Oracle® Communications Network Integrity

Release Notes

Release 7.3.6

E97652-02

July 2023

Release Notes

This document provides information about Oracle Communications Network Integrity Release 7.3.6.

This document consists of the following sections:

> **Note:**
>
> For the Network Integrity documentation set for release 7.3.6.4, only Network Integrity System Administrator's Guide and the release notes changed. Refer to the documentation set for Network Integrity Releases 7.3.2 and 7.3.6 for the remaining documentation.

> **Note:**
>
> For the Network Integrity documentation set for release 7.3.6, only Network Integrity Installation Guide and the release notes changed. Refer to the documentation set for Network Integrity Release 7.3.2 for the remaining documentation.

See *Oracle Communications Design Studio Release Notes* for the release notes for the Design Studio for Network Integrity feature.

See *Network Integrity Licensing Information User Manual* for license and dependency information for Network Integrity components and cartridges.

Software Compatibility

See *Network Integrity Installation Guide* for more information about software requirements and compatibility.

Network Integrity 7.3.6.4 New Features

Network Integrity 7.3.6.4 includes the following new features and enhancements:

Support for Filtering Devices by Entering Resource Name

You can now filter the Device search results according to one or more resource names.

To do so:

1. Open NI user interface.
2. Go to **Display Scan Results**.

3. Click on a scan record to view the discovery scan results.
4. Go to **Resource Name** and use the filter option to choose either of the following options:
   - Equals
   - Contains
   - Starts with
   - Ends with
5. Enter the device name in the text field for the resource name.
6. Click **Search**

   The search result displays the devices with the entered names.
7. (Optional) You can view the device search results for multiple names as follows:
   a. Enter the device names separated with commas.
   b. From the filter, select **Contains**.
   c. Click **Search**.

   The search result displays all devices with the entered name.

Using NI Purge Scripts to Delete Large Volumes of Discovery and Reconciliation Data

You can use NI Purge scripts to delete large volumes of discovery and reconciliation data, without using the NI application. A date-based condition can be used for filtering the OCIM and NI table data. This results in identifying the data that will be cleared based on the date condition and you can delete this data using the purge scripts. See *Network Integrity System Administrator's Guide* for more information on Purge.

The latest version of NI data purge script provides:

- Parallel execution of OCIM and NI table purge scripts.
- Tables to capture the following:
  - Individual purge records (on both tables and scan levels).
  - Scan IDs on which the purge script is run.
  - Errors captured during the purge run.
- Batch-wise deletion of tables with comparatively high volume of data.
- Bash shell script to run the SQLs with the corresponding DB connection details.

Identifying and Resolving the Missing Entity Discrepancies at Root-level Entities in NI

NI supports identifying and resolving the missing entity discrepancies at root-level entities such as Physical Device and Logical Device.

The UIM integration cartridge contains the required matcher and a resolution procedure, where the missing entity is handled as follows:

1. Run the **Import** scan for Node A and Node B that are available in UIM.
2. Run the **Discovery** scan for Node A and Node B with discrepancy enabled.

> **Note:**
>
> If NI discovers Node B, then NI will show the discrepancy on Node A as a missing entity.

3. Click Review Discrepancies to view the list of discrepancies, select the corresponding discrepancy **Entity-**.
4. From **Actions**, select **Correct in UIM** to remove Node A in UIM.

Redirecting the Import and Discovery Scans to ManagedServer for Achieving a Better LoadBalancing in a Cluster

You can redirect the Import and Discovery scans to a ManagedServer (MS) for achieving a better LoadBalancing in a WebLogic or NI cluster domain.

To achieve this better load balancing:

1. Configure new JMS sub-deployments and JMS Connection Factory. See *NI System Administrator's Guide* for more information.
2. Create and model the Discovery or Import scan to have a new custom attribute **JMS_CF**.

The scans will be performed in the corresponding cluster MSs, if you have created a new Discovery or Import scan with the Connection Factory values in the **JMS_CF** attribute at the scan-level. This process of scheduling the scans and redirecting them to each MS helps you in attaining a better load balancing.

> **Note:**
>
> - This process works efficiently if the scans have one or two work items that are running.
> - Oracle recommends you avoid this process for the scans with larger number of work items as that can cause MS overloading.

