



UNIVERGE® SV8500 Communications Server

The ultimate Server for Pure IP and Hybrid Enterprise Unified Communication solutions

At a Glance

- Highly scalable
- Extremely Reliable
- Extensive Voice Feature Set
- Rich Hospitality Features
- Variety of Redundancy options
- Safeguard investments for customers and partners
- Secure end-to-end communication
- Pure-IP as well as hybrid
- Open standards
- Complies with green initiative

With the UNIVERGE® SV8500 Communications Server, NEC unleashes the full potential of IP telephony through a forward-looking, highly efficient system that ensures the investment protection required by today's enterprise. It embodies NEC's UNIVERGE®360 commitment to unifying communications by providing a flexible, scalable solution that uses open standards, a large pool of compatible applications, and mobility options to meet each user's needs.

The SV8500 is also the premier IP communications server for regional and global expansion, worker mobility and environmental responsibility. It offers an extensive IP feature set in a flexible, scalable, secure package that ensures business continuity and provides the means to simplify business processes.

Empowered by Innovation

NEC

Highly scalable

Enterprises require communication systems which offer them a flexible path for growth. SV8500 realizes this flexibility by means of a single server, supporting up to 4000 IP stations, which allows them to increase the capacity of their communication solution by simply adding more SV8500 servers. When integrating these servers by means of NEC's unique highly transparent FCCS protocol these servers will virtually act as a single communication server with a maximum capacity of 192,000 stations.

Extremely Reliable

NEC's decades of experience in development and production resulted in an SV8500 Communication Server with the extreme high availability figure of eight nines (i.e. 99.999999%)

Extensive Voice Feature Set

The SV8500 comprises an extensive list of voice features which allows the realization of almost any kind of communication solution that customers might require, while providing a platform that will support new features as they are developed.

Rich Hospitality Features

The SV8500 can be optimized for hospitality customers by using an NEC-created set of special voice and data features which perfectly fits the typical hospitality market requirements.

Variety of Redundancy options

For mission critical businesses redundancy options are available like dual CPU, redundant power supply units, spatial redundant servers, remote office survivability.

Safeguard investments for customers and partners

NEC is well known for the way it takes care of customers' and partners' investments. As such the SV8500 server offers an excellent migration path, both commercially and technically, from legacy systems towards future systems. Re-using equipment like telephone-sets, peripheral interface equipment and even licenses is common practice in NEC's approach.

Secure end-to-end communication

The SV8500 offer the most secure basis for your enterprise communications. The highly reliable components used in the production process, the physically separated data and voice information and the limited port utilization of the peripheral equipment all contribute to this. Using encrypted media and/or signalling and a variety of redundancy options further add to providing secure end-to-end communications.

Pure-IP as well as hybrid

Although designed as a pure IP solution, the UNIVERGE® SV8500 can also be equipped to accommodate traditional TDM digital and analogue ports.

Open standards

The various open interfaces allow a smooth integration with third party applications including CTI based applications for integrating Desktop and Telephony features, Call Accounting applications for managing call billing, DECT Messaging and Location Detection integration, Unified Messaging and Voice Mail products as well as Hotel Management applications.

Complies with green initiatives

The SV8500 is an ecologically sound, compact system that uses 23% less power than previous generations of IP communication servers. NEC paid special attention to its environmental impact and delivered a RoHS compliant system that includes:

- Reduced air conditioning requirements for the server
- Recyclable materials and components that use environmentally safe chemicals
- Elimination of lead and mercury in circuit boards
- Documentation provided in electronic format rather than paper booklets

Dimensions	3 Rack Units high, 19 inches wide 430.0 x 476.0 x 132.0 mm 1' 4.93" x 1' 6.74" x 5.20" (w x d x h)			
Weight	16 kg. (564.4 oz)			
System Voltage	AC 100-240V (50/60 Hz) ± 10% / DC -48V ± 10%			
Processors	Intel Dual Core Duo 2.16GHz / 2GB internal memory			
Operating System	Linux (Montavista)			
Maximum power consumption	AC 240V: 1.5 A / DC -48V: 6.5A			
Typical power consumption	– Single server: AC 240V: 0.5 A / DC -48V: 2.5 A – Dual server: AC 240V: 1A / DC -48V: 4.6 A			
Temperature	– Normal operation: 15°C - 27°C (59°F -80°F) – Short Period ¹ : 0°C - 40°C (32°F - 104°F) – During Storage and transport: -18°C - 50°C (0°F -122°F) – Temperature change: Maximum 5°C/30 Min. (41°F/30 Min.)			
Humidity	– Normal operation: 15%–90% – During storage and transport: 8% - 90%			
Storage device	8GB or 2G Byte Compact Flash card			
Availability				
		MTBF (Years)	Availability	
Pure IP	Single SV8500 server		6	99.99 %
	Redundant SV8500 server ²		71,4	99.999999 %
Hybrid	IMG (4PIR)	Single System	1	99.9 %
		Redundant System ³	7	99.99999 %
	MMG (16 PIR)	Single system	1	99.9 %
		Redundant System ³	1,4	99.9999 %
Codec support	<ul style="list-style-type: none"> – G.711 64 kbps 10/20/30/40 ms – G.711 (FEC) 64 kbps 10/20/30/40 ms – G.722 48/56/64 kbps 20/40 ms – G.722 (FEC) 48/56/64 kbps 20/40 ms – G.723.1 6.3/5.3 kbps 30/60 ms – G.729 a 8 kbps 10/20/30/40 ms – G.729a (FEC) 8 kbps 10/20/30/40 ms – AMR-NB 4.75-12.2 kbps 20/40 ms – AMR-WB 6.60-23.85 kbps 20/40 ms – AMR-NB (FEC) 4.75-12.2 kbps 20/40 ms – AMR-WB (FEC) 6.60-23.85 kbps 20/40 ms – Video: H.261, H.263, H.264, MP4A-LATM , MP4V-ES 			
Ethernet interfaces	<ul style="list-style-type: none"> – 2 x 10/100/1000Mbps (auto/half/full duplex) – 2 x 100 Mbps (TDM fusion) 			

