Troubleshooting Network Performance Insight
**Note**

Before using this information and the product it supports, read the information in “Notices” on page 25.

This edition applies to version 1.2.0.0 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 1.2.0 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.

- Chapter 1, “Troubleshooting a problem,” on page 1
- Chapter 1, “Troubleshooting a problem,” on page 1
- Chapter 5, “Log files in Network Performance Insight,” on page 13
- Chapter 6, “Known problems and solutions,” on page 17

Network Performance Insight architecture

IBM Network Performance Insight is a network 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 downtime and optimized network performance.

Network Performance Insight provides IBM Netcool® Operations Insight with comprehensive IP network device performance monitoring and session traffic analysis.

The following diagram shows how data is flowing through the various components in Network Performance Insight:
IBM Open Platform with Apache Spark and Apache Hadoop

IBM Open Platform with Apache Spark and Apache Hadoop (IOP) can be used to help process and analyze the volume, variety, and velocity of data that continually enters your organization every day. Network Performance Insight is installed as a service extension to the installed IBM Open Platform with Apache Spark and Apache Hadoop stack.

The features of IOP that are used in installing Network Performance Insight:

- IBM Open Platform with Apache Spark and Apache Hadoop
- Default support for rolling upgrades for Hadoop services
- Support for long-running applications within YARN for enhanced reliability
- Spark in-memory distributed compute engine for dramatic performance increases
- Apache Ambari operational framework. Apache Ambari is an open framework for provisioning, managing, and monitoring Apache Hadoop clusters. Ambari provides an intuitive and easy-to-use Hadoop management web UI backed by its collection of tools and APIs that simplify the operation of Hadoop clusters.
- Essentially includes the following open source technologies for working with Network Performance Insight:
  - HDFS
  - Kafka
  - Ambari
  - Spark
  - ZooKeeper
Note: Because Zookeeper requires a majority, it is best to use an odd number of machines. For example, with four machines ZooKeeper can only handle the failure of a single machine; if two machines fail, the remaining two machines do not constitute a majority. However, with five machines ZooKeeper can handle the failure of two machines.

Integrated products

The products that are needed to work with Network Performance Insight, V1.2.0 are as follows:

Jazz for Service Management 1.1.3.0
Dashboard Application Services Hub provides visualization and dashboard services in Jazz for Service Management. It has a single console for administering IBM products and related applications. Visualization for Network Performance Insight is federated into Dashboard Application Services Hub.

Products that are integrated with Network Performance Insight 1.2.0:

IBM Tivoli® Network Manager IP Edition 4.2.0.1
Tivoli Network Manager provides network discovery, device polling, including storage of polled SNMP data for reporting and analysis, and topology visualization. In addition, Network Manager can display network events, perform root-cause analysis of network events, and enrich network events with topology and other network data.

Tivoli Netcool/OMNIbus component of IBM Netcool Operations Insight 1.4.0.3
Netcool Operations Insight is powered by the fault management capabilities of IBM Tivoli Netcool/OMNIbus. In Network Performance Insight v1.2.0, Tivoli Netcool/OMNIbus 8.1.0.8 is an important part of the solution for monitoring the network threshold violations.

Network Performance Insight services

Network Performance Insight components are running on microservice architecture that has the software application as a suite of independently deployable, small, modular services in which each service runs a unique process and communicates through a well-defined, lightweight mechanism.

For more information about these services, see IBM Network Performance Insight: Product Overview.

Related information:

- IBM Network Performance Insight on IBM Knowledge Center
- IBM BigInsights 4.2 documentation
- HDFS Architecture
- Apache Hadoop YARN
- Apache Kafka
- Apache Zookeeper
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,
multicolumn 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 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.
Chapter 2. 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.
Chapter 3. 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 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.
Chapter 4. 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 5. Log files in Network Performance Insight

Log files are created during installation of Network Performance Insight. Log files can be used to examine processing results and problems that are associated with different services.