Support for Parallel Processing in persistResults() API

NI core has an API **persistResults()** that stores the entities added to the context.

The process of storing the entities happens in a sequence. If the data volume is high, you may need to store the results simultaneously. You can enable the parallel processing by setting the configuration parameter **PersistResultsInParallel** value to **true** under System MBean browser. By default, this option is turned off. See *Network Integrity System Administrator's Guide* for more information on System MBean Configuration Services.

This parallel processing uses work-manager concept of WebLogic. The work-manager configuration is available in **NetworkIntegrity.ear/META-INF/weblogic-application.xml** as follows:

```
<work-manager>
     <name>wm/IntegrityWorkManager</name>
     <min-threads-constraint>
       <name>IntegrityWorkManager_minthreads</name>
        <count>0</count>
     </min-threads-constraint>
     <max-threads-constraint>
       <name>IntegrityWorkManager_maxthreads</name>
        <count>5</count>
     </max-threads-constraint>
  </work-manager>
```

The work-manager is configured with **max-threads-constraint=5**. You can change the value and redeploy the **ear** file.

Deploying Cartridges with Modified Specification Characteristics

In NI, you can deploy the cartridges with specifications having changes in characteristics by using a configurable **disableValidationForSpecExtension** parameter. This parameter adds or removes any required characteristics without a need for undeploying and redeploying the cartridges to reflect these changes.

The default value of **disableValidationForSpecExtension** is **false** and you need to change the value to **true** to enable this option.

The configurable parameter **disableValidationForSpecExtension** is set to **true** from **NIConfigurationService** of the System MBean browser, after logging into WebLogic **em** console. See *Network Integrity System Administrator's Guide* for more information on System MBean Configuration Services.

Support to Choose a Customizable Scan Mode for SNMP Scans

You can now choose and assign a scan mode to each SNMP scan by using a configurable **scanMode** parameter. You can use the existing Global property file to perform all scans simultaneously using a single mode.

> **Note:**
>
> While performing SNMP scans, the mode from the Global property file takes the precedence over individual scan modes.

The SNMP scans can be performed as follows:

- If the Global property file does not exist, the scan mode is selected using the **scanMode** parameter.
- If the Global property file exists and is accessible, the scan mode is selected as follows:
  - `global file mode=normal/record/playback`

    Where, the entered mode applies to all scans and this mode takes the precedence over the individual scan modes.
  - `global file mode=custom`

    Where, you can customize the scan mode within the Global file by using the **scanMode** parameter.
- If the Global property file exists and is not accessible, the scan mode is selected from the **scanMode** parameter.
- You can set the **scanMode** parameter with the required value while editing the corresponding SNMP scan or creating a new SNMP scan. While creating a new SNMP scan, the parameter value is set to **normal** by default.

Support to Export Huge Amounts of NI Records into Excel Sheets

From the Review Discrepancies page of NI, you can now export huge amounts of NI records into Excel sheets using a configurable **discrepancy.page.size** value.

1. Go to the **domain_home/lib** folder and open the **discrepancy.properties** file.
2. Set the required **discrepancy.page.size** value that in turn sets **fetchSize** in DB.

   > **Note:**
   >
   > use **fetchSize** to select the number of rows to be fetched from DB
3. Depending on the pagination and the size of data to be exported, set the value as follows:
   - Enter **discrepancy.page.size** value as 25 for exporting normal activities. This is the default value if the file is not present.

- Enter **discrepancy.page.size** value as 1000 for exporting huge amounts of NI records.

Viewing SNMP Polling Details in NI

You can now view SNMP polling information in the form of log messages and failure reasons in NI. This information helps in understanding and analyzing the cause and the reason for not detecting the corresponding device. You can view these details under the **Failure Reason** tab in NI in the form of error messages when a scan fails.

A device scan may fail when:

- The server is unable to ping the device.
- There are missing scan parameters such as authentication protocol, privacy protocol, and so on.
- There is a session timeout.
- Incorrect credentials are entered.

