using SMP/E (recommended) or IEBCOPY. All panels include Help that explains and identifies the required fields. Press PF1 to access Help.

About this task

When you install the Sterling Control Center FTP agent using SMP/E, the SMP/E system modification (SYSMOD) is NvrrmmF, where v is the version number, rr is the release number and mm is the maintenance level. The NvrrmmF SYSMOD contains all the base Sterling Control Center FTP agent modules.

To install the Sterling Control Center FTP agent using SMP/E:

Procedure

1. Type Y in the SMP/E Install (Y/N) field, and press Enter to display the Sterling Control Center FTP Agent SMP/E Main Menu.

```
IBM Sterling Control Center FTP Agent

SMP/E Main Menu TIME-09:31
                                                              DATE-2009/09/01
 CMD ==>
 SMP/E Dataset Information :
  SMP/E Datasets HLQ ............ TPYLA1.TEST.CCFTP___
  CSI Dataset Name ............... TPYLA1.TEST.CCFTP.CSI_____________________
  CSI Catalog Name ............... ___________________________________________
  CSI Dataset Volser ............. ______
  TARGET Zone Dataset Name ...... TPYLA1.TEST.CCFTP.CSI_____________________
  DIST Zone Dataset Name ........ TPYLA1.TEST.CCFTP.CSI_____________________
       Press ENTER to continue  PF3 to return to previous Menu
                     or PF5 to terminate the Install
```

Note: Press PF1 to access help that explains and identifies the required fields.

2. Supply the required information and press Enter.

The Sterling Control Center FTP Agent JCL Generation menu is displayed:

```
              IBM Sterling Control Center FTP Agent
                      JCL Generation Menu                    TIME-09:37
                                                             DATE-2009/09/01
 CMD ==>
   The IBM Sterling
Control Center FTP Agent JCL generation may take a moment
   to execute.
   Press ENTER to begin the generate, PF3 to return to previous Menu,
      or PF5 to terminate the Install
```

3. Press Enter to generate the installation members. The list of members is displayed.

```
         IBM Sterling
Control Center FTP Agent Installation JCL Created
                                                                TIME-09:43
                                                                DATE-2009/09/01
CMD ==>
 IBM SCC FTP Agent JCL Generation Complete, RC=0
 Jobname              Description
 -------              -----------
 CCFALLOC             Allocation JCL Job Stream
 CCFSMPE              SMP/E RECEIVE and APPLY JCL Job Stream
 CCFACPT              SMP/E ACCEPT JCL Job Stream
 CCFBKOUT             Installation Backout JCL Job Stream
                     Press ENTER to continue
```

4. Press Enter to exit the installation panels.
5. From the ISPF/PDF TSO Edit option, open the $SCC.JCL file to verify that these members were generated.
6. Execute the CCFALLOC job. This job deletes any existing Sterling Control Center FTP agent files and defines the new files.
7. Execute the CCFSMPE installation job. This job initializes the SMP/E libraries, and performs the SMP/E receive and SMP/E apply installation steps.
8. Execute the CCFACPT installation job to perform an SMP/E accept.

   The Sterling Control Center FTP agent is now installed in the proper libraries ($SCC.LINKLIB and $SCC.SAMPLIB).

An Alternative Step 3: Installing the FTP Agent with IEBCOPY

About this task

You can also install the Sterling Control Center FTP agent using IEBCOPY.

Procedure

1. Type N in the SMP/E Install (Y,N) field, and press Enter. The Sterling Control Center FTP Agent JCL Generation menu is displayed:

```
               IBM Sterling
Control Center FTP Agent
                      JCL Generation Menu                    TIME-09:37
                                                             DATE-2009/09/01
 CMD ==>
   The IBM Sterling
Control Center FTP Agent JCL generation may take a moment
   to execute.
   Press ENTER to begin the generate, PF3 to return to previous Menu,
     or PF5 to terminate the Install
```

2. Press Enter to generate the installation members. The list of members is displayed.

```
         IBM Sterling
Control Center FTP Agent Installation JCL Created
                                                                    TIME-09:59
                                                                    DATE-2009/09/01
CMD ==>
 IBM SCC FTP Agent JCL Generation Complete, RC=0
 Jobname              Description
 -------              -----------
 CCFALLOC             Allocation JCL Job Stream
 CCFIEBCP             IEBCOPY Installation Option JCL Job Stream
 CCFBKOUT             Installation Backout JCL Job Stream
                 Press ENTER to continue
```

3. Press Enter to exit the installation panels.
4. From the ISPF/PDF TSO Edit option, open the $SCC.JCL file to verify that these members were generated.
5. Execute the CCFALLOC job. This job deletes any existing Sterling Control Center FTP agent files and defines the new files.
6. Execute the CCFIEBCP job. This job installs the Sterling Control Center FTP agent elements into the proper libraries ($SCC.LINKLIB and $SCC.SAMPLIB).

Step 4: Generating the Sterling Control Center FTP Agent

The Sterling Control Center FTP agent is generated using the SCC$FMAC macro provided in the $SCC.SAMPLIB. The generated agent runs as an SMF exit to the FTP server. The FTP agent generates SNMP traps from the file transfer events within the FTP server.

About this task

The SCC$FMAC macro accepts the following parameters:

Parameter Name
Definition

IP

The TCP/IP address (or DNS name) of the Sterling Control Center engine.

PORT

The TCP/IP port that the Sterling Control Center FTP node service is listening on.

SMFWRITE

Specifies whether or not SMF records are to be written. You must turn on SMF records in the FTP server in order for the exit to be driven, but the SMF records can be suppressed by the exit. (Y or N.) Y is the default.

NEXTEXIT

Specifies the name of the next SMF exit to be called by the Sterling Control Center FTP agent. Installations already using the FTP server SMF exit can continue to use the exit by renaming the exit and specifying the exit name in NEXTEXIT. The Sterling Control Center FTP agent is called first, and after its work it passes control to the exit named before returning to the FTP server.

To generate the Sterling Control Center FTP agent:

Procedure

1. Edit the FTPSMFEX member in $SCC.SAMPLIB with the appropriate parameters for your installation.
2. Assemble the Sterling Control Center FTP agent using the following JCL (change $SCC to your high-level qualifier). (This sample JCL is included in $SCC.SAMPLIB(FTPSMFEA).

```
//JOBCARD  JOB (ACCT),'PGM',MSGCLASS=X,REGION=4M
//*************************************************************
//*                                                           *
//* SAMPLE JCL TO ASSEMBLE THE SCC FTP AGENT SMF EXIT         *
//*                                                           *
//* CHANGE $SCC TO YOUR HIGH-LEVEL QUALIFIER                  *
//*                                                           *
//*************************************************************
//ASM      EXEC PGM=ASMA90,
// PARM='OBJECT,NODECK,XREF(SHORT),RENT'
//SYSLIB   DD DISP=SHR,DSN=$SCC.SAMPLIB
//SYSLIN   DD DISP=(,PASS),DSN=&&OBJ,
//            UNIT=SYSDA,SPACE=(CYL,(1,1)),
//            DCB=(DSORG=PS,RECFM=FB,LRECL=80,BLKSIZE=3120)
//SYSIN    DD DISP=SHR,DSN=$SCC.SAMPLIB(FTPSMFEX)
//SYSPRINT DD SYSOUT=*
//SYSTERM  DD SYSOUT=*
//SYSUT1   DD UNIT=SYSDA,SPACE=(CYL,(1,1))
//************************
//*        LKED          *
//************************
//LKED     EXEC  PGM=IEWL,COND=(0,LT,ASM),
// PARM='SIZE=(256K,13K),LIST,LET,XREF,AC=1'
//SYSLIB   DD  DISP=SHR,DSN=$SCC.LINKLIB
//SYSLIN   DD  DISP=(OLD,DELETE),DSN=&&OBJ
//SYSLMOD  DD  DISP=SHR,DSN=$SCC.LINKLIB(FTPSMFEX)
//SYSPRINT DD  SYSOUT=*
//SYSUT1   DD  UNIT=SYSDA,SPACE=(CYL,(1,1),,CONTIG)
```

Step 5: Modifying the FTP Server JCL and Initialization Parameters

To enable the z/OS FTP server SMF user exit, the SMF STD and SMFEXIT statements must be included in the FTP.DATA dataset.

