

snapsan™ S1000

Configuration Guide

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SnapSAN™ S1000 Configuration Guide

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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.

This 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).

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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. 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 x 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)

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2.4 General Notes on SnapSAN S1000 Models and Configurations

2.4.1 Configured Capacity

The SnapSAN S1000 is ordered as a zero-drive base system combined with drive 4-Packs allowing customers to configure-to-order. This enables the flexibility 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 how to estimate usable capacities of configured RAID sets (N = Number of drives). Simply multiply the number of drives by the actual 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

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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; however, drives must be the same rotational speeds in columns of three drives. This means that SAS, SATA II and variable speed SATA drives cannot be mixed within the same column of 3 drives, but they can occupy adjacent columns. It is also recommended that drives of the same rotational speed be kept in contiguous columns (e.g. It would not be recommended to have a column of SAS followed by a column of SATA followed by a column of SAS again). Up to (4) four SnapDisk E1000 expansion units can be added with different capacities.

3.1.1 SnapDisk E1000 Overview

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.

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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.

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5 Overland Storage Services for SnapSAN S1000 Arrays

While all Overland products are covered by an initial standard warranty, many users require either longer coverage periods or support options that provide for higher system availability. For these users we offer support upgrades and extensions to the standard warranty at the time of system sale as well as support renewals up to a five year period. If your Overland Storage SnapSAN S1000 solution includes multiple products each item must be covered to the same entitlement. As a special incentive to keep your Overland Storage 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 Standard Warranty

The SnapSAN S1000 is covered by a three-year limited hardware warranty including return to factory hardware support. Overland Storage products are eligible for enhanced Overland Care maintenance options to augment the standard limited warranty. Specially priced multi-year Overland Care support upgrades are available to protect your investment for the life of the product. Support coverage for all SnapDisk E1000 expansion units must be purchased separately and run concurrently with the primary system.

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

5.2 Levels of Support Coverage

There are three levels of service available in yearly increments for SnapSAN S1000 arrays and SnapDisk E1000 expansions. They are described in this section.

5.2.1 Overland PremiumCARE

SnapSAN S1000 arrays and SnapDisk E1000 expansions are eligible for PremiumCARE coverage to provide the greatest system availability and assurance. Specially priced 3-year and single year Overland PremiumCARE support upgrades are available to protect your investment for the life of the product. In addition to the benefits of Overland CARE listed below PremiumCARE provides:

- 24x7 Technical Telephone Support 365 days per year including weekends and holidays
- 4 hour on-site delivery of CRS spares for hardware failures.
- 4 hour on-site engineer assistance for non-CRS hardware failures.

For products beyond the limited warranty coverage, Overland PremiumCARE maintenance also provides software maintenance including firmware and software upgrades as they are made available.

Availability of Overland PremiumCARE is limited to products installed within 100 miles of an Overland Authorized Service location. Please see our service locator at: <http://www.overlandstorage.com/support/worldmap.html> for a complete listing of our worldwide service locations.

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

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5.2.2 Overland CARE

SnapSAN S1000 arrays and SnapDisk E1000 expansions are eligible for enhanced Overland CARE maintenance options to augment and/or extend the standard limited warranty. Specially priced 3-year and single year Overland CARE support upgrades are available to protect your investment for the life of the product.

For SnapSAN S1000 arrays and SnapDisk E1000 expansions under Warranty, Overland CARE maintenance provides:

- Next business day advance replacement delivery of Customer Replaceable Spares (CRS).
- Next business day on-site installation of non-customer replaceable spares.

For SnapSAN S1000 arrays and SnapDisk E1000 expansions beyond the Warranty coverage, Overland CARE maintenance also provides:

- 5x9 Technical Telephone Support during Overland Business hours excluding recognized public and company holidays.
- Software maintenance including operating system upgrades as they are made available.

Software Maintenance includes the following:

- 24x7 access to web-based self-support including on line patches, bug fixes, and new version releases.
- Standard business day technical support access, response time dependent on engineer availability, excluding recognized public and company holidays.

5.2.3 Overland ACCESS

When 24 hour support coverage is required, Overland Access can be added to any Overland CARE maintenance option to obtain 7x24 access to telephone technical support including weekends and holidays.

