SnapServer SAN S2000

Configuration Guide

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For the latest version of this document, please go to:
http://www.overlandstorage.com/pdfs/SnapServer_SAN_Config_Guide.pdf

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1 Introduction

This document is intended as a guide for configuring and ordering SnapServer SAN S2000 Systems, Optional Components, Expansion 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:

- SnapServer SAN S2000 Systems, Accessories and Software – providing an overview of available SnapServer SAN Systems, Accessories and Software.
- SnapServer SAN S2000 capacity expansion – providing an overview for the SnapServer Expansion E2000 storage available for scalable SnapServer SAN Systems.
- SnapServer SAN S2000 Support Options – providing an overview of the available support options for the SnapServer SAN S2000 Systems, expansion, and software.

The second part of this guide (Section 6) then provides full details on configuring a SnapServer SAN S2000 system with the logical steps to follow when ordering (including part numbers).

2 SnapServer SAN S2000 Systems and Accessories

The SnapServer® SAN S2000 is ideal for businesses that want to scale their iSCSI storage with performance and high availability for demanding application workloads. The SnapServer SAN S2000 includes enterprise-class features such as Auto Provisioning, Snapshots, Replication and Mirroring and remote monitoring using SnapServer Manager™. The SnapServer SAN S2000 scales to 100s of terabytes and provides outstanding performance and ease of use in a 2U rack mount Storage Area Network (SAN) appliance. It is configured with 12 hot-swap enterprise-class SATA or SAS drives and supports RAID levels 0, 1, 5, 6, 10, 50 and 60 for flexible performance and reliability.

2.1 SnapServer SAN S2000 on the External Web

For additional marketing collateral and resources on the SnapServer SAN S2000, that are externally accessible, please refer to: http://www.overlandstorage.com/products/san-storage/iscsi-storage/snapserver-san.aspx.

2.2 SnapServer SAN S2000 Systems

	SnapServer SAN S2000
Processor(s)	1 Quad-Core Processor
Memory	2GB (1 x 2GB Module)
Ethernet Connections	2 x 10/100/1000 Ethernet Ports for Data (Optionally expanded to 10 x 10/100/1000 Ethernet Ports)
Power Supplies	Dual Standard
Drive Type in System	SATA II or SAS
Model Capacities	12TB or 24TB SATA II or 7.2TB SAS
SAS Expansion	Standard
SnapServer Expansion E2000 JBOD Shelves	Up to 4

2.2.1 SnapServer SAN S2000, 12TB SATA

Part Number	Short Description	Long Description
OV-SAN101001	**SnapServer SAN S2000, 12TB SATA (Single Processor)**	SnapServer SAN S2000, 12TB SATA is a 2U 12-Drive rack mount iSCSI Appliance, scalable to 108TB raw capacity via the included SAS interface to support up to 4 SnapServer Expansion E2000 JBOD shelves. Includes 12 x 1TB Hot-Swappable SATAII Drives; 1 x quad core Intel Xeon processor; 2GB of Memory (1 x 2GB Memory Module); dual Gigabit Ethernet ports for data connectivity (expandable up to 10 ports with the addition of a dual-port or quad-port Gigabit Ethernet PCIe Cards); two CAT-5 Ethernet Cables; dual power supplies with 2 power cords for US, UK and EMEA; Slide Rail Rack Mount Kit. Supports RAID 0, 1, 5, 6, 10, 50 and 60 (Configured with RAID 6 as standard). Software Included: SAN Manager Software; iSCSI LUN; Snapshots; VSS, VDS and MPIO Support; VMware plug-in; Auto-Extend. Can optionally be configured with Mirroring and Replication Software with the addition of a second and/or third SnapServer SAN S2000 system.

