Troubleshooting Network Performance Insight
Before you use this information and the product it supports, read the information in "Notices" on page 37.

This edition applies to version _1_, release _1_, modification _1_ of IBM Network Performance Insight and to all subsequent releases and modifications until otherwise indicated in new editions.

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Introduction

How to troubleshoot IBM® Network Performance Insight.

Intended audience

The audience who are network administrators or operations specialist responsible for installing the Network Performance Insight product suite on an enterprise network.

To install Network Performance Insight successfully, you must have a thorough understanding of the following subjects:

- Network Performance Insight 1.1.1 system
- Basic principles of network protocols and network management
- NetFlow concepts
- Administration of the Linux
- Jazz™ for Service Management

Organization

Read this summary to help you find the information that you need.

- [Chapter 1, “Troubleshooting and support,” on page 1](#)
- [Chapter 2, “Log files in Network Performance Insight,” on page 7](#)
- [Chapter 3, “Known problems and solutions,” on page 13](#)
- [Chapter 4, “Messages,” on page 17](#)

Network Performance Insight overview

IBM Network Performance Insight is a flow-based network traffic performance monitoring system.

Network Performance Insight provides comprehensive, flexible, and scalable traffic data management with visualization and reporting to support complex, multi-vendor, multi-technology networks. It offers a range of dashboard views with robust security features that are designed to meet the needs of executive management and converging network and IT operations teams.

Network Performance Insight offers near real-time and interactive view on the traffic data that helps in reduced network repair times and optimized network performance.

Network Performance Insight provides IBM Netcool® Operations Insight with network performance monitoring capabilities to address modern network management challenges around application-oriented, software-defined-networks in the enterprise data centers and intranet.

The following diagram shows how data is flowing through the various components in Network Performance Insight:
The flow records that are sent by the configured flow exporters are collected by Collector, and sent to Inventory or Analytics component based on the information that they contain.

Analytics component performs flow data aggregation. These results are then stored in Network Performance Insight database.

Additionally, you can enable or disable the processing of flow records on each flow interface on Dashboard Application Services Hub portal. The dashboards provide up-to-date actionable information to provide an insight into network problems and streamline root cause analysis.

The data from the Storage component can be queried to display the results on Network Health Dashboard or OMNIbus Web GUI from Active Event List or Event Viewer.

You must integrate Network Performance Insight with IBM Tivoli® Network Manager and Tivoli Netcool/OMNIbus components of IBM Netcool Operations Insight to take advantage of its network topology views and fault management capabilities.

Network Performance Insight includes the following documents:
• Release summary
• Quick Start Guide
• Installing Network Performance Insight
• Configuring Network Performance Insight
• Integrating with Netcool Operations Insight
• Getting Started with Network Performance Insight
• Troubleshooting Network Performance Insight
• References
• Technical notes

Related information:

IBM Network Performance Insight on IBM Knowledge Center

Service Management Connect

Connect, learn, and share with Service Management professionals: product support technical experts who provide their perspectives and expertise.


Use Service Management Connect in the following ways:

• Become involved with transparent development, an ongoing, open engagement between other users and IBM developers of Tivoli products. You can access early designs, sprint demonstrations, product roadmaps, and prerelease code.
• Connect one-on-one with the experts to collaborate and network about Tivoli and the Network and Service Assurance community.
• Read blogs to benefit from the expertise and experience of others.
• Use wikis and forums to collaborate with the broader user community.

Related information:

IBM Network Performance Insight community on developerWorks

Network Performance Insight technical training

For Tivoli technical training information, see the following Network Performance Insight Training website at https://tnpmsupport.persistentsys.com/updated_trainings

Support information

If you have a problem with your IBM Software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

Online


IBM Support Assistant

The IBM Support Assistant is a free local software serviceability workbench that helps you resolve questions and problems with IBM Software products. The Support Assistant provides quick access to support-related information and serviceability tools for problem determination. To install the Support Assistant software, go to http://www.ibm.com/software/support/isa.

Troubleshooting Guide

For more information about resolving problems, see the problem determination information for this product.

Conventions used in this publication

Several conventions are used in this publication for special terms, actions, commands, and paths that are dependent on your operating system.
Typeface conventions

This publication uses the following typeface conventions:

**Bold**

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolon lists, containers, menu choices, menu names, tabs, property sheets), labels (such as Tip, and Operating system considerations)
- Keywords and parameters in text

**Italic**

- Citations (examples: titles of publications, diskettes, and CDs)
- Words defined in text (example: a nonswitched line is called a point-to-point line)
- Emphasis of words and letters (words as words example: "Use the word that to introduce a restrictive clause."); letters as letters example: "The LUN address must start with the letter L."
- New terms in text (except in a definition list): a view is a frame in a workspace that contains data.
- Variables and values you must provide: ... where myname represents....

**Monospace**

- Examples and code examples
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
- Message text and prompts addressed to the user
- Text that the user must type
- Values for arguments or command options

**Bold monospace**

- Command names, and names of macros and utilities that you can type as commands
- Environment variable names in text
- Keywords
- Parameter names in text: API structure parameters, command parameters and arguments, and configuration parameters
- Process names
- Registry variable names in text
- Script names
Chapter 1. Troubleshooting and support

You can use this troubleshooting and support information to troubleshoot problems with IBM Network Performance Insight.

This information assumes a working installation of Network Performance Insight. For installation or upgrade problems, refer to the installation and upgrade information.

Troubleshooting a problem

Troubleshooting is a systematic approach to solving a problem. The goal of troubleshooting is to determine why something does not work as expected and how to resolve the problem.

The first step in the troubleshooting process is to describe the problem completely. Problem descriptions help you and the IBM technical-support representative know where to identify the cause of the problem. This step includes asking yourself basic questions:

- What are the symptoms of the problem?
- Where does the problem occur?
- When does the problem occur?
- Under which conditions does the problem occur?
- Can the problem be reproduced?

The answers to these questions typically lead to a good description of the problem, which can then lead you a problem resolution.

What are the symptoms of the problem?

When starting to describe a problem, the most obvious question is “What is the problem?” This question might seem straightforward; however, you can break it down into several more-focused questions that create a more descriptive picture of the problem. These questions can include:

- Who, or what, is reporting the problem?
- What are the error codes and messages?
- How does the system fail? For example, is it a loop, hang, crash, performance degradation, or incorrect result?

Where does the problem occur?

Determining where the problem originates is not always easy, but it is one of the most important steps in resolving a problem. Many layers of technology can exist between the reporting and failing components. Networks, disks, and drivers are only a few of the components to consider when you are investigating problems.

The following questions help you to focus on where the problem occurs to isolate the problem layer:

- Is the problem specific to one platform or operating system, or is it common across multiple platforms or operating systems?
• Is the current environment and configuration supported?

If one layer reports the problem, the problem does not necessarily originate in that layer. Part of identifying where a problem originates is understanding the environment in which it exists. Take some time to completely describe the problem environment, including the operating system and version, all corresponding software and versions, and hardware information. Confirm that you are running within an environment that is a supported configuration; many problems can be traced back to incompatible levels of software that are not intended to run together or have not been fully tested together.

**When does the problem occur?**

Develop a detailed timeline of events leading up to a failure, especially for those cases that are one-time occurrences. You can most easily develop a timeline by working backward: Start at the time an error was reported (as precisely as possible, even down to the millisecond), and work backward through the available logs and information. Typically, you need to look only as far as the first suspicious event that you find in a diagnostic log.

