

snapsan™ S1000

Configuration Guide

Calendar 2011 Q3

July 2011

SnapSAN™ S1000 Configuration Guide

Table of Contents

1	Introduction	3
2	SnapSAN S1000 Arrays and Modules	4
2.1	SnapSAN S1000 Arrays	4
2.2	SnapSAN S1000 Controller Modules	4
2.3	General Notes on SnapSAN S1000 Models and Configurations	5
2.3.1	Configured Capacity	5
2.3.2	Host Connectivity and Cabling	5
3	SnapSAN S1000 Capacity Expansion	6
3.1	SnapDisk E1000	6
3.2	General SnapDisk Expansion Configuration Notes	6
3.2.1	SnapSAN S1000 Interconnect	6
3.2.2	Expansion Drive Notes	6
3.2.3	Cables	6
4	SnapSAN S1000 Software Solutions	7
5	OverlandCare Services for SnapSAN S1000 Systems and Software	8
5.1	OverlandCare Levels	8
5.2	Standard Warranty, Uplifts and Extensions For SnapSAN S1000 Products	8
5.2.1	Standard Warranty	8
5.2.2	Uplifts and Extensions	8
5.3	Summary of Support Offerings for SnapSAN S1000 and SnapDisk E1000	9
5.3.1	SnapSAN S1000 and SnapDisk E1000 Support Offering Summary	9
6	Purchasing Guide	10
6.1	SnapSAN S1000 Systems, Modules, Expansion, Drives	10
6.1.1	Configuring SnapSAN S1000 Solutions	10
6.2	Support Options for SnapSAN S1000, SnapDisk E1000, Modules, Drives	12
6.2.1	SnapSAN S1000 Support Options	12
6.2.2	SnapDisk E1000 Support Options	12
6.2.3	Accessories (ACC) and Customer Replaceable Spares (CRS) for SnapSAN S1000 and SnapDisk E1000	13

SnapSAN™ S1000 Configuration Guide

1 Introduction

This document is intended as a guide for configuring and ordering SnapSAN S1000 Arrays, Optional Expansion, Software and Service. It is primarily intended as a “what should be ordered with what” guide and provides an overview of the features and functionality of each of the options available. This has been designed as an “all inclusive” guide as much as possible but should not be used as a complete substitute for Datasheets and/or administration guides.

The first part of this guide (Sections 2 through 5) is divided in to the following sections:

- SnapSAN S1000 Arrays and Modules – providing an overview of available SnapSAN S1000 Arrays and Modules
- SnapSAN S1000 Capacity Expansion – providing an overview for the SnapDisk E1000 Expansion storage available
- SnapSAN S1000 Software Solutions – providing an overview of software features included on every SnapSAN S1000
- Overland Storage Services for SnapSAN S1000 Arrays and SnapDisk E1000 Expansions – providing an overview of the service offerings available

The second part of this guide (Section 6) then provides full details on configuring a solution with the logical steps to follow (including part numbers).

SnapSAN™ S1000 Configuration Guide

2 SnapSAN S1000 Arrays and Modules

The SnapSAN S1000 modular storage array is an ideal platform for providing non-stop storage services to the most demanding applications. Designed for high availability, the S1000 combines advanced data protection features and proven reliability with flexible host connectivity to ensure that it will integrate into any storage environment, right out of the box. Installation and management are simple and straight-forward with your choice of single or dual controllers; iSCSI, Fibre Channel, or SAS connectivity, and the ability to scale to 120TB. The SnapSAN S1000 delivers the perfect balance of price, performance, availability, and features to meet your business needs.

The SnapSAN S1000 meets the critical needs for every business, providing an affordable, scalable and easy to manage solution without sacrificing performance or flexibility.

2.1 SnapSAN S1000 Arrays

The SnapSAN S1000 is a 2U 12-Bay rack mount modular storage array, scalable to 120TB raw capacity via single or redundant SAS interfaces to support up to 4 SnapDisk E1000 expansion units and 60 total drives. The SnapSAN S1000 is modularly ordered by selecting the empty chassis, one or two controller modules, and the necessary drives per application and environmental requirements. With four different controller modules to choose from, the SnapSAN S1000 can connect using 1GbE or 10GbE iSCSI, 4Gb Fibre Channel, or 6Gb/sec SAS. The chassis includes no drives, but supports up to 12 hot-swappable high performance SAS, enterprise SATA II, or power saving “green” SATA drives. Each SnapSAN S1000 also includes dual hot-swappable power supplies with 2 power cords for US, UK and EMEA, hot-swappable fan modules, and a rack mount bracket kit. It supports RAID levels 0, 1, 0+1, 3, 5, 6, 10, 30, 50, 60, and N-way mirroring.

