Infortrend ESVA® Family

Enterprise Scalable Virtualized Architecture

Highlights

Optimized ROI
Ensures the most efficient allocation of consolidated capacity and computing power, and meets wide array of service level requirements

Simplified Infrastructure
Enables a single point of administration and online scaling

Maximized Productivity
Supports the highest data availability and quick service restart after storage accidents

With business growth comes increased demand for storage capacity and performance. Moreover, there is always the possibility that accidents, such as human errors, hardware malfunctions and disasters, threaten data integrity and availability. Finding ways to effectively store and protect vital applications and data therefore becomes essential for companies. However, in today's economic environment, this task can be challenging. Equipped with comprehensive data services, ESVA helps you deal with your storage challenges in the most cost-effective way. ESVA's unique modular design allows you to “pay as you grow”, and lowers your operating costs without sacrificing the storage capacity and performance you need.

All ESVA systems come with a 3-year standard hardware warranty and 3-year free software update. Included in the warranty period are advanced FRU next business day dispatch and 3 years of 24x7 phone and web technical support at no additional cost. Infortrend partner service providers are available to deliver Advanced and Premium services, which include next business day or 4-hour onsite diagnostics service for mission-critical applications. To properly protect your long-term investments in IT equipment, extended warranty and RMA services are also available.

Enterprise Scalable Virtualized Architecture

Flexible and optimized high performance storage for organizations and businesses

Optimized Return on Investment

With storage virtualization technology, the capacity and computing power of multiple ESVA systems can be consolidated into a storage pool. For the most efficient utilization of pooled capacity, ESVA arrays support thin provisioning. Capacity is dynamically allocated to applications when data is written, while minimizing space, power and cooling expenses for large, underutilized data volumes common in traditional storage environments.

By enabling users to flexibly assign applications to four available tiers distinguished by different drive types and RAID levels, and offering automated data migration, automated storage tiering on ESVA helps users meet a wide array of service level requirements.

ESVA also comes with an intelligent access prioritizing mechanism, creating different priorities for data volumes based on actual needs. Combined with energy-efficient design, ESVA's advanced technologies enable you to make the most of your storage investment.

Simplified Storage Infrastructure

ESVA simplifies storage management by enabling a single point of administration. Scaling the ESVA storage pool is also a very easy task. Expansion enclosures can be connected to the ESVA system for increased capacity. If you want to increase capacity and promote performance at the same time, you can scale out the virtualized foundation by adding additional ESVA systems. All scaling and configuration tasks can be done online.

When a new system is added, the distributed load balancing technology will dynamically balance workloads among storage systems for increased processing power. Power is increased with capacity expansion, allowing it to handle even the most demanding high-performance applications. If you remove a system from the pool, the load-balancing technology will also automatically migrate data to maintain the optimized performance without disrupting service.

Maximized Application Productivity

In the competitive business world, downtime can lead to profit loss and threaten business continuity. With the revolutionary ESVA architecture, downtime for storage scaling is eliminated.

ESVA includes storage-based replication capabilities. Local replication features space-efficient snapshots that can serve as granular recovery points, based on which files can be restored and data can be rolled back. Local replication also offers full data copies within a storage pool, while remote replication enables users to create full data copies across storage pools. These data copies can be readily leveraged by host applications to resume operations when the original data is corrupt. By strategically deploying snapshot images and full data copies, you can achieve the highest data availability with a minimum service downtime in the event of logical or physical errors.

