



Lenovo XClarity Integrator for Nagios Installation and User's Guide



Version 1.0

Note

Before using this information and the product it supports, read the information in Appendix A “Notices” on page 7.

First Edition (September 2018)

© Copyright Lenovo 2018.

LIMITED AND RESTRICTED RIGHTS NOTICE: If data or software is delivered pursuant to a General Services Administration “GSA” contract, use, reproduction, or disclosure is subject to restrictions set forth in Contract No. GS-35F-05925.

Contents

About this publicationiii	Software requirements	3
Conventions and terminology	iii	Supported devices	3
PDF and web resources	iii	Setting up Lenovo XClarity Integrator for Nagios	3
Chapter 1. Lenovo XClarity Integrator for Nagios.	1	Appendix A. Notices.	7
Chapter 2. Planning and setting up Lenovo XClarity Integrator for Nagios	3	Trademarks	8
		Important notes.	8

About this publication

This book provides instructions for installing and using Lenovo XClarity Integrator for Nagios.

Lenovo XClarity Integrator for Nagios is a plugin for Nagios that allows status and alert monitoring of the devices that are managed by Lenovo XClarity Administrator. These insights can help systems administrators find potential problems in their environment

Conventions and terminology

Paragraphs that start with a bold **Note**, **Important**, or **Attention** are notices with specific meanings that highlight key information.

Note: These notices provide important tips, guidance, or advice.

Important: These notices provide information or advice that might help you avoid inconvenient or difficult situations.

Attention: These notices indicate possible damage to programs, devices, or data. An attention notice appears before the instruction or situation in which damage can occur.

PDF and web resources

This product publication is available in PDF format.

- Installation and User's Guide

To view a PDF file, you need Adobe Reader. You can download it at no charge from the [Adobe Acrobat website](#).

Use the following links to learn more about Lenovo XClarity Integrator for Nagios and related resources.

- [Lenovo XClarity Integrator for Nagios Support webpage](#)
- [Nagios webpage](#)
- [Lenovo XClarity Administrator online documentation](#)

Chapter 1. Lenovo XClarity Integrator for Nagios

Lenovo XClarity Integrator for Nagios is a plugin for Nagios that allows status and alert monitoring of the devices that are managed by Lenovo XClarity Administrator. These insights can help systems administrators find potential problems in their environment

XClarity Integrator for Nagios supports the following features.

- View hardware status and alerts for Lenovo hardware that is managed by XClarity Administrator
XClarity Integrator for Nagios supports all device types that are supported by XClarity Administrator, including servers, storage, and switches.
- Sends an email to an administrator when a new alert is asserted or de-asserted
- Works with other variations, such as Check_MK

Note: Device status and alerts *are not* provided in real-time. The frequency in which alerts and status is retrieved based 1.5 times the check-interval setting that is configured in Nagios.

Chapter 2. Planning and setting up Lenovo XClarity Integrator for Nagios

Use this procedure to plan for and set up Lenovo XClarity Integrator for Nagios.

Software requirements

The following requirements must be met.

- Lenovo XClarity Administrator v2.0 or later
- Nagios core
- Python v2.7 with PIP (Requests, keyring, and keyrings.alt packages installed)

Supported devices

Lenovo XClarity Integrator for Nagios supports all device types that are supported by Lenovo XClarity Administrator, including servers, storage, and switches.

For more information, see [Supported devices](#) in the XClarity Administrator documentation.

Setting up Lenovo XClarity Integrator for Nagios

Use these steps to setup Lenovo XClarity Integrator for Nagios.

Before you begin

Ensure that Nagios can connect to the target Lenovo XClarity Administrator.

Ensure that ports to the SMTP server are open.

Ensure that XClarity Administrator manages one or more devices that have alerts so that you can verify the setup.

By default, XClarity Integrator for Nagios uses python **sendmail** for sending emails. You can also choose to use the standard email plugin that you use for all other plugins by configuring the email function in XClarity Integrator for Nagios script or use the standard Nagios e-mail function which is defined in the `commands.cfg` file.

Important: When copying code snippets from this topic, pay special attention to the end-of-line characters, as they are different in Windows and Linux.

Procedure

To set up XClarity Integrator for Nagios, complete the following steps.

Step 1. Download XClarity Integrator for Nagios (**xclarity_integrator_check.py**) to the `/usr/local/nagios/libexec` directory

Note: You can download XClarity Integrator for Nagios from the [Nagios Exchange website](#) or [Lenovo Support website](#).

Step 2. Optional: Edit the **xclarity_integrator_check.py** Python script, and modify the location of the `log_alerts`, `log_nodes`, `log_mail` and `certificate.pem`.

By default, the script creates and saves these files in the `/home/nagios/logs` directory.

Step 3. Run the `xclarity_integrator_check.py generate_credentials` command to set up XClarity Integrator for Nagios (for example `/usr/local/nagios/libexec/xclarity_integrator_check.py generate_credentials`).

Important: You must run this command as the user that runs the Nagios instance.