	SnapSAN S1000
Power Supplies	Dual Standard
Drive Type	3.5” SAS, SATA II, or “green” SATA
Maximum Capacities	7.2TB SAS; 24TB SATA
Expansion	Up to 4 SnapDisk E1000 Expansions

2.2 SnapSAN S1000 Controller Modules

A minimum of one controller module is needed for each SnapSAN S1000. If configured with two controller modules the SnapSAN S1000 supports Active-Active failover between controllers. Each individual controller has multiple host connectivity ports: 1GbE iSCSI Module – four RJ-45 1GbE ports; 10GbE iSCSI Module – two 10GbE SFP+ ports (ordered separately); Fibre Channel Module – two 4Gb SFP ports (ordered separately); SAS Module – two 6Gb/s SFF-8088 ports. The number of ports available for the SnapSAN S1000 array doubles when two controllers are present. Each controller module also includes 2GB of battery backed cache, one hot-swappable battery backup module, one SAS expansion port, one RJ-45 10/100M Ethernet port for management, and two UART connections for serial console and UPS communication. Software Included: Snapshot software; Microsoft Windows VSS and MPIO software.

	1GbE iSCSI Module	10GbE iSCSI Module	4Gb FC Module	6Gb/sec SAS Module
Ports per Controller	Four 1GbE ports (RJ-45)	Two 10GbE ports (SFP+)	Two 4Gb FC ports (SFP)	Two 6Gb/s SAS ports (SFF-8088)
Cache Memory	2GB (1 x 2GB Module)	2GB (1 x 2GB Module)	2GB (1 x 2GB Module)	2GB (1 x 2GB Module)
SAS Expansion Port	One 6Gb/s Mini-SAS (SFF-8088)	One 6Gb/s Mini-SAS (SFF-8088)	One 6Gb/s Mini-SAS (SFF-8088)	One 6Gb/s Mini-SAS (SFF-8088)

SnapSAN™ S1000 Configuration Guide

2.3 General Notes on SnapSAN S1000 Models and Configurations

2.3.1 Configured Capacity

The SnapSAN S1000 is ordered as a zero-drive base system combined with drive 4-Packs allowing customers to modularly order different drive types and mix-and-match within the same chassis, thus making it flexible for customers to choose the drives they need for their environment.

Note: SnapSAN S1000 units are sold without drives and contain 8 drive slot blanks. Drives may be ordered in 4-Packs or as singles. Initially, a minimum of four drives must be ordered (to fill the four empty slots). **Drives used in the SnapSAN S1000 must be obtained from Overland Storage and have S1000/E1000 drive carriers.**

The actual configured capacity will depend on the RAID level selection. Customers will be able to choose from RAID 0, 1, 0+1, 3, 5, 6, 10, 30, 50 or 60 according to the instructions in the User Guide.

The following tables give guidance on estimating usable capacities of configured RAID sets (N = Number of drives). Multiply the number of drives by the drive capacity:

RAID Level	Number of Drives
RAID 0	N (Minimum 2 drives)
RAID 1	$N / 2$ (Exactly 2 drives)
RAID 0+1	$N / 2$ (Minimum 4 drives)
RAID 3	$N - 1$ (Minimum of 3 drives)
RAID 5	$N - 1$ (Minimum of 3 drives)
RAID 6	$N - 2$ (Minimum 4 drives)
RAID 10	$N / 2$ (Minimum 4 drives)
RAID 30	$N - 2$ (Minimum 6 drives)
RAID 50	$N - 2$ (Minimum 6 drives)
RAID 60	$N - 4$ (Minimum 8 drives)

Hard Drive	Estimated Capacity in GB (Gigabytes)
1TB SATA II	931.5 GB
2TB SATA II	1,863 GB
300GB SAS	279.39 GB
600GB SAS	558.9 GB

A Gigabyte is a unit of information equal to 1024 megabytes or 2^{30} (1,073,741,824) bytes

2.3.2 Host Connectivity and Cabling

All host connection cables are purchased separately as they are not included due to site specific requirements for each installation.

1GbE Controller (4 RJ-45 ports per controller): Administrators can utilize standard CAT5, CAT5E or CAT6 copper Ethernet cables for connecting to the local LAN or cross-over Ethernet cables to directly connect the host to a controller.

10GbE Controller (x2 SFP+ ports per controller): Administrators can choose the proper pluggable modules or cable based on their network or host connectivity preference. For short range usage, less than 10 meters, a SFP+ DA (Direct Attach) cable (no transceivers required) could be used. For long range usage, up to 300 meters, SFP+ transceivers can be purchased from Overland Storage and MMF fiber cables can be used.