To develop a detailed timeline of events, answer these questions:

• Does the problem happen only at a certain time of day or night?
• How often does the problem happen?
• What sequence of events leads up to the time that the problem is reported?
• Does the problem happen after an environment change, such as upgrading or installing software or hardware?

Responding to these types of questions can give you a frame of reference in which to investigate the problem.

**Under which conditions does the problem occur?**

Knowing which systems and applications are running at the time that a problem occurs is an important part of troubleshooting. These questions about your environment can help you to identify the root cause of the problem:

• Does the problem always occur when the same task is being performed?
• Does a certain sequence of events need to occur for the problem to surface?
• Do any other applications fail at the same time?

Answering these types of questions can help you explain the environment in which the problem occurs and correlate any dependencies. Remember that just because multiple problems might have occurred around the same time, the problems are not necessarily related.

**Can the problem be reproduced?**

From a troubleshooting standpoint, the ideal problem is one that can be reproduced. Typically, when a problem can be reproduced you have a larger set of tools or procedures at your disposal to help you investigate. Consequently, problems that you can reproduce are often easier to debug and solve. However, problems that you can reproduce can have a disadvantage: If the problem is of significant business impact, you do not want it to recur. If possible, re-create the problem in a test or development environment, which typically offers you more flexibility and control during your investigation.
• Can the problem be re-created on a test system?
• Are multiple users or applications encountering the same type of problem?
• Can the problem be re-created by running a single command, a set of commands, or a particular application?

**Searching knowledge bases**

You can often find solutions to problems by searching IBM knowledge bases. You can optimize your results by using available resources, support tools, and search methods.

### Troubleshooting checklist for Network Performance Insight

By answering a set of questions that are structured into a checklist, you can sometimes identify the cause of a problem and find a resolution to the problem on your own.

Answering the following questions can help you to identify the source of a problem that is occurring with Network Performance Insight:

1. Is your issue a known problem?
2. Is the configuration supported?
3. What are you doing when the problem occurs?
   • Installing, upgrading, or migrating the product
   • Doing administration tasks
   • Doing authorization tasks
   • Networking
   • Using the product
4. What, if any, error messages or error codes were issued?
5. If the checklist does not guide you to a resolution, collect additional diagnostic data. This data is necessary for an IBM technical-support representative to effectively troubleshoot and assist you in resolving the problem.

**Searching knowledge bases**

You can often find solutions to problems by searching IBM knowledge bases. You can optimize your results by using available resources, support tools, and search methods.

**About this task**

You can find useful information by searching the IBM Knowledge Center for Network Performance Insight, but sometimes you need to look beyond the IBM Knowledge Center to answer your questions or resolve problems.

**Procedure**

To search knowledge bases for information that you need, use one or more of the following approaches:

• Search for content by using the IBM Support Assistant (ISA).
  ISA is a no-charge software serviceability workbench that helps you answer questions and resolve problems with IBM software products. You can find instructions for downloading and installing ISA on the [ISA website](http://isawebsite).
• Find the content that you need by using the IBM Support Portal.
The IBM Support Portal is a unified, centralized view of all technical support tools and information for all IBM systems, software, and services. The IBM Support Portal lets you access the IBM electronic support portfolio from one place. You can tailor the pages to focus on the information and resources that you need for problem prevention and faster problem resolution. Familiarize yourself with the IBM Support Portal by viewing the demo videos (https://www.ibm.com/blogs/SPNA/entry/the_ibm_support_portal_videos) about this tool. These videos introduce you to the IBM Support Portal, explore troubleshooting and other resources, and demonstrate how you can tailor the page by moving, adding, and deleting portlets.

- Search for content by using the IBM masthead search. You can use the IBM masthead search by typing your search string into the Search field at the top of any ibm.com® page.
- Search for content by using any external search engine, such as Google, Yahoo, or Bing.

If you use an external search engine, your results are more likely to include information that is outside the ibm.com domain. However, sometimes you can find useful problem-solving information about IBM products in newsgroups, forums, and blogs that are not on ibm.com.

Tip: Include “IBM” and the name of the product in your search if you are looking for information about an IBM product.

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**Contacting IBM support**

IBM Support provides assistance with product defects, answering FAQs, and performing rediscovery.

**Before you begin**

After trying to find your answer or solution by using other self-help options such as technical notes, you can contact IBM Support. Before contacting IBM Support, your company must have an active IBM maintenance contract, and you must be authorized to submit problems to IBM. For information about the types of available support, see the Support portfolio topic in the Software Support Handbook.

**Procedure**

Complete the following steps to contact IBM Support with a problem:

1. Define the problem, gather background information, and determine the severity of the problem. For more information, see the Getting IBM support topic in the Software Support Handbook.
2. Gather diagnostic information.
3. Submit the problem to IBM Support in one of the following ways:
   - Using IBM Support Assistant (ISA)
   - Online through the IBM Support Portal. You can open, update, and view all your Service Requests from the Service Request portlet on the Service Request page.
   - By phone: For the phone number to call in your country, see the Directory of worldwide contacts web page.
Results

If the problem that you submit is for a software defect or for missing or inaccurate documentation, IBM Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Support provides a workaround that you can implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the IBM Support website daily, so that other users who experience the same problem can benefit from the same resolution.

Exchanging information with IBM

To diagnose or identify a problem, you might need to provide IBM Support with data and information from your system. In other cases, IBM Support might provide you with tools or utilities to use for problem determination.

Sending information to IBM Support

To reduce the time that it takes to resolve your problem, you can send trace and diagnostic information to IBM Support.

Procedure

To submit diagnostic information to IBM Support:

1. Open a problem management record (PMR).
2. Collect the diagnostic data that you need. Diagnostic data helps reduce the time that it takes to resolve your PMR. You can collect the diagnostic data manually or automatically:
   - Collect the data manually.
   - Collect the data automatically.
3. Compress the files by using the ZIP or TAR format.
4. Transfer the files to IBM. You can use one of the following methods to transfer the files to IBM:
   - IBM Support Assistant
   - The Service Request tool
   - Standard data upload methods: FTP, HTTP
   - Secure data upload methods: FTPS, SFTP, HTTPS
   - Email

All of these data exchange methods are explained on the IBM Support site.

Subscribing to Support updates

To stay informed of important information about the IBM products that you use, you can subscribe to updates.

About this task

By subscribing to receive updates about IBM Network Performance Insight, you can receive important technical information and updates for specific IBM Support tools and resources. You can subscribe to updates by using one of two approaches:

My Notifications

With My Notifications, you can subscribe to Support updates for any IBM product. (My Notifications replaces My Support, which is a similar tool that you might have used in the past.) With My Notifications, you can specify that you want to receive daily or weekly email announcements.
You can specify what type of information you want to receive (such as publications, hints, and tips, product flashes (also known as alerts), downloads, and drivers). My Notifications enables you to customize and categorize the products about which you want to be informed and the delivery methods that best suit your needs.

For general information about My Notifications, including steps for getting started, see the My Notifications site.

**Results**

Until you modify your RSS feeds and My Notifications preferences, you receive notifications of updates that you have requested. You can modify your preferences when needed (for example, if you stop by using one product and begin by using another product).

- [Subscribe to My Notifications support content updates](#)
- [My Notifications for IBM technical support](#)
- [My Notifications for IBM technical support overview](#)
Chapter 2. Log files in Network Performance Insight

Log files are created during installation of Network Performance Insight. These logs can be used to examine processing results and problems.

