Operations Analytics - Predictive Insights 1.3.2
Document Revision R2E1

Upgrade Guide

Note
Before using this information and the product it supports, read the information in "Notices" on page 15.

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 features included in this release, terminology you will encounter within the document, and an outline of which steps are optional, recommended, or mandatory.

Features of Operations Analytics - Predictive Insights 1.3.2

- **Enhanced anomaly information**: Provides ability to include attributes with metric data to provide additional contextual information in alarms generated
- **Support for historical baselines**: The baseline displayed in the User Interface reflects the baseline that existed at the time the particular instance of the anomaly occurred, instead of the most recent baseline calculated.
- **Enhanced seasonality detection**: Improved seasonality algorithms increase accuracy of alarms.

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 1.3.2 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 1.3.2

Summary of steps

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

Step	Madatory, 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 1.3.1, 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.

Table 1. Statement of optional, recommended, and mandatory steps (continued)

Step	Madatory, Recommended or Optional	Notes
Upgrading your visualization application to Dashboard Application Services Hub	Optional	If you were not already using Dashboard Application Services Hub for visualization on your 1.3.1, 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 1.3.1 to version 1.3.2.

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 1.3.2 requirements, see the Operations Analytics - Predictive Insights Installation Guide.

You must upgrade components in the following order:

1. Database
2. Analytics and Mediation tool
3. UI

Upgrading using GUI mode

Upgrading Operations Analytics - Predictive Insights using the GUI mode.

Before you begin

1. Create a new directory for the upgrade software. For example:
   ```
   mkdir ~/PredictiveInsights_1.3.2
   ```
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. When upgrading 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 prior to upgrading 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 `predictiveInsightsInstaller1.3.2` 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 wish 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**. When the parameters have 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.