If there is any other error that is not listed above, the error code and the corresponding error message appear from the device. You can view the list of possible error codes and the corresponding error messages from https://www.webnms.com/snmp/help/snmpapi/snmpv3/javadocs/constant-values.html

Third-party Software Upgrades and OSCS Scan

NI supports the following upgraded third-party software versions:

Table 1-1 Third-Party Sofware Versions

Third-Party Sofware	Versions
xmlbeans	5.1.1
spring-framework	5.2.7
log4j-core	2.19
log4j-api	2.19
commons-net	3.9
poi	5.2.3
sshd	2.9.2

Note: NI acquired the OSCS product approval for all third-party jars that are being used in NI core and cartridges.

Support to Display Characteristics in a Custom Order

In NI, you can now view characteristics in a customized order as per your requirement. You can achieve this by changing the catridge-side **tooltip** value. The **tooltip** parameter must contain a numerical value. The characteristic with higher **tooltip** value appears at the top in the Entity Details page of NI.

You can customize the characteristics order for any existing entities by updating the corresponding **tooltip** value.

See *Modeling Network Integrity* for more information on **tooltip**.

Support to View NI Reports in Oracle Analytics Server

You can now view NI reports on Oracle Analytics 6.4. These reports (OAS reports) help you in understanding and analyzing the network data.

You can generate the following OAS reports:

- Scan History report
- Discrepancy Corrective Action report
- Discovery Scan Summary report
- Device Discrepancy Detection Summary report
- Device Discrepancy Detection Detailed report

Sorting the NI Logical Data in MIB-II for SNMP

In NI Scan Results page, you can view the entities (at all levels) sorted in an alphabetical order for all scans.

This enables you for a faster identification of interface names in technologies such as SDH, DWDM, and Ethernet where STMs and GigEs appear in channels.

Community String is Mandatory for SNMP Version 1 and Version 2 Scans

For all SNMP **Version 1** and **Version 2** scans, **Community String** is mandatory while saving the scans. It is optional for SNMP **Version 3** scans.

Enhancements in Post Installation Procedure

During the post installation, before NI startup, add the following Java option to the start **Weblogic.sh** file:

```
Dorg.apache.logging.log4j.simplelog.StatusLogger.level=OFF
```

Changes in NI Upgrade Procedure

Before you start upgrading NI to a latest version:

1. Stop all managed servers, except admin server.
2. Undeploy **snmpAdapter** from the console.
3. Start all managed servers.
4. Proceed with the normal NI upgrade.

Expanding NI from WebLogic Console

To expand NI from WebLogic console for a cluster installation, add **AdminServer** from WebLogic console for the following libraries:

- oracle.communications.platform.cui.webapp
- oracle.communications.platform.ies
- oracle.communications.platform.poms
- oracle.communications.platform.WsFramework

Support for Sequential Reconciliation

You can set a scan to perform reconciliation in a sequential order by setting **resolveInSequence** parameter inside the **AutoResolutionParameter** scan group.

The **resolveInSequence** is a boolean type parameter and the default value is **false**.

To perform a scan in a sequential order, set **resolveInSequence** to **true**.

For cartridges that do not have **AutoResolutionParameter** scan group, you can perform one of the following:

- Add **AutoResolutionParameter** scan group from the **NetworkIntegritySDk** cartridge.
- Add **resolveInSequence** characteristic to any of the scan parameter groups that are present in the cartridge.

Searching Scope while Editing or Creating a Discovery Scan

You can search scope while editing or creating a Discovery scan in NI.

To do so:

1. From the Tasks panel, click **Manage Scans**.

   The Manage Scans page appears.
2. Do one of the following:
   - Click the Create icon on the **Search Results** table.

     The Create Scan page appears.
   - Select a scan record and click the Edit icon.

     The Edit Scan page appears.
3. Go to the **Scope** tab.
4. Select an option for **Search Scope** and enter the corresponding value.
5. Click **Search**.

   The scan is created or edited according to the scope.

6. (Optional) Enter a value in the text field and click the Add Address icon to add a network address.
7. (Optional) From the Network Address table, select a record and click the Delete Address icon to delete the network address.

Support for Multithreading in Import Scans

You can have multithreading in import scans. The thread size can be configured using the following configuration in deployment descriptor files. By default, multithreading is enabled. You can change this configuration and redeploy the **NetworkIntegrity.ear**. By commenting this configuration, you can disable multithreading and all import scans will then run in sequence.

