Lenovo XClarity Administrator

LXCA overview and how-to instructions for common tasks

Lenovo

What is Lenovo XClarity Administrator?

Lenovo XClarity Administrator (LXCA) is a comprehensive agent-less hardware management tool that supports System x servers, ThinkSystem servers, switches, and storage systems.
LXCA does not come bundled with ThinkSystem servers. It runs as a virtual appliance that automates discovery, inventory, tracking, monitoring, and provisioning for server, network, and storage hardware in a secure environment.

When to use LXCA

LXCA is recommended for the management of multiple systems from a single interface because it offers a wide range of functions in one tool. Functions, such as deploying operating systems and updating firmware on multiple systems, can be performed efficiently with LXCA. If a system in a data center encounters an error, the user can look at the LXCA dashboard to determine which system has flagged an error message. They can then review and download the logs, and then pass them on to support personnel for further troubleshooting.

LXCA also supports Windows driver updates.

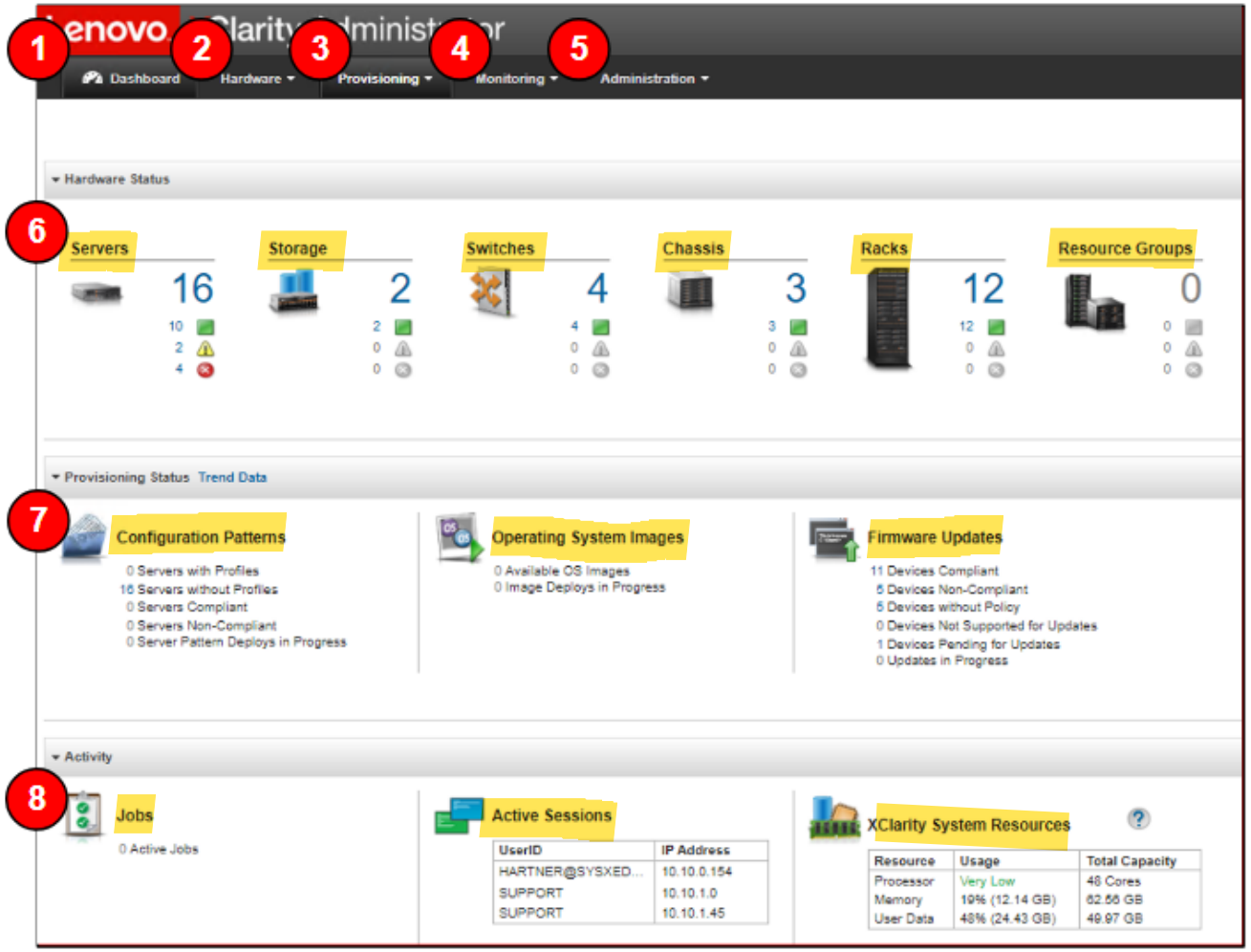
LXCA edition comparison

There are two LXCA editions: a free, basic edition and LXCA Pro, which requires a license upgrade.

Feature	LXCA	LXCA Pro
Licensing and support		
Free	v	
Licensed		v
Service and support		v
Key Features		
REST APIs and LXCI	v	v
Auto-discovery and asset management	v	v
Real-time monitoring, fault handling, alert notification, and Call Home	v	v
Firmware update management	v	v
Configuration patterns		v
Operating system and hypervisor installation		v

LXCA GUI quick overview

This is LXCA **Dashboard**, the LXCA homepage.
Click the icons to see descriptions of the different LXCA functions.



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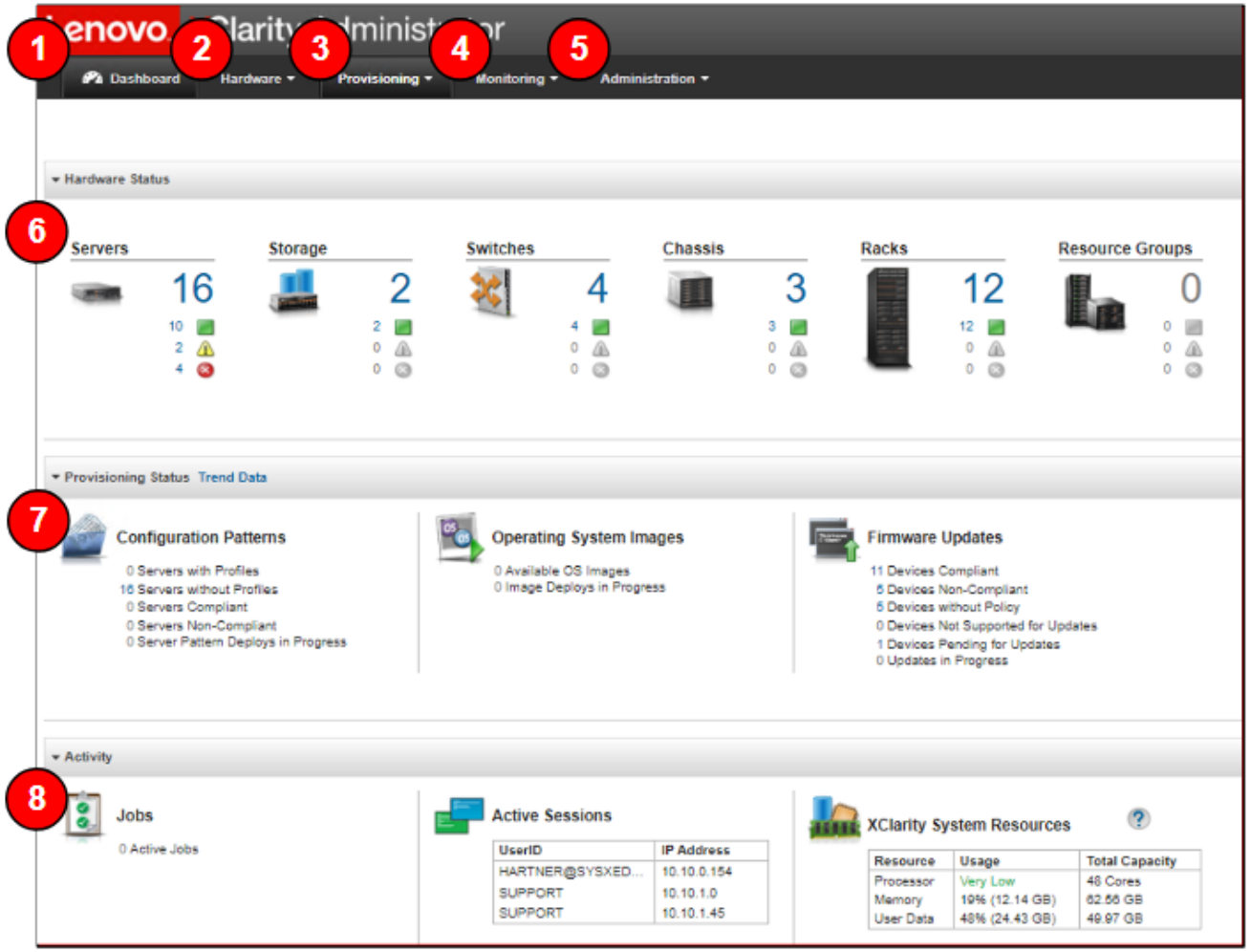
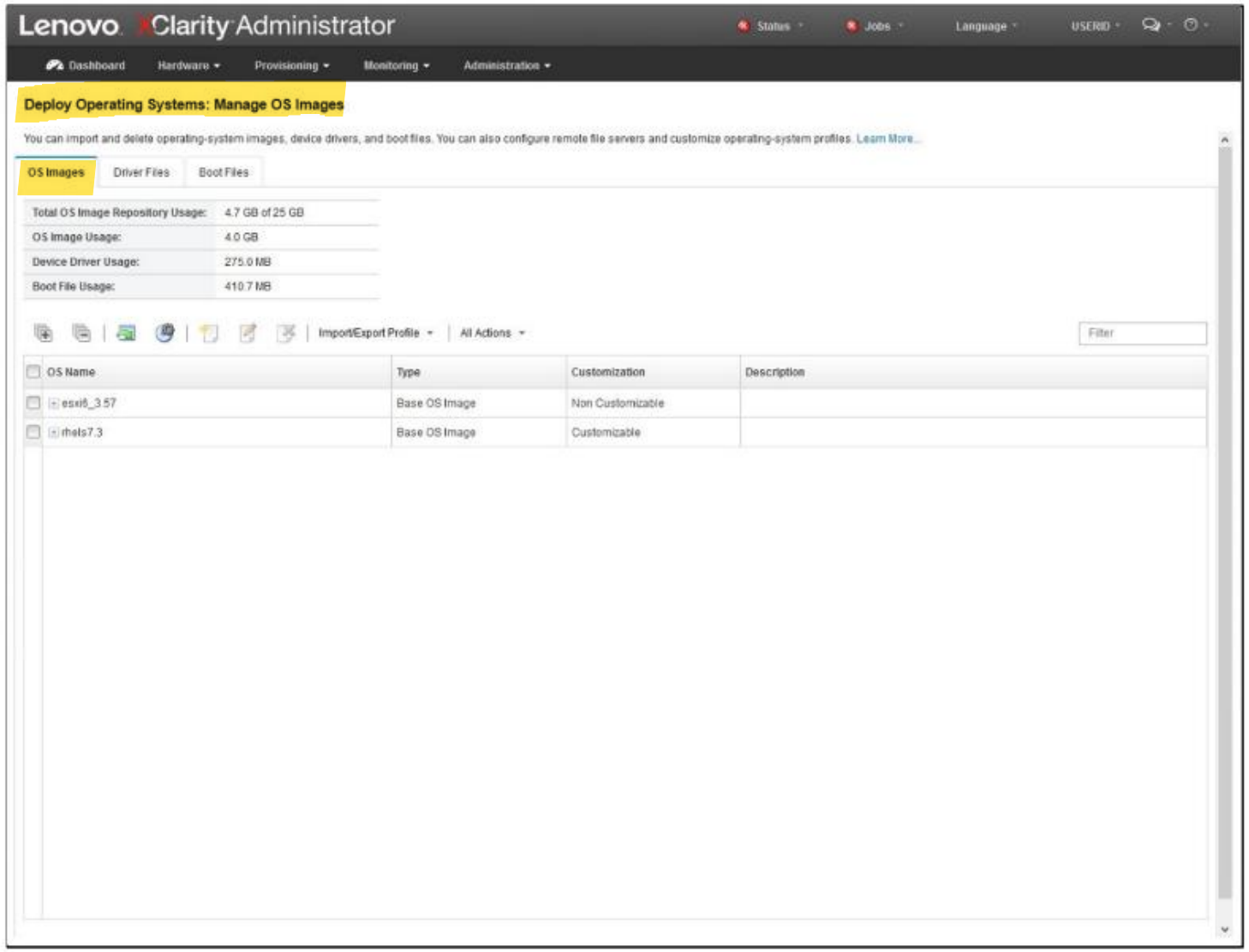


OS deployment

LXCA manages a repository of operating system images that allows for the concurrent deployment of operating system images to up to 28 managed servers.

