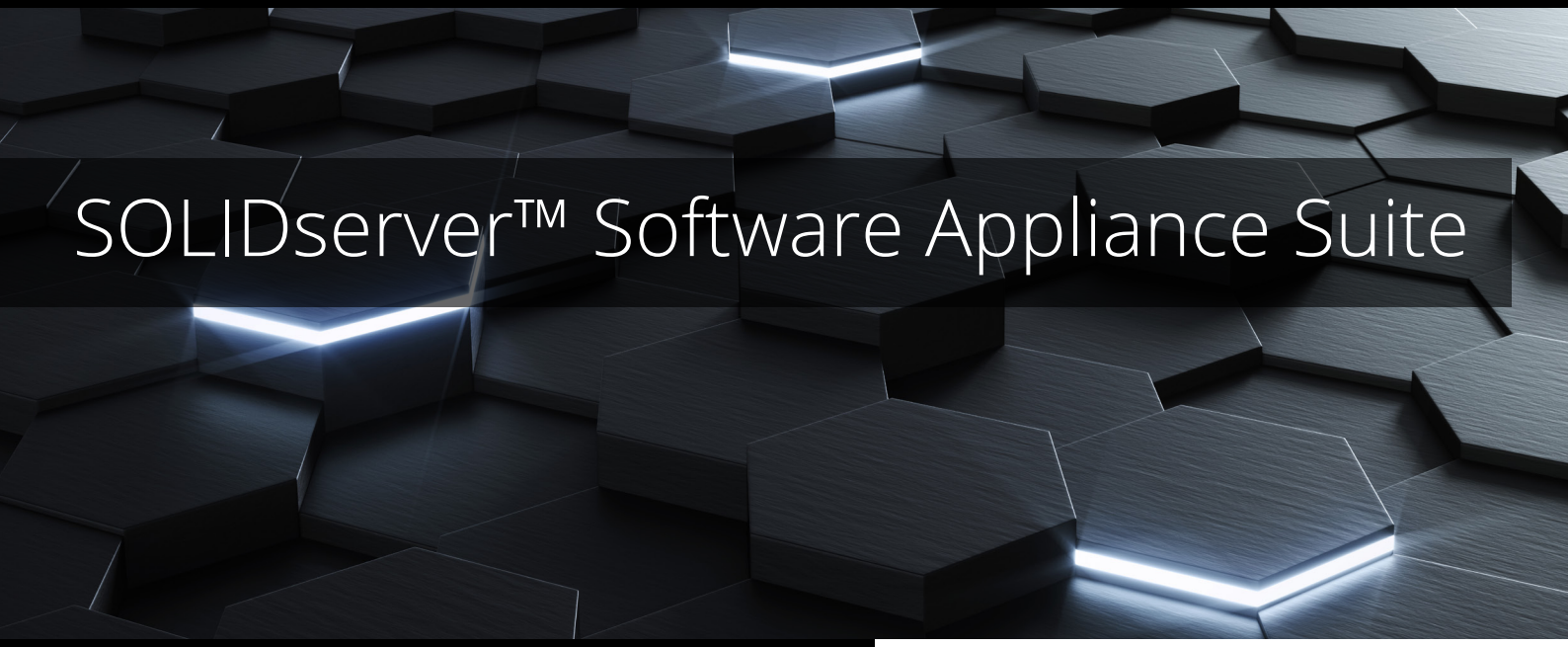
efficient iP®

Datasheet



SOLIDserver™ Software Appliance Suite

SOLIDserver™ Software Appliances

SOLIDserver™ 50

Designed for Network Services only (DNS-DHCP).

SOLIDserver™ 170

Designed for Network Services only (DNS-DHCP).

SOLIDserver™ 570

Designed for Management only or Network Services only (DNS-DHCP).

SOLIDserver™ 1170

Designed for Management only or Network Services only (DNS-DHCP) or both.

SOLIDserver™ 2270

Designed for Management only or Network Services only (DNS-DHCP) or both.

SOLIDserver™ 3370

Designed for Management only or Network Services only (DNS-DHCP) or both.

