Hybrid Mesh Network Security

30 April 2026

LOM HTML5-BASED CARD

Administration Guide

CHECK POINT™

Check Point Copyright Notice

Important Information

Latest Software

We recommend that you install the most recent software release to stay up-to-date with the latest functional improvements, stability fixes, security enhancements and protection against new and evolving attacks.

Certifications

For third party independent certification of Check Point products, see the Check Point Certifications page.

LOM HTML5-based Card Administration Guide

Latest Version of this Document in English

Open the latest version of this document in a Web browser.
Download the latest version of this document in PDF format.

Feedback

Check Point is engaged in a continuous effort to improve its documentation.
Please help us by sending your comments.

Revision History

Date	Description
26 August 2025	Updated: ■ *"Configuring an SSL Certificate" on page 19* - added a note about supported characters in some of the SSL Certificate fields
15 July 2025	Updated: ■ *"Hardware Inventory" on page 52* - added a note in the PSU bullet
25 May 2025	Updated: ■ *"Introduction" on page 8* - added the Smart-1 700-S, Smart-1 700-M, Smart-1 7000-L, Smart-1 7000-XL, Smart-1 7000-UL models ■ *"First-Time Setup" on page 10* - added the Smart-1 700-S, Smart-1 700-M, Smart-1 7000-L, Smart-1 7000-XL, Smart-1 7000-UL models ■ *"Hardware Inventory" on page 52*
20 February 2024	Updated: ■ *"Introduction" on page 8* - added the 19100, 9100, 9200, 9300, 9400, 9700, and 9800 models ■ *"First-Time Setup" on page 10* - added the 19100, 9100, 9200, 9300, 9400, 9700, and 9800 models
19 October 2023	Updated: ■ *"Introduction" on page 8* - added the 19200, 29100, and 29200 models ■ *"First-Time Setup" on page 10* - added the 19200, 29100, and 29200 models ■ *"Hardware Inventory" on page 52* ■ *"Working with the LOM Card in Gaia Clish" on page 70*
11 September 2023	Improved formatting and layout
07 June 2023	Updated: ■ *"Introduction" on page 8* - added the MLS200 and MLS400 models ■ *"First-Time Setup" on page 10* - added the MLS200 and MLS400 models
03 May 2023	Updated: ■ *"Maintenance" on page 61* - formatting

Date	Description
12 December 2022	Updated: ■ *"Introduction" on page 8* - formatting ■ *"First-Time Setup" on page 10* - links to the guides with LOM Card installation instructions
13 November 2022	In *"LOM Card Configuration" on page 15* added list of characters that are not allowed in SSL Certificate fields and added *"Configuring the LOM Card To Send Log Messages to a Syslog Server" on page 27* .
24 August 2022	Updated: ■ *"Introduction" on page 8* - added the TE250XN model ■ *"First-Time Setup" on page 10* - added the TE250XN model
28 July 2022	Updated: ■ *"Maintenance" on page 61* - added *"To save a backup configuration" on page 61* and *"To restore configurations from a backup file" on page 63*
21 February 2022	Rebranding - Updated the Check Point logo
08 February 2022	Updated: ■ *"Introduction" on page 8* - added the QLS250, QLS450, QLS650, and QLS800 models ■ *"First-Time Setup" on page 10* - added the QLS250, QLS450, QLS650, and QLS800 models
31 August 2021	Updated: ■ *"Introduction" on page 8* - added the TE2000XN model ■ *"First-Time Setup" on page 10* - added the TE2000XN model
12 August 2021	First release of this document

Table of Contents

Introduction

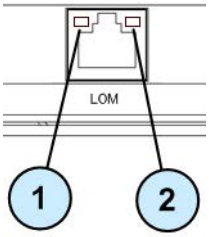
This document applies to these appliances:

Appliance Series	Appliance Models
29000	29100, 29200
19000	19100, 19200
LightSpeed Appliances	QLS250, QLS450, QLS650, QLS800 MLS200, MLS400
Threat Emulation Appliances	TE2000XN, TE250XN
28000	28000, 28600HS
26000	26000
16000	16000, 16600HS
9000	9100, 9200, 9300, 9400, 9700, 9800
7000	7000
6000	6200, 6400, 6600, 6700, 6900 (does not apply to 6500 and 6800)
Smart-1 7000 / 700 Appliances	Smart-1 700-S, Smart-1 700-M, Smart-1 7000-L, Smart-1 7000-XL, Smart-1 7000-UL

The Lights Out Management (LOM) application lets you remotely control Check Point appliances over a dedicated management channel.

This management channel also works when the appliance is turned off or is not responding, if the appliance is connected to a power source.

LOM Port on an Appliance



Item	Description
1	Link indicator: ■ Off- No Link ■ On (Green) - Link is established ■ Blink (Green) - Link is active
2	Activity / Speed indicator: ■ Off - 10Mbps data rate is used ■ On (Green) - 100 Mbps data rate is used ■ On (Amber) - 1 Gbps data rate is used

LOM Card WebUI Requirements

To connect to the Lights Out Management (LOM) card's WebUI, use a supported web browser:

- Microsoft Edge
- Google Chrome
- Mozilla Firefox

First-Time Setup

The LOM Card loads automatically when the host appliance is connected to a power source.

Note - Because the LOM Card's certificate is signed privately, your web browser does not trust the Certificate Authority that generated it.
After you finish first time setup, you can replace the SSL certificate with your own certificate.
See *"Configuring an SSL Certificate" on page 19*.

Step 1 - Start the LOM Card for the first time and change the password

Step	Instructions
1	Install the LOM Card in your appliance. ■ For 19100, 19200, 29100, and 29200: See :*Installing and Removing LOM Cards*. ■ For LightSpeed Appliances QLS250, QLS450, QLS650, QLS800, MLS200, MLS400: See *Installing and Removing LOM Cards*. ■ For Threat Emulation Appliances TE250XN, TE2000XN: See *Installing and Removing LOM Cards*. ■ For 16000, 26000, 28000: See *Installing and Removing LOM Cards in 16000, 26000, and 28000 Appliances*. ■ For 9100, 9200, 9300, 9400, 9700, 9800: See *Installing and Removing LOM Cards*. ■ For 6000, 7000: See *Installing and Removing LOM Cards in 5000, 6000, 7000, 15000, and 23000 Appliances*. ■ For Smart-1 700-S, Smart-1 700-M, Smart-1 7000-L, Smart-1 7000-XL, and Smart-1 7000-UL: See *Installing and Removing LOM Cards*.
2	Connect an RJ45 network cable between a computer and the applicable port on the LOM Card.
3	On the connected computer, configure a static IPv4 address in the same subnet as the default IP address of the LOM Card. The default IPv4 address of the LOM Card is `192.168.0.100`. The static IP address on the connected computer must be in the subnet `192.168.0.0 / 255.255.255.0`. For example: `192.168.0.50`.

Step	Instructions
4	On the connected computer, in a web browser, connect to the default IPv4 address of the LOM Card: `https://192.168.0.100`
5	Enter the default username and password: `admin` and `admin`.
6	Click **Login**. Guidelines to change the password for the default user come into view.
7	In the fields, enter a new password for the default user. The password must follow these rules: ■ At least eight characters ■ No spaces ■ Is case sensitive ■ Must not contain all of the user's account name ■ Must contain characters from three of these categories: • English uppercase characters ('`A`' through '`Z`') • English lowercase characters ('`a`' through '`z`') • Base 10 digits (`0` through `9`) • Non-alphanumeric characters (`~ ! @ # $ % ^ & *`)
8	Click **Submit**. The **Welcome to LOM first time wizard** page opens.

Step 2 - Configure the LOM Card Settings

Step	Instructions
1	On the **Welcome to LOM first time wizard** page, click **Next**. The **IPV4 Configuration** page opens.
2	In the **Host Name** field, enter a name to show for the host appliance in the LOM Card interface. Permitted: alphanumeric characters, dash (-), underscore (_). Forbidden: spaces, all other special characters.

