

IBM Sterling Connect:Direct for i5/OS

Upgrade Guide

Version 3.7



Copyright

This edition applies to the 3.7 Version of IBM Sterling Connect:Direct for i5/OS and to all subsequent releases and modifications until otherwise indicated in new editions.

Before using this information and the product it supports, read the information in *Notices* on page 19.

Licensed Materials - Property of IBM

IBM Sterling Connect:Direct for i5/OS

© Copyright IBM Corp. 1999,2011. All Rights Reserved.

US Government Users Restricted Rights - Use, duplication or disclosure restricted by GSA ADP Schedule

Contract with IBM Corp.

Contents

Upgrade Worksheet	5
Before You Begin	7
Install from the SAVF File	8
Upgrade Sterling Connect:Direct for i5/OS from the Distribution Media	9
Verify and Complete the Upgrade	18

Upgrading IBM Sterling Connect:Direct for i5/OS

Use the information in the document when upgrading from a previous version of IBM® Sterling Connect:Direct® for i5/OS® using the same administrator profile and installation library.

Note: You cannot upgrade from a version prior to version 3.5.00. To migrate to version 3.7, follow the instructions in the *Sterling Connect:Direct for i5/OS Installation and Administration Guide*.

Read *Before You Begin* and follow those instructions prior to the upgrade.

Note: If you are planning to run two different versions of Sterling Connect:Direct for i5/OS simultaneously, use a different administrator user profile to install the new version of Sterling Connect:Direct for i5/OS. You cannot use the administrator profile used to install the earlier version of the product. Do not use QSECOFR as the Administrator profile during installation.

Upgrade Worksheet

Use the following worksheet when you upgrade Sterling Connect:Direct for i5/OS.

Upgrade Worksheet

Sterling Connect:Direct administrator profile name: cdadmin

Production Library where you install Sterling Connect:Direct: _____ (8 characters)

CD Reader for the installation: _____

Name for the Sterling Connect:Direct subsystem: _____

(10 characters - This name can match the production library name.)

Do you want to convert an existing Sterling Connect:Direct for i5/OS 3.5.00 Netmap: *YES or *NO

Name of Temporary Location (library) existing file will be copied to: _____

Do you want to convert an existing Sterling Connect:Direct for i5/OS 3.5.00 User File: *YES or *NO

Name of Temporary Location (library) existing file will be copied to: _____

Do you want to upgrade Sterling Connect:Direct Secure Plus: *YES or *NO

Name of Temporary Location (library) existing files will be copied to: _____

Do you have customized Extended Translation Tables?

Name of Temporary Location (library) existing tables will be copied to: _____

Do you want the install process to create translation tables: *YES or *NO

Type of printer device file to be created: _____ Type: *SCS or *IPDS

Define necessary initialization parameters. *Modifying Initialization Parameters* in the *IBM Sterling Connect:Direct for i5/OS Installation and Administration Guide*, contains a list of these parameters along with detailed information.

Name for your local Sterling Connect:Direct node: _____

(This name can match the library name or subsystem name.)

Enable TCP/IP up to four Listeners: *YES or *NO.

If *YES, this node's TCP/IP address: _____ Port Number _____

TCP/IP address: _____ Port Number _____

TCP/IP address: _____ Port Number _____

TCP/IP address: _____ Port Number _____

License Management Key File Information

N-Concurrent-Sessions: _____

Will you be reusing the existing License Management Key file: *YES or *NO

Name of Temporary Location (library) existing file will be copied to: _____

Before You Begin

Before beginning the upgrade, complete the following steps:

