Product Catalog

Synway ®

Multimedia Processing & Signaling
(VoIP & PSTN convergence communication)

SHD Series

Digital Media Processing & Signaling

Synway's broad range of digital products incorporate an array of signaling protocols and rich media processing capabilities, and provide service providers and application developers with matchless cost, high performance ALL-IN-ONE hardware platform easily used for all of CTI applications. Its enhanced built-in resources include conferencing, fax, compression protocols, echo cancellation and call control, which are powered by innovative technologies and expertise accumulated in serving leading service providers, application developers, telecom equipment providers and OEMs worldwide.

Designed specifically to offer high capacity, highly available solutions, Synway's proven high-density hardware combines telco-grade reliability and high performance, and has been deployed in a new range of applications, including prepaid card processing, CRBT, conferencing, and network announcements. Single high-capacity digital media processing and signaling platform can connect to 16/8/4/2/1 E1/T1 software-selectable trunks and support up to 96 SS7 signaling links. In terms of traffic profile, application developers can deploy application, with signaling and media processing capability for 1920 concurrent subscribers in single system. Coupled with years of technical support expertise, this hardware platform helps developers maximize value.

Key Features & Benefits

● **ALL-IN-ONE** architecture of integrated signaling and multimedia processing

Integrate media processing and signaling built on in-house DSP architectures, and support all of multimedia applications, such as IVR, call center, fax and conferencing, and other highly available solution architectures.

● Rich media processing: conferencing, compression, fax, echo cancellation, call control, etc.

Support for enhanced multimedia processing resources, including conferencing, IVR, fax, compression, echo canceller, call control, help developers develop flexible feature-rich applications.

● Selectable signaling protocols: CAS, ISDN PRI, SS7(ISUP/TUP/MTP/TCAP), SCCP(MAP)

Offer robust signaling technologies, including SS7 (MTP1-3, ISUP, TCAP, TUP), SCCP(MAP), ISDN PRI and CAS for service providers and application developers to develop and deploy high capability, high performance and highly available enhanced services in PSTN and PLMN networks.

● Configurable SS7 link capacity and inherently high signaling throughput

Built-in SS7 capability is an integrated part of Synway's proven, cost effective PSTN series, and no independent SS7 server need to implement high-capacity 96 SS7 links.

● Universal user-friendly SHCTI API supports for a range of calling features

Unified API architecture minimizes efforts on application development and deployment, and PSTN-based or SIP-based applications can be migrated among all of Synway's hardware platforms.

● Optional form factor: PCI, PCI-X, PCI-express* interface

Support existing or next-generation form factor of network infrastructure, server and chassis, with no need to change application programming interfaces.

● Global approval by service providers, application developers and system integrators

Broadly deployed into large-scale call center application, value-added service, unified messaging solution by world-class application developers and service providers.

● Scalable and upgradeable from 1 to 16 E1/T1 trunks per slot, 64 E1/T1 per system

Cost effective, scalable and upgradeable hardware for a broad range of applications, and specifically designed to fulfill demands in high capacity, highly available and redundant solution architecture.

Technical Specifications

● PRODUCT MODELS
SHD-30C/60C/120D/240D-CT/PCI
SHD-30C/60C-CT/PCI/FAX
SHD-120D/240D-CT/PCI/EC
SHD-120D/240D-CT/PCI/CAS
SHD-120D-CT/PCI/MAP
SHD-30E/60E/120E/240E-CT/PCIe
SHD-30E/60E/120E/240E-CT/PCIe/FAX
SHD-30E/60E/120E/240E-CT/PCIe/EC

● ENVIRONMENTAL CONDITIONS
Operating temperature: 0℃-55℃
Storage temperature: -20℃-85℃
Humidity: 8%-90% non-condensing
Storage humidity: 8%-90% non-condensing

● INPUT/OUTPUT INTERFACE
E1 interface: Compliant with G.703, including 75Ω unbalanced interface and 120Ω balanced interface.
T1 interface: DSX-1 and CSU line build-outs available for different extents of signal losses, including 100Ω and 110Ω balanced interfaces.

