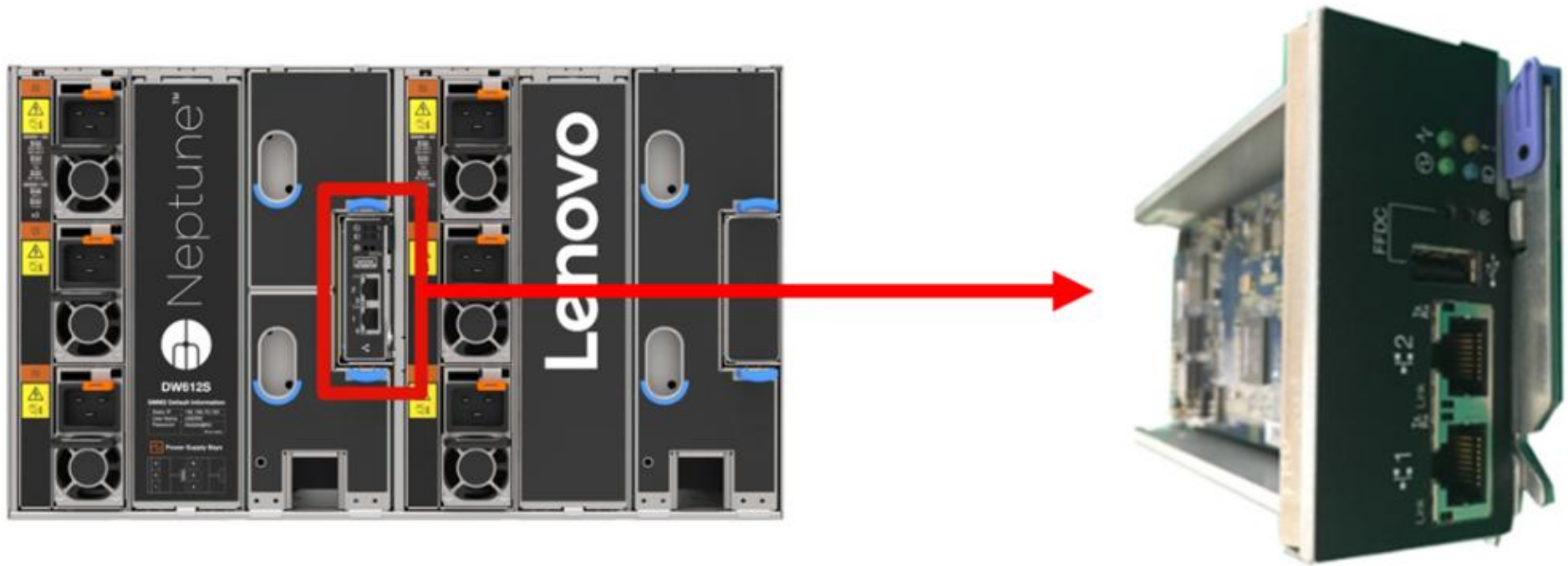
System Management Module 2 overview

The DW612S enclosure management module

Lenovo

What is System Management Module 2

The DW612S enclosure uses the same management module as its predecessor, the DW612 enclosure.
System Management Module 2 (SMM2) is the management module of the enclosure. Users can access SMM2 to monitor and manage the enclosure fan and power status and configurations.



SMM2 support list

SMM2 supports the following ThinkSystem enclosures. SMM2 uses unique platform IDs to recognize and activate the corresponding chassis configurations.

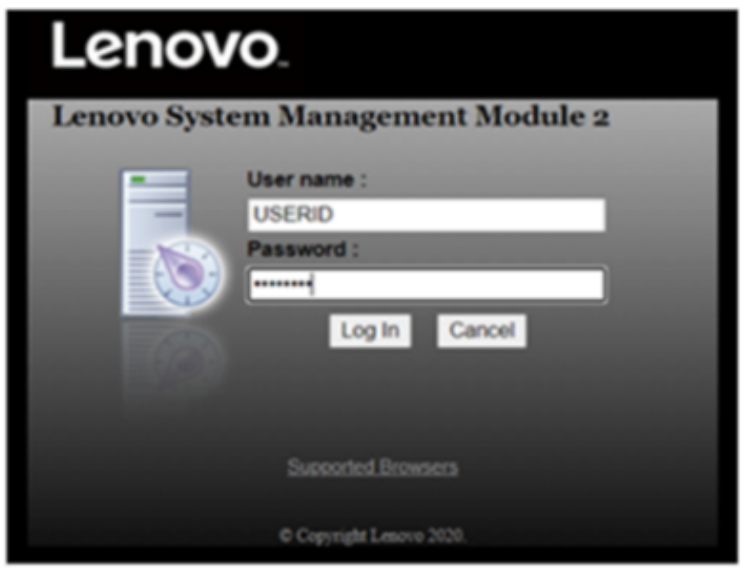
	Intel "Whitley" processor generation		Intel "EagleStream" processor generation	AMD "Genoa" processor generation
Node tray	SD630	SD650 V2 SD650-N V2	SD650 V3 SD650-I V3 SD650-N V3	SD665 V3 SD665-N V3
Enclosure	DA240	DW612S	DW612S	DW612S
Platform ID	254	253	252	252
Chassis height	2U	6U	6U	6U