BLAST™ 4070 - 5070 - 5570

Designed for high performance and DNS security, large enterprises and ISPs.

SOLIDserver™ 7070

Designed for large IPAM services with numerous objects to manage.

The SOLIDserver™ suite of software appliances is designed to deliver high-performance DNS-DHCP-IPAM services, network automation, and user-to-application traffic routing. SOLIDserver™ provides vital benefits for the reliability, resiliency, and security of mission-critical network services and management.

Each software appliance runs on a range of hardware platforms and Virtual Machines (VM) to match requirements from small branch offices to the largest enterprises. SOLIDserver can be deployed as a standalone unit, in a high availability pair or distributed architecture managed centrally from a powerful and user-friendly web interface.

To fulfill each customer's specific needs and ensure flexible scalability, the EfficientIP's suite of software appliances includes 10 models with different levels of performance and targeting different roles.

Software Appliance Network Service Sizing

SOLIDserver software includes multiple features and the sizing of each server can vary based on the role of the targeted appliance. The table below shows a typical performance indicator for each software appliance based on its DNS or DHCP services in the DDI infrastructure.

	Performance	
	DNS (QPS) [1]	DHCP (LPS) [2]
SDS-50	500	20
SDS-170	7,000	125
SDS-570	25,000	500
SDS-1170	50,000	1,000
SDS-2270	125,000	2,500
SDS-3370	250,000	6,000
SDS-7070	-	-
BLAST-4070	3,000,000	-
BLAST-5070	10,000,000	-
BLAST-5570	17,000,000	-

(1) QPS: Queries per Second

(2) LPS: Leases per Second

Listed performance numbers were reached in a test environment and are conservative. Performance numbers in production may be different.

Software Appliance Usage and Feature Set

EfficientIP offers a large set of software appliances in order to cover various roles and capacity situations. Depending on the architecture of the network, the number of sites to cover, and the requested functionalities, the combination of appliances, running either on dedicated hardware platforms or virtual machines, may change. Each software appliance is supported with a committed capacity on each targeted role. When combining roles, the performance, and overall capacity may be impacted.

The virtual machine will be directly dependent on the hypervisor and the virtual server hardware it runs on. The two main impacts to consider are the storage and the network. With regards to CPU, most of the current virtual server hardware seen in the virtualization farms has enough power to handle most of the jobs. The storage system, either directly attached or on a storage array network, needs to be able to handle large volumes of input/output, mainly in the case of an IPAM service or DNS service with log enabled (query log or answer log). For the network part, the virtualization layers between the physical interface installed on the server and the one presented to the virtual server greatly impact performance. When the DNS Guardian engine is talking directly to the hardware on a DNS Blast appliance, the solution is capable of handling tens of millions of DNS queries per second, but on a virtualized system this number can go down to less than 2 million queries per second if the appropriate requirements are not properly applied.

For software appliances running on EfficientIP dedicated hardware platforms, there's no impact, as there is no need to tune the hypervisor infrastructure. This is why dedicated hardware platforms may be preferable when either high performance is required or when some network services (i.e. DNS, DHCP) are required for the virtual infrastructure to boot up.

Recommended Roles by Software Appliances per Hardware Platform

The following table presents the possible and recommended SOLIDserver roles for each software appliance per hardware platform.

	Virtual Machine			nano			small			medium			large			xtra		
SDS-50[1]	NS[1]																	
SDS-170	NS			NS			NS			NS			NS					
SDS-570	NS	MGT		NS			NS	MGT		NS	MGT		NS	MGT				
SDS-1170	NS	MGT	DDI				NS	MGT	DDI	NS	MGT		NS	MGT				
SDS-2270	NS	MGT	DDI							NS	MGT	DDI	NS	MGT				
SDS-3370	NS	MGT	DDI							NS			NS	MGT	DDI			
BLAST-4070	BLAST									BLAST			BLAST					
BLAST-5070													BLAST					
BLAST-5570													BLAST					
SDS-7070		MGT															MGT	

NS: Network Services only - DNS / DHCP / GUARDIAN / BLAST
MGT: Management only - IPAM
DDI: Network Services + Management