Technical Specifications

Fibre-host Series

	ESVA F75-2830	ESVA F75-2830L	ESVA F60-2830
Hardware Configurations			
Host Ports	8 x 8Gb/s FC ports + 4 x 1Gb/s iSCSI ports[1]		8 x 8Gb/s FC ports
Drive Connectivity	6Gb/s SAS		
Cache Memory	16GB or 32GB		8GB
Starting Configuration (No. of Drives)	8		
Supported Drives	2.5" SAS 6G MLC SSD - 200GB, 400GB or 800GB 2.5" 10K RPM SAS drives - 300GB, 450GB, 600GB, 900GB or 1.2TB 3.5" 15K RPM SAS drives - 300GB, 450GB or 600GB 3.5" 7,200 RPM Nearline SAS drives - 2TB, 3TB, 4TB or 6TB		
Max. Drive (per system)	16		
Max. LUNs	4096		1024
Max. Drive (via scale-out[3])	4800	800	1344
Expansion Enclosure (JBOD)	ESVA J75-250 (48 - 3.5" drives) ESVA J60-230 (16 - 3.5" and 2.5" drives) ESVA J45-240 (24 - 2.5" drives only)		ESVA J60-230 (16 - 3.5" and 2.5" drives)
Form Factor	3U		
Data Services			
Enterprise Scalable Virtualized Architecture	Linear scaling of performance and capacity; storage pooling; thin provisioning; automatic data migration; prioritized volume accessibility; distributed load balancing; automated storage tiering[2]		
Data Protection	**Local Replication**[2]: Snapshot; Volume Copy/Volume Mirror; Quick Recovery **Remote Replication**[3]: Synchronous or Asynchronous; Data Compression; Near Continuous Data Protection (N-CDP)		
Green	80 PLUS-certified power supplies delivering more than 80% energy efficiency Intelligent multi-level drive spin-down		
RAID Configurations	RAID level 0, 1, 3, 5, 6, 10, 50, 60		
Availability and Reliability	Redundant, hot-swappable hardware modules; CacheSafe technology; Multi-pathing support (EonPath); Device mapper support Port trunking / link aggregation (IEEE 802.3ad)[4], fail-over[4], jumbo frame[4]		
Notification	Email, Fax, LAN broadcast, SNMP traps, SMS, Skype		
Management	SANWatch management suite; Terminal via RS-232C		
OS Support[5]	Windows Server 2003 / 2008 / 2008 R2 / 2012 (including Hyper-V)/2012R2, Windows 7 Enterprise Sp1, MAC OS X RedHat Enterprise Linux, SUSE Linux Enterprise, Sun Solaris, IBM AIX, HP-UX, Debian, CentOS, VMware, Citrix XenServer		
Service and Support[6]	All ESVA systems are shipped with 3-year Standard Service.		
Standard Service	Hardware warranty; replacement part dispatch on the next business day Software update; 24x7 phone, web and email support		
Advanced Service[7]	**Standard Service** + Onsite diagnostics on the next business day		
Premium Service[7]	**Standard Service** + Onsite diagnostics in 4 hours		

[1] iSCSI Host ports are optional on ESVA F75-2830 and ESVA F75-2830L. Please check availability with your sales representative.
[2] Available with optional license on the ESVA F75-2830 and ESVA F60-2830.
[3] Available with optional license on the ESVA F75-2830, ESVA F75-2830L and ESVA F60-2830. Synchronous remote replication available on ESVA F60-2830.
[4] Only available on iSCSI ports for F75-2830 and F75-2830L.
[5] For compatibility details, please contact our sales representatives.
[6] Service may vary by region.
[7] Optional.