5.2.4 Summary of Support Offerings for SnapSAN S1000 and SnapDisk E1000

5.2.4.1 SnapSAN S1000 and SnapDisk E1000 Support Offering Summary

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

Feature	Year 1	Year 2	Year 3	Year 4	Year 5
Return to Factory Parts Warranty	Standard Warranty			Overland CARE or Software Maintenance	
5x9 Technical Support During Overland Business Hours					
Software Maintenance					
Next Business Day Advance Replacement Delivery of Desktop Products and/or Customer Replaceable Spares (CRS)	Overland CARE (available in annual increments or 3-year increment at time of purchase)				
Next Business Day On-Site Installation of Non-Customer Replaceable Spares.	Overland ACCESS				
7x24 Access to Telephone Technical Support	Overland PremiumCARE (available in annual increments or 3-year increment at time of purchase)				
7x24 Access to Telephone Technical Support + 4 hour onsite support	Software maintenance is included as part of the Standard Warranty, Overland CARE, and Overland PremiumCARE offerings				
Software maintenance including software/firmware upgrades as they are made available					

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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, 1GbE iSCSI, 4 port (SnapSAN S1000)</p> <p>OV-ACC901040 ACC - RAID Controller Module, 10GbE iSCSI, 2 port (SnapSAN S1000)</p> <p>OV-ACC901041 ACC - RAID Controller Module, 4Gb FC, 2 port (SnapSAN S1000)</p> <p>OV-ACC901043 ACC - RAID Controller Module, 6G SAS, 2 port (SnapSAN S1000)</p> <p>Host connection transceivers for FC or 10GbE iSCSI Controller Modules</p> <p>OV-ACC901044 ACC - SFP, 4Gb, Qty 2 (SnapSAN S1000) – Order one (1) pair of SFP transceivers for each Controller ordered</p> <p>10GbE optical connection transceivers must be ordered separately – Order two (2) SFP+ Optical 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 ACC - HDD, 300GB SAS w/ Carrier, 4-Pack (S1000, E1000)</p> <p>OV-ACC901038 ACC - HDD, 600GB SAS w/ Carrier, 4-Pack (S1000, E1000)</p> <p>SAS Drive Single (15K RPM)</p> <p>OV-ACC901037 ACC - HDD, 300GB SAS w/ Carrier (S1000, E1000)</p> <p>OV-ACC901039 ACC - HDD, 600GB SAS w/ Carrier (S1000, E1000)</p> <p>SATA II Enterprise Drive 4-Packs (7200 RPM)</p> <p>OV-ACC901030 ACC - HDD, 1TB SATA ENT w/ Carrier, 4-Pack (S1000, E1000)</p> <p>OV-ACC901034 ACC - HDD, 2TB SATA ENT w/ Carrier, 4-Pack (S1000, E1000)</p> <p>SATA II Enterprise Drive Single (7200 RPM)</p> <p>OV-ACC901031 ACC - HDD, 1TB SATA ENT w/ Carrier (S1000, E1000)</p> <p>OV-ACC901035 ACC - HDD, 2TB SATA ENT w/ Carrier (S1000, E1000)</p> <p>SATA II “Green” Drive 4-Packs (Variable Speed)</p> <p>OV-ACC901028 ACC - HDD, 1TB SATA GRN w/ Carrier, 4-Pack (S1000, E1000)</p> <p>OV-ACC901032 ACC - HDD, 2TB SATA GRN w/ Carrier, 4-Pack (S1000, E1000)</p> <p>SATA II “Green” Drive Single (Variable Speed)</p> <p>OV-ACC901029 ACC - HDD, 1TB SATA GRN w/ Carrier (S1000, E1000)</p> <p>OV-ACC901033 ACC - HDD, 2TB SATA GRN w/ Carrier (S1000, E1000)</p> <p><i>NOTE: SnapSAN S1000 arrays may be configured with 4 to 12 drives. Drives must be the same rotational speed within a vertical column.</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 2.2 for connection specifications)</p>