Form Factor	Raw Capacity	Estimated Configured Capacity	Drive Type	Memory Option	Expansion Options	Ethernet	Power Supply
2U	12.0TB	8.5TB	12 x 1TB SATA	2GB	Up to 4 x SnapServer Expansion E2000	Dual GbE for Data (Optional Expansion to 10 x GbE)	Dual

2.2.2 SnapServer SAN S2000, 24TB SATA

Part Number	Short Description	Long Description
OV-SAN101003	**SnapServer SAN S2000, 24TB SATA (Single Processor)**	SnapServer SAN S2000, 24TB SATA is a 2U 12-Drive rack mount iSCSI Appliance, scalable to 120TB raw capacity via the included SAS interface to support up to 4 SnapServer Expansion E2000 JBOD shelves. Includes 12 x 2TB Hot-Swappable SATAII Drives; 1 x quad core Intel Xeon processor; 2GB of Memory (1 x 2GB Memory Module); dual Gigabit Ethernet ports for data connectivity (expandable up to 10 ports with the addition of a dual-port or quad-port Gigabit Ethernet PCIe Cards); two CAT-5 Ethernet Cables; dual power supplies with 2 power cords for US, UK and EMEA; Slide Rail Rack Mount Kit. Supports RAID 0, 1, 5, 6, 10, 50 and 60 (Configured with RAID 6 as standard). Software Included: SAN Manager Software; iSCSI LUN; Snapshots; VSS, VDS and MPIO Support; VMware plug-in; Auto-Extend. Can optionally be configured with Mirroring and Replication Software with the addition of a second and/or third SnapServer SAN S2000 system.

Form Factor	Raw Capacity	Estimated Configured Capacity	Drive Type	Memory Option	Expansion Options	Ethernet	Power Supply
2U	24.0TB	17.0TB	12 x 2TB SATA	2GB	Up to 4 x SnapServer Expansion E2000	Dual GbE for Data (Optional Expansion to 10 x GbE)	Dual

2.2.3 SnapServer SAN S2000, 7.2TB SAS

Part Number	Short Description	Long Description
OV-SAN101002	**SnapServer SAN S2000, 7.2TB SAS (Single Processor)**	SnapServer SAN S2000, 7.2TB SAS is a 2U 12-Drive rack mount iSCSI Appliance, scalable to 103.2TB raw capacity via the included SAS interface to support up to 4 SnapServer Expansion E2000 JBOD shelves. Includes 12 x 600GB Hot-Swappable SAS Drives; 1 x quad core Intel Xeon processor; 2GB of Memory (1 x 2GB Memory Module); dual Gigabit Ethernet ports for data connectivity (expandable up to 10 ports with the addition of a dual-port or quad-port Gigabit Ethernet PCIe Cards); two CAT-5 Ethernet Cables; dual power supplies with 2 power cords for US, UK and EMEA; Slide Rail Rack Mount Kit. Supports RAID 0, 1, 5, 6, 10, 50 and 60 (Configured with RAID 6 as standard). Software Included: SAN Manager Software; iSCSI LUN; Snapshots; VSS, VDS and MPIO Support; VMware plug-in; Auto-Extend. Can optionally be configured with Mirroring and Replication Software with the addition of a second and/or third SnapServer SAN S2000 system.

Form Factor	Raw Capacity	Estimated Configured Capacity	Drive Type	Memory Option	Expansion Options	Ethernet	Power Supply
2U	7.2TB	6.0TB	12 x 600GB SAS	2GB	Up to 4 x SnapServer Expansion E2000	Dual GbE for Data (Optional Expansion to 10 x GbE)	Dual

2.3 General Notes on SnapServer SAN S2000 Models and Configurations

2.3.1 Configured Capacity

SnapServer SAN S2000 2U 12-Drive systems are shipped without any pre-configured RAID. The "Estimated Configured Capacity" columns in all the tables above reflect an assumed RAID 6 configuration. The actual configured capacity may be selected from RAID 0, 1, 5, 6, 10, 50 or 60 according to the instructions in the User Guide and the selection of the RAID configuration will impact the overall useable capacity..

The following provides the basis for estimated configured capacity using RAID 6:

- Formatted capacity for disk drives are 85% of raw capacity[1]
- RAID-6 consumes the equivalent of 2 x single drive capacity for parity

Therefore, Configured capacity can be calculated as follows:

((12 Drives – 2 Drives for Parity) x ((Raw Capacity x 85% of Raw capacity)
For example, with 12 x 1TB Drives:

((12-2) x ((1TB x 85%))) =
(10 x (850GB)) =
8500GB Configured Capacity

[1] Formatted capacities for individual drives capacities may vary from drive capacity to drive capacity. 85% is used as a conservative estimate.

