

# IBM Problem Determination Tools for z/OS Plug-ins Combined Packages (IM) README

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## Overview

The IBM Problem Determination Tools Plug-ins combined packages contain all of the individual product plug-ins in a single downloadable zip file. These single all-inclusive zip files make the initial installation and follow-on maintenance and functional updates easier than the previous individual product plug-in packages.

## Hardware Requirements

The following minimum hardware levels are required:

- CPU - 1 GHz or faster 32-bit (x86) or 64-bit (x64) processor, dual or quad core recommended
- RAM - 2.0 GB minimum, 3.0 GB recommended
- Hard disk - 1.8 GB available space, plus 210 MB of temporary space

## Supported Platforms

One of the following levels of the Microsoft Windows operating system:

- Microsoft Windows XP 32-bit
- Microsoft Windows Vista 32-bit
- Microsoft Windows 7 32-bit
- Microsoft Windows 7 64-bit
- Microsoft Windows Server 2008 32-bit

## Software Requirements

One of the following Eclipse-based platforms:

- IBM Rational Developer for System z (for Windows only) V9, or later
- IBM CICS Explorer V5.1.1, or later

Any combination of one or more of the following IBM Problem Determination Tools for z/OS products:

- IBM Application Performance Analyzer for z/OS V12.1, or later
- IBM Debug Tool for z/OS V13.1, or later
- IBM Fault Analyzer for z/OS, V12.1, or later
- IBM File Manager for z/OS V13.1, or later
- IBM Workload Simulator for z/OS & OS/390 V1.1, or later

## Preparing to install IBM Problem Determination Tools plug-ins Combined Packages

It is highly recommended that you uninstall any pre-existing Problem Determination Tools plug-ins from Rational Developer for System z. To check what software is installed and to uninstall:

1. Start IBM Installation Manager
2. Click **Uninstall**

3. Select all the IBM Problem Determination Tools plug-ins installed:
  1. IBM Application Performance Analyzer Plug-in for Eclipse
  2. IBM Debug Tool DTCN plugin for CICS
  3. IBM Debug Tool DTSP plugin for non-CICS
  4. IBM Debug Tools for zOS Explorer
  5. IBM Fault Analyzer Plug-in for Eclipse
  6. IBM File Manager Plug-in
  7. IBM Workload Simulator Plug-in for Eclipse
4. Click **Next**
5. Click **Uninstall**
6. Once the plug-ins are successfully uninstalled click **Finish**

**NOTE:** Do not uninstall the IBM CICS Explorer SDK package.

## Installing IBM Problem Determination Tools plug-ins Combined Packages

To install Problem Determination Tools plug-ins Combined Packages, you will need to specify the repository location before installing. The latest offering is located in the [IBM Problem Determination Tools](#) website. Download the install zip file ( `PD_Tools_plugins_combined_IM_v xxxxxx .zip` ) for a local install.

1. Unzip the install zip file to a temporary directory e.g. `C:\PD_Tools_combined_IM_v xxxxxx` . A path of 32 or less characters is recommended, but not required. [See Installation Note 1](#)
2. Start IBM Installation Manager
3. Click **File > Preferences...**
4. In Preferences click **Add Repository...**
5. Click **Browse** and specify the temporary directory, then click **OK**
6. In Preferences click **OK**
7. In IBM Installation Manager click **Install**
8. Select all the IBM Problem Determination Tools plug-ins listed:
  1. IBM Application Performance Analyzer Plug-in for Eclipse [See Installation Notes](#)
  2. IBM Debug Tool DTCN plugin for CICS
  3. IBM Debug Tool DTSP plugin for non-CICS
  4. IBM Fault Analyzer Plug-in for Eclipse
  5. IBM File Manager Plug-in for Eclipse
  6. IBM Workload Simulator Plug-in for Eclipse
9. Click **Next**
10. Review and accept the terms in the license agreements, and then click **Next**
11. Click **Next** to install using the existing package group
12. Ensure that all features are selected, then click **Next**
13. Click **Install**
14. Once the plug-ins are successfully installed click **Finish**

