

Version 2 Release 2

*IBM i2 Enterprise Insight Analysis
Installing the components*



Note

Before using this information and the product it supports, read the information in [“Notices” on page 15.](#)

This edition applies to version 2, release 2, modification 0 of IBM® i2® Enterprise Insight Analysis (product number 5725-G23) and to all subsequent releases and modifications until otherwise indicated in new editions. Ensure that you are reading the appropriate document for the version of the product that you are using. To find a specific version of this document, access the Installing and Deploying section of the [IBM Knowledge Center](#), and ensure that you select the correct version.

© **Copyright International Business Machines Corporation 2016, 2018.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

- Installing IBM i2 Enterprise Insight Analysis..... 1**
 - Installing i2 Enterprise Insight Analysis from an archive file..... 2
 - Software prerequisites..... 3
 - IBM Cognos.....5
- Installing IBM i2 Analyst's Notebook Premium..... 7**
 - Installing IBM i2 Analyst's Notebook Connector for Esri..... 8
 - Installing iXa Search AN..... 8
- Installing IBM i2 iBase 9**
- Installing IBM i2 iBase IntelliShare..... 11**
- Installing IBM i2 Analyze separately..... 13**
 - Installing i2 Analyze from an archive file..... 14
- Notices..... 15**
 - Trademarks..... 16

Installing IBM i2 Enterprise Insight Analysis

An IBM i2 Enterprise Insight Analysis system comprises of a number of components that you must configure before the Enterprise Insight Analysis deployment . Installing the IBM i2 Enterprise Insight Analysis deployment toolkit provides you with the files and scripts that you need to configure to deploy the server side components.

Before you begin

You must install the system prerequisites. For details of the system requirements, see [Software Product Compatibility Reports](#).

About this task

Before you can deploy an Enterprise Insight Analysis system, you must to download, install, and configure the components. In summary, the steps involved are:

1. Download IBM i2 Enterprise Insight Analysis and the bundled prerequisites
2. Install the prerequisites and the deployment toolkit
3. Use the deployment toolkit to configure your deployment to match your requirements
4. Deploy IBM i2 Enterprise Insight Analysis

The components that you need to install differ depending on the deployment pattern that you are using, and the features that you would like to take advantage of. To determine the pattern that best suits your needs, see the [Understanding](#) section of the IBM Knowledge Center.

The following procedure uses IBM Installation Manager to install i2 Enterprise Insight Analysis. Alternatively, you can install i2 Enterprise Insight Analysis from an archive file without using Installation Manager. For more information, see [“Installing i2 Enterprise Insight Analysis from an archive file”](#) on page 2.

Procedure

To install the Enterprise Insight Analysis deployment toolkit:

1. Extract the product files from your downloaded distribution.
2. Navigate to the location of the extracted files and install IBM Installation Manager. The installation files for IBM Installation Manager are in the `installation-manager` directory.
3. Run IBM Installation Manager and install i2 Enterprise Insight Analysis.

After the package is installed, the files that you use to deploy i2 Enterprise Insight Analysis are present in the installation directory. The default installation directory is `C:\IBM\i2EIA` on Windows, and `/opt/IBM/i2EIA` on Linux.

4. Deploy or upgrade i2 Enterprise Insight Analysis.

The following documents describe the process for deploying and upgrading to i2 Enterprise Insight Analysis:

- [i2 Analyze deployment](#)
- [Upgrading IBM i2 Enterprise Insight Analysis](#)

Installing i2 Enterprise Insight Analysis from an archive file

You can install i2 Enterprise Insight Analysis by extracting an archive file. By using the archive file to install i2 Enterprise Insight Analysis, you do not need to install IBM Installation Manager on the server that you install i2 Enterprise Insight Analysis on.

Before you begin

For details of the system requirements, see [Software Product Compatibility Reports](#).