Before you begin

Specifying SMF STD causes the FTP server to attempt to write SMF records for the following events:

- APPEND
- DELETE
- LOGIN FAILURES
- RENAME
- RETRIEVE
- STORE
- STORE UNIQUE

Specifying the SMFEXIT statement causes the FTP server to call FTPSMFEX (generated in Step 4 above) at each point at which an SMF record is to be written.

The generated FTPSMFEX must be placed in an installation-defined link library, or $SCC.LINKLIB must be added to the STEPLIB DD in the FTPD cataloged procedure.

Note: If $SCC.LINKLIB is added to the STEPLIB DD, then $SCC.LINKLIB must be an APF-authorized dataset.

After these changes have been made, stop and restart the FTP server to make the new initialization parameters active.

Chapter 5. Setting Up Sterling Control Center to Monitor Sterling Connect:Direct File Agents

Setting Up Sterling Control Center to Monitor Sterling Connect:Direct File Agents

Sterling Control Center can monitor the status and activity of Sterling Connect:Direct File Agents that submit processes to a Sterling Connect:Direct server that is managed by Sterling Control Center.

About this task

Procedure

1. Click Control Center > System Settings and complete the following fields on the File Agent tab:
   - SNMP Listener Address
   - SNMP Listener Port
   - No Process Submitted Warning Time

   See the System Settings chapter of the IBM Sterling Control Center System Administration Guide for definitions of these fields.
2. For Sterling Control Center to monitor the Sterling Connect:Direct File Agent, you must set up the Sterling Connect:Direct managed server to which the Sterling Connect:Direct File Agent is to submit processes. To do so:

   If you have not already added it, add the server to Sterling Control Center. For more information, see Manage Servers in the IBM Sterling Control Center System Administration Guide.

   When adding the server, make sure that **Do Not Monitor Associated File Agents** on the Connection Tab of the Server Properties panel is unchecked. (Double-click the server's icon in the node tree on the console main window to display the server's properties.)
3. Set up an SLC to monitor the Sterling Connect:Direct File Agent. Choose among the following rules to set up an SLC to monitor the Sterling Connect:Direct File Agent. The rules are specific to Sterling Connect:Direct File Agent monitoring and are included in the rules that ship with Sterling Control Center:
   - Process not submitted by File Agent
   - File Agent Service Initialization Error

   The first rule is a linked rule, and it is disabled. To use the rule, enable it. For more information on using rules and SLCs, see Manage Rules in the IBM Sterling Control Center System Administration Guide.

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Chapter 6. Configuring Events to Process Through WebSphere

About Configuring Events to Process through WebSphere

Before configuring IBM Sterling Control Center to emit JMS events to an MQ Broker, first set up your MQ Broker to accept the JMS events to the desired topic or queue. Then configure Sterling Control Center to emit the JMS events to the MQ Broker. After you configure this setup, you can then configure the IBM WebSphere Business Monitor to subscribe to the topic or queue in the MQ Broker and receive the events.

After the events are received in Business Monitor, Monitor Models can be written to consume the events and capture the data you require. In order to configure the components necessary to process through WebSphere, you must have access to an IBM WebSphere MQ or ActiveMQ administrator with the knowledge and authority to set up the MQ Broker as well as an IBM WebSphere Business Monitor administrator.

For more information on:

- Configuring WebSphere MQ, see WebSphere MQ System Administration SC33-1873.
- Configuring ActiveMQ, see http://activemq.apache.org/.
- Configuring WebSphere to access ActiveMQ, see https://www.ibm.com/developerworks/mydeveloperworks/blogs/timdp/entry/using_activemq_as_a_jms_provider_in_websphere_application_server_7149?lang=en

Pre-configuration Tasks

Before configuring Sterling Control Center to forward events to WebSphere, you must set up IBM MQ Broker or ActiveMQ to accept MQ messages sent from Sterling Control Center.

Before you begin

To set up IBM MQ Broker to accept MQ messages from Sterling Control Center, define the following components and authority:

- Topic where events will be published
- Queue manager to use
- Channel to use
- Appropriate authority to the user ID running Sterling Control Center to allow Sterling Control Center to publish events to the topic

To configure ActiveMQ Broker to accept MQ messages from Sterling Control Center, do the following:

- Define the topic or queue
- Obtain the correct user ID and password from the ActiveMQ Broker. The default is userid=system and password=manager.
- Make sufficient space available to store Sterling Control Center events as they are created

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Configuring Sterling Control Center to Forward Events to WebSphere

To enable Sterling Control Center to forward events to WebSphere, you must configure Sterling Control Center to emit its events using a JMS service.

Before you begin

To enable this function on Microsoft Windows, go to the Sterling Control Center Installation Directory\bin\ Then type the following command:

```
configCC.bat
```

To enable this function on UNIX, go to the Sterling Control Center Installation Directory/bin/. Then type the following command:

```
configCC.sh
```

Information Required to Publish an Event to an IBM MQ Broker

To publish events to an IBM MQ Broker, gather the following information:

Before you begin

- Hostname and port of the IBM MQ Broker
- Name of the Queue Manager
- Name of the IBM MQ Broker channel to use
- Name of the topic
- Time-to-live for the messages—How long the MQ message should stay in the queue or topic before it can be purged by the MQ Broker. The time is specified in milliseconds.
- Number of retries on a JMS failure
- Wait time between retries

Information Required to Publish an Event to an ActiveMQ Broker

To publish events to an ActiveMQ Broker, gather the following information:

Before you begin

- Hostname and port of the ActiveMQ Broker
- Queue or topic where event is published
- Topic or queue subject
- User ID and password to access the ActiveMQ Broker
- If you want to embed the broker in Sterling Control Center, gather the following information:
  - Name of the embedded broker
  - Data directory where the MQ messages will be persisted
- Time-to-live for the messages— How long the MQ message should stay in the queue or topic before it can be purged by the MQ Broker. The time is specified in milliseconds.
- Number of retries on a JMS failure
- Wait time between retries

Sample IBM MQ Broker Configuration

Following is a sample configuration to enable IBM MQ Broker for use with Sterling Control Center:

```
Config step : JMS Configuration ...
------------------------------------------------------------------------
Do you want to configure JMS parameters(Y/N)?y
Are you sure(Y/N)?
Enable JMS Events(Y/N)? [n] : y
Enter JMS Type(IBMMQ/ActiveMQ). [IBMMQ] :
Enter JMS Hostname. [localhost] : host-ip-address
Enter JMS Port. [1414] :
IBM MQ Tracing(Y/N)? [n] :
Enter JMS Queue Manager Name. [] : MQ_QueueName
Enter JMS Channel. [] : MQ_Channel
Enter JMS Topic. [] : $SYS/Broker/MB7BROKER/Monitoring/SCC
Enter Time to Live (in milliseconds). [3600000] :
Enter Number of Retries on Connection Failure. [30] :
Enter Time to Wait between Retries (in seconds). [2] :
You provided these JMS configuration options:
JMS Type = IBMMQ
JMS Hostname = host-ip-address
JMS Port = 1414
JMS Trace = false
JMS Queue Manager Name = MQ_QueueName
JMS Channel = MQ_Channel
JMS Topic = $SYS/Broker/MB7BROKER/Monitoring/SCC
JMS Time to Live: 3600000
JMS Retries = 30
JMS Retry Wait = 2
Are these correct(Y/N)? [y] : y
```