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_1.3.2
   ```
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 `predictiveInsightsInstaller1.3.2` 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-1.3.2-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 1.3.1 probe rules file to the version 1.3.2 file. You can also add customizations for new features in version 1.3.2

Migrating customizations from the version 1.3.1 probe rules file

Instructions on how to migrate updated rules files.

About this task

If you have customized the `stdin-tasp.rules` file for the previous version of Operations Analytics - Predictive Insights, then you must manually re-insert these changes into the version 1.3.2 `stdin-tasp.rules` file. The version 1.3.2 `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/1.3.1.0_<backup_timestamp>/probe/omnibus/probes/linux2x86/stdin-tasp.rules`

   Where `<installer_home>` is `/opt/IBM/scanalytics/install_scadmin` if version 1.3.1 was installed to the default installation path.
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

You start the Operations Analytics - Predictive Insights analytics component by using the start.sh script.

About this task

Procedure

1. Change to the directory: `$PI_HOME/bin`
2. As the administrative user, typically scadmin, start an analytics instance by running the following command:

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

   The command starts the Operations Analytics - Predictive Insights processing framework and any specified topic. You can start multiple topics by running this command for each topic instance. If you omit the **-t** parameter, all topics are started.

   The *Operations Analytics - Predictive Insights: Administering* documentation contains details of the **show_topics** command that can be used to display the list of available topics.
3. Run the **admin.sh run_extractor_instance** command: `$PI_HOME/bin/admin.sh run_extractor_instance`. For information on how to use the **run_extractor_instance** command to extract data, see the *Data Extraction* section of the *Administering* documentation.

Chapter 5. Upgrading your visualization application to Dashboard Application Services Hub (optional)

Operations Analytics - Predictive Insights version 1.3.2 supports Tivoli Integrated Portal and Dashboard Application Services Hub as visualization applications for the UI.

About this task

Operations Analytics - Predictive Insights version 1.3.2 supports both Dashboard Application Services Hub and Tivoli Integrated Portal for visualization purposes. Moving your visualization from Tivoli Integrated Portal to Dashboard Application Services Hub is an optional step.

If you are considering moving from Tivoli Integrated Portal to Dashboard Application Services Hub, it is recommended that you first get your Dashboard Application Services Hub system up and running before you decommission your Tivoli Integrated Portal environment.

There are two routes you can take to migrate from Tivoli Integrated Portal to Dashboard Application Services Hub. Pick one of the following scenarios:

Procedure

- **Scenario 1**: Install Dashboard Application Services Hub on a separate server, which allows you to run both Tivoli Integrated Portal and Dashboard Application Services Hub in parallel.

  Pursue this procedure if you want to first confirm that your Dashboard Application Services Hub functions as expected and you are ready to decommission the existing Tivoli Integrated Portal visualization component.

  1. Complete the installation of Operations Analytics - Predictive Insights so that you have a working 1.3.2 system.
  2. Install IBM Java™ for Service Management 1.1.0.3 on a separate server as per the installation instructions within the *Installing Jazz for Service Management* section of the "Installing" documentation.
  3. Install the IBM Jazz for Service Management 1.1.1.0 fix pack.
  4. Install WebGUI on the same server as Jazz for Service Management. For more information on how to install WebGUI, see the section *Installing OMNIbus WebGUI* in the "Installing" documentation.
  5. Install the Operations Analytics - Predictive Insights version 1.3.2 UI component on the same server as Jazz for Service Management, configuring it to work with the new Dashboard Application Services Hub. This process is described in the *Installing the UI component* section of the "Installing" documentation.
  6. When you are ready to decommission the existing Tivoli Integrated Portal visualization component, uninstall the following:
     - Operations Analytics - Predictive Insights UI component, that is configured to work with Tivoli Integrated Portal
     - OMNIbus WebGUI 7.4
     - Tivoli Integrated Portal 2.2

- **Scenario 2**: Install Dashboard Application Services Hub to the server on which you currently run Tivoli Integrated Portal.

  Complete this procedure if know you want to move to Dashboard Application Services Hub, and the new Dashboard Application Services Hub must exist on the server which currently hosts Tivoli Integrated Portal.

  1. Stop Tivoli Integrated Portal. For more information on how to stop Tivoli Integrated Portal, see the *Stopping Tivoli Integrated Portal* section of the "Administering" documentation.
  2. Install IBM Jazz for Service Management 1.1.0.3 on the Tivoli Integrated Portal server. To install Jazz for Service Management, you should use a different user other than that which was used to install Operations Analytics - Predictive Insights as per the installation instructions within the *Installing Jazz for Service Management* section of the "Installing" documentation.
  3. Install the IBM Jazz for Service Management 1.1.1.0 fix pack.
  4. Uninstall Operations Analytics - Predictive Insights version 1.3.1 and install version 1.3.2. When you are installing the UI component, configuring it to work with the new Dashboard Application Services Hub.

What to do next

Follow the post install configuration steps in the *Initial configuration of Operations Analytics - Predictive Insights* section of the *Administering* documentation to complete the set up of Dashboard Application Services Hub. In particular, ensure that you:

- Add the Operations Analytics - Predictive Insights launch scripts for the Active Event List.
- Update your system so that your Dashboard Application Services Hub is prepared for an unplanned shut down

Chapter 6. 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 1.3.2 to version 1.3.1.

Before you begin

Before you roll back the upgrade, do the following

- Stop Operations Analytics - Predictive Insights: `$PI_HOME/bin/stop.sh`.
- Stop any instance of the Mediation Tool that is running.
- Remove the baseline tables that were created during the upgrade: `$PI_HOME/bin/admin.sh upgrade_baseline rollback`

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. If you upgraded the Mediation Tool on Windows, uninstall and reinstall the Mediation Tool provided in version 1.3.1.

What to do next

If you customized the OMNIbus probe rules file, `stdin-tasp.rules`, after the upgrade, copy the 1.3.1 version of the file from `<installer_home>/installer/TASPBAK/1.3.1.0_<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 1.3.1 was installed to the default installation path.

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

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