

# Lenovo XClarity Controller

Introduction to Lenovo XClarity Controller, the ThinkSystem server BMC

The Lenovo logo is a red rectangular block with the word "Lenovo" written vertically in white, sans-serif font.

Lenovo

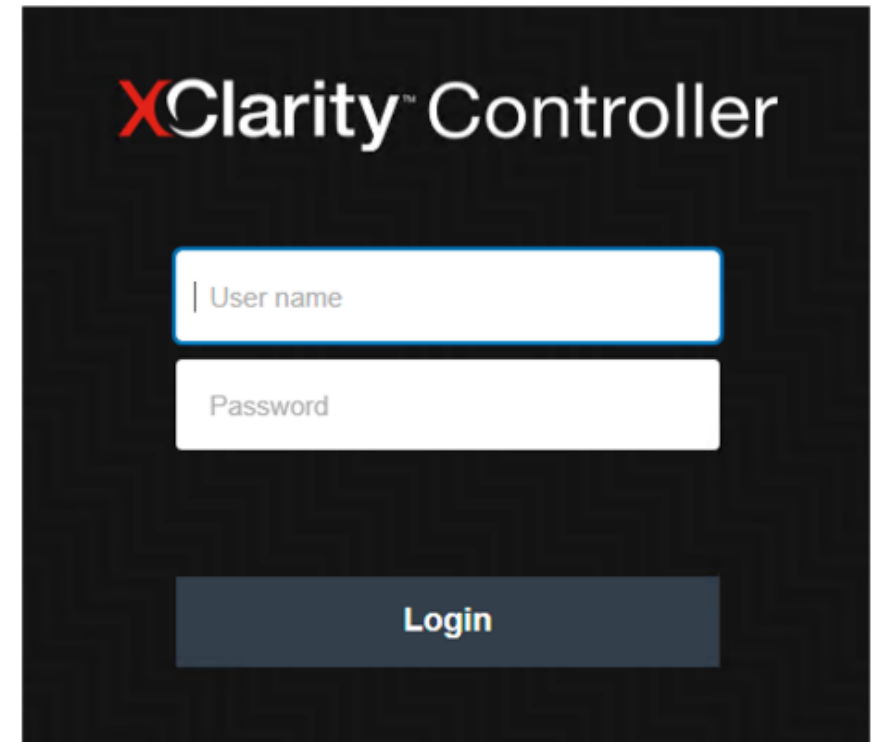
# What is Lenovo XClarity Controller?

Lenovo XClarity Controller (XCC) is the baseboard management controller (BMC) for ThinkSystem servers.

XCC comes standard with all ThinkSystem servers.

XCC key features include:

- System health monitoring
- Firmware updates
- BMC setting configuration
- RAID setting configuration
- Remote control (requires an additional license key)
- Watchdog and alerting capabilities
- Event logs and service data collection
- User account management

The image shows the login interface of the XClarity Controller. It has a dark background. At the top, the text "XClarity™ Controller" is displayed in white, with the "X" in red. Below this, there are two white input fields. The first field is labeled "User name" and the second is labeled "Password". Below these fields is a dark gray button with the word "Login" in white text.

XClarity™ Controller

| User name

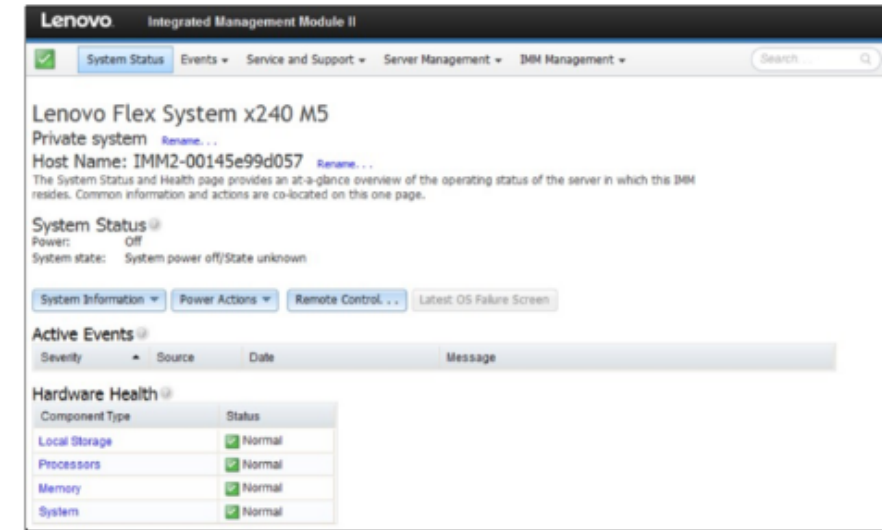
Password

Login

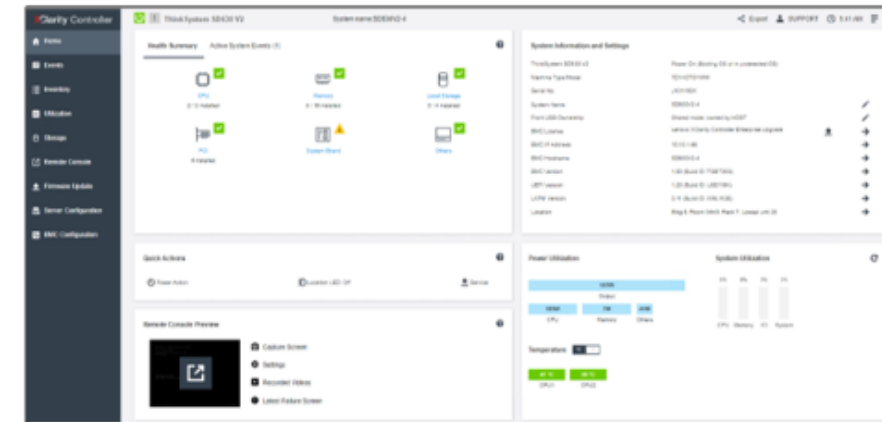
# Major differences between XCC and IMM

There are a number of key differences between XCC and IMM, the BMC console for System x servers:

- The XCC GUI supports HTML5
- XCC supports National Language Support (NLS)
- Java and ActiveX clients are **not supported** to use the XCC remote control feature, which was replaced with HTML5 capabilities
- XCC supports international keyboard mapping
- XCC supports SNMPv3 Trap
- XCC supports Redfish
- XCC **does not** support Web Services-Management (WSMan)
- XCC supports the latest IPMI 2.0 specification



System x IMM homepage



ThinkSystem XCC homepage

## XCC editions

There are three XCC editions: **Standard**, **Advanced**, and **Enterprise**.

The **Standard** edition is **free** and **bundled** with the **system**, so users ~~do not need to~~ **manually install** it.

To **upgrade XCC** from the **Standard edition** to the **Advanced** or **Enterprise editions**, users must buy the **corresponding license** and then use the **license activation key** in XCC to **enable** it. Click the buttons to see more information about each XCC edition.

**Standard**

**Advanced**

**Enterprise**

### Note:

- To upgrade XCC to the Enterprise edition, users must first upgrade to the Advanced edition. If users do not follow this procedure, a warning message will be displayed on the XCC **BMC Configuration** → **License** page. Click [HERE](#) to see a screenshot.
- The ST50, ST50 V2, SR635, and SR655 do not support XCC.



# XCC editions



## XCC Standard edition

The Standard edition offers the following key features:

- System information and inventory gathering
- System status and health monitoring
- Alerts and notifications
- Event logging
- Network connectivity configuration
- Security configuration
- System firmware updates
- Server setting and device configuration
- Real-time power usage monitoring
- Server power remote control (Power on, Power off, Restart)
- Features on Demand (FoD) activation key management
- Ability to capture video display contents when an operating system hang condition is detected

# XCC editions



## XCC Advanced edition

The Advanced edition adds the following functionality to the Standard edition features:

- Ability to remotely watch video with graphics resolutions of up to 1920x1200 at 60 Hz with 16 bits per pixel
- Ability to remotely access the server using the keyboard and mouse from a remote client
- Ability to record and replay the video from a remote control session
- Ability to remotely deploy an operating system
- Component replacement logs
- Syslog alerting
- Ability to redirect the serial console via SSH
- Security Key Lifecycle Manager (SKLM)
- IP address blocking
- Graphical display of real-time and historical power usage data and temperature

# XCC editions



## XCC Enterprise edition

The Enterprise edition adds the following functionality to the Advanced edition features:

- Power usage capping
- Ability to map the ISO and image files located on the local client as virtual drives for use by the server
- Ability to mount the remote ISO and image files via HTTPFS, CIFS, and NFS
- Ability to collaborate across up to six users of the virtual console
- Virtual console chat
- Ability to capture and replay the server's boot-up video
- Ability to capture and replay the server's video information leading up to the point where the operating system might hang or crash
- Out-of-band (OOB) performance monitoring
- Ability to control the quality and bandwidth usage of the virtual console

## How to access XCC

The default static IPv4 address assigned to XCC is 192.168.70.125.

XCC is initially configured to obtain an address from a DHCP server, and if it cannot, it uses the static IPv4 address. When booting up the server, the booting splash screen includes the BMC IP address that can be used to access the XCC Web interface. Click [HERE](#) to see a screenshot. XCC also supports IPv6, but XCC ~~does not have~~ a default fixed static IPv6 IP address. For initial access to XCC in an IPv6 environment, you can either use the IPv4 IP address or the IPv6 link-local address. XCC generates a unique link-local IPv6 address using the IEEE 802 MAC address by inserting two octets with hexadecimal values of 0xFF and 0xFE in the middle of the 48-bit MAC address and flipping the seventh bit of the MAC address.


For example, if the MAC address is 08-94-ef-2f-28-af, the link-local address would be fe80:0a94:efff:fe2f:28af.

**Note:** The BMC IP address can be used to access XCC using telnet/SSH and to remotely access XCC with the IPMITool.

## Setting up an XCC network connection using LXPM

After starting the server, LXPM can be used to configure the XCC network connection settings. The server with XCC must be connected to a DHCP server, or the server network must be configured to use the XCC static IP address. Work through the following procedure to set up the XCC network connection.

Click each number in turn to see the procedure.



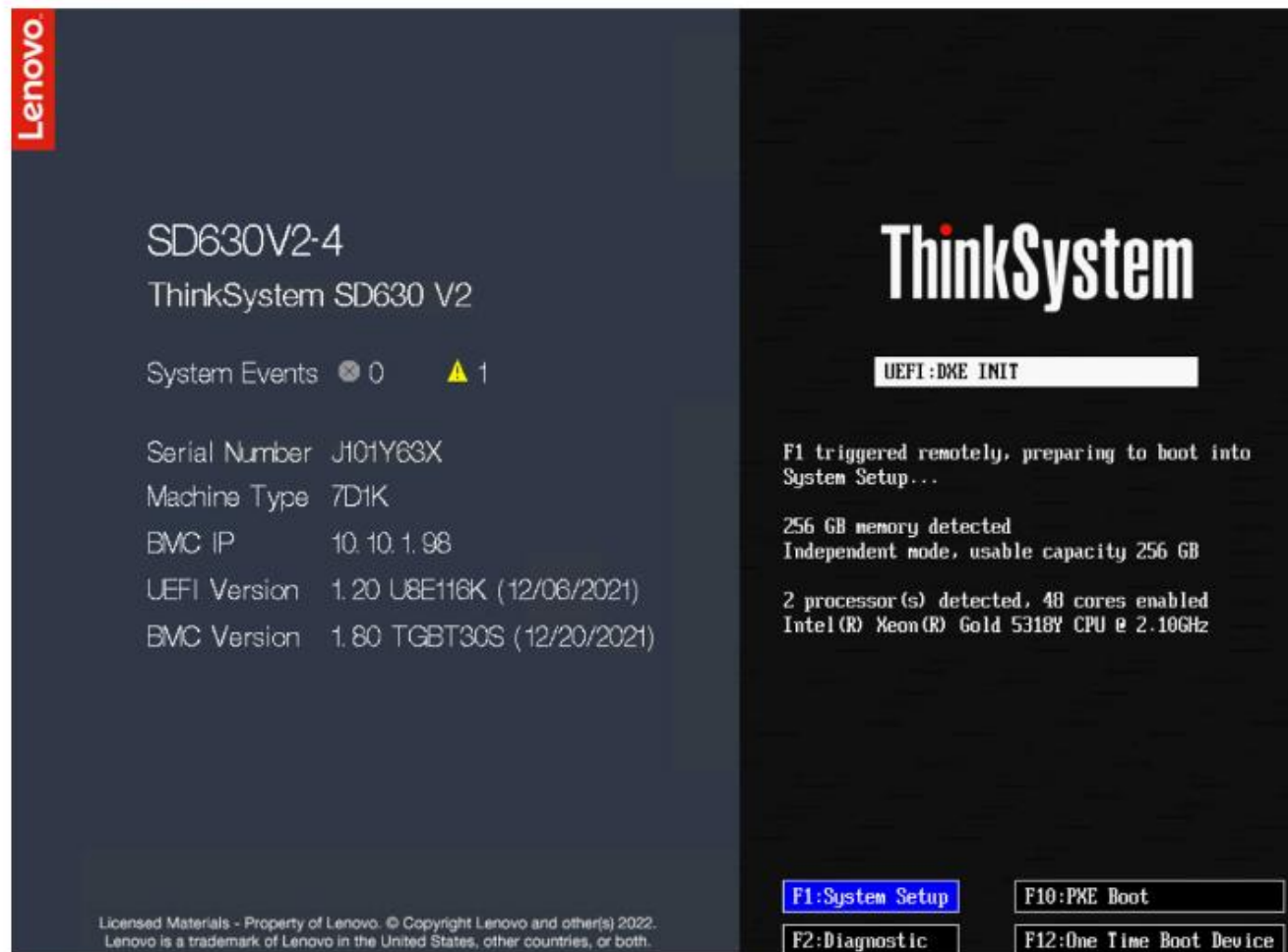
Step



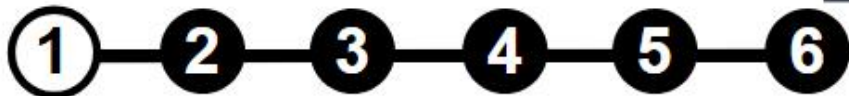


# Setting up an XCC network connection using LXPM

Open LXPM by pressing F1 when you see the splash screen.



Step



# Setting up an XCC network connection using LXPM

In LXPM, select **UEFI Setup** from the navigation menu.

**XClarity Provisioning Manager**

ThinkSystem SD630 V2

**XClarity Provisioning Manager**

XClarity Provisioning Manager provides an easy-to-use interface for setting up your server. After you click Apply or Skip, this page will not show again. You can access it anytime from the "?" icon at upper right corner.

Note: 1. For maximum runtime integrity, run a full memory test prior to putting a server into production. 2. Only US keyboard is applicable for correct output.