Step	Instructions
3	You must configure an IPv4 address for the LOM Card. Select how the LOM Card obtains its IPv4 address: ■ Select **DHCP** to get an IPv4 address automatically. ■ Select **IP Setting** to configure a static IPv4 address. If you select this option, configure the applicable: • **IPv4 Address** • **Net Mask** - A subnet mask is required to configure the LOM Card. • **Gateway** - If you configure a subnet that is not directly connected to the LOM Card, then a default gateway is required to configure the LOM Card.
4	Click **Next**. The **IPV6 Configuration** page opens.
5	**Optional:** You can configure an IPv6 address for the LOM Card. Select an IPv6 configuration for the LOM Card: ■ **Disabled** - The LOM Card gets no IPv6 address. ■ **Enable DHCP IPv6** - The LOM Card gets an IPv6 address automatically. ■ **Enable Static** - The LOM Card gets a static IPv6 address. If you select this option, configure the applicable: • **IPv6 Index** • **IP Address (IPv6)** • **Subnet Prefix Length** **Note** - After you finish the First Time Configuration Wizard, you can remove the IPv4 configuration and use only an IPv6 configuration for the LOM Card. See *"Configuring the LOM Card's IPv4 or IPv6 Address" on page 15*.
6	Click **Next**. The **DNS Configuration** page opens.

Step	Instructions
7	**Optional:** If it is necessary for the LOM Card to synchronize its internal clock with an NTP server, you must configure the applicable NTP settings. If you specify the NTP server by its host name instead of its IP address, you must configure a DNS server. ■ If you configured a static IPv4 address, you can enter the IPv4 addresses for up to three DNS servers. The LOM Card accesses the DNS servers in the order listed. For example, if the LOM Card fails to access DNS Server 1, then it accesses DNS Server 2. ■ If you configured a static IPv4 address and do not want to configure a DNS Sever, leave all three fields blank. ■ If you configured DHCP for IPv4, then you cannot configure a DNS server in the First Time Wizard. You can configure a DNS server after you complete the First Time Wizard. See *"Configuring DNS Settings and Changing the Host Name" on page 17*.
8	Click **Next**. The **Remote Control** page opens.
9	Select access restrictions for **KVM**. **KVM** - Abbreviation for "keyboard, video, and mouse". Allows users to control the appliance's command line interface (CLI) with a keyboard and mouse. Select one of these access settings for **KVM**: ■ **Subnets of specified IP addresses** Allows KVM access only from IP addresses in specific subnets. If you select this option, a text box opens. Enter one or more IP subnet addresses. Put a semicolon between IP subnet addresses, with no spaces. For example: `198.2.37.0;155.82.46.0;123.3.237.0` ■ **To all** Allows KVM access from all IP addresses. ■ **Disabled** Blocks KVM access from all IP addresses.

Step	Instructions
10	Select access restrictions for **Virtual Media.** **Virtual Media** - Ability to install software on the appliance from an ISO file (imitates a CD-ROM) or IMG file (imitates a hard disk and other types of external storage). Access the LOM card from your computer or from an external storage device connected to the appliance. As you did for KVM access settings, select one of these access settings for Virtual Media: ■ **Subnets of specified IP addresses** ■ **To all** ■ **Disabled**
11	Click **Next**. The **Date and Time Settings** page opens.
12	Below **Time Method**, select a way to set date and time: ■ **Set time manually**: 1. Below **Date & Time**, click the clock icon. A calendar appears. 2. Select the date. 3. Below the calendar, click the **clock** icon. 4. Use the arrows to select the hour, minute, and second. 5. Below **Time Zone**, select the time zone. ■ **Use Network Time Protocol (NTP)**: The LOM Card gets date and time from an NTP server. 1. Enter an IP address for a primary NTP server. 2. Optional: Enter an IP address for a secondary NTP server. The LOM Card accesses this server if it fails to access the primary NTP server.
13	Click **Next**. The **Finish** page opens. A popup window opens to show you the LOM Card is reset.
14	To connect to the LOM Card again: 1. Close your browser session. 2. Open a new browser session. 3. Clear the browser cache. 4. After a minimum of one minute, access the LOM Card from your web browser. ■ If in Step 3 of this procedure you selected **DHCP**, enter the LOM Card's Host Name to the web browser. ■ If in Step 3 of this procedure you selected **IP Setting**, enter the LOM Card's new IPv4 or IPv6 address into the web browser.

LOM Card Configuration

Configuring an IP Address

The LOM Card needs at least one of these:

- IPv4 address
- IPv6 address

Note - Initial IPv4 setup is part of the First Time Wizard. See *"First-Time Setup" on page 10*.

Configuring the LOM Card's IPv4 or IPv6 Address

1. Do one of these:
   - From the left navigation panel, click the **Home view**.

     In the **LOM Information** panel, in the **Network Settings** section, click **Edit**.
   - From the left navigation panel, click **LOM (or LOM view)** > **Network Configuration** > **IP Settings**.

   The **IP Settings** menu opens.
2. If desired, configure an IPv4 address.
   - To configure a static IPv4 address:
     a. Select **Enable IPv4**.
     b. Enter values for:
        - **IPv4 Address**
        - **IPv4 Subnet**
        - **IPv4 Gateway**
   - To configure a dynamic IPv4 address, select **Enable IPv4 DHCP**.

3. If desired, configure an IPv6 address:
   - To configure a static IPv6 address:
     a. Select **Enable IPv6**.
     b. Select an **IPv6 Index**.
     c. Enter an **IPv6 Address**.
     d. Enter a **Subnet Prefix Length**.
   - To configure a dynamic IPv6 address, select **Enable IPv6 DHCP**.

   Note - If you previously configured a static IP Address and then enable DHCP, the fields for the static IP addresses stay populated and the background changes from white to gray. This means that the values are saved but inactive.
4. Click **Save**.
5. A popup message tells you to reconnect in a new browser session.
6. In a new browser session, reconnect to the device.

   Important - You can only access the device at an IPv4 or an IPv6 address that you saved.

Configuring DNS Settings and Changing the Host Name

Configure one or two DNS servers to resolve the NTP Server hostnames for automatic date and time See *"Configuring date and time automatically" on page 26*.

The Host Name is the name for the LOM Card in the Home view. This name may be different from the name used for the appliance in the network interface. The Host Name is not related to web hosting. You can only change the Host Name when DNS is enabled.

Enabling the LOM Card's DNS Settings and Changing the Host Name

1. From the left navigation panel, click the **LOM (or LOM view)** > **Network Configuration** > **DNS Settings**.
2. Click **DNS Enabled**.
3. Below **Host Name Setting**, select one:
   - **Automatic**: Configures a Host Name for the LOM Card automatically.
   - **Manual**: Enter a Host Name for the LOM Card.
4. Below **Domain Name Setting**, select one:
   - **Automatic**: Configures a domain name for the LOM Card automatically.
   - **Manual**: Enter a domain name for the LOM Card.
5. Below **Domain Name Server Setting**, select one:
   - **Automatic**: Configures a DNS server automatically. Below **IP Priority**, select one:
     - **IPv4**
     - **IPv6**
   - **Manual**: Enter up to three DNS servers. The LOM Card accesses the DNS servers in the order they are listed. For example: If the LOM Card fails to access **DNS Server 1**, it then accesses **DNS Server 2**.
6. Click **Save**.
7. A popup message tells you to reconnect in a new browser session.

Configuring Link Speed and Duplex Settings

You can configure the link speed and duplex settings for the LOM Card network connection to match your environment.

Configuring the link speed and duplex mode of the LOM Card's connection to the network

Note - When you access the LOM Card port from a directly connected computer, traffic speed is faster than when you connect to the LOM Card port through other network devices.

1. From the left navigation panel, click **LOM (or LOM view)** > **Network Configuration** > **Link Settings**.
2. Choose one:
   - To have the link speed and duplex mode determined automatically, select **Auto Negotiation**.
     - The link speed defaults to the highest available speed, up to 1,000 Mbps.
     - The Duplex Mode defaults to Full Duplex if Full Duplex is available.
   - To turn off Auto Negotiation and to set the link speed and duplex mode manually, clear **Auto Negotiation** and configure these:
     - **Link Speed**: From the drop-down menu, select **100 Mbps** or **10 Mbps**.
     - **Duplex Mode**: Select **Full duplex** or **Half duplex**.
3. Click **Save**.
4. To see your changes, refresh the page in your web browser.

