



# OMi Management Pack for Informix Database

Software Version: 1.00

Operations Manager i for Linux and Windows® operating systems

## User Guide

Document Release Date: April 2017

Software Release Date: June 2016



**Hewlett Packard**  
Enterprise

## Legal Notices

### Warranty

The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

### Restricted Rights Legend

Confidential computer software. Valid license from Hewlett Packard Enterprise required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

### Copyright Notice

© 2016 - 2017 Hewlett Packard Enterprise Development LP

### Trademark Notices

Adobe® is a trademark of Adobe Systems Incorporated.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

UNIX® is a registered trademark of The Open Group.

## Documentation Updates

To check for recent updates or to verify that you are using the most recent edition of a document, go to: <https://softwaresupport.hpe.com/>.

This site requires that you register for an HPE Passport and to sign in. To register for an HPE Passport ID, click **Register** on the HPE Software Support site or click **Create an Account** on the HPE Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HPE sales representative for details.

## Support

Visit the HPE Software Support site at: <https://softwaresupport.hpe.com/>.

Most of the support areas require that you register as an HPE Passport user and to sign in. Many also require a support contract. To register for an HPE Passport ID, click **Register** on the HPE Support site or click **Create an Account** on the HPE Passport login page.

To find more information about access levels, go to: <https://softwaresupport.hpe.com/web/softwaresupport/access-levels>.

**HPE Software Solutions Now** accesses the Solution and Integration Portal website. This site enables you to explore HPE product solutions to meet your business needs, includes a full list of integrations between HPE products, as well as a listing of ITIL processes. The URL for this website is <https://softwaresupport.hpe.com/km/KM01702731>.

# Contents

Chapter 1: Introduction .....	6
Chapter 2: Getting Started .....	7
Task 1: Adding Nodes to the OMi Console .....	7
Task 2: Pre-requisites for Informix Database Discovery .....	7
Task 3: Deploying the Informix Database Discovery Aspect .....	8
Task 4: Verifying Discovery .....	9
Task 5: Configuring OMi MP for Informix Database for Operations Agent running with Non-Privileged User .....	10
Task 6: Deploying the Informix Database Management Template or Aspects .....	10
Management Pack Data Collection Process .....	10
Task 6a: Deploying Informix Database Management Templates .....	11
Task 6b: Deploying Informix Database Aspects .....	13
Task 7: Configuring Informix Database Error Log Monitoring for non- privileged Operations Agent User .....	14
Monitoring the Informix Database Environment .....	16
Event Perspective .....	16
Health Perspective .....	17
Performance Perspective .....	18
Chapter 3: Components .....	19
Overview of Informix Database Management Template .....	19
How to Access Informix Database Management Templates .....	20
Tasks .....	20
How to Deploy Informix Database Management Template .....	20
How to Automatically Assign Informix Database Management Template and Aspects to CIs .....	20
How to Display an Assignment Report for an Informix Database Management Template .....	22
Essential Informix Database Management Template .....	23
How to Access Informix Database Management Templates .....	23
User Interface Reference .....	23
Overview of Informix Database Aspects .....	25

How to Access Informix Database Aspects .....	25
User Interface Reference .....	25
Tasks .....	26
List of OOTB Informix Database Aspects .....	26
Informix Database Base .....	26
Informix Database Availability .....	27
Informix Database Cache Performance .....	27
Informix Database Checkpoint .....	28
Informix Database Discovery .....	29
Informix Database Disk Utilization .....	29
Informix Database Error Logs .....	29
Informix Database Locks .....	30
Informix Database Logical Logs .....	30
Informix Database Physical Logs .....	31
Informix Database Shared Memory .....	31
Informix Database Sessions .....	32
Informix Database Sort & Scan .....	32
Informix Database Space Utilization .....	33
Informix Database Transactions .....	34
Informix Database User Defined Aspect .....	34
List of Additional OOTB Aspects .....	35
Parameters .....	35
Grouping of Parameters .....	35
Informix Database Parameters .....	36
Configuration Item (CI) and Configuration Item Types (CITs) .....	37
Policy Template Groups .....	38
Run-time Service Model (RTSM) Views .....	41
Event Type Indicators (ETIs) .....	42
How to Access Event Type Indicators .....	42
Health Indicators (HIs) .....	44
How to Access Health Indicators .....	45
Tools .....	46
How to Access Tools .....	46
Graph Templates and Performance Dashboards .....	49
How to Access Graph Templates .....	50

How to Access Informix Performance Dashboards .....	50
List of Performance Dashboards .....	50
List of Informix Database Graph Templates .....	53
Chapter 4: Customizing the OMi MP for Informix Database .....	58
Tuning Components of OMi MP for Informix Database .....	59
Tuning Parameters .....	59
Advanced Data Collection Filters .....	60
Tuning Management Template .....	61
Editing Parameters .....	61
Including Additional Aspects .....	62
Tuning an Informix Database Aspect .....	62
Informix Database Roll-Up and Drill-Down Policies .....	63
Creating a New Informix Database Aspect .....	64
Creating New Informix Database Management Template .....	65
User Defined Metrics (UDM) .....	66
Understanding UDM .....	66
How to Create User Defined Aspects .....	67
Chapter 5: Troubleshooting .....	70
Licensing count is not updated .....	70
Informix Database Instance does not appear in RTSM .....	71
Management Templates and Aspects are not deployed to the managed nodes .....	71
No data for Performance Manager i (PMi) Graphs .....	72
Unable to log data into Reporter data sources .....	74
Informix Database metric collection fails .....	74
Server scheduling metrics fail to run after deploying .....	75
Collection failure does not generate alerts on the Server .....	76
No Instruction Text in Schedule Task Policy .....	77
Error while running dbspiinfadm verify -nw on Solaris .....	78
Appendix A: Data Sources for Logging .....	79
Generic Data Source .....	79
Format of Generic Data Source .....	79
Reports .....	79
Appendix B: Permissions and Grants .....	81
Send documentation feedback .....	82

# Chapter 1: Introduction

The HPE OMi Management Pack for Informix Database (OMi MP for Informix Database) works with HPE Operations Manager i (OMi) that enables you to monitor Informix database in your environments and its underlying infrastructure. It includes Indicators - Health Indicators (HIs) and Event Type Indicators (ETIs) to report the health status. It provides out-of-the-box Management Template for monitoring Informix Database environment and also includes capabilities to monitor the health and performance of the systems. These Management Template consists of a wide range of Aspects which enables the monitoring of Informix Database components.

These Management Templates can be deployed by administrators for monitoring Informix databases in an environment. After deploying the management templates, you can:

- Increase availability and performance of the database servers
- Improve capacity management and planning for your database servers

## Chapter 2: Getting Started

The following section provides information about the tasks required to monitor Informix database instances using OMi MP for Informix Database.

### Task 1: Adding Nodes to the OMi Console

If the Node already exists in RTSM, you can skip this step and proceed to [Task 3: Deploying the Informix Database Discovery Aspect](#).

Before you begin monitoring, you need to add the nodes to the OMi console.

1. Open the Monitored Nodes pane:

Click **Administration > Setup and Maintenance > Monitored Nodes**.

2. In the Node Views pane, click **Predefined Node Filters > Monitored Nodes** and click  and then click **Computer > UNIX**. The Create New Monitored Nodes dialog box appears.
3. Specify the Primary DNS Name, IP address, Operating System, and Processor Architecture of the node and click **OK**.

The newly created node is saved as a CI instance in RTSM.

**Note:** The node with HPE Operations Agent needs to be activated on the OMi server and certificate needs to be granted.

### Task 2: Pre-requisites for Informix Database

#### Discovery

Before deploying the Informix Database Discovery Aspect, you must update the Informix Database environment variable into Informix OS user profile.

1. Create an Informix Database user profile and provide the name as `.profile`.

For example: `/home/informix/.profile`

2. Include these variables inside the `.profile`: `INFORMIXDIR`, `INFORMIXSERVER`, `ONCONFIG`, and `INFORMIXSQLHOSTS`.

Both the `ONCONFIG` and `INFORMIXSQLHOSTS` variables are mandatory. The `INFORMIXSQLHOSTS` variable is optional when the configuration file is named as `sqlhosts`.

**Note:** Make sure that the HPE Operations Agent non-root user is given read permission to `.profile`.

## Task 3: Deploying the Informix Database Discovery Aspect

The Informix Database Discovery Aspect deployment discovers the Configuration Item (CIs) of the following CI types (CITs):

- Informix
- Computer

To discover the Informix CIs on the added managed nodes, you must deploy the Informix Database Discovery Aspect.

1. Open the Management Templates & Aspects pane:  
Click **Administration > Monitoring > Management Templates & Aspects**.
2. In the Configuration Folders pane:  
Click **Configuration Folders > Database Management > Informix Database > Aspects**.
3. In the Management Templates & Aspects pane, select the **Informix Database Discovery** Aspect and click **Assign and Deploy Item** to open the Assign and Deploy Wizard.
4. In the **Configuration Item** tab, click the configuration item to which you want to deploy the Discovery aspect and then click **Next**.

The Informix Database Discovery Aspect does not have any mandatory parameters.

5. In the **Parameter Summary** tab, click on the **Informix Database Username** and click on **Edit**.

The Edit Parameter:Informix Database Username dialog box appears.

Specify the Informix user name in the **Value** field and click **OK**.

Click **Next**.

6. (Optional). In the **Configure Options** tab, if you do not want to enable the assignment immediately, clear the **Enable Assignment(s)** check box.

You can then enable the assignment later using the Assignments & Tuning pane.

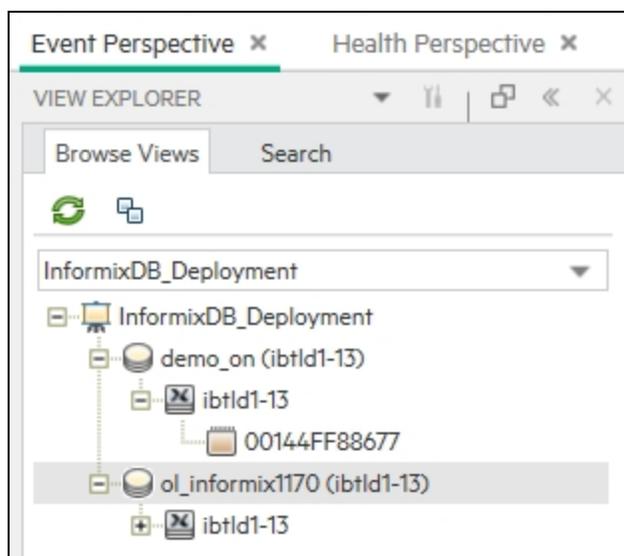
7. Click **Finish**.

**Note:** After the Informix Database Discovery Aspect is deployed, a message stating the Assignment and deployment jobs created appears. To check the status of the deployment jobs, click **Administration > Monitoring > Deployment Jobs**.

## Task 4: Verifying Discovery

After you deploy the Informix Database Discovery Aspect, you must verify if the CIs are populated in the View Explorer. To view the CIs populated in the View Explorer, follow these steps:

1. Open the Event Perspective pane:  
Click **Workspaces > Operations Console > Event Perspective**.
2. In the View Explorer, from the **Browse Views** tab, select the **InformixDB\_Deployment** view from the drop-down list to see the associated CIs.



## Task 5: Configuring OMi MP for Informix Database for Operations Agent running with Non-Privileged User

After deploying the Informix Database Discovery Aspect, you must follow these steps:

1. Run the following script as a root user under `/var/opt/OV/bin/instrumentation`:

```
# dbspiinf_perl dbspiinf_root.pl
```

The `/var/opt/OV/conf/InformixDB (dbspiinf.su)` is created.

2. Edit the `dbspiinf.su` file as a root user by uncommenting the lines or adding new lines:

```
<user>:<commands>
```

As in the following examples:

```
informix:/opt/informix/bin/oninit
```

```
informix:/opt/informix/bin/onmode -m
```

## Task 6: Deploying the Informix Database Management Template or Aspects

This section is further divided into [Task 6a: Deploying Informix Database Management Templates](#) and [Task 6b: Deploying Informix Database Aspects](#) that provides information on identifying and deploying the Informix Database Management Template or Aspects based on your specific requirements.

### Management Pack Data Collection Process

The frequency (polling interval) at which each policy must be monitored is predefined with a default value in a specific frequency parameter. Frequency parameter is an expert parameter that is defined for each of the metrics regardless of whether they are for generating events or logging data.

Following are the four predefined frequency parameters:

Scheduler Frequency	Default value
Very High	5 mins
High	15 mins
Medium	1 hour
Low	24 hours

After Management Templates and Aspects are deployed, collector is triggered based on the parameter value in a specific policy. You can modify the default value of the parameter at the following levels:

- During deployment of the Management Template or Aspects using the Management Templates & Aspects pane.
- After deployment using the Assignments & Tuning pane.

For more information about how to modify the parameter values, see the section [Tuning Parameters](#).

## Task 6a: Deploying Informix Database Management Templates

If you want to monitor the key performance and availability of an Informix Database, use the **Essential Informix Database Management Template**. To deploy the Essential Informix Database Management Template to the Informix CIs, follow these steps:

1. Open the Management Templates & Aspects pane:  
Click **Administration > Monitoring > Management Templates & Aspects**.
2. In the Configuration Folders pane:  
Click **Configuration Folders > Database Management > Informix Database > Management Templates**.
3. In the Management Templates & Aspects pane, click the Essential Informix Database Management Template that you want to deploy, and then click . The Assign and Deploy wizard opens.
4. In the **Configuration Item** tab, click the CI you want to assign the Management Template, and then click **Next**.
5. In the **Required Parameters** tab, specify values for following parameters:

- a. Select the **Informix Database Instance Username** parameter in the list, and then click  **Edit**.