4Gb FC Controller (2 SFP ports per controller): Administrators can choose the proper pluggable modules or cable based on their network or host connectivity preference. For distances, up to 300 meters, SFP (Mini GBIC) transceivers can be purchased from Overland Storage and MMF fiber cables can be used.

6Gb SAS Controller (2 SFF-8088 ports per controller): Administrators can choose an external Mini-SAS cable supporting the SFF-8088 connection that supports 6Gb/sec connections for direct connectivity to hosts.

SnapSAN™ S1000 Configuration Guide

3 SnapSAN S1000 Capacity Expansion

3.1 SnapDisk E1000

SnapSAN S1000 models support capacity expansion with SnapDisk E1000 units. The SnapDisk E1000 can be configured with four (4) to twelve (12) 3.5" SAS, SATA II or variable speed "green" SATA drives. Up to (4) four SnapDisk E1000 expansion units can be added with different capacities. A total of 60 drives can be configured with every SnapSAN S1000.

The SnapDisk E1000 can be configured with up to 12 drives and includes redundant SAS I/O controllers for both input from the SnapSAN S1000 array¹ as well as daisy chaining to additional E1000 expansions. E1000 units also include a rack mount bracket kit for rack installation and two (2) 1-meter external SAS cables for connecting to a SnapSAN S1000 or an additional SnapDisk E1000.

Note: SnapDisk E1000 units are sold without drives and contain 8 drive slot blanks. Drives may be ordered in 4-Packs or as singles. Initially, a minimum of four drives must be ordered (to fill the four empty slots). ***Drives used in the SnapDisk E1000 must be obtained from Overland Storage and have S1000/E1000 drive carriers.***

3.2 General SnapDisk Expansion Configuration Notes

3.2.1 SnapSAN S1000 Interconnect

Each SnapSAN S1000 controller module (one or two controllers per array) includes a single external SAS connection for expandability with SnapDisk E1000 expansion units. Only 1 SAS connection is required for expansion; however, SnapSAN S1000 arrays with two controllers can connect to a SnapDisk E1000 unit via separate connections (1 per controller) for redundancy and high availability. Additional SnapDisk E1000 expansions are connected to the redundant ports of previously installed SnapDisk E1000 units.

Note: The S1000 does not support expansion with SnapServer Expansion S50 or E2000 expansion units.

3.2.2 Expansion Drive Notes

The SnapDisk E1000 can be configured for SnapSAN S1000 expansion with 3.5" SAS, SATA II or variable speed "green" SATA drives. Drive 4-Packs and Singles are specific to the platform and are common to both the SnapSAN S1000 and the SnapDisk E1000.

3.2.3 Cables

Two (2) 1-meter SAS cables are included with each SnapDisk E1000 expansion unit. These cables are used for connection to either the SAS expansion port(s) on the SnapSAN S1000 (for initial SnapSAN expansion) or to another SnapDisk E1000 for daisy chaining.

¹ SnapSAN S1000 arrays must be configured with dual controllers to enable the redundancy of the SnapDisk E1000 arrays.

SnapSAN™ S1000 Configuration Guide

4 SnapSAN S1000 Software Solutions

The SnapSAN S1000 modular storage array provides non-stop storage services to the most demanding applications. Designed for high availability, the SnapSAN S1000 combines advanced data protection features and proven reliability with flexible host connectivity to ensure that it will integrate into any storage environment, right out of the box. Installation and management are simple and straight-forward with your choice of single or dual controllers; iSCSI, Fibre Channel, or SAS connectivity, and the ability to scale to 120TB.

For data protection, you can take read-only or writable snapshots for point-in-time recovery or testing and development, as well as choose from a variety of RAID levels including “N-way” mirroring to guard your data against simultaneous drive failures.

Extensive host OS support as well as certifications for Microsoft, VMware and Citrix ensures that the SnapSAN S1000 can integrate seamlessly into any operating environment. The SnapSAN S1000 is fully compatible with Microsoft Windows Volume Shadow Copy Service (VSS) providing integrated data protection for Windows Server applications; and support for Microsoft MPIO ensures that host connectivity remains stable to maximize system uptime.

All SnapSAN S1000 arrays are equipped with a variety of “Green” features and advanced cooling mechanisms which maximize energy efficiency and power savings. The auto disk spin-down feature along with support for Green drive technology ensures that the system is consuming only the amount of power required to serve data. Environmental temperatures are monitored and fans are automatically adjusted as needed to keep the system cool and running optimally. In addition, the power supplies were designed to further maximize power efficiencies.