Installation log files:

<table>
<thead>
<tr>
<th>Log file name</th>
<th>Description</th>
</tr>
</thead>
</table>
| npid.log      | Location: `<NPI_Home>/log/npid.log`
                | A log that you must check first for all troubleshooting. This log contains installation messages such as start errors related to kernel parameter checks and environment checks.
                | All other standard errors that the npi process triggers such as Java exceptions. |
| npi.log       | Location: `<NPI_Home>/log/npi.log`
                | For all other troubleshooting issues other than the issues you see when you start the npi process, see the npi.log file. |
| backup.log    | Location: `<NPI_Home>/log/backup.log`
                | To check for any issues during backup procedure, see the backup.log file. All messages during backup are logged in this file. |
| restore.log   | Location: `<NPI_Home>/log/restore.log`
                | To check for any issues during restore operation, see the restore.log file. All messages during restore are logged in this file. |
Configuring logging

The default logging level can be set in the npi.conf file.

Procedure

1. To configure the log level for the error messages that are logged in npi.log file, add the following lines to <NPI_home>/conf/npi.conf file:

   ```
   logging.level = {DEBUG | INFO | WARN | ERROR | ALL | OFF}
   ```

   If you do not set any values, the default logging level is INFO. After you restart the Network Performance Insight server, the logging level that you have entered becomes the default logging level. If you set the logging level as OFF, the logging is disabled.

   **Table 1. Log level rules for different options**

<table>
<thead>
<tr>
<th>Logging level</th>
<th>DEBUG</th>
<th>INFO</th>
<th>WARN</th>
<th>ERROR</th>
<th>ALL</th>
<th>OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEBUG</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>INFO</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>WARN</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>ERROR</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

2. To specify the retention period for the historical log files, add the following lines to npi.conf file:

   ```
   logging.history = nn
   ```

   Where `nn` is an integer value.

   **Note:** The default value is 10. A new npi.log file is created everyday and the log file that is created on the previous day is renamed to npi-<mm_dd_yyyy>.log. This setting determines how many days these log files are maintained in the <NPI_Home>/log directory.

3. Save the npi.conf file.
4. Restart the system.

Related tasks:

- [“Editing default settings in a configuration file” on page 9](#)
  Typically, the npi.conf file must be configured to override some default settings.
- [“Controlling Network Performance Insight system” on page 11](#)
  Commands to control the Network Performance Insight application processes.

Log message format

Typically, each log message indicates the log level, time stamp, component, thread, error code, and event description.

An example error:

```
[INFO] [2015-06-22 00:00:22.907]
[akka.tcp://npi@10.44.240.188:2552/user/core/components/storage/write/AGG_001MIN_TOP_APP_DSTIP_OCTET]
[npi-storage.write.dispatcher-106009]
GYSW0002I: 30 records have been written to AGG_001MIN_TOP_APP_DSTIP_OCTET[0.10 seconds] [309.28 per second]
```

Log message elements:
Editing default settings in a configuration file

Typically, the npi.conf file must be configured to override some default settings.

Procedure

1. Create or edit npi.conf file in Notepad or similar application and add the lines according to your requirement.

Configure NetFlow data collection

2. To change the default listener port, add the comma-separated list of socket addresses with in square brackets to the npi.conf file:
   
   ```
   collector.flow.udp.ports = ['socketAddress1', 'socketAddress2', ...]
   ```

   The default UDP listener port for any IP address is 4379. Currently, the support is for UDP port only.

   **Note:** Socket address is a form of ipAddress:portNumber where ipAddress is optional.

3. To black list flow exporter IP addresses, add the following lines to npi.conf file:
   
   ```
   collector.flow.exporter.blacklist = ['ipAddress1', 'ipAddress2', ...]
   ```

   Add the comma-separated list of IP addresses in square brackets. The flow data from these exporters in the list is blocked from further processing.

Configure logging

4. To specify the retention period for the historical log files, add the following lines to npi.conf file:
   
   ```
   logging.history = nn
   ```

   Where nn is an integer value.

   **Note:** The default value is 10. A new npi.log file is created everyday and the log file that is created on the previous day is renamed to npi-<mm_dd_yyyy>.log. This setting determines how many days these log files are maintained in the <NPI_Home>/log directory.

5. To configure the log level for the error messages that are logged in npi.log file, add the following lines to npi.conf file:
   
   ```
   logging.level = {INFO | WARN | ERROR | ALL | OFF}
   ```
If you do not set any values, the default logging level is INFO. After you restart the Network Performance Insight server, the logging level that you entered becomes the default logging level. If you set the logging level as OFF, the logging is unavailable.

Table 2. Log level rules for different options

<table>
<thead>
<tr>
<th>Logging level</th>
<th>INFO</th>
<th>WARN</th>
<th>ERROR</th>
<th>ALL</th>
<th>OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>WARN</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>ERROR</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

Configure DNS server

6. To set or edit the DNS server details, add the following to npi.conf file:

```plaintext
dns.server.address= "<DNS_Server_IP_Add>
dns.server.port= <DNS_Server_Port_Number>
```

The default DNS server port number is 53.

Typically, if you do not set the DNS server IP address setting in npi.conf, it looks for nameserver setting in /etc/resolv.conf file during DNS lookup and resolution. If there is no nameserver setting in this file, then it defaults to localhost.

Configure the networking timeouts for DNS resolution

7. To set or edit the networking timeouts for resiliency in DNS resolution, add the following lines to npi.conf file:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>dns.network.initiation.timeout</td>
<td>30 seconds</td>
<td>The maximum amount of time the DNS Service waits in “Disconnected” state before it attempts to connect to the DNS Server.</td>
</tr>
<tr>
<td>dns.network.connection.timeout</td>
<td>10 seconds</td>
<td>The maximum amount of time the DNS Service waits in “Connecting” state for the networking layer to respond that the connection is established.</td>
</tr>
<tr>
<td>dns.network.acknowledgement.timeout</td>
<td>5 seconds</td>
<td>The maximum amount of time the DNS Service waits in “Waiting” state for the networking layer to respond with an acknowledgment that the outbound packet is written to the operating system/networking buffers.</td>
</tr>
<tr>
<td>dns.network.disconnect.timeout</td>
<td>5 seconds</td>
<td>The maximum amount of time the DNS Service waits in “Disconnecting” state before it resets and moves to “Disconnected” state to close the connection.</td>
</tr>
</tbody>
</table>

Configuring backup snapshots count
8. To specify the maximum number of backup snapshots, add the following lines to npi.conf file:

\[
\text{storage.maxBackupSnapshotCount} = n
\]

Where \( n \) is an integer value.

**Note:** The default value is 7. The backup procedure maintains a total of 7 backup snapshots at any point in the \(<\text{NPI_Home}>/\text{work}/\text{backup-snapshot}\) directory.

**Next steps**

9. Save the npi.conf file in the \(<\text{NPI_Home}>/\text{conf}\) directory.

10. Restart the system.

For more information, see *Controlling Network Performance Insight system* in *Installing Network Performance Insight*.

### Controlling Network Performance Insight system

Commands to control the Network Performance Insight application processes.

**About this task**

You can control the system that is running Network Performance Insight in the following ways:

- Use the `service npi` command options
- Use the `npid` command options
- Use the `chkconfig` utility to disable the `npi` service.

**Procedure**

- Run the `service npi` command to start, stop, and restart Network Performance Insight by using the following commands:

  ```
  ./ service npi
  Usage: {start|stop|restart|kill|status|version|help}
  ```

  For more information, see *service npi command reference* in *Command Line Interface*.

- Run the `npid` command to start, stop, and restart Network Performance Insight by using the following commands:

  ```
  cd <NPI_Home>/bin
  ./npid
  Usage: {start|stop|restart|kill|status|version|help}
  ```

  For more information, see *npid command reference* in *Command Line Interface*.