1. Complete the *Upgrade Worksheet* on page 6.
2. To convert the network map and user authorization files from an earlier version of Sterling Connect:Direct for i5/OS, copy the CDNTMP file, CDUSER file, and any custom translation files to another i5/OS library. On the *Upgrade Worksheet*, record the temporary location (library) to which you will be copying the files. Do not use QTEMP.
3. To upgrade Sterling Connect:Direct Secure Plus, copy the Sterling Connect:Direct Secure Plus files, SPACC and SPNTMP, to another i5/OS library. On the *Upgrade Worksheet*, record the temporary location (library) to which you will be copying them. Do not use QTEMP.
4. To reuse the existing license management key file, copy it to another i5/OS library. On the *Upgrade Worksheet*, record the temporary location (library) to which you will be copying the file. Do not use QTEMP.
5. To retain any existing customized Extended Translation tables, copy those files to another i5/OS library. On the *Upgrade Worksheet*, record the temporary location (library) to which you will be copying the files. Do not use QTEMP.
6. Create a backup of the Sterling Connect:Direct for i5/OS library and administrator user profile to a Save File (*SAVF).
7. If you use SNA, take a screen print of the communications entries of your Sterling Connect:Direct for i5/OS subsystem description. (To access the Display Communications Entries screen, type **DSPSBSD** *Subsystem Name* and press **Enter**, and then select Option 8, Communications Entries, on the Display Subsystem Description menu.)
8. Take screen prints of all Change Connect:Direct Parameters (CHGCDPARM) screens to capture information about your current initialization parameters.
9. Clear and delete the Sterling Connect:Direct for i5/OS library and administrator user profile from your system.
10. Create a dedicated user profile as the Sterling Connect:Direct for i5/OS administrator using the following parameters.

```
CRTUSRPRF USERPRF (cdamin) SPCAUT(*ALLOBJ *SAVSYS *SPLCTL *SECADM *JOBCTL
*SERVICE *IOSYSCFG) PWDEXPITV(*NOMAX) LMTDEVSSN(*NO)
```

where *cdamin* is the name you chose for your administrator.

Note: Do not use QSECOFR as the installing administrator user profile.

Install from the SAVF File

After you upload the SAVF file, complete the following steps to install Sterling Connect:Direct for i5/OS.

1. Sign on to the i5/OS server as cdadmin using the password you set.
2. Use the DSPLIBL command to ensure the following:
 - ❖ QTEMP and QGPL are in your library list.
 - ❖ CURLIB is set to *CRTDFT. (No current library)
 - ❖ Your list does not include any previously installed Sterling Connect:Direct for i5/OS libraries.

Note: You must use a new library for installation.

3. To restore the object files, type the following command and press Enter.

```
RSTOBJ OBJ(CDINSTSAVF) SAVLIB(CDBAS36) DEV(*SAVF) SAVF(CD3600SAVF) RSTLIB(QTEMP)
```

4. To start the installation, type the following command and press F4:

```
CDINSTSAVF
```

5. Follow the instructions on the command for save file and install library. When you are prompted, type the following values in the Connect:Direct Install screen and press Enter.

Field	Value	Description
Install from Device	*SAVF	Name of the device to use for installation (a file name).
Save file name	CD3600SAVF	Specifies the name of the save file.
Library	*LIBL	Specifies the name of the save file library *LIBL.
Install to library	cdlib	Specifies the name of the library where you want to install the product.

6. The Create Connect:Direct Objects screen (CRTCDOBJ) is displayed.
7. To generate the rest of the components, go to *step 7 on page 11*.

Upgrade Sterling Connect:Direct for i5/OS from the Distribution Media

To upgrade to Sterling Connect:Direct for i5/OS from the distribution media:

1. Mount the Sterling Connect:Direct for i5/OS CD-ROM.
2. Sign on to the i5/OS system as the designated Sterling Connect:Direct for i5/OS Administrator.
3. Use the DSPLIBL command to ensure the following:
 - ◆ QTEMP and QGPL are in your library list.
 - ◆ CURLIB is set to *CRTDFT. (No current library)
 - ◆ Your list does not include any previously installed Sterling Connect:Direct libraries.

Note: You must use a new library for installation. If the Sterling Connect:Direct library has been added to the System Library List, you must remove it before you install Sterling Connect:Direct for i5/OS, which will require you to IPL the system.

4. To load the installation objects from the CD and start the upgrade, type the following command and press **Enter**:

```
LODRUN DEV(device id)
```

where device id is the name of your optical drive, for example, OPT01.

The following is an example of the **Load and Run** screen:

```
                                Load and Run (LODRUN)

Type choices, press Enter.

Device . . . . . _____ Name, *TAP, *OKT, *OPT

                                                                 Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

5. To start the installation, type **CDINSTALL** and press **Enter**.

```

Connect:Direct Install (CDINSTALL)

Type choices, press Enter.

Install from Device . . . . . Filled in      NAME
Install to library . . . . . _____      NAME
Character set . . . . . *MIXED          *UPPER, *MIXED

                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys

```

6. Type the information for each field using the following table for reference, and press **Enter**.

Field	Description
Install from Device	Device to use for installation. The value is automatically extracted. You cannot type anything into this field.
Install to library	Name of the library where the product is installed, the Sterling Connect:Direct for i5/OS production library.
Character Set	Determines the character set as either a mixed case or upper-case version of Sterling Connect:Direct for i5/OS for systems that use DBCS character sets. The values are: MIXED or UPPER.

7. To generate the rest of the components required, type the required information as it applies to your system in the Create Connect:Direct Objects (CRTCDOBJ) screen and press **Enter**. Use the following table for reference.