● AUDIO SPECIFICATIONS
CODEC: CCITT A/μ-Law 64kbps,
        IMA ADPCM 32kbps
Distortion: ≤3%
Frequency response: 300-3400Hz (±3dB)
Signal-to-noise ratio: ≥38dB
Echo suppression: ≥40dB

● MAXIMUM SYSTEM CAPACITY
Up to 8 digital trunk boards concurrently per system;
up to 30/60/120/240 channels per board.

● POWER REQUIREMENTS
Maximum power consumption: ≤8W

● ENHANCED ECHO CANCELLER
SHD-120D-CT/PCI/EC:128ms
SHD-240D-CT/PCI/EC:128ms
SHD-30E/60E-CT/PCIe/EC: 64ms
SHD-30E/60E-CT/PCIe/FAX: 64ms
SHD-120E/240E-CT/PCIe/EC: 64ms
SHD-120E-CT/PCIe/FAX: 64ms

● FAXING
V.17: 14400, 12000, 9600, 7200 bps
V.29: 9600, 7200 bps
V.27: 4800, 2400 bps

● SIGNALING
SS1: Compliant with DL and MFC standards stipulated in Gf002-9002; supports D4 and ESF framing
SS7: Compliant with related provisions stated in Q771-Q795
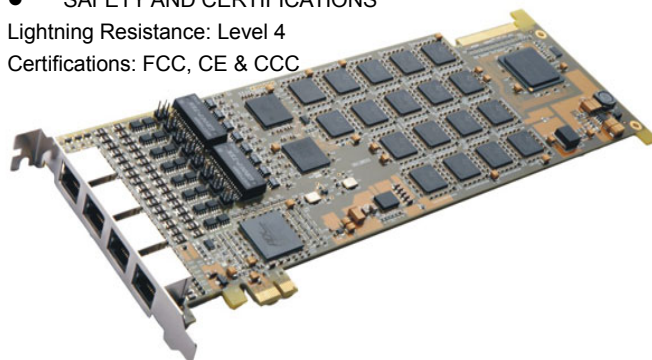DSS1: Compliant with Q.933

● AUDIO ENCODING & DECODING

16Bit PCM	128kbps	8Bit PCM	64kbps
A-Law	64kbps	μ-Law	64kbps
VOX	32bps	ADPCM	32kbps
GSM	13.6kbps	MP3	8kbps

● SAFETY AND CERTIFICATIONS
Lightning Resistance: Level 4
Certifications: FCC, CE & CCC

APPLICATION DIRECTORY

Multimedia processing & signaling convergence
in IP & PSTN networks

Synway leverages years of expertise in traditional and next-generation signaling and multimedia processing technologies to provide service providers and application developers with robust hardware components for gateway and media processing applications. Synway's architecture, combined together, evolutionally converge communication technologies for PSTN and IP networks and offer more features that traditional media gateway delivers, including a broader range of signaling technologies and powerful media processing capabilities.