Configuring an SSL Certificate

You can generate a new SSL Certificate for the LOM Card or upload an existing SSL Certificate.

Generating an SSL Certificate for the LOM Card

1. From the left navigation panel, click **LOM (or LOM view)** > **Network Configuration** > **SSL Certificate**.
2. Select **Generate**.
3. A popup window opens called **Generate Certificate**.

4. Enter the applicable values:

   Note - These special characters are **not** allowed in the certificate fields:
   `( ) [ ] { } < > ~ ` ! ? # $ % & * - + = _ , / | \ ' " : ;`
   In 9000, 19000, 29000, Smart-1 700-S, Smart-1 700-M, Smart-1 7000-L, Smart-1 7000-XL, and Smart-1 7000-UL Appliances with LOM Card firmware version v7.17.1 and higher, support has been added for these special characters:
   `*` - In the **Common Name (CN)** field.
   `&` - In the **Organization (O)**, **Organization Unit (OU)**, **City or Locality (L)**, **State or Province (ST)** fields.

Field	Description
Common Name (CN)	Maximum length: 64 alphanumeric characters.
Organization (O)	Maximum length: 64 alphanumeric characters.
Organization Unit (OU)	Maximum length: 64 alphanumeric characters.
City or Locality (L)	Maximum length: 128 alphanumeric characters.
State or Province (ST)	Maximum length: 128 alphanumeric characters.
Country (C)	▪ Must be two characters. ▪ Special characters are not allowed. **Best Practice** - Use Alpha-2 country codes described in the ISO 3166 international standard.
Email Address	Email address of the organization
Valid for	▪ Value in days. ▪ Minimum: 1. ▪ Maximum: 3,650.
Key Length	Preset for 2,048 bits.

   Note - To view length and special character restrictions for each field, select the question mark icon in the upper right of the popup window.

5. Click **Save**.

6. After a few seconds, a popup message appears:

   ```
   SSL certificate has been saved successfully
   ```

7. Click **OK**.

Uploading an existing SSL Certificate for the LOM Card

1. From the left navigation panel, click **LOM (or LOM view)** > **Network Configuration** > **SSL Certificate**.
2. Under **New Certificate**, to the right of the field, click the folder icon.
3. Find the SSL certificate file on your computer. The certificate file must be in `.pem` format.
4. Below **New Private Key**, to the right of the field, click the folder icon.
5. Find the private key file on your computer and select it. The private key file must be in `.pem` format.
6. **Optional:** If there is a passphrase defined for the private key, enter it in the field below **Passphrase**.
7. Click **Save**.

Configuring LOM Card Services

You can configure the port and the user access for these LOM Card services:

- **Web** - access to the LOM Card web user interface
- **KVM** (Keyboard Video Mouse, also called Virtual Media) - access to the host appliance's Command Line Interface (CLI)
- **CD-media** - access to a virtual CD drive on the host appliance
- **HD-media** - access to a virtual hard disk drive on the host appliance

Note - Maximum Sessions shows the maximum number of users allowed to use a service at the same time. Each service has a preset and unchangeable maximum number of users.

Viewing or stopping a current user session

1. From the left navigation panel, click **LOM (or LOM view)** > **Network Configuration** > **Services**.
2. A table shows LOM Card service status. The left column shows a list of LOM Card services. In the same row as a service, on the right side, select the hamburger menu.

   hamburger menu:
3. The **Service Sessions** menu opens and shows a list of current user sessions for the service.
4. To stop a user session, click the red icon on the far right of the row that contains the User Name.

Enabling or disabling a LOM Card service

1. From the left navigation panel, click **LOM (or LOM view)** > **Network Configuration** > **Services**.

   A table shows LOM Card service status. The left column shows a list of LOM Card services.

2. In the same row as a service, on the right side, select the pencil icon.

   The **Service Configuration** menu opens.

3. Do one of these:

   - Select **Active** to enable the service.
   - Clear **Active** to disable the service.

   Important - When you clear **Active** and click **Save**, you disable the service immediately, including for your own user account.

4. Click **Save**.

   The changes that you configured are saved.

Changing the port or timeout for a LOM Card service

1. From the left navigation panel, click **LOM (or LOM view)** > **Network Configuration** > **Services**.
2. A table shows LOM Card service status. The left column shows a list of LOM Card services. In the same row as a service, on the right side, select the pencil icon.

   The **Service Configuration** menu opens.

3. In **Secure port**, enter a new port number.
4. In **Timeout**, enter a timeout time for the service.

   - Web and KVM timeout range: 300 to 1800 seconds.
   - Web timeout does not happen if there is an active KVM Console session.
   - Timeout values: multiples of 60 seconds.

5. Click **Save**.

   The changes that you configured are saved.

Viewing an audit log of user sessions

1. From the left navigation panel, click **LOM (or LOM view)** > **Audit Log**.
2. Filter the log for a range of dates.
    a. Click the left clock icon and select a start date.
    b. Click the right clock icon and select an end date.

    Note - To filter for one day, select the same day as the start date and the end date.

    An audit log appears.

Configuring Date and Time Settings

You can configure date and time for the LOM Card manually, or configure the LOM Card to get date and time automatically from an NTP Server.

Configuring date and time manually

1. From the left navigation panel, click **LOM (or LOM view)** > **Date and Time**.
2. Clear **Automatic NTP Date & Time**.
3. To the right of the first field, click the clock icon.

   A calendar appears.
4. Select the date from the calendar.
5. Below the calendar, click the clock icon.
6. Use the up and down arrow buttons to set the hour, minute, and second.
7. In the **Select Time Zone** drop-down menu, select the time zone.
8. Click **Save**.
9. A popup message tells you to reconnect in a new browser session.
10. Click **OK**.

    The browser session closes.
11. In a new browser session, log in to the LOM Card.

    The LOM Card shows the correct time.

Configuring date and time automatically

1. Select **Automatic NTP Date & Time**.
2. Below **Primary NTP Server**, enter the IP address or domain name of an NTP server.

   Note - To access the NTP server through a domain name, the LOM Card needs DNS configured. See *"Configuring DNS Settings and Changing the Host Name" on page 17*.

3. **Optional:** Below **Secondary NTP server**, enter the IP address or domain name of a second NTP server. If the LOM Card fails to connect to the Primary NTP Server, it connects to the Secondary NTP Server.
4. A popup message tells you to reconnect in a new browser session.
5. Click **OK**.
6. The browser session closes.
7. In a new browser session, log in to the LOM Card.

   After one minute, the LOM Card synchronizes with the NTP sever and shows the correct time.

Configuring the LOM Card To Send Log Messages to a Syslog Server

In HTML5-Based LOM Card firmware versions 6.15 and higher, you can configure the LOM Card to send specific log messages to a Syslog server about these actions:

- user login attempts to the LOM Card WebUI (for more information, see *"Users and Access" on page 29*)
- power cycles of the host device from the LOM Card (for more information, see *"Power Management" on page 42*)

Important - Traffic between the LOM Card and the Syslog server is encrypted only if you use a TCP port and upload a certificate for the Syslog server. If you use a UDP port on the Syslog server, traffic is not encrypted, so make sure the network is physically protected.

Configuring the LOM Card to send log messages to a Syslog server

1. From the left navigation panel, click **LOM** > **Network Configuration** > **Remote Syslog**.
2. Select **Enable Remote Syslog**.
3. Select the applicable port type for the Syslog server:
   - UDP
   - TCP
4. Below **Remote Log Server**, enter an IP address (IPv4 or IPv6) or Hostname (FQDN)for the Syslog server.

   Important - If you enter a Hostname for the Syslog server, make sure that the DNS servers configured in LOM > Network Configuration > DNS Settings can resolve this Hostname.
5. Below **Remote Server Port**, enter the applicable port for the Syslog Server.
6. If you selected a TCP port type, below **CA Certificate File** click the folder button and upload the certificate file of the Syslog Server in `PEM` format.
7. Click **Save**.