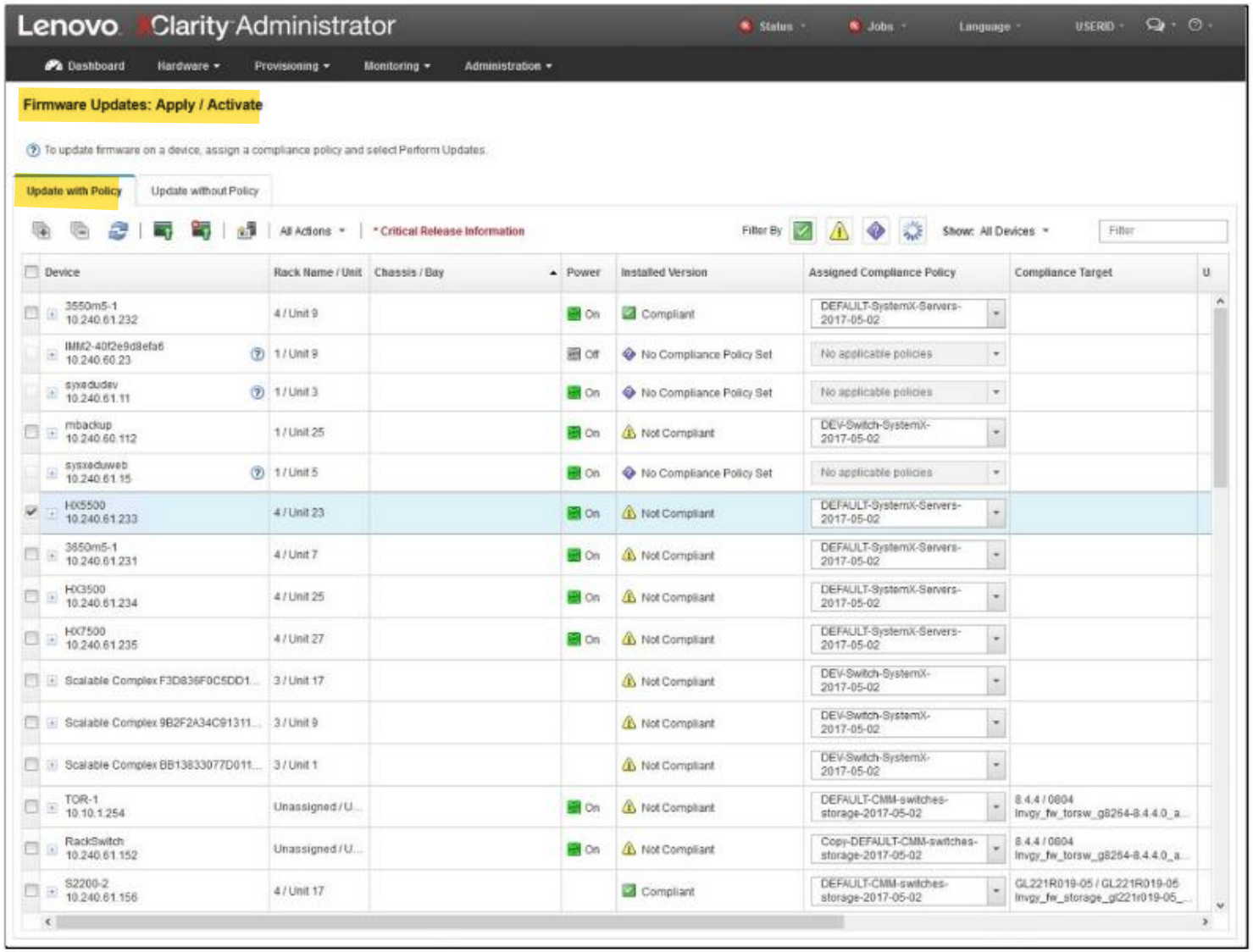


Firmware updates

Firmware management is simplified by assigning firmware-compliance policies to managed devices.

When users create and assign a compliance policy to managed devices, LXCA monitors changes to inventory for those devices and flags any devices that are out of compliance.

When a device is out of compliance, LXCA can be used to update it according to the policy.

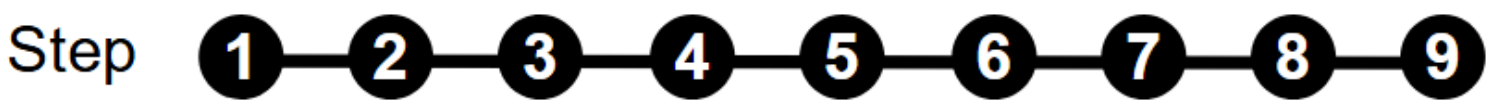


How to download the latest firmware

All firmware files are stored and managed in the LXCA repository. Before applying any updates, the latest update files need to be downloaded into the repository.

Work through the following procedure to download the latest firmware files into the repository.

Click each number in turn to see the procedure.



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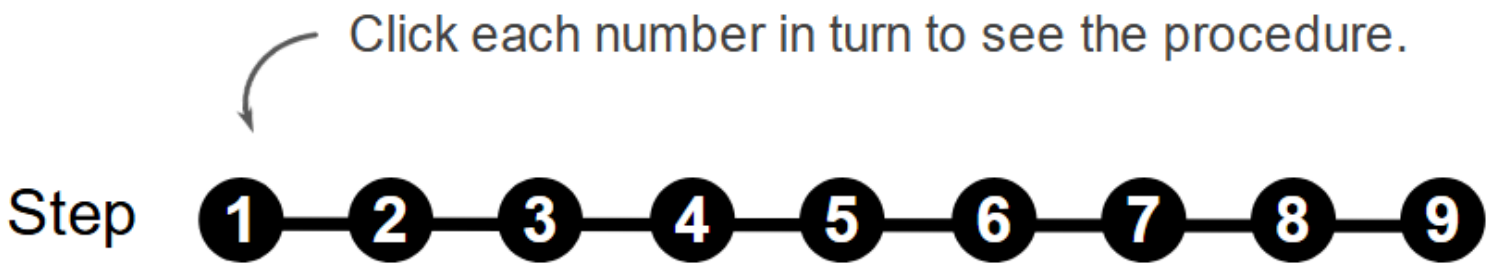
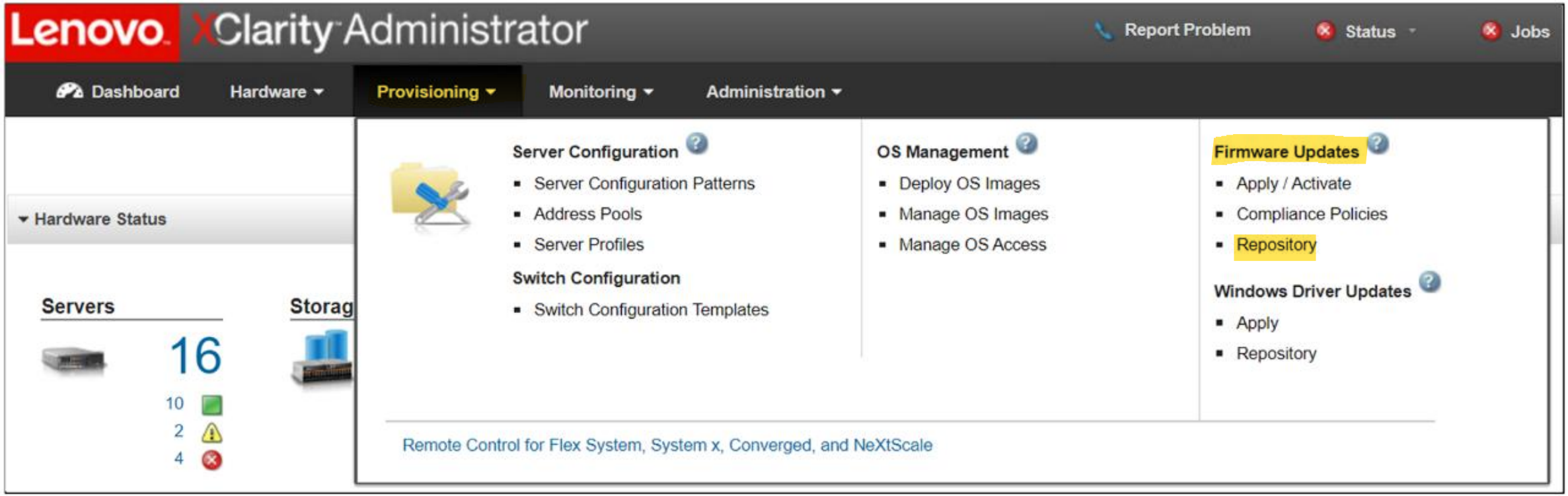


How to download the latest firmware

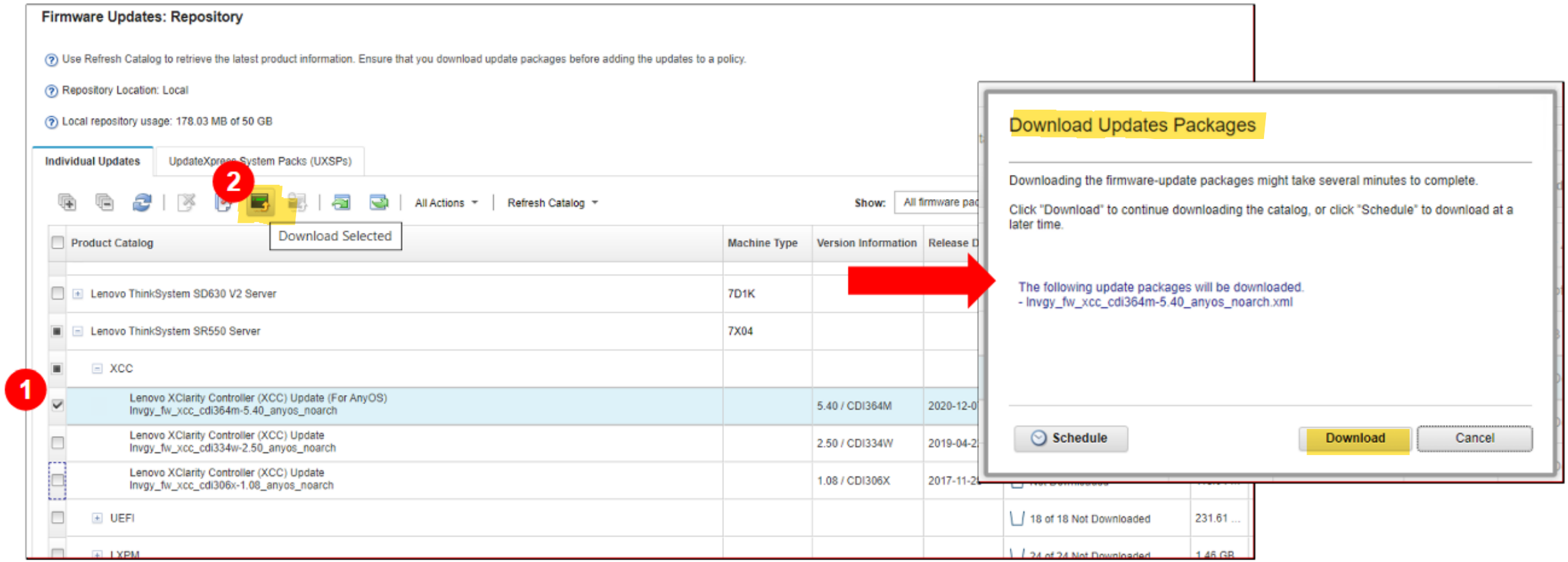
To access the repository, click **Provisioning** in the top menu bar, and then select **Repository** from the **Firmware Updates** section.