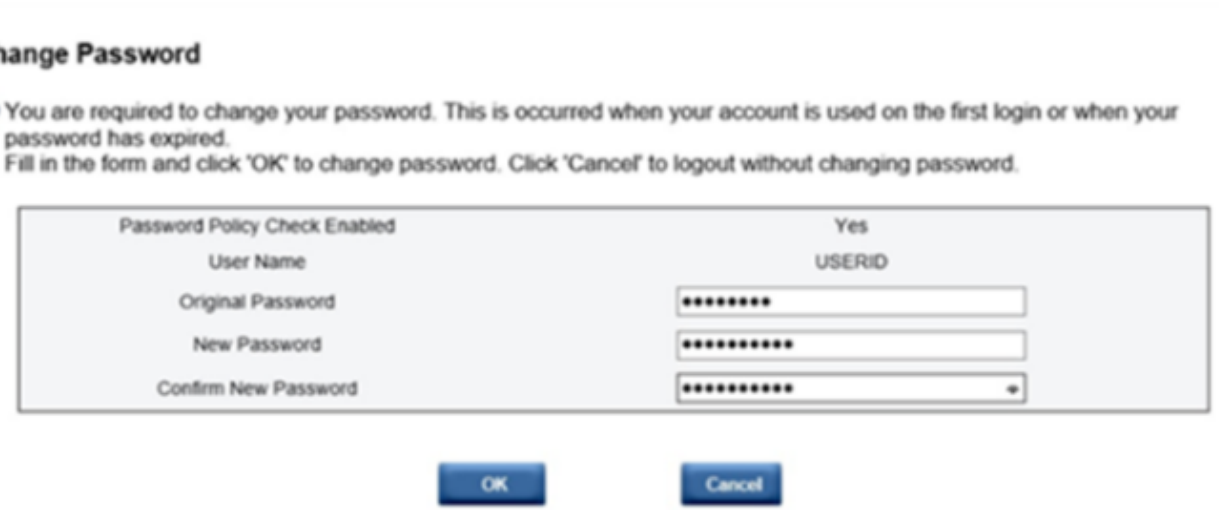
SMM2 web GUI

To access the SMM2 GUI, open a browser and enter the SMM2 IP address.

- Default SMM2 IP address: 192.168.70.100
- Default username: USERID
- Default Password: PASSW0RD (the sixth character is a zero)

Users are required to change the password when logging in for the first time.





Function tab

There are six function tabs in the SMM2 GUI menu:

- Summary
- Power
- Cooling
- System Information
- Event Log
- Configuration

Move the cursor over a function to reveal its subcategories.

Click a tab or subcategory to go directly to that function.

Summary page

The Summary page displays overall enclosure status information.

There are two items on the Summary page:

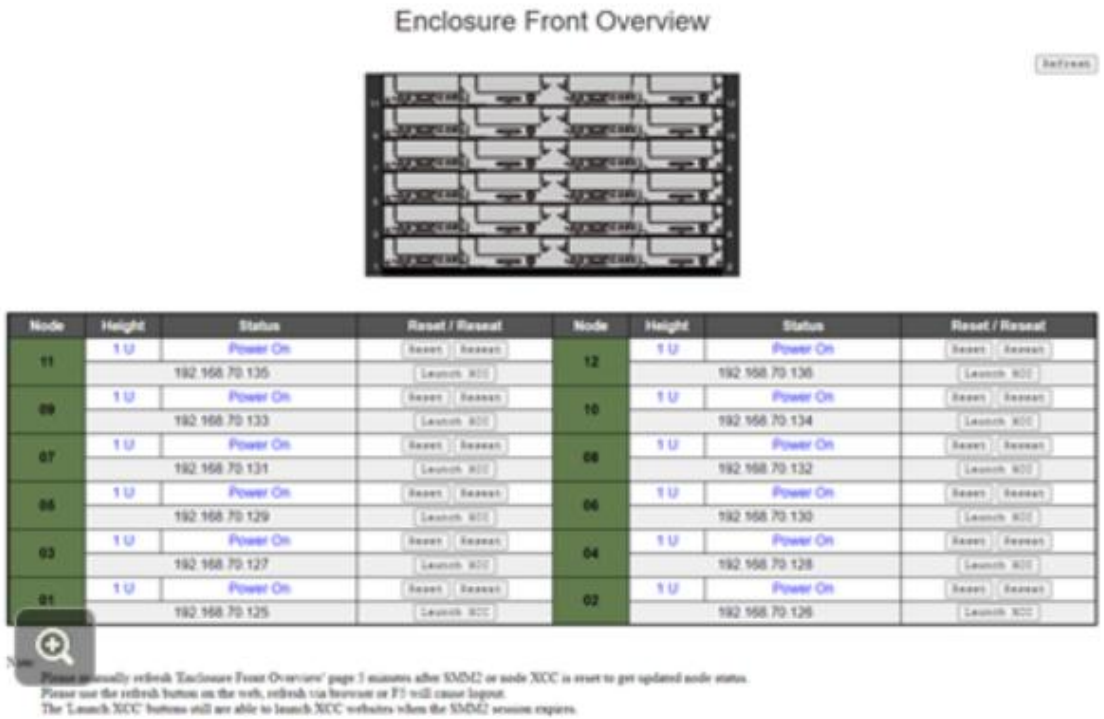
- Enclosure Front overview
  - An overview of the front side of the enclosure along with status-related information.
- Enclosure Rear overview
  - SMM2 information is displayed here.

Enclosure Front | **Enclosure Front (Shared I/O mode)** | **Enclosure Rear**

Click the buttons to see screen captures.

Enclosure Front screen capture

- Node: Indicates node numbering.
- Height: Node height can be 1U to 2U.
- Status:
  - Not Present: No node is installed.
  - No Permission: The node has not been granted power permission and cannot be powered on.
  - Fault: The node has a power fault and cannot be powered on.
  - Power On: The node is powered on.
  - Power Off: The node is powered off.
  - Add-on: This is an add-on tray.
- Reset/Reseat: Used to perform a virtual reset/virtual reseat.
  - Reset: Remotely reset node XClarity Controller (XCC) through SMM2.
  - Reseat: Remotely power cycle the entire node.
- Launch XCC: Use the specified IP address to access XCC from the Web.
  - Clicking on Launch XCC will direct users to the XCC website even after the SMM2 session expires.



Enclosure Front screen capture (Shared I/O mode)

The **Enclosure Mode** description only appears when the Shared I/O mode is enabled. Only the ThinkSystem DW612 enclosure and ThinkSystem SD650 V2 node support Shared I/O mode.