Configuring the LOM Card to stop sending log messages to a Syslog server

1. From the left navigation panel, click **LOM** > **Network Configuration** > **Remote Syslog**.
2. Make sure **Enable Remote Syslog** is **not** selected.
3. Click **Save**.

Format of LOM Card Syslog Messages

The LOM Card sends these log messages to the configured Syslog Server:

Category	Type	Log Message
Login	Login succesful	`User <Username> successfully logged in from <Client IP Address>`
	Login failed	`User <Username> failed to log in from <Client IP Address>`
Remote Power Control	Reset Appliance	`User <Username> executed "Reset Host" from <Client IP Address>`
	Power On Appliance	`User <Username> executed "Power On" from <Client IP Address>`
	Power Off Appliance - orderly shutdown	`User <Username> executed "Soft Power Off" from <Client IP Address>`
	Power Cycle Appliance	`User <Username> executed "Power cycle" from <Client IP Address>`
	Power Off Appliance - immediate shutdown	`User <Username> executed "Power off" from <Client IP Address>`
Platform Power State	Power On	`Platform was powered on`
	Power Off	`Platform was powered off`

Known Limitations

- The LOM Card can send log messages to **one** Syslog server.
- The LOM Card does not generate log messages for power cycles that users do in Gaia Portal, Gaia Clish, or CLI Expert mode.
- The LOM Card cannot send log messages to a Check Point Management Server / Log Server.

Users and Access

Signing In to the LOM Card Interface

Procedure

1. Enter your username.
2. Enter your password.
3. Click **Login**.

One of two messages appears for an unsuccessful login attempt.

Messages

Message	Explanation
`Login Failed`	Username or password is incorrect.
`User access is denied. Please contact the administrator.`	One of these is the case: ■ An administrator denied the user's access privileges. See *"Changing a User's Privilege Level and Disabling a User Account" on page 32*. ■ The user exceeded the maximum number of failed login attempts. See *"Login Block Settings (Failed Login Attempts)" on page 36*.

Signing Out of the LOM Card Interface

Procedure

1. In the top right corner of the Home view, click your username.

   A drop-down menu opens.
2. In the bottom right corner of the menu, click **Sign Out**.

Making a New User Account

In the LOM Card interface, you can configure a maximum of nine users.

Note - To have more users, configure the LOM Card to use a RADIUS Server or an LDAP Server. Each user logs in with a username and password.

Procedure

1. From the left navigation panel, click **LOM (or LOM view)** > **User Configuration** > **User List**.
2. Select a white rectangle with a plus sign in it.

   The **New User** popup window opens.
3. In the **Username** field, enter a username that fits these rules:
   - String of 4 to 16 alphanumeric characters
   - Starts with an alphabetical character
   - Is case sensitive
   - Does not include special characters
4. In the **Password** field, enter a password.

   Default rules:
   - At least eight characters
   - No spaces
   - Is case sensitive
   - Must not contain all of the user's account name
   - Must contain characters from three of these categories:
     - English uppercase characters ('A' through 'Z')
     - English lowercase characters ('a' through 'z')
     - Base 10 digits (0 through 9)
     - Non-alphanumeric characters (~ ! @ # $ % ^ & *)

   Note - To disable the default password rules, select **Skip Complex Password Rules**.

5. Below **Confirm Password**, enter the new password again.

   Important - For the new user to get access to the LOM Card, you must select **Enable User Access**.

6. Select a privilege level for the user:

   - **Administrator** - Can use all features in the Home view.
   - **Operator** - Can view all pages and settings in the Home view, but cannot change any settings or perform any actions. Cannot access the **Remote KVM** page.
   - **User** - Can view these pages in the Home view- **Sensor Reading**, **Event Log**, **Date and Time**, **SSL Certificate**, **Services**, and **Audit Log**. Cannot change any settings or perform any actions. Cannot access the **Remote KVM** page.
   - **No Access** - The user is saved in the system, but is not allowed to access the Home view.

7. Click **Save**.

Changing a User's Privilege Level and Disabling a User Account

For a user configured locally on the LOM Card, you can change the user's account privilege level, disable a user account, and configure settings for failed login attempts.

Procedure

1. From the left navigation panel, click **LOM (or LOM view)** > **User Configuration** > **User List**.

   Select a user by clicking the three dots in the top right of the box that contains the name of the user.

   Three dots icon:

2. Select **Edit**.
3. Select a privilege level:
   - **Administrator** - Can use all features in the Home view.
   - **Operator** - Can view all pages and settings in the Home view, but cannot change any settings or perform any actions. Cannot access the **Remote KVM** page.
   - **User** - Can view these pages in the Home view- **Sensor Reading**, **Event Log**, **Date and Time**, **SSL Certificate**, **Services**, and **Audit Log**. Cannot change any settings or perform any actions. Cannot access the **Remote KVM** page.
   - **No Access** - The user is saved in the system, but is not allowed to access the Home view.

4. Select how to apply **Login Block Settings** to the user (see *"Login Block Settings (Failed Login Attempts)" on page 36*):

   - **Enable** - Login block settings always apply to the user.
     - Example: If the Login Block Settings specify 5 Maximum Login Attempts and a Login Block Timeout of 15 minutes, then after 5 failed login attempts the user is blocked for 15 minutes.
   - **Disable** - Login Block Settings never apply to the user. The user is never blocked as a result of failed login attempts.
   - **Blocked** - Starting from when you click **Save**, blocks the user for the duration of the Login Block Timeout time.
     - Example: If the Login Block Timeout time listed in the Login Block Settings is 10 minutes, then starting from when you click **Save** the user is blocked for 10 minutes.
   - **Always Blocked** - Always prevents the user from entering.

   Best Practices:
   - To disable a user account for a short period, keep the privilege the same and clear the **Enable User Access** checkbox.
     Use Case: Setting up an account a week or two before a new employee's start date.
   - To disable a user account for a long period, from the **Privilege** drop-down menu, select **No Access**.
     Use Case: Disabling access for an employee going on extended leave.

5. Click **Save**.

   The changes to configurations are saved.

Changing a User's Password

You can change a password for a user configured locally on the LOM Card.

Procedure

1. From the left navigation panel, click **LOM (or LOM view)** > **User Configuration** > **User List**.
2. Select a user by clicking the three dots in the top right of the box that contains the name of the user.

   Three dots icon:
3. Select **Edit**.
4. In the **Password** field, enter a password.

   Default rules:

   - At least eight characters
   - No spaces
   - Is case sensitive
   - Must not contain all of the user's account name
   - Must contain characters from three of these categories:
     - English uppercase characters ('A' through 'Z')
     - English lowercase characters ('a' through 'z')
     - Base 10 digits (0 through 9)
     - Non-alphanumeric characters (~ ! @ # $ % ^ & *)

   Note - To disable the default password rules, select **Skip Complex Password Rules**.
5. Click **Save**.

   The selected user's password is changed.

Deleting a User Account

You can delete an account for a user configured locally on the LOM Card.

Procedure

1. From the left navigation panel, click **LOM (or LOM view)** > **User Configuration** > **User List**.
2. Select a user by clicking the three dots in the top right of the box that contains the name of the user.

   Three dots icon:
3. Select **Delete**.
4. A popup window opens.
5. Click **OK**.

   The selected user account is removed permanently.

Note - You cannot remove a user account while you are logged in with it.

Login Block Settings (Failed Login Attempts)

You can prevent users from accessing the LOM Card for a set time period after a specified number of failed login attempts.

Login Block Settings apply to all users that have **Login Block User Management** set to **Enable**. See *"Changing a User's Privilege Level and Disabling a User Account" on page 32*.

Procedure

1. From the left navigation panel, click **LOM (or LOM view)** > **User Configuration** > **Login Block Settings**.
2. Below **Maximum Login Attempts**, enter a number:
   - Minimum: 1
   - Maximum: 99
   - Default Maximum: 5
3. Below **Login Block Timeout**, enter a number of minutes:
   - Minimum: 1
   - Maximum: 180
   - Default Maximum: 15
4. Click **Save**.