3 SnapServer SAN S2000 Capacity Expansion

The guidelines below provide configuration and ordering information for SnapServer Expansion E2000 capacity expansion on SnapServer SAN S2000 systems.

3.1 SnapServer Expansion E2000

SnapServer SAN S2000 Models support expansion with SnapServer Expansion E2000. The SnapServer Expansion E2000 can be configured with four (4) to twelve (12) SATA II or SAS drives when being used with SnapServer SAN S2000 systems, however, drives must be the same rotational speeds in columns of three drives. This means that SAS and 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). Multiple SnapServer Expansion E2000 JBOD shelves can be added with different capacities.

3.1.1 SnapServer Expansion E2000 Overview

The SnapServer Expansion E2000 can be utilized to provide additional expansion capacity to SnapServer SAN S2000 systems.

The SnapServer Expansion E2000 can be configured with up to 12 SATA II or SAS Drives. SnapServer Expansion E2000 JBOD units include SAS I/O Controllers for both input from the SnapServer SAN S2000 system as well as daisy chaining to additional SnapServer Expansion E2000 JBOD shelves, a rail-kit for each rack installation and a 1-meter external SAS cable for host connection or daisy chaining.

Note: SnapServer Expansion E2000 units are sold without drives and contain 8 drive slot blanks. Drives may be ordered in 4-packs or as singles. ***Drives used in the SnapServer Expansion E2000 must be obtained from Overland Storage and have SnapServer Expansion E2000 Drive Carriers.***

3.1.2 General SnapServer Expansion Configuration Notes

3.1.2.1 Interconnect

SnapServer SAN S2000 systems are pre-configured with SAS connectivity for Expansion.

3.1.2.2 Expansion Drive Notes

The SnapServer Expansion E2000 can be configured for SnapServer SAN S2000 expansion with either 1TB or 2TB SATAII drives; or 600GB SAS drives; however, ***all drives in a given column of three (3) drives in the SnapServer Expansion E2000 must be the same rotational speed*** when being used for SnapServer SAN S2000 Expansion.

3.1.2.3 Cables

A 1-meter SAS cable is included with each SnapServer Expansion E2000 for connection to either the SnapServer SAN S2000 SAS connection (for initial SnapServer SAN S2000 Expansion) or to another SnapServer Expansion E2000 for daisy chaining. The SnapServer Expansion E2000 also contains two (2) power cords each for US, UK, and EMEA.

4 SnapServer SAN S2000 Optional Software

SnapServer SAN S2000 has two optional software packages; one for Mirroring iSCSI LUNs for high-availability and one for Disk Replication to replicate data to a remote host over the network or with a USB drive.

4.1.1 SnapServer SAN Replication Software

Part Number	Short Description	Long Description
OV-SAN101004	**SnapServer SAN Replication SW**	SnapServer SAN Replication Software is licensed to allow replication of SnapServer SAN S2000 data to a remote system for disaster recovery. SnapServer SAN Replication Software license is required only on the system that data to be replicated resides on, however, if two-way replication is desired, the Replication License would be required on both the source and target systems.

4.1.2 SnapServer SAN Mirroring Software

Part Number	Short Description	Long Description
OV-SAN101005	**SnapServer SAN Mirroring SW**	SnapServer SAN Mirroring Software is licensed to allow Mirroring of SnapServer SAN S2000 data to a local system for high-availability and failover. SnapServer SAN Mirroring Software license is required only on the system that data to be mirrored resides on, however, if bi-directional mirroring is desired, the Mirroring License would be required on both the source and target systems.