Enclosure Mode:

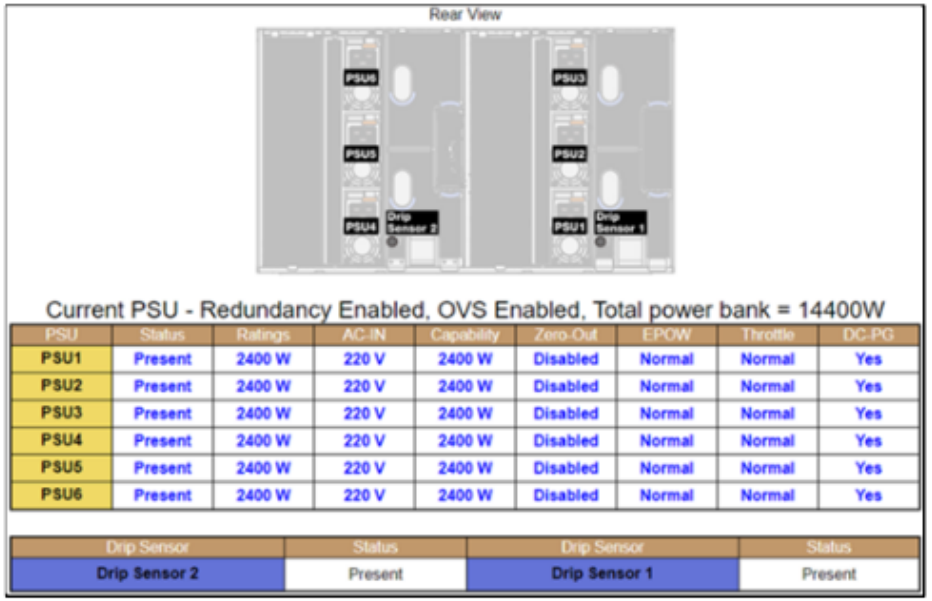
This enclosure is running under **Shared I/O mode**, the nodes are categorized into 6 groups, each group has one primary node and one auxiliary node.
The auxiliary node will not be granted power permission until the primary node is present, is in either standby mode or powered on, and has no power faults.

Group VI	Node 11: Auxiliary	Node 12: Primary
Group V	Node 9: Auxiliary	Node 10: Primary
Group IV	Node 7: Auxiliary	Node 8: Primary
Group III	Node 5: Auxiliary	Node 6: Primary
Group II	Node 3: Auxiliary	Node 4: Primary
Group I	Node 1: Auxiliary	Node 2: Primary

Enclosure Rear

In the Enclosure Rear overview, the major rear enclosure statuses are shown in the following sections:

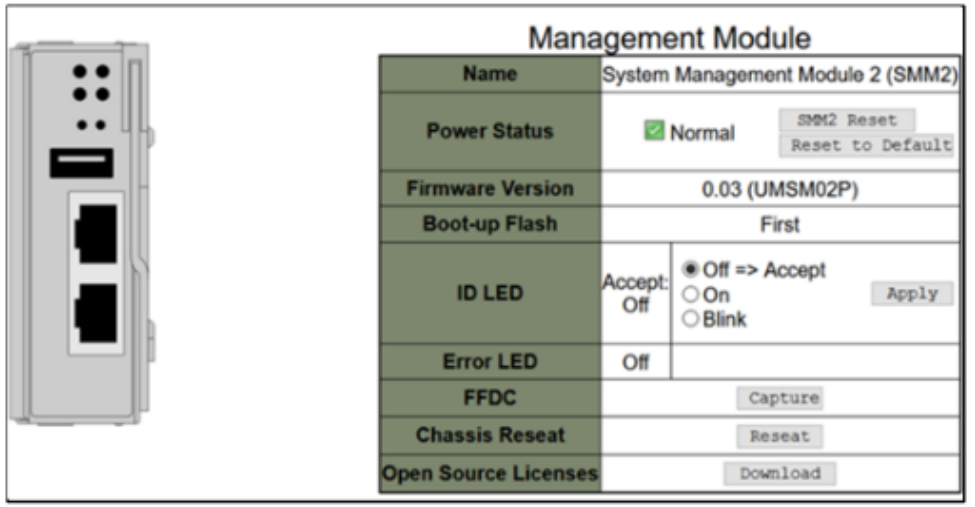
- Current PSU: Indicates the status of power supplies
- Drip Sensor (DW612 Neptune DWC Enclosure only): Indicates the status of the drip sensors, as shown in the Enclosure Rear View tab – this section only applies to the DW612 Neptune DWC Enclosure.
- Management Module (SMM2 status)



Current PSU - Redundancy Enabled, OVS Enabled, Total power bank = 14400W

PSU	Status	Ratings	AC-IN	Capability	Zero-Out	EPOW	Throttle	DC-PG
PSU1	Present	2400 W	220 V	2400 W	Disabled	Normal	Normal	Yes
PSU2	Present	2400 W	220 V	2400 W	Disabled	Normal	Normal	Yes
PSU3	Present	2400 W	220 V	2400 W	Disabled	Normal	Normal	Yes
PSU4	Present	2400 W	220 V	2400 W	Disabled	Normal	Normal	Yes
PSU5	Present	2400 W	220 V	2400 W	Disabled	Normal	Normal	Yes
PSU6	Present	2400 W	220 V	2400 W	Disabled	Normal	Normal	Yes

Drip Sensor	Status	Drip Sensor	Status
Drip Sensor 2	Present	Drip Sensor 1	Present