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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 (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 ACC - HDD, 300GB SAS w/ Carrier, 4-Pack (S1000, E1000)</p> <p>OV-ACC901038 ACC - HDD, 600GB SAS w/ Carrier, 4-Pack (S1000, E1000)</p> <p>SAS Drive Single (15K RPM)</p> <p>OV-ACC901037 ACC - HDD, 300GB SAS w/ Carrier (S1000, E1000)</p> <p>OV-ACC901039 ACC - HDD, 600GB SAS w/ Carrier (S1000, E1000)</p> <p>SATA II Enterprise Drive 4-Packs (7200 RPM)</p> <p>OV-ACC901030 ACC - HDD, 1TB SATA ENT w/ Carrier, 4-Pack (S1000, E1000)</p> <p>OV-ACC901034 ACC - HDD, 2TB SATA ENT w/ Carrier, 4-Pack (S1000, E1000)</p> <p>SATA II Enterprise Drive Single (7200 RPM)</p> <p>OV-ACC901031 ACC - HDD, 1TB SATA ENT w/ Carrier (S1000, E1000)</p> <p>OV-ACC901035 ACC - HDD, 2TB SATA ENT w/ Carrier (S1000, E1000)</p> <p>SATA II “Green” Drive 4-Packs (Variable Speed)</p> <p>OV-ACC901028 ACC - HDD, 1TB SATA GRN w/ Carrier, 4-Pack (S1000, E1000)</p> <p>OV-ACC901032 ACC - HDD, 2TB SATA GRN w/ Carrier, 4-Pack (S1000, E1000)</p> <p>SATA II “Green” Drive Single (Variable Speed)</p> <p>OV-ACC901029 ACC - HDD, 1TB SATA GRN w/ Carrier (S1000, E1000)</p> <p>OV-ACC901033 ACC - HDD, 2TB SATA GRN w/ Carrier (S1000, E1000)</p> <p><i>NOTE: For SnapSAN S1000 arrays, each SnapDisk E1000 expansion unit may be configured with 4 to 12 drives. Drives must be the same rotational speed within a vertical column in the SnapDisk E1000 expansion unit.</i></p>

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

Support options are available for all SnapSAN S1000 arrays, SnapDisk E1000 expansions and associated SnapSAN S1000 software. Support, if ordered for SnapSAN S1000 Systems, must all be at the same level.

Overland Access covers a single product or installation, that is, a base SnapSAN S1000 Array plus expansion. Therefore, Overland Access is not applicable for individual SnapDisk E1000 and is not listed below.