Step 1 2 3 4 5 6 7 8 9

How to download the latest firmware

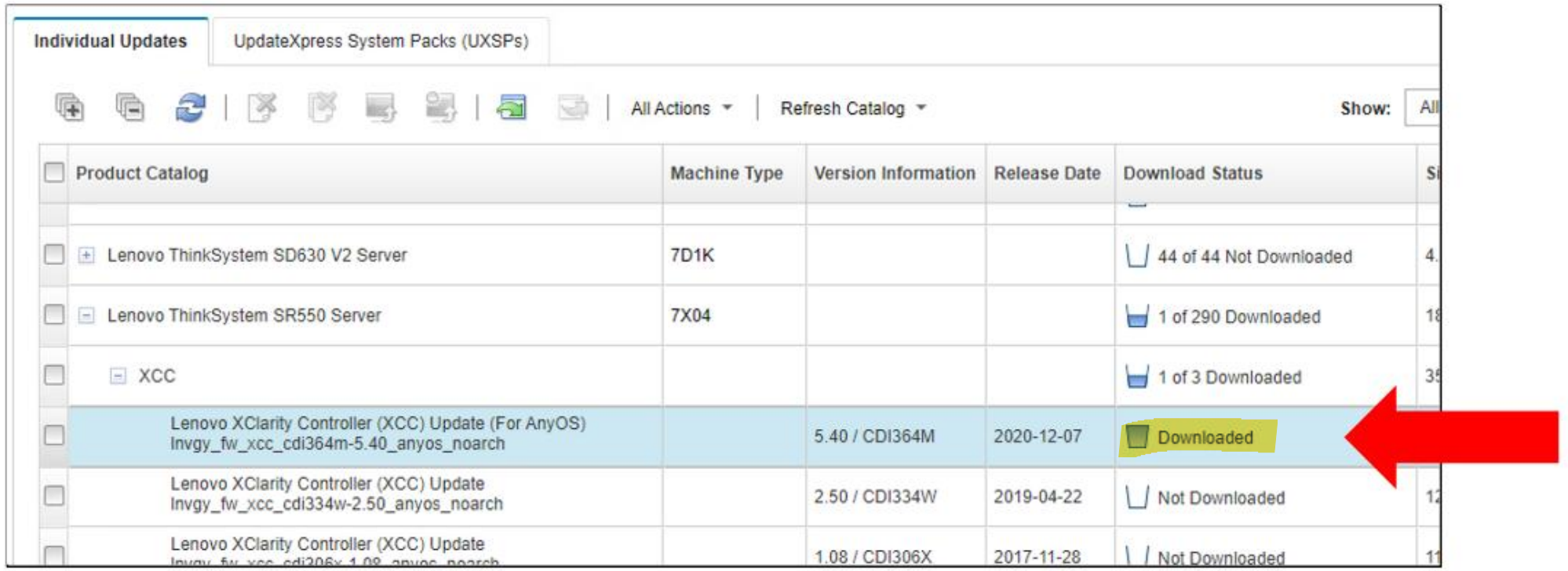
Select the system and firmware you want to download, and then click the button.



Step 1 2 3 4 5 6 7 8 9

How to download the latest firmware

When the download is complete, the firmware **Download Status** will be shown as **Downloaded**.



Step 1 2 3 4 5 6 7 8 9

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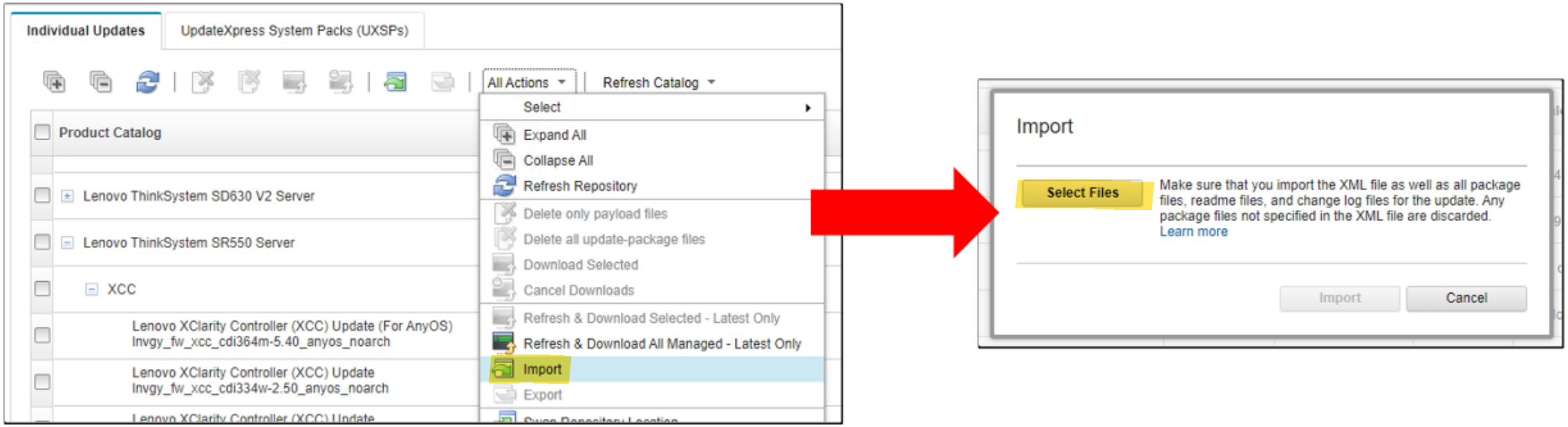
How to download the latest firmware

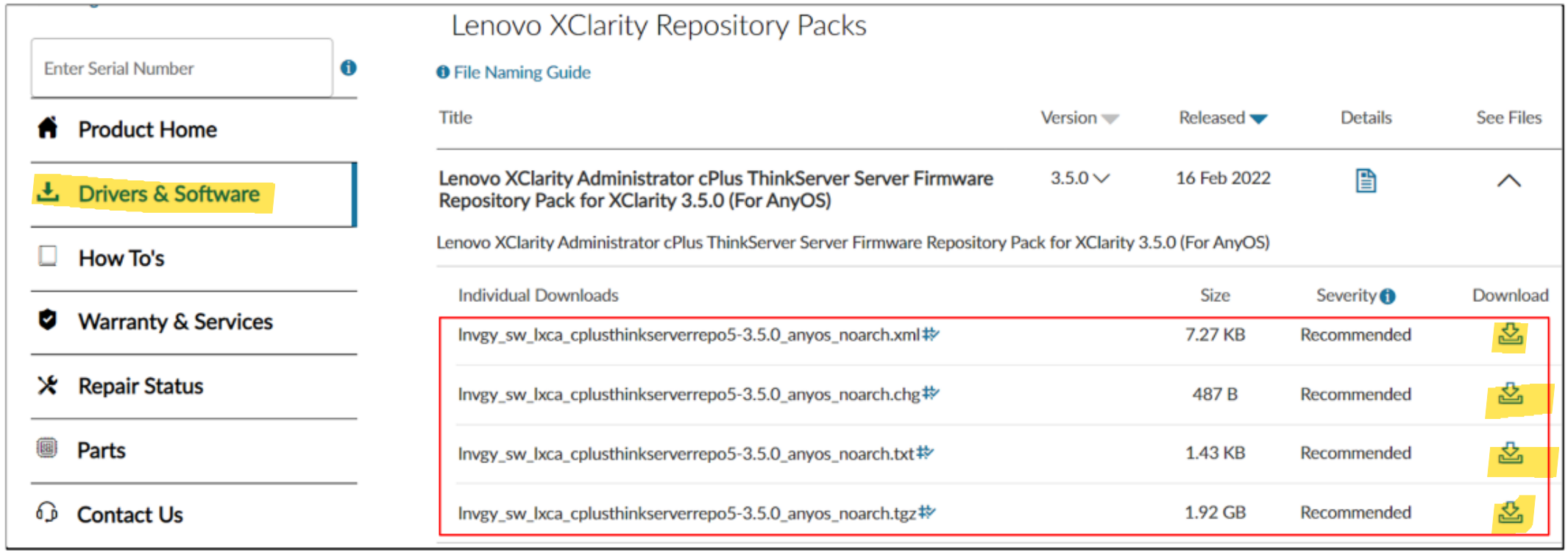
Users can also manually import update files into the repository by selecting **Import** from the **All Actions** drop-down menu. When importing update files, make sure that the update files include *.bin, *.xml, and *.txt files or the import will not be successful.
When the import is complete, the details of the update file will be added into the repository table.



Step 1 2 3 4 5 6 7 8 9

How to download the latest firmware

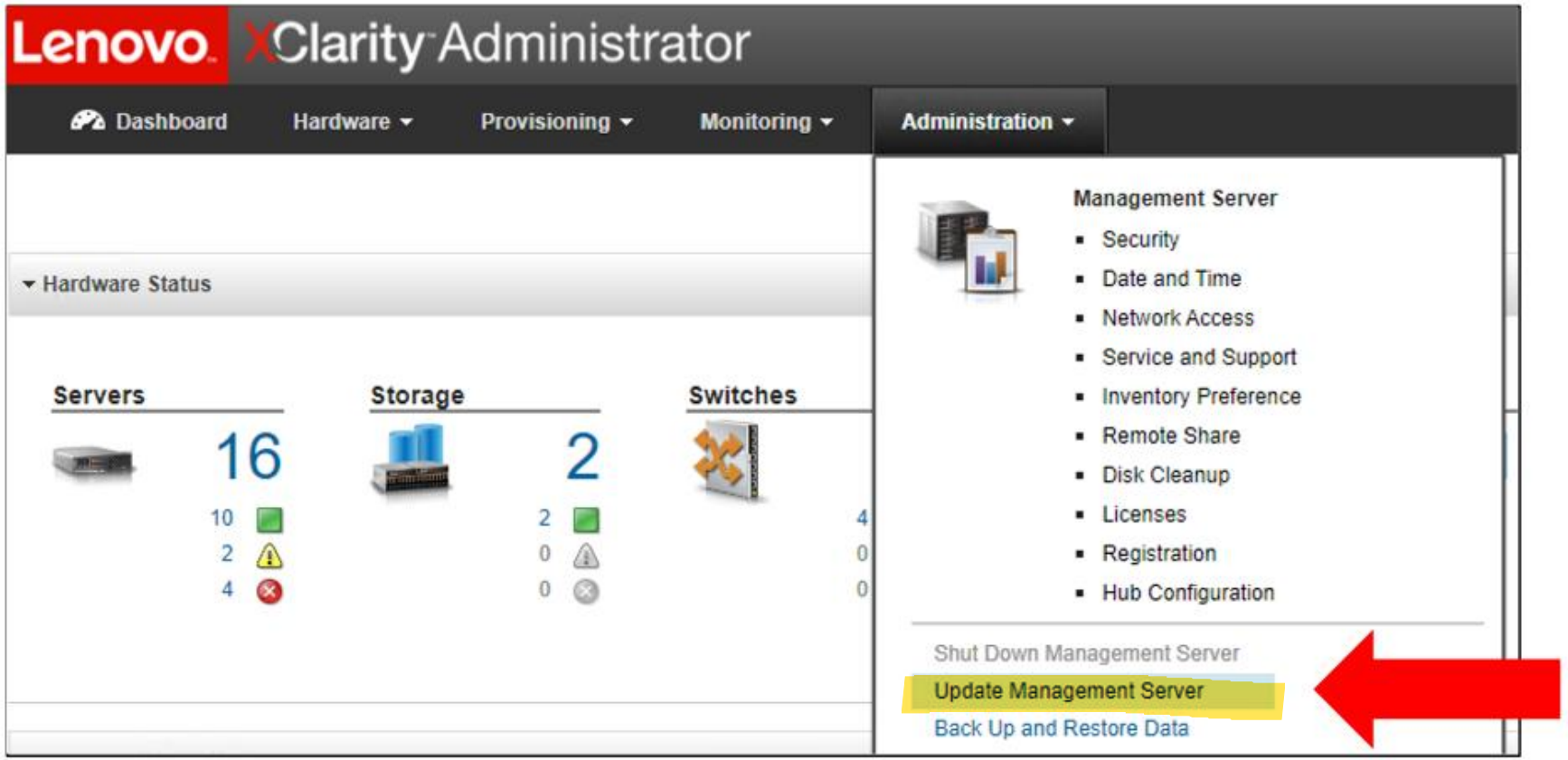
An alternative to downloading individual update files into the repository is to apply repository packs that include a bundle of available firmware update files and refreshed firmware-compliance policies. Repository packs can be found on Lenovo Support. For each repository pack, all four files need to be downloaded and imported.



Step 1 2 3 4 5 6 7 8 9

How to download the latest firmware

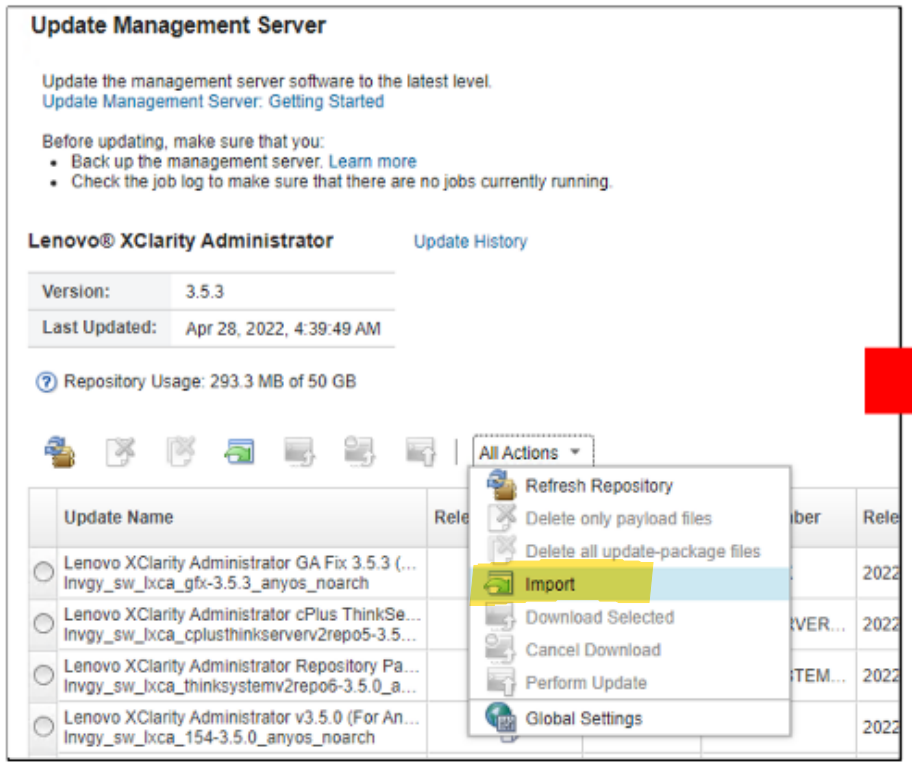
To import repository packs, click **Administration** in the LXCA top menu bar, and then select **Update Management Server**.