Sample Configuration for ActiveMQ

Following is a sample configuration to enable ActiveMQ Broker for use with Sterling Control Center:

```
Config step : JMS Configuration ...
------------------------------------------------------------------------
Do you want to configure JMS parameters(Y/N)?y
Are you sure(Y/N)?
Enable JMS Events(Y/N)? [n] : y
Enter JMS Type(IBMMQ/ActiveMQ). [IBMMQ] : activemq
Enter JMS Hostname. [localhost] : host-ip-address
Enter JMS Port. [1414] : 61616
Publish to a Queue(Y/N)? [n] : y
Enter JMS Subject. [] : SCC.INPUT
Enter JMS Userid. [] : system
Enter JMS Password (No Blanks).
Re-Enter JMS Password (No Blanks).
Embed the Broker?(Y/N)? [n] : n
Enter Time to Live (in milliseconds). [3600000] :
Enter Number of Retries on Connection Failure. [30] :
Enter Time to Wait between Retries (in seconds). [2] :
You provided these JMS configuration options:
JMS Type = IBMMQ
JMS Hostname = host-ip-address
JMS Port = 61616
JMS Publishing to Queue
JMS Queue = SCC.INPUT
JMS Userid = system
JMS Password = ********
JMS Broker Not Embedded
JMS Time to Live: 3600000
JMS Retries = 30
JMS Retry Wait = 2
Are these correct(Y/N)? [y] : y
```

Sample Configuration of ActiveMQ With Embedded Broker

Following is a sample configuration to enable ActiveMQ Broker with embedded broker for use with Sterling Control Center:

```
Config step : JMS Configuration ...
------------------------------------------------------------------------
Do you want to configure JMS parameters(Y/N)?y
Are you sure(Y/N)?
Enable JMS Events(Y/N)? [n] : y
Enter JMS Type(IBMMQ/ActiveMQ). [IBMMQ] : activemq
Enter JMS Hostname. [localhost] : host-ip-address
Enter JMS Port. [1414] : 61616
Publish to a Queue(Y/N)? [n] : y
Enter JMS Subject. [] : SCC.INPUT
Enter JMS Userid. [] : system
Enter JMS Password (No Blanks).
Re-Enter JMS Password (No Blanks).
Embed the Broker?(Y/N)? [n] : y
Enter Broker Name. [] : SCC
Enter Data Directory. [] : C:\ActiveMQDataDirectory
Enter Time to Live (in milliseconds). [3600000] :
Enter Number of Retries on Connection Failure. [30] :
Enter Time to Wait between Retries (in seconds). [2] :
You provided these JMS configuration options:
JMS Type = IBMMQ
JMS Hostname = host-ip-address
JMS Port = 61616
JMS Publishing to Queue
JMS Queue = SCC.INPUT
JMS Userid = system
JMS Password = ********
JMS Broker Embedded
JMS Broker Name = SCC
JMS Data Directory = C:\ActiveMQDataDirectory
JMS Time to Live: 3600000
JMS Retries = 30
JMS Retry Wait = 2
Are these correct(Y/N)? [y] : y
```

Chapter 7. Configuring System Settings

About Configuring System Settings

After installation and configuration, you can begin using Sterling Control Center to monitor processing. However, if you want to use Sterling Control Center to send e-mail notifications to a system administrator, or to send Simple Network Management Protocol (SNMP) traps to an Enterprise System Management (ESM) tool, you must configure additional parameter settings.

See Sterling Control Center Settings in the IBM Sterling Control Center System Administration Guide for a complete description of system settings.

Configuring SMTP Settings for E-mail Messages

About this task

Simple Mail Transfer Protocol (SMTP) is a communications protocol used to send e-mail messages between servers. In Sterling Control Center, you can create a rule to send an e-mail based upon a system event. To send an e-mail, you must first configure the SMTP settings.

You can customize the contents of the e-mail generated by Sterling Control Center. See the procedure for creating an action in Managing Rules and Actions in the IBM Sterling Control Center System Administration Guide for detailed steps.

Procedure

1. Click **Control Center > System Settings** to display the **System Settings** window.
2. Click the **E-mail** tab.
3. Type the following information:
   - **SMTP Host**–Specifies the IP address or domain name service host used for sending e-mails. You can type an address or name up to 255 characters in length. This field is required.
   - **SMTP Port**–Specifies the optional 1- to 5-digit port number that the SMTP host listens on. The default value is 25. The maximum value is 65535.
   - **User ID**–Specifies the optional 1- to 64-character user ID to log on to the SMTP host. This field is case sensitive.
   - **Password**–Specifies the optional 1 to 64-character password associated with the user ID. This field is case sensitive.
   - **From E-mail**–Specifies the e-mail address that appears on the From line of all rule-generated e-mails. This field is required.
4. To test your e-mail configuration, click **Test** and type an e-mail address to which to send a test message.
5. Click **OK**.

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About SNMP Settings

You can define Sterling Control Center rules and actions to generate SNMP traps and send them to an Enterprise System Management (ESM) tool when certain events occur. These traps contain information from the event that can be used for diagnostics. Before you can use an SNMP trap rule, you must first specify the host computers where the traps are sent.

Sterling Control Center supports any ESM tool that accepts SNMP version 2 (SNMPv2) traps.

The configuration file named SnmpAdaptorWrapper.xml is used to control both the content of the SNMP traps that Sterling Control Center generates and the length of the traps. You can find this sample file shown below in the install directory\conf\services\jmx directory.

```
<service>
  <serviceClass>com.sterlingcommerce.scc.agent.services.jmx.SnmpAdaptorWrapper<
/serviceClass>
  <serviceId>SNMPAdaptorWrapper</serviceId>
  <serviceType>SNMPAdaptor</serviceType>
  <snmpPort>161</snmpPort>
  <trapPort>162</trapPort>
..<bufferSize>1024</bufferSize>
  <omitIfEmpty>false</omitIfEmpty>
<trapElements> <eventId>255</eventId>
<nodeId>255</nodeId>
<nodeType>255</nodeType>
<messageId>255</messageId>
<returnCode>255</returnCode>
<processId>255</processId>
<processName>255</processName>
<stepName>255</stepName>
<submitterId>255</submitterId>
<remoteNode>255</remoteNode>
<shortText>255</shortText>
<fileSize>255</fileSize>
<percentComplete>255</percentComplete>
<dateTime>255</dateTime>
<ruleId>255</ruleId>
<actionId>255</actionId>
<origNode>255</origNode>
<sourceFile>0</sourceFile>
<destFile>0</destFile>
<fromNode>0</fromNode>
<userData1>255</userData1>
<userData2>0</userData2>
<userData3>0</userData3>
<userData4>0</userData4>
<slcId>0</slcId>
<bytesSent>0</bytesSent>
<bytesRead>0</bytesRead>
<processQueue>0</processQueue>
<isAlert>0</isAlert>
<ccName>0</ccName>
<ruleInstanceId>0</ruleInstanceId>
<slcInstanceId>0</slcInstanceId>
<slcSource1>0</slcSource1>
<slcSource2>0</slcSource2>
<slcSourceEventId>0</slcSourceEventId>
<SESSION.ADAPTER_TYPE>0</SESSION.ADAPTER_TYPE>
<SESSION.ADAPTER_NAME>0</SESSION.ADAPTER_NAME>
<daemonName>0</daemonName>
<daemonState>0</daemonState>
<userId>0</userId>
<certIssuer>0</certIssuer>
<certSubject>0</certSubject>
<cipherSuite>0</cipherSuite>
<ruleInstanceId>0</ruleInstanceId>
<slcInstanceId>0</slcInstanceId>
<slcSource1>0</slcSource1>
<slcSource2>0</slcSource2>
<slcSourceEventId>0</slcSourceEventId>
<adapterType>0</adapterType>
```

```
<triggerMilestoneId>0</triggerMilestoneId>
<action>0</action>
<daemonHost>0</daemonHost>
<daemonOriginator>0</daemonOriginator>
<daemonPid>0</daemonPid>
<daemonResource>0</daemonResource>
<daemonSid>0</daemonSid>
<daemonType>0</daemonType>
<SESSION.ADAPTER_NAME>0</SESSION.ADAPTER_NAME>
<SESSION.ADAPTER_TYPE>0</SESSION.ADAPTER_TYPE>
<SESSION.PROTOCOL>0</SESSION.PROTOCOL>
<XFER.MESSAGE_NAME>0</XFER.MESSAGE_NAME>
<XFER.DOC_NAME>0</XFER.DOC_NAME>
<XFER.MBOX_PATH>0</XFER.MBOX_PATH>
<direction>0</direction>
</trapElements>
<aclEntry>
<manager>localhost</manager>
<community>public</community>
<access>read-write</access>
</aclEntry>
<trapEntry>
<host>localhost</host>
<community>public</community>
<trapPort>162</trapPort>
</trapEntry>
</service>
```

Trap Length

By default the maximum length of traps generated by Sterling Control Center is 1024 bytes. If the content of a trap generated by Sterling Control Center exceeds this length and an attempt is made to send the trap, an SnmpStatusException occurs and is written to the engine log file.