Log files for different services:

<table>
<thead>
<tr>
<th>Service</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambari server</td>
<td>/var/log/ambari-server</td>
</tr>
<tr>
<td>Ambari agent</td>
<td>/var/log/ambari-agent</td>
</tr>
<tr>
<td>Ambari Metric Collector</td>
<td>/var/log/ambari-metrics-collector</td>
</tr>
<tr>
<td>Ambari Metric Monitor</td>
<td>/var/log/ambari-metrics-monitor</td>
</tr>
<tr>
<td>MapReduce</td>
<td>/var/log/hadoop-mapreduce/mapred</td>
</tr>
<tr>
<td>Hadoop</td>
<td>/var/log/hadoop/hdfs</td>
</tr>
<tr>
<td>Kafka</td>
<td>/var/log/kafka</td>
</tr>
<tr>
<td>YARN components</td>
<td></td>
</tr>
<tr>
<td>• Node Manager</td>
<td>/var/log/hadoop-yarn</td>
</tr>
<tr>
<td>• Timeline server</td>
<td></td>
</tr>
<tr>
<td>• YARN</td>
<td></td>
</tr>
<tr>
<td>ZooKeeper</td>
<td>/var/log/zookeeper</td>
</tr>
<tr>
<td>DNS</td>
<td>/opt/IBM/npi/npi-dns/logs</td>
</tr>
<tr>
<td>Entity Analytics</td>
<td>/opt/IBM/npi/npi-entity-analytics/logs</td>
</tr>
<tr>
<td>Event</td>
<td>/opt/IBM/npi/npi-event/logs</td>
</tr>
<tr>
<td>Flow Analytics</td>
<td>/opt/IBM/npi/npi-flow-analytics/logs</td>
</tr>
<tr>
<td>Flow Collector</td>
<td>/opt/IBM/npi/npi-flow-collector/logs</td>
</tr>
<tr>
<td>Network Manager Collector</td>
<td>/opt/IBM/npi/npi-ntnm-collector/logs</td>
</tr>
<tr>
<td>Manager</td>
<td>/opt/IBM/npi/npi-manager/logs</td>
</tr>
<tr>
<td>Storage</td>
<td>/opt/IBM/npi/npi-storage/logs</td>
</tr>
<tr>
<td>Threshold</td>
<td>/opt/IBM/npi/npi-threshold/logs</td>
</tr>
<tr>
<td>UI</td>
<td>/opt/IBM/npi/npi-ui/logs</td>
</tr>
</tbody>
</table>

Configuring logging

The default logging level can be set from Ambari server web user interface.

**Procedure**

1. Open a browser and access the Ambari server dashboard.
   Use the following default URL: http://<myserver.ibm.com>:8080
   The default user name is admin, and the default password is admin.
2. Click **Services** > **NPI** > **Configs** > **Advanced**.
3. Expand the **Advanced npi-env** pane and add the following lines in **npi-env template** text area to configure the log level for the error messages that are logged in various log files:
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>
<tr>
<td>OFF</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
</tbody>
</table>

4. To specify the retention period for the historical log files, add the following lines in `npi-env template` text area:

```plaintext
logging.history = nn
```

Where `nn` is an integer value.

**Note:** The default value is 10. A new 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_service>/logs` directory.

5. Restart the system.

For more information about restarting Network Performance Insight services, see *Controlling the Ambari server and Ambari agent services in Administering IBM Network Performance Insight*.

### Log message format

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

An example log message:

```
[INFO] [2016-08-27 23:58:29.497]
[akka.tcp://npi@127.0.0.0.0:2553/user/storage singleton/ collagen/storeopt/ localhost.NPI.FLOW_METRIC.AGG_001MIN_TOP_PROT_OCTET.MV001]
[npi-storage.optimizer.dispatcher-9123]
GMSC3003I: Optimization complete on localhost.NPI.FLOW_METRIC.AGG_001MIN_TOP_PROT_OCTET.MV001
```

Log message elements:

- **Log level**
- **Time stamp**
- **Class name**
- **Message ID**
- **Thread name**
- **Message Description**
Controlling the services from Ambari administration interface

Stop all IBM Open Platform with Apache Spark and Apache Hadoop services, by either using the Ambari administration interface or commands that start Ambari REST APIs.