Step 4. When prompted, specify the user name, password and URL to the LXCA instance (URL example: `https://192.0.2.0`) to use to authenticate with XClarity Administrator.

Step 5. Update the Nagios configuration files in the `/usr/local/nagios/etc/objects` directory to add the new plugin.

- **commands.cfg**

Add the following definitions for the XClarity Integrator for Nagios plugin to send emails and verify the target XClarity Administrator.

Important: The options that are specified for the `command_line` function in the following definitions are appended with two dashes.

```
define command{
    command_name    notify-by-email
    command_line    $USER1$/xclarity_integrator_check.py --notificationtype '$NOTIFICATIONTYPES'
                   --servicedesc '$SERVICEDESC$' --hostaddress '$HOSTADDRESS$' --servicestate '$SERVICESTATES$'
                   --longdatettime '$LONGDATETIMES$' --longserviceoutput '$LONGSERVICEOUTPUT$'
                   --hostalias '$HOSTALIASS$'
}

define command {
    command_name xclarity_integrator_check
    command_line $USER1$/xclarity_integrator_check.py --lxca system
}
```

- **localhost.cfg**

Add the following definition for the XClarity Integrator for Nagios plugin.

```
define service{
    use                local-service
    host_name          localhost
    service_description xclarity_integrator_check
    check_command      xclarity_integrator_check
    notifications_enabled 1
}
```

- **contacts.cfg**

Add the following definitions to define the email address of the contact or contact group that is to receive emails notifications.

```
define contact{
    contact_name      John
    use                generic-contact
    alias              John Doe
    service_notification_commands notify-by-email
    email              JOHN_D@company.com
}
```

Where:

- **contact_name.** Short name for the contact
- **use.** Always set this value to “generic-contact”
- **alias.** Full name for the contact

- **service_notification_commands.** To use Mailx for sending and receiving emails, set this parameter to the value of the **command_name** parameter in the `commands.cfg` file (for example, `notify-by-email`). To use the standard Nagios email plugin, omit this parameter.
- **email.** Contact email address

Step 6. Restart Nagios for the changes to take effect.

Step 7. From the Nagios portal, verify that “xclarity_integrator_check” is listed as a service under localhost.

Limit Results: 100

Host	Service	Status	Last Check	Duration	Attempt	Status Ir
localhost	Current Load	OK	08-16-2018 10:57:44	2d 2h 33m 20s	1/4	OK - load
	Current Users	OK	08-16-2018 10:58:18	2d 2h 32m 42s	1/4	USERS C
	HTTP	WARNING	08-16-2018 10:58:52	2d 2h 32m 5s	4/4	HTTP WA
	PING	OK	08-16-2018 10:54:23	2d 2h 31m 27s	1/4	PING OK
	Root Partition	OK	08-16-2018 10:55:00	2d 2h 30m 50s	1/4	DISK OK
	SSH	OK	08-16-2018 10:55:32	2d 2h 30m 12s	1/4	SSH OK -
	Swap Usage	OK	08-16-2018 10:56:05	2d 2h 29m 35s	1/4	SWAP OF
	Total Processes	OK	08-16-2018 10:56:38	2d 2h 28m 57s	1/4	PROCS C
	Xclarity_integrator_check	OK	08-16-2018 10:59:13	0d 2h 35m 14s	1/4	Cezar7

Step 8. Click **xclarity_integrator_check** to display the current status, and verify the status is “OK.”

Step 9. Create an alert condition in the target XClarity Administrator. Verify that an email is sent to the specified contacts, for example:

```
***** Nagios *****
```

```
Notification Type: PROBLEM
```

```
Service: xclarity_integrator_check
```

```
Host: localhost
```

```
Address: 192.0.2.0
```

```
State: CRITICAL
```

```
Date/Time: Wed Jul 25 08:15:54 EDT 2018
```

```
Additional Information:
```

```
-----
Node: SR530 with IP: 192.0.2.10, 192.0.2.11, is in Critical state with the following alerts:
ALL CPUs have failed with ERROR.
-----
```

Appendix A. Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area.

Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service.

Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

*Lenovo (United States), Inc.
1009 Think Place - Building One
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing*

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary.

Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk.

Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Trademarks

Lenovo XClarity, Lenovo , and the Lenovo logo are trademarks of Lenovo in the United States, other countries, or both.

Azure, Microsoft, and Windows are trademarks of the Microsoft group of companies.

Other company, product, or service names may be trademarks or service marks of others.

Important notes

Processor speed indicates the internal clock speed of the microprocessor; other factors also affect application performance.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1 024 bytes, MB stands for 1 048 576 bytes, and GB stands for 1 073 741 824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1 000 000 bytes, and GB stands for 1 000 000 000 bytes. Total user-accessible capacity can vary depending on operating environments.

Lenovo makes no representations or warranties with respect to non-Lenovo products. Support (if any) for the non-Lenovo products is provided by the third party, not Lenovo.

Some software might differ from its retail version (if available) and might not include user manuals or all program functionality.

