Operations Analytics - Predictive Insights 1.3.3

Upgrade Guide

Note
Before using this information and the product it supports, read the information in "Notices" on page 13.

Contents

Preface

The purpose of this guide is to help you install Operations Analytics - Predictive Insights.

After completing all steps documented in this guide, you will have a set of running Operations Analytics - Predictive Insights components ready to configure into a fully functional system.

Audience

The audience for this manual is the network administrator or operations specialist responsible for installing Operations Analytics - Predictive Insights.

To install Operations Analytics - Predictive Insights successfully, a basic knowledge of the following is required:

- Administration of the Linux operating system.
- Administration of IBM InfoSphere Streams.
- Administration of the DB2 database management system.
- Administration of OMNIbus and OMNIbus WebGUI.
- Operations Analytics - Predictive Insights

Components

IBM® Operations Analytics - Predictive Insights consists of four main components.

The IBM Operations Analytics - Predictive Insights components are:

- **The Database component**: is used to store configuration data, metadata and metric data.
- **The Analytic component**: performs data mediation and processes incoming data to discover any anomalies that are present.
- **The UI component**: presents any discovered anomalies through the IBM Dashboard Application Services Hub application or the IBM Tivoli Integrated Portal application.
- **The Mediation tool**: is used to configure a data source and the data model that Operations Analytics - Predictive Insights will monitor.

Operations Analytics - Predictive Insights documentation includes the following guides:

- Release notes
- Installation Guide
- Upgrade Guide
- Administration Guide
- Error Messages Guide

Chapter 1. Before you begin

A description of the terminology you will encounter in this document and an outline of which steps are optional, recommended, or mandatory.

Terminology

Clarification of the meaning of terminology used in this document.

- **Upgrade**: This term is used when describing the process of replacing or changing existing components so that they are identical to the 1.3.3 components.
- **Migration**: This term is used when describing the process of moving data used by your existing installation of Operations Analytics - Predictive Insights or altering data used by your existing installation of Operations Analytics - Predictive Insights so that it can be used and fully exploit the new features of 1.3.3

Summary of steps

Table 1. Statement of optional, recommended, and mandatory steps

Step	Mandatory, Recommended or Optional	Notes
Upgrading using the IBM Installation Manager	Recommended	Installation Manager should be used to upgrade Operations Analytics - Predictive Insights. Alternative console mode upgrade should only be used in situations where GUI upgrade is not possible.
Upgrading using console mode	Optional	Only to be used if GUI based upgrade is not possible
Upgrading the Mediation Tool on Windows	Optional	Only to be pursued if your Mediation tool is running on Windows.
Migrating customized rules files	Optional	You only need to pursue this if you customized the probe rules files in the previous installation. In version 1.3.2, the probe rules files was installed in: `$PI_HOME/probe/omnibus/probes/linux2x86/stdin-tasp.rules`
Starting the Operations Analytics - Predictive Insights analytics component	Mandatory	You must start Operations Analytics - Predictive Insights after the upgrade steps have been completed.
Upgrading your visualization application to Dashboard Application Services Hub	Optional	If you were not already using Dashboard Application Services Hub for visualization on your 1.3.2, system, you can upgrade to Dashboard Application Services Hub by following the process outlined in this section.

Chapter 2. Upgrading Operations Analytics - Predictive Insights

Instructions on how to upgrade Operations Analytics - Predictive Insights from version 1.3.2 to version 1.3.3.

The upgrade process for Operations Analytics - Predictive Insights covers the upgrade of all installed Operations Analytics - Predictive Insights components. If you wish to make any topology change, you must do so as a separate installation task after you complete the upgrade.

If you installed Operations Analytics - Predictive Insights components on multiple servers, you must perform the upgrade on each individual server. You can perform the upgrade in graphical mode, using the IBM Installation Manager, or in console mode.

For details of the Operations Analytics - Predictive Insights version 1.3.3 requirements, see the Operations Analytics - Predictive Insights Installation Guide.

Upgrade order for a distributed installation

The order in which you must upgrade components when Operations Analytics - Predictive Insights is distributed on multiple servers .

If you distributed the Operations Analytics - Predictive Insights components on multiple servers, you must upgrade components in a particular order depending on how the components are distributed.

Note: When you select the database component for upgrade, the upgrade process updates the version number for the database component in the installation manager record but does not upgrade the database component itself. The upgrade of the database component is done automatically when you upgrade the Analytics component.