About this task

You install i2 Enterprise Insight Analysis by extracting an archive file. You do not need to install IBM Installation Manager on the server that you install i2 Enterprise Insight Analysis on. This can be useful when you are installing and deploying the Enterprise Insight Analysis on multiple servers, or on a server without a graphical user interface.

i2 Enterprise Insight Analysis is provided in a .zip archive file for Windows, and a .tar.gz archive file for Linux. To install i2 Enterprise Insight Analysis, extract the archive file and then accept the license agreement.

Procedure

1. Download the i2 Enterprise Insight Analysis distribution file for your operating system, and extract the contents into one of the following directories:

- On Windows, C:\IBM\i2EIA
- On Linux, /opt/IBM/i2EIA

The following files and directories are present in the IBM\i2EIA directory:

- license
- swidtag
- toolkit
- license_acknowledgment.txt

Before you can deploy i2 Enterprise Insight Analysis, you must read and accept the license agreement.

2. In a text editor, open the license file for your language from the i2EIA\license directory.
For example, the English license is in the LA_en file.
3. Accept the license.
 - a) In a text editor, open the IBM\i2EIA\license_acknowledgment.txt file.
 - b) To accept the license, change the value of LIC_AGREEMENT to ACCEPT.
For example:

```
LIC_AGREEMENT = ACCEPT
```

- c) Save and close the file.
4. Deploy or upgrade i2 Enterprise Insight Analysis.
The following documents describe the process for deploying and upgrading to i2 Enterprise Insight Analysis:
 - [i2 Analyze deployment](#)

- [Upgrading IBM i2 Enterprise Insight Analysis](#)

Software prerequisites

IBM i2 Enterprise Insight Analysis has prerequisite software that you must install before you can deploy.

In summary, the prerequisites are:

- To install i2 Enterprise Insight Analysis, you must have the Enterprise Insight Analysis version 2.2.0 distribution. You can install Enterprise Insight Analysis with IBM Installation Manager or from an archive file. Choose one of the following distributions to install Enterprise Insight Analysis from:
 - IBM i2 Enterprise Insight Analysis V2.2.0 (IBM Installation Manager installation)
 - IBM i2 Enterprise Insight Analysis V2.2.0 (Archive install) for Windows
 - IBM i2 Enterprise Insight Analysis V2.2.0 (Archive install) for Linux
- To install i2 Analyze, you must have the i2 Analyze version 4.2.0 distribution. You can install i2 Analyze with IBM Installation Manager or from an archive file. Choose one of the following distributions to install i2 Analyze from:
 - IBM i2 Analyze V4.2.0 (IBM Installation Manager installation)
 - IBM i2 Analyze V4.2.0 (Archive install) for Windows
 - IBM i2 Analyze V4.2.0 (Archive install) for Linux
- A supported database management system. To deploy the preconfigured examples, you need IBM DB2® Enterprise Server, Advanced Enterprise Server, Workgroup Server, or Advanced Workgroup Server editions at version 10.5 Fix Pack 7 or later.

Note: IBM DB2 Advanced Workgroup Server Edition version 11.1 is included with i2 Analyze.

- An HTTP server that supports a reverse proxy.

The deployment toolkit can automatically configure an IBM HTTP Server instance on the server where the i2 Analyze application is deployed to act as a reverse proxy. To support this approach, you must install IBM HTTP Server 9.0.0.4 or later and the Web Server Plug-ins for WebSphere® Application Server 9.0 or later.

For more information about the system requirements and prerequisites, see [Release Material](#).

Installing prerequisite software

When you install the prerequisite software, you must do so according to the following specifications.

IBM DB2

When you install DB2, ensure that the installation directory is as follows:

- For Windows: C:\Program Files\IBM\SQLLIB
- For Linux: /opt/IBM/db2/DB2 *version*

Note: In the installation directory, ibm is changed to IBM.

Ensure that the following components are installed:

- Spatial Extender server support
- Spatial Extender client

Note: Do not install Tivoli System Automation for Multiplatforms.

On Windows, DB2 creates a Windows user account (db2admin), and two Windows groups (DB2ADMNS, DB2USERS). To work successfully with DB2, ensure that your Windows user account is a member of the DB2ADMNS Windows group.