The Edit Parameter:Informix Database Username dialog box appears.

- b. Click **Value** and type the Username. Click **OK**.
- c. Select the **Informix Database Instance Password** parameter, and then click  **Edit**.

The Informix Database Instance Password dialog box opens.

- d. Click **Value** and type a value in the **Password** field.
  - e. In the **Verify Password** field and type the same password and then click **OK**.
  - f. Click **Next**.
6. (*Optional*). In the **Parameter Summary** tab, you can change the default values of the parameters.
    - a. (*Optional*). In the **Parameter Summary** tab, you can change the default values of the parameters.

To change the default values of the parameters, follow these steps:

- i. Select the **Informix Database Instance Name** parameter and then click  .

The Edit Instance Parameter window appears.

- ii. Select the parameter from the list and then click  **Edit**.

The Edit Instance Parameter: Informix Database Instance Name dialog box opens.

- iii. Click **Value**, specify the value, and then click **OK**.

**Note:** In the **Parameter Summary** tab, you can override the default values of any parameter. You can specify a value for each parameter at the Management Template level. By default, parameters defined as expert parameters are not displayed. To display expert parameters, click  **Show Expert Parameters**.

7. Click **Next**.
8. (*Optional*). In the **Configure Options** tab, if you do not want to enable the assignment immediately, clear the **Enable Assignment(s)** check box.

You can then enable the assignment later using the Assignments & Tuning pane.

9. Click **Finish**.

## Task 6b: Deploying Informix Database Aspects

You must deploy the Informix Database Discovery Aspect even if the CIs are already populated by any other source such as SiteScope, DDM, and so on. For more information, see [Task 3: Deploying the Informix Database Discovery Aspect](#).

To deploy Informix Database Aspects to the Informix CIs, follow these steps:

1. Open the Management Templates & Aspects pane:  
Click **Administration > Monitoring > Management Templates & Aspects**.
2. In the Configuration Folders pane:  
Click **Configuration Folders > Database Management > Informix Database > Aspects**.
3. In the Management Templates & Aspects pane, right-click the Informix Database Aspect that you want to deploy, and then click **Assign and Deploy item** to open the Assign and Deploy Wizard.
4. In the **Configuration Item** tab, select the Informix CI to which you want to deploy the Aspect and then click **Next**.
5. In the **Required Parameters** tab, you must specify the mandatory parameters by following these steps:
  - a. Select the **Informix Database Instance Username** parameter in the list, and then click  **Edit**.  
The Informix Database Instance Username dialog box opens.
  - b. Specify the name and click **OK**.
  - c. Select the **Informix Database Instance Password** parameter in the list, and then click  **Edit**.  
The Informix Database Password dialog box opens.
  - d. Click **Value** and type a value in the **Password** field.
  - e. In the **Verify Password** field and type the same password and then click **OK**.
6. *(Optional)*. In the **Parameter Summary** tab, you can change the default values of the parameters.

To change the default values of the parameters, follow these steps:

- a. Select the **Informix Database Instance Name** parameter and then click  **Edit**.

The Edit Instance Parameter window appears.

- b. Select the parameter from the list and then click  **Edit**.

The Edit Instance Parameter: Informix Database Instance Name dialog box opens.

- c. Click **Value**, specify the value, and then click **OK**.

**Note:** In the **Parameter Summary** tab, you can override the default values of any parameter. You can specify a value for each parameter at the Management Template level. By default, parameters defined as expert parameters are not displayed. To display expert parameters, click  **Show Expert Parameters**.

7. Click **Next**.
8. (*Optional*). In the **Configure Options** tab, if you do not want to enable the assignment immediately, clear the **Enable Assignment(s)** check box.

You can then enable the assignment later using the Assignments & Tuning pane.

9. Click **Finish**.

## Task 7: Configuring Informix Database Error Log Monitoring for non-privileged Operations Agent User

By default, the non-privileged Operations Agent User does not have permission to read error log file of the Informix Database.

Provide read permission to enable the error log file monitoring by following these steps:

1. To identify the Informix Database instance alert log to be monitored, run the following command:

```
/var/opt/OV/bin/instrumentation/dbspicai -l
```

The error log file name appears.

2. To provide read permission to the non-privileged Operations Agent User for error log

monitoring, run the following command as an Informix Database user:

```
chmod +r <Informix-logfile>
```

# Monitoring the Informix Database Environment

After you deploy Management Templates and Aspects, you can view the deployment using each of the following perspectives:

- [Event Perspective](#)
- [Health Perspective](#)
- [Performance Perspective](#)

## Event Perspective

Event Perspective provides a consolidated view of active events. In the Event Perspective pane, you can view the active events that need resolution and event information of Informix CIs and Node CIs that are monitored by OMi MP for Informix Database.

To view Event Perspective of the Informix CIs, follow these steps:

1. Open the Operations Management pane:  
Click **Workspaces > Operations Console > Event Perspective**.  
The View Explorer pane appears.
2. In the **Browse Views** tab, select **InformixDB\_Deployment** that contains the Informix Database instances. You can also use the **Search** tab to find a Informix CI.
3. Click the Informix CI for which you want to view the Event Perspective. The list of events for the selected Informix CI appears in the Event Browser pane.
4. When you click on an event in the Event Browser, the Event Details pane opens where you can view the following details:
  - **General** - Displays the detailed information about the selected event such as Severity, Lifecycle State, Priority, Related CI, and so on.
  - **Additional Info** - Displays more detailed information about the attributes of the selected event.
  - **Source Info** - Displays an overview of the information available about the source of the selected event.

- Actions - Displays the list of actions available for a selected event. There are two types of possible actions: User Action and Automatic Action.
- Annotations - Displays a list of the annotations attached to the selected event.
- Custom Attributes - Displays a list of the attributes that either an administrator or a responsible user manually configured and added to the selected event.
- Related Events - Displays an overview of all the events that are related to the event selected in the Event Browser.
- History - Displays the history of the selected event.
- Resolver Hints - Displays the information used to identify the node and CI associated with an event.
- Instructions - Displays instruction information designed to help operators handle the associated event.
- Forwarding - Displays the transfer of ownership details if any, for the events.

For more information about Managing Events, see the *Operations Manager i Concepts Guide*.

For more information about Event Type Indicators, see [Event Type Indicators \(ETIs\)](#).

## Health Perspective

The Health Perspective provides a high-level view of the overall health information of the related CIs in the context of events. In the Health Perspective, you can view the health information of the Informix CIs that are monitored by OMi MP for Informix Database.

To view the Health Perspective of the Informix CIs, follow these steps:

1. Open the Operations Management pane:  
Click **Workspaces > Operations Console > Health Perspective**.
2. In the Operations Management pane, click the **Health Perspective** tab. The View Explorer pane appears.
3. In the **Browse Views** tab, select **InformixDB\_Deployment** that contains the Informix CIs. You can also use the Search tab to find a Informix CI.
4. Click the Informix CI for which you want to view the Health Perspective. The list of events for the selected Informix CI appears in the Event Browser pane.

- Health Top View - Displays a topological view of the CIs that are affected by the selected event.
- Health Indicators - Displays the Key Performance Indicators (KPIs) and HIs related to the CI that you select from the Health Top View pane.
- Actions - Displays a list of available actions for a selected event.

For more information about Health Indicators, see [Health Indicators](#).

## Performance Perspective

### Performance Perspective

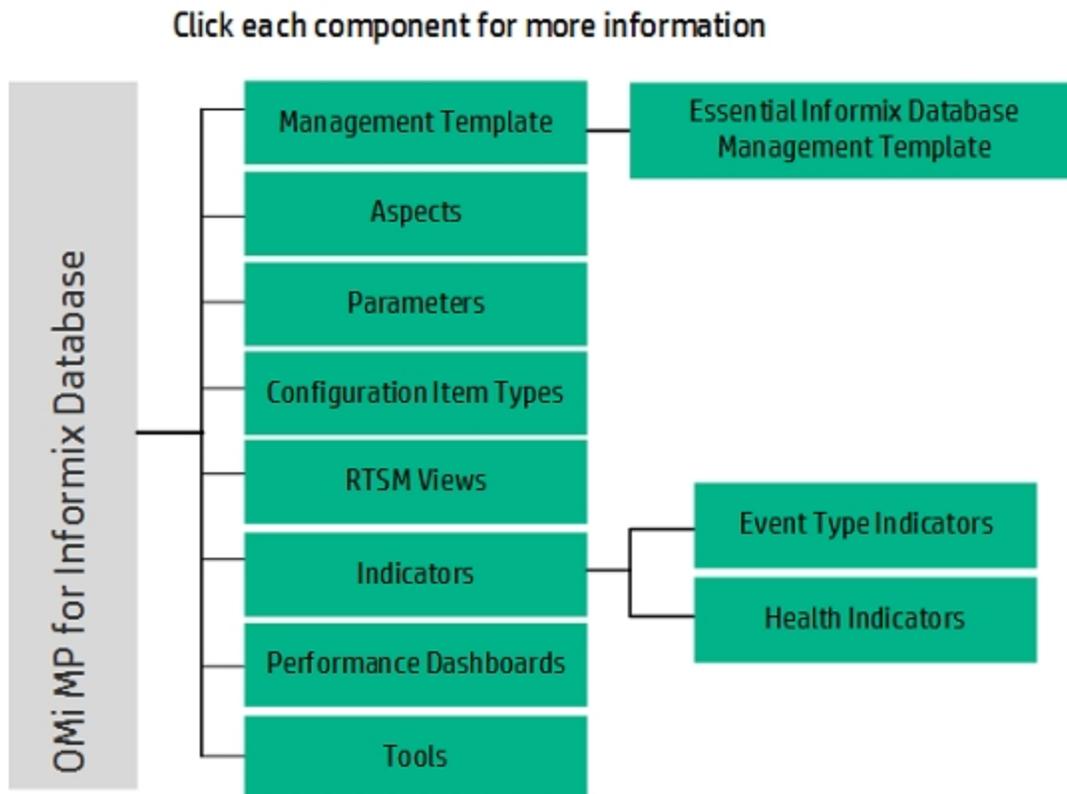
Performance Perspective enables you to create Performance Dashboards from existing graph templates. You can also plot customized graphs by selecting the required metrics for a selected CI.

To view the Performance Perspective of Informix CIs using graphs, follow these steps:

1. Open the Operations Management pane:  
Click **Workspaces > Operations Console > Performance Perspective**.
2. In the Operations Management pane, click the **Performance Perspective** tab. The View Explorer pane appears.
3. In the **Browse Views** tab, select **InformixDB\_Deployment** that contains the **Informix** CI. You can also use the **Search** tab to find **Informix** CIs.
4. From the **Graphs** tab, click the graph you want to plot and then click  **Draw Graphs**. The selected graph is plotted on the right pane.

## Chapter 3: Components

The OMi MP for Informix Database includes the following components for monitoring Informix databases in an environment:



## Overview of Informix Database Management Template

The Management Templates consists of several Aspects which enables you to monitor Informix Databases based on the criticality and type of the environment. By default, the OMi MP for Informix Database consists of out-of-the-box Essential Informix Database Management Template. You can deploy the out-of-the-box Management Template with the default parameters or you can customize the Management Templates based on your requirements. In addition, you can also create Management Templates based on the monitoring requirements using the Informix Database Aspects.

## How to Access Informix Database Management Templates

1. Open the Management Templates & Aspects pane:  
Click **Administration > Monitoring > Management Templates & Aspects**.
2. Click **Configuration Folders > Database Management > Informix Database > Management Template**.

## Tasks

This section provides procedures on monitoring the Informix Databases using Management Template.

## How to Deploy Informix Database Management Template

A management template provides a complete solution for managing an application or service. A Management Template contains aspects which help to monitor an aspect of a CI. For information about deploying the Essential Informix Database Management Template, see [Task 6a: Deploying Informix Database Management Templates](#).

## How to Automatically Assign Informix Database Management Template and Aspects to CIs

An assignment defines which instance of a CI is to be monitored against the values defined for the corresponding CI type referenced in a management template or aspect. You can define automatic assignment rules if a CI is modified or newly discovered.

To automatically assign Informix Database Management Template and Aspects, follow these steps:

1. Open the Automatic Assignment Rules pane:

Click **Administration > Monitoring > Automatic Assignment Rules**.

Automatic Assignment Rules consists of the Auto-Assignment Rules pane at the top, and a Parameters list pane at the bottom.

2. Click in the toolbar of the Auto-Assignment Rules pane and select the appropriate option. The Create Auto-Assignment Rule wizard is shown.
3. In the **Select Target View** tab, select the **InformixDB\_Deployment** containing the CIs for which you want to create an automatic assignment, and click **Next** to go to **Select Item to Assign** tab.
4. In the **Select Item to Assign** tab, click the Informix Database Management Template or Aspect that you want to automatically assign to all CIs with a CI type appearing in the selected view.

**Note:** The list in the **Select Item to Assign** tab shows only the management templates that have a root CI type. If an Aspect is auto-assigned, it shows the compatible aspects.

The latest version of the Management Template or Aspect that you want to assign is selected by default. If required, select a different version in the **Version** column.

5. Click **Next** to go to **Required Parameters** tab.

This step lists all mandatory parameters in the Management Template that do not yet have a value. As they are mandatory, however, all listed parameters must be given a value before the Management Template can be deployed.

If all required values are specified, you can choose one of the following actions:

- Click **Finish** to assign the configuration object to the selected CI and close the wizard or dialog.
- Click **Next** to go to **Parameter Summary** tab, where you can override the default value of any parameter, including those that are not required.