5 Overland Storage Services for SnapServer SAN S2000

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 SnapServer SAN S2000 solution includes multiple products each item must be covered to the same entitlement. As a special incentive to keep your Overland Storage SnapServer SAN S2000 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

SnapServer SAN products are covered by a limited warranty providing a true appliance warranty model that covers all aspects of the product for the warranty period and includes:

- Return to Factory parts warranty.
- 5x9 Technical Telephone Support during Overland Business hours excluding recognized public and company holidays.
- Software maintenance for SnapServer SAN software upgrades and patches as available.

For full details of warranty terms, please refer to:
http://www.overlandstorage.com/support/coverage.pdf

For full details of current service programs, please refer to
http://www.overlandstorage.com/support/service_programs.html

5.2 Levels of Support Coverage

There are three levels of service available in yearly increments[2] for SnapServer SAN S2000 Systems as well as supplemental software coverage for optional software as follows:

5.2.1 Overland PremiumCare

SnapServer SAN S2000 Systems are eligible for PremiumCare coverage to provide the greatest system availability and assurance. In addition to the benefits of Overland Care listed below PremiumCare provides:

- 7x24 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 operating system 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.

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2 At the time of system purchase, Overland CARE is also available in a 3-year increment.

For complete details about these and other service programs please log into our support portal and see our complete coverage documentation at:
http://www.overlandstorage.com/support/internal/Serv_option_detail.pdf

5.2.2 Overland CARE

SnapServer SAN S2000 Systems 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 SnapServer SAN S2000 Systems 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 SnapServer SAN S2000 Systems 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:

- Lowest cost support offering 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.

6 Purchasing Guide

6.1 Base SnapServer SAN S2000 Systems, Options and Expansion

The tables below provide ordering information to configure SnapServer SAN S2000 systems with options and SnapServer Expansion E2000 with a common drive type throughout.

Support Options and Field Replaceable Units are also addressed as separate sections in the Purchasing Guide.

Step 1	**Choose and configure a Base Scalable SnapServer SAN S2000 System**
Step 1a	**Choose a Scalable SnapServer SAN S2000 System**
	OV-SAN101001 - SnapServer SAN S2000, 12TB SATA (Single Processor) OV-SAN101003 - SnapServer SAN S2000, 24TB SATA (Single Processor) OV-SAN101002 - SnapServer SAN S2000, 7.2TB SAS (Single Processor)
Step 1b	**If additional Ethernet connectivity is desired, select one or two of the following PCIe Ethernet cards.**
	OV-ACC901005 - ACC - PCIe Card, Dual Port Gig/E Card OV-ACC901015 - ACC - PCIe Card, Quad Port Gig/E Card
Step 1c	**If Mirroring for High Availability is desired, select Mirroring Software below.** **(Note: If Mirroring is selected, a second SnapServer SAN S2000 must be ordered and Mirroring may also be licensed for that second system)**
	OV-SAN101005 - SnapServer SAN Mirroring SW
Step 1d	**If Replication for Disaster Recovery is desired, select Replication Software below.** **(Note: If Replication is selected, a second SnapServer SAN S2000 must be ordered and Replication may also be licensed for that second system)**
	OV-SAN101004 - SnapServer SAN Replication SW

Step 2	**Select and Configure SnapServer Expansion E2000**
Step 2a	**Select Expansion Units (Up to 4 SnapServer Expansion E2000 JBOD shelves per SnapServer SAN S2000 System)**
	OV-EXP101001 - SnapServer EXP E2000
Step 2b	**Add Drives with Drive 4-Packs or Singles.** ***(NOTE: For SnapServer SAN S2000 Systems, each SnapServer Expansion E2000 JBOD shelf may be configured with 4 to 12 drives. Drives must be the same rotational speed within a horizontal column in the SnapServer Expansion E2000 JBOD shelf.)***
	SATA Drive 4-Packs (7200 RPM) OV-ACC901011 - ACC - HDD, 1TB SATAII w/ Carrier, 4 pack OV-ACC901012 - ACC - HDD, 2TB SATAII w/ Carriers, 4 pack **SATA Drive Single (7200 RPM)** OV-CRS901015 - CRS - HDD, 1TB SATAII w/ Carrier OV-CRS901016 - CRS - HDD, 2TB SATAII w/ Carrier **SAS Drive 4-Packs (15K RPM)** OV-ACC901013 - ACC - HDD, 600GB SAS w/ Carrier, 4 Pack **SAS Drive Single (15K RPM)** OV-CRS901017 - CRS - HDD, 600GB SAS w/ Carrier

6.2 Support Options for SnapServer SAN S2000 and Expansion

Support options are available for all SnapServer SAN S2000 Systems with SAN Manager Software and SnapServer Expansion E2000 JBOD shelves.