Talking advantaging of Synway's components, Telco, enterprises and carriers can benefit from an array of combined sophisticated application platforms, not only gateway functionality from PSTN to IP through converting a variety of SS7 packets, ISDN variants and(or) CAS into SIP protocols, but rich media processing capabilities, including fax, compression, echo canceller. and conferencing used for IP gateway. media server. IVR, hosted call center, media streaming, conferencing, fax server and more. With this innovative convergence of IP and PSTN access technologies, service providers and application developers can deliver matchless cost, function-rich, highly adaptive applications or services in single box to market more rapidly.
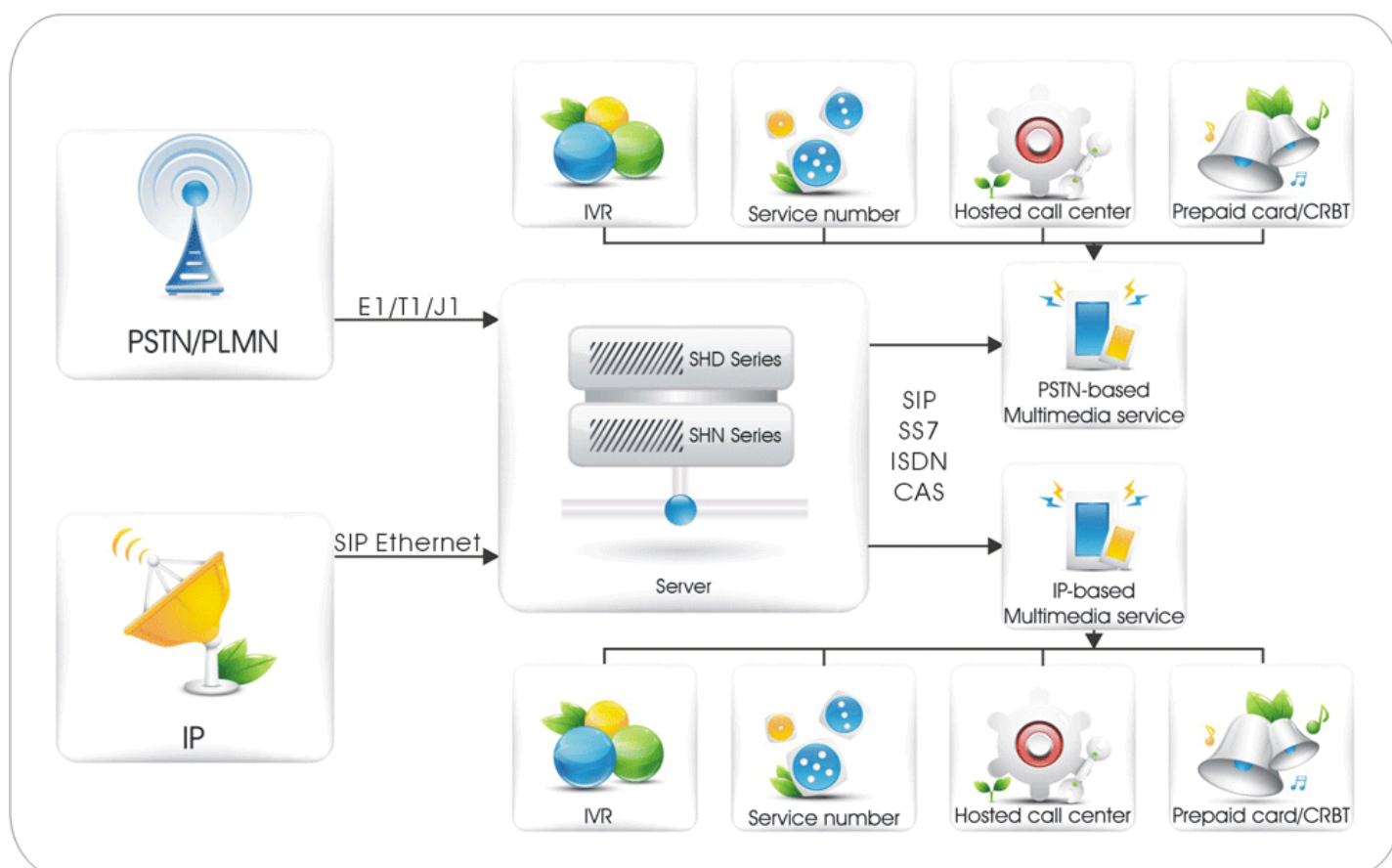
Gateway & media processing for multinational enterprise

Utilizing Synway's IP and PSTN hardware platforms with unified API and SDK, developers or service providers can load SIP, SS7 ISDN PRE and CAS protocols in a box and simply migrate applications between IP and PSTN platforms. This convergence can act as an inter-working device or gateway between an IP-based network and legacy PBX. Usually, legacy PBX is a substantial infrastructure investment, and access to PSTN-based service is less cost effective.