To use multithreading in import scans:

1. Update **NetworkIntegrity.ear/META-INF/weblogic-application.xml** as follows:

```
<work-manager>
     <name>wm/IntegrityImportWorkManager</name>
              <min-threads-constraint>
                 <name>IntegrityImportWorkManager_minthreads</name>
                           <count>0</count>
              </min-threads-constraint>
              <max-threads-constraint>
                 <name>IntegrityImportWorkManager_maxthreads</name>
                           <count>5</count>
              </max-threads-constraint>
  </work-manager>
  <managed-executor-service>
       <name>integrityImportMES</name>
       <dispatch-policy>wm/IntegrityImportWorkManager</dispatch-
policy>
   </managed-executor-service>
   <resource-env-description>
                           <resource-env-ref-name> java:app/env/
integrityImportMES </resource-env-ref-name>
                           <resource-link>integrityImportMES</
resource-link>
   </resource-env-description>
</weblogic-application>
```

2. Update **NetworkIntegrity.ear/META-INF/application.xml** as follows:

```
<resource-env-ref>
             <resource-env-ref-name>java:app/env/
integrityImportMES</resource-env-ref-name>
             <resource-env-ref-
type>javax.enterprise.concurrent.ManagedExecutorService</resource-
env-ref-type>
</resource-env-ref>
```

Support to Filter Discrepancies Using Error Reason

You can filter discrepancies based on error reasons.

To do so:

1. From the Review Discrepancies page, click **Advanced**.

   A list of fields under Search criteria appear.
2. Go to **Error Reason** and select either of the following according to your filter criteria:
   - Equals
   - Contains
   - Not Equals
3. Enter the corresponding error value that you want to filter with.
4. Click **Search**

   The list of discrepancies appear, according to the selected error reason.
5. (Optional) Using the **Error Reason** column from the search results, you can select, isolate, and verify any specific discrepancy.

Customizing Response Timeout for Devices in SNMP Discovery Scan

You can customize response timeout for devices in SNMP discovery scan using **Response Timeout** field on Edit Scan or Create Scan pages.

Setting the response timeout for a scan enables you to stop any device or devices that take longer than the required time, without disturbing the scan.

You can set the response timeout only for **SnmpParameters** group of a Discovery Scan.

To customize the response timeout for a Discovery scan:

1. Go to **Manage Scans**.
2. Select the required SNMP Discovery scan from **Search Results**.

   Or, click the Create icon to create a new scan.
3. From the Edit Scan or Create Scan page, enter the corresponding SNMP Discovery scan details.
4. Under **Scan Action Parameters** section, select **SnmpParameters** from **Select Parameter Group** list.
5. Set the required timeout value in **Response Timeout**.
6. Click **Save and Close**.

   The scan is set with the required response timeout value.

Platform Upgrade

The Network Integrity 7.3.6.4 application platform upgrade includes the following versions:

- Oracle Fusion Middleware 12c (12.2.1.4.0)
- Oracle WebLogic Server 12c (12.2.1.4.0)
- Oracle Database Enterprise Edition 19c
- Server Operating System:
  - Oracle Linux 7.x (x>=3)
  - Oracle Linux 8.x (x>=2)

> **Note:**
>
> Oracle products certified on Oracle Linux are also supported on Red Hat Enterprise Linux due to implicit compatibility between both distributions. Oracle does not run any additional testing on Red Hat Enterprise Linux products. Oracle recommends the latest available update, because later updates may provide modest performance gains.

Network Integrity 7.3.6 New Features

Network Integrity 7.3.6 includes the following new features and enhancements:

Platform Upgrade

With Network Integrity 7.3.6, the application platform upgrades Oracle Fusion Middleware Application software and Oracle Database to the following versions:

- Oracle Fusion Middleware 12c (12.2.1.3.0)
- Oracle WebLogic Server 12c (12.2.1.3.0)
- Oracle Database Enterprise Edition 12c Release 2 (12.2.0.1)

See *Network Integrity Installation Guide* for more information on the software version requirements.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Oracle Communications Network Integrity Release Notes, Release 7.3.6
E97652-02