- If the Database and UI components were installed on the same server by the same user and, therefore, managed by the same Installation Manager instance, complete the upgrade in the following order:
  - Analytics component
  - UI component

  In this configuration, the version number for the Database component is automatically updated in the installation manager record when you upgrade the UI component.
- For all other distributed installations, upgrade the components in the following order:
  - Database component
  - Analytics component
  - UI component

Upgrading using GUI mode

Upgrading Operations Analytics - Predictive Insights using the GUI mode.

Before you begin

1. Create a directory for the upgrade software. For example:
   ```
   mkdir ~/PredictiveInsights_1.3.3
   ```
2. Download and extract the Operations Analytics - Predictive Insights package from the media to the new directory.
3. On each server that is running the Analytics component, log in as the analytics user, for example, `scadmin`, and stop the Analytics component:
   ```
   $PI_HOME/bin/stop.sh
   ```
4. Stop any instance of the Mediation Tool that is running.
5. If Operations Analytics - Predictive Insights version 1.3.2 was configured to use LDAP authentication, make a backup copy of the following configuration files:
   - `/opt/IBM/scanalytics/UI/wlp/usr/servers/piserver/ldapRegistry.xml`
   - `/opt/IBM/scanalytics/UI/wlp/usr/servers/piserver/server.xml`
   - `/opt/IBM/scanalytics/UI/wlp/usr/servers/piserver/taspConfig.xml`

About this task

The upgrade of Operations Analytics - Predictive Insights components must be done on the server to where the components are installed. Therefore, if you have Operations Analytics - Predictive Insights components on multiple servers, you must peform an upgrade on each of those servers. To upgrade each component, you must use the user account that was initially used to install that component. If multiple components were installed by different user accounts on the same server, ensure you switch accounts before you upgrade individual components.

Note: If the Operations Analytics - Predictive Insights Analytics and UI components were installed by different users on the same server or on different servers, you must upgrade the Analytics component before you upgrade the UI component.

Procedure

1. As the user that was used to install the component or components you are upgrading, change to the `predictiveInsightsInstaller1.3.3` directory contained in the directory in which you extracted the upgrade software.
2. To start the installer, run the following command:
   ```
   ./install.sh
   ```
3. Select the **Update** option and click **Next**.
4. Select all of the components present on the server for upgrade. The **Update Packages** screen displays all Operations Analytics - Predictive Insights components that are installed on the server.
5. If the displayed version is the version to which you want to upgrade, click **Next**.
6. Accept the terms of the license agreement and click **Next**.
7. For each component, enter the required parameters and click **Validate**. After the parameters are validated, click **Next**.
8. Click **Update**.

During the upgrade, changes are made to your Operations Analytics - Predictive Insights database, analytics component, mediation tool, and UI. The validation ran in step 7 ensures that your Operations Analytics - Predictive Insights system is in a good state prior to upgrade.

Note: Any component that is running is stopped during the upgrade.

9. Click **Finish** when the update completes.
10. If Operations Analytics - Predictive Insights version 1.3.2 was configured to use LDAP authentication, complete the following steps to set up LDAP authentication for version 1.3.3.
    a. Copy the files that you backed up in step 5 of the *Before you begin* section to their original location.
    b. Change to the `<Liberty_Install_Home>/UI/bin` directory. The default path for `<Liberty_Install_Home>` is `/opt/IBM/scanalytics`.
    c. Enter the following command to grant access to the Operations Analytics - Predictive Insights User Interface:

       ```
       ./addAccess.sh <user | group> <LDAP user or group name>
       ```

       For example, to grant access to an LDAP group called `operators`, enter the following command:

       ```
       ./addAccess.sh group operators
       ```

Upgrading using console mode

Upgrading Operations Analytics - Predictive Insights using console mode.

Before you begin

1. Create a new directory for the upgrade software, for example:

   ```
   mkdir ~/PredictiveInsights_1.3.3
   ```

2. Download and extract the Operations Analytics - Predictive Insights package from the media to the new directory.
3. On each server running the Analytics component, log in as the analytics user, for example, `scadmin`, and stop the Analytics instance.