**Basic System Settings**

System Date: 2022 05 12 First Boot Device: VMware ESXi

System Time: 08 08 03 Boot Mode: UEFI Mode

Language: English

**Management Network Basic Configuration**

Network Interface Port: Dedicated Port Host Name: SD630V2-4

IP Address: 10 .10 .1 .98 Subnet Mask: 255.255.252.0

Default Gateway: 10 .10 .0 .3

**BMC Credentials**

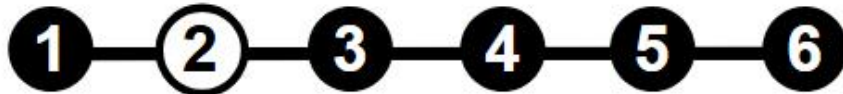
Current User Name: USERID

New User Name: Current Password:

New Password: Confirm Password:

Apply Skip

Step



# Setting up an XCC network connection using LXPM

Select **BMC Settings**, and then click **Network Settings** in the content area.

The image shows two screenshots of the XClarity Provisioning Manager (LXPM) interface. The left screenshot shows the 'BMC Settings' menu item highlighted with a red box and a red circle with the number 1. The 'Network Settings' menu item is also highlighted with a red box and a red circle with the number 2. A red arrow points from the 'Network Settings' item to the right screenshot. The right screenshot shows the 'Network Settings' page with various configuration options like 'Network Interface Port', 'Fail-Over Rule', 'Burned-in MAC Address', 'Hostname', 'DHCP Control', 'IP Address', 'Subnet Mask', 'Default Gateway', 'IPv6', 'Local Link Address', and 'VLAN Support'. A red arrow points from the 'BMC Settings' menu item in the left screenshot to the 'Network Settings' page in the right screenshot.

Step 1 — 2 — 3 — 4 — 5 — 6



# Setting up an XCC network connection using LXPM

On the Network Settings page, select one of the **Network Interface Port** options. The BMC provides the choice of using a **dedicated** systems-management network connection or one that is **shared** with the server.

**XClarity Provisioning Manager**

ThinkSystem SD630 V2

Attention: Must click the "Save Network Settings" at the bottom of this page to save any change on this page and its subpage.

**Network Interface Port**

Fail-Over Rule

Burned-in MAC Address: 7C-8A-E1-D6-41-69

Hostname: SD630V2-4

DHCP Control: DHCP with Fallback

IP Address: 10.10.1.98

Subnet Mask: 255.255.252.0

Default Gateway: 10.10.0.3

IPv6: Enabled

Local Link Address: FE80:0000:0000:0000:7E8A:E1FF:FED6:4169/64

VLAN Support: Disabled

> Advanced Setting for BMC Ethernet

Left Sidebar: Exit UEFI Setup, System Information, System Settings, Date and Time, Start Options, Boot Manager, **BMC Settings**, User Security

Right Sidebar: Back, Save, Discard, Default

Step





# Setting up an XCC network connection using LXPM

In the **DHCP Control** field, choose between **Static IP**, **DHCP Enabled**, or **DHCP with Fallback**. This field affects what **IP address** is assigned to the BMC interface and whether it will be provided by **DHCP** or be a user-specified fixed **IP address**.

If **Static IP** is selected, the user must specify the **IP address**, **subnet mask**, and **default gateway**.

XClarity Provisioning Manager

ThinkSystem SD630 V2

Attention: Must click the "Save Network Settings" at the bottom of this page to save any change on this page and its subpage.

Network Interface Port: Dedicated

Fail-Over Rule: None

Burned-in MAC Address: 7C-8A-E1-D6-41-69

Hostname: SD630V2-4

**DHCP Control**

IP Address:

Subnet Mask:

Default Gateway: 10.10.0.3

IPv6: Enabled

Local Link Address: FE80:0000:0000:0000:7E8A:E1FF:FED6:4169/64

VLAN Support: Disabled

> Advanced Setting for BMC Ethernet

Configure DHCP Control or manually configure a static IP address. Fallback will use static IP address if DHCP fails. Select Static to enter IPV4 address manually.

Step





# Setting up an XCC network connection using LXPM

Click **Save Network Settings** to apply the changes, and then exit LXPM. It will take approximately **one minute** for the changes to take effect.

The screenshot displays the XClarity Provisioning Manager (LXPM) interface for a ThinkSystem SD630 V2. The left sidebar shows the navigation menu with options: Exit UEFI Setup, System Information, System Settings, Date and Time, Start Options, Boot Manager, BMC Settings (highlighted), and User Security. The main panel shows the Network settings for the BMC Ethernet interface. The settings include:

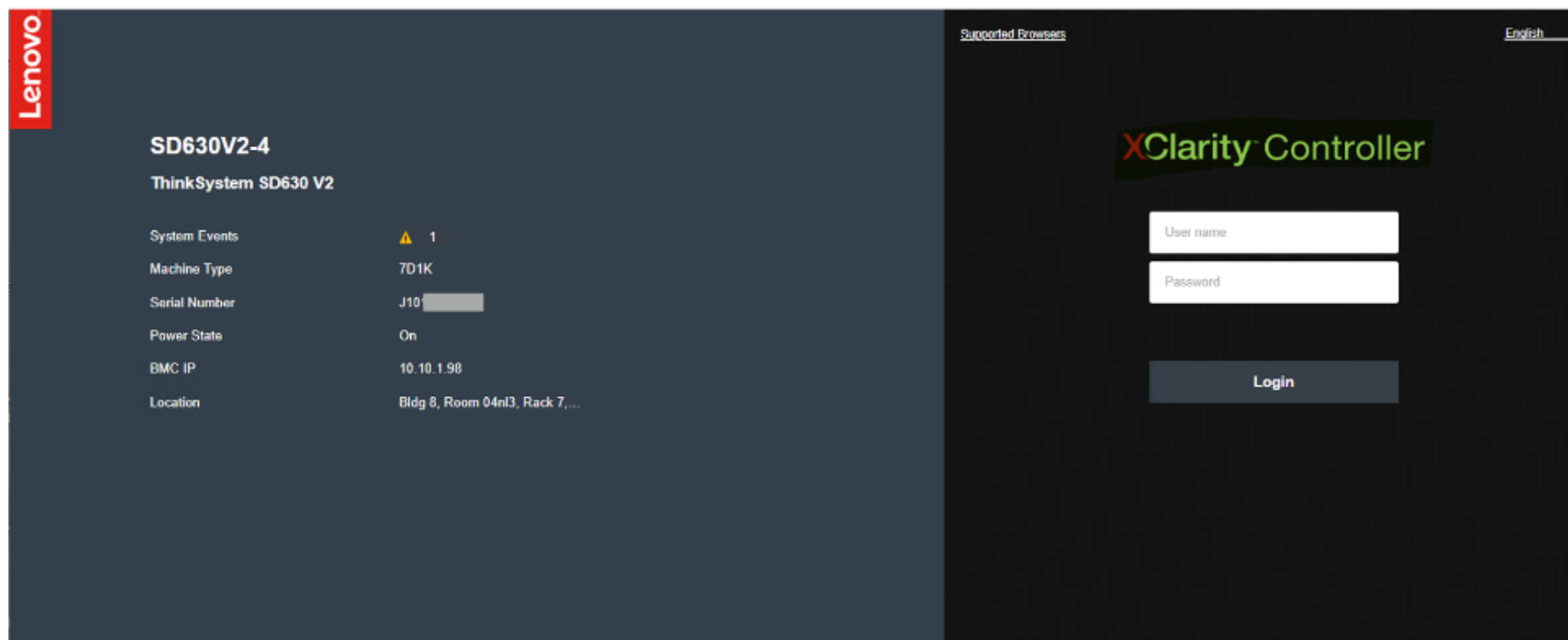
- Network Interface Port: Dedicated
- Fail-Over Rule: None
- Burned-in MAC Address: 7C-8A-E1-D6-41-69
- Hostname: SD630V2-4
- DHCP Control: DHCP with Fallback
- IP Address: 10.10.1.98
- Subnet Mask: 255.255.252.0
- Default Gateway: 10.10.0.3
- IPv6: Enabled
- Local Link Address: FE80:0000:0000:0000:7E8A:E1FF:FED6:4169/64
- VLAN Support: Disabled

Below the settings, there is a link to "> Advanced Setting for BMC Ethernet" and a button labeled "Save Network Settings" which is highlighted with a red box. At the bottom, a message box states: "Commit the changes to BMC. Please allow a few minutes for the changes to take effect."

Step



# Logging in to XCC



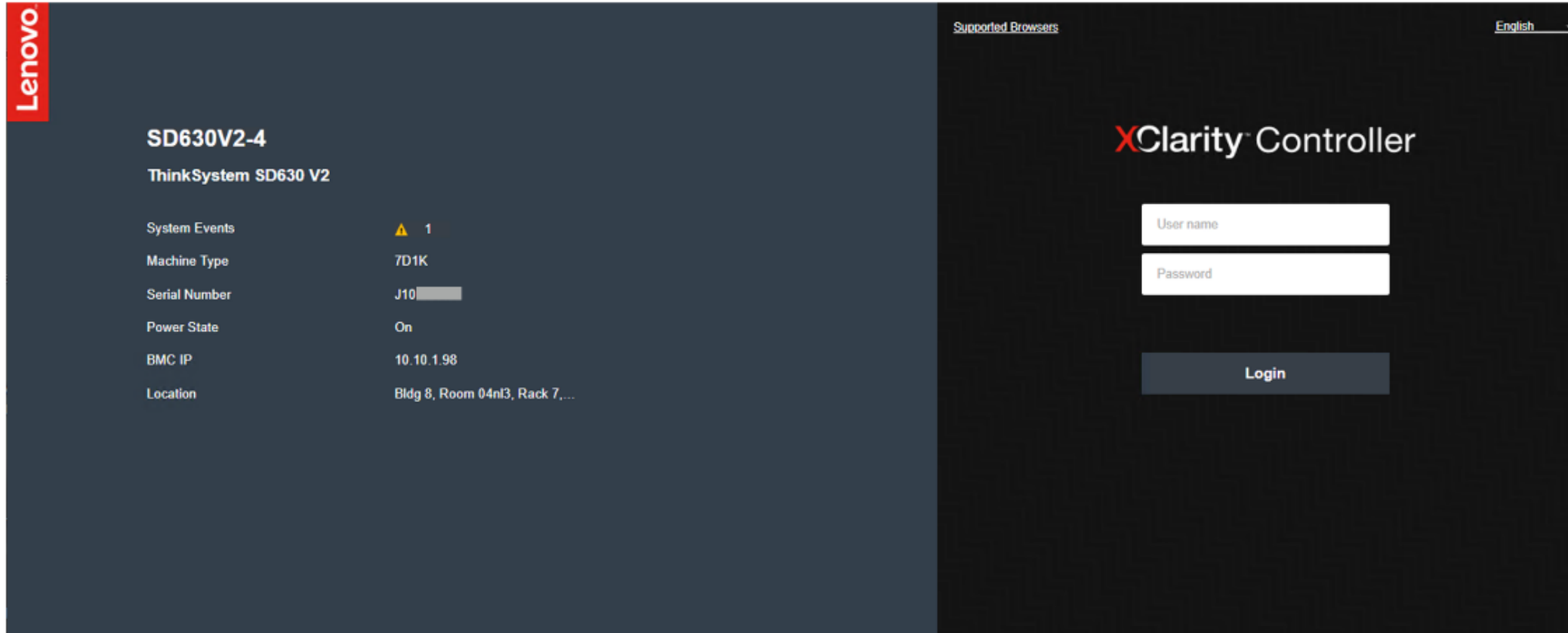
Click each number in turn to see the procedure.

Step



# Logging in to XCC

Open a Web browser and type in the IP address or XCC host name.

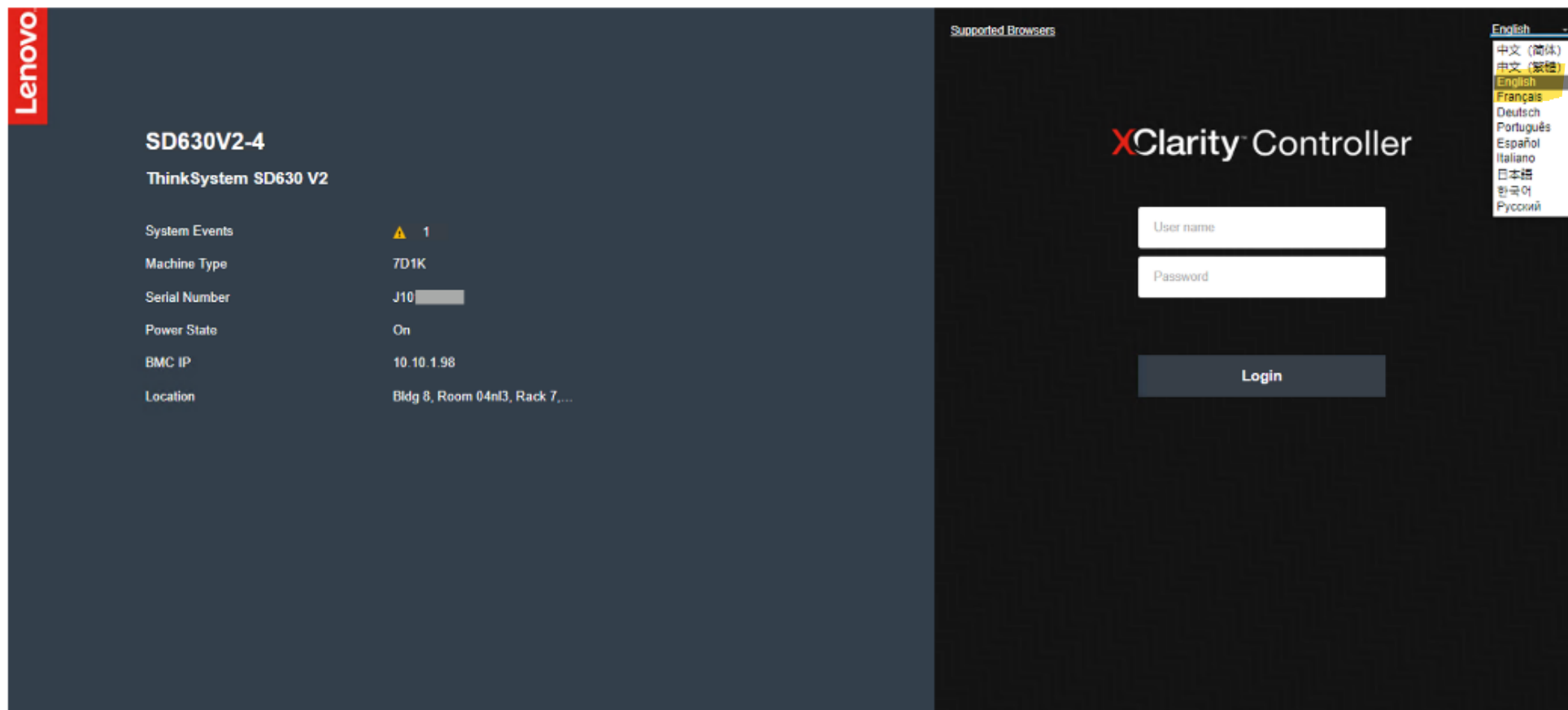


Step **1** — **2** — **3** — **4**



# Logging in to XCC

Select a language from the drop-down list.