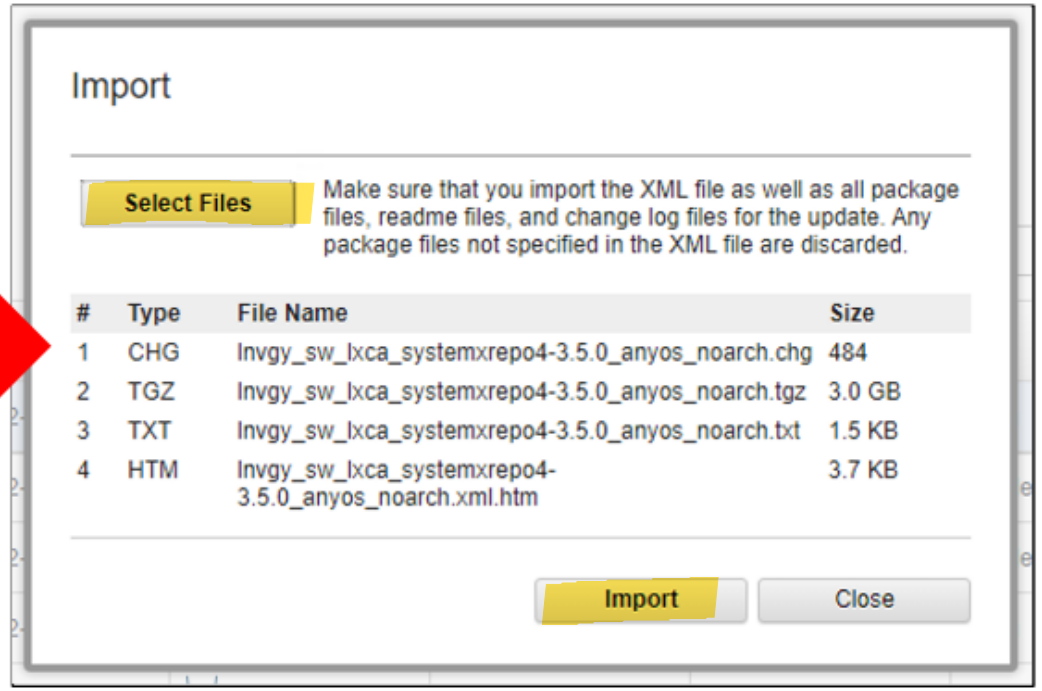


Step 1 2 3 4 5 6 7 8 9

How to download the latest firmware

On the **Update Management Server** page, select **Import** from the **All Actions** drop-down menu to import all four repository pack files in a single import action.

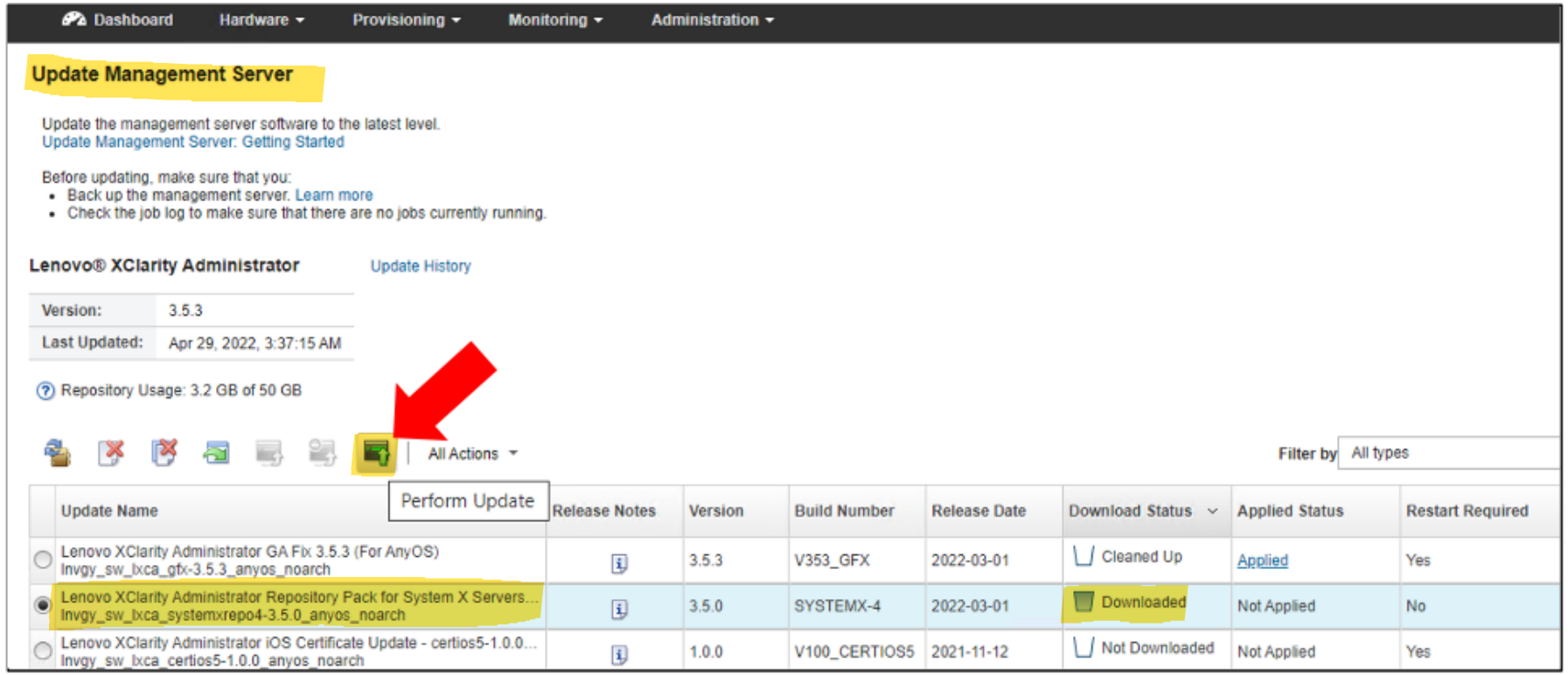




Step 1 2 3 4 5 6 7 8 9

How to download the latest firmware

To update the firmware, select the repository pack from the update file list, and then click the **Perform Update** button.



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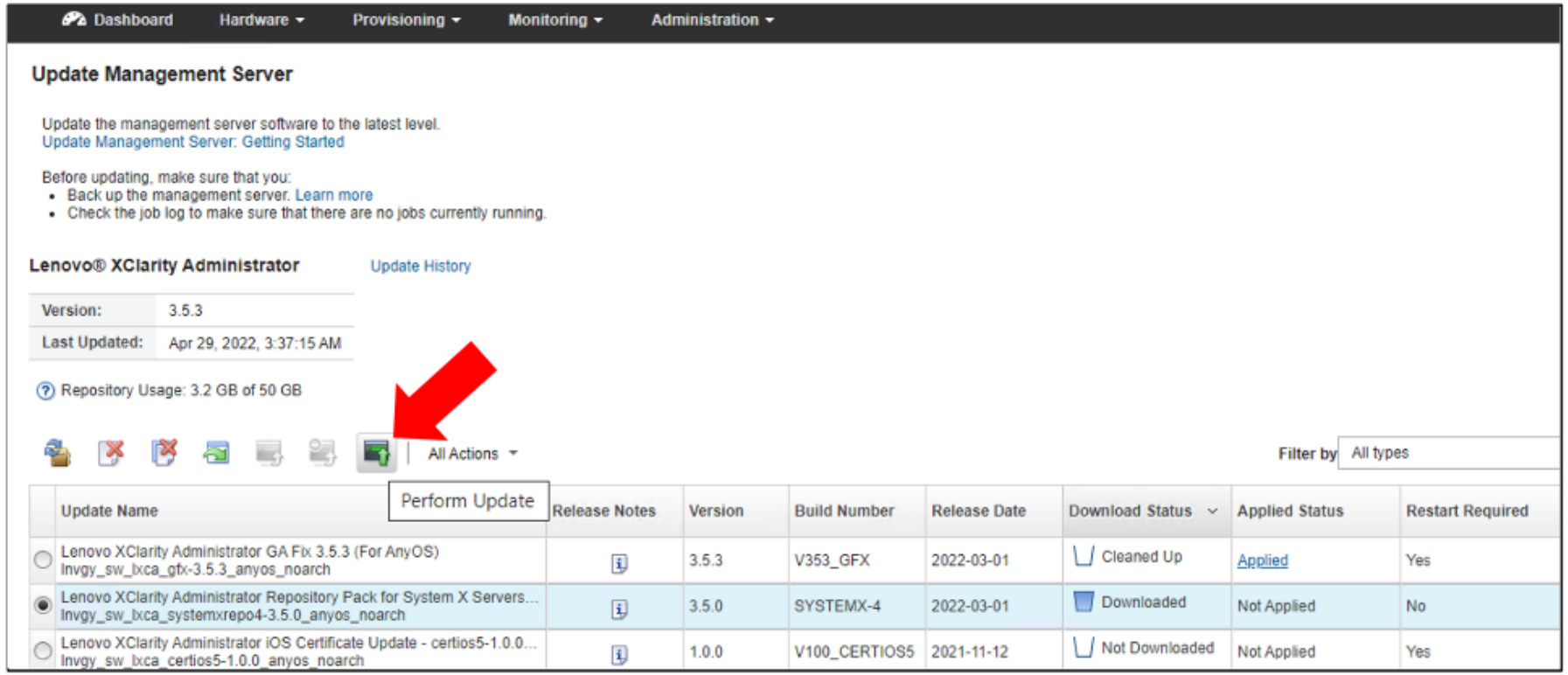
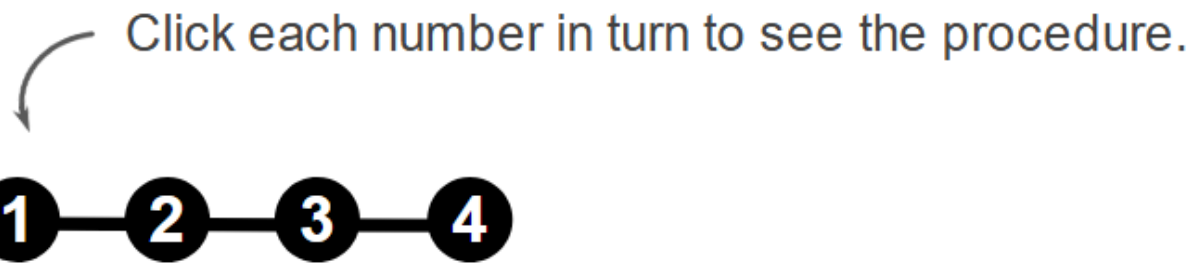


Step 1 2 3 4 5 6 7 8 9

How to apply firmware

After the firmware files have been downloaded into the repository, the user should work through the following procedure to apply the update.