Air-cooled PSU **DWC PSU**

Power tab

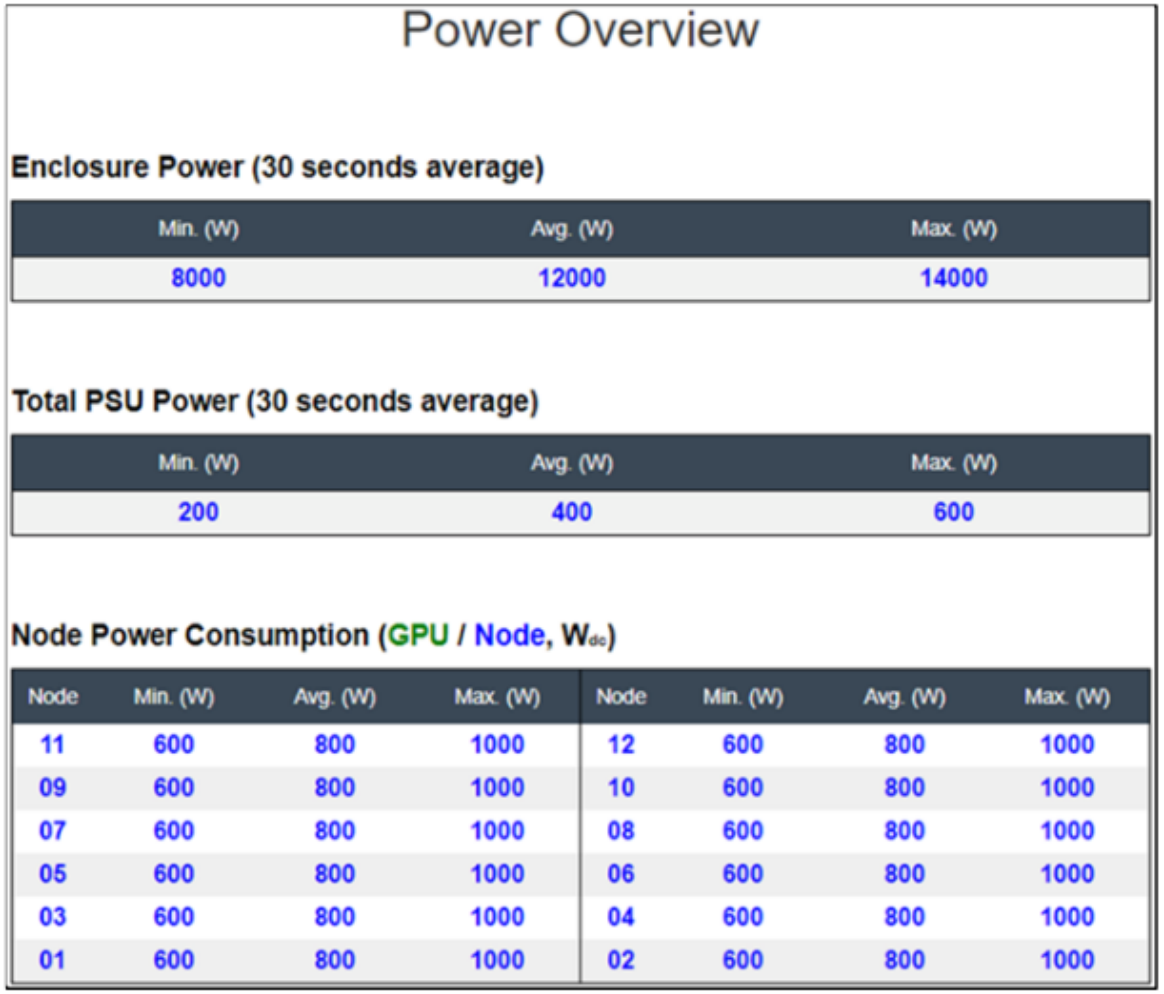
The Power tab has five major sections.

- Power Overview: Displays the enclosure-level power consumption, the node-level power consumption, and the power consumption of subsystems, which includes the power subsystem (power supplies) and the thermal subsystem (system fans for the DA240 Enclosure or drip sensors for the DW612 Neptune DWC Enclosure)
- PSU Configuration: Allows users to set the redundancy mode and zero output for power supplies
- Power Cap: Allows users to set power capping and saving
- Voltage Overview: Monitors the voltage rail on SMM2
- Power Restore Policy: Allows users to enable the power restore policy

Click the buttons to see more information.

Power Overview

This tab displays enclosure power consumption, node power consumption, and the power consumption of power supply subsystems.



Power Overview

Enclosure Power (30 seconds average)

Min. (W)	Avg. (W)	Max. (W)
8000	12000	14000

Total PSU Power (30 seconds average)

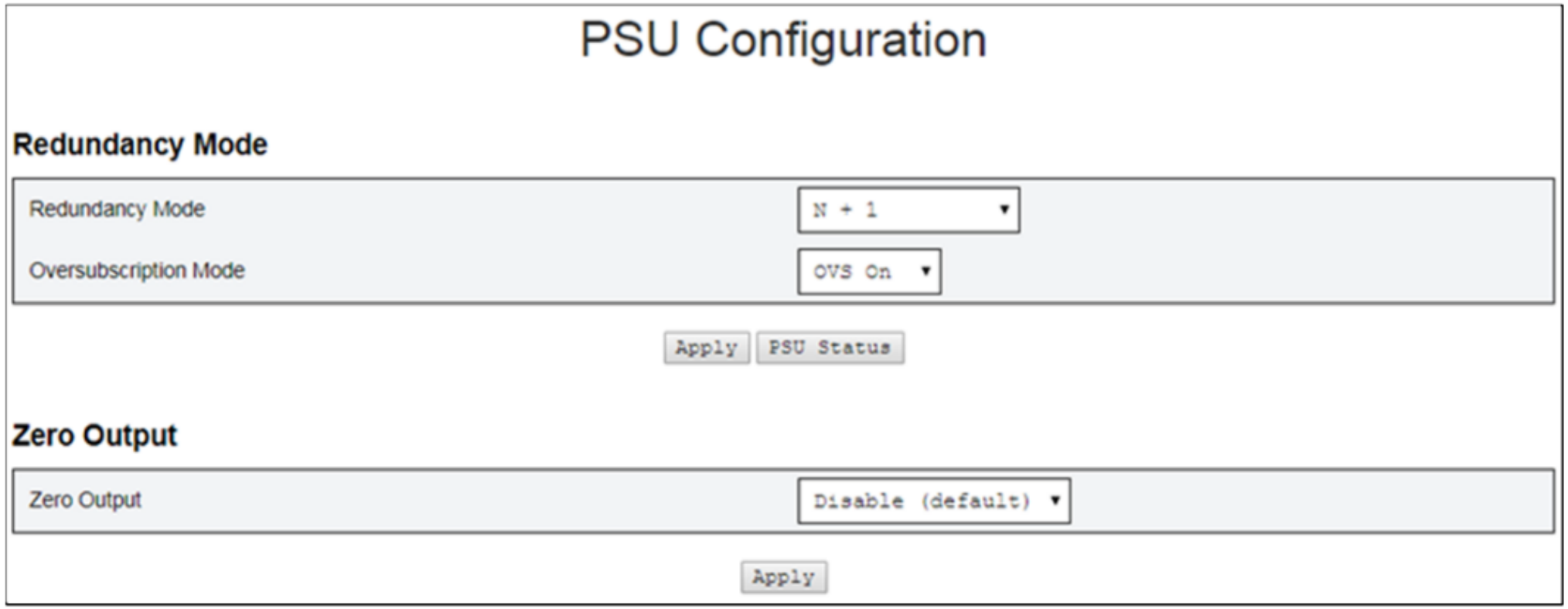
Min. (W)	Avg. (W)	Max. (W)
200	400	600

Node Power Consumption (GPU / Node, W_{dc})