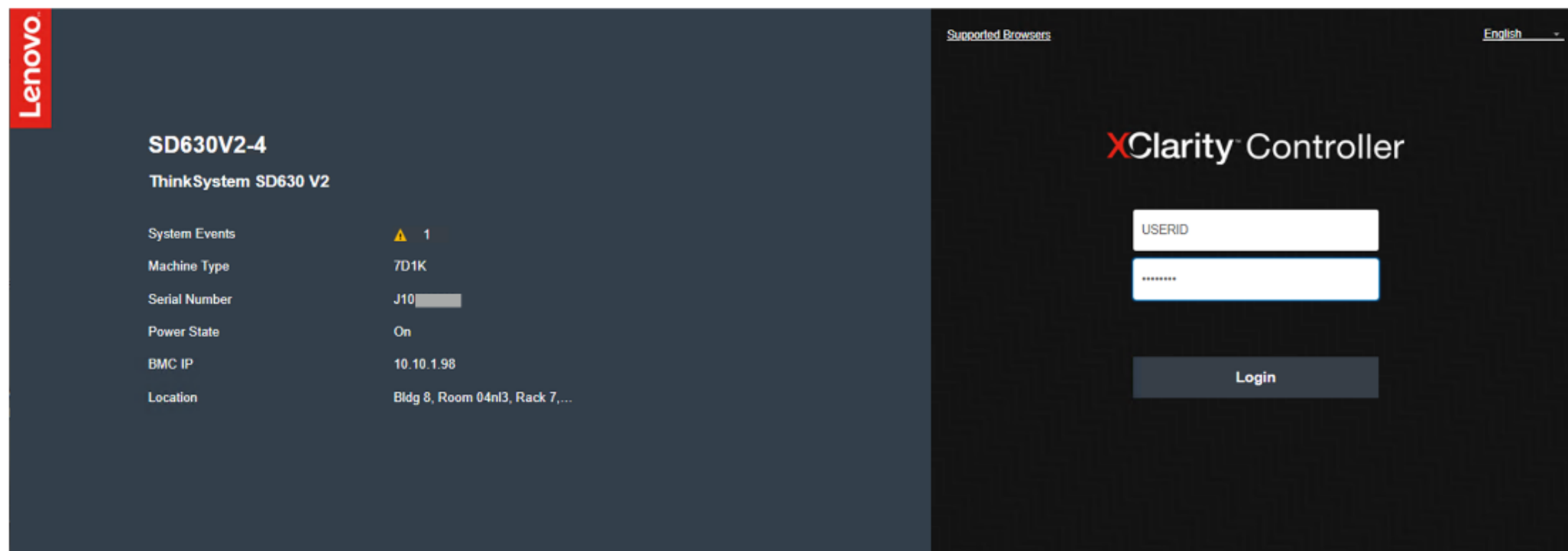
Step



# Logging in to XCC

Type in the username and password. The default **username** is **USERID**, and the default **password** is **PASSW0RD** (with a zero, not the letter O).

For better security, **change** the **username** and **password** during the **initial configuration**.



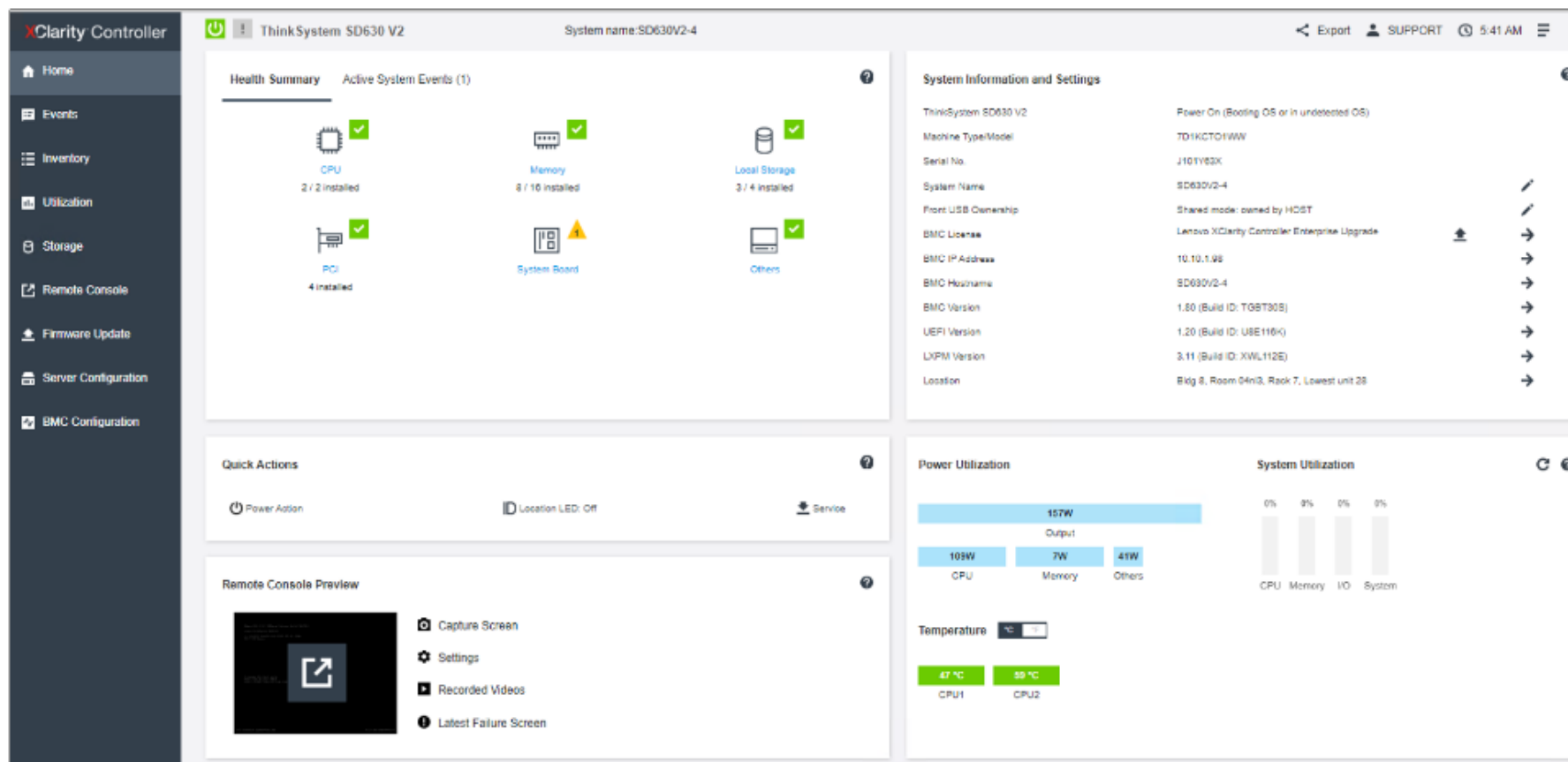
Step



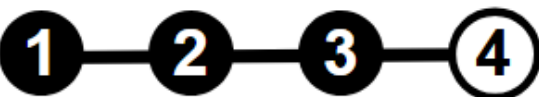


# Logging in to XCC

Click **Login** to start the session. The browser will open the **XCC homepage**.



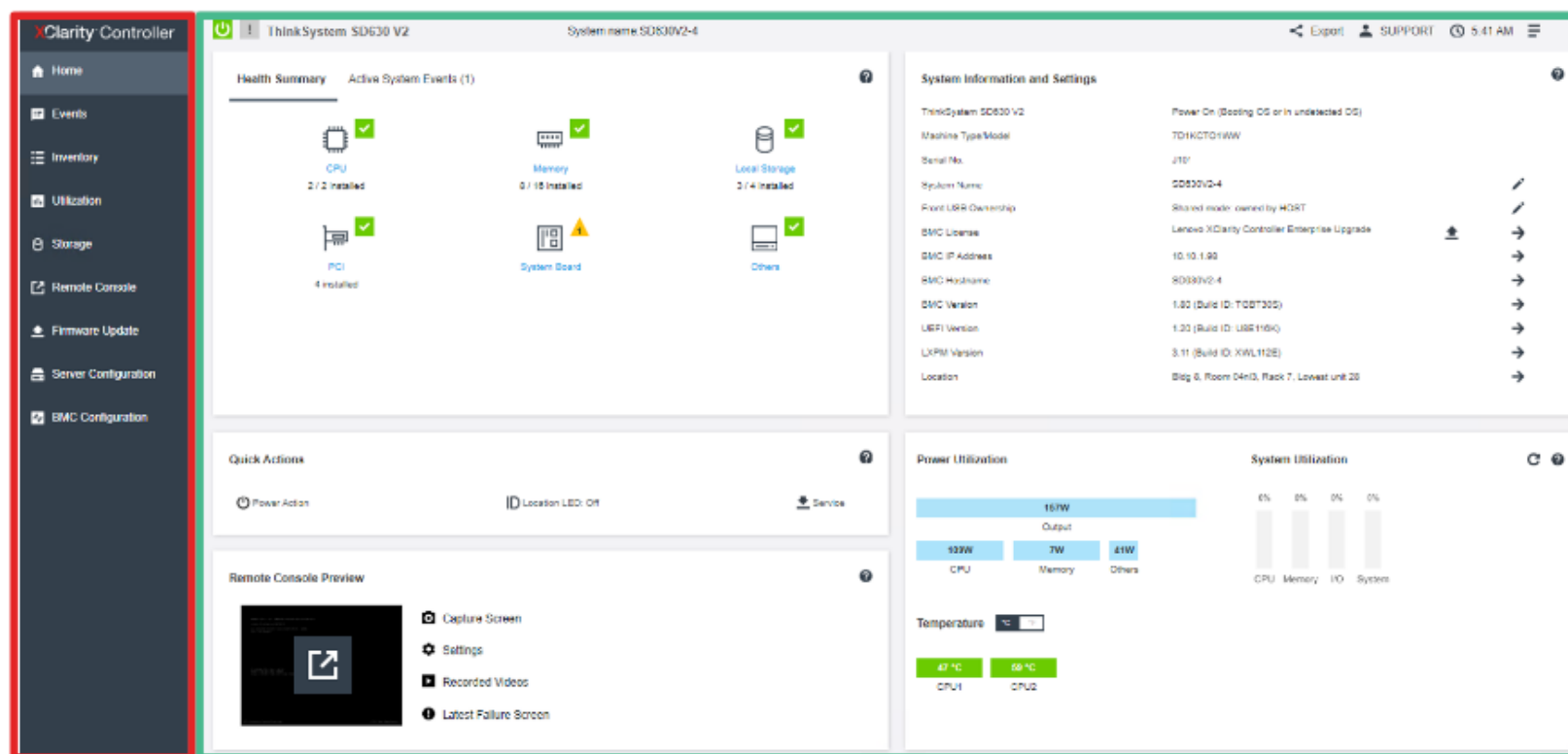
Step



# XCC GUI overview

The XCC GUI is divided into two sections: the navigation panel, which lists possible actions, and the content window on the right.

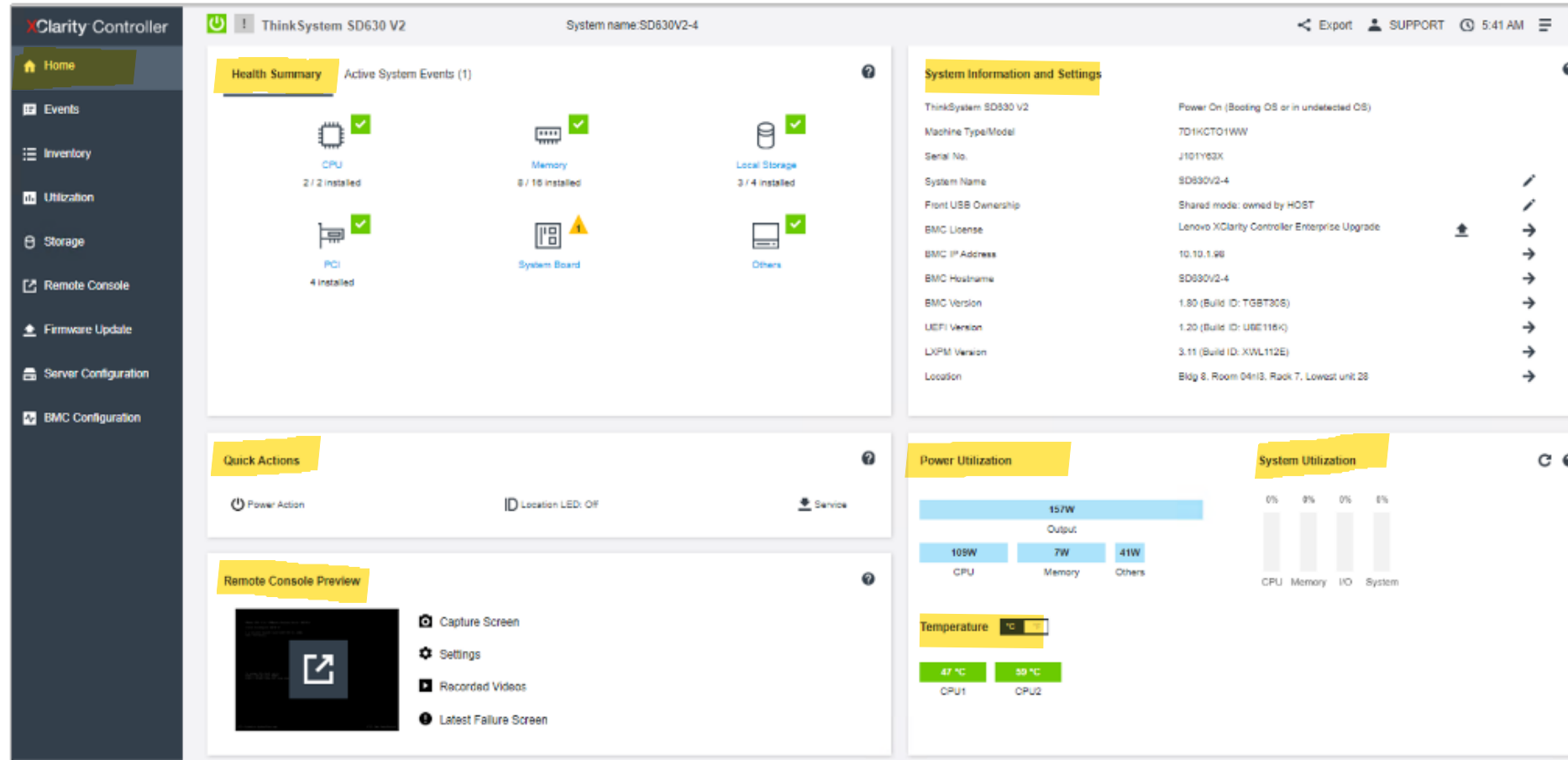
The content window uses a modular layout to give users a quick view of the server status and further actions that can be performed.



Navigation panel

# XCC Homepage

The **Homepage** dashboard contains **common system status information and actions.**



# XCC Homepage

The **Health Summary** section contains common system status information. If any warning (yellow) or error (red) icons are displayed, users can click the icon to see more information.