All software features are included in the base price of the SnapSAN S1000.

SnapSAN™ S1000 Configuration Guide

5 OverlandCare Services for SnapSAN S1000 Systems and Software

OverlandCare is Overland’s premier service and support program. This program encompasses both the standard warranty available on all SnapSAN products as well as enhanced services for customers who require either longer coverage periods or options that provide for higher system availability. We offer support upgrades at the time of system sale and support extensions for up to five years after the initial system purchase. If your SnapSAN solution includes multiple products each item must be covered to the same entitlement. As a special incentive to keep your SnapSAN product covered for a longer period of time we offer a discount on multiple years of support coverage when purchased at the time of sale.

5.1 OverlandCare Levels

There are four levels of OverlandCare, each offering a different range of services. As mentioned above, every SnapSAN carries one of these levels as its “standard warranty”. Both SnapSAN S1000 and SnapDisk E1000 come standard with OverlandCare Level 1 coverage. Customers can purchase upgrades and extensions for up to 5 years after the initial system purchase. The four OverlandCare Levels are summarized in the table below.

OverlandCare Warranty Offerings	Level 1	Level 2	Level 3	Level 4
24x7 telephone assistance	•	•	•	•
Unlimited web and email support	•	•	•	•
Access to on-line knowledge base	•	•	•	•
Firmware updated and patches	•	•	•	•
Remote problem and diagnostics support	•	•	•	•
Next business day advanced parts replacements ¹	•			
Next business day response for onsite support ¹		•		
9x5x4-Hr. response for onsite support ¹			•	
24x7x4-Hr. response for onsite support ¹				•

5.2 Standard Warranty², Uplifts and Extensions For SnapSAN S1000 Products

5.2.1 Standard Warranty

The SnapSAN S1000 and SnapDisk E1000 products are covered by a three-year OverlandCare limited hardware and software warranty, which includes Next Business Day Advance Parts Replacement support and 24x7 telephone support. Support coverage of all SnapDisk E1000 expansion units must be purchased separately and run concurrently with the primary SnapSAN S1000 unit.

For full details of current service programs, please refer <http://support.overlandstorage.com/support/service-coverage.html>

5.2.2 Uplifts and Extensions

All SnapSAN systems are eligible for service uplifts and extensions to augment and/or extend the standard OverlandCare warranty.

- Specially priced 3-year uplifts for OverlandCare Levels 2-4 are available at the time of purchase
- 1-year extensions for all OverlandCare Levels are available to extend the SnapSAN S1000 warranty to 5-years of total coverage

¹ Response time based on geographical proximity to Overland service center. Although standard part numbers and pricing apply to Zone 1 coverage, uplifts for zones outside the standard coverage areas are available. Refer to <http://support.overlandstorage.com> for further details.
² Standard Warranty in this document refers to SnapServer products shipped after July 1, 2011. For complete details of products shipped after and prior to September 8, 2009, please refer to <http://www.overlandstorage.com/support/coverage.pdf>

SnapSAN™ S1000 Configuration Guide

5.3 Summary of Support Offerings for SnapSAN S1000 and SnapDisk E1000

5.3.1 SnapSAN S1000 and SnapDisk E1000 Support Offering Summary

The following table provides a summary of the support offering descriptions for SnapSAN S1000 and SnapDisk E1000 systems.

Service Offering	Year 1	Year 2	Year 3	Year 4	Year 5
OverlandCare Level 1 – 24x7 Telephone Support; Next Business Day Advanced Replacement	Standard Warranty			Optional 1-Year Extensions	
OverlandCare Level 2 – 24x7 Telephone Support; 9x5, Next Business Day Onsite	Optional 3-Year Uplift				
OverlandCare Level 3 – 24x7 Telephone Support; 9x5, 4-hour Onsite					
OverlandCare Level 4 – 24x7 Telephone Support; 24x7x365, 4-hour Onsite					

SnapSAN™ S1000 Configuration Guide

6 Purchasing Guide

6.1 SnapSAN S1000 Systems, Modules, Expansion, Drives

The tables below provide ordering information to configure SnapSAN S1000 systems as well as SnapDisk E1000 expansions with common drive types. Any available drive type may be used in the expansion shelf provided all drives are common within a RAID set.

6.1.1 Configuring SnapSAN S1000 Solutions

The following steps can be used as guidance for configuring a SnapSAN S1000 solution.