On Linux, DB2 creates an Administration Server user (dasusr1) and group (dasadm1), an instance-owning user (db2inst1) and group (db2iadm1), and a fenced user (db2fenc1) and group (db2fadm1). To work successfully with DB2, ensure that the user that runs the deployment script is a member of the dasadm1 and db2iadm1 groups.

Make a note of any user names and passwords that are specified during the installation process.

For more information about installing DB2, see [Installing DB2 database servers](#).

After you install DB2 for the Information Store, you must enable the administrative task scheduler and set the code page on the DB2 installation:

1. On the command line, navigate to the SQLLIB\bin directory of your DB2 installation. On Linux, navigate to the db2inst1/sllib/bin directory.
2. To enable the administrative task scheduler, run the following command:

```
db2set DB2_ATS_ENABLE=YES
```

3. To set the code page for UTF-8 encoding, run the following command:

```
db2set DB2CODEPAGE=1208
```

Note: For Linux deployments, if you are deploying with a schema that contains non-English characters, ensure that the operating system's LANG environment variable is set to the locale of the non-English characters.

Remote DB2 database storage

If you plan to deploy i2 Analyze with remote DB2 database storage, you must install DB2 on your database server, and DB2 or IBM Data Server Client on the application server. Install DB2 according to the previous instructions; if you are using IBM Data Server Client, also ensure that Spatial Extender client support is installed. For more information about IBM Data Server Client, see [Installing IBM Data Server drivers and clients](#).

The instance of DB2 or IBM Data Server Client on the application server must be the same version level as the instance of DB2 on the database server. For example, if the instance of DB2 on your database server is version 11.1, the instance of DB2 or IBM Data Server Client on the application server must also be version 11.1.

Microsoft SQL Server 2008 Service Pack 4, 2012, or 2014

The Analysis Repository can be deployed into a Microsoft SQL Server database. If you choose to use the Microsoft SQL Server database management system, you can use all of the default settings, except that you must enable SQL Server Authentication and the TCP/IP protocol.

Oracle Database 11g Standard Edition Release 2 (Patch 11.2.0.1.6) or 12c Standard Edition Release 1 (Patch 12.1.0.2.0)

The Analysis Repository can be deployed into an Oracle database. If you choose to use the Oracle database management system, you can use all of the default settings, except that you must set the character set to Unicode (AL32UT8). On Oracle 12c, you must also clear the **Create as a container database** check box.

Important: Oracle database creation is not currently handled by the deployment scripts, so you must create the database manually, and the database must be configured to use a unique user. To

work with the example values given in this guide, you must create the database on the server that hosts the i2 Analyze application, and it must be of type WriteStore.

Note: In all scenarios, the user that you use to run the deployment scripts must have permission to create and modify the database.

IBM HTTP Server and Web Server Plug-ins for WebSphere Application Server

An i2 Analyze deployment requires a reverse proxy server that routes client requests to the appropriate destination.

Your environment might already contain a server that fulfills (or can be made to fulfill) this role. If it does not, the deployment toolkit can automatically configure an IBM HTTP Server instance to act as a reverse proxy. To support this approach, you must install IBM HTTP Server as follows:

Windows

Install IBM HTTP Server and Web Server Plug-ins for WebSphere Application Server.

For IBM HTTP Server, you must change the installation location from the default setting to shorten the path length and avoid spaces, for example C:\IBM\HTTPServer. All the other options can use the default settings.

For the Web Server Plug-ins, you must change the installation location from the default setting to shorten the path length and avoid spaces, for example C:\IBM\WebSphere\Plugins. Also, you must install the **IBM 32-bit WebSphere Runtime Environment for Java** feature. All the other options can use the default settings.

Finally, in addition to installing the prerequisite software, you must ensure that Microsoft Internet Information Server is either inactive or not present on the i2 Analyze server.

Linux

For IBM HTTP Server, you must install the server and the plug-ins with their default settings.

The user that you use to run the deployment scripts must have write permissions on the /opt/IBM/HTTPServer/conf/httpd.conf file.

