Smart-1 Installing, Configuring, and Removing SAN Cards

This document is for Smart-1 225, 3050, and Smart-1 3150 models.

The SAN card makes data storage devices on a dedicated SAN network show as if locally attached to the Smart-1 appliance.

⚠️ **Important** - When installing or removing a SAN card, make sure that you are electromagnetically grounded. ESD (electrostatic discharge) can damage the appliance.

Finding the SAN Card

- On the Smart-1 225, the SAN card is located at the rear of the appliance.  
  **Important**: The Smart-1 225 SAN card is not a field replaceable unit.
  - You cannot remove or replace the built-in card. You purchase the appliance with or without the card.
  - You cannot purchase a Smart-1 225 appliance without a SAN card and then add a SAN card later.
- On the Smart-1 3050 and Smart-1 3150, the SAN card is located at the front of the appliance in the right expansion slot.
### On the Smart-1 225

<table>
<thead>
<tr>
<th>Item</th>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SAN card</td>
<td>Built-in SAN card</td>
</tr>
<tr>
<td>2</td>
<td>SAN ports</td>
<td>For the optional SAN (Storage Area Network) card.</td>
</tr>
</tbody>
</table>

See Configuring a SAN Card (on page 4).

### On the Smart-1 3050

<table>
<thead>
<tr>
<th>Item</th>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Expansion Line Card</td>
<td>Expansion slot for optional line cards</td>
</tr>
<tr>
<td>2</td>
<td>SAN Card</td>
<td>Expansion slot for optional SAN card</td>
</tr>
</tbody>
</table>
On the Smart-1 3150

<table>
<thead>
<tr>
<th>Item</th>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Slot cover</td>
<td>Expansion slot for future use</td>
</tr>
<tr>
<td>2</td>
<td>Expansion line card</td>
<td>Expansion slots for optional line cards</td>
</tr>
<tr>
<td>3</td>
<td>SAN card</td>
<td>Expansion slots for optional SAN card</td>
</tr>
</tbody>
</table>

Installing a SAN Card for the First Time

To install the card:

1. Make sure the appliance is shut-down and disconnected from an electrical outlet.
2. Insert the SAN card and tighten the screws.
3. If your SAN card uses removable transceivers and they must be installed, see Replacing Transceivers (on page 8).
4. Attach the power cords.
5. Turn on the power switch.

After installing the card, you can:

- Mount a SAN storage partition from the appliance
- Redirect the log traffic to the mounted partition or a specified directory
Configuring a SAN Card

To mount a SAN storage partition from the appliance:

1. Make sure the appliance recognizes the SAN device by running:
   - `fdisk -l`
   - `cat /proc/scsi/scsi`
   - `dmesg`
     Usually the first SAN device is: `/dev/sda`

2. Create a new partition on the storage server by running:
   `fdisk /dev/sda`

3. Create a new ext3 file system on the storage server partition by running:
   `mkfs.ext3 /dev/sda1`

4. Make sure the SAN partition is mounted after boot.
   a) Open: `/etc/fstab`
   b) Add: `/dev/sda1   /san ext3  defaults  0 0`

5. Reboot the appliance.

To redirect the log files from the Security Management Server:

1. Stop the Security Management Server by running: `cpstop`

2. Copy (optional) all of the logs to the new logs directory location.
   For example, if the new target location is `/storage/logs` run:
   `cp -rf $FWDIR/log/* /storage/logs`

3. If all of the log files were copied successfully, delete the `$FWDIR/log` directory by running `rmdir $FWDIR/log`

4. Create a soft-link to the new logs directory from `$FWDIR` by running:
   `ln -s /storage/logs $FWDIR/log`
To redirect the log files from a Multi-Domain Server:

1. From the support center, download Smart-1_SAN_logs_redirection.zip
2. From the archive, extract: linklogs.sh
3. Copy the script to the $MDSDIR/scripts directory.
4. Make the file executable by running:
   chmod +x $MDSDIR/scripts/linklogs.sh
5. Run the script using:
   linklogs all move <target directory for logs>
   **Note:** The command copies all logs on the appliance to the target directory.
6. From the archive, extract: mdsadd_customer.sh
7. Copy mdsadd_customer.sh to $MDSDIR/scripts.
   **Note:**
   • To redirect logs to a new directory without copying the newest logs to the target directory, run:
     linklogs all link <target directory>
   • Logs are lost when communication with the SAN server is interrupted.

Replacing a SAN Card

**Important:** SAN cards are not hot-swappable. Before you install or remove a SAN card, make sure that:

• You can connect to the WebUI or CLI to shut down the appliance.
• The appliance is in a clean environment and on a level surface.
• The appliance is disconnected from the electrical outlet.

To prepare the appliance:

1. From the WebUI or the CLI, shut down the appliance.
2. Remove the power cords from the appliance.
To remove a SAN Card

<table>
<thead>
<tr>
<th>Item</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SAN tray retention screws</td>
</tr>
<tr>
<td>2</td>
<td>SAN Ports</td>
</tr>
</tbody>
</table>

1. Loosen the retention screws.
2. Hold the screws and carefully pull the card out of the appliance.

Replacing a SAN Card:

1. Carefully insert the replacement SAN card into the designated slot.
2. Tighten the screws.
3. If your SAN card uses removable transceivers and they must be replaced, see Replacing Transceivers (on page 8).
Making sure the SAN Card works properly

<table>
<thead>
<tr>
<th>Item</th>
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</tr>
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<tbody>
<tr>
<td>1</td>
<td>SAN tray retention screws</td>
</tr>
<tr>
<td>2</td>
<td>Upper green LED indicating firmware operation</td>
</tr>
<tr>
<td>3</td>
<td>Lower yellow LED indicating port activity</td>
</tr>
<tr>
<td>4</td>
<td>SAN ports for single and multi-path redundancy</td>
</tr>
</tbody>
</table>
Replacing Transceivers

If your SAN Card contains removable transceivers, you can install and replace these transceivers.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SAN card with fiber optic ports</td>
</tr>
<tr>
<td>2</td>
<td>Transceiver</td>
</tr>
<tr>
<td>3</td>
<td>Transceiver latch in 10GbE SFP+ SAN card</td>
</tr>
</tbody>
</table>

To remove a transceiver:
1. Disconnect the fiber optic cables from the transceiver.
2. Pull the latch lever down to release the transceiver.
3. Gently, pull the transceiver out of the SAN card.

To install a transceiver:
1. Push the transceiver into a SAN card port, until it snaps into position.
2. Turn the transceiver latch lever up to lock into the line card.
3. Connect the fiber optic cable to the transceiver.