Procedure

Stopping the services

• Click Actions > Stop All from the Ambari web interface.
  Then, wait for all of the services to stop.
Or
• Run the following command to stop various services in your Ambari agent hosts on the Ambari server agent:

```
#!/bin/bash
#Replace the following variables with values specific to your cluster
ambari_server=<Ambari_Server_host>
ambari_port=8080
ambari_user=admin
ambari_password=admin
ambari_cluster=<MyCluster>

#MAKE SURE CODE APPEARS ON ONE LINE
services=$(curl --silent -u ${ambari_user}:${ambari_password} -X GET http://${ambari_server}:${ambari_port}/api/v1/clusters/${ambari_cluster}/services | grep service_name | sed -e 's,.*:.*"(.*")",\1,g')

for serv in $services
do
  curl -u ${ambari_user}:${ambari_password} -H 'X-Requested-By: ambari' -X PUT -d "{"RequestInfo": {"context": "Stop service"}, "Body": {"ServiceInfo": {"state": "INSTALLED"}}}" http://${ambari_server}:${ambari_port}/api/v1/clusters/${ambari_cluster}/services/$serv
done
```

• Optional: Follow this sequence to stop the services on Ambari web interface:
  The order in which to stop the services:
  1. Network Performance Insight
  2. MapReduce2
  3. YARN
  4. HDFS
  5. KAFKA
  6. Ambari Metrics
  7. ZooKeeper

Starting the services

• Click Actions > Start All from the Ambari web interface.
• Optional: Follow this sequence to start the services on Ambari web interface:
  The order in which to start the services:
  1. ZooKeeper

Chapter 5. Log files in Network Performance Insight
2. Ambari Metrics
3. KAFKA
4. HDFS
5. YARN
6. MapReduce2
7. Network Performance Insight
Chapter 6. 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 log files to examine the processing results and problems that are associated with installation, configuration, and functioning of Network Performance Insight microservices.

Related concepts:
- Chapter 5, “Log files in Network Performance Insight,” on page 13

Log files are created during installation of Network Performance Insight. Log files can be used to examine processing results and problems that are associated with different services.

Ignore the fetched files options on IBM Installation Manager during an installation failure

Symptoms

When you are prompted to select an option on IBM Installation Manager to keep or remove the fetched files during an installation failure, you can ignore the options. Either the Keep Fetched Files or Delete Fetched Files option does not have an impact. Either Ambari or Network Performance Insight does not share any files with other dependent components.

Note: Only on successful installation, if you select the Keep Fetched Files option, the installed packages are available until the next time you perform an installation or uninstallation operation by using IBM Installation Manager.

Troubleshooting Ambari server

Use this information to troubleshoot problems when you use Ambari server.

Ambari HDFS Metric showing huge value for Under Replicated Blocks in a single node environment

Symptoms

Ambari Network Performance Insight HDFS metrics value is highlighted as red and showing a huge value for under replicated blocks in the Ambari server web interface in a single node environment.
Causes
The HDFS status summary in Ambari server web interface shows the missing and under replicated blocks.

Some files in your HDFS file system are corrupted either by losing its last block replica or just being under replicated.

When a new datanode is added, HDFS replicates these blocks. Even if the replication factor is set to 1, the HDFS stills report these blocks as under-replicated, as it is not fault tolerant.

This behavior is expected.

Resolving the problem
To work around this behavior, you can opt to follow the suggestions that are provided:

1. You can clear the threshold values from the Ambari server UI from the following steps:
   a. Select Edit from the HDFS metrics Under Replicated Block widget.
   b. Select Edit Shared from the Warning screen.
   c. Clear the thresholds values. For example, empty the Thresholds fields, WARNING and CRITICAL.
   d. Click Next > Save

2. The following are some suggestions to avoid this problem depending on your data blocks.
   a. To get the full details of the files, which are causing the problem, run the following command by using root user.
      $ hdfs fsck / -files -blocks -locations
      The output identifies the replication factor set on your corrupted files.
   b. The following list some methods to fix the missing and under-replicated blocks.
      • This condition might be temporal; if you have a data under-replicated it should automatically replicate the blocks to other data nodes to match the replication factor.
      • If it is not replicating on its own, run a balancer manually.

      Important: Do not run the HDFS balancer if you are using HBase.
      • If it is not replicating on its own, you can manually set replication on a specific file that is under replicated to a value higher than it currently set to. This setting makes the cluster to create more replicas.
         – The recommended default replication factor is to set at 3. If you then add a datanode, the block is replicated.
      • If it is just a temporary file, which is created when running the job and your speculative execution tasks are high, set the speculative execution tasks to match the replication factor.
   c. CAUTION:
      Run the following command only when you are sure about the corrupted files.
      If you are sure that these files are not needed and would like to eliminate the error, you can run the following command to automatically delete the corrupted files:
      hdfs fsck / -delete
Ambari Metrics configurations warning keeps appearing

**Symptoms**
The Ambari Metrics service configurations warning at times keeps appearing despite having the correct recommended value.