To change a parameter, double-click it, or select it in the list and click  **Edit**.

- For standard parameters, the Edit Parameter dialog box opens. Click **Value**, specify the value, and then click **OK**.
- For instance parameters, the Edit Instance Parameter dialog opens. Add instance values, and then for each instance value, specify dependent parameter values.

After you specify the instances and dependent parameter values, click **OK**.

6. *(Optional)*. In the **Parameter Summary** tab, specify a value for each parameter that needs to be monitored against a different value than the default value.

Click **Next** to go to the **Configure Options** tab or **Finish** to save the assignment and close the wizard.

7. *(Optional)*. In the **Configure Options** tab, clear the **Enable Assignment(s)** check box if you do not want to activate the assignment immediately. You can activate automatic assignment rules later using Automatic Assignment Rules at **Administration > Monitoring > Assignments & Tuning**.
8. Click **Finish** to save the changes and close the wizard. The assignment rule is added to the list of autoassignment rules.

Follow the steps to check if the automatic assignment rule successfully created the expected assignments:

1. Open the Assignments & Tuning pane:  
Click **Administration > Monitoring > Assignments & Tuning**.
2. In the **Browse Views** tab, select the view you identified while creating your automatic assignment rule.
3. Expand the view, and select a node that corresponds to the root CI type of the assigned item.

Assignments created as a result of Automatic Assignment Rules are shown in the list of assignments at the top of the right pane, and have the value AutoAssignment in the column **Assigned By**.

You can consider the following options for tuning the assignment:

- Use the Auto-Assignment Rules pane to tune the parameter values for all assignments triggered by the automatic assignment rule.
- Use the Assignments pane to tune, redeploy, delete, and enable or disable individual assignments.

## How to Display an Assignment Report for an Informix Database Management Template

You can generate an assignment to check the CI assignments. An assignment report lists which CIs are assigned to a selected management template, aspect or policy template.

1. Select the Management Template you want to create the report for.
2. Click  **Generate Assignment Report** in the Management Templates & Aspects pane.

The preconfigured Assignment Report opens. You can view additional types of reports from the Assignments & Tuning pane.

For more information about Automatic Assignment Rules, see the *HPE OMi Administration Guide*.

## Essential Informix Database Management Template

The Essential Informix Database Management Template monitors the primary features of the Informix Database such as availability, shared memory, locks, cache performance, transaction, logs, and so on. In addition, critical infrastructure areas such as resource bottleneck diagnosis and system fault are also monitored.

## How to Access Informix Database Management Templates

1. Open the Management Templates & Aspects pane:  
Click **Administration > Monitoring > Management Templates & Aspects**.
2. Click **Configuration Folders > Database Management > Informix Database > Management Template**.

## User Interface Reference

### Management Template - General

Provides an overview of the attributes of the Management Template.

UI Element	Description
Name	Essential Informix Database Management Template.
Description	Manages monitoring of the primary features of the Informix Database such as availability, shared memory, locks, cache performance, transaction, logs, and so on. In addition, critical infrastructure areas such as resource bottleneck diagnosis and system fault are also monitored.

UI Element	Description
ID	A unique identifier for the GUID version.
Version ID	A unique identifier for this version of the Essential Informix Database Management Template.
Version	The current version of the Management Template. In this instance, the version of the Management Template is 1.0.

### Management Template - Topology View

UI Element	Description
Topology View	<b>InformixDB_Deployment</b> View is the topology view for the Essential Informix Database Management Template. It contains the CI Types that you want to manage using the Management Template.
CI Type	Indicates the type of CI managed by the Essential Informix Database Management Template. The Essential Informix Database Management Template contains the <b>Informix</b> CI Type.

### Management Template - Aspects

- [Informix Database Availability](#)
- [Informix Database Cache Performance](#)
- [Informix Database Discovery](#)
- [Informix Database Error Logs](#)
- [Informix Database Locks](#)
- [Informix Database Logical Logs](#)
- [Informix Database Physical Logs](#)
- [Informix Database Sessions](#)
- [Informix Database Shared Memory](#)
- [Informix Database Transactions](#)

### List of Infrastructure Aspects

#### Resource Bottleneck Diagnosis

This Aspect identifies congestions and bottleneck conditions for system resources such as the CPU, memory, network, and disk. CPU bottleneck monitoring is based on global CPU utilization and load average (Run Queue Length) Memory bottleneck monitoring is based on memory utilization, free

memory available, and memory swap out rate. Filesystem monitoring is based on space utilization level for busiest filesystem on the node. Network monitoring is based on Packet collision rate, packet error rate, and outbound queue length.

### System Fault Analysis

This Aspect monitors the kernel log file, boot log file, and event log file for critical error conditions and instructions.

### System Infrastructure Discovery

This Aspect discovers and gathers information regarding the system resources, operating system, and applications on a managed node.

## Overview of Informix Database Aspects

The Informix Database Aspects can be used to monitor the building blocks or units of Informix Databases. An Informix Database Aspect comprises of policy templates, instrumentation, and parameters for monitoring the health and performance of Informix Databases.

## How to Access Informix Database Aspects

1. Open the Management Templates & Aspects pane:  
Click **Administration > Monitoring > Management Templates & Aspects**.
2. Click **Configuration Folders > Database Management > Informix Database > Aspects**.

## User Interface Reference

UI Element	Description
General	Provides an overview of the general attributes of the Informix Database Aspects.
CI Type	The type of configuration items that the Aspect can be assigned to. The Informix Database Aspects contain the <b>Computer</b> and <b>Informix</b> CI types.
Instrumentation	Provides a single package which contains the binaries for discovery, collection, and data logging.

UI Element	Description
Aspects	Lists the Aspects present within each Informix Database Aspect. The <b>Informix Database Base</b> Aspect is a part of all other Aspects.
Policy Templates	Provides an overview of the policy templates that the Informix Database Aspect contain. You can expand each item in the list to see more details about the policy templates.

## Tasks

### How to Deploy Informix Database Aspects

For more information about deploying Informix Database Aspects, see [Task 6b: Deploying Informix Database Aspects](#).

## List of OOTB Informix Database Aspects

The OMi MP for Informix Database is used to monitor individual units of the Informix Databases such as availability and performance. The Aspects are also used to monitor different features such as logical logs, physical logs, shared memory, and so on. The Informix Database Aspects are listed as follows:

### Informix Database Base

This is the Base Aspect for monitoring the Informix Database instances.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_ Configuration	NA	Informix Configuration policy helps to update the User configuration.	ConfigFile
Informix	InformixDB_ Medium	NA	Runs the InformixDB MP collector/analyzer every MEDIUM schedule.	Scheduled Task
Informix	InformixDB_ Logger	NA	Informix Database Logger Data Feed (every 5 minutes).	Scheduled Task
Informix	InformixDB_ Messages	NA	Interception of messages submitted by InformixDB MP programs.	Open Message

CI Type	Policy Template	Indicator	Description	Policy Type
				Interface
Informix	InformixDB_Low	NA	Runs the InformixDB MP collector/analyzer every LOW schedule.	Scheduled Task
Informix	InformixDB_VeryHigh	NA	Runs the InformixDB MP collector/analyzer every VERYHIGH schedule.	Scheduled Task
Informix	InformixDB_High	NA	Runs the InformixDB MP collector/analyzer every HIGH schedule.	Scheduled Task

## Informix Database Availability

This Aspect monitors availability of oninit process, Informix instance and database state.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1003	DBAccess:NonAccessible, DBAccess:Accessible	Monitors accessibility of sysmaster database. (I003_Accessible).	Measurement Threshold
Informix	InformixDB_1002	InstanceStatus:Down, InstanceStatus:Up, InstanceStatus:Inoperative	Checks if the Instance is in the online or read-only mode (I002_InstanceStatus).	Measurement Threshold
Informix	InformixDB_1001	ProcessStatus:Down, ProcessStatus:Up	Monitors the number of oninit processes running (I001_ProcessStatus).	Measurement Threshold

## Informix Database Cache Performance

This Aspect monitors cache performance such as read, write, and percentage data buffer modified.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1038	NA	Monitors the percentage of cached writes to total writes.	ConfigFile

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1036	DataBufferModifiedPct:TooHigh, DataBufferModifiedPct:Normal, DataBufferModifiedPct:High	Monitors the percentage of data buffers modified. (I036_ShmDataBufMdPct).	Measurement Threshold
Informix	InformixDB_1039	CurReadCacheHitPct:Low, CurReadCacheHitPct:Normal	Monitors the percentage of cached reads to total reads for current interval (I039_CurReadCacHtPct).	Measurement Threshold
Informix	InformixDB_1037	NA	Monitors the percentage of cached reads to total reads (I037_TotReadCacHtPct)	Measurement Threshold
Informix	InformixDB_1040	NA	Monitors the percentage of cached writes to total writes for current interval.	ConfigFile

## Informix Database Checkpoint

This Aspect monitors checkpoint performance metrics such as completion rate, duration and wait.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1071	CkptWaitsRate:High, CkptWaitsRate:Normal	Monitors the Checkpoint waits (I071_CkptWaitsRate)	Measurement Threshold
Informix	InformixDB_1069	CheckpointRate:High, CheckpointRate:Normal	Monitors the Checkpoint completion rate (I069_CkptRate)	Measurement Threshold
Informix	InformixDB_1070	CkptDuration:High, CkptDuration:Normal	Monitors the Checkpoint duration (I070_CkptDuration)	Measurement Threshold

## Informix Database Discovery

This Aspect helps to discover the Informix Database instances.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix host_node	InformixDB_Discovery	NA	Informix Database Discovery policy.	Service Auto-Discovery

## Informix Database Disk Utilization

This Aspect monitors Foreground writes, LRU writes, Chunk writes, Delta of physical reads, and writes since last collection.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1043	NA	Monitors the LRU writes this interval.	ConfigFile
Informix	InformixDB_1042	NA	Monitors the Foreground writes this interval.	ConfigFile
Informix	InformixDB_1041	ForegroundWritesRate:High, ForegroundWritesRate:Normal	Monitors the Foreground writes per hour (1041_FgWritesRate).	Measurement Threshold
Informix	InformixDB_1245	NA	Monitors the number of physical reads and writes to the disk since the last collection for each tablespace.	ConfigFile
Informix	InformixDB_1044	NA	Monitors the Chunk writes this interval.	ConfigFile

## Informix Database Error Logs

This Aspect monitors the Informix Database error log file.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_ErrorLog	NA	Monitors the Informix Database error log file.	LogFile Entry

## Informix Database Locks

This Aspect monitors deadlocks, sessions, locks availability, and lock waits.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1076	BlockedSession:High, BlockedSession:Normal	Monitors the number of sessions blocked waiting on a locked record or table(I076_SessionBlkLock).	Measurement Threshold
Informix	InformixDB_1075	Deadlocks:Low, Deadlocks:Normal	Monitors the total deadlocks (I075_Deadlocks)	Measurement Threshold
Informix	InformixDB_1074	WaitLocks:High, WaitLocks:Normal	Monitors the percentage of lock waits to locks requested (I074_LockWtsReqPct)	Measurement Threshold
Informix	InformixDB_1073	AvlLocksPct:TooLow, AvlLocksPct:Normal, AvlLocksPct:Low	Monitors the Checkpoint waits (I071_CkptWaitsRate)	Measurement Threshold

## Informix Database Logical Logs

This Aspect monitors logical log metrics such as free pages, free percentage, and used percentage.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1066	LogicalLogNonBkUpPct:High, LogicalLogNonBkUpPct:Normal	Monitors the percentage of logical log pages used but not backed to total (I066_LLogNonBkUpPct).	Measurement Threshold
Informix	InformixDB_1065	LogicalLogFreePagePct:TooLow, LogicalLogFreePagePct:Normal,	Monitors the percentage of logical	Measurement Threshold

CI Type	Policy Template	Indicator	Description	Policy Type
		LogicalLogFreePagePct:Low	log space free to total logical log space (I065_LLogFrPct).	
Informix	InformixDB_1064	LogicalLogFreePage:Low, LogicalLogFreePage:Normal	Monitors the Logical log pages free (I064_LLogFr).	Measurement Threshold

## Informix Database Physical Logs

This Aspect monitors chunk down, page utilization in physical log, dbspaces, and blobspaces.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1020	ChunkDown:High, ChunkDown:Normal	Monitors the Chunks down (I020_ChunkDown)	Measurement Threshold
Informix	InformixDB_1017	DbospacePageFreeMinPct:TooLow, DbospacePageFreeMinPct:Normal, DbospacePageFreeMinPct:Low	Monitors the percentage of dbspaces pages free (I017_DbsPgFrMinPct).	Measurement Threshold
Informix	InformixDB_1019	BlobspacePageFreeMinPct:TooLow, BlobspacePageFreeMinPct:Normal, BlobspacePageFreeMinPct:Low	Monitors the percentage of blobspaces pages free (I019_BbsPgFrMinPct).	Measurement Threshold
Informix	InformixDB_1015	PhysicalLogPageFreePct:Low, PhysicalLogPageFreePct:Normal	Monitors the percentage of free pages to total pages in physical log (I015_PLogPgFrPct).	Measurement Threshold

## Informix Database Shared Memory

This Aspect monitors shared memory metrics such as the size of SHM, virtual segments, and used

percentage memory.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1031	TotalSharedMemory:TooHigh, TotalSharedMemory:Normal, TotalSharedMemory:High	Monitors the size of total shared memory (I031_ShmTot).	Measurement Threshold
Informix	InformixDB_1032	VirtualShmSegments:TooHigh, VirtualShmSegments:Normal, VirtualShmSegments:High	Monitors the number of virtual shared memory segments (I032_ShmVirtSegs).	Measurement Threshold
Informix	InformixDB_1033	UsedSharedMemoryPct:High, UsedSharedMemoryPct:Normal	Monitors the percentage of allocated shared memory used. (I033_ShmUsedPct).	Measurement Threshold