(1) SDS-50 is only available in software appliance format - Guardian is not available

Key Service Triggers

The number of users in the enterprise is not the only topology key. The number and type of software appliances required will also depend on the roles proposed. The main discriminants are:

- variety of devices connected to the network (IoT, BYOD, workstation, industrial equipment)
- number of remote locations with network infrastructure
- central and regional datacenters
- location of the applications, hosting variety, network flow complexity
- hosting of DNS for public domains
- service provision for external as well as internal users
- service redundancy level
- security protection required on the DNS service

Software Appliances on VMs - Sizing and Requirements

	Performance		Virtual Machine Properties				
	DNS (QPS)	DHCP (LPS)	vCPU (min/max)	RAM (GB)	Virtual Disk (min GB)	Storage (min IOPS)	Network (min PPS)
SDS-50 [1]	500	20	1 / 2	4	32	80	1,000
SDS-170	7,000	125	2 / 4	8	64	80	20,000
SDS-270	7,000	125	2 / 4	8	64	80	20,000
SDS-570	25,000	500	2 / 12	16	64	80	40,000
SDS-1170	50,000	1,000	2 / 12	16	128	160	80,000
SDS-2270	125,000	2,500	4 / 16	16	128	160	160,000
SDS-3370	250,000	6,000	8 / 20	32	128	160	300,000
SDS-7070	-	-	16 / 32	128	512	2000 [2]	300,000
BLAST-4070	3,000,000	-	8 / 20	32	128	160	3,000,000 [3]

(1) The SDS-50 virtual appliance requires a centralized management appliance for network services configurations (DNS & DHCP only).

(2) IOPS Bandwidth: 180 Mbps / 2000 IOPS Write / 10 ms max IO Latency

(3) Requires Intel X520 or X710 10GE Chipset in PCI Passthrough mode

Software Appliance on Bare Metal - Hardware Sizing and Requirements

SOLIDserver software appliances can run on servers directly purchased from hardware vendors. Some rackable servers in the PowerEdge series from Dell are provided as an example. Here below is the recommended hardware sizing and requirements for SOLIDserver.

	Example Dell Servers for SOLIDserver Appliance on Bare Metal					
	Dell PowerEdge	CPU	RAM (GB)	RAID Controller	Disk	Additional Eth Line Card
nano	R250	Intel Pentium G6405T	8	-	1* SATA 2TB 7.2K	Intel Ethernet i350 Quad Port 1GbE
small	R350	Intel Xeon E-2336 2.9GHz	32	PERC H355	2* SAS 600GB 10K	Intel Ethernet i350 Quad Port 1GbE
medium	R650XS	Intel Xeon Gold 5315Y	32	PERC H355	2* RAID1 SSD 480GB	Intel X710 Dual Port 10GbE SFP+ [1]
large	R650XS	Intel Xeon Gold 5315Y	64	PERC H355	2* RAID1 SSD 480GB	Intel X710 Dual Port 10GbE SFP+ [1]
xtra	R650XS	Intel Xeon Gold 5315Y	128	PERC H355	4* RAID10 SSD 1TB	Intel E810 Dual Port 10GbE SFP+ [2]

(1) Hardware platforms with 10Gbps line cards are not provided with SFP which can only be selected from Intel manufacturer list for line card model X710-DA2/DA4 (see Compatible SFP+ Modules and Cables for Intel® Ethernet Server Adapter X710 Series)

(2) Hardware platforms with 10/25Gbps line cards are not provided with SFP28 which can only be selected from Intel manufacturer list for line card model X810-XVVDA2 (see Intel® Ethernet Network Adaptater E810-XXVDA2)