- Disable the `npi` service in runlevels 2, 3, 4, and 5 by using the `chkconfig` command with the following option:

  ```
  chkconfig service npi off
  ```
Chapter 3. Known problems and solutions

A list of known problems and their solutions are described here. Before you install and use Network Performance Insight, read these known issues.

These known issues are categorized as follows:

- Installation and configuration issues
- Traffic data visualization issues
- Integration with Tivoli Netcool/OMNIbus issues

Troubleshooting installation and uninstallation

Problems that might occur during installation or uninstallation and how to resolve them.

About this task

Monitor the npid.log and npi.log files to examine the processing results and problems that are associated with installation, configuration, and functioning of Network Performance Insight and its components. These log files are in <NPI_Home>/log directory.

Ignore the error messages that are generated during the Network Performance Insight system shutdown

Symptoms
When the Network Performance Insight system shutdown is in progress, you might see some error messages in the npi.log file.

Resolving the problem
You can ignore these error messages.

Uninstallation of Network Performance Insight does not stop the npi process

Uninstallation of Network Performance Insight with IBM Installation Manager completes without stopping the npi process that is running.

Symptoms
When you try to uninstall Network Performance Insight, the active npi process is not stopped. The Network Performance Insight installation folder is removed without notifying that the process is still running.

Resolving the problem
To work around this issue, do the following tasks before uninstalling:

- Stop the npi process before you uninstall Network Performance Insight.
- Back up your data.
  See Backing up data in Database administration.
Troubleshooting system configurations

Problems that might occur during Network Performance Insight system configuration and how to resolve them.

About this task

For more information about system configurations, see Getting started with Network Performance Insight.

Deleted Domain names reappear on refresh

Symptoms

When you click the icon, after you delete one or more domain names from Console Integrations > System Configuration > Domain Names, the deleted domain names reappear,

You might see this issue intermittently.

For more information, see Configuring domain names from Console Integrations in Getting started with Network Performance Insight.

Troubleshooting traffic data visualization on Dashboard Application Services Hub

Use this troubleshooting information to troubleshoot problems when you view the traffic data dashboards.

Traffic Details page is unresponsive when you refresh the browser

Do not refresh the Traffic Details page from the browser.

Symptoms

Traffic Details page becomes unresponsive after you click the Refresh button on the browser.

Resolving the problem

To work around this issue, click the Refresh button on the dashboard instead of refreshing from the browser.

Troubleshooting the Network Health Dashboard

Troubleshooting issues with Network Health Dashboard.

Procedure

- Monitor the log files.

The Network Health Dashboard log files are available in the following locations:

<table>
<thead>
<tr>
<th>File</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log file</td>
<td>$NMGUI_HOME/profile/logs/tnm/ncp_nethealth.0.log</td>
</tr>
<tr>
<td>Trace file</td>
<td>$NMGUI_HOME/profile/logs/tnm/ncp_nethealth.0.trace</td>
</tr>
</tbody>
</table>
• See this information for other troubleshooting issues with Network Health Dashboard.

- Investigating data display issues in the Network Health Dashboard
- Top Performers widget is unable to display values greater than 32 bit
- Percentage Availability widget takes a long time to refresh

• Check the data sources for Network Health Dashboard widgets.
Understand from where the Network Health Dashboard widgets retrieve data. This information might be useful for troubleshooting data presentation issues in the Network Health Dashboard. The Traffic Details dashboard that displays the data that is collected and processed from Network Performance Insight is retrieved from NCIM database schema that contains views from Network Manager NCIM topology data and Network Performance Insight data.

Related information:

Troubleshooting the Network Health Dashboard

Troubleshooting integration with Tivoli Netcool/OMNibus

Use this troubleshooting information to troubleshoot problems with the integration.

Cannot view the Event List from AEL if the list of events is large

Symptoms
Sometimes the Event list is not visible on AEL and you might encounter the following error:
W0025 HEMCDW0025

Causes
Typically, you encounter this issue if the Event list is large.

Resolving the problem
To work around this issue, see the Technical Note:
WebGUI AEL displays W0025 error when viewing a very large list of events

Do not use Google Chrome to view Tivoli Netcool/OMNibus Web GUI events on Dashboard Application Services Hub

Do not use Google Chrome to view the AEL or Event Viewer on Dashboard Application Services Hub.

Note: Tivoli Netcool/OMNibus Web GUI v8.1.x versions on Dashboard Application Services Hub do not fully support the Chrome browser. For more information, see:
Timezone settings on Event Viewer and Network Performance Insight dashboards on Dashboard Application Services Hub are not the same

The time that is displayed in the Last Occurrence column in Event Viewer is different from Network Performance Insight dashboards. AEL and Network Performance Insight dashboards use the same timezone setting as the local web browser. Event Viewer always displays the time based on the timezone settings on the OMNIbus ObjectServer. Currently, this setting on Event Viewer cannot be changed.
Chapter 4. Messages

A list of error and operational messages generated by the IBM Network Performance Insight, Version 1.1.1 components.

The error codes are identified by a common product code, component code, error number, and severity. The severity level can be Error, Warning, or Information that are identified by the first alphabet.

Error messages produced by Analytic Flow process

List of error messages that are produced by Analytic Flow process. Whenever possible, explanations are offered, as well as remedial actions.

GYMAF0001I  processing job: ${job.toLogString}
Explanation: Starting to process flow batch rank aggregation job

GYMAF0002I  processed job: ${job.toLogString} in $time
Explanation: Finished processing flow batch rank aggregation job

GYMAF0003E  failed to process job: ${job.toLogString}: $ex
Explanation: Processing flow batch rank aggregation job failed
Problem determination: Unexpected exception while processing batch aggregation, please see detail in log message.

GYMAF0004I  Read ${count} aggregation records from $tableName in $time
Explanation: Successfully read records from storage table

GYMAF0005E  loading aggregation records from $tableName failed: $ex
Explanation: Failed to read records from storage table
Problem determination: Unexpected exception while loading records, please see detail in log message.

GYMAF0006I  "created new ${enabledOrDisabled} interface(${fields.mkString("","",""))}"
Explanation: Created a new flow interface

Error messages produced by Collector Flow process

List of error messages that are produced by Collector Flow process. Whenever possible, explanations are offered, as well as remedial actions.
GYMCF0001I  Listening for flow packets on UDP port ${socket}
Explanation: Flow collector listening on socket

GYMCF0002W  Discarding invalid flow packet: ${error}
Explanation: Discarding flow packet
Problem determination: Unexpected exception parsing incoming flow packet, please see detail in log message

GYMCF0003W  Error initializing storage of templates. No templates will be stored. Exception: $throwable
Explanation: Error initializing storage of templates. No templates will be stored
Problem determination: Unexpected exception loading template from storage, please see detail in log message

GYMCF0004W  Failure to parse packet, packet recorded at: ${version}/${time} exception: ${ex.getMessage}
DiscardedCounter: $discarded
Explanation: Error parsing a NetFlow packet

GYMCF0005I  Flow version ${version} template for ID: ${templateId} doesn't have enough useful fields. All records for this template will be discarded
Explanation: NetFlow template doesn't have enough fields to be interesting, all flows using this template will be discarded

GYMCF0006I  Flow version ${version} option template for ID: ${templateId} doesn't have enough useful fields. All records for this option template will be discarded
Explanation: NetFlow option template doesn't have enough fields to be interesting, all flows using this template will be discarded

GYMCF0007W  Error writing packet: ${version}/${time} to disk exception: ${ex.getMessage}
Explanation: Error writing problem netflow packet to disk for later analysis

Error messages produced by Program Bootstrap process

List of error messages that are produced by Program Bootstrap process. Whenever possible, explanations are offered, as well as remedial actions.