   ```
   $PI_HOME/bin/stop.sh
   ```

4. Stop any instance of the Mediation Tool that is running.

About this task

The upgrade of Operations Analytics - Predictive Insights components must be done on each server to which the components are installed. Therefore if you have Operations Analytics - Predictive Insights components installed on multiple servers, you must carry out this process on each of those servers:

Procedure

1. As the user that was used to install the component or components you are upgrading, change to the `predictiveInsightsInstaller1.3.3` directory within the directory in which you extracted the upgrade software.
2. Start the installer by running the command:

   ```
   ./install.sh -c
   ```

3. Enter **2** to **Update - Find and install updates and fixes to installed software packages**.

4. Enter **1** to select the Operations Analytics - Predictive Insights package. All of the Operations Analytics - Predictive Insights components present on the server are selected for upgrade.
5. Enter **N** to continue. The installer prepares and validates the set of updates.
6. Enter **A** to accept the license agreement.
7. Enter **N** to continue.
8. Enter the requested parameters for each component.
9. Enter **N** to continue.
10. Enter **U** to update.
11. Enter **F** to finish.
12. Enter **X** to exit.

Upgrading the Mediation tool on Windows

Instructions on how to upgrade the Operations Analytics - Predictive Insights Mediation tool on Windows.

About this task

If you installed the Mediation tool on windows, you upgrade the Mediation tool by executing a fresh install of the tool.

Procedure

Instructions on how to upgrade the Mediation tool on Windows.

1. Log on to the Windows environment to which you want to install the Mediation tool.
2. Extract the Operations Analytics - Predictive Insights package from the media.
3. Open the `windowsMediationTool` folder within the extracted package. This folder contains the file `PredictiveInsights-MediationTooling-1.3.3-win32.zip`.
4. Extract the ZIP file to your desired installation location.
5. Open the folder to which you extracted the ZIP file, and in turn open the contained eclipse folder.
6. Double click on the `eclipse.exe` icon. When you open the tool, you will be asked to choose a workspace. Choose a directory unique to the Mediation tool.

Chapter 3. Updating the OMNIbus probe rules file

The OMNIbus probe rules file defines how the OMNIbus probe processes event data to create alerts. You must migrate any customizations in the 1.3.2 probe rules file to the version 1.3.3 file. You can also add customizations for new features in version 1.3.3

Migrating customizations from a previous version of the probe rules file

Instructions on how to migrate updated rules files.

About this task

If you customized the `stdin-tasp.rules` file for the previous version of Operations Analytics - Predictive Insights, you must manually re-insert these changes into the version 1.3.3 `stdin-tasp.rules` file. The version 1.3.3 `stdin-tasp.rules` file is located in the `$PI_HOME/probe/omnibus/probes/linux2x86/` directory.

Procedure

1. Navigate to the directory containing the back up of the pre-upgrade `stdin-tasp.rules` file.

   This file can be found at: `<installer_home>/installer/TASPBAK/<version number>_<backup_timestamp>/probe/omnibus/probes/linux2x86/stdin-tasp.rules`

   Where

   `<installer_home>` is `/opt/IBM/scanalytics/install_scadmin` if version 1.3.2 was installed to the default installation path.

   `<version number>` is the version number of the previous version of Operations Analytics - Predictive Insights that was installed.
2. Copy the customizations you made to the pre-upgrade `stdin-tasp.rules` file and insert them into the `$PI_HOME/probe/omnibus/probes/linux2x86/stdin-tasp.rules` file.

Example

The following is example code from a customized `stdin-tasp.rules` file.

```
# Compute alarm severity depending on whether the potentially anomalous KPI(s)
# contain a service-impacting KPI.
# You will need to update this statement to reflect your Predictive Insights implementatio
if (int($TASPCorrelationId) >= 0)  {
        if (regmatch($TASPAnomalousMetrics, "Service_Impacting_KPI_1")
          || regmatch($TASPAnomalousMetrics, "Service_Impacting_KPI_2")
            ) {
                @Severity = 4
        } else {
                @Severity = 3
        }
} else if (int($TASPCorrelationId) == -1)  {
        # Consolidated alarms - many problems in one alarm.
        @Severity = 4
} else if (int($TASPCorrelationId) == -2)  {
        # Data Availability alarms
```

```
        @Severity = 5
    } else if (int($TASPCorrelationId) == -3)  {
        # Information Events should have a lower severity.
        @Severity = 2
    } else if (int($TASPCorrelationId) == -4)  {
        # System health alarms are very important.
        @Severity = 5
    }

    # Map the data source severity directly, if it exists.
    # (Note: resolution events should be set to severity 1, the generic clear will
set them to 0 later)
    update(@Severity)
```

Adding new customizations to the probe rules file

You must customize the probe rules file to forward attribute names and values, that are mediated with the data, to the Active Event List.