## Informix Database Sessions

This Aspect monitors number of sessions open and number of users with sessions open.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1007	NumSessions:High, NumSessions:Normal	Monitors the number of sessions open (I007_NumSessions).	Measurement Threshold
Informix	InformixDB_1005	UserLogonCnt:High, UserLogonCnt:Normal	Monitors the number of users with sessions open (I005_UserLogonCnt).	Measurement Threshold

## Informix Database Sort & Scan

This Aspect monitors sequential scans, disk sort rate, total sort rate, maximum space used by sort, and sorts in memory.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1051	SortTotalRate:High, SortTotalRate:Normal	Monitors the total sort rate (I051_SortTotalRate).	Measurement Threshold

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1047	SeqScansRate:High, SeqScansRate:Normal	Monitors the sequential scans per minute (I047_SeqScansRate).	Measurement Threshold
Informix	InformixDB_1052	NA	Monitors the percentage of sorts in memory since instance profile reset (I052_TotSortMemryPct).	Measurement Threshold
Informix	InformixDB_1054	SortMaxSpace:High, SortMaxSpace:Normal	Monitors the maximum space used by a sort (I054_SortMaxSpace).	Measurement Threshold
Informix	InformixDB_1050	SortDiskRate:High, SortDiskRate:Normal	Monitors the disk sort rate (I050_SortDiskRate).	Measurement Threshold
Informix	InformixDB_1053	CurSortMemryPct:TooHigh, CurSortMemryPct:Normal, CurSortMemryPct:High	Monitors the percentage of sorts in memory this interval (I053_CurSortMemryPct).	Measurement Threshold

## Informix Database Space Utilization

This Aspect monitors space metrics such as allocated space for instance, database, and table. It also monitors extents.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1024	TblCantExtend:High, TblCantExtend:Normal	Not enough space for a table to get a full next extent (I024_TblCantExtend).	Measurement Threshold
Informix	InformixDB_1216	NA	Monitors the instance size in MB allocated and free.	ConfigFile
Informix	InformixDB_1221	NA	Monitors the table size in MB allocated.	ConfigFile
Informix	InformixDB_1022	TblExtentsMax:TooHigh, TblExtentsMax:Normal, TblExtentsMax:High	Monitors the number of extents too high for one or more tables (I022_TblExtentsMax).	Measurement Threshold

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1218	NA	Monitors the database size in MB allocated and free.	ConfigFile

## Informix Database Transactions

This Aspect monitors long transactions, commits, rollbacks, and so on.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_1061	SessionMaxLongTxns:High, SessionMaxLongTxns:Normal	Monitors the maximum long transactions for a session; roll-up (I061_SesLongTxnsMax).	Measurement Threshold
Informix	InformixDB_1056	NA	Monitors the transactions per minute.	ConfigFile
Informix	InformixDB_1058	NA	Monitors the Rollbacks per minute.	ConfigFile
Informix	InformixDB_1059	NA	Monitors the percentage of transactions rolled-back since profile reset (I059_TotRollbackPct).	Measurement Threshold
Informix	InformixDB_1057	NA	Monitors the commits per minute.	ConfigFile
Informix	InformixDB_1060	CurRollbackPct:High, CurRollbackPct:Normal	Monitors the percentage of transactions rolled-back this interval (I060_CurRollbackPct).	Measurement Threshold

## Informix Database User Defined Aspect

This Aspect monitors the User Defined Aspect for Informix Database.

CI Type	Policy Template	Indicator	Description	Policy Type
Informix	InformixDB_17XX	NA	Monitors the UDM monitor metric 17XX	Measurement Threshold
Informix	InformixDB_UDM	NA	Provides the syntax to create Informix MP User Defined Metrics.	ConfigFile

## List of Additional OOTB Aspects

Following is a list of Aspects that are not part of the Essential Informix Database Management Template. These Aspects are used to monitor specific areas such as disk and space utilization, sort & scan, and so on. You can add one or more of these Aspects to the Management Template based on your monitoring requirements.

- Informix Database Checkpoint
- Informix Database Disk Utilization
- Informix Database Sort & Scan
- Informix Database Space Utilization
- Informix Database User Defined Aspect

## Parameters

Parameters are variables that are an integral component of Informix Database Management Templates, Informix Database Aspects, and Policy Templates. Each parameter corresponds to a variable. Parameters contain default values that are used for monitoring the different components of Informix databases. You can also modify the values of the variables to suit your monitoring requirements.

## Grouping of Parameters

- Instance Parameters - These parameters are essential for monitoring Informix CIs. For example, Informix Database Instance name is an Instance Parameter.

- **Mandatory Parameters** - These parameters contain the essential information required by policy templates. For example, Informix Database instance name is a mandatory parameter.

## Informix Database Parameters

OMi MP for Informix Database contains the following parameters:

Parameter	Parameter Type	Description	Default Values
Informix Database Instance Name	Instance	Instance Name that must be monitored.	CI Type
Informix Database Instance User Name	Mandatory	Informix Database User Name with the required privileges to collect data.	
Informix Database Instance Password	Mandatory	Password for Informix Database User Name	
Frequency of High Scheduler	Expert	Frequency for the scheduler which is expected to run for high intervals (in minutes).	15
Frequency of Low Scheduler	Expert	Frequency for the scheduler which is expected to run for short intervals (in hours).	24
Frequency of Medium Scheduler	Expert	Frequency for the scheduler which is expected to run for medium intervals (in hours).	1
Frequency of Very High Scheduler	Expert	Frequency for the scheduler which is expected to run for very high intervals (in minutes).	5
Frequency	Mandatory	Frequency of monitoring by a policy template. For example, the frequency of monitoring Informix Database availability.  <b>Note:</b> When the value of Frequency parameter is set to NORUN, that particular Policy Template, Management	

Parameter	Parameter Type	Description	Default Values
		Template, or Aspect will not be monitored for the duration the Frequency value is set to NORUN.	
Threshold	Mandatory	Threshold of a policy template. For example, the threshold of monitoring available database nodes.	
Severity	Mandatory	Severity level of a policy template. For example, the severity of monitoring critical database nodes count.	
Informix Database Error Log Path	Expert	Informix database error log file path for proper error logfile information reporting	
Informix Database Instance Collection	Expert	Turn on or off collection for Informix Database Instance.	ON
Informix Database Instance Tracing	Expert	Enable Tracing on or off for trace to be captured on node at <code>/var/opt/OV/log/InformixDB/trace</code> .	OFF

## Configuration Item (CI) and Configuration Item Types (CITs)

Configuration Items (CIs) are components that need to be managed to deliver an IT Service. For example, IT Services, hardware and software are CIs.

Configuration Item Type (CIT) describes the type of a CI and its attributes. The Informix Database CIs that are discovered in an environment are grouped under the corresponding CITs. OMi MP for Informix Database comprises the following CITs:

- Informix
- Computer

## Policy Template Groups

The policy templates are grouped under the MP for Informix Database policy group. A Policy Template comprises instrumentation, and parameters for monitoring the health and performance of Informix Database.

To access policy groups:

1. Click **Administration > Monitoring > Policy Templates**
2. In the Policy Template Groups pane, click **Policy Management > Template Groups > MP for Informix Database**.

The MP for Informix Database policy group contains the following policy templates:

Policy Template Category	Policy Template Name
ConfigFile	InformixDB_1038
	InformixDB_1040
	InformixDB_1042
	InformixDB_1043
	InformixDB_1044
	InformixDB_1056
	InformixDB_1057
	InformixDB_1058
	InformixDB_1201
	InformixDB_1216
	InformixDB_1218
ConfigFile	InformixDB_1221
	InformixDB_1245
	InformixDB_Configuration
ConfigFile	InformixDB_UDM

<b>Policy Template Category</b>	<b>Policy Template Name</b>
Scheduled Task	InformixDB_High
	InformixDB_Logger
	InformixDB_Low
	InformixDB_Medium
	InformixDB_VeryHigh
Logfile Entry	InformixDB_ErrorLog
Measurement Threshold	InformixDB_1001
	InformixDB_1002
	InformixDB_1003
	InformixDB_1005

Policy Template Category	Policy Template Name
Measurement Threshold	InformixDB_1007
	InformixDB_1015
	InformixDB_1017
	InformixDB_1019
	InformixDB_1020
	InformixDB_1022
	InformixDB_1024
	InformixDB_1031
	InformixDB_1032
	InformixDB_1033
	InformixDB_1036
	InformixDB_1037
	InformixDB_1039
	InformixDB_1041
	InformixDB_1047
	InformixDB_1050
	InformixDB_1051
	InformixDB_1052
	InformixDB_1053
	InformixDB_1054
InformixDB_1059	
InformixDB_1060	
InformixDB_1061	

Policy Template Category	Policy Template Name
Measurement Threshold	InformixDB_1064
	InformixDB_1065
	InformixDB_1066
	InformixDB_1069
	InformixDB_1070
Measurement Threshold	InformixDB_1071
	InformixDB_1073
	InformixDB_1074
	InformixDB_1075
	InformixDB_1076
	InformixDB_1217
	InformixDB_1219
	InformixDB_1261
	InformixDB_17XX
Open Message Interface	InformixDB_Messages
Service Auto-Discovery	InformixDB_Discovery

## Run- time Service Model (RTSM) Views

A View helps you visualize the context of an event. A typical View shows a subset of CIs and their relationships with other neighboring CIs. Using Views, you can visualize the topology of an OMi MP for Informix Database environment. In addition, Views can be used to do the following:

- Manage the Event Perspective of Informix Database CIs.
- Manage the Health Perspective of Informix Database CIs.
- Assigning and Tuning the Management Templates, Aspects, and Policy Templates.

### How to Access the RTSM Views

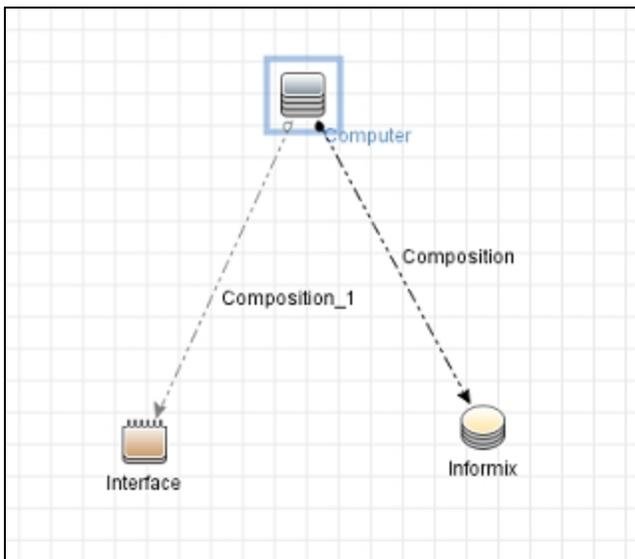
1. Open the Resources pane:

Click **Administration > RTSM Administration > Modeling > Modeling Studio > Resources**.

2. Select **Views** from the **Resource Type** drop down list.
3. Select **Operations Management > Databases** from the list.

The RTSM package in the Informix Database Content Pack contains the following view:

**InformixDB\_Deployment:** This view shows the Computer, Interface, and the Informix CI types. The following image shows the relationship among the CI types:



## Event Type Indicators (ETIs)

ETIs are categorization of events based on the type of occurrence.

## How to Access Event Type Indicators

1. Open the Indicators pane:  
Click **Administration > Service Health > CI Status Calculation > Health- and Event Type Indicators**.
2. In the CI Type pane:

Click **InfrastructureElement > RunningSoftware > Database > Informix**.

The OMi MP for Informix Database includes the following ETIs to monitor Informix Database-related events:

CI Type	ETI	Description	Value/Severity
Informix	Lock Wait Percentage	Indicates percentage of lock waits requested.	Normal/NORMAL, High/WARNING
Informix	Transaction Rollback Percentage	Indicates percentage of transactions rolled-back at the current interval.	Normal/NORMAL, High/WARNING
Informix	Logical Log Free Space Percentage	Indicates percentage of logical log space free as compared to total logical log space.	Normal/NORMAL, Low/MINOR, TooLow/CRITICAL
Informix	Max Sort Space	Indicates maximum space used by a sort.	Normal/NORMAL, High/MINOR
Informix	Free Dbspace Page Percentage	Indicates percentage of free dbspace pages.	Normal/NORMAL, Low/WARNING, TooLow/MAJOR
Informix	Open Session Count	Indicates number of open sessions.	Normal/NORMAL, High/WARNING
Informix	User Logon Count	Indicates number of users with open sessions.	Normal/NORMAL, High/WARNING
Informix	Sequential Scans Rate	Indicates sequential scans per minute.	Normal/NORMAL, High/WARNING
Informix	Free Blobspace Page Percentage	Indicates percentage of free blobspace pages.	Normal/NORMAL, Low/WARNING, TooLow/MAJOR
Informix	Memory Sort Percentage	Indicates percentage of sorts in memory this interval.	Normal/NORMAL, High/WARNING, TooHigh/MINOR
Informix	Shared Memory Utilization	Indicates percentage of allocated shared memory used.	Normal/NORMAL, High/WARNING
Informix	Physical Log Page Percentage	Indicates percentage of free pages to total pages in physical log.	Normal/NORMAL, Low/MAJOR
Informix	Checkpoint Waits Count	Indicates number of checkpoint waits.	Normal/NORMAL, High/WARNING

CI Type	ETI	Description	Value/Severity
Informix	Shared Memory Size	Indicates size of total shared memory.	Normal/NORMAL, High/WARNING, TooHigh/MINOR
Informix	Checkpoint Duration	Indicates checkpoint duration.	Normal/NORMAL, High/MAJOR
Informix	Total Sort Rate	Indicates total sort rate.	Normal/NORMAL, High/MINOR
Informix	Virtual Segments Count	Indicates number of virtual shared memory segments.	Normal/NORMAL, High/WARNING, TooHigh/MAJOR
Informix	Extents Count	Indicates number of extents for one or more table.	Normal/NORMAL, High/WARNING, TooHigh/MAJOR
Informix	Checkpoint Completion Rate	Indicates checkpoint completion rate.	Normal/NORMAL, High/MAJOR
Informix	Logical Log Backed Pages Percentage	Indicates percentage of logical log pages used but not backed to total.	Normal/NORMAL, High/MAJOR
Informix	Table Extent Space	Indicates space for a table to get a full next extent.	Normal/NORMAL, High/WARNING
Informix	Disk Sort Rate	Indicates disk sort rate.	Normal/NORMAL, High/MINOR
Informix	Logical Log Free Pages	Indicates logical log free pages.	Normal/NORMAL, Low/CRITICAL
Informix	Foreground Writes Rate	Indicates foreground writes per hour.	Normal/NORMAL, High/MINOR

## Health Indicators (HIs)

HIs analyze the events that occur in Informix Database CIs and report the health of the Informix Database CIs.