IBM Cognos

In addition to the standard prerequisites, you can install Cognos® to enable users to search large data sets. A connector for Cognos, plus predefined Cognos reports are included with IBM i2 Enterprise Insight Analysis.

About this task

You can install IBM Cognos Analytics 11.0.10, or IBM Cognos Business Intelligence 10.2.2, and Fix Pack 6.

For more information about installing Cognos, see [Installing and configuring server components](#).

Procedure

To install Cognos:

1. If you are deploying Cognos on Linux operating systems, verify that a supported instance of IBM Java™ is installed on the server. Then, set the JAVA_HOME environment variable to the IBM Java installation location.

For example:

```
JAVA_HOME=/opt/ibm/java-x86_64-60/jre
```

When you deploy Cognos on Windows operating systems, an IBM Java Runtime Environment is installed automatically.

2. Extract the product files from the downloaded Cognos distribution to a suitable location on the server. Using an account with administrator permissions, start the installation wizard.
3. If you are installing IBM Cognos Analytics 11.0.10 from the installation wizard, select the following options:
 - a) On the **Lets get started** page, select the option to install the **IBM Cognos Analytics**.
 - b) On the **Installation Type** page, ensure that the **Custom** check box is selected.
 - c) On the **Custom** page, ensure that all options are selected, including **Optional Gateway**.
4. If you are using Cognos 10.2.2, except for the following options, use the default values for the installation options:
 - a) On the **Component Selection** page, select the option to install the **Cognos Content Database**.

Note: In a production environment, you must use one of the supported enterprise-level databases as the content store. For more information, see [Guidelines for creating the content store](#).
 - b) On the **Finish** page, ensure that the **Start IBM Cognos Configuration** check box is not selected.
5. To install Fix Pack 6 for Cognos 10.2.2, extract the files from the downloaded Cognos fix pack distribution to a different location on the server from the installation files. Using an account with administrator permissions, start the fix pack installation wizard.
 - On Linux operating systems, open a command line, navigate to the location of the extracted files, and enter the following command:

```
./issetup
```

- On Windows operating systems, navigate to the location of the extracted files and run the `issetup.exe` file.
6. On the **Installation Location** page, ensure that you specify the location where you installed Cognos. Use the default settings for all the other installation options.

For more information about installing fix packs, see the [Installing fix packs](#).

Installing IBM i2 Analyst's Notebook Premium

You can install IBM i2 Analyst's Notebook Premium using an Installation Manager. Ensure that the system that you are installing Analyst's Notebook Premium on matches the system requirements.

Before you begin

For details of the system requirements, see [Software Product Compatibility Reports](#).

Procedure

1. Extract the product files from your downloaded distribution.
2. Using Windows Explorer, browse to the root of the distribution and run setup.exe.
3. Follow the prompts. You will be asked for the setup type:

Opal Connector	Installs Analyst's Notebook Premium with the Opal Connector - this allows you to connect to an Information Store configured to use the i2 Analyze Opal services.
Onyx Connector	Installs Analyst's Notebook Premium with the Onyx Connector - this allows you to connect to an Analysis repository, an Information Store configured to use the i2 Analyze Onyx services, and any external data sources that use Data Access on Demand.
Local Analysis Repository	Installs Analyst's Notebook Premium with a preconfigured Local Analysis Repository.
Custom	<p>You can select which parts of Analyst's Notebook Premium you require. In addition to selecting a combination of the connectors for the repositories, creating a custom installation allows you to install:</p> <ul style="list-style-type: none">• i2 Analyze Schema Designer - If you would like to design and modify the schema that is used by i2 Analyze, you can select to install the Schema Designer.• Documentation and example materials - If you are planning to install Analyst's Notebook Premium into an environment with limited space, you can choose to exclude the embedded help files and example materials.• Esri maps - If you would like to use the embedded Esri maps features, you can select to install these. <p>Note: This option is not the same as the separate IBM i2 Analyst's Notebook Connector for Esri that is used by the Onyx connector to search for geographical information.</p> • Online iLink - If you would like to use Online Link to enable real-time access to IBM i2 Information Exchange Visualizer (iXv) enabled data sources, you can select to install this. <p>Note: This option is not the same as configuring data access of demand solutions for i2 Analyze.</p>

Installing IBM i2 Analyst's Notebook Connector for Esri

You can install IBM i2 Analyst's Notebook Connector for Esri using an Installation Manager. Ensure that the system that you are installing Analyst's Notebook Connector for Esri on matches the system requirements.