Step 1	Choose and Configure a Base SnapSAN S1000
Step 1a	<p>Select the scalable SnapSAN S1000 chassis</p> <p>OV-SAN201006 SnapSAN S1000, 0-DRIVE, 0-CONTROLLER</p>
Step 1b	<p>Choose one or two SnapSAN S1000 Controller Modules (Choose two controllers for a highly available Active-Active failover solution)</p> <p>Single Controller Modules (Two per system for High Availability)</p> <p>OV-ACC901042 ACC - RAID Controller Module, S1000, 1GbE iSCSI, 4 port</p> <p>OV-ACC901040 ACC - RAID Controller Module, S1000, 10GbE iSCSI, 2 port</p> <p>OV-ACC901041 ACC - RAID Controller Module, S1000, 4Gb FC, 2 port</p> <p>OV-ACC901043 ACC - RAID Controller Module, S1000, 6G SAS, 2 port</p> <p>Host connection transceivers for FC or 10GbE iSCSI Controller Modules</p> <p>OV-ACC901044 ACC - SFP, S1000, 4Gb, Qty 2 – Order one (1) pair of SFP transceivers for each Controller ordered</p> <p>OV-ACC901045 ACC - SFP+, S1000, 10GbE, Qty 2 – Order one (1) pair of SFP+ transceivers for each Controller ordered</p>
Step 1c	<p>Choose a minimum of one drive 4-Pack and up to 12 drives total per SnapSAN S1000 Base System</p> <p>SAS Drive 4-Packs (15K RPM)</p> <p>OV-ACC901036 HDD - S1000/E1000, 300GB SAS w/ Carrier, 4-Pack</p> <p>OV-ACC901038 HDD - S1000/E1000, 600GB SAS w/ Carrier, 4-Pack</p> <p>SAS Drive Single (15K RPM)</p> <p>OV-ACC901037 HDD - S1000/E1000, 300GB SAS w/ Carrier</p> <p>OV-ACC901039 HDD - S1000/E1000, 600GB SAS w/ Carrier</p> <p>SATA II Enterprise Drive 4-Packs (7200 RPM)</p> <p>OV-ACC901030 HDD - S1000/E1000, 1TB SATA ENT w/ Carrier, 4-Pack</p> <p>OV-ACC901034 HDD - S1000/E1000, 2TB SATA ENT w/ Carrier, 4-Pack</p> <p>SATA II Enterprise Drive Single (7200 RPM)</p> <p>OV-ACC901031 HDD - S1000/E1000, 1TB SATA ENT w/ Carrier</p> <p>OV-ACC901035 HDD - S1000/E1000, 2TB SATA ENT w/ Carrier</p> <p>SATA II “Green” Drive 4-Packs (Variable Speed)</p> <p>OV-ACC901028 HDD - S1000/E1000, 1TB SATA GRN w/ Carrier, 4-Pack</p> <p>OV-ACC901032 HDD - S1000/E1000, 2TB SATA GRN w/ Carrier, 4-Pack</p> <p>SATA II “Green” Drive Single (Variable Speed)</p> <p>OV-ACC901029 HDD - S1000/E1000, 1TB SATA GRN w/ Carrier</p> <p>OV-ACC901033 HDD - S1000/E1000, 2TB SATA GRN w/ Carrier</p> <p><i>NOTE: SnapSAN S1000 arrays may be configured with 4 to 12 drives.</i></p>
Step 1d	<p>Purchase appropriate host connectivity cables based on the controller module selected and cable length needed</p> <p>Host connection cables purchased separately (See Section 2.4.2 for connection specifications)</p>