   The login block settings are updated.

Note - After a firmware update, all login block settings return to default values. See *"Maintenance" on page 61*.

Connecting the LOM Card to a RADIUS Server

You can configure a RADIUS server to authenticate LOM Card users.

Procedure

1. From the left navigation panel, click **LOM (or LOM view)** > **User Configuration** > **RADIUS Setup**.
2. Select **Enable RADIUS authentication**.
3. Configure these settings:
   - Server address: must be IPv4 or IPv6 address
   - Port:
     - Default port: 1812
     - Port value range: 1 - 65535
   - Secret:
     - At least 4 characters
     - No spaces
     - Maximum: 32 characters
   - Timeout:
     - Default: 3 seconds
     - Range: 3 - 50 seconds
4. **Optional:** To connect a second RADIUS server as a backup:
   a. Select **Enable 2nd Radius Authentication**.
   b. Configure the settings.
5. Click **Save**.

   The RADIUS server is configured to authenticate LOM Card users.

Connecting the LOM Card to an LDAP Server

You can configure an LDAP server to authenticate LOM Card users.

Procedure

Note - If you enabled a feature and then disabled it, fields stay populated but the field background changes from white to gray. This means the settings are saved but not active.

1. Select an encryption type:
   - **No Encryption**
   - **SSL**
   - **StartTLS**: If you select this option, **FQDN** shows as an option below **Common Name Type**.
2. Common Name Type:
   - If you selected **No Encryption** or **SSL**, then **IP Address** is the only available option and is selected by default.
   - If you selected **StartTLS**, then an option shows for **FQDN**. **IP Address** is selected by default. Select **FQDN** to configure an FQDN as an alternative to an IP address.
3. Below **Server Address**, enter an IPv4 address, an IPv6 address, or an FQDN.
4. Enter these:
   - **Port**
   - **Bind DN**
   - **Password** (the LDAP bind password)
   - **Search Base**
5. Under **Attribute of User Login**, select one of these:
   - **cn**
   - **uid**
6. If you selected **StartTLS** encryption, select the folder icon.

   Upload these required files from your computer:

- **CA certificate file**
- **Certificate File**
- **Private Key**

7. Click **Save**.

   The LDAP server is configured to authenticate LOM Card users.

Adding an LDAP Group

You can use the LOM Card interface to add groups to a configured LDAP server and to assign privilege levels to each group.

Procedure

1. From the left navigation panel, click **LOM (or LOM view)** > **User Configuration** > **LDAP Groups**.
2. Select a white rectangle with a plus sign in it.
3. A popup window opens called **New Group**.
4. Enter a **Group Name**.
5. Enter a **Group Domain**.
6. From the drop-down menu, select a **Group Privilege**. This privilege level applies to all members of the group.
   - **Administrator** - Can use all features in the Home view.
   - **Operator** - Can view all pages and settings in the Home view, but cannot change any settings or perform any actions. Cannot access the **Remote KVM** page.
   - **User** - Can view these pages in the Home view- **Sensor Reading**, **Event Log**, **Date and Time**, **SSL Certificate**, **Services**, and **Audit Log**. Cannot change any settings or perform any actions. Cannot access the **Remote KVM** page.
   - **No Access** - The user is saved in the system, but is not allowed to access the Home view.
7. Click **Save**.

   The LOM Card recognizes the LDAP group.

Changing the Privilege Level of an LDAP Group

You can change the privilege level of an LDAP group.

Procedure

1. From the left navigation panel, click **LOM (or LOM view)** > **User Configuration** > **LDAP Groups**.
2. Select the LDAP group by clicking the three dots in the top right of the box that contains the name of the LDAP group.

   Three dots icon:
3. Select **Edit**.
4. From the drop-down menu, select a **Group Privilege**. This privilege level to apply to all members of the group.
   - **Administrator** - Can use all features in the Home view.
   - **Operator** - Can view all pages and settings in the Home view, but cannot change any settings or perform any actions. Cannot access the **Remote KVM** page.
   - **User** - Can view these pages in the Home view- **Sensor Reading**, **Event Log**, **Date and Time**, **SSL Certificate**, **Services**, and **Audit Log**. Cannot change any settings or perform any actions. Cannot access the **Remote KVM** page.
   - **No Access** - The user is saved in the system, but is not allowed to access the Home view.
5. Click **Save**.

   The new privilege level applies to the LDAP group.

Renaming an LDAP Group

You can rename an LDAP group in the LOM Card WebUI.

Procedure

1. From the left navigation panel, click the **LOM (or LOM view)** > **User Configuration** > **LDAP Groups**.
2. Click the three dots in the top right corner of the rectangle that contains the name of the LDAP group.

   Three dots icon: 
3. Select **Edit**.
4. Below **Group Name**, enter a new name.
5. Click **Save**.

   The new name appears for the LDAP group in the LOM Card WebUI.

Power Management

This is a summary of the options for turning on, turning off, and restarting the appliance:

Power Action	Description
Power On	Turns on the appliance. This is the only option that appears while the appliance is powered off.
Power Off	Performs a hard shutdown of the host appliance. **Notes:** ▪ This action is similar to pressing and holding the power switch on the appliance for a few seconds until the appliance turns off. ▪ This action does not disconnect electrical power from the appliance.
Orderly Shutdown	Sends a special control signal to the appliance that terminates all processes and turns off the appliance. **Notes:** ▪ This action is similar to running the "`shutdown -h 0`" command on the CLI of the appliance. ▪ This action does not disconnect electrical power from the appliance.
Hard Reset	Turns off the appliance immediately and then turns it on.
Power Cycle	Disconnects the electrical power from the appliance and immediately connects it again. This action is similar to pressing and releasing the power switch on the appliance. The LOM Card stays online during the Power Cycle.

Viewing the appliance power status in the Home view

1. From the left navigation panel, click the **Home view**.
2. In the **Device Information** panel, underneath the picture and hostname of your Check Point appliance, an indicator shows one of these:
   - **Power:**  **ON**
   - **Power:**  **OFF**

Viewing the appliance power and process status in the Remote KVM window

1. From the left navigation panel, click the **Home view**.
2. In the **Device Information** panel, in the **Console Session** section, click **Start**.
3. The **Remote KVM** window opens.
4. Examine the **Console** screen (the black-background interface in the middle of the **Console Session** page).

Message	Description
Powered Off	The appliance is off.
"No Signal"	The appliance is connected to power, but is off or does not work.
Starting the system	The appliance is in the middle of a reboot.

Turning On the Appliance

You can turn on the appliance in different ways.

Turning on the appliance from the Home view

1. From the left navigation panel, click the **Home view**.
2. In the **Device Information** panel, in the **Power Action** section, select **Power On** and click **Go**.

Chain of events:

1. A gray box with "`Changing...`" written in it covers the drop down menu.
2. The appliance turns on.
3. The power indicator changes to **Power:**  **ON**.

Turning on the appliance in the Remote KVM window - from the Power Menu

1. From the left navigation panel, click the **Home view**.
2. In the **Device Information** panel, in the **Console Session** section, click **Start**.
3. The **Remote KVM** window opens.
4. From the top **Power** menu, select **Power On**.
5. In the browser popup, click **OK** to confirm the operation:

   ```
   You are about to perform a server power control operation
   ```

Chain of events:

1. The appliance turns on.
2. The **Console** screen shows "`No Signal`" for several seconds.
3. The **Console** screen shows the boot messages.

Turning on the appliance in the Remote KVM window - with the Power button

1. From the left navigation panel, click the **Home view**.
2. In the **Device Information** panel, in the **Console Session** section, click **Start**.
3. The **Remote KVM** window opens.
4. In the upper right of the screen, click the power button  (the tooltip shows "`Server is Powered Off`").
5. In the browser popup, click **OK** to confirm the operation:

   `You are about to perform a server power control operation`

Chain of events:

1. The appliance turns on.
2. The **Console** screen shows "`No Signal`" for several seconds.
3. The **Console** screen shows the boot messages.

Turning Off the Appliance

You can turn off the appliance in different ways.