The maximum trap length can be changed by changing the value specified for the bufferSize element in the configuration file (indicated in bold type in the sample xml file).

If the underlying computer network does not support traps of the length generated by Sterling Control Center, an SnmpStatusException still occurs and is logged regardless of the buffer size specified.

One element included in the SnmpAdaptorWrapper.xml file is called omitIfEmpty (indicated in bold type in the sample file). The default value for this element is "false." If it is set to "true," traps generated by Sterling Control Center contain only event values whose length is greater than zero.

Trap Content

To control which event element values are included in SNMP traps and the maximum number of characters an element can contain, you can change the values (shown as 0 or 255 in the sample xml file) for the subelements listed under the <trapElements> element. All elements with a value greater than 0 will be included in SNMP traps generated by Sterling Control Center and the value specified for an element will limit its maximum number of characters. All elements with a value of 0 will be excluded from the event data contained in SNMP traps.

For example, the value of the destFile element (indicated in bold type in the sample file) is 0 which indicates that, by default, destination file data is excluded

from SNMP traps. If you change the value from 0 to 10, the trap object identifier (OID) for destFile will be included in a trap along with no more than 10 characters of the destination file name that caused the SNMP trap to be generated. If you leave the destFile value as 0 but change omitIfEmpty to true, the OID for destFile will not be in the trap. If you leave omitIfEmpty as false, the OID for destFile will be in the trap, but the value associated with the OID will be empty.

Configuring Where Traps are Sent

When an SNMP trap is generated, it is sent to all configured SNMP hosts.

About this task

To add an SNMP host:

Procedure

1. Click **Control Center > System Settings** to display the **System Settings** window.
2. Click the **SNMP Hosts** tab.
3. Click **Add**.

   The **Add Host** window is displayed.

4. Type the following information:
   - **Host Name**–The required IP address or machine name of the SNMP host (i.e., the address of the ESM).
   - **Port**–The optional 1- to 5-digit port number that the SNMP host monitors for SNMP trap messages. The maximum value is 65535. The default value is 162.
   - **Community**–The required 1- to 64-character password to access the SNMP host computer. This field is case sensitive.
5. Click **OK**.
6. Click **Add** to add another SNMP host, or click **OK** to close the **System Settings** window.

Chapter 8. Determining Engine and Database Requirements

Estimation Tools

The Sterling Control Center engine performance is expressed in events per second. The more events per second that the Sterling Control Center engine must handle, the more processing power required. Several tools are provided to assist you in estimating a suitable platform configuration to run the Sterling Control Center engine, including information for calculating an appropriate database size, the number of processors (cores) you need, and the size of the database needed for your platform configuration. The tools are described in the following table:

.

A Microsoft Excel spreadsheet version of the worksheet is also available in the installation directory on the computer where the Sterling Control Center engine is installed. These worksheets contain formulas for calculating events based on the values you enter.

Tool Description

Events Per Second Worksheet

Assists you in calculating your estimated Sterling Control Center events per second. This value is needed to estimate the number of processors (cores) needed to run the Sterling Control Center engine and the database size.

Events Per Day Worksheet

Assists you in calculating your estimated Sterling Control Center events per day. This value is needed to estimate an appropriate database size for your Sterling Control Center implementation.

Database Sizing Worksheet

Assists you in properly sizing the database for your Sterling Control Center implementation.

Platform Configurations Table

Provides you with the number of processors required (by platform) to support the number of events per second you calculated using the Events Per Second Worksheet.

Event Counter Utility

Assists you in completing the Events Per Second Worksheet and the Events Per Day Worksheet to estimate average and peak number of events and processes for Sterling Connect:Direct servers in your environment.

High-Level Workflow

Before you begin

If you need assistance completing the Sterling Connect:Direct server information in the worksheets involved in these tasks, you can use the Event Counter Utility. For more information, see About the Event Counter Utility on page 83.

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To size the engine:

- Complete the Events Per Second Worksheet.
- Use the events per second value from line 41 of the Events Per Second Worksheet and refer to the Platform Configurations Table on page 80 to find a platform configuration that can support your Sterling Control Center engine.

To size the database:

- Complete the Events Per Second Worksheet (if you didn't complete it for engine sizing). Values from this worksheet are used to populate the Events Per Day Worksheet and the Database Sizing Worksheet.
- Complete the Events Per Day Worksheet.
- On the Database Sizing Worksheet, enter the information from the Events Per Second Worksheet and the Events Per Day Worksheet as instructed.

Events Per Second Worksheet

Use the following worksheet to calculate your estimated Sterling Control Center events per second. Round any fractional amounts up to the next whole number.

A Microsoft Excel spreadsheet version of the Events Per Second Worksheet (SizingWorksheets.xls) is also available in the installation directory on the computer where the Sterling Control Center engine is installed. This worksheet contains formulas for calculating events based on the values you enter.

Events Per Second Worksheet					
1	**Sterling Connect:Direct:** Number of monitored Sterling Connect:Direct servers	1	0		
2	Number of Processes per Sterling Connect:Direct server in a peak 2-hour period	2	0		
3	Multiply line 1 by line 2	3	0		
4	Number of events per average Sterling Connect:Direct Process	4	0		
5	Multiply line 3 by line 4	5	0		
6	Divide line 5 by 7200 (number of events per second)			6	0
7	**Sterling B2B Integrator:** Number of monitored Sterling B2B Integrator servers	7			
8	Number of Processes per Sterling B2B Integrator server in a peak 2-hour period	8			
9	Multiply line 7 by line 8	9	0		
10	Number of events per average Sterling B2B Integrator Process	10			
11	Multiply line 9 by line 10	11	0		
12	Divide line 11 by 7200 (number of events per second)			12	0

13	**Sterling Connect:Enterprise:** Number of monitored Sterling Connect:Enterprise servers	13			
14	Number of batches retrieved and added per Sterling Connect:Enterprise server in a peak 2-hour period	14			
15	Multiply line 13 by line 14	15	0		
16	Divide line 15 by 1800 (number of events per second)			16	0
17	**FTP Servers:** Number of monitored FTP servers	17			
18	Number of files sent/received per FTP server in a peak 2-hour period)	18			
19	Multiply line 13 by line 14	19	0		
20	Divide line 19 by 1800 (number of events per second)			20	0
21	**Service Level Criteria (SLCs):** Number of enabled SLCs	21			
22	Multiply line 19 by 0.12			22	0
23	Percentage of Sterling Connect:Direct Processes to which SLCs apply	23			
24	Multiply line 3 by line 23 and divide by 180,000			24	0
25	Percentage of Sterling B2B Integrator Processes to which SLCs apply	25			
26	Multiply line 9 by line 25 and divide by 180,000			26	0
27	Percentage of Sterling Connect:Enterprise batches to which SLCs apply	27			
28	Multiply line 15 by line 27 and divide by 180,000			28	0
29	Percentage of FTP servers to which SLCs apply	29			
30	Multiply line 18 by line 29 and divide by 180,000			30	0
31	**Rules:** Number of enabled rules	31	0		
32	Percentage of Events that rules match (used in Database Sizing Worksheet)	32	0		
33	Multiply line 31 by 0.18			33	0
34	**Consoles:** Number of attached Consoles	34	0		
35	Multiply line 34 by 6.00			35	0
36	Number of attached Web Consoles	36			
37	Multiply line 36 by 2.00			0	
38	**Effective Events per Second Factor:** Total lines 6, 12, 16, 18, 20, 24, 26, 28, 30, 33, 35, and 37			38	0

