IBM Network Performance Insight 1.1.0
Document Revision R2E1

Troubleshooting Network Performance Insight

IBM
Note

Before using this information and the product it supports, read the information in "Notices" on page 27.
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 1.1.0 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.

- “Troubleshooting a problem” on page 1
- “Troubleshooting checklist for Network Performance Insight” on page 3
- “Searching knowledge bases” on page 3
- “Contacting IBM support” on page 4
- Chapter 3, “Known problems and solutions,” on page 13
- Chapter 4, “Messages,” on page 15

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, segregated, and sent to Inventory or Analytics component based on the information that they contain.

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

Additionally, you can control the flow interface to enable collection and perform administrative tasks on the web-based user interface on Jazz for Service Management portal. The dashboards provide up-to-date actionable information to increase insight into network problems and streamline root cause analysis.

The database can be queried to display the results on the Dashboard Application Services Hub portal in the form of specialized report tables, graphs, and charts that are ready for immediate use. The database is designed for high performance.

You can integrate Network Performance Insight with Tivoli Netcool/OMNibus to take advantage of its fault management capabilities.

Network Performance Insight documentation consists of the following:

- Release summary
- Installing Network Performance Insight
- Configuring Network Performance Insight
- Integrating with Tivoli Netcool/OMNibus component of Netcool Operations Insight.
- Using Network Performance Insight
- Troubleshooting Network Performance Insight
- References
- Technical notes
Service Management Connect

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


- 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](https://www.ibm.com/developerworks/servicemanagement/npi/)

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](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](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, multicolored 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 Network Performance Insight

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 start to find 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
• 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.

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://npi10.44.240.188:2552/user/core/components/storage/write/AGG_001MIN_TOP_APP_DSTIP_OCTET]
[npi-storage.write.dispatcher-106009]
GMSW00021: 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:

    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.initiationn.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:

```
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 `<NPI_Home>/work/backup-snapshot` directory.

Next steps

9. Save the npi.conf file in the `<NPI_Home>/conf` directory.
10. Restart the system.

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

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### Controlling Network Performance Insight system

Commands to control the Network Performance Insight application processes.

**Procedure**

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

About this task
Monitor the npid.log and np1.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.

Troubleshooting traffic data visualization on Dashboard Application Services Hub
Use this troubleshooting information to troubleshoot problems when you view the traffic data dashboards.

Issue with launching Traffic Details dashboards
When you try to launch Traffic Details dashboard from Traffic Overview page a few times without closing the previous Traffic Details page, the dashboards go out of sync and do not render correctly.

Symptoms
The Traffic Details dashboard that you intend to see is not reflected correctly if you try to launch the dashboards a few times from Traffic Overview page.

Resolving the problem
To work around this issue, close the existing Traffic Details page to launch a new one from Traffic Overview page.

Or, to resolve this issue, upgrade your Jazz for Service Management to 1.1.2.1 that contains Dashboard Application Services Hub v3.1.2.1.

Related information
Download Jazz for Service Management Version 1.1.2.1
Traffic Details page is unresponsive when you refresh the browser

Do not refresh the Traffic Details page from the browser.

**Symptoms**
After you launch a Traffic Details page from the Traffic Overview dashboard, and if you try to refresh the page from the browser, the Traffic Details page becomes unresponsive.

**Resolving the problem**
To work around this issue, if you need to refresh, click the Refresh (⟳) button on the dashboard instead of refreshing from the browser.

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 workaround 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 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 1.1.0 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

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

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
Administrator response:  Read the error message, see if it provides information about what is wrong and attempt to fix it. If unable to fix it, Contact customer support.

GYMCF0003W  Error initializing storage of templates. No templates will be stored. Exception: $throwable
Explanation:  Error initializing storage of templates. No templates will be stored
Administrator response:  Read the error message, see if it provides information about what is wrong and attempt to fix it. If unable to fix it, Contact customer support.

GYMCF0004W  Error writing packet: ${version}/${time} to disk exception: ${ex.getMessage}
Explanation:  Error writing problem netflow packet to disk for later analysis
Administrator response:  Read the error message, see if it provides information about what is wrong and attempt to fix it. If unable to fix it, Contact customer support.

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

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.

GYMPB0001W  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.

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.

GYMPB0002E  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:  Required kernel parameters are not set to appropriate values.
Administrator response:  Follow installation instructions or error message instructions to set required kernel parameters.
ulimit parameter ${parameter} (${name}) is less than minimum value ${minvalue}! Fix by adding two lines to /etc/security/limits.conf: """${USER} hard nofile ${minvalue}""" and """${USER} soft nofile ${minvalue}""" and then log out the ${USER} user and log back in for the changes to take effect.

Explanation: Required kernel parameters are not set to appropriate values.

Administrator response: Follow installation instructions or error message instructions to set required kernel parameters.

Another kernel parameter error is fatal. Exiting. Check ${CONSOLE_LOG} for GYMSS0002E errors.

Explanation: This error is triggered by other GYMSS0002E errors to end the execution of the npid script.

Administrator response: Resolve other GYMSS0002 errors.

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 NPI user.

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 NPI user.

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 NPI application when it is already running.

$PROG_NAME not responding to stop command. Use kill option instead.

Explanation: The application is not responding to a UNIX SIGTERM signal.

Administrator response: Try again, or run with the kill option to stop it immediately.

stop command failed, no pidfile exists at $VAR_DIR/$PROG_NAME.pid! Check manually if application is still running with """ps -eaf

Explanation: grep "$PROG_NAME""""

System action: Find the application pid manually and kill it.

Problem determination: The application is not actually running or the .pid file was manually deleted.

No pidfile exists in $VAR_DIR/$PROGRAM_NAME.pid!

Explanation: When running npid command with status option, there is no pid file containing the pid of the running application to check against.

Administrator response: Restart the application.
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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GYMP001L</td>
<td>Initializing</td>
<td>Component Initializing</td>
</tr>
<tr>
<td>GYMP002L</td>
<td>Initialized</td>
<td>Component Initialized</td>
</tr>
<tr>
<td>GYMP003L</td>
<td>Starting</td>
<td>Component starting</td>
</tr>
<tr>
<td>GYMP004L</td>
<td>Started</td>
<td>Component started</td>
</tr>
<tr>
<td>GYMP005L</td>
<td>Stopping</td>
<td>Component stopping</td>
</tr>
<tr>
<td>GYMP006L</td>
<td>Stopped</td>
<td>Component stopped</td>
</tr>
<tr>
<td>GYMP0101I</td>
<td>${Platform.name} v${Platform.version} is starting...</td>
<td>System is starting</td>
</tr>
<tr>
<td>GYMP0101E</td>
<td>Failed to load component: ${spec.fqn}: $ex</td>
<td>Failed to load component</td>
</tr>
<tr>
<td>GYMP0102W</td>
<td>Dropping message (${msgName}) to ${actor.path} because mailbox is full</td>
<td>Bounded Mailbox dropping message</td>
</tr>
</tbody>
</table>

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.
GYMPS0001W  Decoding exception - IllegalInetAddressFormat ${recordName}
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)

GYMPS0002E  Decoding exception - ${e.getMessage}
Explanation: Decoding exception
Administrator response: Inspect the data presented in the log message, Contact customer support

GYMPS0003I  Connected to ${address}
Explanation: DNS Service connected to DNS server

GYMPS0004E  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

GYMPS0005E  send failed: ${failure}, disconnecting
Explanation: DNS send failed
Administrator response: Verify connectivity to the DNS Server, Contact customer support

GYMPS0006I  disconnected
Explanation: DNS disconnected from server