## How to Access Health Indicators

1. Open the Indicators pane:

Click **Administration > Service Health > CI Status Calculation > Health- and Event Type Indicators**.

2. In the CI Type pane:

Click **InfrastructureElement > RunningSoftware > Database > Informix**.

The OMi MP for Informix Database includes the following HIs to monitor the Informix Database-related events:

CI Type	HI	Description	Value/Severity
Informix	Oninit Process Status	Indicates the oninit process status.	Up/NORMAL, Down/CRITICAL
Informix	Available Lock Percentage	Indicates percentage of locks available to total number of locks.	Normal/NORMAL, Low/MINOR, TooLow/MAJOR
Informix	Informix Database Status	Indicates Informix database instance status.	Up/NORMAL, Inoperative/MAJOR, Down/CRITICAL
Informix	Long Running Transaction Count	Indicates maximum long transactions for a session.	Normal/NORMAL, High/MAJOR
Informix	Cache Read Percentage	Indicates percentage of cached reads to total reads for current interval.	Normal/NORMAL, Low/WARNING
Informix	Chunk Down Count	Indicates number of down chunks.	Normal/NORMAL, High/CRITICAL
Informix	Blocked Sessions	Indicates number of sessions blocked waiting on a locked record or table.	Normal/NORMAL, High/WARNING
Informix	Deadlock Count	Indicates number of deadlocks.	Normal/NORMAL, Low/WARNING
Informix	Modified Data Buffer Percentage	Indicates percentage of modified data buffers.	Normal/NORMAL, High/WARNING, TooHigh/MINOR

CI Type	HI	Description	Value/Severity
Informix	Sysmaster Database Accessibility	Indicates <i>sysmaster</i> database accessibility.	Accessible/NORMAL, NonAccessible/CRITICAL

## Tools

The OMi MP for Informix Database is packaged with tools which enable administering and monitoring the Informix CIs.

## How to Access Tools

### How to Access Tools

1. Open the Tools pane:  
Click **Administration > Operations Console > Tools**.
2. In CI Types pane:  
Click **ConfigurationItem > InfrastructureElement > RunningSoftware > Database > Informix**.

It comprises the following tools:

CI Type	Tool Name	Description
Informix	Accessibility	Indicates the accessibility of Sysmaster database.
host_node	Enable MP Monitoring (Informix Database)	Enables Informix Database ManagementPack collection and alert notification.
Informix	Session Information	Reports current session information.
Informix	LRU Writes	Shows LRU writes information.
Informix	Shared Memory Buffer Pool Usage	Reports shared-memory buffer pool usage.
Informix	Dbspace	Reports dbspace information.

CI Type	Tool Name	Description
	Information	
Informix	Checkpoint Completions Rate	Reports checkpoint completions rate.
Informix	Table Extents Space	Not enough space for a table to get a full next extent
Informix	Sort Memory	Reports sort in memory percentage based on the session.
Informix	Commit Rate	Reports commits by session.
Informix	Chunk Information	Reports chunk information.
Informix	Logon User Information	Reports current session information
Informix	Cache Hit - Write	Indicates the percentage of cached writes to total writes.
Informix	Locks Held	Reports locks held by session.
Informix	Blobspace Information	Reports blobspace information.
Informix	Deadlocks	Reports deadlock information.
Informix	Blocked Sessions	Reports blocked session information
Informix	Shared Memory Data Buffers Usage	Reports shared-memory data buffer usage.
Informix	Checkpoint Completions	Reports checkpoint completions.
Informix	Shared Memory Information	Size of total shared memory in KB
host_node	View MP Error File (Informix Database)	Displays the contents of the Informix Database Management Pack error file.
Informix	Logical Log Pages Free	Reports Logical log pages free
Informix	Long Transactions	Reports long transactions.
Informix	Table Extents Statistics	Reports table extents.
Informix	Shared Memory Segment	Report shared-memory-segment statistics.

CI Type	Tool Name	Description
	Statistics	
Informix	Foreground Writes Rate	Foreground writes per hour.
Informix	Used Pages	Reports percent of pages used.
Informix	Cache Hit - Read	Reports for total read cache hit percentage.
host_node	Disable MP Monitoring (Informix Database)	Disables Informix Database Management Pack collection and alert notification.
Informix	Foreground Writes	Reports foreground writes.
Informix	Sort Memory - Current	Reports sort in memory percent by session.
Informix	Rollback Percentage	Reports rollback percent by session.
host_node	MP Data Capture Tool (Informix Database)	Collects error and log information that is sent to HPE support to troubleshoot Informix Database Management Pack issues.
Informix	Sorts Disk Rate	Reports disk sorts by session.
Informix	Locks Status	Indicates the percentage of lock waits to locks requested.
Informix	Rollback Statistics	Reports rollback percent by session
Informix	Logical Log Statistics	Reports logical log statistics
Informix	Chunk Writes	Reports write type statistics.
host_node	Enable MP Trace (Informix Database)	Enables the Informix Database Management Pack tracing.
Informix	Sort Statistics	Reports total sorts by session.
Informix	Connection Check (Informix Database)	Checks the connection for Informix Database
Informix	Sequential Scan Rate	Sequential scans per minute.
Informix	Logical Log Backup	Reports for logical log pages used but not backed up to total number of logical log pages.

CI Type	Tool Name	Description
Informix	Oninit Processes	Reports oninit processes.
Informix	Logging Information	Reports logging information.
Informix	Instance Status	Reports current instance status.
Informix	Cache Hit - Current Write	Shows current write cache hit percentage.
Informix	Checkpoint Waits Rate	Reports profile of activity.
host_node	Verify MP Deployment (Informix Database)	Shows Informix Database Management Pack deployed files, versions, number of policies, defaults file, and performs a connection check.
Informix	Transactions Throughput	Reports transactions by session.
host_node	Disable MP Trace (Informix Database)	Disables the Informix Database Management Pack tracing.
Informix	Cache Hit - Current Read	Shows current read cache hit percentage.
Informix	Rollback Rate	Reports rollbacks by session.
Informix	Sort Max Space	Reports maximum sort space used by a session.

## Graph Templates and Performance Dashboards

Graphs represent pictorial representation of metrics. The OMi MP for Informix Database contains a set of graph templates mapped to the Informix CI type. The graphs are generated from the **DBSPI\_INF\_GRAPH** and **DBMP\_INF\_GRAPH** data source.

For information about creating and viewing graphs, see the documents for Performance Dashboard available in documentation for the HPE Operations Manager i.

## How to Access Graph Templates

1. Open the Performance Graph Mapping pane:  
Click **Admin > Operations Management > Operation Console > Performance Dashboard Mappings**.
2. In the CI Types pane, click **InfrastructureElement > RunningSoftware > Database > Informix**.

## How to Access Informix Performance Dashboards

1. Open the Performance Perspective pane:  
Click **Workspaces > Operations Console > Performance Perspective**.
2. In the CI Types pane, select Informix from the **InformixDB\_Deployment** view.  
The default graphs or dashboard available for the **InformixDB\_Deployment** appears in the Performance Perspective pane.
3. *(Only for OMi versions less than 10.10)*. In the **Graphs** tab, select the graph you want to plot, and then click  **Draw Graphs**. The selected graph is plotted on the right pane.
4. Select the **Informix Database Overview Performance Dashboard**.

## List of Performance Dashboards

List of Performance Dashboards

### Informix Database Overview

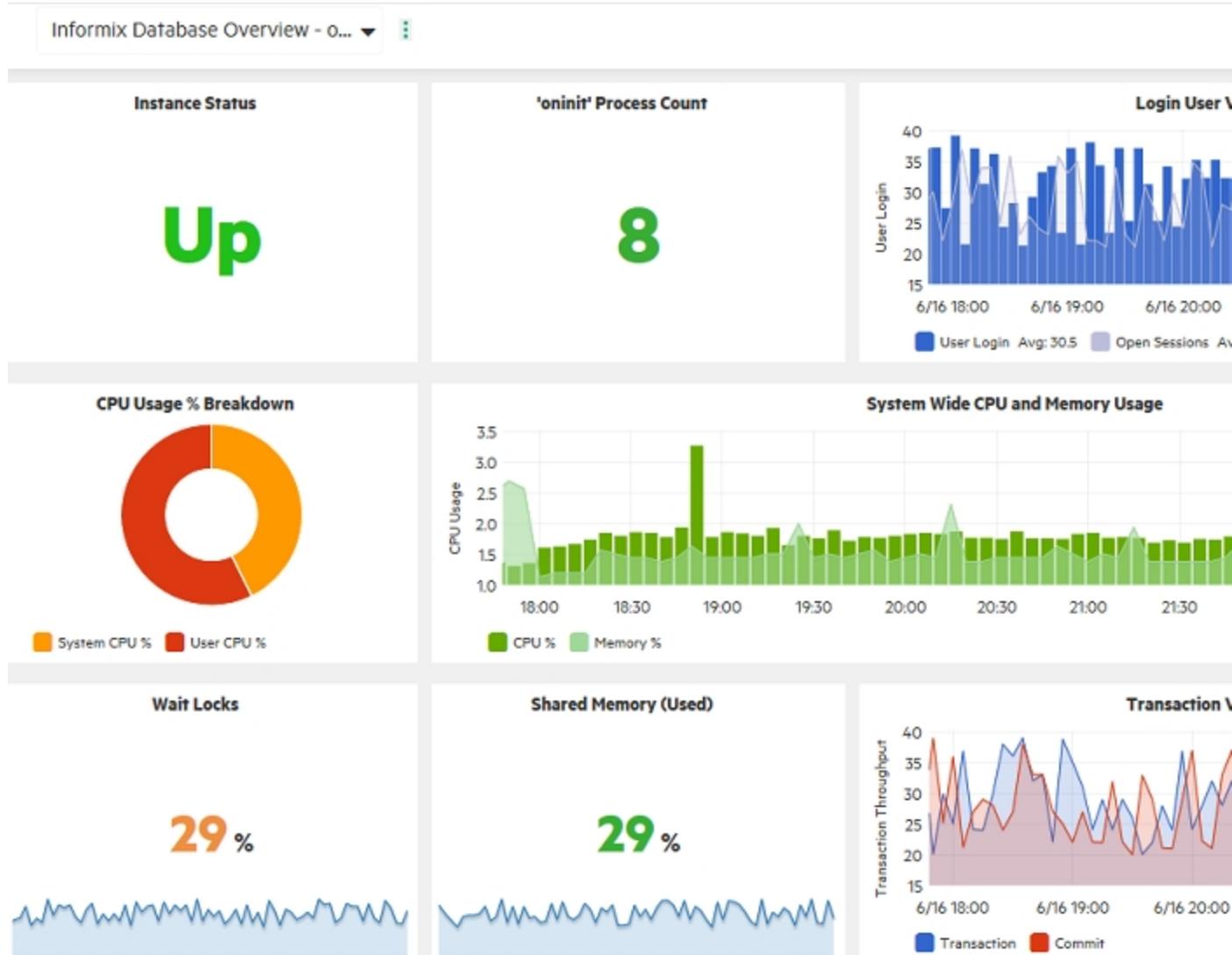
Dashboard	Metric
Instance Status	I001_PROCESSTATUS
'oninit' Process Count	I001_PROCESSTATUS
Login User Vs Session Open	I005_USERLOGONCNT

Dashboard	Metric
	I007_NUMSESSIONS
CPU Usage % Breakdown	GBL_CPU_TOTAL_UTIL GBL_CPU_SYS_MODE_UTIL
System Wide CPU and Memory Usage	GBL_CPU_TOTAL_UTIL GBL_MEM_UTIL
Wait Locks	I074_LOCKWTSREQPCT
Shared Memory (Used)	I033_SHMUUSEDPCT
Transaction Vs Commit (/Min)	I056_TXNTHROUGHPUT I057_COMMITRATE