The screenshot displays the XCC homepage for a ThinkSystem SD630 V2. The system name is SD630V2-4. The 'Health Summary' section is active, showing the following components and their status:

- CPU:** 2 / 2 installed (Green checkmark)
- Memory:** 8 / 16 installed (Green checkmark)
- Local Storage:** 3 / 4 installed (Green checkmark)
- PCI:** 4 installed (Green checkmark)
- System Board:** 1 warning (Yellow triangle with exclamation mark)

A red arrow points to the warning icon on the System Board. The expanded view shows the following message:

**System Board**  
The number of boot attempts has been exceeded. No bootable device found.  
FQXFSR0003G FRU: February 10, 2022 11:15:38 PM

# XCC Homepage

Users can also find detailed system warning and error information in the **Active System Events** tab.

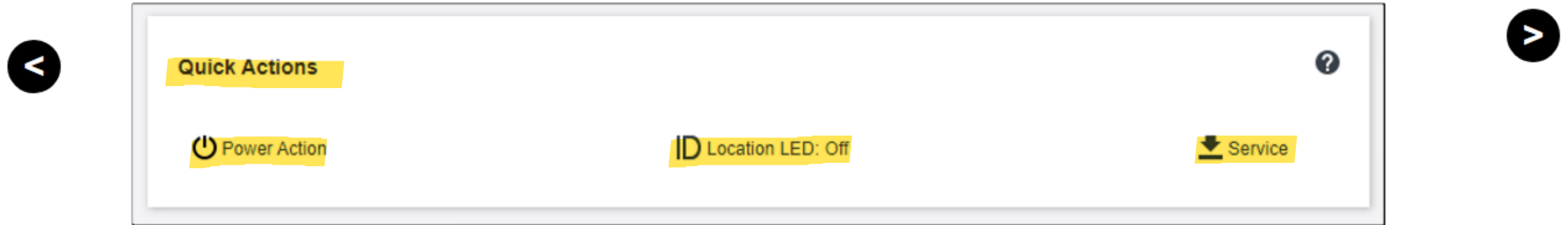
The screenshot displays the XClarity Controller interface. On the left is a dark sidebar with navigation links: Home, Events, Inventory, Utilization, Storage, and Remote Console. The main content area has a header for 'ThinkSystem SD630 V2' with a system name 'SD630V2-4'. Below the header, there are two tabs: 'Health Summary' and 'Active System Events (1)'. The 'Active System Events' tab is selected and shows a warning icon (yellow triangle with an exclamation mark) next to the text 'System Board'. The event message reads: 'The number of boot attempts has been exceeded. No bootable device found.' Below this message, the FRU (Field Replaceable Unit) is listed as 'FQXSFSR0003G' and the timestamp is 'February 10, 2022 11:15:38 PM'. A help icon (question mark) is visible in the top right corner of the event list.



## XCC Homepage

The **Quick Actions** section includes the following:

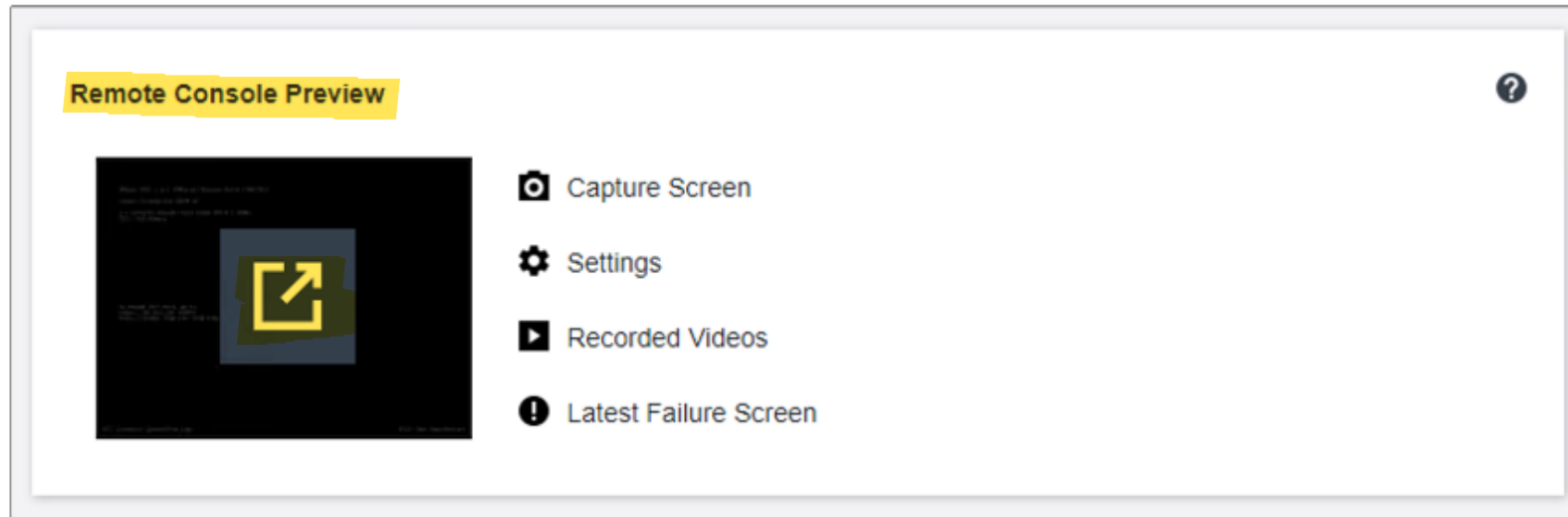
- **Power Action:** Use Power Action to control the server power or restart the server.
- **Location LED:** Use this button to control the location LED (turn on, turn off, or set to blinking) to help with locating the server.
- **Service:** Click this button to get the service data for problem determination use.



**Note:** The XCC service data ~~does not include~~ OS-level logs. To collect the complete FFDC log with OS-level logs, use OneCLI instead.




## XCC Homepage










The remote console feature allows access to the server's operating system. Click the window to open a pop-up window in which users can configure virtual media and launch a remote console session on a new Web page.



**Note:** The remote console feature requires an XCC Advanced edition license.

# XCC Homepage

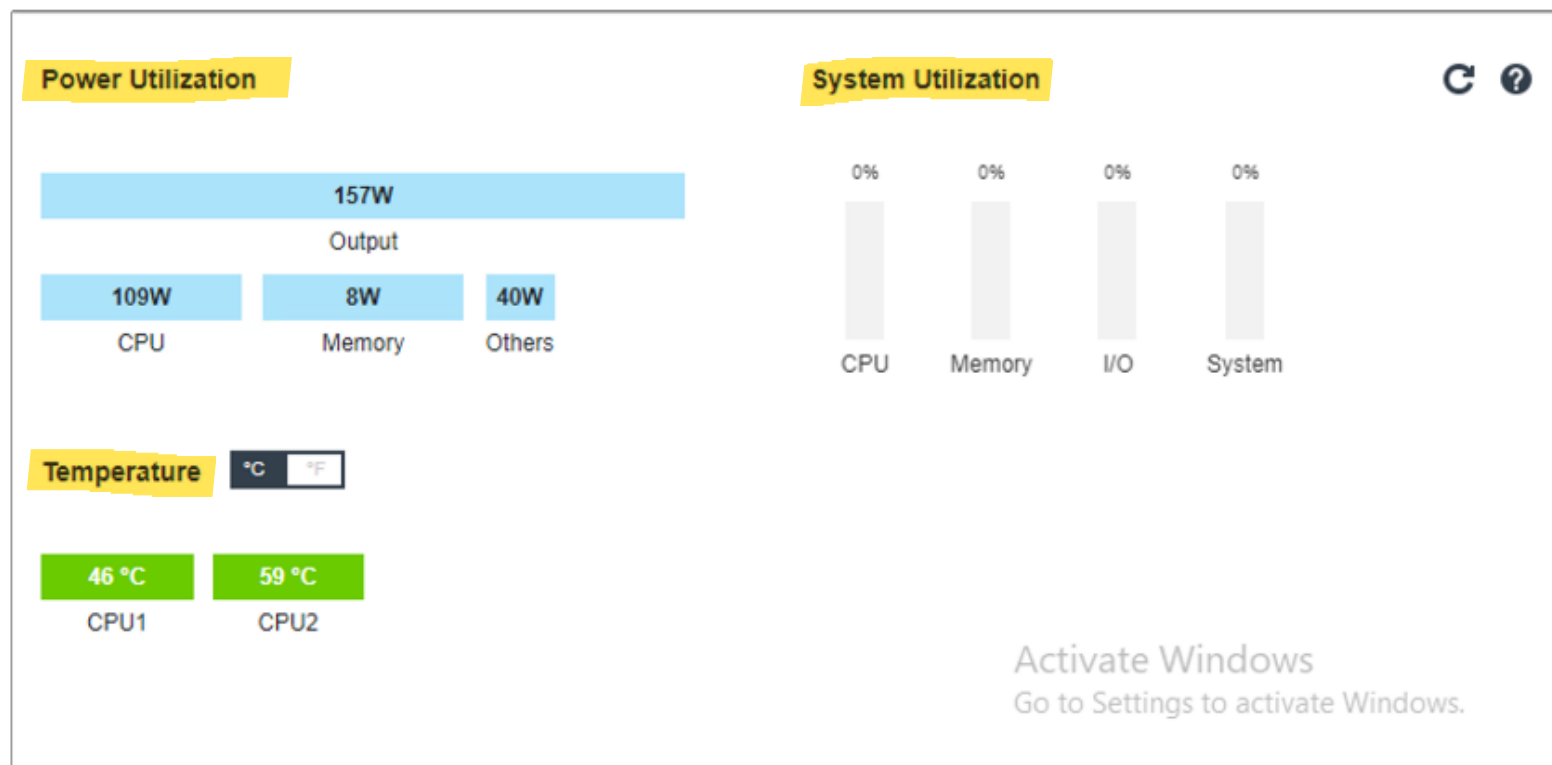
The **System Information and Settings** section contains a summary of common system information. Click the pen icon  to change the property or setting. Click the arrow icon  to see additional information. Click the upward-pointing arrow icon  to upgrade the XCC license.

System Information and Settings		
ThinkSystem SD630 V2	Power On (Booting OS or in undetected OS)	
Machine Type/Model	7D1KCTO1WW	
Serial No.	J101Y63X	
System Name	SD630V2-4	
Front USB Ownership	Shared mode: owned by HOST	
BMC License	Lenovo XClarity Controller Enterprise Upgrade	
BMC IP Address	10.10.1.98	
BMC Hostname	SD630V2-4	
BMC Version	1.80 (Build ID: TGBT30S)	
UEFI Version	1.20 (Build ID: U8E116K)	
LXPM Version	3.11 (Build ID: XWL112E)	
Location	Bldg 8, Room 04nl3, Rack 7, Lowest unit 28	




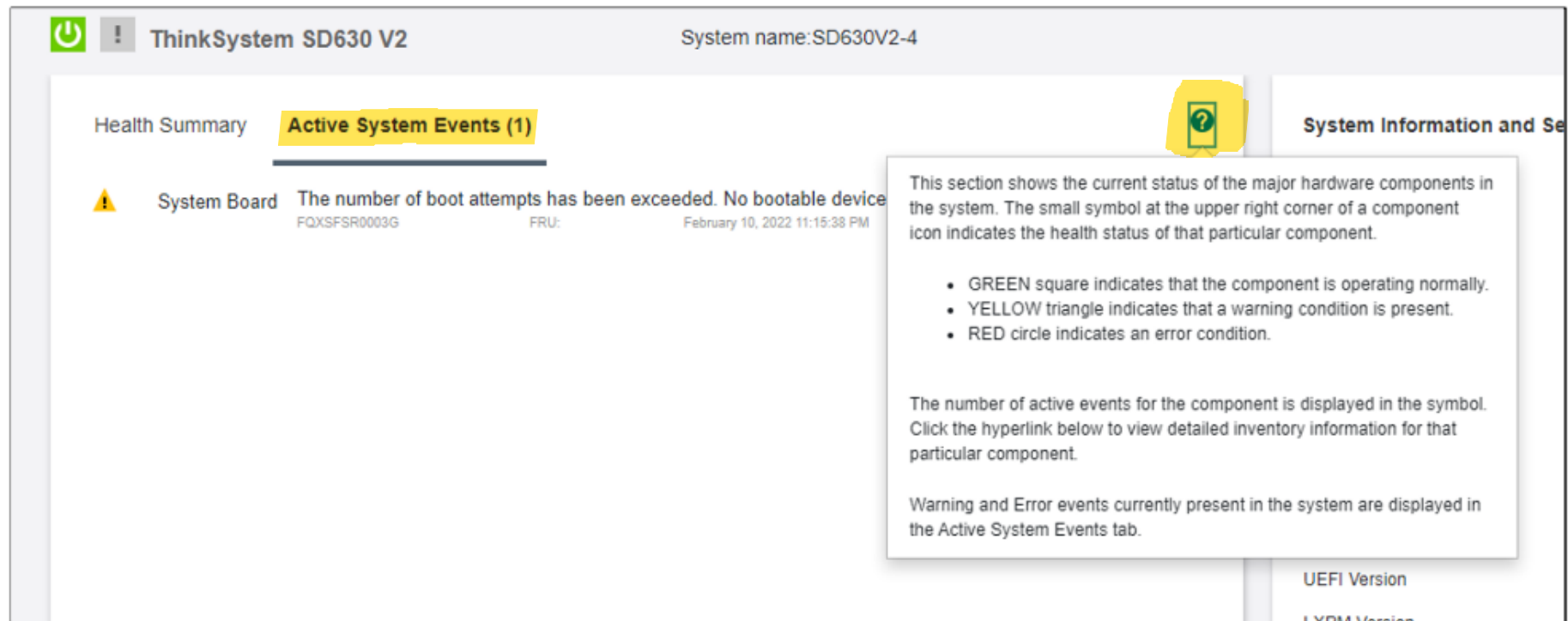
# XCC Homepage

This section contains a summary of the current system power consumption, compute utilization (system, CPU, memory, and I/O subsystem), and temperature readings.




# XCC Homepage


In any section, click  to see a description of the corresponding XCC function.



ThinkSystem SD630 V2 System name:SD630V2-4

Health Summary **Active System Events (1)**

 System Board The number of boot attempts has been exceeded. No bootable device  
FQXSFSR0003G FRU: February 10, 2022 11:15:38 PM



System Information and Se

This section shows the current status of the major hardware components in the system. The small symbol at the upper right corner of a component icon indicates the health status of that particular component.

- GREEN square indicates that the component is operating normally.
- YELLOW triangle indicates that a warning condition is present.
- RED circle indicates an error condition.

The number of active events for the component is displayed in the symbol. Click the hyperlink below to view detailed inventory information for that particular component.

Warning and Error events currently present in the system are displayed in the Active System Events tab.

UEFI Version  
LXDM Version



## Events page

The **Events** page → **Event Log** tab contains a historical list of all hardware and management events.

**XClarity Controller**

System name: SD630V2-4

Export SUPPORT 3:22 AM

ThinkSystem SD6...