iSCSI-host Series

	ESVA E75-2230	ESVA E75-2230L
Hardware Configurations		
Host Ports	4 x 10Gb/s iSCSI ports+ 4 x 1Gb/s iSCSI ports[1]	
Drive Connectivity	6Gb/s SAS	
Cache Memory	16GB or 32GB	
Starting Configuration (No. of Drives)	8	
Supported Drives	2.5" SAS 6G MLC SSD - 200GB, 400GB or 800GB 2.5" 10K RPM SAS drives - 300GB, 450GB, 600GB, 900GB or 1.2TB 3.5" 15K RPM SAS drives - 300GB, 450GB or 600GB 3.5" 7,200 RPM Nearline SAS drives - 2TB, 3TB, 4TB or 6TB	
Max. Drive (per system)	16	
Max. Drive (via scale-out[3])	4800	800
Expansion Enclosure (JBOD)	ESVA J75-250 (48 - 3.5" drives) ESVA J60-230 (16 - 3.5" and 2.5" drives) ESVA J45-240 (24 - 2.5" drives only)	
Form Factor	3U	
Data Services		
Enterprise Scalable Virtualized Architecture	Linear scaling of performance and capacity; storage pooling; thin provisioning; automatic data migration; prioritized volume accessibility; distributed load balancing; automated storage tiering[2]	
Data Protection	**Local Replication**[2]: Snapshot; Volume Copy/Volume Mirror; Quick Recovery **Remote Replication**[3]: Synchronous or Asynchronous; Data Compression; Near Continuous Data Protection (N-CDP)	
Green	80 PLUS-certified power supplies delivering more than 80% energy efficiency Intelligent multi-level drive spin-down	
RAID Configurations	RAID level 0, 1, 3, 5, 6, 10, 50, 60	
Availability and Reliability	Redundant, hot-swappable hardware modules; CacheSafe technology; Multi-pathing support (EonPath); Device mapper support Port trunking / link aggregation (IEEE 802.3ad), fail-over, jumbo frame	
Notification	Email, Fax, LAN broadcast, SNMP traps, SMS, Skype	
Management	SANWatch management suite; Terminal via RS-232C	
OS Support[4]	Windows Server 2003 / 2008 / 2008 R2 / 2012 (including Hyper-V)/2012R2, , Windows 7 Enterprise Sp1, MAC OS X RedHat Enterprise Linux, SUSE Linux Enterprise, Sun Solaris, IBM AIX, HP-UX, Debian, CentOS, VMware, Citrix XenServer	
Service and Support[5]	All ESVA systems are shipped with 3-year Standard Service.	
Standard Service	Hardware warranty; replacement part dispatch on the next business day Software update; 24x7 phone, web and email support	
Advanced Service[6]	**Standard Service** + Onsite diagnostics on the next business day	
Premium Service[6]	**Standard Service** + Onsite diagnostics in 4 hours	

[1] 1Gb/s iSCSI ports are optional for the ESVA E75-2230 and ESVA E75-2230L. Please check availability with your sales representative.
[2] Available with optional license on the ESVA E75-2230 .
[3] Available with optional license on the ESVA E75-2230 and ESVA E75-2230L
[4] For the latest compatibility details, please contact our sales representatives.
[5] Service may vary by region.
[6] Optional.

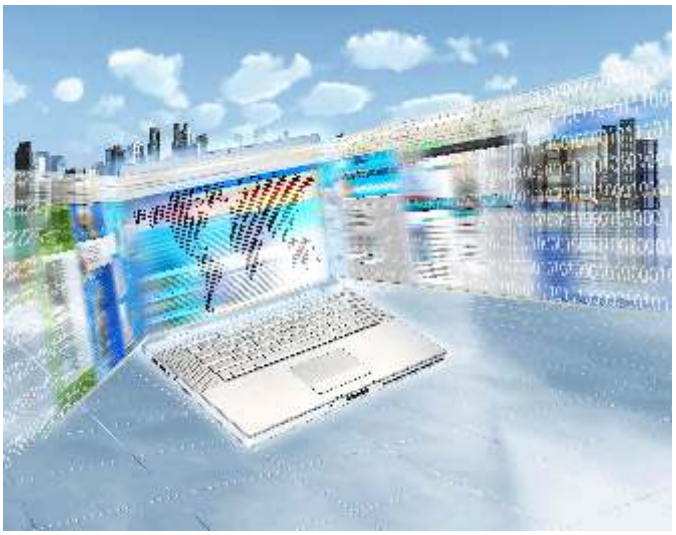
	ESVA F60-2830	ESVA F75-2830 ESVA E75-2230	ESVA F75-2830L ESVA E75-2230L
Virtualization			
Storage-based Virtualization	Yes	Yes	Yes
Thin Provisioning	Yes	Yes	Yes
Zero Downtime Capacity Expansion	Yes	Yes	Yes
Rolling Firmware Update	Yes	Yes	Yes
Maximum Number of Disks in a Virtual Pool	1344	4800	800
Maximum Number of Virtual Volumes in a Virtual Pool	1024	1024	1024
Maximum Size of a Virtual Pool	2PB	2PB	2PB
Maximum Size of a Virtual Volume	2PB	2PB	2PB
Minimum Size of a Virtual Volume	10GB	10GB	10GB
Scale-out			
Horizontal performance scaling	Yes	Yes	Yes
Distributed Load Balancing	Yes	Yes	Yes
Balanced Data Migration	Yes	Yes	Yes
Prioritized Volume Access	Yes	Yes	Yes
Maximum Number of Systems in a Virtual Pool	12	12	2
Snapshot			
Snapshot Rollback	Yes	Yes	Yes
Maximum Number of Snapshot Images for a Source Volume	1024	1024	1024
Maximum Number of Snapshot Images in a Virtual Pool	16,000	16,000	16,000
Replication			
Sync and Async Remote Replication	Yes	Yes	Yes
Data Compression for Async Remote Replication	Yes	Yes	Yes
Volume Copy/Volume Mirror	Yes	Yes	Yes
Disaster Tolerance	Yes	Yes	Yes
Maximum Number of Source Volumes in a Virtual Pool	32	32	32
Maximum Number of Concurrent Replication Pairs of a Source Volume	8	8	8
Maximum Number of Concurrent Replication Pairs in a Virtual Pool	256	256	256
Automated Storage Tiering			
Automated Storage Tiering	Yes	Yes	Yes
Sub-Volume Tiering	Yes	Yes	Yes
Maximum Number of Storage Tiers	4	4	4
Storage Tiers Based on Drive Type	Yes	Yes	Yes
SSD Support	Yes	Yes	Yes
Storage Tiers Based on RAID Level	Yes	Yes	Yes
Automated Data Migration with Scheduling Options	Yes	Yes	Yes