Support, if ordered for SnapServer SAN S2000 Systems and SnapServer Expansion E2000 JBOD shelves associated with that system, must all be at the same level.

Overland Access covers a single product or installation, that is, a server plus expansion therefore, Overland Access is not applicable for individual SnapServer Expansion E2000 parts.

6.2.1 Overland PremiumCare

Step 1	**Choose PremiumCare for SnapServer SAN S2000 systems if this is the desired level of service.**
Step 1a	**Choose appropriate SnapServer SAN S2000 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.**
	Three Year Coverage: EWPRCARE3U-S2000 - Premium Care 7x24x4 On Site, 3yr New Product Uplift , S2000 And, if applicable: EWPREMCARE3U-E20 - PremiumCare 7x24x4 On Site, 3yr New Product Uplift , E2000 ***Note: E2000 coverage must be applied for every SnapServer Expansion E2000 connected to the SnapServer SAN S2000 system*** **One Year Coverage:** EWPRCARE1U-S2000 - Premium Care 7x24x4 On Site, 1yr New Product Uplift , S2000 And, if applicable EWPREMCARE1U-E20 - PremiumCare 7x24x4 On Site, 1yr New Product Uplift , E2000 ***Note: E2000 coverage must be applied for every SnapServer Expansion E2000 connected to the SnapServer SAN S2000 system*** **Two Year Coverage** If Two Year Coverage is desired, the following parts can be ordered with a quantity of 1 to the One Year Coverage parts above (i.e. CARE1U + CARE1R): EWPRCARE1R-S2000 - Premium Care 7x24x4 On Site, 1yr Renewal , S2000 And, if applicable: EWPREMCARE1R-E20 - PremiumCare 7x24x4 On Site, 1yr Renewal , E2000 ***Note: E2000 coverage must be applied for every SnapServer Expansion E2000 connected to the SnapServer SAN S2000 system*** **Four or Five Year Coverage:** If Four or Five Year Coverage is desired, the following parts can be added with a quantity of 1 or 2 to the three year coverage parts above (i.e. CARE3U + CARE1E) ***(Note: 5 Year maximum coverage is allowed at the time of product purchase):*** EWPRCARE1E-S2000 - Premium Care 7x24x4 On Site, 1yr Extension, yr3+, S2000 And, if applicable EWPREMCARE1E-E20 - PremiumCare 7x24x4 On Site, 1yr Extension, yr3+, E2000

6.2.2 Overland Care

Step 1	**Choose Care for SnapServer SAN S2000 systems if this is the desired level of service.**
Step 1a	**Choose appropriate SnapServer SAN S2000 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.**
	Three Year Coverage: EWCARE3U-S2000 - Overland Care 3yr New Product Uplift, S2000 And, if applicable: EWCARE3U-E2000 - Overland Care 3yr New Product Uplift , E2000 ***Note: E2000 coverage must be applied for every SnapServer Expansion E2000 connected to the SnapServer SAN S2000 system*** **One Year Coverage:** EWCARE1U-S2000 - Overland Care 1yr New Product Uplift, S2000 And, if applicable EWCARE1U-E2000 - Overland Care 1yr New Product Uplift , E2000 ***Note: E2000 coverage must be applied for every SnapServer Expansion E2000 connected to the SnapServer SAN S2000 system*** **Two Year Coverage** If Two Year Coverage is desired, the following parts can be ordered with a quantity of 1 to the One Year Coverage parts above (i.e. CARE1U + CARE1R): EWCARE1R-S2000 - Overland Care 1yr Renewal, S2000 And, if applicable: EWCARE1R-E2000 - Overland Care 1yr Renewal , E2000 ***Note: E2000 coverage must be applied for every SnapServer Expansion E2000 connected to the SnapServer SAN S2000 system*** **Four or Five Year Coverage:** If Four or Five Year Coverage is desired, the following parts can be added with a quantity of 1 or 2 to the three year coverage parts above (i.e. CARE3U + CARE1E) ***(Note: 5 Year maximum coverage is allowed at the time of product purchase):*** EWCARE1E-S2000 - Overland Care 1yr Extension, yr3+, S2000 And, if applicable EWCARE1E-E2000 - Overland Care 1yr Extension, yr3+, E2000