These options are available in the **Home view** and in the **Remote KVM** window:

Option	Description
Power Off	This action is similar to pressing and holding the power switch on the appliance for 4 seconds until the appliance turns off. This action does **not** disconnect the electrical power from the appliance.
Orderly Shutdown	Sends a special control signal to the appliance that terminates all processes and turns off the appliance. **Notes:** ▪ This action is similar to running the "`shutdown -h 0`" command from the Expert mode on the CLI of the appliance. ▪ This action does **not** disconnect electrical power from the appliance.

Turning off the appliance from the Home view

1. From the left navigation panel, click the **Home view**.
2. In the **Device Information** panel, in the **Power Action** section, select the applicable option and click **Go**:
   - **Power Off**
   - **Orderly Shutdown**

Chain of events:

1. A gray box with "`Changing...`" written in it covers the drop down menu.
2. The appliance turns off and the power indicator changes to **Power:** **OFF**.

Turning off the appliance in the Remote KVM window - from the Power Menu

1. From the left navigation panel, click the **Home view**.
2. In the **Device Information** panel, in the **Console Session** section, click **Start**.
3. The **Remote KVM** window opens.
4. From the top **Power** menu, select the applicable option:
   - **Power Off**
   - **Orderly Shutdown**
5. In the browser popup, click **OK** to confirm the operation:

   ```
   You are about to perform a server power control operation
   ```

Chain of events:

1. If you selected the **Orderly Shutdown** option, then the **Console** screen shows "`Halting`" on the command line.
2. The appliance turns off.
3. The **Console** screen shows **Powered Off**.

Turning off the appliance in the Remote KVM window - with the Power button

1. From the left navigation panel, click the **Home view**.
2. In the **Device Information** panel, in the **Console Session** section, click **Start**.
3. The **Remote KVM** window opens.
4. In the upper right of the screen, click the power button  (the tooltip shows "`Server is Powered On`").
5. In the browser popup, click **OK** to confirm the operation:

   `You are about to perform a server power control operation`

Chain of events:

1. The **Console** screen shows a progress circle indicator and this text:

   `Network connection lost. Trying to reconnect.`

2. The **Remote KVM** window shows the **Status** popup window with this text:

   `Invalid Session Information To Reconnect. Session information is not available.`

   Click **OK**.

3. The **Remote KVM** window closes.
4. The appliance turns off.

Restarting the Appliance

You can restart the appliance in different ways.

These options are available in the **Home view** page and in the **Remote KVM** page:

Option	Description
Hard Reset	Turns off the appliance immediately and then turns it on.
Power Cycle	Disconnects the electric power from the appliance for a very short period. Then, connects the power to the appliance, and reboots the appliance.

Restarting the appliance from the Home view

1. From the left navigation panel, click the **Home view**.
2. In the **Device Information** panel, in the **Power Action** section, select **Power Cycle** and click **Go**.

Chain of events:

1. A gray box with "`Changing...`" written in it covers the drop down menu.
2. After several seconds, this page refreshes.
3. The **Power Action** section shows the **Power Off** option.

Restarting the appliance in the Remote KVM window - from the Power Menu

1. From the left navigation panel, click the **Home view**.
2. In the **Device Information** panel, in the **Console Session** section, click **Start**.
3. The **Remote KVM** window opens.
4. From the top **Power** menu, select **Power Cycle**.
5. In the browser popup, click **OK** to confirm the operation:

   ```
   You are about to perform a server power control operation
   ```

Chain of events:

1. The **Console** screen shows "`No Signal`" briefly.
2. The appliance turns off.
3. The **Console** screen shows **Powered Off**.

Host Device Sensors

The model name and serial number of the host appliance appear in the **Home view** > **Device Information** panel.

Sensors provide current information about the appliance. For details about your appliance's sensors, see the *Gaia Administration Guide* (Chapter *Maintenance* > Section *Hardware Health Monitoring*) for the Check Point version installed on the appliance.

Viewing sensor information

1. From the left navigation panel, click the **Check Point Appliance view** > **Sensor Reading**.

   To see updated sensor information, in the top horizontal toolbar select **Refresh**.

2. Sensors show in three status groups. A status group shows only if there is a minimum of one sensor in the group:

   - **Critical Sensors** - sensors with readings above the Upper Critical threshold or below the Lower Critical threshold.
   - **Normal Sensors** - sensors with readings in the normal range.
   - **Disabled Sensors** - sensors that are inactive. This can be for an expected reason (for example: some sensors are only active when the appliance is powered) or because a sensor is broken.

3. The sensor indication as of the last page refresh shows to the right of the **Sensor Name**, below **Reading**.

4. To see the critical and non-recoverable values set for a sensor, hover over it with your mouse.

5. To filter sensor information by sensor type, select a type of sensor from the **Filter by type** drop-down menu.

   For example, selecting **Fan** from the **Filter by type** drop-down menu shows only fan sensor information. Then, selecting **All Sensors** shows information from all sensors.

   Note - The list of sensors depends on the specific hardware of the appliance.

Viewing an Event Log of sensor events

Event logs appear if the current value of a sensor is lower or higher than the required threshold (for example, a fan speed is lower than required).

From the left navigation panel, click **Check Point Appliance view** > **Event Log**.

Filter information by date and by sensor.

Note - You can filter for one sensor at a time.

Hardware Inventory

Note - This feature is only available in 9000, 19000, 29000, Smart-1 700-S, Smart-1 700-M, Smart-1 7000-L, Smart-1 7000-XL, and Smart-1 7000-UL appliances with LOM Card firmware versions 7.10 and higher.

Hardware Inventory shows information about these hardware elements in the host appliance:

- **CPU** - For each CPU present in the appliance it shows the total number of cores, total number of threads, and the CPU description.
- **DIMM** - Shows the DIMM location slots, whether a DIMM is present in a slot, manufacturer details (name, serial number, size, and type), and DIMM status (enabled if the DIMM is functioning or disabled if it is faulty).
- **MB** - Shows information for the motherboard: port number, serial number, hardware revision, and configuration number.
- **NIC** - Shows SKU details for line cards that are in the appliance and NIC details (part number, serial number, and hardware revision).
- **PSU** - Shows the number of PSUs present in the appliance and manufacturer details (ID, model, serial number, and firmware revision).

  Note - Not supported in 9100 and 9200 appliance models due to their hardware design (use internal PSUs that do not forward information to LOM). For more information, see sk183595.
- **RAID CARD** - Shows the vendor and device name of the RAID card that is present in the appliance (in applicable appliance models).
- **STORAGE** - For each storage device present in the appliance, it shows manufacturer details: capacity, serial number and firmware version.

To view the Hardware Inventory:

1. From the left navigation panel, click the **Check Point Appliance view** > **Hardware Inventory**.
2. Select a hardware element to view its details.

   A table with the element's information appears.

   The Present column shows one of these indicators:

Indicator	Color	Description
●	Green	The hardware element is present in the appliance.

Indicator	Color	Description
	Gray	The hardware element is not present in the appliance.

Remote Media Access

Limiting Access to Remote Media by IP Address

You can configure access to Remote Media only for specific IP Addresses, or block it completely.

Configuring access to KVM (Console Session) for specific IP Addresses

1. From the left navigation panel, click the **Check Point Appliance view**.
2. Click **KVM VMedia Settings**.
3. Below **Virtual Media**, select access restrictions for **Virtual Media**:
   - **To all** - Allow access to Virtual Media (KVM) on the LOM Card from all IP addresses.
   - **Disabled** - Block access to Virtual Media (KVM) on the LOM Card from all IP addresses.
   - **Subnets of specified IP addresses** - Allow access to Virtual Media (KVM) on the LOM Card only from IP addresses in specific subnets.
     - Enter one or more IP subnet addresses in the empty field below the KVM checklist. Enter a semicolon (`;`) between IP subnet addresses, with no spaces.

       Example:

       ```
       198.2.37.0;155.82.46.0;123.3.237.0
       ```

     Important - If you select **Disabled** and then click **Save** (or if you select **Subnets of specified IP addresses** and do not enter the network subnet of your computer's web host), you lose access to the Console Session (KVM).
     To restore access to the Console Session (KVM) for yourself:
     a. Select one of these:
        - **All IP addresses**.
        - **Subnets of specified IP addresses**, and enter the network subnet of your computer's web host.
     b. Click **Save**.
4. Click **Save**.

