UNIWAY2100
Hybrid VoIP Gateway

In hybrid VoIP & TDM era with diverse and rapidly-growing needs of unified communications and services, Synway UNIWAY VoIP Gateway adopts the latest modular architecture with built-in server, and opens a new milestone to maximize VOIP and TDM network's value for SP and application developers. Interface with FXO, FXS, T1, E1, GSM, CDMA, 3G, VoLTE, IP to deliver a cost-effective and comprehensive VoIP solution.

UNIWAY2100 is composed of multiple components, includes technical grade CPU module,switchboard, dual redundant power supply and voice boards ,and the boards are 16-channel analog boards,4E1 digital boards, 8 wireless boards.

Key Features and Benefits

- Flexible configuration for any network

Compliant with diverse networks (FXO, FXS, T1, E1, J1, GSM, CDMA, 3G, VoLTE, IP): support various multimedia processing capability (conferencing, fax, compression and SuPerFormTM echo cancellation for voice enhancement and an array of Protocols (SS7, SIGTRAN, ISDN PRI, CAS, R1, R2, Wireless)

- Compliant with any IP-Based applications

With optional inbuilt industrial server, UNIWAY series are compliant with any IP-based applications; it also even supports any category of third party software, including UC, IP-PBX, Contact Center and more. In legacy PSTN network, UNIWAY could converge applications via internal modules

- Low to High Scalability

Modular architecture ensures flexibility and expandability from low density and high density. Modular design allows for easy configurations, system upgrading or general maintenance

- Multimedia Convergence

Adopt 1000M-Ethernet switching chipset, UNIWAY's media stream exchanges in IP packets, and access to soft switching system via Media Gateway Controller, ensuring high-level applications are streamlined

- Diverse Media Resources

Support high-capacity voice playback and Codecs, conferencing, faxing; Support T.38/T.30; optimized for IP-PBX, IVR and ACD applications, with EXT IVR server or GUI management

- Carrier-Grade Reliability

Special power system with standby redundancy; advanced cooling system to reassure long-standing robustness ; special air cleaner to protect against dust accumulation inside chassis; Inside temperature control and alert system; No need to change wiring when changing functional modules

UMG1016   UMG2120   UMG4008   CPU-01

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Technical Specification

Functional module available:

UMG-1016: 16*FXO, 16*FXS, or hybrid 8*FXS+8*FXO

UMG-2012: 1, 2, or 4E1(T1)

UMG-4008: 4 or 8 Wireless Ports(GSM/CDMA/WCDMA/3G/4G)

Notice: a total of 6 slots for all these modules

Optional inbuilt server to run applications, needs 2 slots.

Multimedia & Signaling

Voice Processing

CODECs: support A-law, μ-law, PCM8, PCM16, IAM-ADPCM, VOX, MP3, GSM, G.729A/B,G.722,G.723, iLBC etc;

Voice file format: support standard WAV format file and any non-format file;

Support conversion among various (de)coding formats;

Support real-time file replay from RAM and server;

Support real-time recording to RAM and server (Dynamic Storage);

Support DTMF and FSK transmission/reception;

Support (standard/self-defined) tone transmission and detection;

Support R2 transmission and reception;

Support Barge-in function;

Support simultaneous recording/replay;

Compliant with G.168 echo cancellation, with up to 128ms tail length;

Support AGC/ALS;

Support Answer Machine Detection;

Support full-duplex recording and replay;

Support voice call recording (on-demand or permanent);

All voice channels could be converted to conferencing channels;

Two voice channels could be converted to a fax session on demand;

Signaling Protocols

E1/T1/J1: support R1, R2, CAS, SIGTRAN and ISDN PRI;

Signaling interface: CAS supports MFC, R2 and so on;

Signaling interface: SS7 supports MTP, TUP and ISUP, SCCP, TCAP, MAP;

Support signaling redundancy, changeover and reset; ISDN data links could be on any timeslot, not only on timeslot 16;

Support 64Kps SS7 signaling links or 2M Hi-Speed Links;