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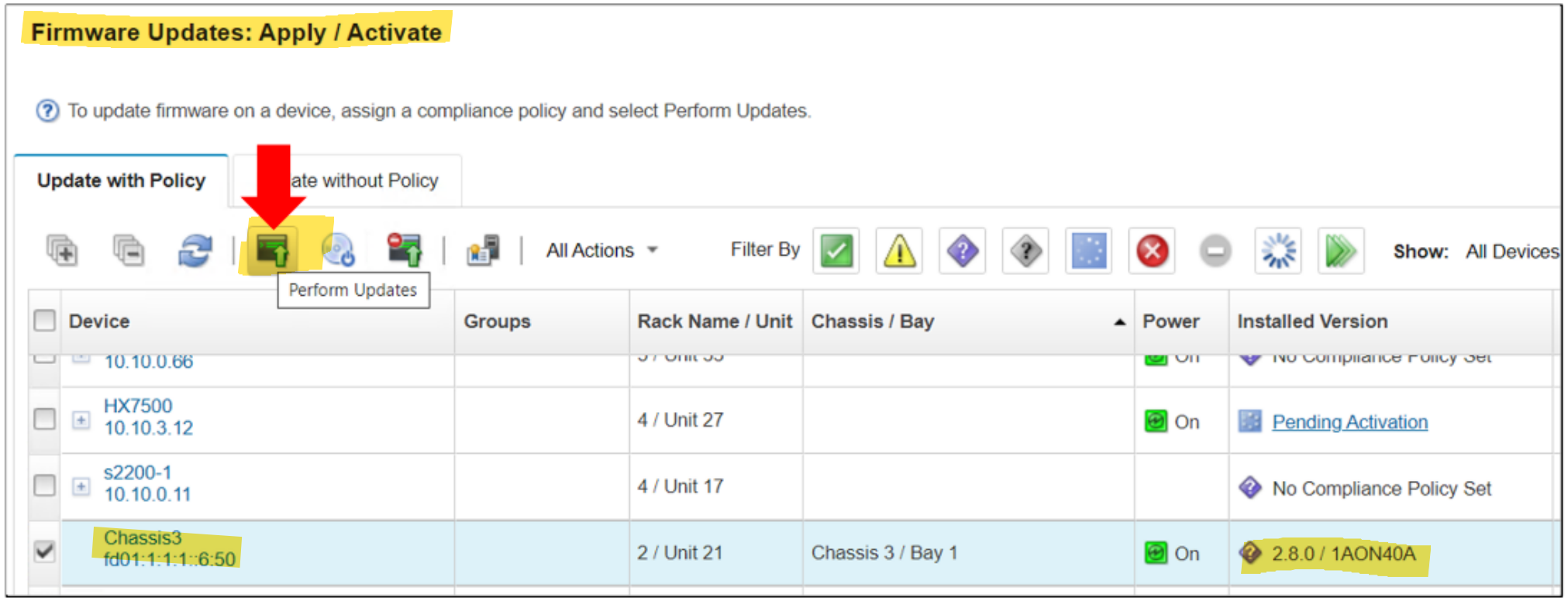
How to apply firmware

On the **Firmware Updates: Apply/Activate** page, select the system or system firmware that needs to be updated, and then click the **Perform Updates** button.

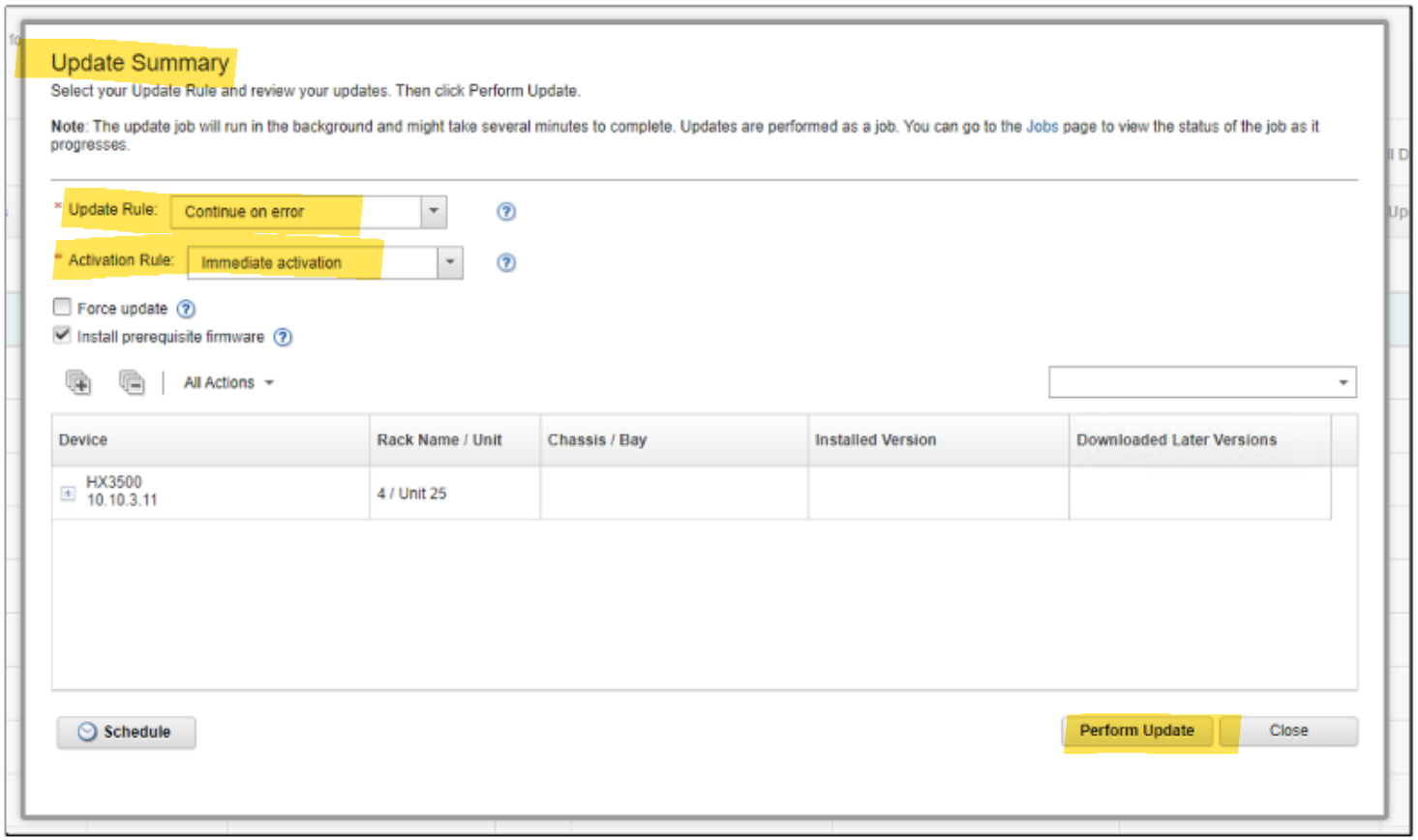


Step 1 — 2 — 3 — 4

Lenovo

How to apply firmware

In the **Update Summary** window, the user must specify an **Update Rule** and an **Activation Rule**. The table shows a summary of the items that will be updated. To start the update process, click **Perform Update**.



Step 1 2 3 4

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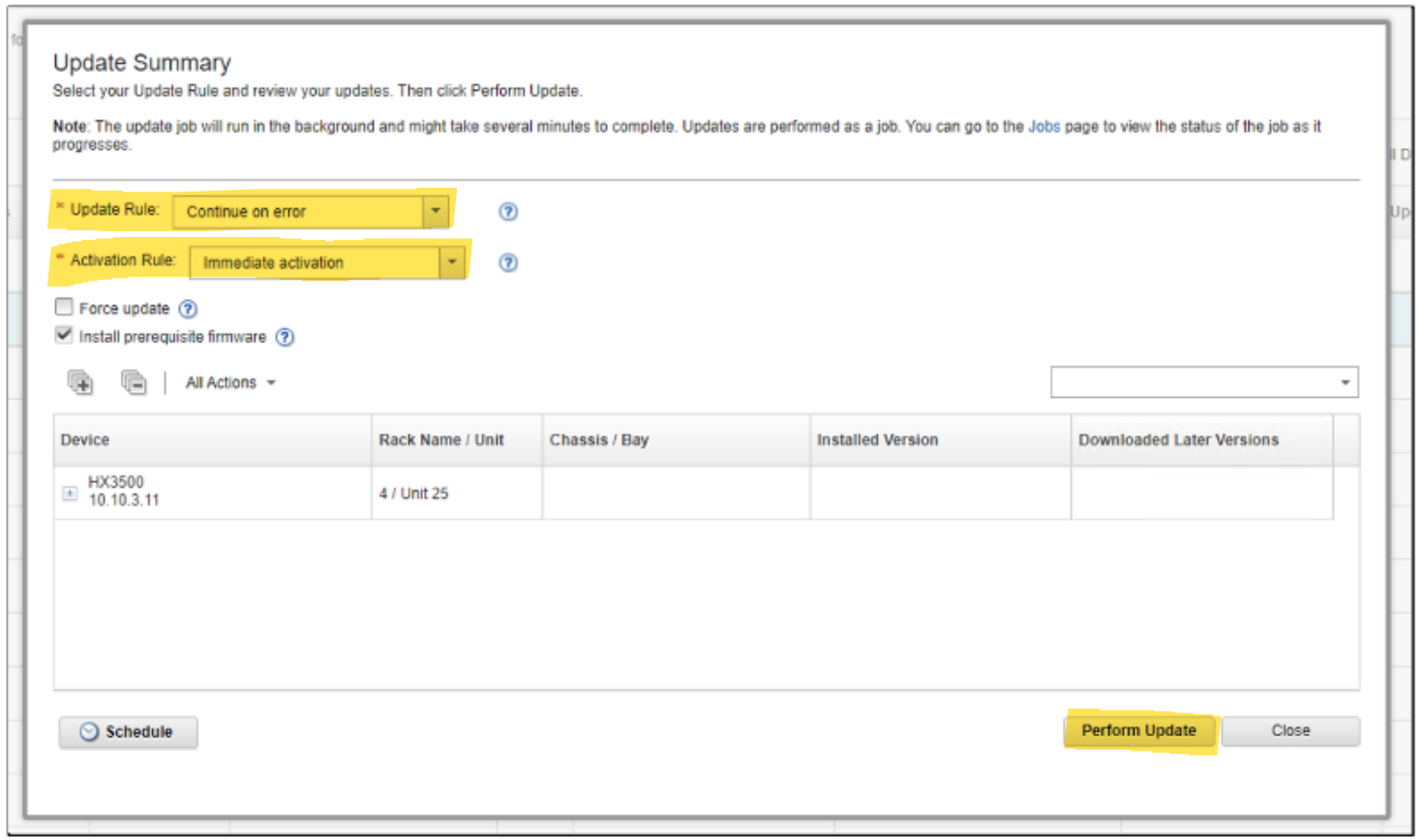


Step 1 2 3 4

User management

LXCA provides a centralized authentication server to create and manage user accounts and to manage and authenticate user credentials. The authentication server is created automatically when you start the management server for the first time. The user accounts that are created for LXCA are also used to log in to managed chassis and servers.

LXCA supports three types of authentication servers:

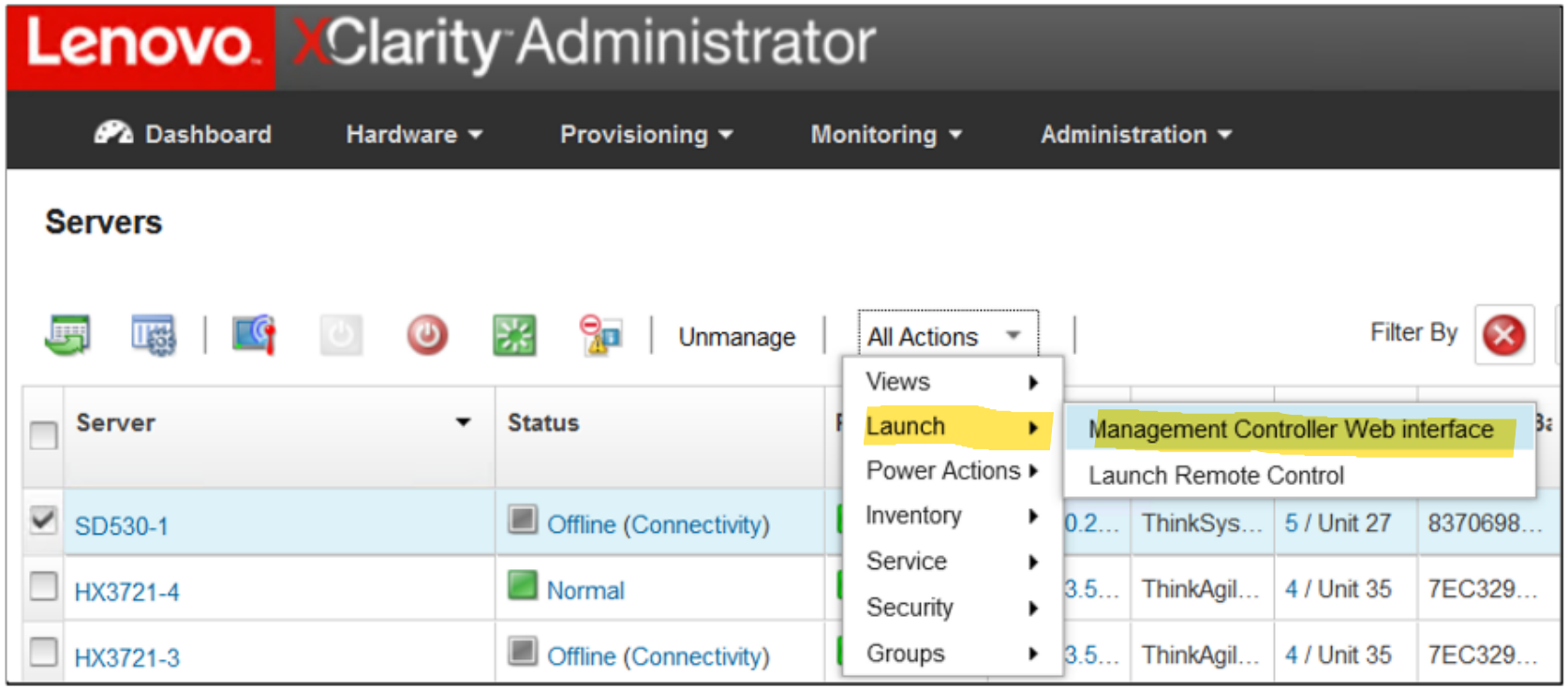
- **Local authentication server** – By default, LXCA is configured to use the local authentication server that resides on the management node.
- **External LDAP server** – At present, only Microsoft Active Directory is supported. This server must reside on an outboard Microsoft Windows server that is connected to the management network. When an external LDAP server is used, the local authentication server will be disabled.
- **External SAML 2.0 identity provider** – At present, only Microsoft Active Directory Federation Services (AD FS) is supported. In addition to entering a username and password, multi-factor authentication can be set up to enable additional security. This authentication includes a PIN code, smart card, and client certificate.