   The selected Virtual Media (KVM) access restrictions take effect.

Configuring access to Virtual Media for specific IP Addresses

1. From the left navigation panel, click the **Check Point Appliance view**.
2. Click **KVM VMedia Settings**.
3. Below **Virtual Media**, select access restrictions for **Virtual Media**:
   - **To all** - Allows access to Virtual Media (KVM) on the LOM Card from all IP addresses.
   - **Disabled** - Blocks access to Virtual Media (KVM) on the LOM Card from all IP addresses.
   - **Subnets of specified IP addresses** - Allows access to Virtual Media (KVM) on the LOM Card only from IP addresses in specific subnets.
     - Enter one or more IP subnet addresses in the empty field below the KVM checklist. Enter a semicolon (;) between IP subnet addresses, with no spaces.

       Example:

       ```
       198.2.37.0;155.82.46.0;123.3.237.0
       ```

     Important - If you select **Disabled** and then **Save** (or if you select **Subnets of specified IP addresses** and do not enter the network subnet of your computer's web host), you can no longer upload virtual media to the appliance. To restore Virtual Media access for yourself:
     a. Select one of these:
        - **All IP addresses**.
        - **Subnets of specified IP addresses**, and enter the network subnet of your computer's web host.
     b. Click **Save**.
4. Click **Save**.

   The selected Virtual Media (KVM) access restrictions take effect.

Configuring Remote Media Settings

You can configure mount settings for CD/DVD on NFS or CIFS.

Procedure

1. From the left navigation panel, click the **Check Point Appliance view** > **Remote Media Settings**.
2. Click **Remote Media Support**.
3. Select **Mount CD/DVD** or **Mount Storage Device**.
4. Enter the server address of an NFS or CIFS server.
5. Enter the file path on the server.
6. Select the file system:
   - **NFS**
   - **CIFS**: Enter **Domain Name**, **Username**, and **Password**.
7. To use the same settings for HD media as for CD media, select **Same settings for storage device images**.
8. Click **Save**.

   The selected mount settings take effect.

Image Redirection

You can redirect a CD/DVD image or a hard disk image to the host device.

Configuring Image Redirection

1. From the left navigation panel, click **Check Point Appliance view** > **Image Redirection**.
2. Find a file to upload from a drop-down menu in the column below **Image Name** in the row to the right of **Media Type**.

   To show all files previously saved on the **Remote Media Settings** page, select **Refresh Image List**.
3. Use the buttons on the right side of the row to control the redirection.
   - Play button: Starts the redirection. Shows a popup message when redirection is complete.
   - Stop button: Stops the redirection.
   - Eject button: Removes the virtual disk from the host appliance.

Uploading a CD image from your computer

1. From the left navigation panel, click **Home view**.
2. In the **Device Information** panel, in the **Console Session** section, click **Start**.
3. The **Remote KVM** window opens.
4. In the top right corner, click **Browse File**.
5. Select a file to upload from your computer.

   Supported media file types: `*.iso`, `*.nrg`

   Supported formats: ISO9660, UDF (v1.02 - v2.60)
6. Click **Start Media**.

   A popup window opens.
7. Click **OK**.

KVM (Console Session) Access

You can access the command line interface (CLI) on the host appliance through a KVM session (keyboard-video-mouse).

Starting a KVM Console Session

1. From the left navigation panel, click **Home view**.
2. In the **Device Information** panel, in the **Console Session** section, click **Start**.

   The **Remote KVM** window opens.

Stopping a KVM Console Session

In the top left corner of the **Remote KVM** window, click **Stop KVM**.

The **Remote KVM** window closes.

Refreshing the console video

If the console video does not behave as expected, you can refresh it manually.

Below **Video**, select **Refresh**.

The video refreshes.

Pausing the console session video

1. Below **Video**, select **Pause Video**.
2. To start the video again, select **Resume Video**.

   The video restarts.

Creating and entering hotkeys and macros into the console

Some keys or key combinations on your keyboard take effect on your computer's operating system rather than the console session.

Select a set hotkey or key combination from the **Send Keys** drop down menu to enter it into the console.

Creating a macro

1. From the **Hot Keys** drop-down menu, select **Add New Keys**.
2. A popup window opens called **User Defined Macros**.
3. Select **Add**.
4. Enter a key combination to make into a macro. Select buttons for the **Windows**, **Alt+F4**, or **Print Screen** keys. Do not enter these keys from your keyboard.
5. Select **Insert**.

   The macro is saved.

Entering a user-defined macro into the console

From the **Hot Keys** drop-down menu, select the macro.

The macro appears in the console.

Deleting a user-defined macro

1. From the **Hot Keys** drop-down menu, select **Add Hot Keys**.
2. Select the trash can icon adjacent to a macro to remove it.

   The macro is deleted.

Changing the console video display quality

From the **Options** drop-down menu, select a number at the bottom of the menu.

- 0 = highest quality
- 7 = lowest quality

The console video quality changes.

Taking a screenshot of the console

1. From the **Video** drop-down menu, select **Capture Screen**.

   Your web browser downloads a screenshot.
2. Keep the screenshot on your computer.

Recording a video of the console

1. From the **Video Record** drop-down menu, select **Record Video**.

   By default, the video is recorded for the length of time set in **Record Settings**.

2. **Optional**: Select **Stop Recording** to stop the recording before the end of the time period set in the **Record Settings**.

   A recording generates until the point when you selected **Stop Recording**. Your web browser downloads a video.

3. Keep the video on your computer.

Note - When the video size reaches 50 MB, the LOM Card WebUI cuts the video and sends the section to the web browser for download. If video length and quality are high, this can occur multiple times during a recording session.

Best Practice - To make long video recordings with high quality, use specialized third party software instead of the LOM Card WebUI.

Configuring the length and quality of recorded console video

1. From the **Video Record** drop-down menu, select **Record Settings**.
2. Enter video length in seconds.
   - Minimum: 1 second
   - Maximum: 1800 seconds
3. Enter video compression as a decimal from 0.1 to 1.0.
   - Lowest quality: 0.1
   - Highest quality: 1.0
   - Increments: 0.1
4. Click **OK**.

   The selected settings change.

Maintenance

You can restore the LOM Card to factory settings. You can save some or all of the configuration settings to persist after a firmware update. In LOM Card firmware version 6.14 and higher, you can also save LOM Card configurations to a configuration file.

To view the LOM Card's firmware version

1. From the left navigation panel, click **LOM (or LOM view)** > **Home**.
2. See the **Firmware Version** in the lower section of the **LOM Information** box (below **Lights Out Management Card**).

To save a backup configuration

Note - This feature is available in LOM Card firmware versions 6.14 and higher.

1. On the Lights Out Management screen, from the left navigation panel, click **LOM** > **Maintenance** > **Backup Configuration**.
2. Select one or more configuration categories to preserve, or select **Check All** to preserve all configurations.

3. Click **Download**.

   Your computer downloads a backup configuration file.

Configuration Category	Associated Settings
Remote Media	▪ **Lights Out Management** screen > **KVM VMedia Settings** ▪ **Lights Out Management** screen > **Check Point Appliance** > **Remote Media Settings**
IPMI & Network	▪ **Lights Out Management** screen > **Network Configuration** (a different path to the same menu is **Lights Out Management** screen > left navigation panel **Home** > **Edit** button in the **LOM Information** box) ▪ **Lights Out Management** screen > **LOM (or LOM view)** > **User Configuration** > **Login Block Settings** **Important** - If you select the **IPMI & Network** checkbox, the User List and Login Block settings are preserved. However, an Administrator must change the password of restored users before they can get access to the LOM Card. For more information, see *"Users and Access" on page 29*.
NTP	▪ **Lights Out Management** screen > **LOM (or LOM view)** > **Date and Time** > **Automatic Date & Time** (configuration of Primary and Secondary NTP Server) ▪ **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Preserve Configuration** > **RADIUS & LDAP** ▪ **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Preserve Configuration** > **RADIUS & LDAP**
RADIUS & LDAP	▪ **Lights Out Management** screen > **LOM (or LOM view)** > **User Configuration** (all sub-menus) ▪ **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Preserve Configuration** > **RADIUS & LDAP** ▪ **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Backup Configuration** > **RADIUS & LDAP** **Note** - Backup Configuration is available in LOM Card firmware versions 6.14 and higher.