```

                                Create Connect:Direct Objects (CRTCDOBJ)

Type choices, press Enter.

Local Library Name . . . . . _____ Character value
Subsystem Name . . . . . _____ Name
Local Node Name . . . . . _____
Convert Old C:D Netmap file . . *NO          *YES, *NO
Convert Old C:D User File . . . *NO          *YES, *NO
Copy Secure+ Files . . . . . *NO          *YES, *NO
Build XTRAN tables . . . . . *NO          *YES, *NO

                                                                Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys

```

Field	Description
Local Library Name	Name of the Sterling Connect:Direct production library. Use the same name that you used in the Install to library field on the Connect:Direct Install (CDINSTALL) screen.
Subsystem Name	Specifies the name of the Sterling Connect:Direct subsystem. The subsystem cannot be named CDJOB. SBSD can be 10 characters long. By default, this name should be the same as the production library name. You can change the subsystem name. Note: A test version of Sterling Connect:Direct for i5/OS cannot run concurrently from the same subsystem as the production Sterling Connect:Direct for i5/OS.
Local Node Name	Specifies the name of the local Sterling Connect:Direct for i5/OS node used for communicating with remote nodes. The Local Node Name (PNODE) cannot exceed 16 characters and is case-sensitive.
Convert Old C:D Netmap File	Specifies whether CRTCDOBJ should convert the Sterling Connect:Direct for i5/OS network map to version 3.7. If you have version 3.5 of Connect:Direct i5/OS, type *YES.
Convert Old C:D User File	Specifies whether CRTCDOBJ should convert the Sterling Connect:Direct for i5/OS version user file to version 3.7. If you have version 3.6 of Connect:Direct i5/OS, type *YES.
Copy Secure+ Files	Specifies whether CRTCDOBJ should copy the IBM Sterling Connect:Direct Secure Plus files to use with Sterling Connect:Direct for i5/OS version 3.7. If you have Sterling Connect:Direct Secure Plus, type *YES.

Field	Description
Build XTRAN tables	Specifies whether CRTCDOBJ should build the Sterling Connect:Direct for i5/OS extended translation tables. This option is primarily for those systems requiring Double-byte Character Set (DBCS) support. To build your tables after installation, type *YES. After the entire installation is complete, refer to <i>Maintaining Extended Translation</i> in the <i>IBM Sterling Connect:Direct for i5/OS Installation and Administration Guide</i> . Note: If you are not using extended translation tables, you can delete the cdlib/CDXTSOURCE file after the installation is complete.

You may receive the message *Object already exists* if you aborted the installation or you received an abnormal termination and then attempted to install again. This message gives you the opportunity to either cancel, ignore, or proceed.

- When the Create Printer File (CRTPRTF) screen is displayed, press **Enter** to accept the default values and continue the upgrade.

```

                                Create Printer File (CRTPRTF)

Type choices, press Enter.

File . . . . . _____ Name
  Library . . . . . *CURLIB Name, *CURLIB
Source file . . . . . *NONE Name, *NONE
  Library . . . . . _____ Name, *LIBL, *CURLIB
Source member . . . . . *FILE Name, *FILE
Generation severity level . . . 20 0-30
Flagging severity level . . . . 0 0-30
Device:
  Printer . . . . . *JOB Name, *JOB, *SYSVAL
Printer device type . . . . . *SCS *SCS, *IPDS, *LINE...
Text 'description' . . . . . *SRCMBRTXT

_____

                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys

```

- When the Convert Old User File (CPYCDUSRF) screen is displayed, type the name of the library where you copied the user authorization file in the **Temporary Location** field and

press **Enter**. Refer to your *Upgrade Worksheet*, if necessary. The **C:D Production Library** field is already filled in and cannot be changed.

```
Convert Old User File (CPYCDUSRF)

Type choices, press Enter.

Temporary Location (Library) . . . . . Name
C:D Production Library . . . . . Filled in

                                                                 Bottom
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Note: If you receive warning messages after CRTCDOBJ is executed, go to step 1 on page 18 for further instructions.

10. When the first Change C:D parms (CHGCDPARM) screen is displayed, verify the initialization parameters by reviewing the information on it. Refer to the screen prints you created earlier.