## Installation Notes for Application Performance Analyzer users:

1. This package contains both the Application Performance Analyzer Version 12 plug-ins and the Application Performance Analyzer Version 13 plug-ins.
2. Application Performance Analyzer for z/OS Version 12 requires the Application Performance Analyzer version 12 plug-ins. It is not forward compatible.
3. Application Performance Analyzer for z/OS Version 13 requires the Application Performance Analyzer version 13 plug-ins. It is not backward compatible.
4. Only one version of the APA plug-ins can be installed at once, not both.
5. By default the **Available Software** window will have the option **Show only the latest version of available software** checked, and only the Application Performance Analyzer Version 13 plug-ins are displayed when the **Application Performance Analyzer plug-in** category is expanded.
6. If you wish to install the Application Performance Analyzer Version 13 plug-ins, follow the installation instructions above.
7. If you wish to install the Application Performance Analyzer Version 12 plug-ins, you must:
  1. Check "Show all versions"
  2. Expand the "Application Performance Analyzer plug-in for eclipse" category
  3. Select the version 12.1.0.x Application Performance Analyzer plugin.
  4. Continue with the installation instructions at Step 9) above.

## Getting Started With IBM Problem Determination Tools plug-ins Combined Packages

After installing the plug-ins, follow the steps below for the plug-in(s) you are using:

- Application Performance Analyzer Plug-in Version 12
  1. There is some connections/credentials setup that is unique to Application Performance Analyzer that must

be performed. Please refer to the **APA Bridge for CICS Explorer User Guide** for details on how to configure credentials and connections for Application Performance Analyzer and how to connect to Application Performance Analyzer on z/OS. Once the connection is established, the Select STC dialog is displayed in which a default startup APA Started Task (STC) must be selected. A list of active APA Started Tasks (STC's) is displayed. The default STC is the started task which will be selected at the startup of Application Performance Analyzer. The Default STC is displayed for the first successful login only, then saved as a preference that can be changed from the "Set as Default STC" context menu item of the STC List view

2. To access Application Performance Analyzer, click **Window > Open perspective > Other...** . Select **APA** and click **OK** .
  3. For more information, click **Help > Help Contents**. Follow the instructions in the **IBM Application Performance Analyzer User Guide** section for details on getting started using Application Performance Analyzer.
- Application Performance Analyzer Plug-in Version 13
    1. Application Performance Analyzer Plug-in Version 13 uses the Problem Determination Tools Common Component for z/OS to connect with Application Performance Analyzer for z/OS Version 13, through the Problem Determination Tools Common Server on z/OS.
    2. Click **Help > Help Contents**. Follow the instructions in the **IBM Problem Determination Tools for z/OS Common Component** for details on establishing a Problem Determination Tools for z/OS connection.
    3. To access Application Performance Analyzer, click **Window > Open perspective > Other ....** Select **APA** and click **OK**.
    4. Once the connection is established and the Application Performance Analyzer perspective is open, the default startup Application Performance Analyzer Started Task (STC) must be selected. A list of active Started Tasks (STC's) is displayed in the STC View window. By default, the first STC in the list is selected. The default STC is the started task which will be selected at the startup of Application Performance Analyzer Plug-in. To change the default STC, highlight the STC in the STC View window and select **Set as Default STC** from the context menu.
    5. For more information, click **Help > Help Contents**. Follow the instructions in the **IBM Application Performance Analyzer User Guide** section for details on getting started using Application Performance Analyzer.
  - Debug Tool Plug-in
    1. Establish a connection between the DTCN Profiles view for CICS and your z/OS system by following the steps described in [DTCN tips](#) .
    2. To access Debug Tool, click **Window > Open perspective > Other...** . Select **Debug** and click **OK** .
    3. Find more information, click **Help > Help Contents** . Follow the instructions in the **Compiled language debugger** section for details on getting started using Debug Tool to debug your application
  - Fault Analyzer Plug-in
    1. To access Fault Analyzer, click **Window > Open perspective > Other...** . Select **Fault Analyzer** and click **OK** .
    2. Find more information, click **Help > Help Contents** . Follow the instructions in the **Fault Analyzer for Eclipse** section for details on getting started using Fault Analyzer
  - File Manager Plug-in
    1. To access Fault Analyzer, click **Window > Open perspective > Other...** . Select **File Manager** and click **OK** .
    2. Find more information, click **Help > Help Contents** . Follow the instructions in the **IBM File Manager User Guide** section for details on getting started using File Manager

## Updating IBM Problem Determination Tools plug-ins Combined Packages

To update Problem Determination Tools plug-ins Combined Packages, you will need to specify the repository location first. The latest offering is located in the [IBM Problem Determination Tools](#) website. Download the install zip file ( `PD_Tools_plugins_IM_v xxxxxxx .zip` ) for a local install.