**Event Log** Audit Log Maintenance History Alert Recipients

Customize Table Clear Logs

Refresh

Type: [Error] [Warning] [Info] All Event Sources All Dates

Index	Severity	Source	Common ID	Message	Date
0	[Info]	System	FQXSPNM4011I	ENET[CIM:ep1] DHCP-HSTN=SD630V2-4, DN=sysxedlab.net, IP@=...	May 1
1	[Info]	System	FQXSPPW0009I	Host Power has been Power Cycled.	May 1
2	[Info]	System	FQXSPNM4011I	ENET[CIM:ep1] DHCP-HSTN=SD630V2-4, DN=sysxedlab.net, IP@=...	April 2
3	[Info]	Power	FQXSPPW2008I	Host Power has been turned on.	March
4	[Info]	Power	FQXSPPW0008I	Host Power has been turned off.	Febru
5	[Info]	Power	FQXSPPW2008I	Host Power has been turned on.	Febru
6	[Info]	Power	FQXSPPW0008I	Host Power has been turned off.	Febru

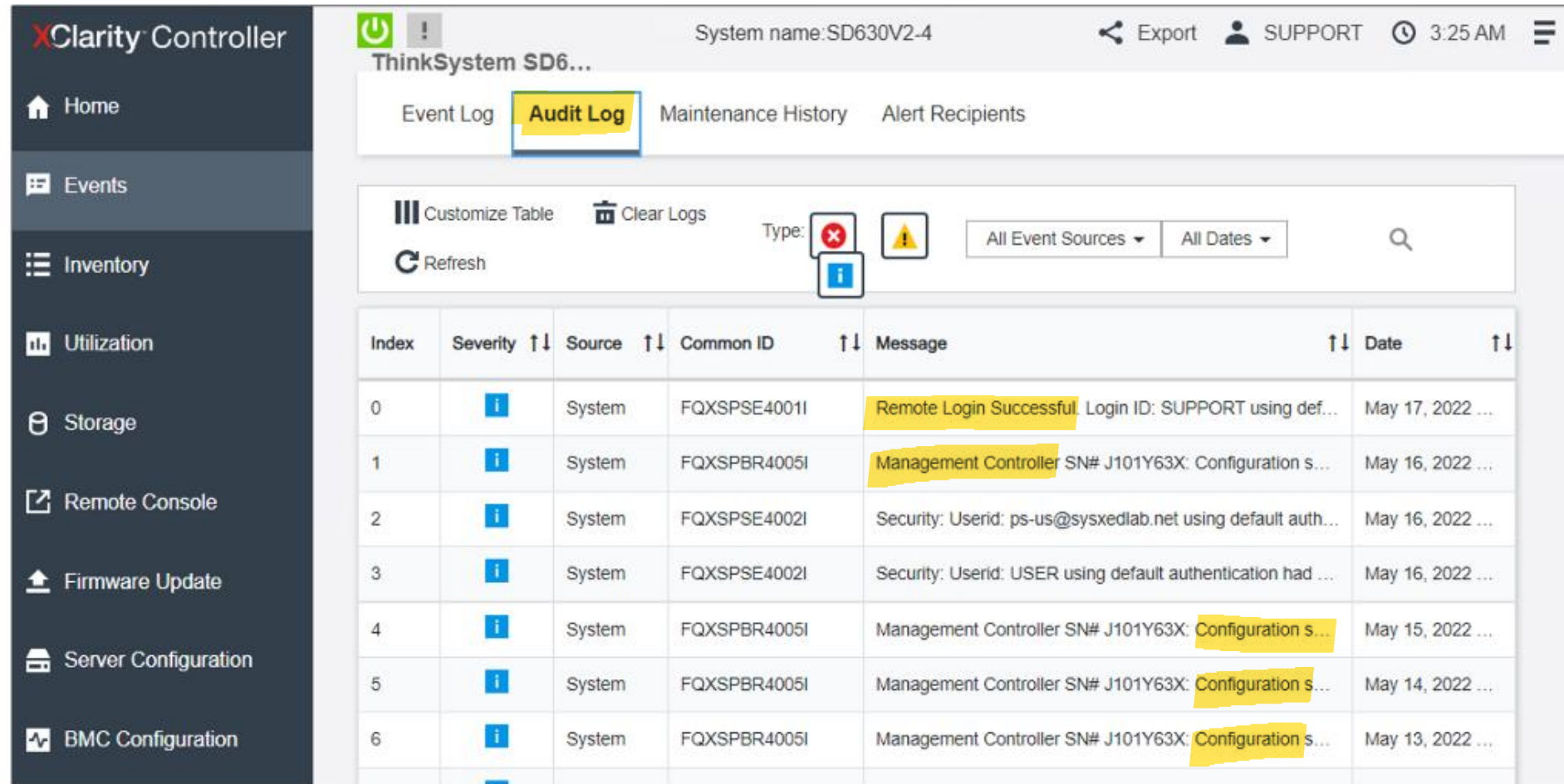


Click here to see more information.



## Events page

The **Audit Log** tab contains a historical record of user actions, such as logging in to XCC, creating a new user, and changing a user password.

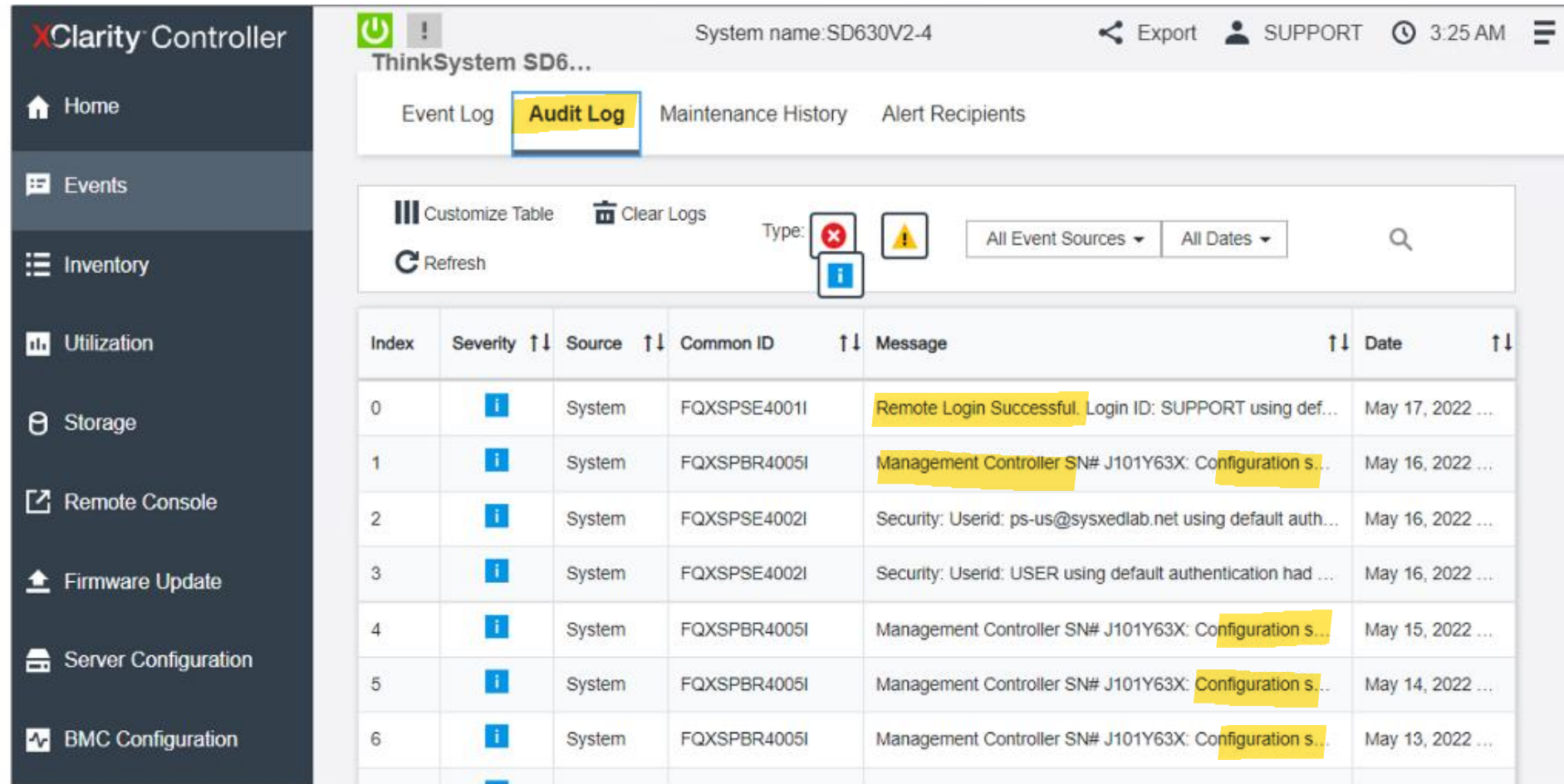


The screenshot displays the Lenovo XClarity Controller interface. The left sidebar contains navigation links: Home, Events, Inventory, Utilization, Storage, Remote Console, Firmware Update, Server Configuration, and BMC Configuration. The main content area shows the 'ThinkSystem SD6...' system page with tabs for Event Log, Audit Log (selected), Maintenance History, and Alert Recipients. The Audit Log tab displays a table of events with the following columns: Index, Severity, Source, Common ID, Message, and Date. The table contains 7 rows of data, with the first row highlighted in yellow.

Index	Severity	Source	Common ID	Message	Date
0	Info	System	FQXSPSE4001I	Remote Login Successful. Login ID: SUPPORT using def...	May 17, 2022 ...
1	Info	System	FQXSPBR4005I	Management Controller SN# J101Y63X: Configuration s...	May 16, 2022 ...
2	Info	System	FQXSPSE4002I	Security: Userid: ps-us@sysxedlab.net using default auth...	May 16, 2022 ...
3	Info	System	FQXSPSE4002I	Security: Userid: USER using default authentication had ...	May 16, 2022 ...
4	Info	System	FQXSPBR4005I	Management Controller SN# J101Y63X: Configuration s...	May 15, 2022 ...
5	Info	System	FQXSPBR4005I	Management Controller SN# J101Y63X: Configuration s...	May 14, 2022 ...
6	Info	System	FQXSPBR4005I	Management Controller SN# J101Y63X: Configuration s...	May 13, 2022 ...

# Events page

The **Audit Log** tab contains a **historical record** of **user actions**, such as logging in to XCC, creating a new user, and changing a user password.



The screenshot displays the Lenovo XClarity Controller interface. The left sidebar contains navigation links: Home, Events, Inventory, Utilization, Storage, Remote Console, Firmware Update, Server Configuration, and BMC Configuration. The main content area shows the 'ThinkSystem SD6...' system page with tabs for Event Log, Audit Log (selected), Maintenance History, and Alert Recipients. The Audit Log table lists events with the following columns: Index, Severity, Source, Common ID, Message, and Date. The first event (Index 0) is highlighted, showing a 'Remote Login Successful' message for user 'SUPPORT'.

Index	Severity	Source	Common ID	Message	Date
0	Info	System	FQXSPSE4001I	Remote Login Successful. Login ID: SUPPORT using def...	May 17, 2022 ...
1	Info	System	FQXSPBR4005I	Management Controller SN# J101Y63X: Configuration s...	May 16, 2022 ...
2	Info	System	FQXSPSE4002I	Security: Userid: ps-us@sysxedlab.net using default auth...	May 16, 2022 ...
3	Info	System	FQXSPSE4002I	Security: Userid: USER using default authentication had ...	May 16, 2022 ...
4	Info	System	FQXSPBR4005I	Management Controller SN# J101Y63X: Configuration s...	May 15, 2022 ...
5	Info	System	FQXSPBR4005I	Management Controller SN# J101Y63X: Configuration s...	May 14, 2022 ...
6	Info	System	FQXSPBR4005I	Management Controller SN# J101Y63X: Configuration s...	May 13, 2022 ...

## Events page

Use the **Alert Recipients** tab to add and modify email and syslog notifications or SNMP trap recipients.

**XClarity Controller**

System name: SD630V2-4 | Export | SUPPORT | 3:32 AM

ThinkSystem SD6...

Event Log | Audit Log | Maintenance History | **Alert Recipients**

Email/Syslog Recipients (0) | + Create | SMTP Server | Retry and Delay | ⚙️

Name	Method	Address	Events to Rec	Action
Create Email Recipient				
Create Syslog Recipient				

SNMPv3 User (0) | + Create | SNMP

User	Access	Address for traps	Authentication protocol	Privacy protocol	Action
------	--------	-------------------	-------------------------	------------------	--------

# Inventory page

The **Inventory** page contains **components information** for the system.

The screenshot displays the 'Inventory' page of the XClarity Controller. The left sidebar contains navigation links: Home, Events, Inventory (highlighted), Utilization, Storage, Remote Console, Firmware Update, Server Configuration, and BMC Configuration. The main content area shows system details for 'ThinkSystem SD630 V2' (System name: SD630V2-4). It features a 'CPU: 2/2 Installed' section with a table of installed CPUs and a 'DIMM: 8/16 Installed' section with a table of installed memory modules. A 'Quick Link' sidebar on the right provides shortcuts to various system components.

**System Information:** ThinkSystem SD630 V2, System name: SD630V2-4

**CPU: 2/2 Installed**

Socket	Model	Max Cores	Part ID
CPU 1	Intel(R) Xeon(R) Gold 5318Y CPU @ 2.10GHz	24	3330 3736 3536 3430 (30765640)
CPU 2	Intel(R) Xeon(R) Gold 5318Y CPU @ 2.10GHz	24	3330 3736 3536 3430 (30765640)

**DIMM: 8/16 Installed**

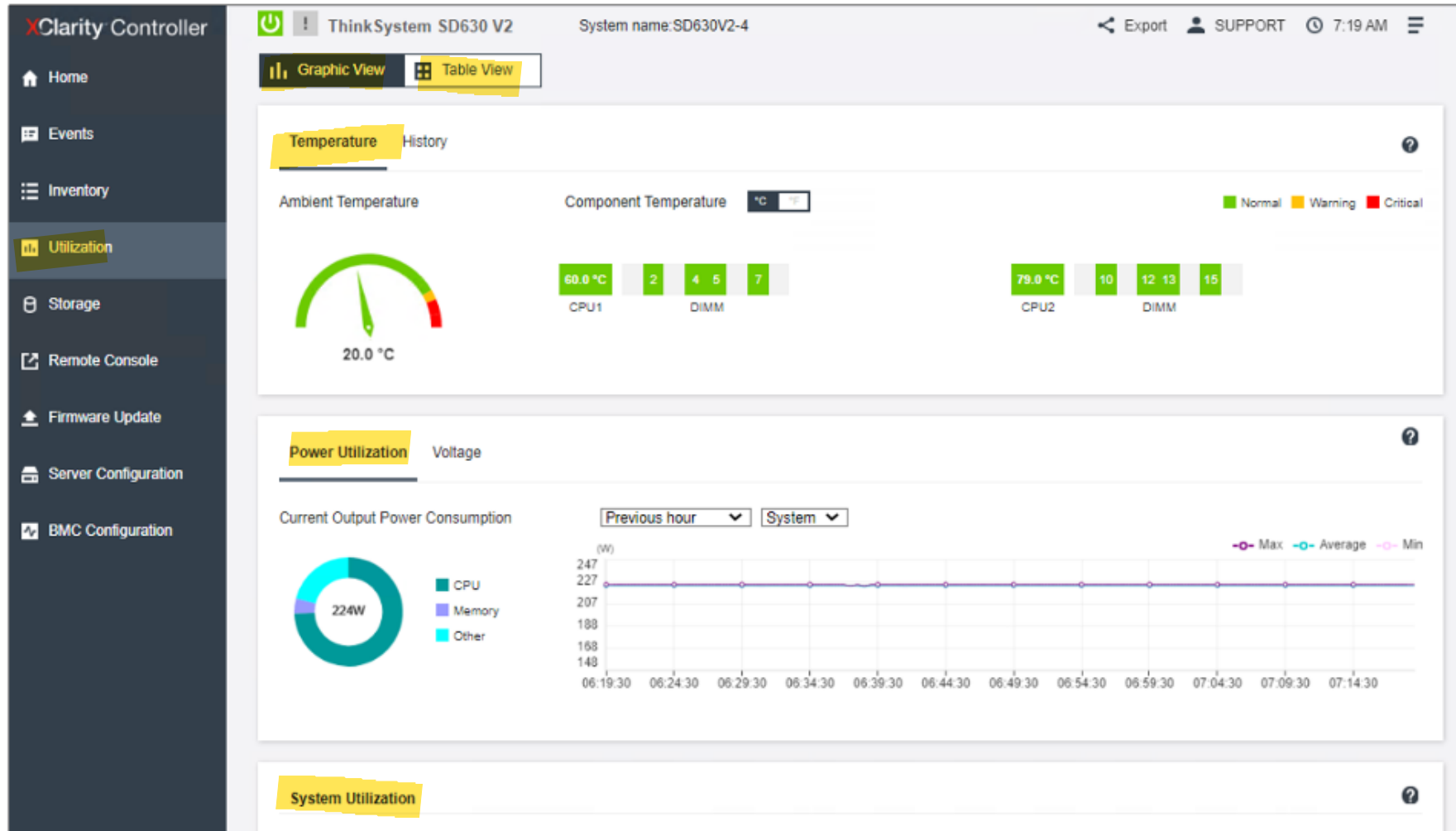
Slot	Type	Capacity	Part Number
DIMM 2	DDR4	32 GB	M393A4K40EB3-CWE

**Quick Link:** CPU, DIMM, DISK, PSU, Fan, PCI, SYS Board, Others, SYS FW



# Utilization page

The **Utilization** page contains a summary of **common server utilization** information.