LXCA includes an audit log that provides a historical record of user actions, such as logging on, creating new users, or changing user passwords.

Click HERE to see a User Management screenshot.

XCC single sign-on through LXCA

XCC supports single sign-on through LXCA. If a server is managed by LXCA, LXCA will automatically enable the XCC single sign-on feature. When users select the server → **All Actions** → **Launch** → **Management Controller Web interface**, they will be able to directly access XCC and will not have to enter the XCC username and password.



Note: Single sign-on is supported for all ThinkSystem and ThinkAgile servers except the ThinkSystem SR635 and SR655.

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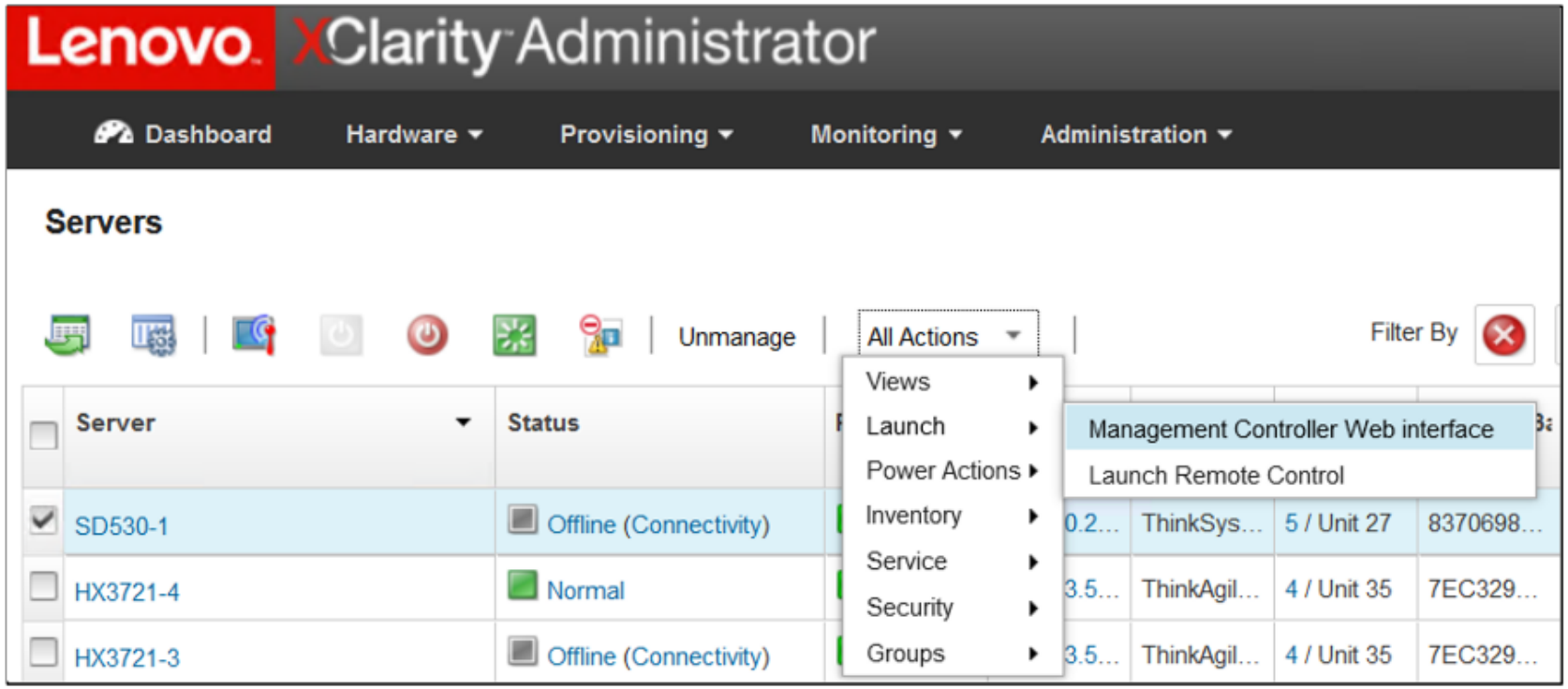

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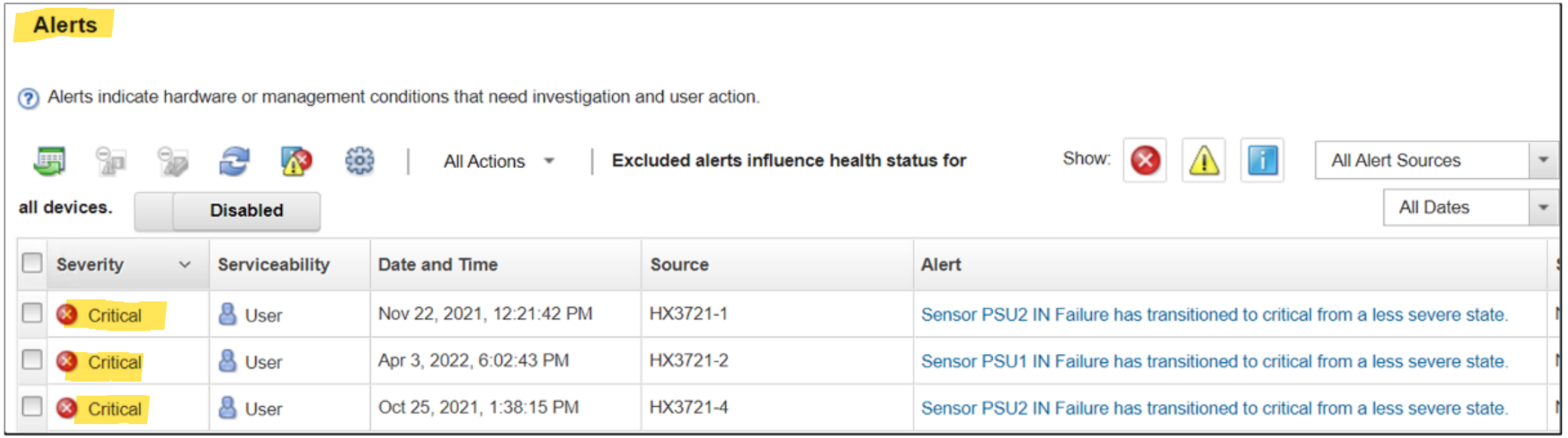
How to identify errors in LXCA



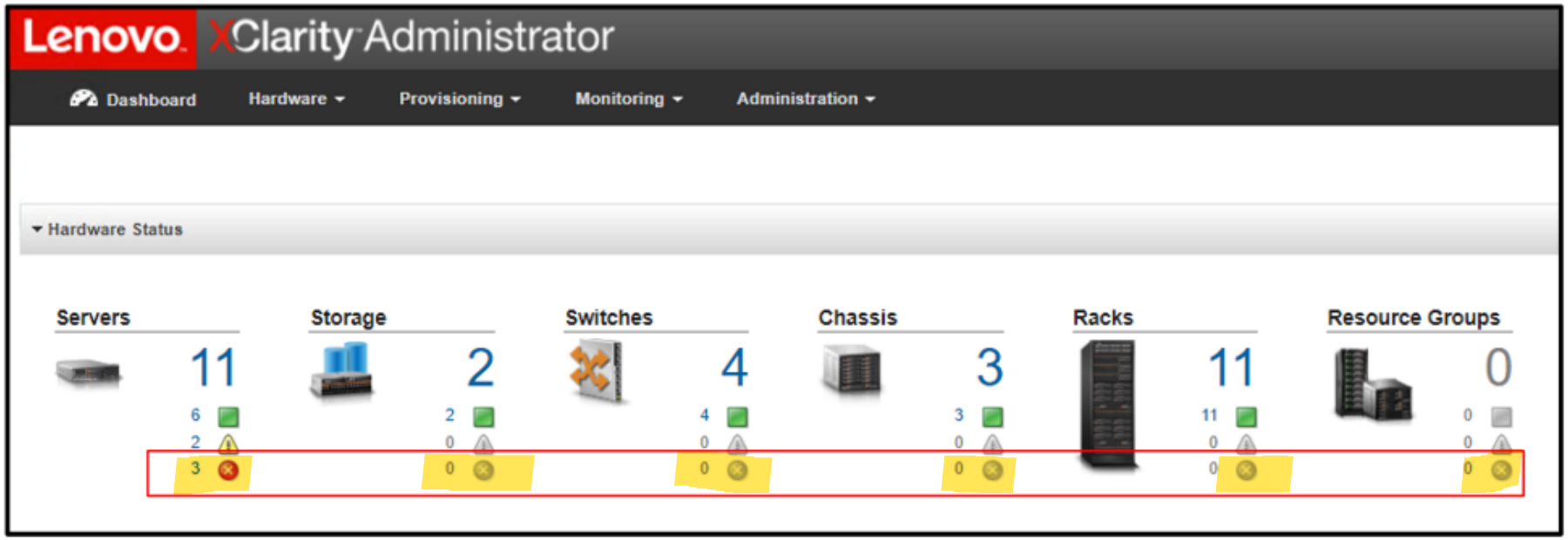
Click each number in turn to see the procedure.

Step 1 2 3 4

Lenovo

How to identify errors in LXCA

Error messages are accessible as soon as the user logs in to LXCA. The **Hardware Status** section of the **Dashboard** page contains a summary of the hardware monitored by LXCA. The hardware is grouped according to type, and in each group, LXCA provides a total number of event messages, units operating normally, warning messages, and critical messages. To see more detailed information about critical messages, click the number next to the icon.

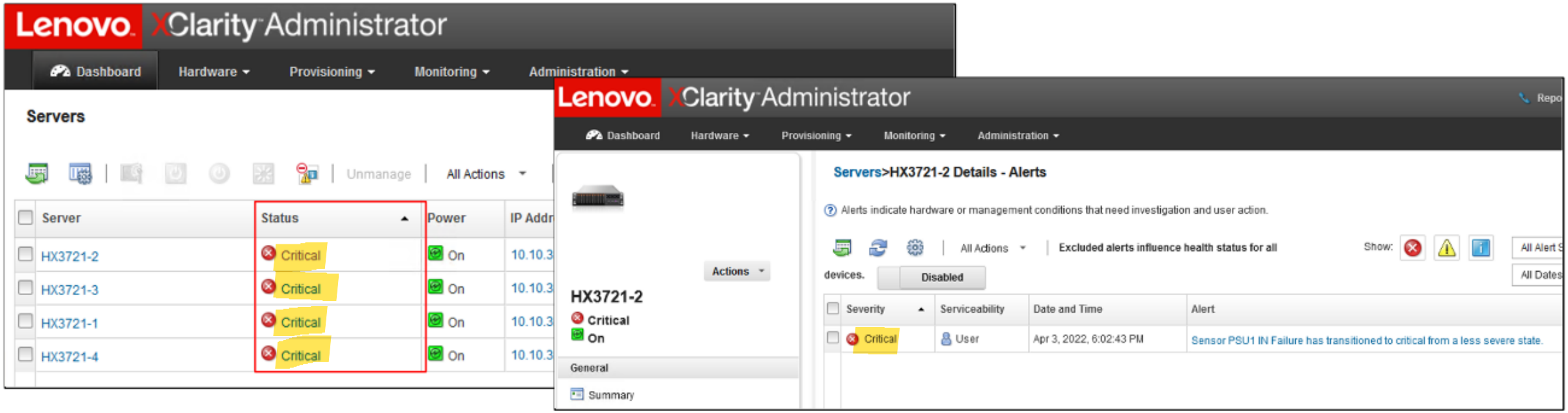


Step 1 — 2 — 3 — 4

How to identify errors in LXCA

After clicking the icon, a table showing the systems with critical messages will be displayed. To see more information about the critical error, click the **Critical** status.

The user will be directed to a dedicated system page with more detailed information about the critical message. Move the mouse over the error message to see more information.