6.2.3 Software Maintenance

Overland Care and Overland PremiumCare provide Software maintenance and support for all included software with the SnapServer SAN S2000 system. Warranty provides software maintenance for the first two years. Coverage beyond the initial two year period, if not covered by Care or PremiumCare coverage, must be purchased separately. If SnapServer SAN Mirroring Software or SnapServer SAN Replication Software is also licensed, they must also have Software Maintenance Support options to obtain maintenance and support for those options.

Step 1	**Choose Software Maintenance for SnapServer SAN S2000 base Software if this is the desired level of service.**
Step 1a	**Choose appropriate SnapServer SAN S2000 Software Maintenance options** **Support for up to 1 to 5 years can be obtained at the time of initial system purchase by combining appropriate single year offerings.**
	Three, Four or Five Year Coverage: SWMAINT1E-S2000 - Software Maintenance 1yr Extension, S2000 ***Note: Software Maintenance is only required if the SnapServer SAN S2000 is not covered by Care or PremiumCare and, for3 year coverage, only a single year extension is required since coverage for the first two years is provided by warranty.***

Step 2	**Choose Software Maintenance for SnapServer SAN S2000 Mirroring and/or Replication Software if this is the desired level of service.**
Step 2a	**Choose appropriate SnapServer SAN S2000 Software Maintenance options** **Support for up to 1 to 5 years can be obtained at the time of initial system purchase by combining appropriate single year offerings.**
	Three Year Coverage: SWMAINT3U-SANREP - Software Maintenance 3yr New Product Uplift, SAN Replication And, if applicable: SWMAINT3U-SANMIR - Software Maintenance 3yr New Product Uplift, SAN Mirroring ***Note: Software Maintenance coverage must be applied for every SnapServer SAN S2000 on which Replication and/or Mirroring Software is licensed.*** **One Year Coverage:** SWMAINT1U-SANREP - Software Maintenance 1yr New Product Uplift, SAN Replication And, if applicable SWMAINT1U-SANMIR - Software Maintenance 1yr New Product Uplift, SAN Mirroring ***Note: Software Maintenance coverage must be applied for every SnapServer SAN S2000 on which Replication and/or Mirroring Software is licensed.*** **Two Year Coverage** If Two Year Coverage is desired, the following parts can be ordered with a quantity of 1 to the One Year Coverage parts above (i.e. SWMAINT1U + SWMAINT1E): SWMAINT1E-SANREP - Software Maintenance 1yr Extension, SAN Replication And, if applicable: SWMAINT1E-SANMIR - Software Maintenance 1yr Extension, SAN Mirroring ***Note: Software Maintenance coverage must be applied for every SnapServer SAN S2000 on which Replication and/or Mirroring Software is licensed.*** **Four or Five Year Coverage:** If Four or Five Year Coverage is desired, the following parts can be added with a quantity of 1 or 2 to the three year coverage parts above (i.e. SWMAINT3U + SWMAINT1E) ***(Note: 5 Year maximum coverage is allowed at the time of product purchase):*** SWMAINT1E-SANREP - Software Maintenance 1yr Extension, SAN Replication And, if applicable: SWMAINT1E-SANMIR - Software Maintenance 1yr Extension, SAN Mirroring ***Note: Software Maintenance coverage must be applied for every SnapServer SAN S2000 on which Replication and/or Mirroring Software is licensed.***