Note: All parameters on the Change C:D parms (CHGCDPARM) screens, including all parameters new to release 3.7, are described in detail in *Modifying Initialization Parameters* in the *IBM Sterling Connect:Direct for i5/OS Installation and Administration Guide*.

```

Change C:D parms (CHGCDPARM)

Type choices, press Enter.

Production Library Name . . . . > CDDV3600      Character value
Connect:Direct subsystem name . . CDDV3600      Character value
Local Node Name . . . . . 'CDDV3600'
Default local location . . . . . *NETATR        Character value
User to receive Messages . . . . CDDV3600      Character value
Process queue startup option . . *COLD          *WARM, *COLD
Enable TCP/IP listener . . . . . *YES           *NO, *YES
TCP CRC . . . . . *ON             *ON, *OFF
TCP CRC Override . . . . . *YES           *YES, *NO
TCP/IP host address . . . . . 'FRAN'

TCP/IP host port . . . . . '01364'          00001-65535, '',
Alternate TCP/IP Host Address

Alternate TCP/IP Host Port . . . . .          00001-65535, '',

More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys

```

Note: To run the TCP/IP listener job when you start up Sterling Connect:Direct for i5/OS, be sure that ***YES** is specified for the **Enable TCP/IP listener** field and then enter the information for your system in the **TCP/IP host address** and **TCP/IP host port** fields. Optionally you may enter the **Alternate TCP/IP Host Address** and **Alternate TCP/IP Host Port** fields. You may specify up to four TCPHOST/TCP PORT combinations for the server to listen on for incoming remote node connections. To listen on all interfaces, enter **0.0.0.0** in **TCP/IP host address**.

- a. Press **Page Down** to display additional parameters. An example follows.

Note: If you have a usage license, use the value of *N CONCURRENT-SESSIONS* in the license management key file for the fields **Maximum primary sessions**, **Maximum secondary sessions**, and **Maximum synchronous sessions**. See *Preparing to Install Sterling Connect:Direct* in the *IBM Sterling Connect:Direct for i5/OS Installation and Administration Guide* for information on checking options in the license key.

```

Change C:D parms (CHGCDPARM)

Type choices, press Enter.

Alternate TCP/IP Host Address

Alternate TCP/IP Host Port . . . . . 00001-65535, '',
Alternate TCP/IP Host Address

Alternate TCP/IP Host Port . . . . . 00001-65535, '',
TCP SRC Ports . . . . .

TCP SRC Port Listen Iterations      03          01-255
Netmap Check . . . . . *YES          *NO, *YES
Node Check . . . . . *NAME          *NAME, *ADDRESS, *BOTH
Enable spool monitor . . . . . *NO         *NO, *YES
Permanent session managers . . . . 00          00-20, *NOMAX
Maximum primary sessions . . . . . 2           00-99, *NOMAX
Maximum secondary sessions . . . . 2           00-99, *NOMAX
Maximum synchronous sessions . . . 2           00-99, *NOMAX

More...

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys

```

b. Press **Page Down** to display additional parameters. An example follows.

```

Change C:D parms (CHGCDPARM)

Type choices, press Enter.

Trace Instructions . . . . . *NONE
Job Default Priority . . . . . 07          00-15
Checkpoint Interval . . . . . 0           0..2000M
Checkpoint Days . . . . . 03           01-99
Wait between Retries . . . . . 000300    Time
Maximum Retry Attempts . . . . . 002      000-512
Maximum records in stat member      0000010000 *NOMAX 1000..2147483643
Maximum members in stat file . . . 00010    *NOMAX 2..32767
Full stat file action . . . . . *ARCHIVE  *ARCHIVE, *DELETE
Extended compression level . . . . 1         01-09
Extended compression window . . . 13        08-15
Extended compression memory . . . . 4         01-9
Print CDLOG spool files . . . . . *YES      *NO, *YES
TCP Max Time to Wait . . . . . 00180    *NOMAX 0..03600
RUNTASK Max Time to Wait . . . . . 21600   *NOMAX 0..21600

More...

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys

```

c. When you have verified or modified all the initialization parameters, press **Enter**.

11. When the Convert Old Netmap File (CNVNTMPF) screen is displayed, type the library where you copied the network map file in the **Temporary Location** field and press **Enter**. Refer to your *Upgrade Worksheet*, if necessary. All other fields are filled in and cannot be changed.

```
Convert Old Netmap File (CNVNTMPF)

Type choices, press Enter.

Temporary Location (Library) . . . . . _____ Name
C:D Production Library. . . . . Filled in
C:D New Release Subsystem . . . . . Filled in
Connect:Direct Administrator . . . . . Filled in

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```


12. Regardless of whether Sterling Connect:Direct Secure Plus installed, Sterling Connect:Direct for i5/OS creates a local node record and displays the Secure+ Admin Main Screen.