EfficientIP Hardware Platforms Characteristics

	Dimensions H*W*D	Weight	NIC (Ethernet)	PS	BTU/hr	Disk
nano	42.8 * 482 * 598.64 (mm)	12.48 (kg)	6 * 1 Gbps Details: MotherBoard : 2 * 1 Gbps PCE Slot 1 : 4 * 1 Gbps	1 * 450W AC	1,039	1
	1.68 * 18.97 * 23.56 (inch)	27.51 (lb)	RJ-45			
small	42.8 * 482 * 598.94 (mm)	13.14 (kg)	6 * 1 Gbps + 2 * 10 Gbps Details: MotherBoard : 2 * 1 Gbps PCE Slot 1 : 2 * 10 Gbps PCE Slot 2 : 4 * 1 Gbps	2 * 600W AC	1,356	2
	1.68 * 18.97 * 23.58 (inch)	28.96 (lb)	RJ-45 + SFP+	hot swap		hot swap (RAID1)
medium	42.8 * 482 * 748.79 (mm)	18.62 (kg)	6 * 1 Gbps + 4 * 10 Gbps Details: MotherBoard : 2 * 1 Gbps OCP : 4 * 10 Gbps PCE Slot 1 : 4 * 1 Gbps	2 * 600W AC 2*1100W DC	1,356	2
	1.68 * 18.97 * 29.47 (inch)	41.05 (lb)	RJ-45 + SFP+	hot swap		hot swap (RAID1)
large	42.8 * 482 * 748.79 (mm)	18.62 (kg)	6 * 1 Gbps + 4 * 10 Gbps Details: MotherBoard : 2 * 1 Gbps OCP : 4 * 10 Gbps PCE Slot 1 : 4 * 1 Gbps	2 * 600W AC 2 * 1100W DC	1,356	2
	1.68 * 18.97 * 29.47 (inch)	41.05 (lb)	RJ-45 + SFP+	hot swap		hot swap (RAID1)
xtra	42.8 * 482 * 748.79 (mm)	18.62 (kg)	6 * 1 Gbps + 2 * 10/25 Gbps Details: MotherBoard : 2 * 1 Gbps OCP : 2 * 10/25 Gbps PCE Slot 1 : 4 * 1 Gbps	2 * 800W AC 2 * 1100W DC	1,356	4
	1.68 * 18.97 * 29.47 (inch)	41.05 (lb)	RJ-45 + SFP+	hot swap		hot swap (RAID10)

Common Characteristics

Form Factor	1U
Rack Rails Kit	yes
LCD Screen	yes on the bezel
Serial Port	DB-9 on nano, small Not available on medium, large, xtra
Screen Attachment	yes
Light Out Of Band Management	yes
AC Adapter	100-240V~ 50-60HZ 2-4.8A
Operating Temperature	10°C to 35°C 50°F to 95°F
Operating Humidity percent ranges (non-condensing at all times)	8%RH with -12°C minimum dew point to 90%RH with 24°C (75.2°F) maximum dew point (Following ASHRAE Standard) A2 : nano, small A4 : small*, medium, large, xtra
Storage Temperature	–40°C to 65°C –40°F to 149°F
Storage humidity limits	5% to 95% RH with 27°C (80.6°F) maximum dew point
Safety	CE, CCC, C-Tick, EEA, EAC, FCC, GOST, ICES-003, RIAM, KCC, NEMKO, TUV-GS, UL/cUL, VCCI
Environmental	RoHS, WEEE, ASHRAE
Power Cord(s)	C13/C14 cable(s) (One per PSU)

** Storage has to be changed*

For additional network connectivity, a NIC can be replace in hardware platforms based on EfficientIP price list (Intel line cards):

- **nano:** None
- **small:** None
- **medium, large:**
  - Replace “PCE Slot 1 : 4 * 1 Gbps” by :
    - *Intel X710 : 2 x 10GbE SFP+ interface (optical module not provided)*
    - *Intel E810 : 2 x 10/25GbE SFP28 interface (optical module not provided)*
  - OCP slot cannot be changed
- **xtra:** None

Hardware platforms with 10Gbps line cards are not provided with SFP which can only be selected from Intel manufacturer list for line card model X710-DA2/DA4 (see Compatible SFP+ Modules and Cables for Intel® Ethernet Server Adapter X710 Series)

Hardware platforms with 10/25Gbps line cards are not provided with SFP28 which can only be selected from Intel manufacturer list for line card model X810-XVVDA2 (see Intel® Ethernet Network Adaptater E810-XXVDA2)

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