Before you begin

For details of the system requirements, see [Software Product Compatibility Reports](#).

Procedure

1. Extract the product files from your downloaded distribution.
2. Using Windows Explorer, browse to the root of the distribution and run `setup.exe`. The Installation Manager opens.
3. Click **Install** in the left menu to start the installation steps.

Installing iXa Search AN

You can install IBM i2 Information Exchange for Analysis ("iXa") Search for Analyst's Notebook ("Search AN") using an Installation Manager. Ensure that the system that you are installing iXa Search AN on matches the system requirements.

Before you begin

For details of the system requirements, see [Software Product Compatibility Reports](#).

Procedure

1. Extract the product files from your downloaded distribution.
2. Using Windows Explorer, browse to the root of the distribution and run `setup.exe`. The Installation Manager opens.
3. Click **Install** in the left menu to start the installation steps.

Installing IBM i2 iBase

You can install IBM i2 iBase using an Installation Manager. Ensure that the system that you are installing iBase on matches the system requirements.

Before you begin

For details of the system requirements, see [Software Product Compatibility Reports](#).

About this task

IBM i2 iBase Geographic Information Systems Interfaces are installed with iBase 8.9. If you intend to use a mapping application with iBase, then in most cases you must install the mapping application first.

- Except for blue 8 xd, you must install the mapping application before you install iBase. For example, if you install the Microsoft MapPoint interface before you install the MapPoint application, you will see the "Component not correctly registered" warning after you complete the interface installation.
- For blue 8 world, you must install the interface while you are logged on as the user who runs the interface. This user must be a local administrator.

Procedure

1. Extract the product files from your downloaded distribution.
2. Using Windows Explorer, browse to the root of the distribution and run setup.exe.
3. Follow the prompts. You will be asked for the setup type:

Typical	Installs iBase User along with its documentation
Complete	Installs: <ul style="list-style-type: none">• iBase User and iBase Designer• All tools apart from the iBase Index Service Configuration tool and iBase Database Replication.• All of the documentation, including the Administration Center.
Custom	You can select which parts of iBase you require.

4. Follow the prompts to complete the installation.

Note: If you installed the Coordinate Extensions option, as part of a custom installation, then the following message might display when you first start iBase:

An application plug-in failed to load: i2 iBase Bulk Coordinate Converter.

This message indicates that a required environment variable does not exist. To resolve this problem, either log off from Windows, or restart the computer.

Installing IBM i2 iBase IntelliShare

You can install IBM i2 iBase IntelliShare using an Installation Manager. Ensure that the system that you are installing iBase IntelliShare on matches the system requirements.

Before you begin

For details of the system requirements, see [Software Product Compatibility Reports](#).

Procedure

1. Extract the product files from your downloaded distribution.
2. Using Windows Explorer, browse to the root of the distribution.
3. Open a command prompt at this folder, and then execute the following command to display a license and extract the files for the iBase IntelliShare web service:

```
intellishare.bat intellishare-release-8.9.1-XXXX.jar
```

The distribution contains three JAR files whose names reflect the iBase IntelliShare modules that will be available to users. Replace “XXXX” in the above command with “find-and-explore”, “full-data-entry”, or “combined” according to the modules you are entitled to use, as outlined in the license agreement

Installing IBM i2 Analyze separately

Although i2 Analyze is integrated into the IBM i2 Enterprise Insight Analysis installation, a separate installer is also available. For systems that wish to use the IBM i2 Analyze features without the rest of the IBM i2 Enterprise Insight Analysis system, you can use the IBM i2 Analyze installer.

Before you begin

For details of the system requirements, see [Software Product Compatibility Reports](#).