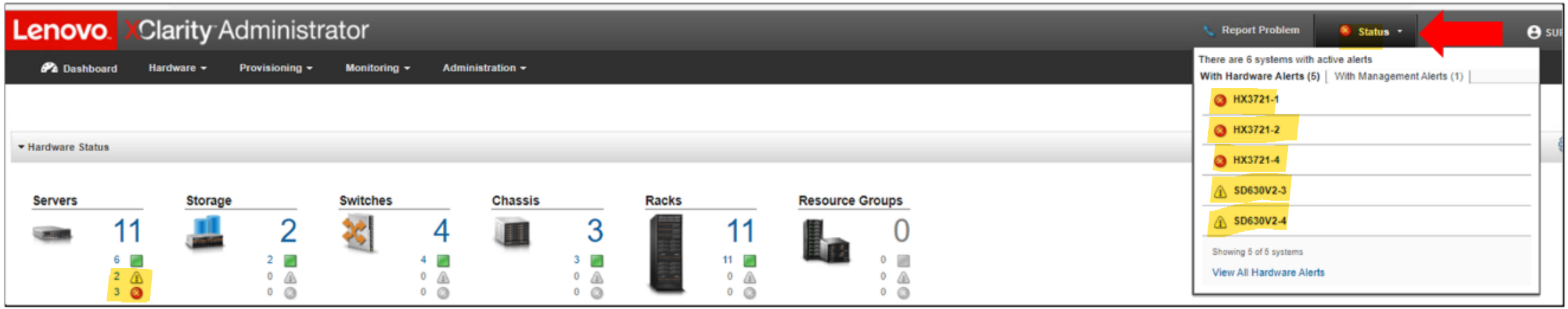


Step 1 — 2 — 3 — 4

How to identify errors in LXCA

Error messages can also be quickly accessed from the top menu bar on any LXCA page. Click the **Status** drop-down list to see warning or critical error messages. Move the mouse over any of the items in the list to see more information about the message.

Click **All Hardware Alerts** to go to the **Alerts** page, where all the alert messages and their descriptions are displayed. Click an alert description to see more information.



Step 1 2 3 4

How to identify errors in LXCA

Users can also click **Monitoring** in the top menu and then select **Alerts** to access alert messages. This will take the user to the same **Alerts** page shown in step 2.

Step 1 — 2 — 3 — 4

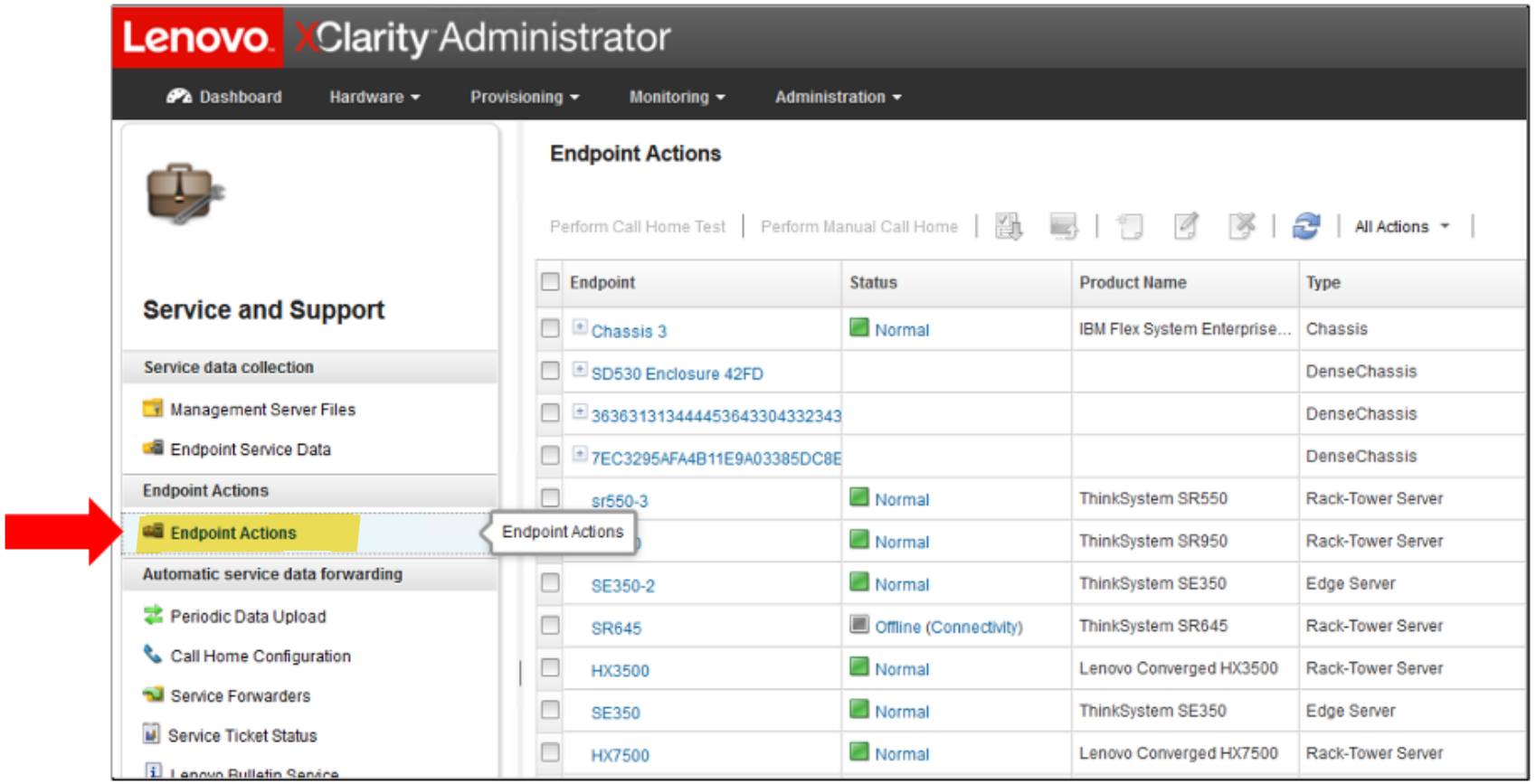
Service and support – Collecting service data

Select **Administration** → **Service and Support**.

Step 1 2 3 4 5 6

Service and support – Collecting service data

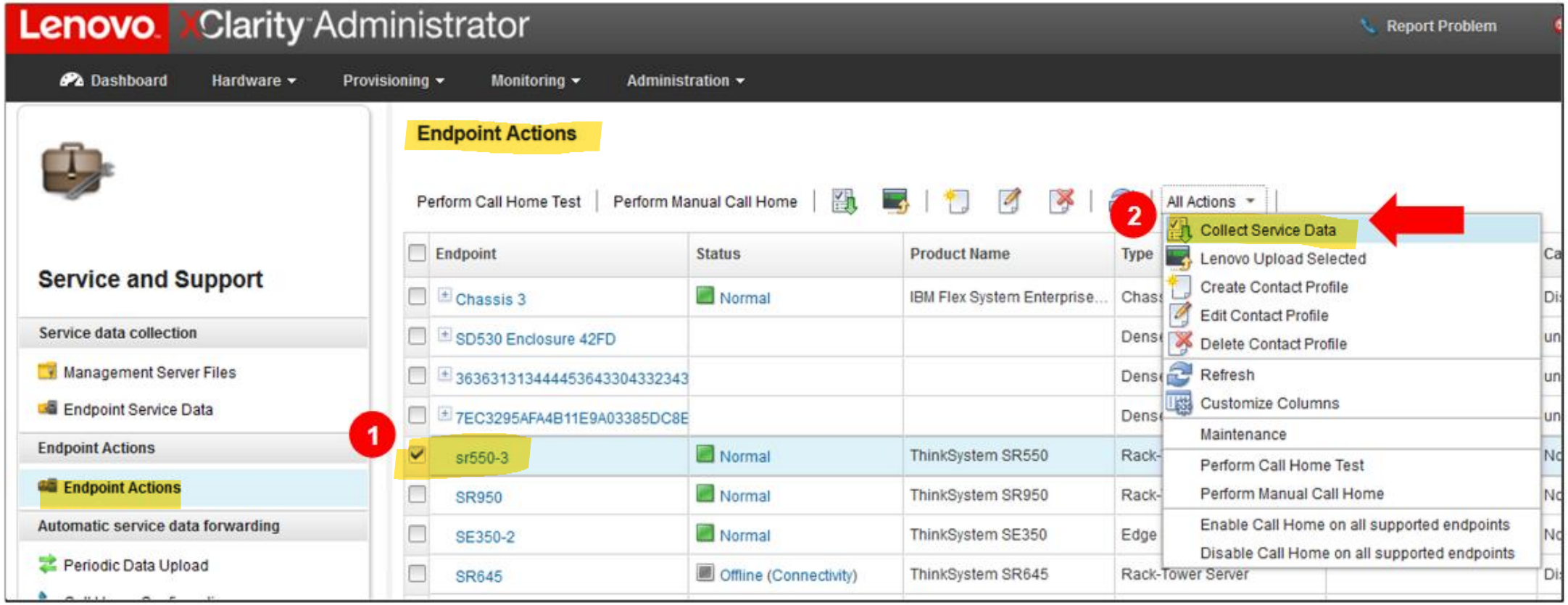
Select **Endpoint Actions**.



Step 1 2 3 4 5 6

Service and support – Collecting service data

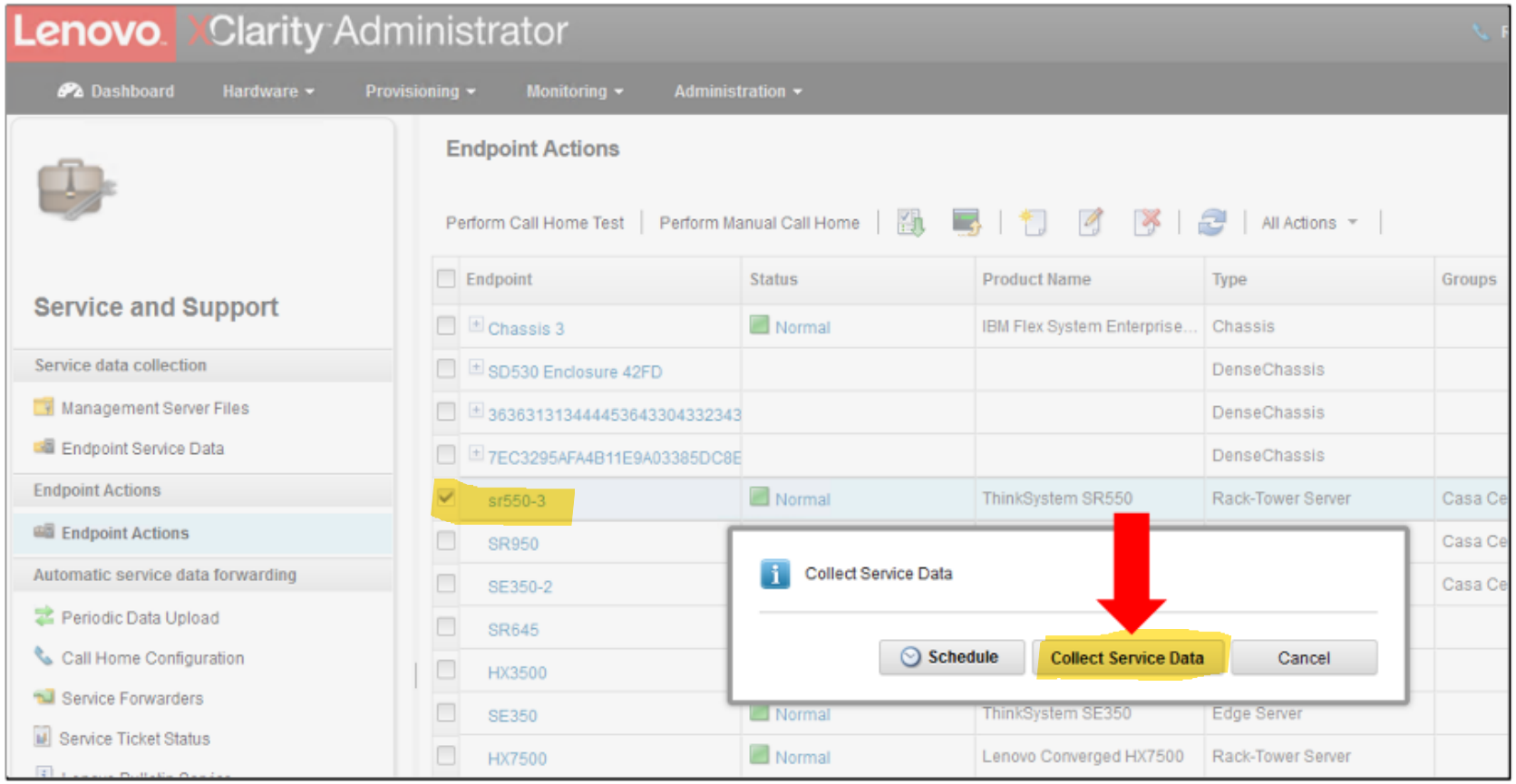
Select one or more managed servers, and then select **Collect Service Data** from the **All Actions** drop-down menu.