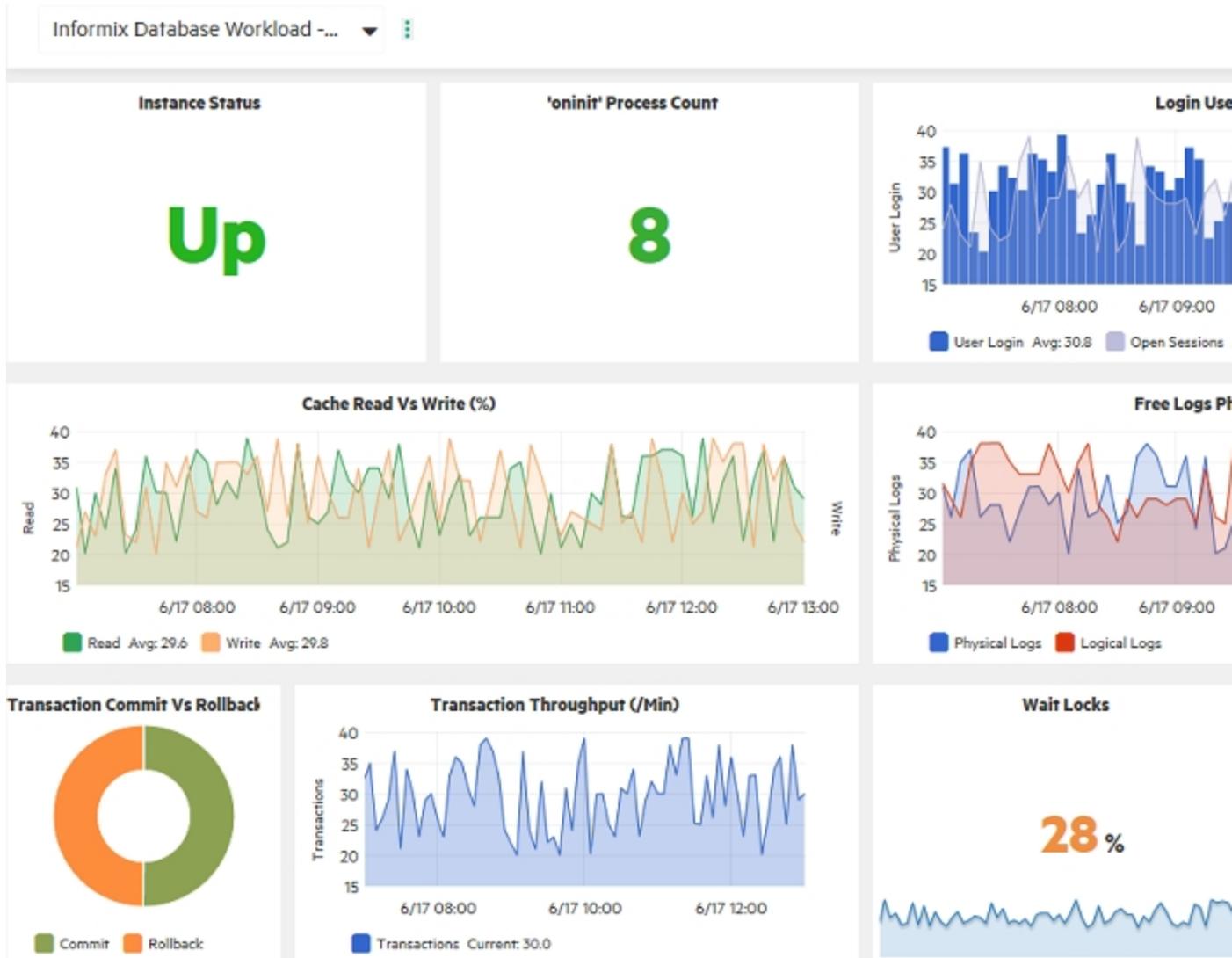
#### Informix Database Workload

Dashboard	Metric
Instance Status	I002_INSTANCESTATUS
'oninit' Process Count	I001_PROCESSTATUS
Login User Vs Session Open	I005_USERLOGONCNT I007_NUMSESSIONS
Cache Read Vs Write (%)	I039_CURREADCACHTPCT I040_CURWRITCACHTPCT
Free Logs Physical Vs Logical (%)	I015_PLOGPGFRPCT I065_LLOGFRPCT
Transaction Commit Vs Rollback (/Min)	I056_TXNTHROUGHPUT I057_COMMITRATE
Transaction Throughput (/Min)	I056_TXNTHROUGHPUT
Wait Locks	I074_LOCKWTSREQPCT
Shared Memory (Used)	I033_SHMUUSEDPCT

#### Sample of the Informix Database Overview Dashboard



**Sample of the Informix Database Workload Dashboard**



**List of Informix Database Graph Templates**

The following table provides information about the format of generic data source:

Graph Templates	Description	Policy Name	Policy Description	Metric
Server Status	This graph shows InformixDB server status metrics.	InformixDB_1001	Number of 'oninit' processes running (I001_ProcessStatus).	I001_PROCESSTATUS

Graph Templates	Description	Policy Name	Policy Description	Metric
		InformixDB_1002	Instance is not in online or readonly mode (I002_InstanceStatus).	I002_INSTANCESSATUS
		InformixDB_1003	Sysmaster database is not accessible (I003_Accessible).	I003_ACCESSIBLE
Sessions	This graph shows InformixDB session statistics metrics.	InformixDB_1005	Number of users with sessions open (I005_UserLogonCnt).	I005_USERLOGONCNT
		InformixDB_1007	Number of sessions open (I007_NumSessions).	I007_NUMSESSIONS
Log Statistics	This graph shows InformixDB log statistics metrics.	InformixDB_1015	Percentage of free pages to total pages in physical log (I015_PLogPgFrPct).	I015_PLOGPGFRPCT
		InformixDB_1064	Logical log pages free (I064_LLogFr).	I064_LLOGFR
		InformixDB_1065	Percentage of logical log space free to total logical log space (I065_LLogFrPct).	I065_LLOGFRPCT
		InformixDB_1066	Percentage of logical log pages used but not backed to total (I066_LLogNonBkUpPct).	I066_LLOGNONBKUPPCT
Checkpoint Statistics	This graph shows Informix database checkpoint statistics metrics.	InformixDB_1069	Checkpoint completion rate (I069_CkptRate)	I069_CKPTRATE
		InformixDB_1070	Checkpoint duration (I070_CkptDuration)	I070_CKPTDURATION
		InformixDB_1073	Checkpoint waits (I071_CkptWaitsRate)	I071_CKPTWAITSRATE

Graph Templates	Description	Policy Name	Policy Description	Metric
Shared Memory Total	This graph shows Informix database total size of shared memory segments metrics.	InformixDB_1031	Size of total shared memory (I031_ShmTot).	I031_SHMTOT
Shared Memory Usage	This graph shows Informix database shared memory usage metrics.	InformixDB_1032	Number of virtual shared memory segments (I032_ShmVirtSegs).	I032_SHMVIRTSEGS
		InformixDB_1033	Percentage of allocated shared memory used. (I033_ShmUsedPct).	I033_SHMUSEDPCT
		InformixDB_1037	Percentage of cached reads to total reads (I037_TotReadCacHtPct)	I037_TOTREADCACHTPCT
		InformixDB_1038	Percentage of cached writes to total writes.	I038_TOTWRITCACHTPCT
		InformixDB_1039	Percentage of cached reads to total reads for current interval (I039_CurReadCacHtPct).	I039_CURREADCACHTPCT
		InformixDB_1040	Percentage of cached writes to total writes for current interval.	I040_CURWRITCACHTPCT
Writes	This graph shows Informix database foreground, LRU and chunk writes metrics.	InformixDB_1042	Foreground writes this interval.	I042_FGWRITES
		InformixDB_1043	LRU writes this interval.	I043_LRUWRITES
		InformixDB_1044	Chunk writes this	I044_CHUNKWRITES

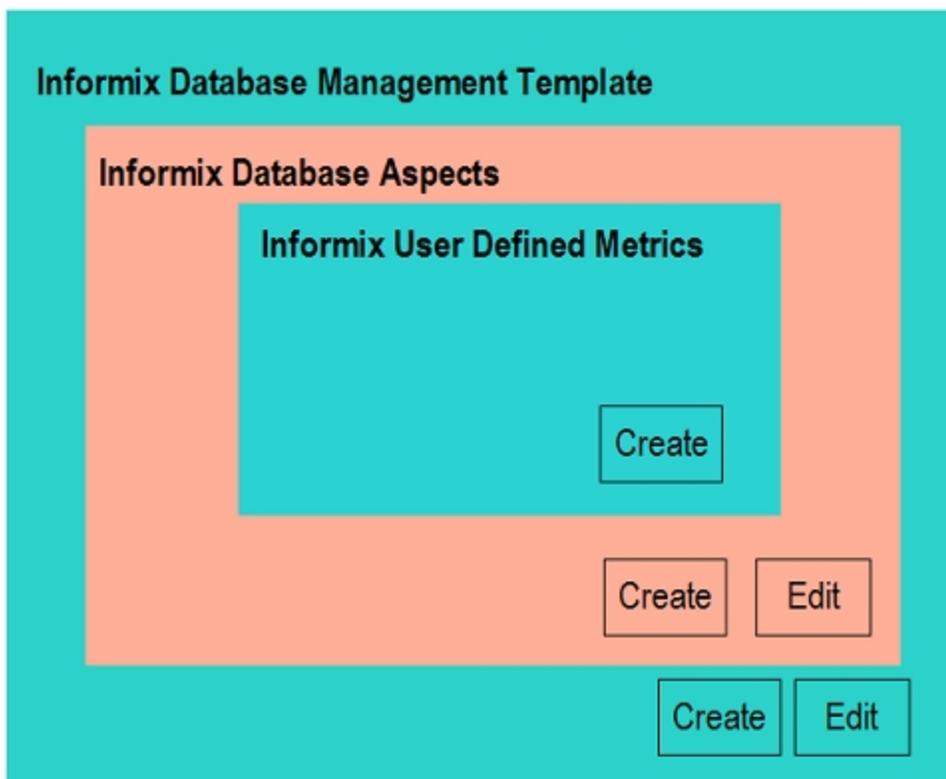
Graph Templates	Description	Policy Name	Policy Description	Metric
		1044	interval.	
Sort Space	This graph shows Informix database maximum sort space metrics.	InformixDB_1054	Maximum space used by a sort (I054_SortMaxSpace).	I054_SORTMAXSPACE
Sort and Scan Statistics	This graph shows Informix database sort and scan statistics metrics.	InformixDB_1050	Disk sort rate (I050_SortDiskRate).	I050_SORTDISKRATE
		InformixDB_1051	Total sort rate (I051_SortTotalRate).	I051_SORTTOTALRATE
		InformixDB_1052	Percentage of sorts in memory since instance profile reset (I052_TotSortMemryPct).	I052_TOTSORTMEMRYPCT
		InformixDB_1053	Percentage of sorts in memory this interval (I053_CurSortMemryPct).	I053_CURSORTMEMRYPCT
		InformixDB_1047	Sequential scans per minute (I047_SeqScansRate).	I047_SEQSCANSRATE
Transactions	This graph shows Informix database transaction rates metrics.	InformixDB_1056	Transactions per minute.	I056_TXNTHROUGHPUT
		InformixDB_1057	Commits per minute.	I057_COMMITRATE
		InformixDB_1058	Rollbacks per minute.	I058_ROLLBACKRATE
		InformixDB_1059	Percentage of transactions rolled-back since profile reset (I059_TotRollbackPct).	I059_TOTROLLBACKPCT
		InformixDB_1060	Percentage of	I060_

Graph Templates	Description	Policy Name	Policy Description	Metric
		1060	transactions rolled-back this interval (I060_CurRollbackPct).	CURROLLBACKPCT
Locking	This graph shows Informix database locking statistics metrics.	InformixDB_1073	Checkpoint waits (I071_CkptWaitsRate)	I073_LOCKAVAILPCT
		InformixDB_1074	Percentage of lock waits to locks requested (I074_LockWtsReqPct)	I074_LOCKWTSREQPCT
		InformixDB_1075	Total deadlocks (I075_Deadlocks)	I075_DEADLOCKS
		InformixDB_1076	Number of sessions blocked waiting on a locked record or table (I076_SessionBlkLock).	I076_SESSIONBLKLOCK

## Chapter 4: Customizing the OMi MP for Informix Database

The OMi MP for Informix Database can be customized to suit your monitoring requirements. You can edit the existing Informix Database Management Templates or create new Informix Database Management Templates to monitor any database environment. This section provides information about the following:

- [Tuning Components of OMi MP for Informix Database](#)
- [Creating a new Management Template with Informix Database Aspects](#)
- [Creating a new aspect with Informix Database policies](#)
- [Creating User-Defined Metrics](#)



# Tuning Components of OMi MP for Informix Database

You can tune the following components:

- [Parameters](#)
- [Aspects](#)
- [Management Templates](#)

## Tuning Parameters

You can modify the default value of parameters either before or after deploying the Informix Database Management Templates or Aspects. You can edit parameter value during deployment using Management Templates & Aspects pane. You can provide customized parameter values after (Management Template or Aspects) deployment for each of the assignment using Assignments & Tuning pane.

Following is the list of parameters with the default values that you can edit:

Schedule Frequency	Default Value
Very High	5 mins
High	15 mins
Medium	1 hour
Low	24 hours
Frequency	NA
Threshold	NA
	<p><b>Note:</b> When the value of Frequency parameter is set to <b>NORUN</b>, that particular Policy Template, Management Template, or Aspect will not be monitored for the duration the Frequency value is modified.</p>
Severity	NA

To modify the frequency of collection, corresponding Schedule Task policy must be modified. To modify the individual policy schedule, corresponding frequency parameters must be modified.