¹ A period which does not exceed three consecutive days (72 hours), or 15 days (360 hours) within a year

² Dual CPU and Power Supply Unit

³ Dual CPU, Power Supply Units, TimeSwitch modules and Multiplexers



Terminal interfaces	<ul style="list-style-type: none"> - NEC IP Protims - NEC (digital) Protims - Analogue (tone/pulse dial, CLI(FSK), MWI(polarity reversal/high voltage) - NEC enhanced SIP - Standard SIP¹ RFC's 768, 791, 792, 793, 826, 854, 959, 1157, 1305, 2327, 2617, 2833, 2976, 3261, 3262, 3264, 3265, 3311, 3323, 3411, 3428, 3515, 3550, 3555, 3581, 3711, 3842, 3891, 4028, 4250 - AMI(E1)² - ISDN (S0)²
Trunk interfaces	<ul style="list-style-type: none"> - COT³ (MFC², Metering², PowerFailureTransfer, tone/pulse² dial, Automatic Polarity Reversal) - ISDN (TBR3, TBR4) - SIP¹ RFC's 768, 783, 791, 792, 793, 826, 854, 1034, 1035, 1889, 2131, 2327, 2617, 2806, 2833, 3261, 3262, 3264, 3311, 3323, 3325, 3550, 3891, 4028, 4566, draft-ietf-sipping-service-examples, draft-ietf-sip-session-timer
Networking interfaces	<ul style="list-style-type: none"> - QSIG - E&M² - CCIS⁴ - FCCS⁵ - AMI(E1)²
Application Interfaces	<ul style="list-style-type: none"> - OAI (Open Application Interface) for CTI integration - PMS (Property Management System) for hotel systems - SMDR (Station Message Detail Recording) for call accounting - MCI (Message Centre Interface) for Unified Messaging - SNMP (Simple Network Management Protocol) for alarm collection

¹ Due to the various SIP implementations, inter-operability tests are advised to prove correct behaviour. NEC does not accept any liability of malfunctioning of the system when connecting non-certified equipment

² Middle East and Russian regions only

³ Germany, Spain: it is advised to verify the PSTN for compliancy requirements of ATAAB notes AN04, AN12, DE08 and ES01/NO02/CZ01

⁴ NEC's CCIS protocol (Common Channel Interoffice Signalling) is used to connect SV8500 with other NEC UNIVERGE/NEAX/SOPHO systems.

⁵ NEC's Fusion Call Control Signalling (FCCS) protocol allows a network of SV8500, SV7000 and 2400 IPX nodes, to act as one single logical node offering maximum feature transparency.



Boundaries per SV8500 server¹

Number of ports²	6,144	
Terminals		
IP terminals	4,000 ³	
Digital terminals	4,096	
Analogue terminals	6,136	
Trunks		
ISDN Primary Rate B-channels	3,810	
ISDN Basic Rate B-channels	4,000	
SIP trunk channels	2,304	
Analogue Trunk ports (COT)	4,095	
Networking		
	IP	E1⁵
FCCS channels	8,192	3.360
FCCS routes	63	63
CCIS channels	999	5.250
CCIS routes	64	175
Remote Office Survivability		
Survivable Remote Office – Media Controllers (SR-MGC)	256	
BHCA (Busy Hour Call Attempts) & BHCC (Busy Hour Call Completions)		
	Without encryption	With encryption
Stand-alone server	32,000	20,000
As part of FCCS network	16,000	16,000
Maximum number of simultaneous calls⁴		
Internal Calls	2000	
Trunk Calls	1840	
CCIS Calls	1840	
FCCS Calls	4000	

¹ Combining or adding boundaries is not allowed without taking other boundaries into consideration. Example: the maximum number of ports limits the total number of IP terminals, Digit Terminals and Analogue Terminals per SV8500 server

² In this context a "port" is defined as a resource which transports media; e.g. interfaces for terminals, trunks, network connections, conference circuits

³ The maximum number of NEC terminals, using NEC's SIP protocol in combination with encryption: 2000

⁴ The maximum number of simultaneous calls depends upon the kind of resources used

⁵ Middle East and Russian regions only



Boundaries for an SV8500 Network

	IP	E1 ¹
FCCS nodes	64	64
FCCS channels	192,000	192,000
FCCS routes	1,953	1,953
CCIS nodes	65	16,367
CCIS channels	31,468	42,963,375
CCIS routes	2,080	267,862,322

Regulatory Compliance

The UNIVERGE® SV8500 Communications Server carries a CE mark and complies with

- EMC : EN55022 Emission, EN55024 Immunity, EN61000 Powering
- Safety : EN60950-1
- Transmission & Signalling TRB3, TBR4, ES203-021

¹ Middle East and Russian regions only

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NEC Corporation of America
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