Procedure

1. Log in as the administrative user, typically `scadmin`.
2. Open the probe rules file which is located in the `$PI_HOME/probe/omnibus/probes/linux2x86/stdin-tasp.rules` file.
3. Insert the following text at the end of the file:

```
if(exists($TASPAttributeNames)) {
        @TASPAttributeNames = $TASPAttributeNames
        update(@TASPAttributeNames)
    }

    if(exists($TASPAttributeValues)) {
        @TASPAttributeValues = $TASPAttributeValues
        update(@TASPAttributeValues)
    }
```

Chapter 4. Starting the Operations Analytics - Predictive Insights analytics component

Use the start.sh script to start the Operations Analytics - Predictive Insights Analytics component.

Procedure

1. Change to the `$PI_HOME/bin` directory.
2. As the administrative user, typically scadmin, enter the following command to start the Analytics component:

   ```
   ./start.sh  [-t=<topic_name>]
   ```

   The command starts the Operations Analytics - Predictive Insights processing framework and any topic you specify. If you omit the **-t** parameter, the command starts all topics on the server.
3. Run the **admin.sh run_extractor_instance** command: `$PI_HOME/bin/admin.sh run_extractor_instance` to start extracting data from the data source. For more information, see Extracting data.

Chapter 5. Rolling back an upgrade

Installation Manager can roll back the upgrade that it performed. The roll back reverts your Operations Analytics - Predictive Insights system from version 1.3.3 to version 1.3.2.

Before you begin

Before you roll back the upgrade, do the following

- Stop Operations Analytics - Predictive Insights: `$PI_HOME/bin/stop.sh`.
- Stop any instance of the Mediation Tool that is running.

Procedure

1. Change to the Installation Manager installation directory.
2. Use the following command to start the Installation Manager wizard:
   `./IBMIM`
3. In the main Installation Manager window, click **Roll Back**.
4. Follow the installation wizard instructions to complete the roll back.
5. The rollback does not delete the Service Diagnosis Dashboard and any custom dashboards you created. To delete the dashboards:
   a. In Dashboard Application Services Hub, click the **Console Settings** icon, , in the menu bar.
   b. Under **General**, click **Pages**.
   c. Expand the **Incident** page.
   d. Click the check box beside the Service Diagnosis Dashboard.
   e. Click **Delete** and click **OK** to confirm.
   f. If you created custom dashboards, expand the page under which you created the dashboards. If you did not change the default location, custom dashboards are created under the **Default** page.
   g. Click the check box beside each custom dashboard.
   h. Click **Delete** and click **OK** to confirm.
6. If you created one or more topics after you upgraded to version 1.3.3, enter the following command to delete each topic:
   `$PI_HOME/bin/admin.sh delete_topic <topic name>`

   For example:
   `$PI_HOME/bin/admin.sh delete_topic network`

   You will need to recreate this topic in version 1.3.2, deploy a model to the topic and start data extraction. For more information, see *Configuring mediation* and *Analyzing data* in the Operations Analytics - Predictive Insights documentation.
7. If you upgraded the Mediation Tool on Windows, uninstall and reinstall the Mediation Tool provided in version 1.3.2.

What to do next

If you customized the OMNIbus probe rules file, `stdin-tasp.rules`, after the upgrade, copy the 1.3.2 version of the file from `<installer_home>/installer/`

TASPBAK/1.3.2.0_<backup_timestamp>/probe/omnibus/probes/linux2x86/stdin-tasp.rules to $PI_HOME/probe/omnibus/probes/linux2x86/stdin-tasp.rules.

<installer_home> is /opt/IBM/scanalytics/install_scadmin if version 1.3.2 was installed to the default installation path.

<backup_timestamp> is the timestamp for the time the backup was created.

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 give 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 (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 might 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
2Z4A/101
11400 Burnet Road
Austin, TX 78758 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 measurement 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.

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. 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 IBM's application programming interfaces.

If you are viewing this information in softcopy form, the photographs and color illustrations might not be displayed.

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” at http://www.ibm.com/legal/copytrade.shtml.

Adobe, Acrobat, PostScript and all Adobe-based trademarks are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, other countries, or both.

Cell Broadband Engine and Cell/B.E. are trademarks of Sony Computer Entertainment, Inc., in the United States, other countries, or both and is used under license therefrom.

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.

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

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.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Linux is a 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.

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

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

For trademark attribution, visit the IBM Terms of Use Web site (http://www.ibm.com/legal/us/).

Printed in USA