SnapSAN™ S1000 Configuration Guide

Step 2	Select and Configure SnapDisk E1000
Step 2a	<p>Select Expansion Units – Up to 4 SnapDisk E1000 expansions per SnapSAN S1000</p> <p>OV-EXP201001 SnapDisk E1000, 0-DRIVE (Expansion for SnapSAN S1000)</p>
Step 2b	<p>Add Drives with Drive 4-Packs or Singles.</p> <p>SAS Drive 4-Packs (15K RPM)</p> <p>OV-ACC901036 HDD - S1000/E1000, 300GB SAS w/ Carrier, 4-Pack</p> <p>OV-ACC901038 HDD - S1000/E1000, 600GB SAS w/ Carrier, 4-Pack</p> <p>SAS Drive Single (15K RPM)</p> <p>OV-ACC901037 HDD - S1000/E1000, 300GB SAS w/ Carrier</p> <p>OV-ACC901039 HDD - S1000/E1000, 600GB SAS w/ Carrier</p> <p>SATA II Enterprise Drive 4-Packs (7200 RPM)</p> <p>OV-ACC901030 HDD - S1000/E1000, 1TB SATA ENT w/ Carrier, 4-Pack</p> <p>OV-ACC901034 HDD - S1000/E1000, 2TB SATA ENT w/ Carrier, 4-Pack</p> <p>SATA II Enterprise Drive Single (7200 RPM)</p> <p>OV-ACC901031 HDD - S1000/E1000, 1TB SATA ENT w/ Carrier</p> <p>OV-ACC901035 HDD - S1000/E1000, 2TB SATA ENT w/ Carrier</p> <p>SATA II “Green” Drive 4-Packs (Variable Speed)</p> <p>OV-ACC901028 HDD - S1000/E1000, 1TB SATA GRN w/ Carrier, 4-Pack</p> <p>OV-ACC901032 HDD - S1000/E1000, 2TB SATA GRN w/ Carrier, 4-Pack</p> <p>SATA II “Green” Drive Single (Variable Speed)</p> <p>OV-ACC901029 HDD - S1000/E1000, 1TB SATA GRN w/ Carrier</p> <p>OV-ACC901033 HDD - S1000/E1000, 2TB SATA GRN w/ Carrier</p> <p><i>NOTE: For SnapSAN S1000 arrays, each SnapDisk E1000 expansion unit may be configured with 4 to 12 drives.</i></p>

SnapSAN™ S1000 Configuration Guide

6.2 Support Options for SnapSAN S1000, SnapDisk E1000, Modules, Drives

Support options are available for all SnapSAN S1000 arrays, SnapDisk E1000 expansions. Support, if ordered for a SnapSAN S1000 system and SnapDisk E1000 expansions; all associated with that system, must be at the same level and run concurrently.

OverlandCare Uplift part numbers are valid when purchased within 120 days of the initial hardware purchase. OverlandCare Extension part numbers are valid when purchased 121+ days after the initial hardware purchase or as an extension to the initial warranty purchase

6.2.1 SnapSAN S1000 Support Options

Step 1	Choose support for SnapSAN S1000 Arrays as appropriate																										
Step 1a	<p>Choose appropriate SnapSAN S1000 Support option</p> <p>Support for up to 1 to 5 years can be obtained at the time of initial system purchase by combining appropriate single year offerings.</p> <table> <tr> <td>EWCAREL1R-S1000</td> <td>OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Uplift, S1000</td> </tr> <tr> <td>EWCAREL2U-S1000</td> <td>OverlandCare Level 2 (24x7 Phone/NBD Onsite), 3-Yr New Product Uplift, S1000</td> </tr> <tr> <td>EWCAREL2R-S1000</td> <td>OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Uplift/Renewal, S1000</td> </tr> <tr> <td>EWCAREL3U-S1000</td> <td>OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 3-Yr New Product Uplift, S1000</td> </tr> <tr> <td>EWCAREL3R-S1000</td> <td>OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Uplift/Renewal, S1000</td> </tr> <tr> <td>EWCAREL4U-S1000</td> <td>OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 3-Yr New Product Uplift, S1000</td> </tr> <tr> <td>EWCAREL4R-S1000</td> <td>OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Uplift/Renewal, S1000</td> </tr> <tr> <td>EWCAREL1E-S1000</td> <td>OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Extension, S1000</td> </tr> <tr> <td>EWCAREL2E-S1000</td> <td>OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Extension, S1000</td> </tr> <tr> <td>EWCAREL3E-S1000</td> <td>OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Extension, S1000</td> </tr> <tr> <td>EWCAREL4E-S1000</td> <td>OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Extension, S1000</td> </tr> <tr> <td>EWSECURE-DD24</td> <td>1 YR SECURE DRIVE Exchange, Up to 24 Drives</td> </tr> <tr> <td>EWSECURE-DD8</td> <td>1 YR SECURE DRIVE Exchange, Up to 8 Drives</td> </tr> </table> <p><i>Note: 4 and 5 years of OverlandCare service levels can be obtained by combining 3-Yr Product Uplift and 1-Yr Product Uplift offerings</i></p>	EWCAREL1R-S1000	OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Uplift, S1000	EWCAREL2U-S1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 3-Yr New Product Uplift, S1000	EWCAREL2R-S1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Uplift/Renewal, S1000	EWCAREL3U-S1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 3-Yr New Product Uplift, S1000	EWCAREL3R-S1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Uplift/Renewal, S1000	EWCAREL4U-S1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 3-Yr New Product Uplift, S1000	EWCAREL4R-S1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Uplift/Renewal, S1000	EWCAREL1E-S1000	OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Extension, S1000	EWCAREL2E-S1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Extension, S1000	EWCAREL3E-S1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Extension, S1000	EWCAREL4E-S1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Extension, S1000	EWSECURE-DD24	1 YR SECURE DRIVE Exchange, Up to 24 Drives	EWSECURE-DD8	1 YR SECURE DRIVE Exchange, Up to 8 Drives
EWCAREL1R-S1000	OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Uplift, S1000																										
EWCAREL2U-S1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 3-Yr New Product Uplift, S1000																										
EWCAREL2R-S1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Uplift/Renewal, S1000																										
EWCAREL3U-S1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 3-Yr New Product Uplift, S1000																										
EWCAREL3R-S1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Uplift/Renewal, S1000																										
EWCAREL4U-S1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 3-Yr New Product Uplift, S1000																										
EWCAREL4R-S1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Uplift/Renewal, S1000																										
EWCAREL1E-S1000	OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Extension, S1000																										
EWCAREL2E-S1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Extension, S1000																										
EWCAREL3E-S1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Extension, S1000																										
EWCAREL4E-S1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Extension, S1000																										
EWSECURE-DD24	1 YR SECURE DRIVE Exchange, Up to 24 Drives																										
EWSECURE-DD8	1 YR SECURE DRIVE Exchange, Up to 8 Drives																										