Node	Min. (W)	Avg. (W)	Max. (W)	Node	Min. (W)	Avg. (W)	Max. (W)
11	600	800	1000	12	600	800	1000
09	600	800	1000	10	600	800	1000
07	600	800	1000	08	600	800	1000
05	600	800	1000	06	600	800	1000
03	600	800	1000	04	600	800	1000
01	600	800	1000	02	600	800	1000

PSU Configuration

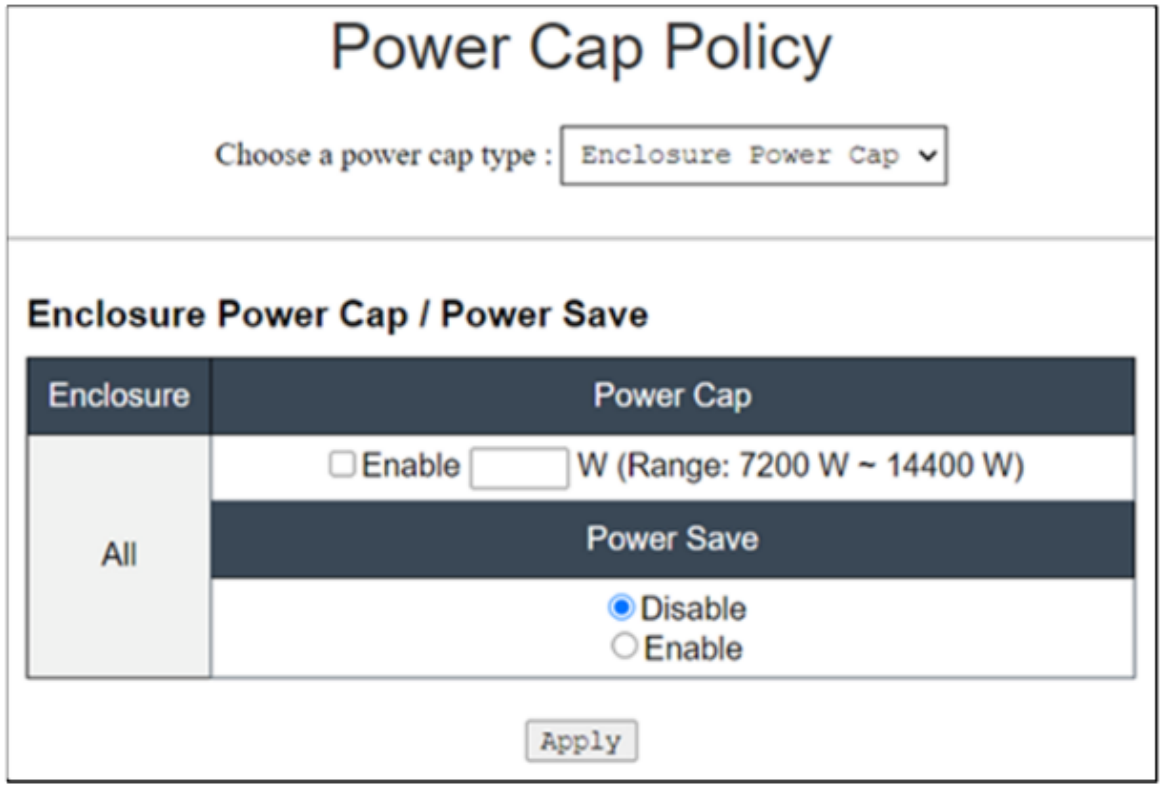
This tab allows users to set the redundancy mode and zero output for power supplies.



Power Cap

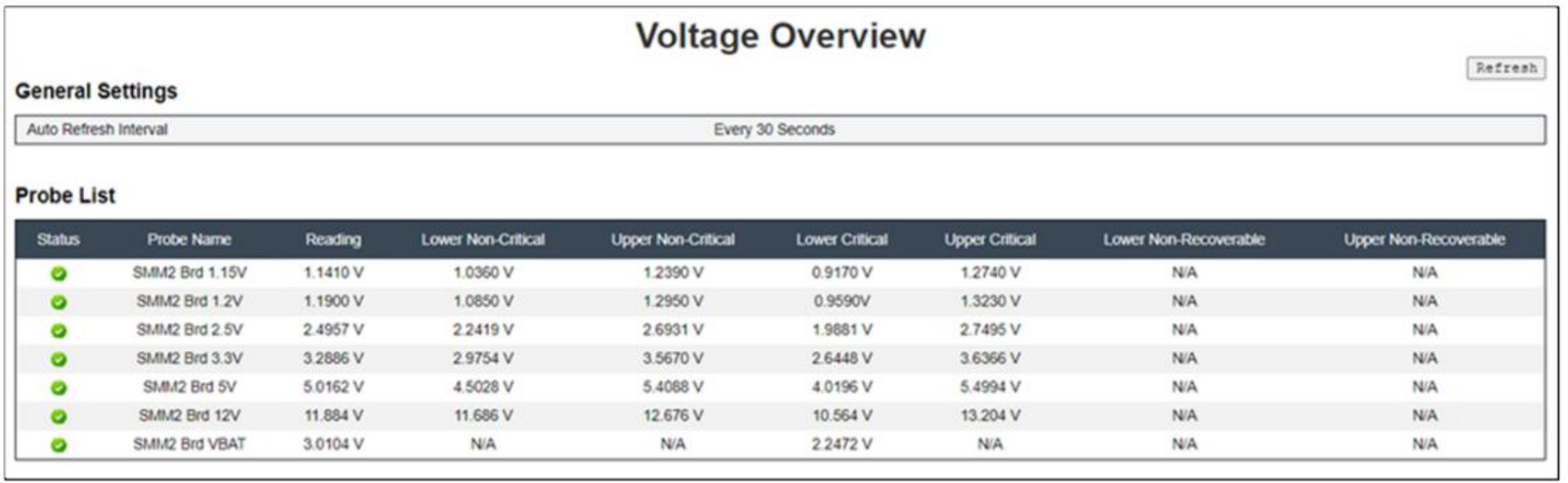
Users can choose the following two cap types through power cap configurations:

- Enclosure Power Cap
- Node Power Cap



Voltage Overview

The Voltage Overview table provides the status of the SMM2 board (12 V, 5 V, 3.3 V, 2.5 V, 1.2 V, 1.15 V) and battery voltage. An error log will be asserted if the critical threshold is reached.
The Voltage Overview page is automatically refreshed every 30 seconds.



Voltage Overview

Refresh

General Settings

Auto Refresh Interval	Every 30 Seconds

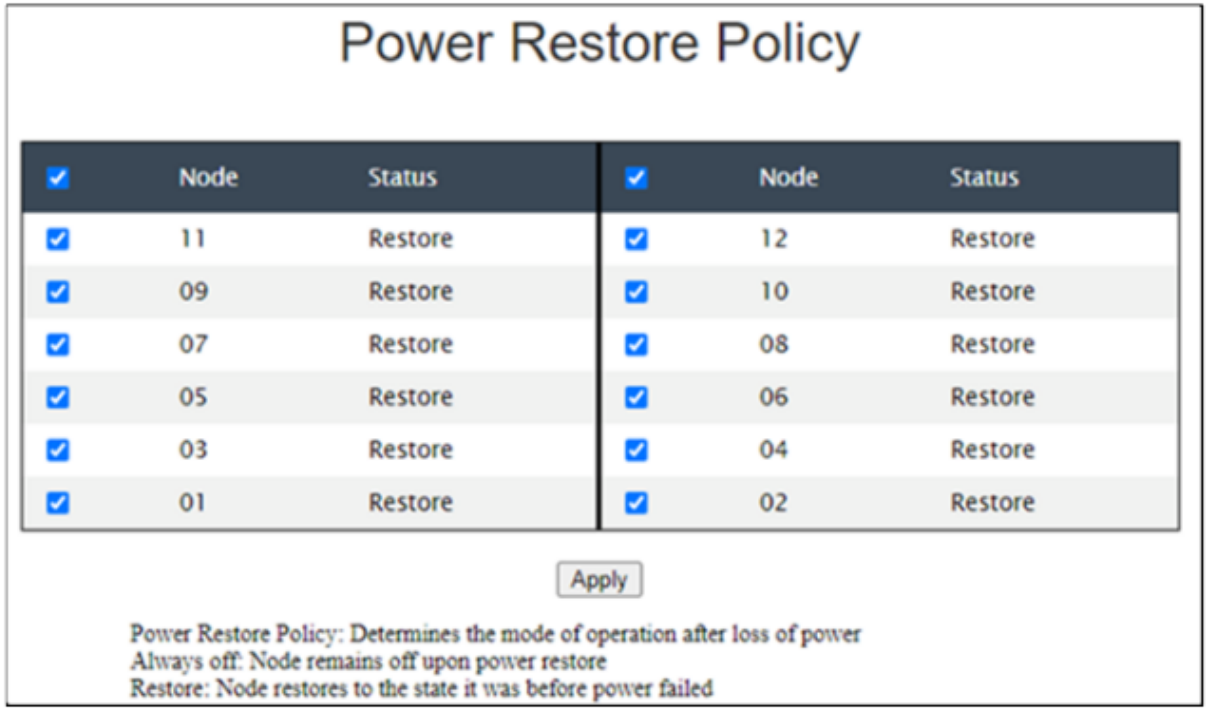
Probe List

Status	Probe Name	Reading	Lower Non-Critical	Upper Non-Critical	Lower Critical	Upper Critical	Lower Non-Recoverable	Upper Non-Recoverable
✓	SMM2 Brd 1.15V	1.1410 V	1.0360 V	1.2390 V	0.9170 V	1.2740 V	N/A	N/A
✓	SMM2 Brd 1.2V	1.1900 V	1.0850 V	1.2950 V	0.9590V	1.3230 V	N/A	N/A
✓	SMM2 Brd 2.5V	2.4957 V	2.2419 V	2.6931 V	1.9881 V	2.7495 V	N/A	N/A
✓	SMM2 Brd 3.3V	3.2886 V	2.9754 V	3.5670 V	2.6448 V	3.6366 V	N/A	N/A
✓	SMM2 Brd 5V	5.0162 V	4.5028 V	5.4088 V	4.0196 V	5.4994 V	N/A	N/A
✓	SMM2 Brd 12V	11.884 V	11.686 V	12.676 V	10.564 V	13.204 V	N/A	N/A
✓	SMM2 Brd VBAT	3.0104 V	N/A	N/A	2.2472 V	N/A	N/A	N/A

Power Restore Policy

The policy setting determines the mode of operation after a loss of power.

- Always off: The node remains off after the restoration of power
- Restore: The node is restored to the previous state before the power failure



Cooling page

The Cooling page displays the status of power supply fans.

- Speed: Power supply fan speed is displayed in RPM and is normally between 4000 and 23000 RPM.
- Duty (% of Max.): 100% is 23000 (25300, or 110%, is the limit)
- Status:
  - Normal: The PSU fan is running in a healthy condition
  - Not Present: No power supply is installed
  - Fault: Fan speed is lower than the 3000 RPM threshold

PSU	Fan 1 Speed (RPM)	Fan 1 Duty (% of Max.)	Fan 2 Speed (RPM)	Fan 2 Duty (% of Max.)	Status
PSU1	4464	17%	5320	20%	Normal
PSU2	0	0%	0	0%	Not Present
PSU3	0	0%	0	0%	Not Present
PSU4	0	0%	0	0%	Not Present
PSU5	0	0%	0	0%	Not Present
PSU6	0	0%	0	0%	Not Present

System information

The following sections of the System Information tab provide fixed Vital Product Data (VPD).