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 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>EW CARE1U-S1000</td> <td>Overland Care 1yr New Product Uplift, S1000</td> </tr> <tr> <td>EW CARE3U-S1000</td> <td>Overland Care 3yr New Product Uplift, S1000</td> </tr> <tr> <td>EW CARE1R-S1000</td> <td>Overland Care 1yr Renewal, S1000</td> </tr> <tr> <td>EW CARE1E-S1000</td> <td>Overland Care 1yr Extension, yr3+, S1000</td> </tr> <tr> <td>EW PR CARE1U-S1000</td> <td>Premium Care 7x24x4 On Site, 1yr New Product Uplift, S1000</td> </tr> <tr> <td>EW PR CARE3U-S1000</td> <td>Premium Care 7x24x4 On Site, 3yr New Product Uplift, S1000</td> </tr> <tr> <td>EW PR CARE1R-S1000</td> <td>Premium Care 7x24x4 On Site, 1yr Renewal, S1000</td> </tr> <tr> <td>EW PR CARE1E-S1000</td> <td>Premium Care 7x24x4 On Site, 1yr Extension, yr3+, S1000</td> </tr> <tr> <td>EW ACCESS724</td> <td>Overland Access 1yr 7x24 Phone Support Upgrade</td> </tr> <tr> <td>EW SECURE-DD24</td> <td>1 YR SECURE DRIVE Exchange, Up to 24 Drives</td> </tr> <tr> <td>EW SECURE-DD8</td> <td>1 YR SECURE DRIVE Exchange, Up to 8 Drives</td> </tr> </table> <p><i>Note: 4 and 5 years of Care can be obtained by ordering EW CARE3U with EW CARE1E</i></p>	EW CARE1U-S1000	Overland Care 1yr New Product Uplift, S1000	EW CARE3U-S1000	Overland Care 3yr New Product Uplift, S1000	EW CARE1R-S1000	Overland Care 1yr Renewal, S1000	EW CARE1E-S1000	Overland Care 1yr Extension, yr3+, S1000	EW PR CARE1U-S1000	Premium Care 7x24x4 On Site, 1yr New Product Uplift, S1000	EW PR CARE3U-S1000	Premium Care 7x24x4 On Site, 3yr New Product Uplift, S1000	EW PR CARE1R-S1000	Premium Care 7x24x4 On Site, 1yr Renewal, S1000	EW PR CARE1E-S1000	Premium Care 7x24x4 On Site, 1yr Extension, yr3+, S1000	EW ACCESS724	Overland Access 1yr 7x24 Phone Support Upgrade	EW SECURE-DD24	1 YR SECURE DRIVE Exchange, Up to 24 Drives	EW SECURE-DD8	1 YR SECURE DRIVE Exchange, Up to 8 Drives
EW CARE1U-S1000	Overland Care 1yr New Product Uplift, S1000																						
EW CARE3U-S1000	Overland Care 3yr New Product Uplift, S1000																						
EW CARE1R-S1000	Overland Care 1yr Renewal, S1000																						
EW CARE1E-S1000	Overland Care 1yr Extension, yr3+, S1000																						
EW PR CARE1U-S1000	Premium Care 7x24x4 On Site, 1yr New Product Uplift, S1000																						
EW PR CARE3U-S1000	Premium Care 7x24x4 On Site, 3yr New Product Uplift, S1000																						
EW PR CARE1R-S1000	Premium Care 7x24x4 On Site, 1yr Renewal, S1000																						
EW PR CARE1E-S1000	Premium Care 7x24x4 On Site, 1yr Extension, yr3+, S1000																						
EW ACCESS724	Overland Access 1yr 7x24 Phone Support Upgrade																						
EW SECURE-DD24	1 YR SECURE DRIVE Exchange, Up to 24 Drives																						
EW SECURE-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 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>EW CARE1U-E1000</td> <td>Overland Care 1yr New Product Uplift ,E1000</td> </tr> <tr> <td>EW CARE3U-E1000</td> <td>Overland Care 3yr New Product Uplift ,E1000</td> </tr> <tr> <td>EW CARE1R-E1000</td> <td>Overland Care 1yr Renewal ,E1000</td> </tr> <tr> <td>EW CARE1E-E1000</td> <td>Overland Care 1yr Extension, yr3+, E1000</td> </tr> <tr> <td>EW PR CARE1U-E1000</td> <td>Premium Care 7x24x4 On Site, 1yr New Product Uplift, E1000</td> </tr> <tr> <td>EW PR CARE3U-E1000</td> <td>Premium Care 7x24x4 On Site, 3yr New Product Uplift, E1000</td> </tr> <tr> <td>EW PR CARE1R-E1000</td> <td>Premium Care 7x24x4 On Site, 1yr Renewal, E1000</td> </tr> <tr> <td>EW PR CARE1E-E1000</td> <td>Premium Care 7x24x4 On Site, 1yr Extension, yr3+, E1000</td> </tr> <tr> <td>EW SECURE-DD24</td> <td>1 YR SECURE DRIVE Exchange, Up to 24 Drives</td> </tr> <tr> <td>EW SECURE-DD8</td> <td>1 YR SECURE DRIVE Exchange, Up to 8 Drives</td> </tr> </table> <p><i>Note: 4 and 5 years of Care can be obtained by ordering EW CARE3U with EW CARE1E</i></p>	EW CARE1U-E1000	Overland Care 1yr New Product Uplift ,E1000	EW CARE3U-E1000	Overland Care 3yr New Product Uplift ,E1000	EW CARE1R-E1000	Overland Care 1yr Renewal ,E1000	EW CARE1E-E1000	Overland Care 1yr Extension, yr3+, E1000	EW PR CARE1U-E1000	Premium Care 7x24x4 On Site, 1yr New Product Uplift, E1000	EW PR CARE3U-E1000	Premium Care 7x24x4 On Site, 3yr New Product Uplift, E1000	EW PR CARE1R-E1000	Premium Care 7x24x4 On Site, 1yr Renewal, E1000	EW PR CARE1E-E1000	Premium Care 7x24x4 On Site, 1yr Extension, yr3+, E1000	EW SECURE-DD24	1 YR SECURE DRIVE Exchange, Up to 24 Drives	EW SECURE-DD8	1 YR SECURE DRIVE Exchange, Up to 8 Drives
EW CARE1U-E1000	Overland Care 1yr New Product Uplift ,E1000																				
EW CARE3U-E1000	Overland Care 3yr New Product Uplift ,E1000																				
EW CARE1R-E1000	Overland Care 1yr Renewal ,E1000																				
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EW PR CARE1U-E1000	Premium Care 7x24x4 On Site, 1yr New Product Uplift, E1000																				
EW PR CARE3U-E1000	Premium Care 7x24x4 On Site, 3yr New Product Uplift, E1000																				
EW PR CARE1R-E1000	Premium Care 7x24x4 On Site, 1yr Renewal, E1000																				
EW PR CARE1E-E1000	Premium Care 7x24x4 On Site, 1yr Extension, yr3+, E1000																				
EW SECURE-DD24	1 YR SECURE DRIVE Exchange, Up to 24 Drives																				
EW SECURE-DD8	1 YR SECURE DRIVE Exchange, Up to 8 Drives																				

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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>

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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

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