GYMPB0001E  JAVA_HOME is not defined correctly. Cannot execute $JAVACMD
Explanation: JAVA_HOME is not defined correctly. Can't find Java command to run.
Administrator response: Set JAVA_HOME correctly for the user in question.
Problem determination: JAVA_HOME is not defined correctly.

GYMPB0002W  Warning: JAVA_HOME environment variable is not set
Explanation: JAVA_HOME environment variable is not set
Administrator response: Set JAVA_HOME correctly for the user in question.
Problem determination: JAVA_HOME environment variable is not set
GYMPB0100E  Create directory $LOG_DIR failed! Check permissions on parent directory.

Explanation: Directory creation failed.

Administrator response: Change permissions on parent directory to allow creation of new directory by Network Performance Insight user.

Problem determination: Permissions on parent directory do not allow creation of new directories by Network Performance Insight user.

GYMPB0101E  Create directory $VAR_DIR failed! Check permissions on parent directory.

Explanation: Directory creation failed.

Administrator response: Change permissions on parent directory to allow creation of new directory by Network Performance Insight user.

Problem determination: Permissions on parent directory do not allow creation of new directories by Network Performance Insight user.

GYMPB0102I  Application: ${PROG_NAME} Version: ${PROG_VERSION}

Explanation: Prints application name and version.

GYMPB0103W  "ulimit parameter ${parameter} ("${name}") is less than minimum value ${minvalue}! Fix by adding two lines to /etc/security/limits.conf: "${CURRENTUSER} hard nofile ${minvalue}" and "${CURRENTUSER} soft nofile ${minvalue}" and then log out the ${CURRENTUSER} user and log back in for the changes to take effect.""

Explanation: ulimit parameters are incorrect.

Administrator response: Follow error message instructions.

Problem determination: ulimit parameters are incorrect.

GYMPB0104W  "Standard error from ulimit command is "${sout}"

Explanation: Shows ulimit error related to GYMPB0103W.

Administrator response: Follow GYMPB0103 error message instructions.

Problem determination: Previous GYMPB0103W error.

GYMPB0105E  "sysctl parameter ${parameter}=${currentvalue} is less than required value ${minvalue}! Fix by adding "${parameter}=${minvalue}" to /etc/sysctl.conf and running sysctl -p as root. Alternatively, run ${PROG_NAME} as root."

Explanation: sysctl parameters are incorrect.

Administrator response: Follow error message instructions.

Problem determination: sysctl parameters are incorrect.

GYMPB0106E  Another kernel parameter error is fatal. Exiting. Check ${CONSOLE_LOG}

Explanation: Another kernel parameter is incorrect.

Administrator response: Check the log for other kernel parameter errors.

Problem determination: Another kernel parameter is incorrect.
GYMPB0107E  Application $PROG_NAME is already running! (PID: $CHECK_PID)

Explanation:  A start command was called when the process has already been started and is running.

Administrator response:  Do not try to start the Network Performance Insight application when it is already running.

Problem determination:  Network Performance Insight has already been started and is running.

GYMPB0108E  Application ${PROG_NAME} started but died! Check ${CONSOLE_LOG} and ${PROG_HOME}/log/${PROG_NAME}.log for errors.

Explanation:  The application started but subsequently died.

Administrator response:  Check the log for errors.

Problem determination:  An error occurred after startup.

GYMPB0109I  Application $PROG_NAME Version $PROG_VERSION started (PID: $PROG_PID)

Explanation:  The application has started.

GYMPB0110W  PID file ${PIDFILE} does not exist for application ${PROG_NAME}. Application may already be stopped or the PID file was deleted improperly.

Explanation:  There is no pidfile for the application that holds the running process id.

Administrator response:  Check the log for errors.

Problem determination:  Application may already be stopped or the PID file was deleted improperly.

GYMPB0111I  Stopping $PROG_NAME (PID: $RUNNING_PID)

Explanation:  Application stop command initiated.

GYMPB0112I  Application $PROG_NAME stopped successfully.

Explanation:  Application stop command completed.

GYMPB0113E  Application $PROG_NAME is not running on PID ${RUNNING_PID} from PID file ${PIDFILE} and may have stopped unexpectedly.

Explanation:  There is no process running with the PID indicated in the PID file.

Administrator response:  Check the log for errors.

Problem determination:  Application may have been stopped unexpectedly.

GYMPB0116I  Application $PROG_NAME is running on pid $CHECK_PID

Explanation:  Application status command returns with process id.

GYMPB0117I  Application $PROG_NAME is not running.

Explanation:  Application status command returns with process not running.
GYMPB0118W  An instance of application $PROG_NAME has been detected on pid ${CHECK_PID} that is not being tracked by the pidfile ${PIDFILE}!

Explanation: On startup of the application, the pid number is recorded in the pidfile. There is a process running that looks like the application, but the pid number in the pidfile doesn't match the running pid.

Administrator response: Check the logs for errors and check the directories involved for duplicate installations.

Problem determination: The pidfile was manually deleted or the application was not started correctly or there is a duplicate install of the application in a different directory.

GYMPB0119E  Multiple instances of application $PROG_NAME has been detected!

Explanation: From the output of ps -eaf it looks like there are multiple instances of the application running.

Administrator response: Check the application logs and stop the duplicate instances.

Problem determination: Multiple instances of the application are running.

GYMPB0201E  $0 must be run as the root user.

Explanation: Must be run as root.

Administrator response: Log in as root.

Problem determination: Not root.

GYMPB0202E  $0 is set to run with user: $NPIUSER and $NPIUSER is not a valid user on this OS.

Explanation: The user specified doesn’t exist on the operating system.

Administrator response: Configure user correctly.

Problem determination: User not configured correctly.

GYMPB0203E  Create of npid boot script failed in ${INITNPI}!

Explanation: Copy of boot script to ${INITNPI} failed.

Administrator response: Fix permissions.

Problem determination: File permissions incorrect.

GYMPB0204E  chkconfig service enable of ${INITNPI} failed!


Administrator response: Fix permissions.

Problem determination: File permissions incorrect.

GYMPB0210E  Run $0 as the NPI user: $NPIUSER or root.

Explanation: Netcool Performance Insights service must be run as the Netcool Performance Insights user or as root.

Administrator response: Log in as correct user.

Problem determination: Incorrect user.
Error messages produced by Platform Core process

List of error messages that are produced by Platform Core process. Whenever possible, explanations are offered, as well as remedial actions.

GYMPC0001L Initializing
Explanation: Component Initializing

GYMPC0002L Initialized
Explanation: Component Initialized

GYMPC0003L Starting
Explanation: Component starting

GYMPC0004L Started
Explanation: Component started

GYMPC0005L Stopping
Explanation: Component stopping

GYMPC0006L Stopped
Explanation: Component stopped

GYMPC0100I ${Platform.name} v${Platform.version} is starting...
Explanation: System is starting

GYMPC0101E Failed to load component: ${spec.fqn}: $ex
Explanation: Failed to load component
Problem determination: Unhandled exception loading the component specification, please see detail in log message.