6.2.2 SnapDisk E1000 Support Options

Step 1	Choose support for SnapDisk E1000 expansion units as appropriate																										
Step 1a	<p>Choose appropriate SnapDisk E1000 expansion units Support option</p> <p>Support for up to 1 to 5 years can be obtained at the time of initial system purchase by combining appropriate single year offerings.</p> <table> <tr> <td>EWCAREL1R-E1000</td> <td>OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Uplift, E1000</td> </tr> <tr> <td>EWCAREL2U-E1000</td> <td>OverlandCare Level 2 (24x7 Phone/NBD Onsite), 3-Yr New Product Uplift, E1000</td> </tr> <tr> <td>EWCAREL2R-E1000</td> <td>OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Uplift/Renewal, E1000</td> </tr> <tr> <td>EWCAREL3U-E1000</td> <td>OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 3-Yr New Product Uplift, E1000</td> </tr> <tr> <td>EWCAREL3R-E1000</td> <td>OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Uplift/Renewal, E1000</td> </tr> <tr> <td>EWCAREL4U-E1000</td> <td>OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 3-Yr New Product Uplift, E1000</td> </tr> <tr> <td>EWCAREL4R-E1000</td> <td>OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Uplift/Renewal, E1000</td> </tr> <tr> <td>EWCAREL1E-E1000</td> <td>OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Extension, E1000</td> </tr> <tr> <td>EWCAREL2E-E1000</td> <td>OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Extension, E1000</td> </tr> <tr> <td>EWCAREL3E-E1000</td> <td>OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Extension, E1000</td> </tr> <tr> <td>EWCAREL4E-E1000</td> <td>OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Extension, E1000</td> </tr> <tr> <td>EWSECURE-DD24</td> <td>1 YR SECURE DRIVE Exchange, Up to 24 Drives</td> </tr> <tr> <td>EWSECURE-DD8</td> <td>1 YR SECURE DRIVE Exchange, Up to 8 Drives</td> </tr> </table> <p><i>Note: 4 and 5 years of OverlandCare service levels can be obtained by combining 3-Yr Product Uplift and 1-Yr Product Uplift offerings</i></p>	EWCAREL1R-E1000	OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Uplift, E1000	EWCAREL2U-E1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 3-Yr New Product Uplift, E1000	EWCAREL2R-E1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Uplift/Renewal, E1000	EWCAREL3U-E1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 3-Yr New Product Uplift, E1000	EWCAREL3R-E1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Uplift/Renewal, E1000	EWCAREL4U-E1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 3-Yr New Product Uplift, E1000	EWCAREL4R-E1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Uplift/Renewal, E1000	EWCAREL1E-E1000	OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Extension, E1000	EWCAREL2E-E1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Extension, E1000	EWCAREL3E-E1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Extension, E1000	EWCAREL4E-E1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Extension, E1000	EWSECURE-DD24	1 YR SECURE DRIVE Exchange, Up to 24 Drives	EWSECURE-DD8	1 YR SECURE DRIVE Exchange, Up to 8 Drives
EWCAREL1R-E1000	OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Uplift, E1000																										
EWCAREL2U-E1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 3-Yr New Product Uplift, E1000																										
EWCAREL2R-E1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Uplift/Renewal, E1000																										
EWCAREL3U-E1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 3-Yr New Product Uplift, E1000																										
EWCAREL3R-E1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Uplift/Renewal, E1000																										
EWCAREL4U-E1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 3-Yr New Product Uplift, E1000																										
EWCAREL4R-E1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Uplift/Renewal, E1000																										
EWCAREL1E-E1000	OverlandCare Level 1 (24x7 Phone/NBD Adv. Replace), 1-Yr Extension, E1000																										
EWCAREL2E-E1000	OverlandCare Level 2 (24x7 Phone/NBD Onsite), 1-Yr Extension, E1000																										
EWCAREL3E-E1000	OverlandCare Level 3 (24x7 Phone/9x5x4-Hr Onsite), 1-Yr Extension, E1000																										
EWCAREL4E-E1000	OverlandCare Level 4 (24x7 Phone/24x7x4-Hr Onsite), 1-Yr Extension, E1000																										
EWSECURE-DD24	1 YR SECURE DRIVE Exchange, Up to 24 Drives																										
EWSECURE-DD8	1 YR SECURE DRIVE Exchange, Up to 8 Drives																										