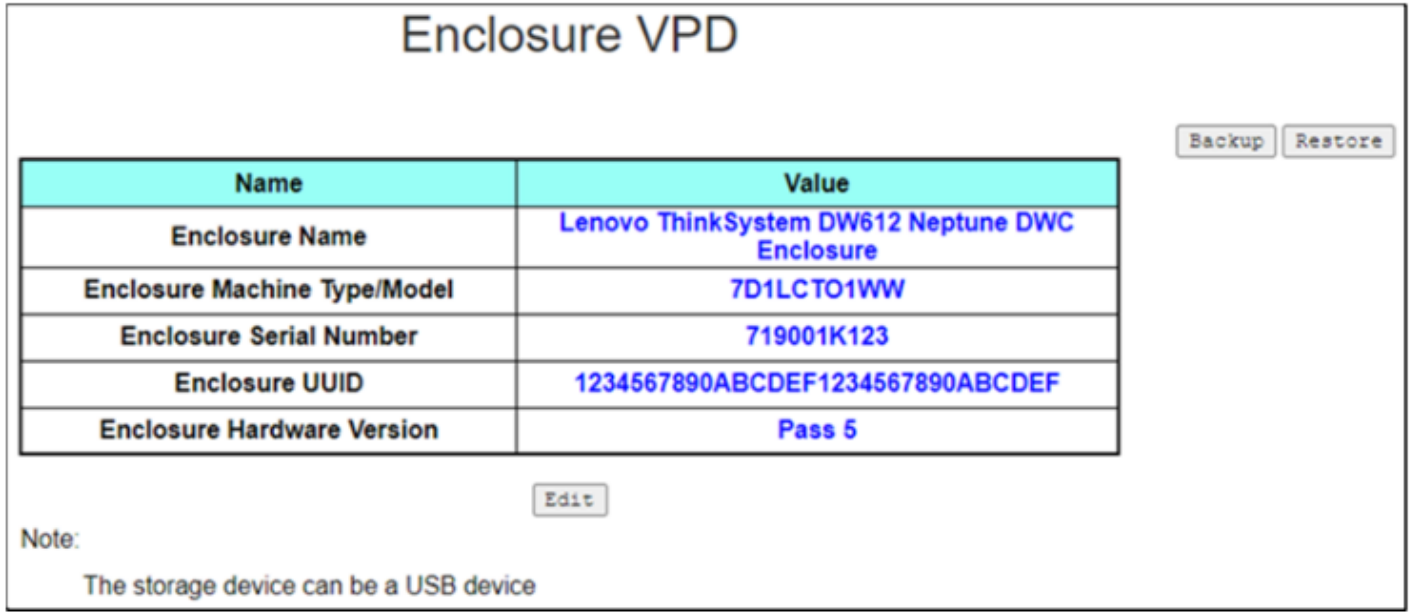
- Enclosure VPD
- Midplane VPD
- SMM2 VPD
- PSU VPD

Enclosure VPD | Midplane VPD | SMM2 VPD | PSU VPD

Click the buttons to see screen captures.

Enclosure VPD

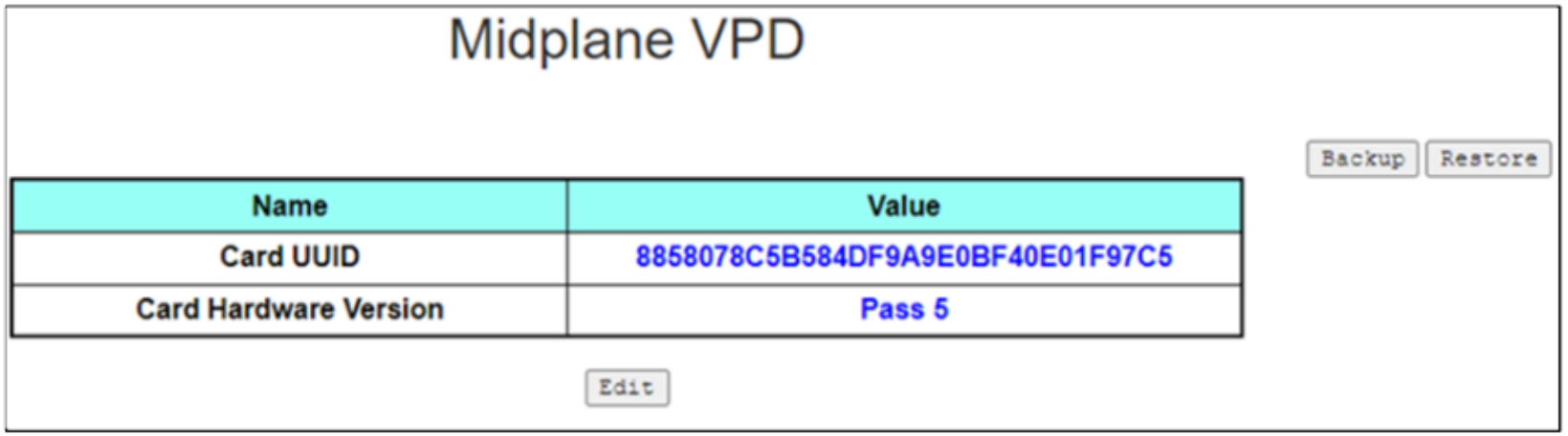
- Backup: Save the current enclosure name on a USB storage device for future migration
- Restore: Load the enclosure name from previously saved data on a USB storage device
- Edit: Modify the enclosure name based on the following rules:
  - Enclosure Name can be up to 64 characters using alphanumeric characters a-z, A-Z, and 0-9, - (hyphen), _ (underscore), and space
  - Enclosure Serial Number can be up to 10 characters using alphanumeric characters a-z, A-Z, and 0-9