```

                                SECURE+ ADMIN MAIN SCREEN
                                FRAN
                                06/03/04 11:13:22

Position to node . . .

Type option and press Enter.
  2=Change  4=Delete  5=Display  6=Add Alias Node

Node-Name      Typ  S+  STS  SSL  TLS  Ovr  Encryption  Sig  Lmt  Upd
*LCLNODE       L   N   Y   N   N   Y   IDEACBC128  N   N   N
FRAN.CDTS3500  R   *   Y   N   N   *   *           *   *   *

                                Bottom

F1=Help  F3=Exit  F5=Refresh  F6=Add NEW entry  F7=Sync-Add  F8=Sync-Del
F12=Previous  F13=ReKey Secure

```

If you do not have Sterling Connect:Direct Secure Plus installed, press **F3** to exit. When the build process is complete, you receive a message that the process was successful. Continue with step 1 on page 18.

If you do have Sterling Connect:Direct Secure Plus installed, press **F3** to continue the installation, and continue with the next step.

13. When the Upgrade Connect:Direct Secure+ (SPUPGRADE) screen is displayed, type the name of the library where you copied the Secure+ Option files in the **Temporary Location**

field, and press **Enter**. Refer to your *Upgrade Worksheet*, if necessary. The **C:D Production Library** field is already filled in and cannot be changed.

```
Upgrade Connect:Direct Secure+ (SPUPGRADE)

Type choices, press Enter.

Temporary Location (Library) . . . . . Name
C:D Production Library . . . . . Filled in

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
Parameter FROMLIB required.

Bottom
+
```

When the build process is complete, you receive a message that the process was successful.

To configure Sterling Connect:Direct Secure Plus, refer to the *IBM Sterling Connect:Direct Secure Plus for i5/OS Implementation Guide* for more information.

Verify and Complete the Upgrade

To verify and complete the upgrade:

1. Type **DSPJOBLOG** at the command line and press **F10** to view the job log.
2. Log off and log back on as the Sterling Connect:Direct for i5/OS Administrator.
3. To verify certain netmap parameter values, access the Work with CD Netmap screen (WRKCDNTMP). For each node, verify that the Transmission Buffer Size value is a five-digit number (no greater than 65535) and that the Pacing Count value is 000000.
4. If you use SNA, reenter the communications entries of your Sterling Connect:Direct for i5/OS subsystem. See *Performing Administrative Duties* in the *Sterling Connect:Direct for i5/OS Installation and Administration Guide* for instructions on how to use the Add Communications Entry (ADDCMNE) commands.
5. To add network map entries to reflect your remote nodes, use the WRKCDNTMP (Work with Sterling Connect:Direct Netmap) command. See *Maintaining the Network Map* in the *IBM Sterling Connect:Direct for i5/OS Installation and Administration Guide*.

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing

IBM Corporation

North Castle Drive

Armonk, NY 10504-1785

U.S.A.

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual

Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing

Legal and Intellectual Property Law

IBM Japan Ltd.

1623-14, Shimotsuruma, Yamato-shi

Kanagawa 242-8502 Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT,

MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
J46A/G4
555 Bailey Avenue
San Jose, CA__95141-1003
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information is for planning purposes only. The information herein is subject to change before the products described become available. This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:

© IBM 2011. Portions of this code are derived from IBM Corp. Sample Programs.

© Copyright IBM Corp. 2011.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks

The following terms are trademarks of the International Business Machines Corporation in the United States, other countries, or both: <http://www.ibm.com/legal/copytrade.shtml>.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency which is now part of the Office of Government Commerce.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

ITIL is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license therefrom.

Linear Tape-Open, LTO, the LTO Logo, Ultrium and the Ultrium Logo are trademarks of HP, IBM Corp. and Quantum in the U.S. and other countries.

Connect Control Center®, Connect:Direct®, Connect:Enterprise, Gentran®, Gentran:Basic®, Gentran:Control®, Gentran:Director®, Gentran:Plus®, Gentran:Realtime®, Gentran:Server®, Gentran:Viewpoint®, Sterling Commerce™, Sterling Information Broker®, and Sterling Integrator® are trademarks or registered trademarks of Sterling Commerce, Inc., an IBM Company.

Other company, product, and service names may be trademarks or service marks of others.