## Advanced Data Collection Filters

Filters are typically used to prevent unnecessary alerts or messages. For example, if you have a database which you would not want to monitor and generate alerts/messages. In such cases, you can use filters to exclude some data from being collected and, as a result, prevent the unwanted messages. You set up filters for Informix Database by defining SQL WHERE clause fragments, part in the parameter during Management Template or Aspect deployment.

Following is the list of filter parameters that you can edit:

Policy	Filter Parameter Label	Parameter Description and Label
InformixDB_1007	Filter for Open Sessions	Number of sessions open. For example, username NOT IN ('Guy','Debbie', 'Barry').
InformixDB_1017	Filter for Free DBspaces Pages	Percentage of dbspaces pages free. For example, name NOT IN ('SAP01','SAP02').
InformixDB_1217	Free DBspaces Pages Filter	Percentage of dbspaces pages free. For example, name NOT IN ('SAP01','SAP02').
InformixDB_1020	Filter for Down Chunks	Chunks down. For example, chknum NOT IN (23,56,78).
InformixDB_1022	Filter for Table Extents	Number of extents too high for one or more table. For example, owner <> 'SAP' and tablename NOT LIKE 'SAP01*'.
InformixDB_1061	Long Transactions for a Session Filter	Maximum of long transactions for a session. For example, username NOT IN ('Guy','Debbie', 'Barry') AND sys sesprof.sid=200.
InformixDB_1261	Long Transactions for a Session Filter	Long transactions by session. For example, username NOT IN ('Guy','Debbie', 'Barry') AND sys sesprof.sid=200.
InformixDB_1076	Blocked Sessions Filter	Number of sessions blocked waiting on a locked record or table. For example, username NOT IN ('Guy','Debbie', 'Barry').

# Tuning Management Template

You can edit the Informix Database Management Templates and modify the following components:

- [Parameters](#)
- [Informix Database Aspects](#)

## Editing Parameters

**Use Case:** You are using Essential Informix Database Management Template to monitor single instance databases in your environment. You are monitoring the table spaces with low free space in the environment and want to modify the parameters corresponding to tablespaces to closely monitor the free space available.

To closely monitor tablespaces in your environment, you must modify the tablespace parameters - tablespaces with low free space frequency, tablespaces with low free space threshold, tablespaces with low free space severity.

1. Open the Management Templates & Aspects pane:

**Administration > Monitoring > Management Templates & Aspects**

2. In the Configuration Folders pane:

**Configuration Folders > Database Management > Informix Database > Management Template**

3. Select the Essential Informix Database Management Template from the list, and then click  **Edit**. The Edit Management Template dialog box opens.
4. Click the **Parameters** tab. The list of parameters appear.
5. Double-click the tablespace parameter. The Edit Parameter window appears.

In this instance, tablespace parameter is tablespaces with low free space frequency, tablespaces with low free space threshold or tablespaces with low free space severity.

6. You can change the default value by using the drop down text. For example, you can change the value of the parameter tablespaces with low free space frequency to **High** from **Medium**.
7. Click **OK**. The Edit Management Template dialog box opens.
8. Click **OK**. The version of the Informix Database Management Template is incremented.

## Including Additional Aspects

Essential Informix Database Management Template enables you to monitor basic areas of availability, error logs, locks, transactions and physical logs. For in-depth monitoring of these features, you can add one or more Aspects as required to the existing Management Template. For more information about Aspects that are not available in the OOTB Management Templates, see the section [List of Additional OOTB Aspects](#).

**Use Case:** You are monitor using Essential Informix Database Management Template and require in-depth monitoring of disk utilization.

1. Open the Management Templates & Aspects pane:

**Administration > Monitoring > Management Templates & Aspects**

2. In the Configuration Folders pane:

**Configuration Folders > Database Management > Informix Database > Management Template**

3. Select the **Essential Informix Database Management Template** from the list, and then click . The Edit Management Template dialog box opens.

4. Click the **Aspects** tab. The list of Aspects matching the Informix CI type appear.

You can deploy the Management Template only to this CI type.

5. In the Available Aspects list, select the Informix Database Disk Utilization Aspect and click .
6. Click **OK**.

The version of the Informix Database Management Template is incremented.

## Tuning an Informix Database Aspect

Based on the monitoring requirements, you can include or exclude policy template to the existing Informix Database Aspect. For more information about each policy, see the *OMi MP for Informix Database Reference Guide*.

## Informix Database Roll-Up and Drill-Down Policies

The Informix Database roll-up policies that monitors multiple instances of database objects. The Informix Database drill-down policy monitors each instance of the database object. Roll-up policies send one message that could be relevant to multiple objects.

For example, when the InformixDB\_1017 policy generates a message (alert), it indicates the dbspace has a very low free page percentage. The database instance name and dbspace details are provided in the message text as follows:

```
Free pages percentage is too low (5%) for one or more dbspaces for instance1, most serious is dbspace1 at 4%.
```

Corresponding drill-down policy is InformixDB\_1217, which generates alert for each dbspace. The OMi MP for Informix Database provides the following drill-down policies:

Aspect	Roll-up Policy	Drill-down Policy
Informix Database Transactions	InformixDB_1061	InformixDB_1261
Informix Database Physical Logs	InformixDB_1019	InformixDB_1219
	InformixDB_1017	InformixDB_1217
Informix Database Availability	InformixDB_1001	InformixDB_1201

**Note:** It is recommended in a particular instance to monitor using either roll-up or drill-down policy. Do not include both roll-up and drill-up policies to monitor a single instance of the database.

**Note:** The Informix Database Aspects and Management Template does not have the drill-down policy by default. You can add the drill-down policies to Aspects and/or Management Templates based on your specific requirements.

If you want to generate alerts for each dbspace as described in the example, then perform the following:

1. Open the Management Templates & Aspects pane:  
Click **Administration > Monitoring > Management Templates & Aspects**.
2. In the Configuration Folders pane:  
Click **Configuration Folders > Database Management > Informix > Aspects**

3. Select the **Informix Database Physical Logs** from the list, and then click . The Edit Aspect dialog box opens.
4. Click the **Policy Templates** tab.
5. Select **InformixDB\_1017** from the policies list and click **Delete**.
6. Click  and select **Add Policy Templates From List**.
7. In the list of policies, select **InformixDB\_1217** policy and click **OK**.
8. In the **Parameters** tab, do the following steps:
  - To combine parameters:
    - a. Press **CTRL** and click the Informix Database Instance.
    - b. Click . The Edit/Combine Parameters dialog box opens.
    - c. Under **Default Value**, click on the field under **From CI Attribute**. The Informix - Available Attributes dialog box appears.
    - d. Select **Data** in the CI Type pane and **Name** in the Attributes pane and click on **Insert**.
    - e. Click **OK** to save the settings in the Informix - Available Attributes dialog box.
9. Click **Finish**.

## Creating a New Informix Database Aspect

1. Open the Management Templates & Aspects pane:
  - Administration > Monitoring > Management Templates & Aspects**
2. In the Configuration Folders pane, click the configuration folder in which you want to create the new aspect. If you need to create a new configuration folder, click .
3. In the Management Templates & Aspects pane, click , and then click  Aspect. The Create Aspect wizard opens.
4. In the **General** tab, type a unique Name for the new aspect and click **Next**.
5. In the **CI Types** tab, select the Informix CI Type to which this aspect will be assigned.  
Click **Next**.

6. In the **Instrumentation** tab, add **InformixDB\_Discovery** and **InformixDB\_Monitoring** and click **Next**.
7. In the **Aspects** tab, add the **Informix Database Base** Aspect and click **Next**.
8. In the **Policy Templates** tab, click **Add Policy Template From List**.

Select the policy templates that you want to add, and then click **OK**.

You can add policies from the Informix Database MP policy template group. For more information about each policy, see the *OMi MP for Informix Database Reference Guide*.

9. In the **Parameters** tab, you see a list of all the parameters from the policy templates that you added to this aspect.
10. You can set either a specific default value, or you can click **From CI Attribute** and then browse for a CI attribute. For the Informix Database Instance Name Parameter, select default value as name.
11. In the Create Aspect wizard, click **Finish** to save the aspect and close the wizard.

The new aspect appears in the Management Templates & Aspects pane.

## Creating New Informix Database Management Template

1. Open the Management Templates & Aspects pane:

**Administration > Monitoring > Management Templates & Aspects**

2. In the Configuration Folders pane:

Click **Configuration Folders > Database Management > Informix Database > Management Template**

3. In the Management Templates & Aspects pane, select the new configuration folder and click  and then click **Management Template**. The Create Management Template wizard opens.
4. In the **General** tab, type a Name for the new Informix Database Management Template and click **Next**.

An Informix Database Management Template enables you to manage **Informix** CIs and all the related dependent CIs.

5. Select the **InformixDB\_Deployment** from the list as the Topology View.
6. Click an item in the topology map to select the Informix CI Type and click **Next**.
7. In the **Aspects** tab, add the **Informix Database Base** Aspect and click **Next**.
8. For each aspect that you add, you must select **Informix** as Target CI.
9. In the **Parameters** tab, combine all the instances of Informix Database Instance Name, Informix Database Instance User Name, and Informix Database Instance Password parameters.
10. In the Create Management Template wizard, click **Finish** to save the Management Template and close the wizard.

The new Management Template appears in the Management Templates & Aspects pane

## User Defined Metrics (UDM)

You can collect additional data from Informix databases by creating User Defined Metrics (UDMs). By default, the UDMs are part of User Defined Aspects (UDA). The OMi MP for Informix Database enables you to define additional metrics and mechanisms to collect these metric values with the help of SQL codes. The User Defined Aspect includes the following policies:

- InformixDB\_17XX - Measurement Threshold policy for monitoring UDM
- InformixDB\_UDM - Sample Config file policy template to create a UDM

## Understanding UDM

The OMi MP for Informix Database provides you with a UDM configuration file. You can add SQL codes to the template to define new metrics and the mechanism to collect the metric data.

The following snippet of code defines the mechanism to collect the metric InformixDB\_17XX:

```
INFORMIX
METRIC 17XX
COLLECT <OPTIONS> "<sqlcode>"
REPORT 1 "<sqlcode>"
```

Where:

- METRIC 17XX is the newly defined metric (you can type a metric number of your choice between 1700 and 1799).
- COLLECT <OPTIONS> “<sqlcode>” is the syntax to define metric data collection mechanism from managed server nodes.
  - <OPTIONS> specifies the mechanism to log and represent the collected data.
    - Type ITO to store the collected metric value in the data store of Operations agent.
    - Type MW to store the collected metric value in the data store of Performance Agent.
  - “<sqlcode>” is the programming code written in SQL to collect metric data from database nodes. It can be a direct stand-alone SQL statement.
- REPORT 1 “<sqlcode>” is the syntax to define the mechanism to generate reports from the collected metric data.

The OMi MP for Informix Database uses SQL utility to collect and report UDM data.

Database	Metric COLLECT utility	Metric REPORT utility
Informix	Informix-SQL	dbaccess

The SQL codes that you mention in this file are used by the collector/analyzer/script on Informix database managed nodes to collect metric data. In the SQL code, you can use the following host variables to facilitate data collection process:

- :dbspi\_error
- :dbspi\_threshold
- :dbspi\_value

## How to Create User Defined Aspects

To create user defined metrics, follow these steps:

1. To define a new metric, you must create a copy of the measurement threshold template InformixDB\_17XX.
  - a. Open the Policy Template pane:
    - Click **Administration > Monitoring > Policy Templates**.
  - b. In the Policy Groups pane:

Click **Templates grouped by type > Measurement Threshold**.

- c. In Policy Templates pane, click **InformixDB\_17XX**.
- d. To create a copy of the **InformixDB\_17XX** policy.
- e. Rename the policy as **InformixDB\_1700** and click **OK**.

**Note:** You can rename the InformixDB\_17XX policy in the range from 1700 to 1797.

- f. To modify parameter names, description, and values, follow these steps:
  - i. In the Policy Template pane, select the **InformixDB\_1700** policy template and then click  .

**Note:** You must edit the policy in raw mode.

- ii. Click **Policy Data > Policy Parameters**.
  - iii. In the **Policy Parameter** tab, select the parameter from the list and then click  . The Edit Parameter dialog box opens.
  - iv. Edit the parameter name (For example, modify UDM Monitor Metric 17XX Severity to UDM Monitor Metric 1700 Severity), description, and the values.
  - v. Click **OK**. The version of the policy template InformixDB\_1700 increments by 0.1.
2. Define the UDM metric in the **InformixDB\_UDM** policy.

- a. Open the Policy Template pane:

Click **Administration > Monitoring > Policy Templates**.

- b. In the Policy Templates Groups pane:

Click **Templates grouped by type > ConfigFile Templates**.

- c. In the Policy Template pane, select **InformixDB\_UDM** policy:

In the InformixDB\_UDM, select 1.0 and then click  . Then click **Edit Policy Template (Raw Mode)**.

- d. Click the **Policy Data** tab. It contains details about defining a user defined metric and a sample example of a user defined metric. You can edit the data and save the policy. The version number of the UDM policy is incremented by 0.1.
3. Include both InformixDB\_1700 and latest version of Informix\_UDM policies and create a new Informix User Defined Aspect.

For more information about creating a new Informix Database Aspect, see the section [Creating a New Informix Database Aspect](#).

You can also include Informix UDA Aspect to existing Management Template. For more information about editing a Management Template, see the section [Tuning Informix Database Management Templates](#).

# Chapter 5: Troubleshooting

## Licensing count is not updated

**Problem:** Licensing count is not updated on License Management.

**Solution:** To resolve this problem, follow these steps:

1. After installing OMi MP for Informix Database, make sure that the license is activated by following these steps:

- a. Open the License Management pane:

Click **Administration > Setup and Maintenance > License Management**.