Midplane VPD

- Backup: Save the current card serial number, card UUID, hardware version, and FRU part number on a USB storage device for future migration
- Restore: Load the previously saved card serial number, card UUID, hardware version, and FRU part number data from a USB storage device
- Edit: Use the following rule to modify the card UUID based on user preferences:

  The card UUID must have 32 alphanumeric characters (A-Z, 0-9) – no spaces or other characters are allowed
- Card UUID: Randomly generated ID number of the enclosure
- Card Hardware Version: Hardware version



SMM2 VPD

- Card Serial Number: The last 11 digits of the 8S barcode label on the SMM2 – for example, if the barcode is 8SXXXXXXXXXXAAAABBBCCCC, the card serial number would be AAAABBBCCCC
- Card UUID: Randomly generated ID number of the SMM2
- Card Hardware Version: Hardware version
- Card FRU Serial Number: The first seven digits after “8S” on the 8S barcode label on the SMM2 – for example, if the barcode is 8SXXXXXXXXXXAAAABBBCCCC, the card FRU serial number would be XXXXXXX

SMM2 VPD

Name	Value
Card Serial Number	XXXX9CW300N
Card UUID	8858078C5B584DF9A9E0BF40E01F97C5
Card Hardware Version	Pass 5
Card FRU Serial Number	02JK469

PSU VPD

- MFR Revision: Assembly revision
- Type: CFF Power Supplies v4 PSU Type
- Part Number: Lenovo part number
- FRU Number: Lenovo FRU number
- Serial Number: The last 11 digits of the 8S barcode label on the PSU
- Header Code: Lenovo header code
- Vendor Name: Vendor name
- MFR Date: Manufacturing date code (week/year)
- Primary FW Revision: Primary firmware revision
- Secondary FW Revision: Secondary firmware revision
- MFR Model: Vendor part number
- MFR Location: Manufacturer location
- PSU FRU Number: For example, 01GV270
- Barcode: Lenovo barcode

PSU1 VPD

Name	Value
MFR Revision	04
Type	CFF v4 2400W PT
Part Number	SP57A14715
FRU Number	01PF081
Serial Number	D1DG03P003B
Header Code	D1DG
Vendor Name	DETA
MFR Date	13(week) / 20(year)
Primary FW Revision	7.13
Secondary FW Revision	7.14
MFR Model	IPS2400DB A
MFR Location	DG
Barcode	8SSP57A14715D1DG03P003B

Event Log

The Event Log tab allows users to check the System Event Log (SEL). The SEL records enclosure-level information, warnings, and errors so that users can learn what has happened in the enclosure. A maximum number of 4090 event entries can be logged.
Click HERE to see an Event Log screenshot.
By default, the latest entry is on the first page because events are sorted from most to least recent.
Click **Date/Time** to reverse the order.

- Refresh: SEL is never automatically refreshed – click **Refresh** to acquire the latest entries
- Save Log: SEL data will be exported and saved as a CSV file
- Clear Log: SEL data will be cleared
- Severity: SEL data entries will be listed by order of severity
  - : Indicates Informational events
  - : Indicates Warning events
  - : Indicates Error events – the **Check Log** LED will be lit when critical events occur

Note: At present, new events cannot be written into the log when the log is full. Manually clear the log to allow the latest events to be recorded.

Event Log

Refresh | Save Log | Clear Log

Event Log

To sort system event logs, click the 'Date/Time'.

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Event ID	Severity	Date/Time ↓	Description
0x21080113	✓	2020-11-13 15:45:05 (UTC+0000)	Node 4: Slot Or Connector sensor, Device Inserted / Device Present was asserted
0x21080112	✓	2020-11-13 15:45:05 (UTC+0000)	Node 3: Slot Or Connector sensor, Device Inserted / Device Present was asserted
0x21080111	✓	2020-11-13 15:45:05 (UTC+0000)	Node 2: Slot Or Connector sensor, Device Inserted / Device Present was asserted
0x21080110	✓	2020-11-13 15:45:05 (UTC+0000)	Node 1: Slot Or Connector sensor, Device Inserted / Device Present was asserted
0x180708fd	✓	2020-11-13 15:45:04 (UTC+0000)	SMM2 Reset: Chassis sensor, Informational was asserted
0x180708f2	✓	2020-11-13 15:44:24 (UTC+0000)	Encl Vtl Reseat: Chassis sensor, Informational was asserted
0x21080113	✓	2020-11-13 15:43:22 (UTC+0000)	Node 4: Slot Or Connector sensor, Device Inserted / Device Present was asserted
0x21080112	✓	2020-11-13 15:43:22 (UTC+0000)	Node 3: Slot Or Connector sensor, Device Inserted / Device Present was asserted
0x21080111	✓	2020-11-13 15:43:22 (UTC+0000)	Node 2: Slot Or Connector sensor, Device Inserted / Device Present was asserted
0x21080110	✓	2020-11-13 15:43:22 (UTC+0000)	Node 1: Slot Or Connector sensor, Device Inserted / Device Present was asserted
0x180708fc	✓	2020-11-13 15:43:22 (UTC+0000)	SMM2 Power On: Chassis sensor, Informational was asserted
0x106f0201	✓	2020-11-13 15:43:21 (UTC+0000)	EvtLogDisabled: Event Logging Disabled sensor, Log Area Reset/Cleared was asserted

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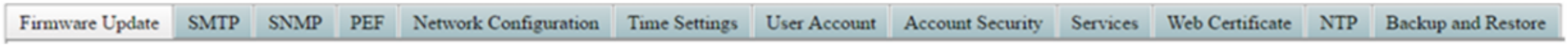
Configuration

Configuration settings are used to manage the SMM2 module. There are twelve sections:



- Firmware Update
- SMTP
- SNMP
- PEF
- Network Configuration
- Time Setting
- User Account
- Account Security
- Services
- Web Certificate
- NTP
- Backup and Restore

Click the buttons to see more information.

Reference

For more information about SMM2, go to the following ThinkSystem documentation website:
https://thinksystem.lenovofiles.com/help/index.jsp?topic=%2Fmgt_tools_smm2%2Fr_smm2_users_guide.html&cp=3_4_2