39	**Peak database events per second:** Total lines 6, 12, 18, 20, 24, 26, 28, and 30	39	0		
40	**Peak database statistics per second:** Total lines 16 divided by 4 plus line 6	40	0		
41	**Actual Peak database inserts per second (used in Database Sizing Worksheet):** Total lines 6, 12, 16, 18, 20, 24, 26, 28, and 30			41	0

After calculating the events per second (line 38), use the Platform Configurations Table on page 80 to determine a platform configuration that can support at least this number.

Events Per Second Worksheet Fields

The following table describes the fields on the Events Per Second Worksheet:

Line		Description
1.	Number of monitored Sterling Connect:Direct servers	The number of Sterling Connect:Direct servers that you will manage with Sterling Control Center.
2.	Number of Processes per Sterling Connect:Direct server in peak 2-hour period	The number of processes that a Sterling Connect:Direct server runs during a peak 2-hour period. You can use the Event Counter Utility to get this number or run a series of Sterling Connect:Direct SELECT STATISTICS commands for a 2-hour period to obtain the number.
4.	Number of events per typical Process	A Sterling Connect:Direct process consisting of a COPY step, an IF step, a RUNTASK step, an ELSE step and another RUNTASK step, generates the following nine Sterling Control Center events. • Server Command (Process Submit) Event • Connection Started (Session Begin) Event • Process Start Event • Step Start (Copy Initiation) Event • Step End (Copy Term) Event • Step End (If End) Event • Step Start (RUNTASK Start) Event • Step End (RUNTASK End) Event • Process End Event Use this as a guideline to determine how many events one of your typical processes generates. If your processes are less complex, use a lower number than nine. If your processes are more complex, use a higher number.
7.	Number of managed Sterling B2B Integrator servers	The number of Sterling B2B Integrator servers that you will monitor with Sterling Control Center.
8.	Number of Processes per Sterling B2B Integrator server in peak 2-hour period	The number of processes that a Sterling B2B Integrator server runs during a peak 2-hour period.

Line		Description
10.	Number of events per average Sterling B2B Integrator Process	A Sterling B2B Integrator process consisting of 10 activities (including 3 file transfer activities) will generate 28 events: • 2 events (Process start, Process ended) • 2 events per activity (Process step started, Process step ended) • 4 events per file transfer activity (Connection started, Process step started (for the file transfer), Process step ended (for the file transfer), Connection shutdown started). **Note:** If not monitoring Sterling B2B Integrator business Processes, count each file transfer as a process that generates 4 events.
13.	Number of monitored Sterling Connect:Enterprise servers	The number of Sterling Connect:Enterprise servers that you will monitor with Sterling Control Center.
14.	Number of batches retrieved and added per Sterling Connect:Enterprise server in peak 2-hour period	Use the output from cmureports to count the number of batches added and retrieved for a 2-hour peak period.
17.	Number of monitored FTP servers	The number of FTP servers that you will monitor with Sterling Control Center.
18.	Number of files sent/received per FTP server in a peak 2-hour period	The number of files sent/received per FTP server in a peak 2-hour period.
21.	Number of enabled SLCs	The number of enabled Sterling Control Center SLCs. Use 500 SLCs as an estimate.
23.	Percentage of Sterling Connect:Direct Processes to which SLCs apply	Assume 50% of the processes.
25.	Percentage of Sterling B2B Integrator Processes to which SLCs apply	Assume 50% of the processes.
27.	Percentage of Sterling Connect:Enterprise batches to which SLCs apply	Assume 50% of the batches.
29.	Percentage of FTP server files to which SLCs apply	Assume 50% of the files.
31.	Number of enabled rules	The number of enabled Sterling Control Center rules. Use 500 rules as an estimate.
34.	Number of attached consoles	The numbers of consoles that will connect to the Sterling Control Center engine.
36.	Number of attached Web consoles	The number of Web consoles that will attach to the Sterling Control Center engine.
38.	Total lines 6, 12, 16, 18, 20, 24, 26, 28, 30, 33, 35, and 37	See Events Per Day Worksheet on page 76 for information on using this number.
39.	Total lines 6, 12, 18, 20, 24, 26, 28, and 30	Used in the other worksheets.
40.	Total lines 16 divided by 4 plus line 6	Used in the other worksheets.

Line		Description
41.	Total lines 6, 12, 16, 18, 20, 24, 26, 28, and 30	Used in the other worksheets.

Events Per Day Worksheet

Use the following worksheet to calculate your estimated Sterling Control Center events per day to properly size the database. Round any fractional amounts up to the next whole number.

A Microsoft Excel spreadsheet version of the worksheet (SizingWorksheets.xls) is also available in the installation directory on the computer where the Sterling Control Center engine is installed. These worksheets contain formulas for inserting values from the Events Per Second Worksheet and calculating events based on those values and the values you enter in the Events Per Day Worksheet.

Events Per Day Worksheet					
1	**Sterling Connect:Direct:**Number of monitored Sterling Connect:Direct servers (from line 1 from Events Per Second Worksheet)	1	0		
2	Average number of Processes per Sterling Connect:Direct server in a peak 24-hour period	2			
3	Multiply line 1 by line 2 (Sterling Connect:Direct Processes per day)	3	0		
4	Number of events per average Sterling Connect:Direct Process (from line 4 from Events Per Second Worksheet)	4			
5	Multiply line 3 by line 4 (Sterling Connect:Direct events per day)			5	0
6	**Sterling B2B Integrator:**Number of monitored Sterling B2B Integrator servers (from line 7 from Events Per Second Worksheet)	6		0	
7	Average number of Processes per Sterling B2B Integrator server in a peak 24-hour period	7			
8	Multiply line 6 by line 7 (Sterling B2B Integrator processes per day)	8	0		
9	Number of events per average Sterling B2B Integrator Process (from Line 10 from Events Per Second Worksheet)	9	0		
10	Multiply line 8 by line 9 (Sterling B2B Integrator events per day)			10	0
11	**Sterling Connect:Enterprise:**Number of monitored Sterling Connect:Enterprise servers (from Line 13 from Events Per Second Worksheet)	11	0		
12	Average number of batches retrieved and added per Sterling Connect:Enterprise server in a peak 24-hour period	12			
13	Multiply line 11 by line 12 (Sterling Connect:Enterprise batches per day)	13	0		
14	Multiply line 13 by 4 (Sterling Connect:Enterprise events per day)			14	0

15	**FTP Servers:** Number of monitored FTP servers (from Line 17 from Events Per Second Worksheet)	15	0		
16	Average number of files sent and received per FTP server in a peak 24-hour period	16			
17	Multiply line 15 by line 16 (FTP server files per day)	17	0		
18	Multiply line 17 by 4 (FTP server events per day)			18	0
19	**SLCs:** Percentage of Sterling Connect:Direct Processes to which SLCs apply (from line 23 from Events Per Second Worksheet)	19	0		
20	Multiply line 3 by line 19 and divide by 25 (events generated by SLCs)			20	0
21	Percentage of Sterling B2B Integrator Processes to which SLCs apply (from line 25 of Events Per Second Worksheet)	21	0		
22	Multiply line 8 by line 21 and divide by 25 (Events generated by SLCs)			22	0
23	Percentage of Sterling Connect:Enterprise batches to which SLCs apply (from line 23 from Events Per Second Worksheet)	23	0		
24	Multiply line 13 by line 23 and divide by 25			24	0
25	Percentage of FTP server files sent/received to which SLCs apply (from line 25 from Events Per Second Worksheet)	25	0		
26	Multiply line 17 by line 25 and divide by 25			26	0
27	Total lines 5, 10, 14, 16, 18, 20, 22, 24, and 26 (Peak Events per Day)			27	0
28	Copy line 5 (Peak Sterling Connect:Direct Stats per Day)	28	0		
29	Copy line 14 (peak statistics per Day)	29	0		
30	Total lines 28 and 29 (Peak statistics per Day)			30	0
30	Total lines 27 and 30 (Database inserts per Day)			31	0

Events Per Day Worksheet Fields

The following table describes the fields on the Events Per Day Worksheet.