Click the image to switch to a table view.

# Storage page

The **Storage** → **Detail** page contains detailed drive information.

XClarity Controller

Home

Events

Inventory

Utilization

Storage

Detail

RAID Setup

Remote Console

Firmware Update

ThinkSystem SR860 V2

System name:

Export

USERID

6:07 AM

Storage Detail

Controller 1: (PCI Slot 15)

Location	Manufacturer	Product	Status	Capacity	Interface	Media	Form Factor	Miscellaneous
Bay 1	Intel	SSDSC2KB24	<div>✓</div> Normal	240 GB	SATA	SSD	2.5"	100% Remaining Life >
Bay 3	Intel	SSDSC2KB24	<div>✓</div> Normal	240 GB	SATA	SSD	2.5"	100% Remaining Life >

Backplane

Name	Drive Bays	Manufacturer	Serial Number	Part Number	FRU Number
Backplane 1	Bay 0 - Bay 7	LNVO	XXXXX9CD0019	SC57A26300	



Click here to see more information.



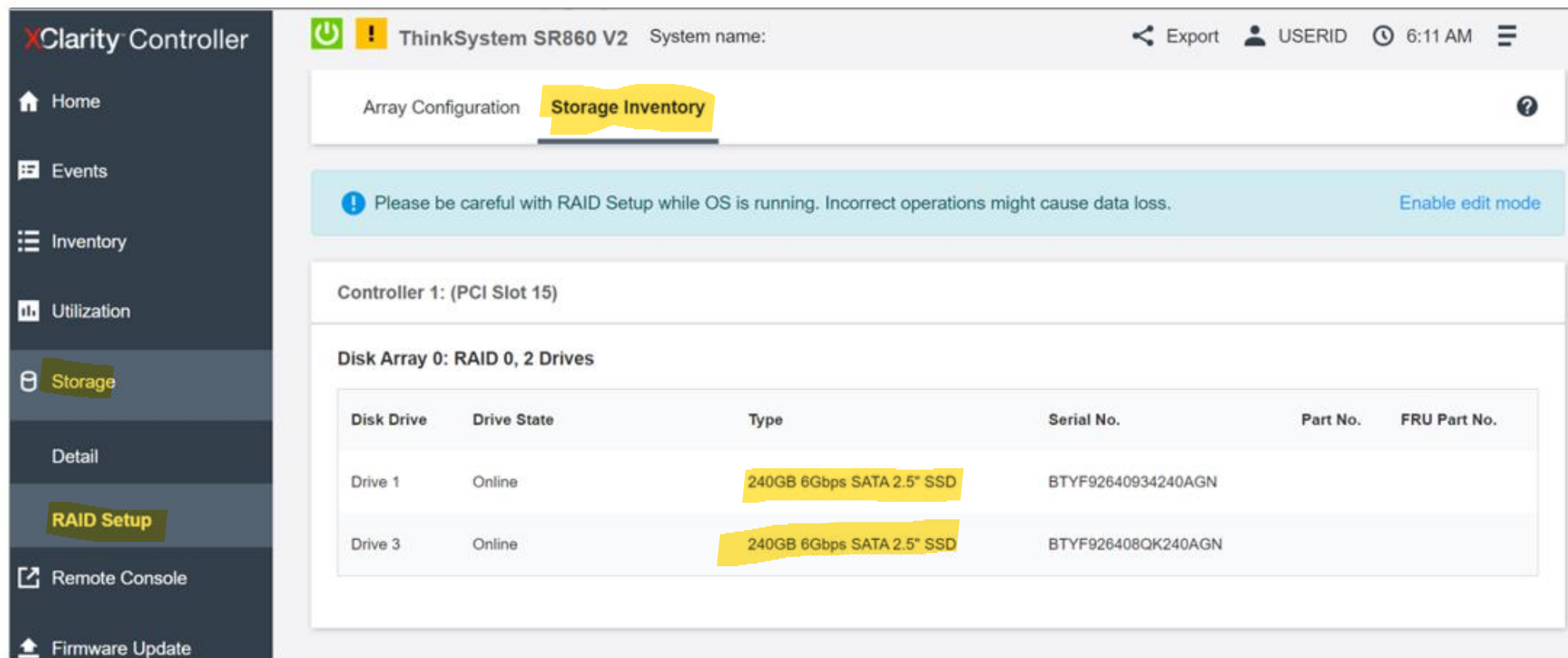
# Storage page

The **Storage** → **RAID Setup** page can be used to **configure RAID settings**. At present, the **RAID Setup** page ~~cannot be used~~ to set up the **RAID configuration** for **NVMe drives**.

The screenshot displays the XClarity Controller interface. On the left is a dark sidebar with navigation links: Home, Events, Inventory, Utilization, Storage (highlighted), Detail, RAID Setup (highlighted), Remote Console, and Firmware Update. The main content area has a top header with system status icons, the name 'ThinkSystem SR860 V2', and user information. Below this is a tabbed interface with 'Array Configuration' (active) and 'Storage Inventory'. A light blue warning banner states: 'Please be careful with RAID Setup while OS is running. Incorrect operations might cause data loss.' with an 'Enable edit mode' link. The main section is titled 'Controller 1: (1 virtual disk created)' and shows a 'RAID 0' configuration for 'Virtual Disk 1'. The status is 'Optimal' with a green indicator. The size is '445.172GB'. At the bottom, it identifies the configuration as 'Disk Array 0, RAID 0'. A 'Controller Actions' dropdown is visible on the right.

# Storage page

The **Storage** → **RAID Setup** → **Storage Inventory** tab contains disk array and drive information for the system.



The screenshot displays the Lenovo XClarity Controller interface. The left sidebar contains navigation links: Home, Events, Inventory, Utilization, Storage (highlighted), Detail, RAID Setup (highlighted), Remote Console, and Firmware Update. The main content area shows the 'Storage Inventory' tab selected. At the top, there's a header with 'ThinkSystem SR860 V2' and 'System name:'. Below this, a warning message states: 'Please be careful with RAID Setup while OS is running. Incorrect operations might cause data loss.' The main section is titled 'Controller 1: (PCI Slot 15)' and 'Disk Array 0: RAID 0, 2 Drives'. A table lists the drives:

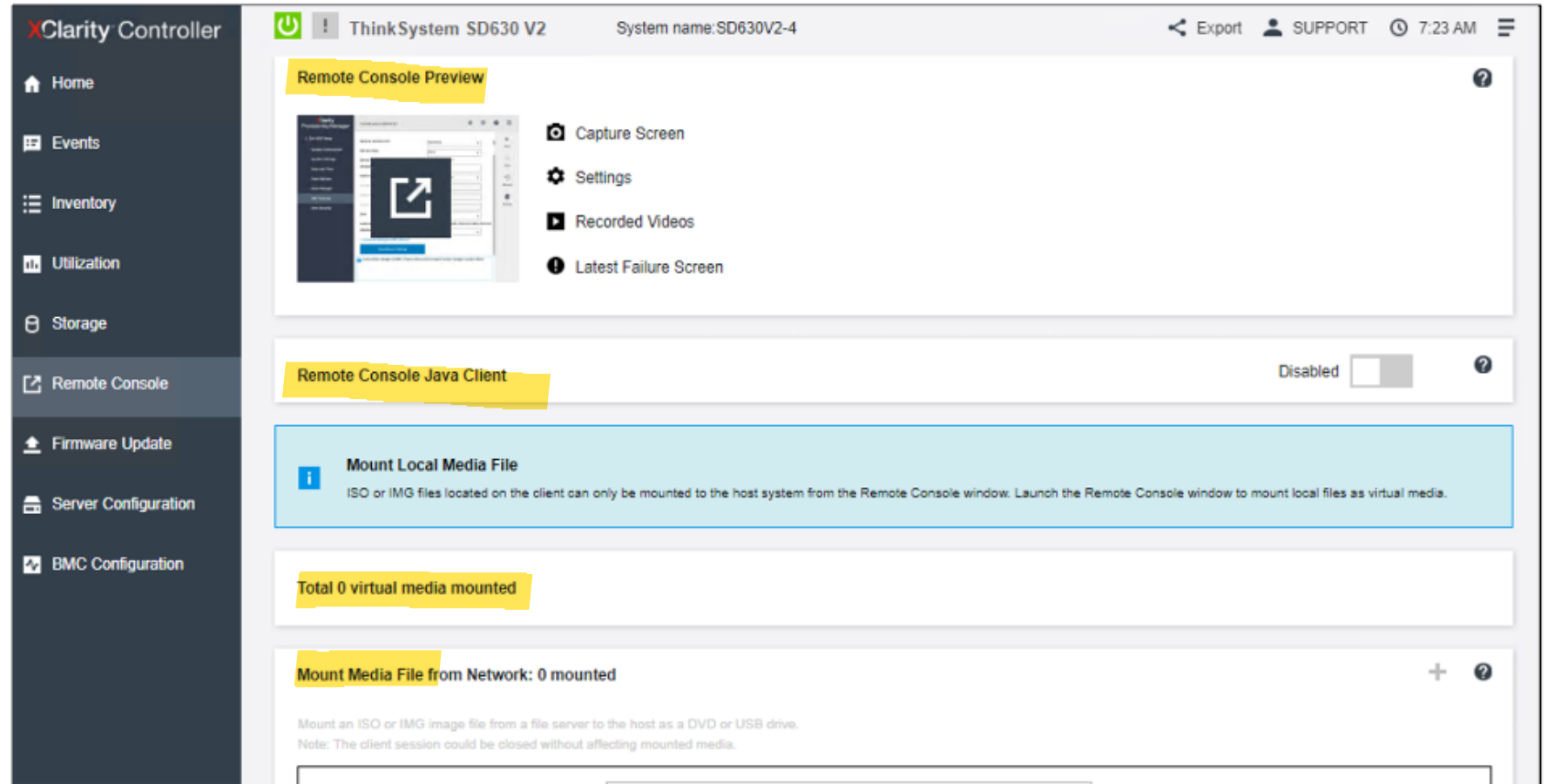
Disk Drive	Drive State	Type	Serial No.	Part No.	FRU Part No.
Drive 1	Online	240GB 6Gbps SATA 2.5" SSD	BTYF92640934240AGN		
Drive 3	Online	240GB 6Gbps SATA 2.5" SSD	BTYF926408QK240AGN		

# Remote Console page

Use the **Remote Console** page to remotely control the system or **mount local media files** to the remote system.

The **Remote Console Preview** feature requires an **XCC Advanced edition license**.

The **Mount Local Media File** feature requires an XCC Enterprise edition license.



## Firmware Update page

Use the **Firmware Update** page to update system firmware. Some component firmware updates might require XClarity Essentials tools (Update Xpress or OneCLI).

The screenshot shows the XClarity Controller interface for a ThinkSystem SD630 V2 system (SD630V2-4). The left sidebar contains navigation links: Home, Events, Inventory, Utilization, Storage, Remote Console, **Firmware Update** (highlighted), Server Configuration, and BMC Configuration. The main content area is divided into three sections:

- System Firmware**: A table listing system firmware components with columns for Type, Status, Version, Build, and Release Date. An "Update Firmware" button is in the top right.
- Adapter Firmware**: A section with a note about updating adapter firmware via the BMC and a table listing adapter firmware with columns for Slot No., Device Name, Status, Version, Manufacturer, and Release Date. An "Update Firmware" button is in the top right.
- Update from Repository**: A section with a dropdown menu set to "CIFS" and an "Input URL:" text box.

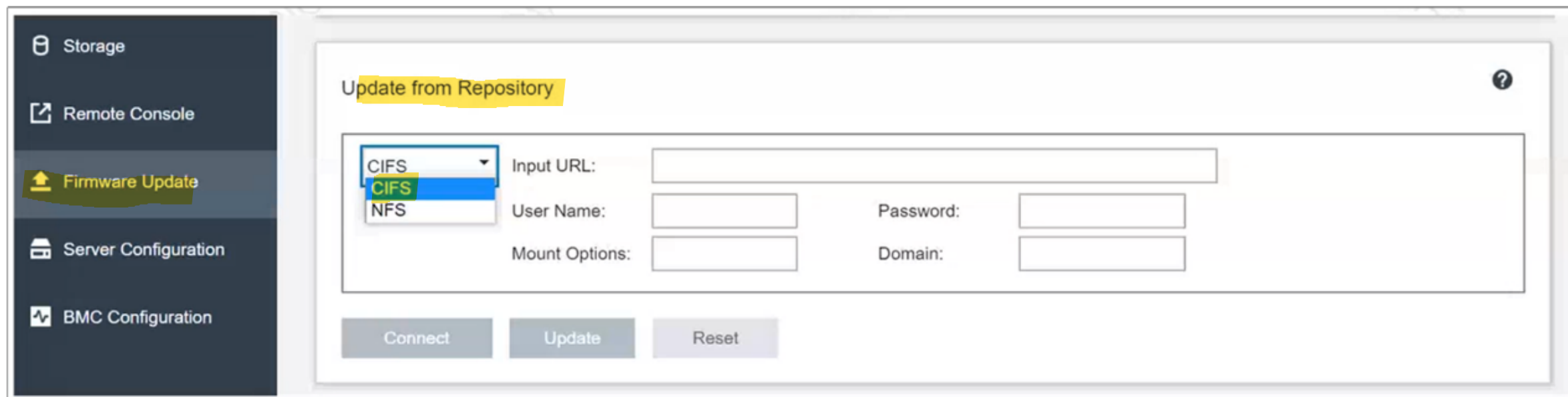
Type	Status	Version	Build	Release Date
BMC (Primary)	Active	1.80	TGBT30S	2021-12-20
BMC (Backup)	Inactive	1.41	TGBT20G	2021-07-26
UEFI	Active	1.20	USE116K	2021-12-08
LXPM	Active	3.11	XWL112E	2021-11-09
LXPM Windows Drivers	Active	3.11	XWL312E	2021-12-20
LXPM Linux Drivers	Active	3.11	XWL212E	2021-12-20

Slot No.	Device Name	Status	Version	Manufacturer	Release Date
OnBoard	Mellanox ConnectX-4 Lx 10/25GbE LOM	Active	14.31.1014	Mellanox Technologies	2021/09/29

## Firmware Update: Update from Repository

The **Firmware Update** page has an **Update from Repository** section. Users can create a repository, upload firmware files to the repository, and then use the XCC Firmware Update page to update the system firmware from the repository.