About this task

In most IBM i2 Enterprise Insight Analysis systems, the integrated version of the i2 Analyze deployment toolkit that is included in the i2 Enterprise Insight Analysis installer is used to deploy i2 Analyze. The standalone version can be obtained separately, and can be used to install the i2 Analyze deployment toolkit without the IBM i2 Enterprise Insight Analysis specific examples.

Whether you use the integrated installer, or the standalone version, you must install a deployment toolkit before you can deploy or upgrade i2 Analyze.

The following procedure uses IBM Installation Manager to install i2 Analyze. Alternatively, you can install i2 Analyze from an archive file without using Installation Manager. For more information, see [“Installing i2 Analyze from an archive file”](#) on page 14.

Procedure

1. Extract the IBM i2 Analyze product files from your downloaded distribution.
2. Navigate to the location of the extracted files and install IBM Installation Manager. The installation files for IBM Installation Manager are in the `installation-manager` directory.
3. Run IBM Installation Manager and install i2 Analyze.

Two versions of the software package are available. The installation repository location that IBM Installation Manager requires is the 4.2.0 version of the `i2analyze-repository` directory. This directory is in the location that you extracted or copied the product files into.

After the package is installed, the files that you use to deploy i2 Analyze are present in the installation directory. The default installation directory is `C:\IBM\i2analyze` on Windows, and `/opt/IBM/i2analyze` on Linux.

4. Deploy or upgrade i2 Analyze.

The following documents describe the process for deploying and upgrading to i2 Analyze:

- [i2 Analyze deployment](#)
- [i2 Analyze upgrade](#)

Note: If you previously deployed the Analysis Web Client with i2 Analyze 4.0.0, 4.1.0 or 4.1.1, you must remove the Analysis Web Client from that deployment before you upgrade to version 4.1.2 or later.

Installing i2 Analyze from an archive file

You can install i2 Analyze by extracting an archive file. By using the archive file to install i2 Analyze, you do not need to install IBM Installation Manager on the server that you install i2 Analyze on.

Before you begin

For details of the system requirements, see [Software Product Compatibility Reports](#).

About this task

You install i2 Analyze by extracting an archive file. You do not need to install IBM Installation Manager on the server that you install i2 Analyze on. This can be useful when you are installing and deploying i2 Analyze on multiple servers, or on a server without a graphical user interface.

i2 Analyze is provided in a .zip archive file for Windows, and a .tar.gz archive file for Linux. To install i2 Analyze, extract the archive file and then accept the license agreement.

Procedure

1. Download the i2 Analyze distribution file for your operating system, and extract the contents into one of the following directories:

- On Windows, C:\IBM\i2analyze
- On Linux, /opt/IBM/i2analyze

The following files and directories are present in the IBM\i2analyze directory:

- license
- swidtag
- toolkit
- license_acknowledgment.txt

Before you can deploy i2 Analyze, you must read and accept the license agreement.

2. In a text editor, open the license file for your language from the i2analyze\license directory. For example, the English license is in the LA_en file.
3. Accept the license.
 - a) In a text editor, open the IBM\i2analyze\license_acknowledgment.txt file.
 - b) To accept the license, change the value of LIC_AGREEMENT to ACCEPT. For example:

```
LIC_AGREEMENT = ACCEPT
```

- c) Save and close the file.
4. Deploy or upgrade i2 Analyze.

The following documents describe the process for deploying and upgrading to i2 Analyze:

- [i2 Analyze deployment](#)
- [i2 Analyze upgrade](#)

Note: If you previously deployed the Analysis Web Client with i2 Analyze 4.0.0, 4.1.0 or 4.1.1, you must remove the Analysis Web Client from that deployment before you upgrade to version 4.1.2 or later.

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.

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 United Kingdom Limited Hursley House Hursley Park Winchester, Hants, SO21 2JN UK

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 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.

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

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "[Copyright and trademark information](http://www.ibm.com/legal/copytrade.shtml)" at 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.

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

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

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



Part Number: 99F9999

SC27-5091-00



(1P) P/N: 99F9999