Line		Description
2.	Number of Processes per Sterling Connect:Direct server in peak 2-hour period	The number of Processes that a Sterling Connect:Direct server runs during a peak 2-hour period. You can use the Event Counter Utility to get this number or run a series of Sterling Connect:Direct SELECT STATISTICS commands for a 2-hour period to obtain the number.
7.	Number of Processes per Sterling B2B Integrator server in peak 2-hour period	The number of processes that a Sterling B2B Integrator server runs during a peak 2-hour period.

Line		Description
12.	Number of batches retrieved and added per Sterling Connect:Enterprise server in peak 2-hour period	Use the output from cmureports to count the number of batches added and retrieved for a 2-hour peak period.
16.	Number of files sent/received per FTP server in a peak 2-hour period.	The number of files sent/received per FTP server in a peak 2-hour period.

Database Sizing Worksheet

The values on the Database Sizing Worksheet are calculated from information entered in or calculated in the Events Per Second Worksheet and the Events Per Day Worksheet. Use the information calculated in the Database Sizing Worksheet to assist you in sizing the database requirements for Sterling Control Center.

Database Sizing Worksheet						
1	**Database inserts:** Peak database inserts per second (from line 41 from Events Per Second Worksheet)				1	0
2		Average database inserts per second Line 31 from Events Per Day Worksheet divided by 86,400			2	0
3		Database inserts per day Line 31 from Events Per Day Worksheet			3	0
4	**Database Updates:**		4	0		
		Percent of events that rules match from line 32 from Events Per Second Worksheet)				
5		Peak events per second (from line 39 of Events Per Second Worksheet)	5	0		
6		Peak events per day (from line 27 from Events Per Day Worksheet)	6	0		
7		Peak database updates per second Multiply line 5 by line 4 and divide by 100			7	0
8		Avg database updates per second Multiply line 4 by line 6 and divide by 8,640,000			8	0
9		Database updates per day Multiply line 6 by line 4 and divide by 100			9	0

10	**Database Size:**		10	0		
		Average size of event				
11		Average size of statistics	11	0		
12		Average Events inserted per day Copy line 27 from Events per Day Worksheet	12	0		
13		Average Statistics inserted per day Copy line 27 from Events per Day Worksheet	13	0		
14		Database space required per day for events Multiply line 3 by line 10	14	0		
15		Database space required per day for statistics Multiply line 11 by line 13	15	0		
16		Total database space required (in MB) Add lines 14 and 15	16	0		
17	**Daily database space required (in MB):**				17	0 MB
		Line 16 divided by 1,048,576				
18	**Weekly database space required (in GB):**				18	0 GB
		Multiply line 17 by 7 and divided by 1,024				
19	**Monthly database space required (in GB):**				19	0 Gb
		Multiply line 17 by 30 and divided by 1,024				
20	**Yearly database space required (in GB):**				20	0 GB
		Multiply line 17 by 365and divided by 1,024				

Database Sizing Worksheet Fields

The following table describes the fields on the Database Sizing Worksheet:

Line		Description
1.	Peak database inserts per day	Used for TPMC value for peak transaction inserts per second
2.	Avg database inserts per second	Used for TPMC value for transaction inserts per day
7.	Peak database updates per second	Used for TPMC value for peak transaction inserts per second
9.	Database updates per day	Used for TPMC value for transaction inserts per day
17, 18, 19, and 20	Daily, weekly, monthly, and yearly database space required	Used for calculating disk space requirements.

Platform Configurations Table

Use the value from line 38 of the Events Per Second Worksheet on page 72 to determine a platform configuration that can support the calculated events per second based on the following table:

Platform	Processor	Number of Processors (Cores)	Events per Second
Microsoft Windows	2.13 GHz	1	607
Microsoft Windows	3.20 GHz	4	927
Microsoft Windows (64-bit)	2.40 GHz (AMD)	8	1220
Linux Intel	2.40 GHz	2	540
Linux Intel	2.80 GHz	8	1256
AIX	450 MHz	2	305
AIX	4.2GHz	4	1396
HP-UX	800 MHz	2	710
HP-UX	1.00 GHz	2	776
HP-UX (64-bit)	1.30 GHz (Itanium)	2	781
Solaris SPARC	750 MHz	2	349
Solaris SPARC	1.0 GHz	2	380
Solaris SPARC (64-bit)	450 MHz	4	410
Solaris Intel (64-bit)	2.40 GHz	4	1456

Note: Sterling Control Center ships with default rules. The Events per Second column takes into account the processing required for the default rules.

For example, if you are installing Sterling Control Center on an HP-UX platform and your calculated events per second is 750, you will need at least an HP-UX computer with two 800MHz processors (cores) to support the Sterling Control Center engine.

Sample Calculation

This section shows a sample engine requirements calculation. In this example, Sterling Control Center will be managing:

- Four Sterling Connect:Direct servers
- One Sterling B2B Integrator server
- One Sterling Connect:Enterprise server
- 5,000 Processes per Sterling Connect:Direct server in a peak two-hour period
- 7,500 business Processes per Sterling B2B Integrator server in a peak two-hour period
- 10,000 batches added or retrieved per Sterling Connect:Enterprise server in a peak two-hour period

- 10 events per average Sterling Connect:Direct Process
- 34 events per average Sterling B2B Integrator Process
- 500 enabled rules
- 500 enabled SLCs

The sample calculation includes these additional criteria:

- 50 percent of the Processes match SLCs
- 50 percent of the batches match SLCs
- One console connects to the Sterling Control Center engine
- Two Web consoles connect to the Sterling Control Center engine

Entering the data in the worksheet results in the following events per second value:

Events Per Second Worksheet					
1	**Sterling Connect:Direct:** Number of monitored Sterling Connect:Direct servers	1	4		
2	Number of Processes per Sterling Connect:Direct server in a peak 2-hour period	2	5,000		
3	Multiply line 1 by line 2	3	20,000		
4	Number of events per average Sterling Connect:Direct Process	4	10		
5	Multiply line 3 by line 4	5	200,000		
6	Divide line 5 by 7200 (number of events per second)			6	28
7	**Sterling B2B Integrator:** Number of monitored Sterling B2B Integrator servers	7	1		
8	Number of Processes per Sterling B2B Integrator server in a peak 2-hour period	8	7,500		
9	Multiply line 7 by line 8	9	7,500		
10	Number of events per average Sterling B2B Integrator Process	10	34		
11	Multiply line 9 by line 10	11	255,000		
12	Divide line 11 by 7200 (number of events per second)			12	36
13	**Sterling Connect:Enterprise:** Number of monitored Sterling Connect:Enterprise servers	13	1		
14	Number of batches retrieved and added per Sterling Connect:Enterprise server in a peak 2-hour period	14	10,000		
15	Multiply line 13 by line 14	15	10,000		
16	Divide line 15 by 1800 (number of events per second)			16	6
17	**FTP Servers:** Number of monitored FTP servers	17	0		