**Resolving the problem**
Ensure that your configurations value is according to the requirements or the recommended value. From the Ambari Metrics Warning UI, click **Proceed Anyway** to proceed.

It is a known limitation.

Related information

Ambari Metrics shows negative value

**Symptoms**
Ambari Network Performance Insight Flow Collector metrics at times show negative value from the Ambari web interface.

**Causes**
The Network Performance Insight Flow Collector is designed to run in multiple nodes. This issue is seen when many new interfaces are being discovered at a fast rate.

The negative value that is shown in Ambari metrics is indicating that the interfaces have exceeded the maximum number of flow interfaces configured.

**Resolving the problem**
When the interfaces are disabled or when the maximum number of flow interfaces configuration value is increased, the Ambari Flow Collector metrics value will be adjusted accordingly.

You can disable the interfaces, which are not needed to be collected.

To disable the interfaces, see *Configuring flow thresholds in Configuring IBM Network Performance Insight*

Timezone changes are not reflected for monitoring Network Performance Insight metrics on Ambari by using Firefox ESR

**Symptoms**
When you use Firefox ESR to monitor Network Performance Insight metrics on Ambari, the time zone changes are not reflected correctly.

**Resolving the problem**
It is a known limitation.

Related information

Unable to change timezone when using Firefox ESR 31.8.0
You might notice an oversized payload when you query with parent ID

**Symptoms**
When a static threshold is configured with a huge upper limit value and you try to query the database by using the anomalies API by parent ID, you might see the following error message:

```plaintext
[ERROR] [2016-09-06 22:38:46.039] [akka.tcp://npi@<IP_address>/system/endpointManager/reliableEndpointWriter-akka.tcp://npi@10.212.6.20:2552-27/endpointWriter]
[npi-akka.remote.default-remote-dispatcher-5] Transient association error (association remains live)
akka.remote.OversizedPayloadException; Discarding oversized payload sent to Actor
[akka.tcp://npi@10.212.6.20:2552/temp/$e]: max allowed size 128000 bytes, actual size of encoded class persistent.npm.storage.spark.SparkQueryMessages$TableScanResults was 133408 bytes.
```

**Resolving the problem**
To resolve this issue, follow these steps:

1. Open a browser and access the Ambari server dashboard. admin.
   Use the following default URL: `http://<myserver.ibm.com>:8080`
   The default user name is `admin`, and the default password is `admin`.
2. Click Services > NPI > Configs > Advanced.
3. Expand Advanced npi-env pane and add the following lines in npi-env template text area:
   ```plaintext
   ui.entity.anomalies.batchsize = <value>
   ```
   The default value is 900. If you want to reduce the payload size, enter a lower value.

For more information, see anomalies in IBM Network Performance Insight: References.

---

**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.

**You can open only one page at a time for system configurations on Dashboard Application Services Hub**

**Symptoms**
When you try to configure Network Performance Insight system from Console Integrations (⋯) on Dashboard Application Services Hub, you cannot open multiple pages at time. If you try to open another page, the current page is replaced by the new page.

For more information about system configurations, see Configuring Network Performance Insight system from Configuring IBM Network Performance Insight.

**Missing console integration icon**

**Symptoms**
The console integration was successful but the table that lists the available tasks is empty, hence the console integration icon (耋) is missing in Dashboard Application Services Hub.

Note: For a successful connection:
• A table lists the tasks available from stand-alone console and attributes for each task.
• The specified stand-alone console content is available in the navigation bar of the Dashboard Application Services Hub console through the Console Integration icon (耋).

Resolving the problem
• Verify that your login user has all the required groups set from WebSphere Administrative Console and user roles set from Console Settings in Dashboard Application Services Hub.
• Click Save from the Console Integration page in Dashboard Application Services Hub for NPI.
• Restart the Network Performance Insight UI service from Ambari server.

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 (耋) 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>$NMGUI_HOME/profile/logs/tmm/ncp_nethealth.0.log</td>
</tr>
<tr>
<td>Trace file</td>
<td>$NMGUI_HOME/profile/logs/tmm/ncp_nethealth.0.trace</td>
</tr>
</tbody>
</table>

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• 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.
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