GYMPC0102W Dropping message (${msgName}) to ${actor.path} because mailbox is full
Explanation: Bounded Mailbox dropping message
Administrator response: Contact customer support
Problem determination: System is overloaded or mis-configured

Error messages produced by Platform Services process

List of error messages that are produced by Platform Services process. Whenever possible, explanations are offered, as well as remedial actions.
Decoding exception - IllegalInetAddressFormat

Explanation: Decoding exception - IllegalInetAddressFormat

Administrator response: Inspect the IP Address presented in the log message, check DNS Server mappings (provided the admin has authoritative rights)

Problem determination: The IP Address returned from the DNS Server is not valid or cannot be properly parsed

Decoding exception - ${e.getMessage}

Explanation: Decoding exception

Administrator response: Inspect the data presented in the log message, contact customer support

Problem determination: The message returned from the DNS Server could not be decoded

Connected to ${address}

Explanation: DNS Service connected to DNS server

Connect failed: ${failure}

Explanation: DNS Service connection to DNS server failed

Administrator response: Verify configuration settings and connectivity to the DNS Server, contact customer support

Problem determination: The DNS Server could not be contacted

send failed: ${failure}, disconnecting

Explanation: DNS send failed

Administrator response: Verify connectivity to the DNS Server, contact customer support

Problem determination: Failed to send a request to the DNS Server

Disconnected

Explanation: DNS disconnected from server

state: ${state} xmit: ${xmitCount}/${xmitBytes}/${xmitFails} recv: ${recvCount}/${recvBytes} stashed: ${stashCount}

Explanation: DNS status

state: ${state} xmit: ${xmitCount}/${xmitBytes}/${xmitFails} recv: ${recvCount}/${recvBytes} stashed: ${stashCount}

Explanation: DNS status

Connected to ${address}

Explanation: DNS Service connected to DNS server
GYMPS0010W  timeout occurred while ${state}
Explanation:  DNS Timeout

GYMPS0100I  Starting Netcool/OMNibus Event Forwarder (REST-API)
Explanation:  Starting Netcool/OMNibus Event Forwarder (REST-API)

GYMPS0101E  Netcool/OMNibus Event Forwarder (REST-API) failed to start: ${throwable}
Explanation:  Failure during startup of Netcool/OMNibus Event Forwarder (REST-API)
Administrator response:  Verify configuration settings, ensure all required settings are provided.
Problem determination:  The configuration was invalid, or the remote REST API service endpoint does not exist.

GYMPS0102E  failed to format Event: ${throwable}
Explanation:  Failure formatting event
Administrator response:  Contact customer support
Problem determination:  The system failed to format an event when forwarding it to Netcool/OMNibus

GYMPS0103I  Starting Netcool/OMNibus Event Forwarder (STDIN-API)
Explanation:  Starting Netcool/OMNibus Event Forwarder (STDIN-API)

GYMPS0104E  Netcool/OMNibus Event Forwarder (STDIN-API) failed to start: ${throwable}
Explanation:  Failure during startup of Netcool/OMNibus Event Forwarder (STDIN-API)
Administrator response:  Verify configuration settings, ensure all required settings are provided, ensure 32-bit runtime installed to support STDIN probe.
Problem determination:  The configuration is invalid, or system requirements are not satisfied.

GYMPS0105W  Netcool/OMNibus Event Forwarding not configured: verify configuration
Explanation:  Event Forwarding to Netcool/OMNibus not configured
Administrator response:  Verify configuration settings, ensure all required settings are provided
Problem determination:  Invalid NPI configuration, or missing dependencies.

GYMPS0106E  Unsupported event type: ${eventType}
Explanation:  Event Type is not supported (internal processing error)
Administrator response:  Contact customer support
Problem determination:  The system was asked to forward an unsupported event type.

GYMPS0300I  "Starting JMX service on port ${port}"
Explanation:  Starting JMX service
GYMPS0301E  Unable to start JMX service: ${throwable.getMessage}

Explanation: Failed to start JMX service

Problem determination: Unexpected exception starting JMX service, please see detail in log message.

GYMPS0500I  thread group status: $groupName, numThreads: $numThreads, cpuTime: $cpuTime

Explanation: Thread group status

GYMPS1000I  WebService started ${protocol} listener on port ${port}

Explanation: Web Service starting protocol

GYMPS1001W  Unable to find or generate a SSL certificate, so listening for plain HTTP on port ${port}

Explanation: Unable to find or generate a SSL certificate, so listening for plain HTTP

Problem determination: SSL certificate generation failed

Error messages produced by Storage Backup process

List of error messages that are produced by storage backup process. Whenever possible, explanations are offered, and remedial actions.

GYMSB0001E  ${actor.getClass.getName} received unsupported message: ${msg}

Explanation: Unsupported message was sent to an actor

User response: Contact customer support

Problem determination: This is a bug

GYMSB0002I  Init backup

Explanation: Init backup

GYMSB0003I  Backup is already running

Explanation: Backup is already running

GYMSB0004E  Unable to resolve path to Storage Optimizer because of error: ${cause}

Explanation: Unable to resolve path to Storage Optimizer

Problem determination: Storage Optimizer might be down (see error detail in log message)

GYMSB0005I  Start backup engine

Explanation: Start backup engine

GYMSB0006I  Sending SuspendStorageOptimizer

Explanation: Sending SuspendStorageOptimizer
• Sending ResumeStorageOptimizer
  Explanation: Sending ResumeStorageOptimizer

Stop backup engine
  Explanation: Stop backup engine

No difference from last backup
  Explanation: No difference from last backup

Backup files list created
  Explanation: Backup files list created

Unable to create backup files list because of error: ${cause}
  Explanation: Backup files list created
  User response: See error detail in log message.
  Problem determination: Unable to create backup files list

Backup Snapshot created in ${dir.getAbsolutePath}
  Explanation: Backup Snapshot created in ${dir.getAbsolutePath}

Unable to create snapshot because of error: ${cause}
  Explanation: Unable to create snapshot
  User response: See error detail in log message.
  Problem determination: Unable to create snapshot

Backup Info File: ${infoFile} created
  Explanation: Backup Info File: ${infoFile} created

Unable to create Backup Info File because of error: ${cause}
  Explanation: Unable to create backup info file
  Problem determination: See error detail in log message

Old backup files cleaned
  Explanation: Old backup files cleaned

Unable to clean old backup file because of error: ${cause}
  Explanation: Unable to clean old backup file
  Problem determination: See error detail in log message
GYMSB0018I  Partial backup files cleaned  
Explanation: Partial backup files cleaned  

GYMSB0019E  Unable to clean partial backup file because of error: ${cause}  
Explanation: Unable to clean partial backup file  
Problem determination: See error detail in log message  

GYMSB0020E  Unable to read Backup Info File: ${infoFile} because of error: ${cause}  
Explanation: Unable to read backup info file  
Problem determination: See error detail in log message  

GYMSB0021I  Backup client started  
Explanation: Backup client started  

GYMSB0022E  Failed to connect to Network Performance Insight because of error: ${cause}  
Explanation: Failed to connect to Network Performance Insight  
Problem determination: Network Performance Insight might not be started (see error detail in log message)  

GYMSB0023I  Stop backup process  
Explanation: Stop backup process  

GYMSB0024I  Backup client stopped  
Explanation: Backup client stopped  

GYMSB0025I  Running Backup Tool script  
Explanation: Running Backup Tool script  

GYMSB0026I  Backup complete  
Explanation: Backup complete  

GYMSB0027E  Failed to complete backup  
Explanation: Failed to complete backup  
Problem determination: See error detail in log message  

GYMSB0028E  Backup tool script return ${ret}  
Explanation: Backup tool script return ${ret}  
Problem determination: See error detail in log message
GYMSB0029E  Failed to run backup tool script because of error: ${cause}
Explanation: Failed to run backup tool script
Problem determination: See error detail in log message