18	Number of files sent/received per FTP server in a peak 2-hour period)	18			
19	Multiply line 13 by line 14	19	0		
20	Divide line 19 by 1800 (number of events per second)			20	0
21	**Service Level Criteria (SLCs):** Number of enabled SLCs	21	500		
22	Multiply line 19 by 0.12			22	60
23	Percentage of Sterling Connect:Direct Processes to which SLCs apply	23	50		
24	Multiply line 3 by line 23 and divide by 180,000			24	6
25	Percentage of Sterling B2B Integrator Processes to which SLCs apply	25	50		
26	Multiply line 9 by line 25 and divide by 180,000			26	2
27	Percentage of Sterling Connect:Enterprise batches to which SLCs apply	27	50		
28	Multiply line 15 by line 27 and divide by 180,000			28	2
29	Percentage of FTP servers to which SLCs apply	29	0		
30	Multiply line 18 by line 29 and divide by 180,000			30	0
31	**Rules:** Number of enabled rules	31	500		
32	Percentage of Events that rules match (used in Database Sizing Worksheet)	32	10		
33	Multiply line 31 by 0.18			33	90
34	**Consoles:** Number of attached Consoles	34	1		
35	Multiply line 34 by 6.00			35	6
36	Number of attached Web Consoles	36	2		
37	Multiply line 36 by 2.00			37	4
38	Effective Events per Second Factor: Total lines 6, 12, 16, 18, 20, 24, 26, 28, 30, 33, 35, and 37			38	240
39	**Peak database events per second:** Total lines 6, 12, 18, 20, 24, 26, 28, and 30	39	80		
40	**Peak database statistics per second:** Total lines 16 divided by 4 plus line 6	40	30		
41	**Actual Peak database inserts per second (used in Database Sizing Worksheet):** Total lines 6, 12, 18, 16, 20, 24, 26, 28, and 30			41	110

Based on the calculated events per second value from line 38, which is 240, and the Events Per Day Worksheet on page 76, one can see that any of the listed platform configurations can handle the sample engine requirements.

About the Event Counter Utility

The Event Counter Utility is designed to assist you in completing the Events Per Second Worksheet to determine the platform necessary to monitor servers with Sterling Control Center. This utility goes through the following process when counting Sterling Connect:Direct events:

- Reads an input file containing connection information for one or more Sterling Connect:Direct servers
- Connects to each Sterling Connect:Direct server sequentially
- Issues a SELECT STATISTICS with the particular record IDs that generate Sterling Control Center events
- Calculates and displays the following values:
  - Average number of events per day for all servers
  - Peak number of events in a two-hour time period for all servers
  - Peak number of events in a 24-hour time period for all servers
  - Average number of processes per day for all servers
  - Peak number of processes in a two-hour time period for all servers
  - Peak number of processes in a 24-hour time period for all servers

The record IDs are read from the conf/services/nodes/statRecordIds file. This file contains all of the valid record IDs that generate a Sterling Control Center event for each platform.

To assist you in planning your Sterling Control Center implementation, you can run the Event Counter Utility before fully installing Sterling Control Center. This allows you to determine if your platform is sufficient for the version of Sterling Control Center you will be running.

Use the following high-level process in assessing your environment:

- Run the Sterling Control Center installation program on any platform supported by Sterling Control Center, but do not configure Sterling Control Center when prompted.
- Run the Event Counter Utility as outlined in Running the Event Counter Utility on page 87.
- Input the values calculated by the utility in the Events Per Second Worksheet on page 72. (A Microsoft Excel spreadsheet version of the worksheet is also available in the installation directory on the computer where the Sterling Control Center engine is installed.)
- After you have completed the Events Per Second Worksheet, consult the Platform Configurations Table on page 80 to determine if your platform can support Sterling Control Center in your environment.
- If your platform cannot support Sterling Control Center, install Sterling Control Center on another platform. If your platform can support Sterling Control Center, run configCC.sh when you are ready to configure Sterling Control Center and to complete the installation.

Input

The Event Counter Utility connects Sterling Connect:Direct servers based on information in the input file found in the Sterling Commerce/Control Center/bin directory. The default input file is named EventCounter.csv, but a different filename can be specified when you run the utility. See Running the Event Counter Utility on page 87. You can edit the default file with a text editor or a spreadsheet program such as Microsoft Excel.

The input file contains the following connection information that is used by the Event Counter Utility:

- Server Address (Host name or IP Address)
- IP Port (must be a number)
- Userid
- Password

Header information is included for each field, and connection information is separated by commas. Any line that starts with a double slash (//) is treated as a comment and is skipped. The following example shows a sample input file for the Event Counter Utility:

```
Server Name, Server Address, IP Port, Userid, Password, Protocol, Description,
Contact Name, Contact Phone, Contact Comments
SERVERTEST, 127.0.0.1, 1363, user1, Password1, TCPIP, C:D Windows, Alice, 123-4567,
Office 123
CD.ZOS, 123.456.789.1,8851,USERIDA,PASSWORDA, TCPIP, C:D z/OS, Bobby, , Office 234
TEST.HPNS, 123.456.789.2,9121,USER.IDB,PASSWORDB, TCPIP, C:D HP NonStop, Chris,
345-6789, Office 345
unix.testserver, testserver,4000, useridc, PasswordC, , C:D UNIX HP-UX Itanium
prodserver4000, prodserver,3422,userida,passworda, , C:D UNIX
// testserver104000,123.456.789.3,3422,userida,passworda, , C:D UNIX, Georgia
testserver104000, 123.456.789.4,3422,userida,passworda, , C:D UNIX, Georgia
testsol104000, 123.456.789.5,3422,useridb,passwordb, , C:D UNIX
prodrhel504000, 123.456.789.6,3422,useridc,passwordc, , C:D UNIX
```

Output

The following example shows sample output from the Event Counter Utility.

Note: For each Sterling Connect:Direct Server, the Event Counter utility displays a line indicating that it is attempting to connect to the server. After it is connected, the Sterling Connect:Direct Server type and Server name are displayed. When all Sterling Connect:Direct Server data has been gathered, the utility displays the calculated event rates.

```
Configuration Directory is 'C:\
ControlCenter\dist\SterlingCommerce\ControlCenter\conf'
Reading from C:\EventCounter.csv

Connecting to 127.0.0.1;1363
Sterling Connect:Direct for Windows, Server name = SERVERTEST

Connecting to 123.456.789.1;8851
Sterling Connect:Direct for z/OS, Server name = CD.ZOS

Connecting to 123.456.789.2;9123
Sterling Connect:Direct for HP NonStop, Server name = TEST.HPNS

Connecting to testserver;4000
Sterling Connect:Direct for UNIX, Server name = unix.testserver

Connecting to prodserver;3422
Sterling Connect:Direct for UNIX, Server name = prodserver4000

Connecting to 123.456.789.4;3422
Sterling Connect:Direct for UNIX, Server name = testserver104000

Connecting to 123.456.789.5;3422
Sterling Connect:Direct for UNIX, Server name = testsol104000

Connecting to 123.456.789.6;3422
Sterling Connect:Direct for UNIX, Server name = prodrhel504000

Average number of events per day:             5869
Number of events in peak 2-hour time period:  9965
Number of events in peak 24-hour time period: 29318

Average number of Processes per day:             646
Number of Processes in peak 2-hour time period:  1140
Number of Processes in peak 24-hour time period: 3665
```

Error Processing

The following messages are displayed by the Event Counter Utility for common errors:

- If the statRecordIds file cannot be found:

```
Cannot find statRecordIds file
```

Note: If Sterling Control Center is installed correctly, this error should not occur.

