

A large, light-orange circular graphic with a white stylized 'S' icon (three parallel diagonal lines) in the center, serving as a background for the main title.

NETWORK SWITCH RECOMMENDATIONS

GETTING STARTED

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INTRODUCTION

This guide covers general HyperCore networking concepts rather than specific configuration options. Networking hardware and configuration in the environment outside the Scale Computing Platform system is not covered under the support and warranty of the system. Any questions or concerns should be addressed with the manufacturer(s).

NOTE

Scale Computing offers Professional Service engagements for an additional fee to assist customers with initial networking and switch configuration for SC//Platform. These configuration services are only available when purchasing one of the recommended hardware products found in this guide, whether purchased directly through Scale Computing or from a third party vendor.

Contact your Scale Computing Sales Representative for the full details on all of our Professional Service offerings.

MINIMUM SWITCH ATTRIBUTES

10GbE SFP+ and 10GBaseT switches do not have the same limitations as 1GbE switch versions. Contact Scale Computing if you have any questions on specific 10GbE or 10GBaseT switch models. Almost all forms of Home, Workgroup, Departmental, or Unmanaged switches **do not** have sufficient switching performance and will not be functional with the Scale Computing system.

NOTE

The Edge and Business Resiliency products may not be held to any switch requirements for full support assistance depending on their NIC configuration. Environmental needs and network demand should always be taken into account when planning an Edge or Business Resiliency deployment. Contact your Sales Engineer for any questions or concerns.

	1GbE	10GBaseT (1GbE or 10GbE)	10GbE SFP+	25 GbE SFP28
Required Features	Managed switch Supports spanning tree protocol (STP) at the switch level Supports 802.3x flow control at the switch level			
	RJ-45 ports 72 mpps for 24 port switches 144 mpps for 48 port switches	RJ-45 ports	SFP+ ports for 10GbE SFP+	SFP28 ports for 25GbE SFP28
Optional Features *	VLAN support - Only optional if the switch will be used for backplane only Management of spanning tree protocol (STP) on a per port basis Offers rapid spanning tree protocol (Rapid STP) Stacking or dedicated interconnect for High Availability (HA)			

* Optional features are strongly encouraged but may not be required depending on your deployment and environmental needs.

SWITCH PROCUREMENT

Switches made available for purchase through Scale Computing are for customer convenience only. **Any switch or switch hardware purchased through Scale Computing does not denote any support obligation.**

Switches purchased through Scale Computing may be eligible to receive replacements through Scale Computing for the duration of the asset's hardware support, subject to manufacturer warranty terms and Scale Computing discretion. SC//Platform systems with software-only support or no support may still be able to contact their switch manufacturer directly for any switch or cable hardware or software issues.

Customers are required to provide all of their own network switches. Scale Computing does offer some items for purchase for customer convenience.

Switch	Details
Netgear GS108Ev3	8 x 1Gb RJ-45
HP ProCurve 2930-24G	24 x 1Gb RJ-45
Cisco CBS350-12XT	10 x 10Gb RJ-45 2 x 10Gb SFP+ Combo Ports
Cisco CBS350-12XS	10 x 10Gb SFP+ Ports 2 x 10Gb SFP+ Combo Ports
Cisco CBS250-24T-4X	24 x 1Gb RJ-45 Ports 4 x 10Gb SFP+ Ports
Netgear M4300-24XF	24 x 10Gb SFP+ Ports 2 x 10GBase-T Ports
TrendNET TEG-3102WS	8 x 2.5GBase-T Ports 2 x 10G SFP+ Ports
Mokerlink 2G08110GS	8 x 2.5GbE RJ45 Ports 1 x 10G SFP+ Ports
Dell S5212F-ON	12 x 25Gb SFP28 ports 3 x 100Gb QSFP28 ports

RECOMMENDED SWITCHES

1GBE & 2.5GBE SWITCHES

	Switch & Configuration Guide	1GbE Ports	2.5GbE Ports	10GbBaseT Ports	10GbE SFP+ Ports
1GbE Switches	Cisco SG250X-24	24 RJ-45		2 10GbBaseT	2 SFP+
	HP Aruba Procurve 2930F Series <small>(Replaces Procurve 2920)</small>	2930F 24G 24 RJ-45 2930F 48G 48 RJ-45			4 SFP+
	Ubiquiti EdgeSwitch 48 Lite	48 RJ-45 & 2 SFP			2 SFP+
	Ubiquiti EdgeSwitch 10X	8 RJ-45 & 2 SFP			
	Netgear GS108Ev3	8 RJ-45			
	Mokerlink 2G08110GS (unmanaged)		8 RJ-45		