GYMSB0030I  Backup Client is shutting down
Explanation: Backup Client shutting down due to user action such as Ctrl-C

GYMSB1000W  ${platform} is still on-line, restore can only run when ${platform} is off-line
Explanation: Network Performance Insights is still on-line, restore can only run when Network Performance Insights is off-line

GYMSB1001I  Restore client started
Explanation: Restore client started

GYMSB1002I  Restore client stopped
Explanation: Restore client stopped

GYMSB1003I  Restore Client is shutting down
Explanation: Restore Client is shutting down

GYMSB1004I  No file to restore
Explanation: No file to restore

GYMSB1005I  Restore files list created
Explanation: Restore files list created

GYMSB1006E  Unable to create restore files list because of error: ${cause}
Explanation: Unable to create restore files list because of error: ${cause}
Problem determination: See error detail in log message

GYMSB1007I  Storage dir: ${storageDir} backed up to ${restoreBackupPath}
Explanation: Storage dir: ${storageDir} backed up to ${restoreBackupPath}

GYMSB1008E  Backup Storage dir ${storageDir} to ${restoreBackupPath} return ${ret}
Explanation: Backup storage dir return non zero
Problem determination: See error detail in log message
GYMSB1009E  Unable to backup storage dir ${storageDir} to ${restoreBackupPath} because of error: ${cause}
Explanation:  Unable to backup storage dir
Problem determination:  See error detail in log message

GYMSB1010I  ${fileCount} files restored from backup
Explanation:  Files restored from backup

GYMSB1011E  unable to restore files from backup because of error: ${cause}
Explanation:  Unable to restore files from backup
Problem determination:  See error detail in log message

GYMSB1012I  Storage backup: ${restoreBackupPath} cleaned
Explanation:  Storage dir backup cleaned

GYMSB1013E  unable to clean storage backup dir because of error: ${cause}
Explanation:  Unable to clean storage backup dir
Problem determination:  See error detail in log message

GYMSB1014I  Restore complete
Explanation:  Restore complete

GYMSB1015E  Failed to complete restore
Explanation:  Failed to complete restore
Problem determination:  See error detail in log message

GYMSB1016I  Stop restore client
Explanation:  Stop restore client

GYMSB1017I  Reading info file from ${dir}
Explanation:  Reading info file for restore

GYMSB1018I  Storage dir: ${storageDir} reverted from ${restoreBackupPath}
Explanation:  Storage reverted to original state

GYMSB1019E  Revert Storage dir ${storageDir} from ${restoreBackupPath} return ${ret}
Explanation:  Revert stroage dir return non zero
Problem determination:  See error detail in log message
GYMSB1020E  Unable to revert Storage dir \{storageDir\} from \{restoreBackupPath\} because of error: \{cause\}
Explanation: Unable to revert storage dir
Problem determination: See error detail in log message

**Error messages produced by Storage Collagen process**

List of error messages that are produced by Storage Collagen process. Whenever possible, explanations are offered, as well as remedial actions.

---

GYMSC0001W  Unable to write warm-up file \{path\} because of error: \{cause\}
Explanation: Unable to write warm-up file
Administrator response: Repair underlying storage issue
Problem determination: I/O error (see error detail in log message)

GYMSC0002W  Unable to delete warm-up file \{path\} because of error: \{cause\}
Explanation: Unable to delete warm-up file
Administrator response: Repair underlying storage issue
Problem determination: I/O error (see error detail in log message)

GYMSC0003W  Unable to read warm-up file \{path\} because of error: \{cause\}
Explanation: Unable to read warm-up file
Administrator response: Repair underlying storage issue
Problem determination: I/O error (see error detail in log message)

GYMSC0004I  Collagen Warm-up takes \{elapsed\} ms
Explanation: Elapsed time to warm up internal libraries

GYMSC0005I  Moving fragment \{frag\} to \{newPath\}
Explanation: A fragment is being moved (renamed) to its final location, subsequent to a commit

GYMSC1001E  Fragment file \{spec.path\} flush failed because of error: \{cause\}\n             n\{Throwables.getStackTraceAsString(cause)\}
Explanation: Flushing a fragment failed
Administrator response: Repair underlying storage issue
Problem determination: I/O error (see error detail in log message)

GYMSC1002E  \{actor.getClass.getName\} received unsupported message: \{msg\}
Explanation: Unsupported message was sent to an actor
Administrator response: Contact customer support
Problem determination: This is a bug
<table>
<thead>
<tr>
<th>Message Code</th>
<th>Description</th>
<th>Explanation</th>
<th>Administrator Response</th>
<th>Problem Determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>GYMSC1003E</td>
<td>Unable to delete partial file</td>
<td>Unable to delete partial file</td>
<td>Repair underlying storage issue</td>
<td>I/O error (see error detail in log message)</td>
</tr>
<tr>
<td>GYMSC1004E</td>
<td>Unable to clean fragment file</td>
<td>Unable to clean fragment file</td>
<td>Repair underlying storage issue</td>
<td>I/O error (see error detail in log message)</td>
</tr>
<tr>
<td>GYMSC1005E</td>
<td>Unable to delete fragment file</td>
<td>Unable to delete fragment file</td>
<td>Repair underlying storage issue</td>
<td>I/O error (see error detail in log message)</td>
</tr>
<tr>
<td>GYMSC1006E</td>
<td>Delete Vector</td>
<td>Committing a delete vector failed</td>
<td>Repair underlying storage issue</td>
<td>I/O error (see error detail in log message)</td>
</tr>
<tr>
<td>GYMSC1007E</td>
<td>Unable to remove delete vector file</td>
<td>Unable to remove delete vector file</td>
<td>Repair underlying storage issue</td>
<td>I/O error (see error detail in log message)</td>
</tr>
<tr>
<td>GYMSC1008E</td>
<td>bad transaction, expected:</td>
<td>Bad transaction</td>
<td>Contact customer support</td>
<td>This is a bug</td>
</tr>
<tr>
<td>GYMSC1009E</td>
<td>Unable to read autoIncrement file</td>
<td>Unable to read autoIncrement file</td>
<td>Repair underlying storage issue</td>
<td>I/O error (see error detail in log message)</td>
</tr>
<tr>
<td>GYMSC1010E</td>
<td>Unable to write autoIncrement file</td>
<td>Unable to write autoIncrement file</td>
<td>Repair underlying storage issue</td>
<td>I/O error (see error detail in log message)</td>
</tr>
</tbody>
</table>
GYMSC1011E  Unable to read metadata from fragment file ${path} because of error: ${cause}
Explanation: Unable to read metadata from fragment file
Administrator response: Repair underlying storage issue
Problem determination: I/O error (see error detail in log message)

GYMSC1012E  Delete Vector ${name} at ${path} merge failed because of error: ${cause}
Explanation: Merging delete vector failed
Administrator response: Repair underlying storage issue
Problem determination: I/O error (see error detail in log message)

GYMSC1013E  Unable to clean delete vector file ${path} because of error: ${cause}
Explanation: Unable to clean delete vector file
Administrator response: Repair underlying storage issue
Problem determination: I/O error (see error detail in log message)

GYMSC1014E  Unable to write metadata snapshot file ${path} because of error: ${cause}
Explanation: Unable to write metadata snapshot file
Administrator response: Repair underlying storage issue
Problem determination: I/O error (see error detail in log message)

GYMSC1015E  Unable to remove metadata snapshot file ${path} because of error: ${cause}
Explanation: Unable to remove metadata snapshot file
Administrator response: Repair underlying storage issue
Problem determination: I/O error (see error detail in log message)