24x7 Global Support: http://support.infortrend.com/esva

ESVA Data Services

Rapidly growing data leads to burgeoning storage needs. An ideal storage solution for mission-critical applications should not only provide necessary capacity and performance to accommodate data and process transactions, but also ensure quick recovery from unplanned outages or disasters. However, the dynamic nature of applications makes it difficult to anticipate data demands. Leveraging storage based on traditional rigid architectures to deal with changing needs often leads to wasted investments in storage along with additional management overhead.

Infortrend's ESVA offers industry-leading storage systems built on a revolutionary architecture featuring virtualization and scale-out technologies. Enhanced with comprehensive data services and data protection features, ESVA can meet the most demanding storage requirements at attractive price points and provide enhanced management efficiency.



Efficient Resource Utilization

Through our storage virtualization technology, the capacity and computing power of multiple ESVA storage systems are consolidated into single or multiple storage pools. Coupled with thin provisioning and an intelligent access prioritizing mechanism, the Infortrend ESVA ensures the most efficient utilization of pooled resources.

- Allocate capacity dynamically when data writes happen to minimizes expenses wasted on large and underutilized data volumes
- Eliminate the administration overhead associated with capacity planning and utilization monitoring of each data volume
- Arrange I/Os in the queue based on their priority to allow applications to achieve ideal service levels

Highest Data Availability

ESVA comes with snapshot and replication capabilities to protect mission-critical data. By strategically deploying snapshot images and full data copies, you can enjoy the highest data availability in the event of an outage caused by logical errors, physical errors or disasters.

- Create granular recovery points by creating space-efficienct snapshot copies
- Protect data from extensive disasters with asynchronous data copies
- Optimize asynchronous remote replication with data compression feature
- Achieve optimal no-data-loss protection with synchronous data copies

Non-Disruptive Storage Scaling

With scale-up and scale-out on ESVA, storage scaling can be performed on demand. Both capacity and performance can incrementally grow without disrupting service.

- Achieve "hot" capacity scaling by simply attaching expansion enclosures to member ESVA systems of a storage pool
- Automatic, dynamic workload balancing across ESVA systems to achieve and maintain optimized performance
- Linearly scale performance for increased transactional speed by adding more ESVA systems to the storage pool

Optimized Storage Performance

By enabling users to flexibly assign applications to four available tiers distinguished by different drive types and RAID levels, and offering automated data migration, automated storage tiering on ESVA provides an architecture that fully leverages the advantages of different storage media. With automated storage tiering, users can greatly optimize storage performance and increase ROI.

- Deploy up to four tiers to meet different service level requirements
- Optimize performance by efficiently integrating SSDs in highest tier
- Ensure the most efficient data distribution in a storage pool through highly granular data migration based on data usage patterns and user-configured policies

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