6.2.4 Overland Access

Step 1	**Choose Access for SnapServer SAN S2000 systems to upgrade Overland Care to 7x24 Access.**
Step 1a	**Choose Access if you wish to upgrade Overland Care to 7x24 Access but do not need to coverage of PremiumCare.**
	EWACCESS724 - Overland Access 1 yr 7x24 Phone Support Upgrade ***Note: The quantity required should match the number of SnapServer SAN S2000 systems multiplied by the number of Years of Care coverage. There is no requirement to add Access for SnapServer Expansion E2000 JBOD Expansion shelves.***

6.2.5 Overland Secure Drive Exchange

Step 1	Choose Secure Drive Exchange if your drives cannot be returned to Overland.
Step 1a	**Choose Secure Drive Exchange for the total number of drives in your SnapServer SAN S2000 system and SnapServer Expansion E2000 JBOD Expansion.**
	EWSECURE-DD24 1 YR SECURE DRIVE Exchange, Up to 24 Drives EWSECURE-DD8 1 YR SECURE DRIVE Exchange, Up to 8 Drives ***Note: The quantity required should match the number Drives in SnapServer SAN S2000 systems (12 each) and SnapServer Expansion E2000 JBOD shelves (12 each) multiplied by the number of Years of PremiumCare or Care coverage.***

6.2.6 Customer Replaceable Spares (CRS) for SnapServer SAN S2000 Systems and Expansion

If support options are not selected, it is highly recommended that a selection of Customer Replaceable Spares (CRS) for the SnapServer SAN S2000 and the SnapServer Expansion E2000 system are obtained to maximize system availability.

6.2.6.1 SnapServer SAN S2000 Customer Replaceable Spares (CRS)

Step 1	**Choose an appropriate selection of CRS for SnapServer SAN systems as appropriate.**
Step 1a	**Choose appropriate SnapServer SAN S2000 Drive CRS**
	OV-CRS901015 - CRS - HDD, 1TB SATAII w/ Carrier OV-CRS901016 - CRS - HDD, 2TB SATAII w/ Carrier OV-CRS901017 - CRS - HDD, 600GB SAS w/ Carrier
Step 1b	**Choose appropriate SnapServer SAN S2000 System CRS**
	OV-ACC901002 - ACC - DIMM, 2GB DDR3 1333MHz Registered OV-CRS901019 - CRS - PCIe Card, RAID Controller, 8/8 OV-CRS901020 - CRS - Battery Backup Module, RAID Controller, 8/8 OV-CRS901002 - CRS - Slide Rails, 2U Chassis OV-ACC901005 - ACC - PCIe Card, Dual Port Gig/E Card OV-ACC901015 - ACC - PCIe Card, Quad Port Gig/E Card OV-CRS901006 - CRS - Fan, Chassis 2U OV-CRS901009 - CRS - Power Supply, 2U Chassis, 800W OV-CRS901010 - CRS - Power Cord, US OV-CRS901011 - CRS - Power Cord, UK OV-CRS901012 - CRS - Power Cord, EMEA

6.2.6.2 SnapServer Expansion E2000 Customer Replaceable Spares (CRS)

Step 1	**Choose an appropriate selection of CRS for SnapServer Expansion E2000 as appropriate.**
Step 1a	**Choose appropriate SnapServer Expansion E2000 Drive CRS**
	OV-CRS901015 - CRS - HDD, 1TB SATAII w/ Carrier OV-CRS901016 - CRS - HDD, 2TB SATAII w/ Carrier OV-CRS901017 - CRS - HDD, 600GB SAS w/ Carrier
Step 1b	**Choose appropriate SnapServer Expansion E2000 JBOD CRS**
	OV-CRS901002 - CRS - Slide Rails, 2U Chassis OV-CRS901006 - CRS - Fan, Chassis 2U OV-CRS901009 - CRS - Power Supply, 2U Chassis, 800W OV-CRS901007 - CRS - Cable, E2000, External, 1M OV-CRS901010 - CRS - Power Cord, US OV-CRS901011 - CRS - Power Cord, UK OV-CRS901012 - CRS - Power Cord, EMEA