- b. Click  and select the `license.dat` file. The license details appears in the License Management window.

The License Management provides details about the name, license type, days left, expiration date, capacity, and capacity details.

2. To check for the license usage on the managed node, run the following command on the managed node:

**For UNIX (except AIX):** `/opt/OV/bin/ovodetect -t`

**For AIX:** `/usr/lpp/OV/bin/ovodetect -t`

If the output of the preceding command is `mpinstance="1"` then Informix databases are being monitored. If the output of the preceding command is `mpinstance="0"` then Informix databases are not being monitored.

3. If the license is still not updated in **License Management**, restart agent on the managed node by running the following command:

**For UNIX (except AIX):** `/opt/OV/bin/ovc -restart opcmsga`

**For AIX:** `/usr/lpp/OV/bin/ovc -restart opcmsga`

## Informix Database Instance does not appear in RTSM

**Problem:** Informix Database instance does not sync in RTSM from node.

**Solution:** To resolve this problem, follow these steps:

1. Make sure that the policy **InformixDB\_Discovery** is deployed on the managed node for discovering Informix instances by running the following command:

**UNIX (except AIX):** `/opt/OV/bin/ovpolicy -l`

**AIX:** `/usr/lpp/OV/bin/ovpolicy -l`

2. Check the Informix Database discovery log file on the managed node:

`/var/opt/OV/log/InformixDB/dbspiinf_mon_disc.log`

3. Run the following command to obtain the policy ID of InformixDB\_Discovery:

`ovpolicy -polname "InformixDB_Discovery" -list -level1`

4. Verify whether the **InformixDB\_Discovery** policy files exist by checking entries in the `policyid.out` file:

`/var/opt/OV/tmp/agtrep/`

5. Run the following command to synchronize the Informix Database instance information to the OMi server from the discovery output file `agtrep.xml`:

`ovagtrep -publish -all`

6. Make sure that the Informix Database instance information is synchronized to the OMi MA server. Check the log files available at the following location:

`/var/opt/OV/log/InformixDB/trace`

## Management Templates and Aspects are not deployed to the managed nodes

**Problem:** Management Templates and Aspects are not deployed to the managed nodes.

**Solution:** To resolve this problem, follow these steps:

1. To check the deployment status:

Click **Administration > Monitoring > Deployment Jobs**.

2. To check the assignment status:

Click **Administration > Monitoring > Assignments & Tuning**.

3. Check these OMi log files `opr-webapp.log` and `opr-configserver.log` at the following location:

**UNIX:** `/opt/HP/BSM/log/jboss`

**Windows:** `%TOPAZ_HOME%\log\jboss`

## No data for Performance Manager i (PMi) Graphs

**Problem 1:** The information to create graphs is not available from OMi MP for Informix Database.

**Solution 1:** To resolve this problem, follow these steps:

1. Run the following command to check if the graph data sources are created:

```
ovcodautil -obj
```

Verify the list of data sources and make sure **DBSPI\_INF\_GRAPH** is created.

2. If the data sources are not created, run the following command to create the data source:

```
dbspigre
```

3. The errors related to data source creation are logged in the console of command prompt.
4. Make sure that the graph policies are deployed on the nodes and policies log data into the following files:

```
/var/opt/OV/conf/InformixDB/dsi/informix/<INSTANCE>/<INSTANCE>.dat
```

5. Make sure that the **\*.fm** files are deployed on the managed node. Missing **\*.fm** files or improper **\*.fm** files lead to NULL or zero data logged or populated into the data sources.
6. If the data is being logged into the **.dat** files in the required format, make sure that the **InformixDB\_Logger** policy (`dbspiinfmtwc` command) is deployed on the managed node. The **InformixDB\_Logger** policy reads the data from the **.dat** files and writes the data into the respective data source.
7. You can run the following command to verify if the data is being logged in the data sources.

```
ovcodautl -dumpds <datasource_name>
```

In this instance, data source is **DBSPI\_INF\_GRAPH**, **INFDB\_<hostname>\_<instance>**, and so on.

**Problem 2:** In case you are reusing any of the old nodes with Operations Agent 11.x and PA DSI (Data Source Integration) and if data sources are already created, this impacts data logging.

**Solution 2:** To resolve this problem, follow these steps:

1. To clean up and delete the old data, run the following commands:

- a. Clean the old data:

```
/var/opt/OV/bin/instrumentation/dbspiinf_mwclup
```

- b. To restart data sources, run the command `ovc -restart coda`.

2. Create an empty file:

```
/var/opt/OV/conf/dsi2ddf/nocoda.opt
```

3. For creating new CODA data sources and logging data for PMi, run the following commands:

```
dbspigre
```

**Problem 3:** If the managed node is previously monitored using the Smart Plug-in for Informix Database.

**Solution 3:** To resolve this problem, follow these steps:

1. Take a backup the data of **DBSPI\_INF\_<data sources>** to the Reporter (OBR) or any other Reporting solution that you are using.

For example: Run the following command to backup the data of **DBSPI\_INF\_<data sources>** on Reporter, `gathercoda -h <Informix_hostname>`.

2. Uninstall the HP Operations Smart Plug-in for Informix from the managed node.

For more information about uninstalling HP Operations Smart Plug-in for Informix from a managed node, see *HP Operations Smart Plug-in for Databases Installation and Configuration Guide*.

3. To remove the data sources, run the following command:

```
dbspiinf_mwclup
```

## Unable to log data into Reporter data sources

**Problem:**OMi MP for Informix Database is not logging data into Reporter data sources.

**Solution:** To resolve this problem, follow these steps:

1. Run the following command to check if the report data sources are created:

```
ovcodautl -obj
```

In this instance, data sources such as **DBSPI\_INF\_REPORT**, **INFOSM\_<hostname>\_<instance>**, and so on.

2. If the data sources are not created, run the following command to create the data source:

```
UNIX: dbspinfo_mw_int -osm
```

3. The errors related to data source creation are logged in the console of command prompt.
4. Ensure that the report policies are deployed on the nodes. Data for reports is logged by the report policies directly into the data sources.

## Informix Database metric collection fails

**Problem:** Informix Database metric collection fails.

**Solution:** You can identify this problem by following these steps:

1. You can enable tracing for an Informix Database Instance by changing the Informix Database Instance Tracing parameter to **ON**. Informix Database Instance Tracing parameter is an Expert parameter. To show expert parameters, click  **Show Expert Parameters**.

Select the View and then the corresponding instance, and parameters and change the Informix Database Instance Tracing parameter to ON.

or

2. Run the **Enable MP Trace (Informix Database)** tool to enable tracing for all instances on the node.

The instrumentation log files are available at the following locations:

**UNIX:**

```
/var/opt/OV/log/InformixDB/*
```

## Server scheduling metrics fail to run after deploying

**Problem:** Informix scheduling metrics are not running after deployment.

**Solution:** To resolve this problem, follow these steps:

1. Make sure the below four policies are deployed on the managed node by following these steps:

- a. Open the Policy Template pane:

Click **Administration > Monitoring > Policy Templates**.

- b. In the Policy Template Groups pane, click **Scheduler Task Templates**.

- c. Check if the policies - **InformixDB\_High**, **InformixDB\_Low**, **InformixDB\_Medium** and **InformixDB\_Veryhigh** are deployed.

2. Navigate to the following location, to check if the respective policy files are valid:

```
/var/opt/OV/conf/InformixDB/xml/
```

3. The scheduler XML files are created using the instrumentation file: `MPInfConfHandler.pl`

Instrumentation file is available at the following location:

```
/var/opt/OV/bin/instrumentation/
```

4. To enable tracing, run the **Enable MP Trace (Informix Database)** tool.

5. The scheduler log file is created at the following path, after enabling the tracing:

```
/var/opt/OV/log/InformixDB/MPInfConfHandler.pl
```

6. If you do not want to run any metric, the "NORUN" value can be selected in the Frequency parameter.

For more information about editing the parameter value, see the section "[Tuning Parameters](#)".

# Collection failure does not generate alerts on the Server

**Problem:** Whenever collector encounters an error, no alerts are generated on the Server.

**Solution:** To resolve this problem, follow these steps:

1. Enable tracing by following one of following methods:
  - a. Tracing can be enabled using the Assignment & Tuning pane by following the steps:
    - i. On OMi, click **Administration > Monitoring > Assignments & Tuning**.
    - ii. In the Browse Views pane, select **InformixDB\_Deployment**. Select the CI with the problem.
    - iii. In the Assignment Item pane, select the **Informix Database Base Aspect**.
    - iv. In the Assignment Details pane, click  to view the expert parameters.
    - v. Double-click the **Informix Instance Tracing** parameter.  
The Edit Instance Parameter wizard opens.
    - vi. Click  and then select **Informix Instance Tracing** parameter and select  .  
Change the value to **ON** and click **OK**.
    - vii. Click **OK**.
  - b. To enable tracing on all instances on the node, follow these steps:
    - i. Click **Workspaces > Operations Console > Event Perspective**.
    - ii. From the **View Explorer**, select a view and then select an event from the Event Browser.  
You can view the tools in the Action pane.
    - iii. Double-click **Enable MP Trace (Informix Database)** tool. The Preview Tool Execution wizard opens.

**Note:** Retain the optional parameter blank.
    - iv. Click **Run Tool**.
2. Navigate to the below location and make sure the appropriate instrumentation files are deployed

on the node:

```
/var/opt/OV/bin/instrumentation
```

3. The `dbspicai` is the collector which is used to get the Informix Database metrics.
  - a. To check the connection of the collector, run the command `dbspicai -dpv`.
  - b. To verify if the threshold value has exceeded the limit, run the command `dbspicai -pv -m <metric>`.

The metric values is displayed on the Command Console.

4. If the threshold value has exceeded the limit, run the following command to generate Alarms:

```
dbspicai -m <metric> -i <Instance name>
```

In this instance:

`-m` = (metric) Specifies the metric numbers or number ranges on which to collect data.

`-i` = (instance) Specifies the database instance (optional)

5. Instrumentation log files for tracing are available at the following location:

```
/var/opt/OV/log/InformixDB/
```

## No Instruction Text in Schedule Task Policy

**Problem:** The schedule metric collection fails and the *Instructions* tab is empty for one of the following reasons:

1. The instrumentation file (`MPInfCollMgr`) is not present in the following location:

```
/var/opt/OV/bin/instrumentation/
```

2. Agent user might not have permission to run the binary.
3. The system where Agent is installed might have low memory.

### Solution:

1. If the instrumentation file (`MPInfCollMgr`) is not available in the folder, redeploy the Management Template or Aspect to populate the instrumentation folder.
2. Ensure that the Agent user has the permission to run the instrumentation file (`MPInfCollMgr`).
3. Increase physical memory on the Agent installed system.

## Error while running `dbspiinfadm verify -nw` on Solaris

**Problem:** Minimum required SUNWsprt package is not installed on the Solaris to run the `what` command.

**Solution:** Install the SUNWsprt package on the Solaris environment.

Run the following command to check the installed status and details regarding the package:

```
#pkgchk -l -p /usr/ccs/bin/what
```

Following is the sample output of the command:

```
Pathname: /usr/ccs/bin/what  
Type: regular file  
Expected mode: 0755  
Expected owner: root  
Expected group: bin  
Expected file size (bytes): 9048  
Expected sum(1) of contents: 46690  
Expected last modification: Dec 07 20:29:09 2006  
Referenced by the following packages: SUNWsprt  
Current status: installed
```

# Appendix A: Data Sources for Logging

The metric data is logged into specific data sources for generating graphs and reports.

## Generic Data Source

The generic data source reserves a column for the database instance name, labeled instance name. This column also contains the information that differentiates the data collected for each instance. Other column represents the graphing metrics. The following table is a sample of the Data source Table. The complete list of all the graphing metrics is stored in the **dbspiinfg.fm** file located at:

**Linux:** /var/opt/OV/bin/instrumentation

## Format of Generic Data Source

The following table provides information about the format of generic data source:

INSTANCE NAME	E001_DbInstanceStat	...
<value>	<value>	<value>
<value>	<value>	<value>

## Reports

The web-based reports enable you to check the health and efficiency of specific Informix databases. The reports are generated from the **DBSPI\_INF\_REPORT** data source. The following table provides information about the Informix Reports that are available.

The **DBSPI\_INF\_REPORT** contains information about the following columns:

- Instance Name
- Metric ID
- Value ID

- System ID
- Object ID

The following table provides information about the **DBSPI\_INF\_REPORT** data source:

01/09/14 05:25:03 PM	INSTANCENAME	onehp
01/09/14 05:25:03 PM	METRICID	201.00
01/09/14 05:25:03 PM	VALUEID	1.00
01/09/14 05:25:03 PM	VALUE	5.00
01/09/14 05:25:03 PM	SYSTEMID	Machine Name
01/09/14 05:25:03 PM	OBJECTID	onehp

## Appendix B: Permissions and Grants

Following is the list of grants and privileges of Informix user account for OMi MP for Informix Database.

The HP-UX, Linux, AIX, and Solaris user specified in the Informix Connect clause must have certain capabilities and root must have certain capabilities. For most Informix installations, these capabilities are provided by the default Informix installation (that means no action is required). The capabilities required for the configured Connect user are:

Grant connect to sysmaster

Grant select to the sysmaster SMI tables

Execute permission on "onstat"

Execute permission on "dbaccess"

In addition, execute permission on "onstat" and "dbaccess" for the root user is required.

# Send documentation feedback

If you have comments about this document, you can [contact the documentation team](#) by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

**Feedback on User Guide (OMi Management Pack for Informix Database 1.00)**

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to [docfeedback@hpe.com](mailto:docfeedback@hpe.com).

We appreciate your feedback!