The repository can be a common Internet file system (CIFS – previously known as SMB) mount or a network file system (NFS) mount.



The screenshot displays the 'Firmware Update' section of the XCC interface. On the left sidebar, 'Firmware Update' is highlighted. The main content area is titled 'Update from Repository' and contains a dropdown menu with 'CIFS' selected. Below the dropdown are four input fields: 'Input URL', 'User Name', 'Password', and 'Domain'. At the bottom of the form are three buttons: 'Connect', 'Update', and 'Reset'.

Field	Value
File System	CIFS
Input URL:	
User Name:	
Password:	
Mount Options:	
Domain:	

Buttons: Connect, Update, Reset

# Server Configuration page

The **Server Configuration** → **Adapters** page contains information about the **adapters** installed in the server.

**XClarity Controller**

ThinkSystem SD630 V2 System name:SD630V2-4

Export SUPPORT

**Adapters**

Adapter: Mellanox ConnectX-4 Lx 10/25GbE LOM (OnBoard)

Product Name: Mellanox ConnectX-4 Lx 10/25GbE LOM  
Serial Number: N/A

Port	Permanent Address	Link State	Link Speed (Gbps)
1	7C8AE1D64166	up	25
2	7C8AE1D64167	up	1



Click here to see more information.



# Server Configuration page

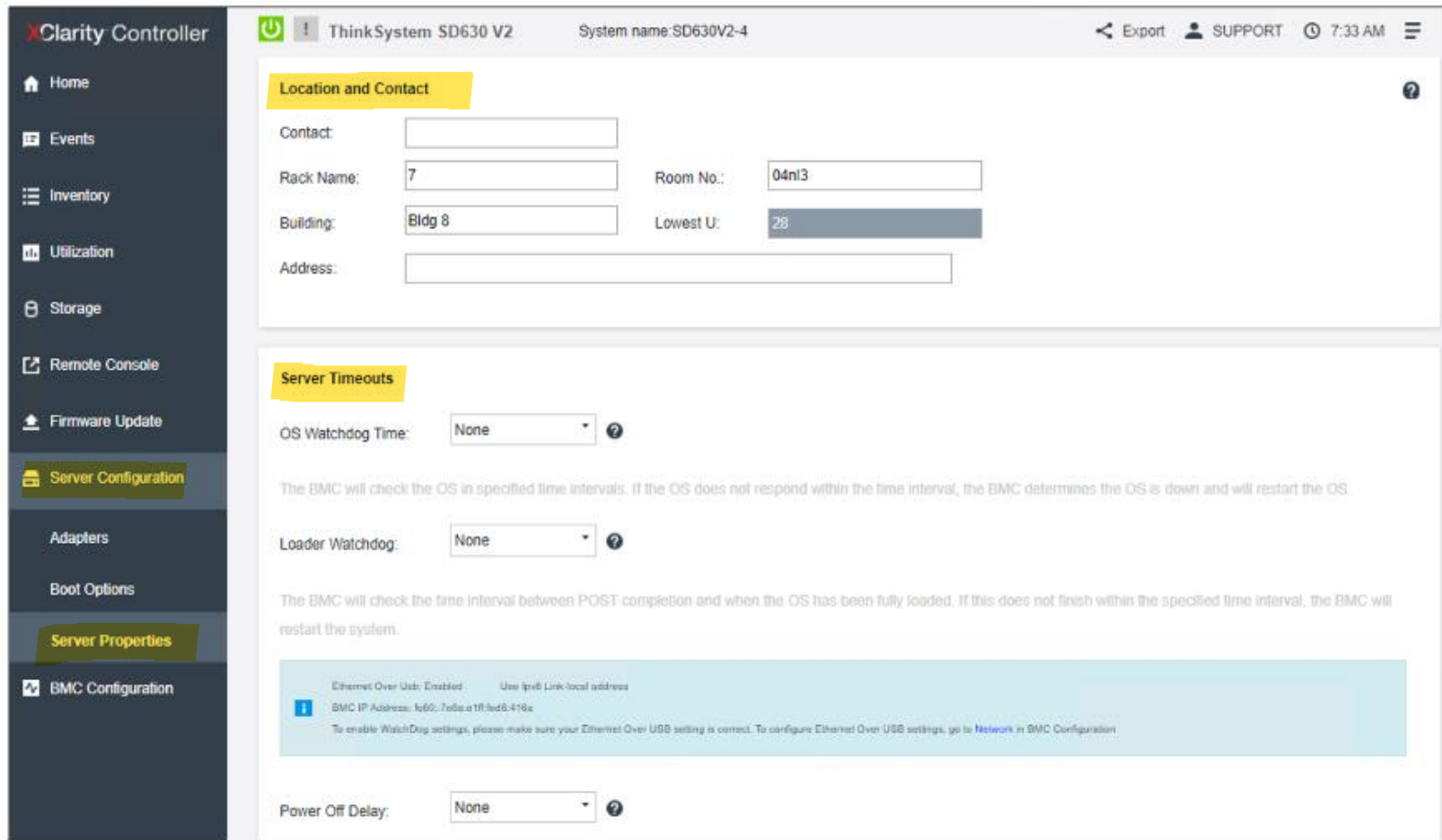
Use the **Server Configuration** → **Boot Options** page to configure the system boot mode and boot order.

The screenshot displays the XClarity Controller interface for a ThinkSystem SD630 V2 server. The left sidebar contains navigation links: Home, Events, Inventory, Utilization, Storage, Remote Console, Firmware Update, **Server Configuration**, Adapters, **Boot Options**, Server Properties, and BMC Configuration. The main content area is titled 'System Boot Mode and Boot Order' and includes a 'Boot Order' sub-tab. Under 'System Boot Mode', 'UEFI Boot' is selected. The 'Boot Order' section shows 'Available devices' (USB Storage) and 'Boot order you want to configure' (VMware ESXi, Hard Disk). The 'One Time Boot Device' section on the right allows selecting a device for one-time boot, currently set to 'No one-time boot'. The top of the interface shows the system name 'SD630V2-4' and a timestamp of 7:33 AM.



# Server Configuration page

The **Server Properties** page enables users to **configure server location and contact information**, select **server timeout settings**, and **create a trespass message** that will be displayed when a **user logs in** to XCC.



The screenshot shows the 'Server Properties' page in the XClarity Controller interface. The left sidebar contains navigation links: Home, Events, Inventory, Utilization, Storage, Remote Console, Firmware Update, **Server Configuration** (highlighted), Adapters, Boot Options, **Server Properties** (highlighted), and BMC Configuration. The main content area is titled 'ThinkSystem SD630 V2' with 'System name: SD630V2-4'. It features two sections: 'Location and Contact' and 'Server Timeouts'. The 'Location and Contact' section includes input fields for Contact, Rack Name (7), Room No. (04nl3), Building (Bldg 8), Lowest U. (28), and Address. The 'Server Timeouts' section includes dropdown menus for OS Watchdog Time (None), Loader Watchdog (None), and Power Off Delay (None). A light blue informational banner at the bottom states: 'Ethernet Over USB: Enabled. Use IPv6 Link-local address. BMC IP Address: fe80::7a6a:21f:fed8:418e. To enable WatchDog settings, please make sure your Ethernet Over USB setting is correct. To configure Ethernet Over USB settings, go to Network in BMC Configuration.'

**Location and Contact**

Contact:

Rack Name:  Room No.:

Building:  Lowest U.:

Address:

**Server Timeouts**

OS Watchdog Time:  ?

The BMC will check the OS in specified time intervals. If the OS does not respond within the time interval, the BMC determines the OS is down and will restart the OS.

Loader Watchdog:  ?

The BMC will check the time interval between POST completion and when the OS has been fully loaded. If this does not finish within the specified time interval, the BMC will restart the system.

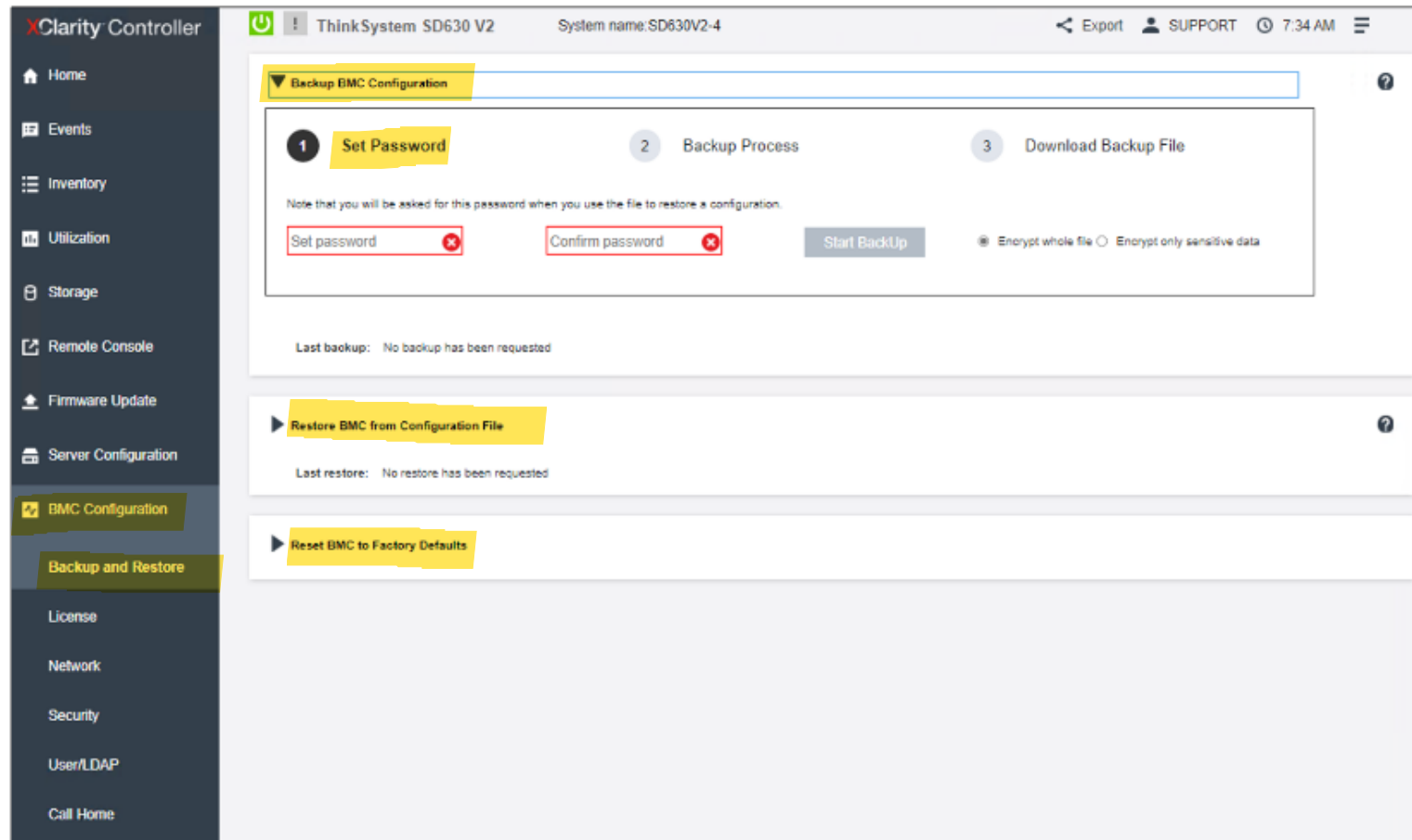
**Power Off Delay:**  ?

Ethernet Over USB: Enabled. Use IPv6 Link-local address.  
BMC IP Address: fe80::7a6a:21f:fed8:418e  
To enable WatchDog settings, please make sure your Ethernet Over USB setting is correct. To configure Ethernet Over USB settings, go to Network in BMC Configuration



# BMC Configuration page

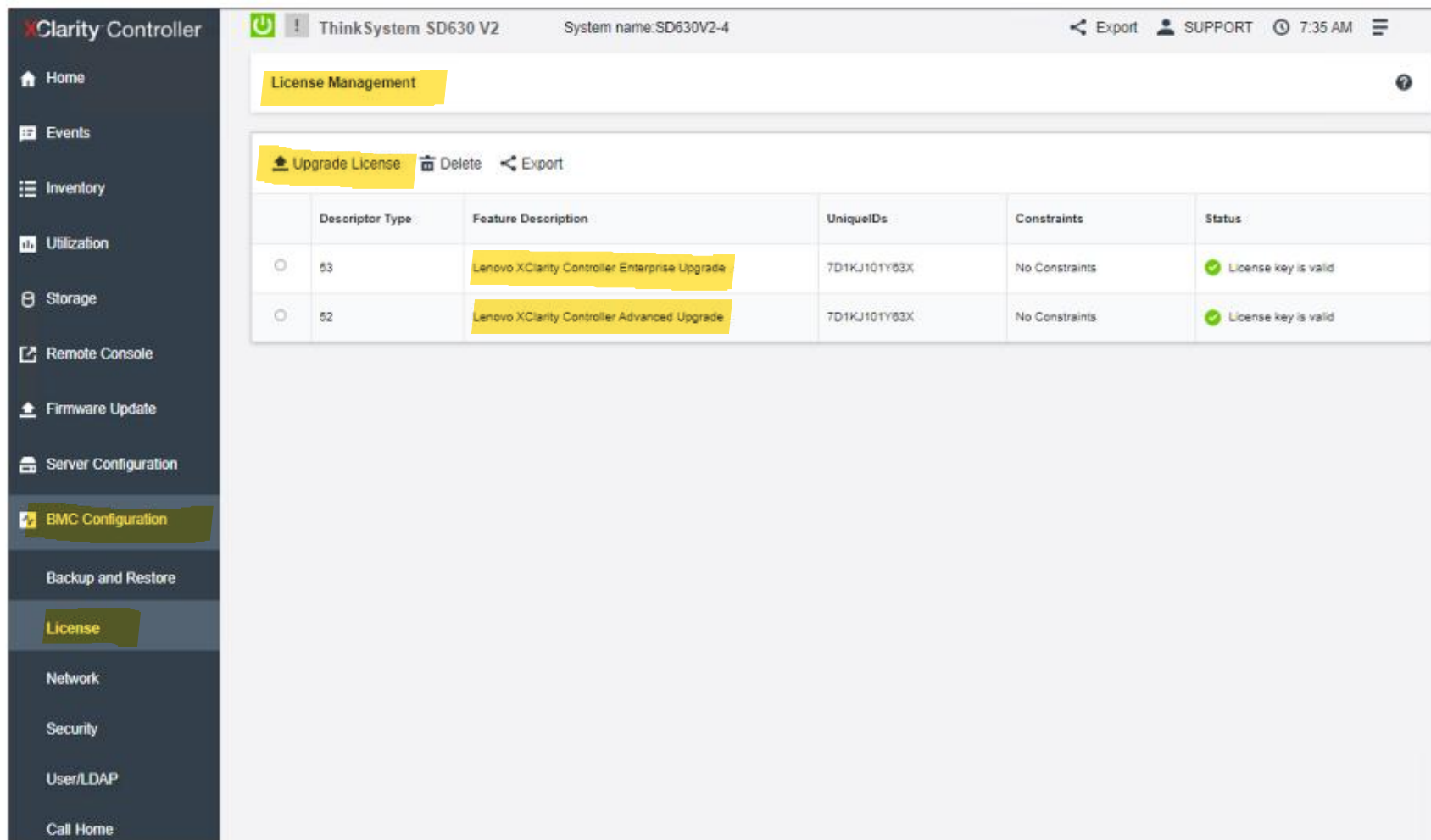
Use the **BMC Configuration** section to configure BMC settings. The **Backup and Restore** page allows users to reset the **XCC** configuration to factory defaults, and also to back up or restore configurations.