To take full advantage of cost effective, feature-rich SIP-based services and expensive legacy PBX in IP and PSTN networks, evolutionary combination of Synway's IP and PSTN architectures is valuably practical. That makes communications more cost effective from IP phones to traditional phones, or from traditional phone to traditional phone (two gateways implemented on two end points). Interconnecting IP network with legacy PBX, Synway's IP and PSTN-based technologies save enterprise and telecom equipment manufactures(TEM), call center designers, or system integrators much cost of communication trunks.
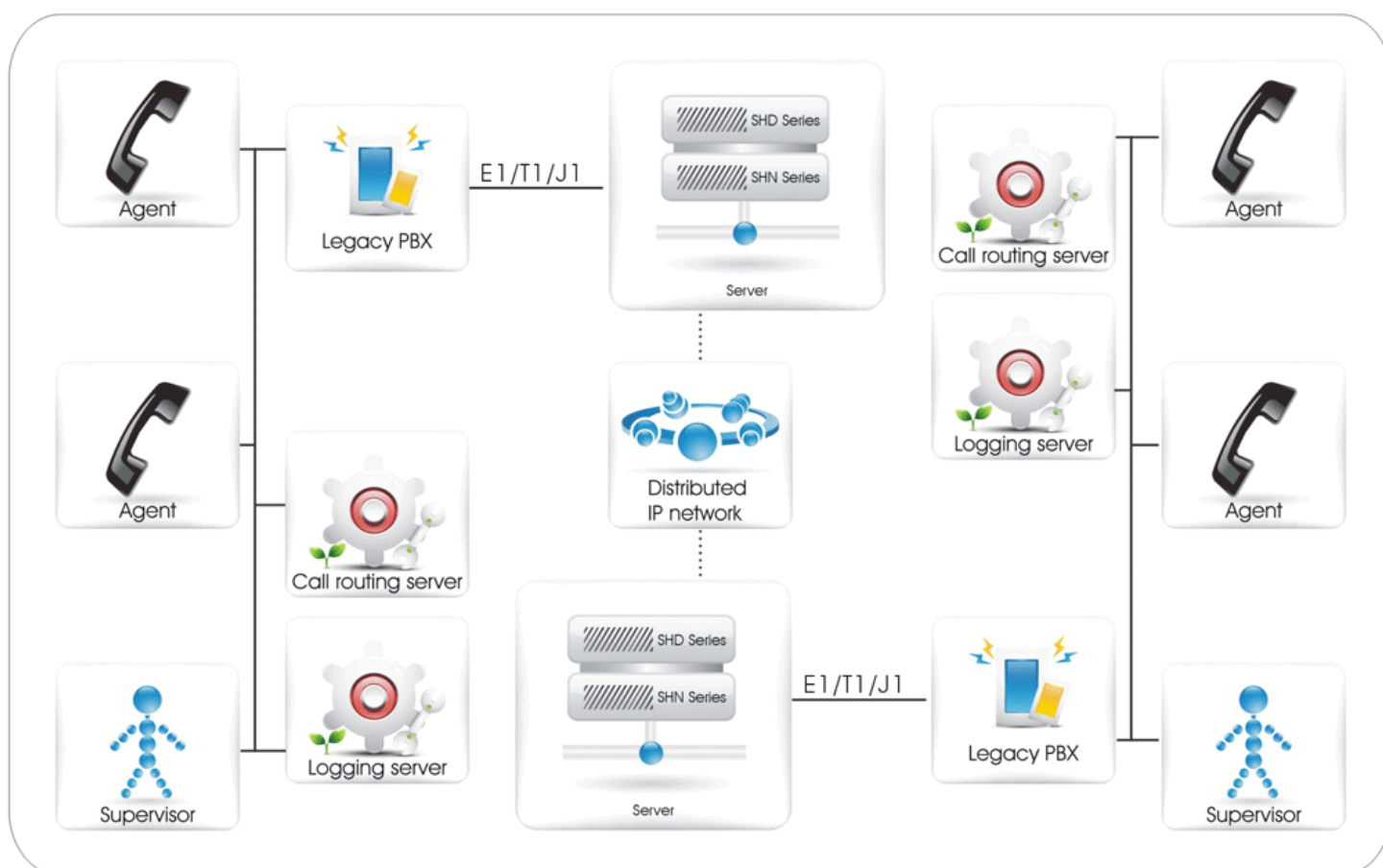
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