10GBASET SWITCHES

	Switch & Configuration Guide	1GbE Ports	10GbBaseT Ports	10GbE SFP+ Ports
10GbBaseT Switches	Cisco CBS350-12XT	1 RJ-45 Management Port	10 RJ-45	2 SFP+ (combo with copper)
	Lenovo RackSwitch NE1032T		24 RJ-45	8 SFP+
	Netgear ProSafe XS712Tv2		12 RJ-45	2 SFP+

10GBE SFP+ SWITCHES *

	Switch & Configuration Guide	1GbE Ports	10GbBaseT Ports	10GbE SFP+ Ports
10GbE SFP+ Switches	Cisco CBS350-12XS	1 RJ-45 Management Port	2 RJ-45	10 SFP+
	Ubiquiti EdgeSwitch 16 XG		4 RJ-45	12 SFP+
	Lenovo RackSwitch NE1032			32 SFP+
	Netgear M4300-8X8F		8 RJ-45	8 SFP+
	Dell X4012 *			12 SFP/SFP+

*The Dell X4012 is EOL from Dell. This may limit available Support options, from both Scale Computing and Dell.

25GBE SFP28 SWITCHES

	Switch & Configuration Guide	25GbE SFP28 Ports	100GbE QSFP28 Ports
25GbE SFP28+ Switches	Dell S5212F-ON	12 SFP28	3 QSFP28
	Dell S5224F-ON	24 SFP28	4 QSFP28
	Mellanox SN2010	18 SFP28	4 QSFP28
	Mellanox SN2410	48 SFP28	8 QSFP28

There is a **known compatibility issue** with the Lenovo X722 NICs and the Mellanox SN series switches. There is a Mellanox software patch available for the Mellanox SN series switches that **MUST** be applied to the SN2010 prior to connecting Lenovo X722 NICs to the switch.

SPANNING TREE PROTOCOL (STP)

The Spanning Tree Protocol (STP) is a network protocol that ensures a loop-free topology for bridged local area networks (LANs). STP allows a network design to include spare (redundant) links to provide automatic backup paths via STP without the need for manual intervention.

When STP is enabled, the protocol monitors the participating ports and/or VLANs. Should there be a change in topology (a port goes active or a port goes down), STP blocks traffic on participating ports until the network topology is determined. When a topology change is discovered, the ports participating in STP are in a Blocking state; they will then move through a Listening, Learning, and, finally, a Forwarding state (when traffic is then forwarded and moving again).

If STP is required for the environment, **enable Rapid STP (RSTP) on the Scale Computing node ports if it is available on the switch.** RSTP allows a switch port to rapidly transition into the forwarding state during topology changes, mitigating scenarios where one or more nodes may believe itself isolated on the network.

FLOW CONTROL

Flow control is useful for managing the data rates between two links, helping prevent retransmits. Flow control is recommended on the ports where the HyperCore system uplinks to the local network.

FEEDBACK & SUPPORT

DOCUMENT FEEDBACK

Scale Computing welcomes your suggestions for improving our documentation. Please send your feedback to documentation@scalecomputing.com.

TECHNICAL SUPPORT AND RESOURCES

There are many technical support resources available for use. Access this document, and many others, at <http://www.scalecomputing.com/support/login/>.

- [Partner Portal - Partner and Distributor use only.](#)
- [User Community - Customer focused, including our online Forum.](#)

Online Support

You can submit support cases and view account information online through the Scale Computing Customer and Partner Portals at <http://www.scalecomputing.com/support/login/>. You can also Live Chat with support through www.scalecomputing.com during standard hours Monday-Friday from 2 AM to 10 PM ET.

Telephone Support

Support is available for critical issues 24/7 by phone at +1 877-SCALE-59 (+1 877-722-5359) in the US and at +44 (0) 808 234 0699 in Europe. Telephone support is recommended for the fastest response on priority issues, and the only response after standard Support hours.