GYMSC1016E  Unable to read sequence file ${path} because of error: ${cause}
Explanation: Unable to read sequence file
Administrator response: Repair underlying storage issue
Problem determination: I/O error (see error detail in log message)

GYMSC1017E  Unable to write sequence file ${path} because of error: ${cause}
Explanation: Unable to write sequence file
Administrator response: Repair underlying storage issue
Problem determination: I/O error (see error detail in log message)

GYMSC1018W  unsupported segment configuration ${columns} - ${columns} because of error: PairModulo
Segmentation only support 1 column with datatype Long. Only first column will be used
Explanation: Unsupported segment configuration
Problem determination: PairModulo Segmentation only support 1 column with datatype Long
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>GYMSC2001E</td>
<td>Query execution failed because of error: ${cause}</td>
<td>Administrator response: Contact customer support</td>
</tr>
<tr>
<td></td>
<td>Explanation: Query execution failed</td>
<td>Problem determination: See error detail in log message</td>
</tr>
<tr>
<td>GYMSC2002W</td>
<td>Storage Optimizer might not be started</td>
<td>Administrator response: Contact customer support</td>
</tr>
<tr>
<td></td>
<td>Explanation: Storage optimizer might not be started</td>
<td>Problem determination: See component startup status in log message</td>
</tr>
<tr>
<td>GYMSC2003I</td>
<td>Query execution timeout after ${executionTime} ms</td>
<td>Administrator response: Contact customer support</td>
</tr>
<tr>
<td></td>
<td>Explanation: Query execution timeout</td>
<td></td>
</tr>
<tr>
<td>GYMSC2004I</td>
<td>Start query execution on ${mvName} with ${fragments} fragment(s)</td>
<td>Administrator response: Contact customer support</td>
</tr>
<tr>
<td></td>
<td>Explanation: Start query execution</td>
<td></td>
</tr>
<tr>
<td>GYMSC2005I</td>
<td>Query execution elapsed ${executionTime} ms</td>
<td>Administrator response: Contact customer support</td>
</tr>
<tr>
<td></td>
<td>Explanation: Query execution elapsed time</td>
<td></td>
</tr>
<tr>
<td>GYMSC3001I</td>
<td>Start optimizing ${mvName}</td>
<td>Administrator response: Contact customer support</td>
</tr>
<tr>
<td></td>
<td>Explanation: Start optimizing</td>
<td></td>
</tr>
<tr>
<td>GYMSC3002I</td>
<td>Fragment merged for a given strata</td>
<td>Administrator response: Contact customer support</td>
</tr>
<tr>
<td></td>
<td>Explanation: Fragment merged for a given strata</td>
<td></td>
</tr>
<tr>
<td>GYMSC3003I</td>
<td>Optimization complete on ${mvName}</td>
<td>Administrator response: Contact customer support</td>
</tr>
<tr>
<td></td>
<td>Explanation: Optimization complete for materialized view</td>
<td></td>
</tr>
<tr>
<td>GYMSC3004I</td>
<td>Optimization partial complete on ${mvName}</td>
<td>Administrator response: Contact customer support</td>
</tr>
<tr>
<td></td>
<td>Explanation: Optimization partially complete for materialized view</td>
<td>Problem determination: Optimization partially complete, see related error details in log message</td>
</tr>
<tr>
<td>GYMSC3005I</td>
<td>Optimization fail on ${mvName}</td>
<td>Administrator response: Contact customer support</td>
</tr>
<tr>
<td></td>
<td>Explanation: Optimization failed for materialized view</td>
<td></td>
</tr>
<tr>
<td>GYMSC3006I</td>
<td>Storage optimizer suspending</td>
<td>Administrator response: Contact customer support</td>
</tr>
<tr>
<td></td>
<td>Explanation: Storage optimizer suspending</td>
<td></td>
</tr>
</tbody>
</table>
GYMSC3007I  •  GYMSC3008I

Storage optimizer suspended
Explanation: Storage optimizer suspended

Storage optimizer resumed
Explanation: Storage optimizer resumed

Error messages produced by Storage JDBC process
List of error messages that are produced by Storage JDBC process. Whenever possible, explanations are offered, as well as remedial actions.

GYMSJ0001E  Error while starting JDBC handler: ${ex.getMessage}
Explanation: Error starting JDBC handler
Problem determination: Unexpected exception starting JDBC handler, please see detail in log message.

GYMSJ0002I  JDBC service registered status: $status
Explanation: JDBC service registered with web server

Error messages produced by Storage Schema Service process
List of error messages that are produced by Storage Schema Service process. Whenever possible, explanations are offered, as well as remedial actions.

GYMSS0100E  Create directory $LOG_DIR failed! Check permissions on parent directory.
Explanation: Directory creation failed.
Administrator response: Change permissions on parent directory to allow creation of new directory by Network Performance Insight user.
Problem determination: Permissions on parent directory do not allow creation of new directories by Network Performance Insight user.

GYMSS0001E  Unable to load retention period because of error: ${cause}
Explanation: Unable to load retention period from storage
Problem determination: No retention period will be applied

GYMSS0002I  [$mvName] MaterializedViewManager] Starting
Explanation: Starting materialized view manager

GYMSS0003I  [$mvName] MaterializedViewManager] Started in ${elapsed} ms
Explanation: Started materialized view manager
GYMSS0004E  [$mvName] MaterializedViewManager may not be started on time because of error: $cause
Explanation: Unable to start materialized view manager on time
Problem determination: See error detail in log message

GYMSS0005E  Unable to purge table $tableName because of error: $cause
Explanation: Unable to purge table
Problem determination: See error detail in log message

GYMSS0006E  Unable to move $sourceName to $destinationName because of error: $cause
Explanation: Unable to move table to another schema
System action: Contact customer support
Problem determination: Table will not function properly

GYMSS0007E  Unable to remove table $tableName because of error: $cause
Explanation: Unable to remove table
System action: Contact customer support
Problem determination: Date files of the table will still persist in the disk

GYMSS0008E  Unable to compact table $tableName because of error: $cause
Explanation: Unable to compact table
System action: Contact customer support
Problem determination: See error detail in log message

GYMSS0009E  Unable to load existing record from $tableName because of error: $cause
Explanation: Unable to load existing record from table
System action: Contact customer support
Problem determination: See error detail in log message

Error messages produced by Storage Write Service process

List of error messages that are produced by Storage Write Service process. Whenever possible, explanations are offered, as well as remedial actions.

GYMSW0001W  Duplicate commit acknowledgement: $committed
Explanation: Duplicate commit acknowledgement
Problem determination: Write Service receive duplicate commit acknowledgement
GYMSW0002I  ${committed.successCount} records have been written to ${table} [${committed.duration.toMillis / 1000.0}.%.2f seconds] [${committed.successCount / (committed.duration.toMillis.toFloat / 1000.0)}.%.2f per second]

Explanation:  Records successfully written to storage table

GYMSW0003W  ${committed.failureCount} records failed to write to ${table}

Explanation:  Records failed to be written to storage table

Problem determination:  See related error detail in log message

Error messages produced by UI process

List of error messages that are produced by UI process. Whenever possible, explanations are offered, as well as remedial actions.

GYMUI0001I  More than one IP addresses found for hostname in query : ${query}

Explanation:  Multiple IP Addresses found for host

GYMUI0002E  Bad json request for ($json): $ex

Explanation:  Bad JSON request

Problem determination:  See error detail in log message

GYMUI0003E  Bad aggregated data request query [$query]: $ex

Explanation:  Bad aggregated data request

Problem determination:  See error detail in log message
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