4. Save the configuration file.

To restore configurations from a backup file

Note - This feature is available in LOM Card firmware versions 6.14 and higher.

1. On the Lights Out Management screen, from the left navigation panel, click **LOM** > **Maintenance** > **Restore Configuration**.
2. Click the folder icon near the **Config File** field.
   The file directory opens.
3. Select the backup file.
4. Click **Save**.

   A popup window opens and states that your device automatically restarts after you restore the backup.
5. In the popup window, click **OK**.

   The host device restarts.

   Important - After you log in again to the LOM Card, settings that are not explicitly configured in the backup file do not change.
   Example: If the backup file only contains configurations for **Remote Media**, then changes for all other configurations remain unchanged.

To restore the LOM Card to factory default settings

1. On the **Lights Out Management** screen, from the left navigation panel, click **LOM (or LOM view)** > **Maintenance** > **Restore Factory Defaults**.
2. Click **Restore**.

   The LOM Card reboots.

To restore specific LOM Card configuration options to factory default settings

1. On the **Lights Out Management** screen, from the left navigation panel, click **LOM (or LOM view)** > **Maintenance** > **Restore Factory Defaults**.
2. To preserve the configuration for specific features:

a. In the **Maintenance** menu, select **Preserve Configuration**.

b. Select the configuration categories to preserve.

Note - If you select a configuration option, the LOM Card preserves the feature configuration after you click **Restore**. If you do **not** select a configuration option, the LOM Card restores the feature configuration to its default values after you click **Restore**.

Configuration Category	Associated Settings
Remote Media	▪ **Lights Out Management** screen > **KVM VMedia Settings** ▪ **Lights Out Management** screen > **Check Point Appliance** > **Remote Media Settings**
IPMI & Network	▪ **Lights Out Management** screen > **Network Configuration** (a different path to the same menu is **Lights Out Management** screen > left navigation panel **Home** > **Edit** button in the **LOM Information** box) ▪ **Lights Out Management** screen > **LOM (or LOM view)** > **User Configuration** > **Login Block Settings** **Important** - If you select the **IPMI & Network** checkbox, the User List and Login Block settings are preserved. However, an Administrator must change the password of restored users before they can get access to the LOM Card. For more information, see *"Users and Access" on page 29*.
NTP	▪ **Lights Out Management** screen > **LOM (or LOM view)** > **Date and Time** > **Automatic Date & Time** (configuration of Primary and Secondary NTP Server) ▪ **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Preserve Configuration** > **RADIUS & LDAP** ▪ **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Preserve Configuration** > **RADIUS & LDAP**

Configuration Category	Associated Settings
RADIUS & LDAP	▪ **Lights Out Management** screen > **LOM (or LOM view)** > **User Configuration** (all sub-menus) ▪ **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Preserve Configuration** > **RADIUS & LDAP** ▪ **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Backup Configuration** > **RADIUS & LDAP** **Note** - Backup Configuration is available in LOM Card firmware versions 6.14 and higher.

c. Click **Save**.

3. Click **Restore**.

   The LOM Card reboots.

Note - If you preserve NTP settings, after the reboot the LOM Card takes one minute to synchronize with the NTP server. After one minute, the LOM Card shows the correct date and time. See *"Configuring date and time automatically" on page 26*.

To update the LOM Card firmware

1. Download the new HTML-5 based LOM Card firmware (available on sk88064).
2. From the left navigation panel, click **LOM (or LOM view)** > **Maintenance** > **Firmware Update**.
3. Click the folder icon.
4. Select the firmware image you downloaded in Step 1.
5. Click **Verify Image File**.
   - If in the previous step you selected a supported firmware image, the **Preserve Configuration** menu opens.
   - If in the previous step you selected a file that is not a supported firmware image, an error message appears:

     ```
     System detected unrecognized file. Please provide
     compatible firmware image.
     ```

     If you see the error message, start the process again and select a supported firmware image.
6. In the **Preserve Configuration** menu, select configuration settings to preserve after the update.
   - To preserve all configuration settings, select **Preserve all Configuration**.
   - To preserve some or no configuration settings, select **Edit Preserve Configuration**.

a. Select the configuration categories to preserve.

Configuration Category	Associated Settings
Remote Media	• **Lights Out Management** screen > **KVM VMedia Settings** • **Lights Out Management** screen > **Check Point Appliance** > **Remote Media Settings**
IPMI & Network	• **Lights Out Management** screen > **Network Configuration** (a different path to the same menu is **Lights Out Management** screen > left navigation panel **Home** > **Edit** button in the **LOM Information** box) • **Lights Out Management** screen > **LOM (or LOM view)** > **User Configuration** > **Login Block Settings** **Important** - If you select the **IPMI & Network** checkbox, the User List and Login Block settings are preserved. However, an Administrator must change the password of restored users before they can get access to the LOM Card. For more information, see *"Users and Access" on page 29*.
NTP	• **Lights Out Management** screen > **LOM (or LOM view)** > **Date and Time** > **Automatic Date & Time** (configuration of Primary and Secondary NTP Server) • **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Preserve Configuration** > **RADIUS & LDAP** • **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Preserve Configuration** > **RADIUS & LDAP**

Configuration Category	Associated Settings
RADIUS & LDAP	• **Lights Out Management** screen > **LOM (or LOM view)** > **User Configuration** (all sub-menus) • **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Preserve Configuration** > **RADIUS & LDAP** • **Lights Out Management** screen > **LOM (or LOM view)** > **Maintenance** > **Backup Configuration** > **RADIUS & LDAP** **Note** - Backup Configuration is available in LOM Card firmware versions 6.14 and higher.

b. Click **Save**.

The selected configurations are preserved after the update.

7. Click **Upload**.
8. The file uploads. A message shows version numbers for the **Current Image Version** and the **New Image Version**.
9. Select one:
   - **Flash**: Completes the firmware upload. The LOM Card restarts.
   - **Cancel**: Cancels the firmware upload. The LOM Card restarts.

Approving System Administrator access to the LOM Card WebUI

1. From the left navigation panel, click **LOM (or LOM view)** > **Maintenance** > **System Administrator**.
2. Select **Enable User Access**.
3. Select **Change Password**.
4. In the **Password** and **Confirm Password** fields, enter a temporary password for the System Administrator to use with the username "sysadmin".
5. Click **Save**.

Important - At the end of the session:

1. Clear **Enable User Access**.
2. Click **Save**.

Working with the LOM Card in Gaia Clish

In Gaia versions R81.20 and higher, you can work with the LOM Card in Gaia Clish on the Host appliance.

For more information about Gaia Clish, see the *Gaia Administration Guide* for your version.

Procedure

1. Connect to the command line on the host appliance.
2. Log in to Gaia Clish.
3. Run the applicable command:

```
set lom
      fcd-revert
      ip-address <IPv4 Address of LOM Card Interface> subnet-
mask <IPv4 Subnet Mask> gateway <IPv4 Address of Default
Gateway>
      reboot-card
```

```
show lom
      ip-address
      sel
      sensors
      type
      version
```

4. If you change the IPv4 settings, save the changes:

```
save config
```

Commands

Command	Description
`set lom fcd-revert`	Restores the LOM card configuration to the default
`set lom ip-address`	Configures the IPv4 settings on the LOM card interface

Command	Description
`set lom reboot-card`	Reboots the LOM card
`show lom ip-address`	Shows the IPv4 settings on the LOM card interface
`show lom sel`	Shows the LOM card system event logs
`show lom sensors`	Shows the data from the Host appliance sensors
`show lom type`	Shows the LOM card type ("`HTML5 based LOM`" or "`JAVA based LOM`")
`show lom version`	Shows the LOM card firmware version