Step 1 2 3 4 5 6

Service and support – Collecting service data

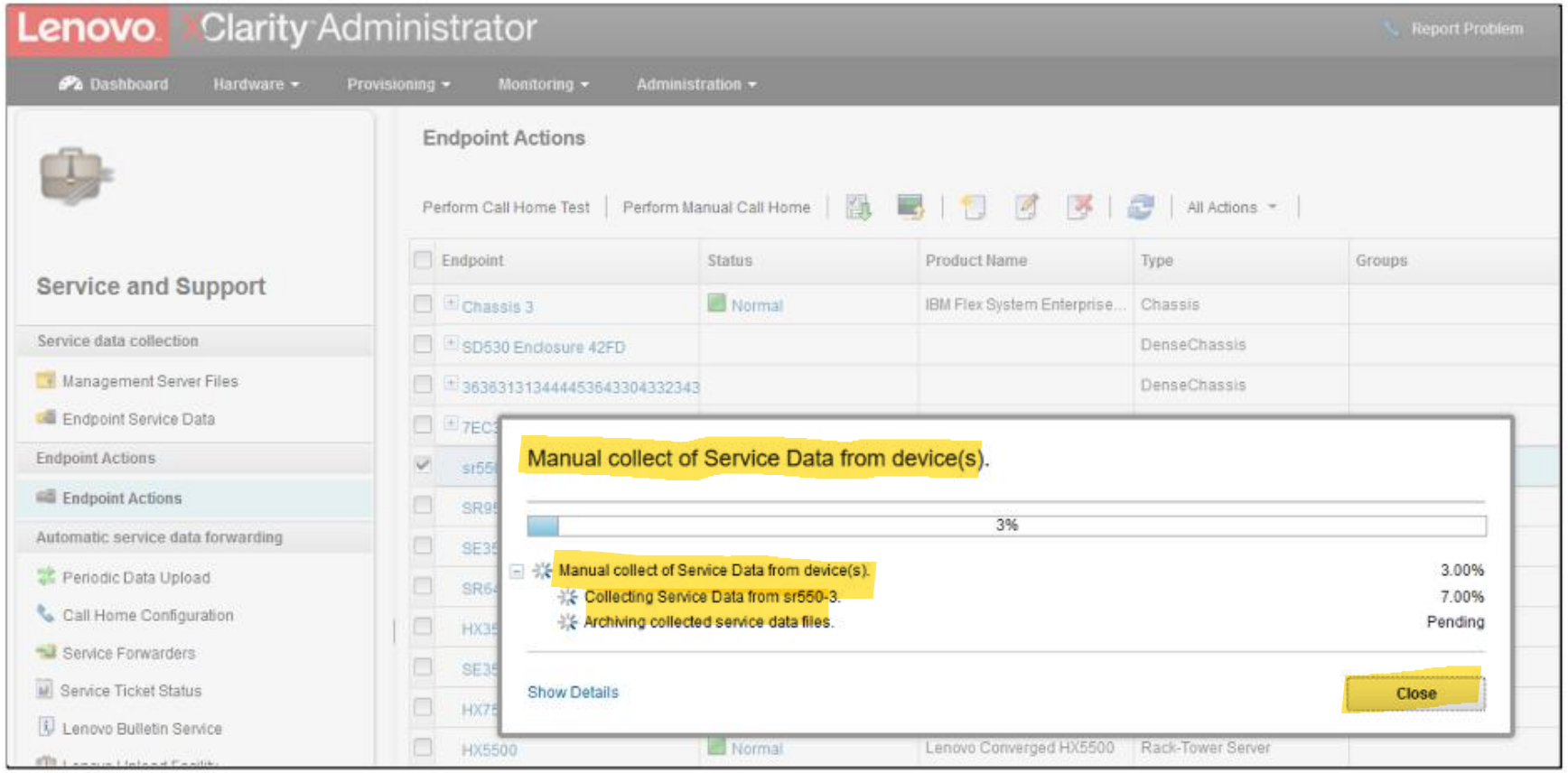
Click **Collect Service Data** to collect the data immediately.



Step 1 — 2 — 3 — 4 — 5 — 6

Service and support – Collecting service data

Wait for the collection process to complete.



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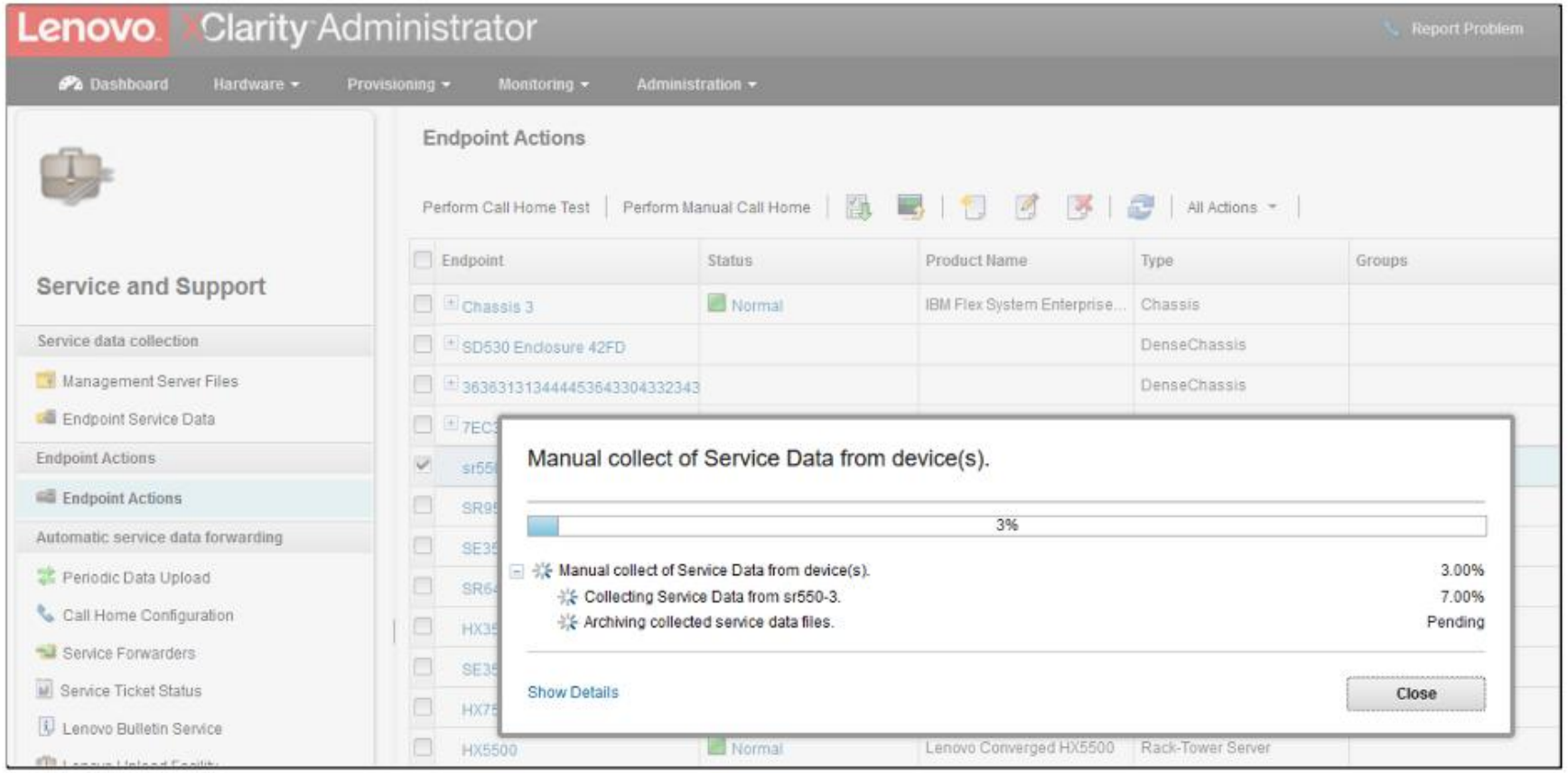
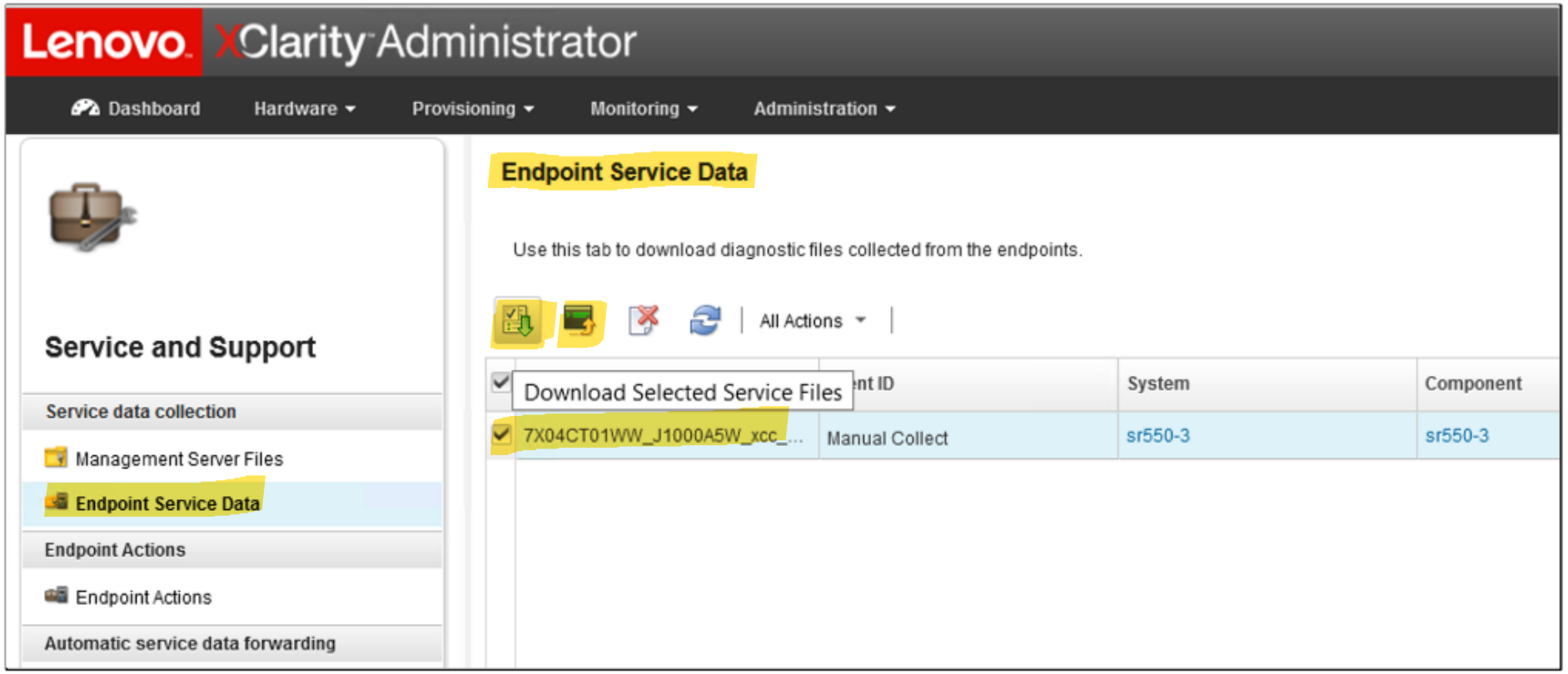


Step 1 2 3 4 5 6

Service and support – Collecting service data

After collecting the service data, go to the **Endpoint Service Data** page to download or upload the service data files.



Step 1 2 3 4 5 6

Task automation using scripts

LXCA can be integrated into external, higher-level management and automation platforms through open REST application programming interfaces (APIs). Using the REST APIs, LXCA can integrate with an existing management infrastructure.

The PowerShell toolkit provides a library of cmdlets to automate provisioning and resource management from a Microsoft PowerShell session. The Python toolkit provides a Python-based library of commands and APIs to automate provisioning and resource management from an OpenStack environment such as Ansible or Puppet. Both of these toolkits provide an interface to LXCA REST APIs to automate different functions such as:

- Logging in to LXCA
- Managing and unmanaging chassis, servers, storage devices, and top-of-rack switches (devices)
- Collecting and checking inventory data for devices and components
- Deploying an operating system image to one or more servers
- Configuring servers through the use of Configuration Patterns
- Applying firmware updates to devices

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LXCA helpful links

- LXCA quick demo: http://www.lenovoxclarity.com/demo/index.html
- LXCA support resource: https://www.lenovo.com/tw/zh/data-center/software/systems-management/xclarity/?orgRef=https%253A%252F%252Fwww.google.com%252F#tab-ww-xclarity-main-tab-5
- LXCA documentation: https://sysmgt.lenovofiles.com/help/topic/com.lenovo.lxca.doc/aug_product_page.html
- LXCA video tours: https://datacentersupport.lenovo.com/lu/en/solutions/ht513652