GYMPS0007I  state: ${state} xmit: ${xmitCount}/${xmitBytes}/${xmitFails} recv: ${recvCount}/${recvBytes} stashed: ${stashCount}
Explanation: DNS status

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

GYMPS0101W  Netcool/OMNIbus Event Forwarder not started: verify configuration
Explanation: Starting Netcool/OMNIbus Rest forwarder failed
Administrator response: Verify configuration settings, ensure all required settings are provided

GYMPS0102E  failed to format Event: ${throwable}
Explanation: Failure formatting event
Administrator response: Contact customer support
“Starting JMX service on port ${port}”
Explanation: Starting JMX service

Unable to start JMX service: ${throwable.getMessage}
Explanation: Failed to start JMX service

Thread group status: $groupName, numThreads: $numThreads, cpuTime: $cpuTime
Explanation: Thread group status

WebService started ${protocol} listener on port ${port}
Explanation: Web Service starting protocol

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
Administrator response: Provide an SSL certificate

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.

Unable to write warm-up file ${path} because of error: ${cause}
Explanation: Unable to write warm-up file
Administrator response: Repair underlying storage issue

Unable to delete warm-up file ${path} because of error: ${cause}
Explanation: Unable to delete warm-up file
Administrator response: Repair underlying storage issue

Unable to read warm-up file ${path} because of error: ${cause}
Explanation: Unable to read warm-up file
Administrator response: Repair underlying storage issue

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

Moving fragment ${frag} to ${newPath}
Explanation: A fragment is being moved (renamed) to it’s final location, subsequent to a commit
GYMSC1001E Fragment file $\{spec.path\}$ flush failed because of error: $\{cause\}$

Explanation: Flushing a fragment failed

Administrator response: Repair underlying storage issue

GYMSC1002E $\{actor.getClass.getName\}$ received unsupported message: $\{msg\}$

Explanation: Unsupported message was sent to an actor

Administrator response: Contact customer support

GYMSC1003E Unable to delete partial file $\{path\}$ because of error: $\{cause\}$

Explanation: Unable to delete partial file

Administrator response: Repair underlying storage issue

GYMSC1004E Unable to clean fragment file $\{path\}$ because of error: $\{cause\}$

Explanation: Unable to clean fragment file

Administrator response: Repair underlying storage issue

GYMSC1005E Unable to delete fragment file $\{path\}$ because of error: $\{cause\}$

Explanation: Unable to delete fragment file

Administrator response: Repair underlying storage issue

GYMSC1006E Delete Vector $\{name\}$ at $\{path\}$ commit failed because of error: $\{cause\}$

Explanation: Committing a delete vector failed

Administrator response: Repair underlying storage issue

GYMSC1007E Unable to remove delete vector file $\{path\}$ because of error: $\{cause\}$

Explanation: Unable to remove delete vector file

Administrator response: Repair underlying storage issue

GYMSC1008E bad transaction, expected: $\{expected\}$, found: $\{found\}$

Explanation: Bad transaction

Administrator response: Contact customer support

GYMSC1009E Unable to read autoIncrement file $\{path\}$ because of error: $\{cause\}$

Explanation: Unable to read autoIncrement file

Administrator response: Repair underlying storage issue
GYMSC1010E  Unable to write autoIncrement file ${path} because of error: ${cause}
Explanation:  Unable to write autoIncrement file
Administrator response:  Repair underlying storage issue

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

GYMSC1012E  Delete Vector ${name} at ${path} merge failed because of error: ${cause}
Explanation:  Merging delete vector failed
Administrator response:  Repair underlying storage issue

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

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

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

GYMSC1016E  Unable to read sequence file ${path} because of error: ${cause}
Explanation:  Unable to read sequence file
Administrator response:  Repair underlying storage issue

GYMSC1017E  Unable to write sequence file ${path} because of error: ${cause}
Explanation:  Unable to write sequence file
Administrator response:  Repair underlying storage issue

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
Administrator response:  Contact customer support
<table>
<thead>
<tr>
<th>Code</th>
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<th>Administrator response</th>
</tr>
</thead>
<tbody>
<tr>
<td>GYMSC2001E</td>
<td>Query execution failed because of error: ${cause}</td>
<td>Query execution failed</td>
<td>Contact customer support</td>
</tr>
<tr>
<td>GYMSC2002W</td>
<td>Storage Optimizer might not be started</td>
<td>Storage optimizer might not be started</td>
<td></td>
</tr>
<tr>
<td>GYMSC2003I</td>
<td>${executionEngine} Query execution timeout after ${executionTime} ms</td>
<td>Query execution timeout</td>
<td>Contact customer support</td>
</tr>
<tr>
<td>GYMSC2004I</td>
<td>${executionEngine} Start query execution on ${mvName} with ${fragments} fragment(s)</td>
<td>Start query execution</td>
<td></td>
</tr>
<tr>
<td>GYMSC2005I</td>
<td>${executionEngine} Query execution elapsed ${executionTime} ms</td>
<td>Query execution elapsed time</td>
<td></td>
</tr>
<tr>
<td>GYMSC3001I</td>
<td>Start optimizing ${mvName}</td>
<td>Start optimizing</td>
<td></td>
</tr>
<tr>
<td>GYMSC3002I</td>
<td>${sourceFragmentCount} fragment(s) merged from ${strataName} [elapsed / 1000.0]%2f seconds] [mergedRate].2f per second] [Ratio: mergedRatio].2f</td>
<td>Fragment merged for a given strata</td>
<td></td>
</tr>
<tr>
<td>GYMSC3003I</td>
<td>Optimization complete on ${mvName}</td>
<td>Optimization complete for materialized view</td>
<td></td>
</tr>
<tr>
<td>GYMSC3004I</td>
<td>Optimization partial complete on ${mvName}</td>
<td>Optimization partially complete for materialized view</td>
<td></td>
</tr>
<tr>
<td>GYMSC3005I</td>
<td>Optimization fail on ${mvName}</td>
<td>Optimization failed for materialized view</td>
<td></td>
</tr>
</tbody>
</table>

**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

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.

GYMSS0001E  Unable to load retention period because of error: ${cause}
Explanation:  Unable to load retention period from storage

GYMSS002I  [$mvName] MaterializedViewManager] Starting
Explanation:  Starting materialized view manager

GYMSS003I  [$mvName] MaterializedViewManager] Started in ${elapsed} ms
Explanation:  Started materialized view manager

GYMSS004E  [$mvName] MaterializedViewManager] May not be started on time because of error: ${cause}
Explanation:  Unable to start materialized view manager on time
System action:  No query can use the materialized view

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 NPI user.

**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

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

**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

Administrator response: Repair underlying query issue

GYMUI0003E  bad aggregated data request query [${query}: $ex""]

Explanation: Bad aggregated data request

Administrator response: Repair underlying query issue
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