Support calling distribution among signaling links or among signaling link groups;

Support call transfer among various signaling points or direct-connectivity mode;

Support multiple source signaling point-codes as well as projected signaling point-codes;

Support real-time signaling link's adding, removing, activating, reset, normal setup, emergency setup, anti-congestion;

Support multiple signaling points and signaling point transference;

ISDN supports network terminal and subscriber terminal;

Support overlapping in reception/transmission of called number;

VoIP Resources

RTP Protocol

Compliant with RTP/RTCP protocol (RFC3551, RFC3552);

Coding/Decoding: G.711(A-law/μ-law)/GSM/G.729A;

Self-adaptive echo cancellation (voice enhancement);

RTP DTMF loading (RFC2833);

Support NAT/Firewall monitoring and tunneling;

SIP Protocol

Supported SIP standards:

IETF RFC 3261 (SIP: Session Initiation Protocol);

IETF RFC 2327 (SDP–Session Description Protocol);

IETF RFC 3550 and 3551 (RTP/RTCP);

IETF RFC 2833 (DTMF);

SIP Protocol Stacks

Support signaling transmitting over UDP;

Support call holding;

Support Digest Authentication;

Intelligent URL Scheme analysis algorithm;

Support INVITE/REINVITE in calling processing;

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Support VIA rPort setting (for NAT/Firewall tunneling);

Support REFER call forwarding;

Allow DTMF tone transmission/detection in three modes: inner-band/SIP-INFO/out-of-band (RFC2833);

Support REGISTER messaging and authentication;

Inner multiple-threads mechanism;

Support SIP server;

Support UDP "pulse-holding" mechanism;

Support INFO messaging;

Conference/Fax resource

Support distributed conferencing mode, with conferencing resource in each voice channel;

Fully support SIP-based Fax T.38 standard;

Support V29/V27/V17 standards, with faxing rate up to 33.6Kbps (automatically slowing down);

Support ECM (Fax/Error Correction Mode) for reception/transmission (optional for EXM/non-ECM mode);

Support TIFF files input in MH/MR/MMR format and transmission/reception in MH, MR format;

Network Interface

E1 interface: Compliant with G.703, including 75Ω unbalanced interface and 120Ω balanced interface;

T1/J1 interface: DSX-1 and CSU line compensation available for different extents of signal losses, including 100Ω and 110Ω balanced interfaces;

Analog interface: Optional functional modules for FXO interface, FXS interface or high-impedance logging;

2 *TCP/IP 1,000M Ethernet (RJ-45);

2 *LAN Ethernet (RJ-45);

Development Environment

Windows OS: Windows2000/XP/2003/Vista/NT;

Linux OS: Including RH7.2/RH9.0/AS4/FC4/SUSE10;

Programming language: ANSI C/C++,Microsoft Visual C++,C#,Delphi;

Security and Certifications

Lighting-proof grade: Level 4;

Certification: FC/CE/China CCC

For RoHS compliance, please contact Synway's sales representatives;

Physical Characteristics

Dimensions: 2U form factor: 88.1mm (H) x 482.6mm (W) x 430mm (L)

Net Weight: about 8Kg (different for the number of optional modules)

Power Requirement

AC: 90-120V or 200~265V (SELECT RIGHT RANGE ON SHELF), Frequency: 50~60Hz;

Power consumption: different for configuration, less than 350Watt;

Environment Requirement

Ventilation: normal;
Operating temperature: 0-40°C;
Relative humidity: 10%-85%;
Avoid dust accumulation;
Anti-electrostatic: please Grounded;
Installation recommendation: mounted on standard 19-inches rack;
Anti-electrostatic: please Grounded;
Installation recommendation: mounted on standard 19-inches rack;

Quality and Warranty

ISO 9001:2000
Functional Module: 3-years
CPU(including motherboard): 1-year
Lifetime Maintenance

About Synway

As a major manufacturer and supplier of communication products and solutions, Synway specializes in providing superior Multimedia Gateway, Integrated Multimedia Switch, Telephony Hardware in use for Telecom communications. www.synway.net