Click here to see more information.

# BMC Configuration page

The **License** page allows users to manage **XCC license activation keys**.

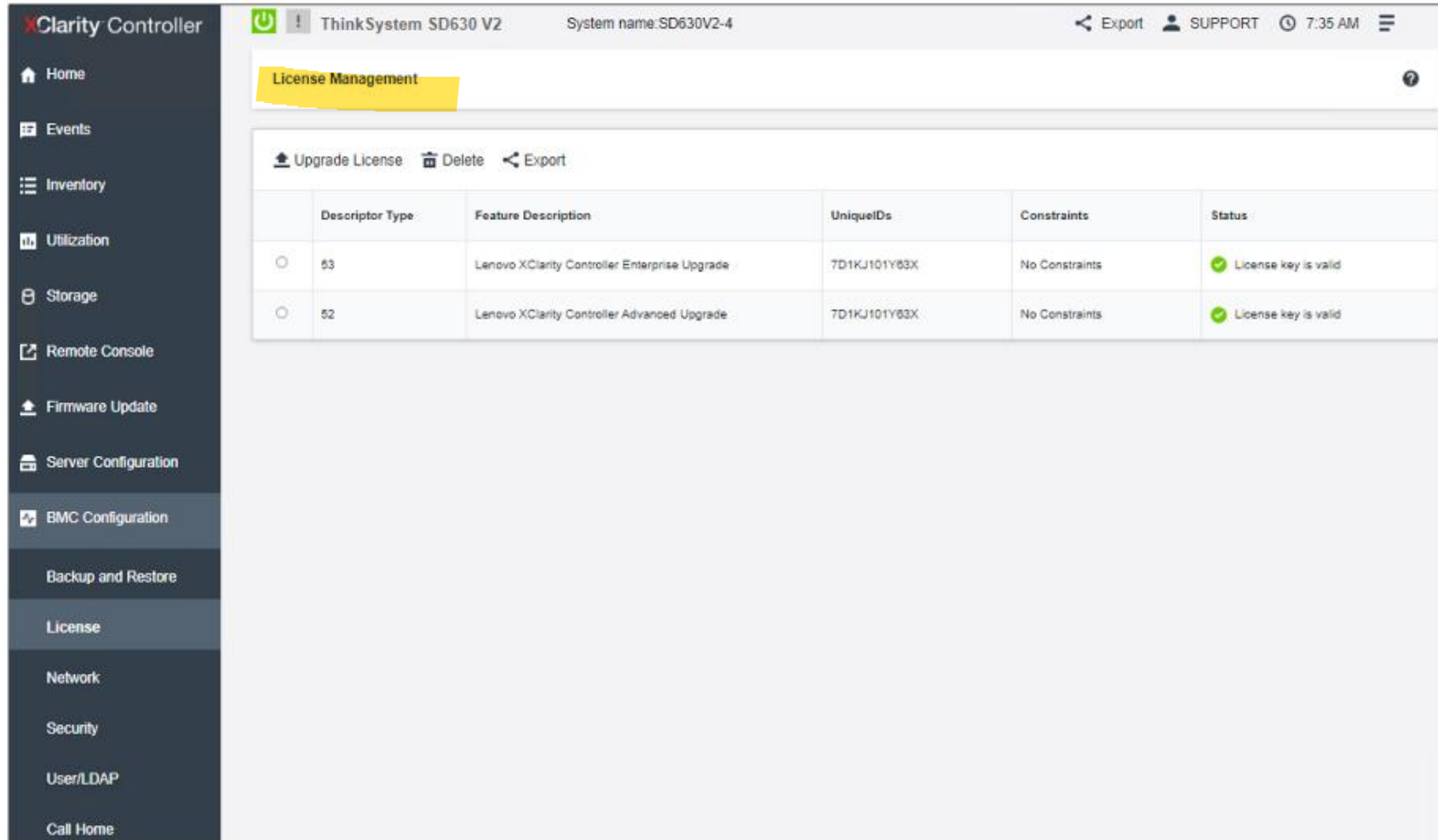


The screenshot displays the Lenovo XClarity Controller interface. The left sidebar contains navigation links: Home, Events, Inventory, Utilization, Storage, Remote Console, Firmware Update, Server Configuration, BMC Configuration (highlighted), Backup and Restore, License (highlighted), Network, Security, User/LDAP, and Call Home. The main content area is titled 'License Management' and includes buttons for 'Upgrade License', 'Delete', and 'Export'. Below these buttons is a table with the following data:

	Descriptor Type	Feature Description	UniqueIDs	Constraints	Status
<input type="radio"/>	53	Lenovo XClarity Controller Enterprise Upgrade	7D1KJ101Y63X	No Constraints	✔ License key is valid
<input type="radio"/>	52	Lenovo XClarity Controller Advanced Upgrade	7D1KJ101Y63X	No Constraints	✔ License key is valid

# BMC Configuration page

The **License** page allows users to manage **XCC license activation keys**.



The screenshot displays the Lenovo XClarity Controller web interface. The left sidebar contains navigation links: Home, Events, Inventory, Utilization, Storage, Remote Console, Firmware Update, Server Configuration, BMC Configuration (highlighted), Backup and Restore, License (highlighted), Network, Security, User/LDAP, and Call Home. The main content area is titled 'License Management' and includes a table of active licenses. Above the table are buttons for 'Upgrade License', 'Delete', and 'Export'. The table has columns for 'Descriptor Type', 'Feature Description', 'UniqueIDs', 'Constraints', and 'Status'. Two licenses are listed, both with a status of 'License key is valid'.

	Descriptor Type	Feature Description	UniqueIDs	Constraints	Status
<input type="radio"/>	53	Lenovo XClarity Controller Enterprise Upgrade	7D1KJ101Y63X	No Constraints	✔ License key is valid
<input type="radio"/>	52	Lenovo XClarity Controller Advanced Upgrade	7D1KJ101Y63X	No Constraints	✔ License key is valid

# BMC Configuration page

The **Network** page contains XCC networking property, status, and setting information.

The screenshot displays the XClarity Controller interface for a ThinkSystem SD630 V2 system. The left sidebar contains navigation options: Home, Events, Inventory, Utilization, Storage, Remote Console, Firmware Update, Server Configuration, **BMC Configuration**, Backup and Restore, License, **Network**, Security, User/LDAP, and Call Home. The main content area is titled "Ethernet Configuration" and includes sections for "Ethernet Ports" (Enabled), "IP Settings Ethernet" (Host Name: SD630V2-4, Obtain Host Name from DHCP), "IPv4" (Enabled, Method: Obtain IP from DHCP), and "IPv6" (Enabled). Below these are fields for "Current IPv4 address", "Network mask", and "Default gateway". A "Quick Link" sidebar on the right lists: Ethernet, DNS and DDNS, Ethernet over USB, SNMP setup, Service Port, Address Restriction, and Front Panel USB. The bottom section, "DNS and DDNS", shows "DNS" as "Auto-Enabled" and "DDNS" as "Enabled" with a method of "Use domain name obtained from the DHCP server".

**Ethernet Configuration**

Ethernet Ports ☒ Enabled

IP Settings Ethernet

\* Host Name: SD630V2-4 ☒

☐ Obtain Host Name from DHCP

IPv4 ☒ Enabled

\* Method: Obtain IP from DHCP

Current IPv4 address: 10.10.1.98

Network mask: 255.255.252.0

Default gateway: 10.10.0.3

▶ Advanced Ethernet

IPv6 ☒ Enabled

	IPv6 Address	Prefix
Link local IP:	fe80::7e8a:e1ff:fed6:4109	64
Stateless IP:		
Stateful IP:	::	0

▶ Configure IPv6

**DNS and DDNS**

DNS ☒ Auto-Enabled

Preferred address type: ☐ IPv4 ☒ IPv6

☐ Use additional DNS address servers

☒ Use DNS to discover Lenovo XClarity Administrator

DDNS ☒ Enabled

Method: Use domain name obtained from the DHCP server\*

Domain name: sysocedlab.net

Quick Link

- Ethernet
- DNS and DDNS
- Ethernet over USB
- SNMP setup
- Service Port
- Address Restriction
- Front Panel USB



# BMC Configuration page

The **User/LDAP** page provides access to XCC local user profiles and global login settings. It also enables users to configure LDAP security and certificate management for XCC.

XClarity Controller

Home

Events

Inventory

Utilization

Storage

Remote Console

Firmware Update

Server Configuration

BMC Configuration

Backup and Restore

License

Network

Security

User/LDAP

Call Home

ThinkSystem SD630 V2

System name:SD630V2-4

Export

SUPPORT

7:36 AM

Local User

LDAP

Allow logons from: Local first, then LDAP

1/12 local users

3/32 roles

Create

Global Settings

Name	Role	Advanced Attribute	Password Expiration	Active Sessions	Action
USERID	Administrator	Native	No Expiration		<div></div>



# BMC Configuration page

XCC supports the **Call Home** function on ThinkSystem V2 and later systems. Call Home allows users to create a **service forwarder** that will automatically **send service data** for **any managed device** to **Lenovo Support** when hardware error events are **received from specific managed devices**. This allows issues to be addressed more quickly.

**Call Home** is disabled by default. To enable Call Home, open XCC and select **BMC Configuration** → **Call Home**. Users then need to read and **accept** the **terms and conditions description** in XCC. Click [HERE](#) to see a screenshot.



The screenshot displays the 'Configure Call Home' page in the XCC interface. The left sidebar contains navigation links: Home, Events, Inventory, Utilization, Storage, Remote Console, Firmware Update, Sensor Configuration, BMC Configuration (highlighted), Backup and Restore, License, Network, Security, User/LDAP, and Call Home. The main content area is titled 'Configure Call Home' and includes a 'Reporting to Lenovo Service' section with a 'Disabled' toggle. Below this are two columns of form fields for 'Primary Contact' and 'Alternate Contact', including fields for Country, Contact Name, Phone, Email, Postal Code, Company Name, Address, City, and State/Province. An 'Activity Log' section shows a table with columns for Severity, Case Number, Event ID, Message, Date, Status, and Action, with a note 'No corresponding logs found'. At the bottom, there is an 'HTTP Proxy' section with a 'Disabled' toggle, fields for 'Proxy Server Address' and 'Port' (set to 3128), and a checkbox for 'Requires authentication'.

## XCC CLI

XCC supports the **command-line interface (CLI)**. To access the **XCC CLI**, **open an SSH session** and enter the **XCC IP address**. Then, use the **XCC username** and **password** to log in to XCC.

For XCC CLI command syntax information and all available commands, refer to the following XCC CLI documentation site:

[https://sysmgt.lenovofiles.com/help/index.jsp?topic=%2Fcom.lenovo.systems.management.xcc.amd.doc%2Fdw1lm\\_c\\_ch7\\_commandlineinterface.html&cp=3\\_1\\_10](https://sysmgt.lenovofiles.com/help/index.jsp?topic=%2Fcom.lenovo.systems.management.xcc.amd.doc%2Fdw1lm_c_ch7_commandlineinterface.html&cp=3_1_10)

<ul style="list-style-type: none"><li>Introduction</li><li>Opening and Using the XClarity Controller</li><li>Configuring the XClarity Controller</li><li>Monitoring the Server Status</li><li>Configuring the Server</li><li>Configuring the Storage</li><li>Updating the firmware</li><li>License Management</li><li>Lenovo XClarity Controller REST API</li><li><b>Command-line interface</b></li><li>IPMI Interface</li><li>Edge servers</li><li>Getting help and technical assistance</li><li>Lenovo XClarity Controller REST API</li><li>Lenovo XClarity Energy Manager</li><li>Lenovo XClarity Essentials</li></ul>	<p>You can access the CLI through a SSH session. You must be authenticated by the XClarity Controller before you can issue any CLI commands.</p> <p><b>Accessing the command-line interface</b> Use the information in this topic to access the CLI.</p> <p><b>Logging in to the command-line session</b> Use the information in this topic to log in to the command line session.</p> <p><b>Configuring serial-to-SSH redirection</b> This topic provides information about using the XClarity Controller as a serial terminal server.</p> <p><b>Command syntax</b> Review the guidelines in this topic to understand how to enter commands in the CLI.</p> <p><b>Features and limitations</b> This topic contains information about CLI features and limitations.</p> <p><b>Alphabetical command listing</b> This topic contains a list of CLI commands in alphabetic order. Links are provided to topics for each command. Each command topic provides information about the command, its function,</p>
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## XCC helpful links

- XCC reference information on Lenovo Press:  
<https://lenovopress.lenovo.com/lp0880-xcc-support-on-thinksystem-servers>
- XClarity Controller documentation:  
[https://sysmgt.lenovofiles.com/help/index.jsp?topic=%2Fxlcc\\_frontend%2Fxlcc\\_overview.html&cp=3](https://sysmgt.lenovofiles.com/help/index.jsp?topic=%2Fxlcc_frontend%2Fxlcc_overview.html&cp=3)
- Customer self support on GLOSSE – this page contains many links for ThinkSystem management tool articles and demo videos:  
[https://glosse4lenovo.lenovo.com/wiki/glosse4lenovo/view/Customer%20Self%20Support/#Lenovo%20XClarity%20Controller%20\(LXCC\)](https://glosse4lenovo.lenovo.com/wiki/glosse4lenovo/view/Customer%20Self%20Support/#Lenovo%20XClarity%20Controller%20(LXCC))