



Troubleshooting SAN Boot and SAN Connectivity Issues

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SAN Connectivity Checklist

A problem with connectivity to the SAN array can cause issues with the SAN boot. If other solutions do not resolve your issue, consider the following:

- Are the fibre channel uplink ports configured in Cisco UCS Manager?
- Do the numbers assigned to the Virtual Storage Area Networks (VSANs) in Cisco UCS Manager match those configured in the fibre channel switch?
- Is the N-Port ID Virtualization (NPIV) enabled on the fibre channel switch?
- Is the Cisco UCS fabric interconnect logged into the fibre channel switch? The fibre channel switch displays the fabric interconnect as an NPIV device. For example, you can use the **show fens data** command on a multi-layer director switch (MDS) to determine whether the Cisco UCS fabric interconnect is logged into it.
- Is the world wide name (WWN) in the correct format in Cisco UCS Manager?
- Have you upgraded the Cisco UCS domain, including the server adapters, to use the latest firmware?
- Have you verified that the SAN boot and SAN boot target configuration in the boot policy is included with the service profile associated with the server?
- Do the vNICs and vHBAs in the boot policy match the vNICs and vHBAs that are assigned to the service profile?
- Is the array active or passive?
- Are you booting to the active controller on the array?

- Is the array configured correctly? For example, have you verified the items in the [SAN Array Configuration Checklist, on page 2?](#)

SAN Array Configuration Checklist

A misconfiguration or other issue with the SAN array can cause issues with the SAN boot. If other solutions do not resolve your issue, verify the following basic configurations in the SAN array:

- Has the host been acknowledged or registered by the array?
- Is the array configured to allow the host to access the logical unit number (LUN)? For example, is LUN security or LUN masking configured?
- Did you correctly configure the LUN allocation with the world wide port name (WWPN) assigned in the Cisco UCS domain? If you assign and configure with a world wide node name (WWNN), you could encounter issues.
- Did you map the backed LUN of the array to the same LUN number configured in the Cisco UCS boot policy?

Recommended Solutions for Issues During SAN Boot

contains a list of issues and recommended solutions that can assist you with troubleshooting a SAN boot issue. If an attempt to boot from a SAN array fails, you should implement these solutions.

Issue	Recommended Solution
The SAN boot fails intermittently.	Verify that the configuration of the SAN boot target in the boot policy is included in the service profile. For example, make sure that the SAN boot target includes a valid WWPN.
The server tries to boot from local disk instead of SAN.	Verify that the configured boot order in the service profile has SAN as the first boot device. If the boot order in the service profile is correct, verify that the actual boot order for the server includes SAN as the first boot device. If the actual boot order is not correct, reboot the server.
The server cannot boot from SAN even though the boot order is correct.	For Windows and Linux, verify that the boot LUN is numbered as 0 to ensure that LUN is mounted as the first disk from which the server boots. For ESX, if more than one LUN is presented, verify that the boot LUN is the lowest numbered LUN.