SnapSAN™ S1000 Configuration Guide

6.2.3 Accessories (ACC) and Customer Replaceable Spares (CRS) for SnapSAN S1000 and SnapDisk E1000

If support options are not selected, it is highly recommended that a selection of Accessories (ACC) and Customer Replaceable Spares (CRS) for the SnapSAN S1000 array or SnapDisk E1000 unit is obtained to maximize system availability.

6.2.3.1 SnapSAN S1000 and SnapDisk E1000 ACC and CRS

Step 1	Choose Accessories and Customer Replaceable Spares for SnapSAN S1000 and SnapDisk E1000 as appropriate
Step 1a	<p>Choose appropriate SnapSAN S1000 and SnapDisk E1000 Drive ACC</p> <p>SAS Drive Single (15K RPM) OV-ACC901037 ACC - HDD, 300GB SAS w/ Carrier (S1000, E1000) OV-ACC901039 ACC - HDD, 600GB SAS w/ Carrier (S1000, E1000)</p> <p>SATA II Enterprise Drive Single (7200 RPM) OV-ACC901031 ACC - HDD, 1TB SATA ENT w/ Carrier (S1000, E1000) OV-ACC901035 ACC - HDD, 2TB SATA ENT w/ Carrier (S1000, E1000)</p> <p>SATA II "Green" Drive Single (Variable Speed) OV-ACC901029 ACC - HDD, 1TB SATA GRN w/ Carrier (S1000, E1000) OV-ACC901033 ACC - HDD, 2TB SATA GRN w/ Carrier (S1000, E1000)</p>
Step 1b	<p>Choose appropriate SnapSAN S1000 System ACC and CRS</p> <p>OV-CRS901033 CRS - Rack Mount Bracket Set, 2U (S1000, E1000) OV-CRS901034 CRS - Fan Module, 2U (S1000, E1000) OV-CRS901035 CRS - Power Supply, 2U, 500W (S1000, E1000) OV-CRS901030 CRS - Power Cords, Qty 2, US OV-CRS901031 CRS - Power Cords, Qty 2, UK OV-CRS901032 CRS - Power Cords, Qty 2, EMEA OV-CRS901036 CRS - Battery Backup Module, 2U (SnapSAN S1000 controllers) OV-ACC901044 ACC - SFP, 4Gb, Qty 2 (SnapSAN S1000) OV-CRS901038 CRS - JBOD Controller Module, 6G SAS, 2 port (SnapDisk E1000)</p>

SnapSAN™ S1000 Configuration Guide

About Overland Storage

Overland Storage is the trusted global provider of effortless data management and data protection solutions across the data lifecycle. By providing an integrated range of technologies and services for primary, nearline, offline, archival, and cloud data storage, Overland makes it easy and cost effective to manage different tiers of information over time. Whether distributed data is across-the-hall or across-the-globe, Overland enables companies to focus on building their business instead of worrying about data growth.

Overland SnapSAN™, SnapServer®, NEO® and REO® solutions are available through a select network of value added resellers and system integrators. For more information, visit www.overlandstorage.com

Sales Offices

Americas

125 S. Market Street
San Jose, CA 95113
USA
Tel: 800.729.8725

Asia Pacific

16 New Industrial Road #04-04
Hudson TechnoCentre , Singapore
536204
Tel: +44 (0) 118.989.8000

France

88 ter avenue du Général Leclerc
92100 Boulogne Billancourt
France
Tel: +33 17431.1070

Germany

Wilhelm Wagenfeld Straße 28
80807 München
Germany
Tel: +49.89.329890.800

United Kingdom

Ashville Way
Wokingham, Berkshire
RG41 2PL England
Tel: +44 (0) 118.989.8000