- If the input file containing the connection input cannot be found:

```
Reading from C:\EventCounterBad.csv
Could not find csv input file
java.io.FileNotFoundException: C:\EventCounterBad.csv (The system cannot find the file specified)
```

- If the utility gets a ConnectionException and cannot connect to a Sterling Connect:Direct Server listed in the input file:

```
Connecting to 123.456.789.2;9121
  Error: Connection Exception!
  End of file in CommunicationBuffer::Receive().
```

- If the utility gets a LogonException because the connection information has an invalid userid or password:

```
Connecting to 127.0.0.1;1363
   Error: Logon failed! Userid or password may be invalid.
```

- If the utility cannot contact one or more Sterling Connect:Direct servers, then processing continues, but a warning is displayed before the results:

```
Warning: Could not connect to nn servers out of nn.
```

Running the Event Counter Utility

To run the Event Counter Utility:

About this task

Procedure

1. Download the Sterling Control Center installer for your platform from Customer Center.
2. Navigate to the location of the downloaded installer.
3. Start the installation:
   - On Microsoft Windows, go to a cmd prompt and enter the following:

```
CCInstall.exe –i console (or CCInstall64.exe –i console)
```

   - On non-Microsoft Windows, go to a cmd shell and enter the following:

```
sh CCInstall.bin –i console (or sh CCInstall64.bin -i console)
```

4. Enter the Installation directory.
5. After installation is complete, ignore the message about running configCC.
6. Navigate to Installation directory/bin.
7. To run the utility, you can execute the batch file, runEventCounter.bat, or run one of the following scripts in Installation directory/bin:
   - On Microsoft Windows, go to a cmd prompt and enter:

```
runEventCounter
```

   - On UNIX or zLinux, go to a cmd shell and enter:

```
sh runEventCounter.sh
```

Results

You can also specify two optional parameters when you are running the Event Counter Utility as follows:

Parameter
Description

<dateRange>

Number of days to collect data. Default is 30, maximum is 60.

<filename>

Input file containing comma-separated values with connection information for Sterling Connect:Direct Servers, one per line. The first line of the file can optionally contain the header information for each field. If <filename> contains blanks, enclose it in double quotes.

Note: The default filename is EventCounter.csv located in the directory where the utility is run.

For example:

```
runEventCounter 30 EventCounter.csv
```

Chapter 9. Database FAQ

Type of Data Stored

Why does Sterling Control Center need databases?

When Sterling Control Center monitors a managed server, it collects data from that server, as well as commands and instructions initiated by the Sterling Control Center console.

What kind of data is stored in the Sterling Control Center databases?

- Sterling Connect:Direct, Sterling Connect:Enterprise, File Transfer Protocol (FTP), and Sterling B2B Integrator server statistics
- Sterling Control Center auditing data
- Sterling Control Center service-level criteria (SLC) recovery data
- Node Discovery-related data
- Comments for handled alerts

How is the data used?

The Sterling Control Center console provides online quick reports that use the stored data. Conventional reports can be run against the production or staging database, or both. Also Sterling Control Center ships with sample report templates (for use with Crystal Reports software) that can use the data stored in the databases.

Note: Response time problems have been reported when the production or staging database grows to 10,000,000 rows or more.

Where is the Sterling Control Center configuration data kept?

All Sterling Control Center configuration data (such as rules and actions) is kept where Sterling Control Center is installed.

Is confidential information (such as password data) stored in the database or file system?

Yes. These are encrypted with DESede (Triple DES).

Maintenance and Archival

How do I maintain the Sterling Control Center database?

The recommended method for maintaining your database is to use database partitioning. You can use database partitioning for production database tables and eliminate the need for a staging database. Please see the IBM Sterling Control Center Database Partitioning white paper for more details on partitioning.

If your database doesn't support partitioning, then the recommended way would be to use both a production and a staging database. To use this method for maintaining your database, at installation, you establish two separate databases—a

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production database and a staging database. Then, go into Control Center > System Settings (Database tab) to set up the parameters for staging of production data and purging of staging data.

CAUTION:
The staging database is not an archive or data warehouse. Data cannot be permanently stored in the staging database.

You can also manually stage and purge the databases. Even if you have set up automated staging/purging of the Sterling Control Center databases, occasions may arise when you may wish to manually archive or purge them.

Note: The manual method of archival and purging is not recommended because the Sterling Control Center engine does not "know" when data has been removed except when the engine is restarted.

In the absence of an automated staging/purging schedule, how often should I manually archive or purge the databases?

That depends on how many Processes run on all the managed servers each day. It also depends on the hardware configuration of the database server or servers. Keeping one week's worth of data in the Sterling Control Center production database and two weeks in the production or staging database is normally sufficient. Response time problems have been reported when the staging database is above the 10,000,000 row mark.

How do I take advantage of Sterling Control Center's automated staging and purge facilities?

Separate production and staging databases must be defined and set up during installation. To set up the staging database after the fact, run the Sterling Control Center Installation Directory\bin\configCC.bat file and configure the staging database. Then go into Control Center > System Settings (Database tab) and set up the parameters for staging and purging.

Should I stage production data on the same database server or use a different database server?

For optimal performance, stage production data on the same database server. The staged data can be located on a different database server, but if activity traffic is high, performance can be degraded.

Note: The production and staging databases must be of the same type (for example, if the production database is a MySQL database, the staging database must also be a MySQL database).

What is available in Sterling Control Center to manually archive and purge the database?

For manual archival and purging, use the SQL scripts that ship with Sterling Control Center. For more information, see Database Administration in the IBM Sterling Control Center System Administration Guide or in the Help system.

Connectivity

How does Sterling Control Center access the database servers?

Sterling Control Center uses the Java Database Connectivity (JDBC) interface to connect to database servers.

What are the database servers that Sterling Control Center supports?

Please consult the IBM Sterling Control Center Release Notes for the list of supported databases.

Does Sterling Control Center ship with all the required JDBC drivers?

No, you have to obtain the required JDBC drivers for your databases. You will be able to get the JDBC drivers for that server (either as part of the database software or directly from the database vendor).

How many database connections are created by Sterling Control Center?

Sterling Control Center maintains a pool of database connections. By default, the number of connections in the pool can equal the number in Simultaneous Pollers (found in System Settings) + 10. Sterling Control Center may create up to that many database connections with the Production database.

To limit the number of database connections to a certain value, edit the JDBCService.xml file, located in the install directory/conf/services/system folder.

The following elements are a partial listing from that file.

```
<maxpool>50</maxpool>
<dynamicConnections>true</dynamicConnections>
```

To limit the number of connections to a certain value, in the above, the value "true" must be changed to "false" and a new value must be substituted between <maxpool> and </maxpool>.

Note: Sterling Control Center must be restarted for this change to take effect.

If you change the maxpool value to a value much less than Simultaneous Pollers, node services within Sterling Control Center could be forced to compete for database connections. This in turn could affect Sterling Control Center performance.

Configuration

Can I install the production and staging databases on the same computer where Sterling Control Center is installed?

For optimal performance, install the Sterling Control Center databases on dedicated servers separate from the one on which the Sterling Control Center engine is installed.

Should I set up database replication for the Sterling Control Center databases?

It is not necessary. All the Sterling Control Center configuration data is stored where Sterling Control Center is installed.

What kind of hardware configuration is recommended for the database servers?

Follow the guidelines provided by the database vendor.

How much disk space is needed for the Sterling Control Center databases each day?

That depends on the number of servers managed, the number of Processes handled on each managed server, and the number of weeks of current data you wish to maintain. See Database Sizing Worksheet on page 78 to calculate your requirements.

Does the number of Sterling Control Center consoles open at one time affect database performance?

No. All the Sterling Control Center consoles connect to the Sterling Control Center engine. Sterling Control Center consoles do not directly connect to the database servers.

What can affect Sterling Control Center database performance?

If you run a large number of reports against the production database from outside of Sterling Control Center, this could affect performance.

What kinds of database operations are performed on the Sterling Control Center databases?

The Sterling Control Center engine issues SQL Insert, Update, Delete, and Select queries against the databases (primarily Inserts and Updates).

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