1. Unzip the install zip file to a temporary directory e.g. `C:\PD_Tools_combined_IM_v xxxxxxx` . A path of 32 or less characters is recommended, but not required. [See Installation Note 1](#)
2. Start IBM Installation Manager
3. Click **File > Preferences...**
4. In Preferences click **Add Repository...**
5. Click **Browse** and specify the temporary directory, then click **OK**
6. In Preferences click **OK**
7. In IBM Installation Manager click **Update**
8. Click **Next**
9. It's recommended that you select all the packages, then click **Next**
10. Review and accept the terms in the license agreements, and then click **Next**
11. Ensure that all features are selected, then click **Next**
12. Click **Update**
13. Once the plug-ins are successfully updated click **Finish**

## Establishing a connection between the DTCN Profiles view for CICS and your z/OS system

Specify the settings needed to establish a connection between the DTCN profiles view and your z/OS system by doing the following steps:

1. Click Window > Show view > Other
2. Type "DTCN" in the text box at the top of the window. Select DTCN profiles and click OK
3. Click Window > Show view > Other
4. Type "Host Connections" in the text box at the top of the window. Select Host Connections and click OK
5. In the Host Connections view, select DTCN and click Add to create a connection to DTCN.
6. Specify the settings in the following fields and click Save and Close:

### Name

The name of the connection. If left blank will be auto-filled by combining the host name and port number entered separated by ":"

### Host name

The TCP/IP name or address of the z/OS system as described in "Defining the CICS TCPIP SERVICE resource" in the Debug Tool Customization Guide

### Port number

The port number of the z/OS system as described in "Defining the CICS TCPIP SERVICE resource" in the Debug Tool Customization Guide

7. Select the DTCN connection you created, and click Connect.
8. In the DTCN Signon window, specify the settings in the following fields, or select "Use existing Credentials" if you have at least one credential defined, and click OK.

### Credentials Name

The name of the credential

### User ID

The ID that you use to log on to the CICS system

### Password or Passphrase

The password or passphrase that you use to log on to the CICS system

A successful connection is indicated through a green icon for the DTCN connection. Otherwise, review the values you entered, correct any mistakes, and try the connection test again. You can also review the trace file (as described in Debug Tool User's Guide Appendix I section "Locating the trace file of the DTCN Profiles or DTSP Profile view") for diagnostic information that can help identify the cause of the connection error. In the DTCN Profiles view, you can right click anywhere to see a list of actions available.

**Note:** If you want require a secured connection, you will need to follow the steps in the section, [Establishing a secured communication between the DTCN profile view for CICS and your z/OS system](#)

## Establishing a secured communication between the DTCN profile view for CICS and your z/OS system

These steps help you enable secure communication via Secure Sockets Layer (SSL) between DTCN profile view and your z/OS system. The communication between the client and server uses the HTTP protocol.

### Client side setup

To enable SSL communication, complete the following tasks for the client side:

1. Install server certificate:  
Because the certificate server generated is not from an authorized certificate authority (CA), to solve this issue, you need to install the certificate to your JDKs keystore.
  1. Download copy of the certificate in text mode that the server has exported into your workstation directory
  2. Import the downloaded certificate into your JREs keystore. The following is an example how to import the certificate into keystore using keytool provided by java

```
Keytool import alias myprivateroot keystore ..\lib\security\cacerts file dtcnplg.cer
dtcnplg.cer is the downloaded copy of the server certificate.
The initial password for the cacerts keystore is changeit.
```

**Note:** If you are using CICS Explorer, the keytool utility can be found in the Java installation bin directory, <CICS Explorer Install Directory>\jre\bin.  
If you are using PD Tools Studio, the keytool utility can be found in the Java installation bin directory, <PD Tools Studio Install Directory>\jre\bin

## Server side setup

To enable SSL communication, do the following tasks for Server side:

1. Generate key pair and self-signed certificate using Rexx RACF command.
  1. Use RACF GENCERT command to create a key entry for the CICS region owner. The key entry contains the key pair and self-signed certificate.  
Example (Create a key entry for user USERID with label: USERID-DTCNPLG-CERT):

```
/* generate key entry */
"RACDCERT ID(USERID) GENCERT",
" SUBJECTSDN(CN(
'your_host_name.com'
) ",
"          T ('USERID-DTCNPLG-CERT' ) ",
"          OU('IBM' ) ",
"          O ('IBM' ) ",
"          L ('San Jose' ) ",
"          SP('CA' ) ",
"          C ('US' ))",
" NOTBEFORE (DATE(2011-02-28) TIME(20:00:00) )",
" NOTAFTER (DATE(2031-12-31) TIME(19:59:59) )",
" WITHLABEL(
USERID-DTCNPLG-CERT
)",
" SIZE      (1024 )"

```

2. Connect the key entry to a key ring that belongs to the CICS region owner ID. The common name of the subject DSN must be the host name of the server that the client uses to connect to host.  
Example (Connect it to a key ring named USERID):

```
/* connect key entry to key ring */
" RACDCERT ID(
USERID
) ",
" CONNECT( RING (
USERID
) ",
"          LABEL(
USERID-DTCNPLG-CERT
))"

```

3. Export the certificate and store it in a data set using the printable encoding format defined by the internet RFC 1421 standard  
Example (Export the certificate to a data set: USERID.DTCNPLG.CERT)

```
/* export certificate to a data set */
"RACDCERT EXPORT(LABEL('USERID-DTCNPLG-CERT' ) ",
" ID(
USERID
) ",
" DSN(
'USERID.DTCNPLG.CERT'
) ",
" FORMAT(CERTB64 )"

```

2. Initialize parameters in CICS region
  1. Add the KEYRING parameter in the CICS region start up job and point to the key ring created for the region owner ID.
  2. The following example adds SYSIN DD data set of CICS region startup job:

KEYRING=USERID

### 3. Define TCPIPSERVICE resource

1. Add a TCPIPSERVICE resource definitions, see example below in bold texts. Change the SSL and Certificate attributes.

```
TCpipservice      : EQAHTP8S
GRoup             : GROUP_NAME
DEscription      :
Urm              : EQADPAN0          no Analyzer program is used
PORtnumber       : 30009             1-65535
STatus           : Open              Open | Closed
PROtocol         : HTTP              Iiop | Http | Eci | User
TRansaction      : CWXN
Backlog          : 00030             max backlog requests allowed
TSqprefix        :
Host             : ANY
(Mixed Case)    :
Ippaddress       :
SOcketclose      : No                No | 0-240000 (HHMSS)
Maxdatalen       : 008192            3-524288
SECURITY
SSl              :
Yes
Yes | No | Clientauth
CErtificate      :
USERID-DTCNPLG-CERT
(Mixed Case)
PRivacy          : Supported          Notsupported|Required|Supported
CIphers          : 050435363738392F303132330A1613100D0915120F0C03060201
AUthenticate     : Basic              No|Basic|Certificate|AUTOREgister | AUTOMatic | ASsert
:I a Realm      :
(Mixed Case)
ATTachsec        :                    Local | Verify
DNS CONNECTION BALANCING
DNsgroup         :
GRPcritical      : No                 No | Yes
DEFINITION SIGNATURE
DEFInetime       : 02/14/11 18:56:32
CHANGETime       : 03/16/11 14:04:57
CHANGEUsrid      : USERID
CHANGEAGENT      : CSDApi             CSDApi | CSDBatch
CHANGEAGRel      : 0660
```

## Installation Notes

### Note 1: Microsoft Windows Maximum Path Length Limitation

Microsoft Windows file systems, have a maximum path length of 255 characters. Extracting to paths longer than 32 characters is supported, but not recommended, as exceeding the Windows Path limit will result in extraction errors.

## Technical support

These IBM Problem Determination Tools plug-ins are available at no charge to all licensed users of any of the following five IBM Problem Determination Tools for z/OS products:

1. IBM Application Performance Analyzer for z/OS V13.1, or later
2. IBM Debug Tool for z/OS V13.1, or later
3. IBM Fault Analyzer for z/OS, V12.1, or later
4. IBM File Manager for z/OS V13.1, or later
5. IBM Workload Simulator for z/OS & OS/390 V1.1, or later

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