Quick Look Guide

High-Density Packet Voice for Cisco AS5400XM and AS5350XM Universal Gateways

Cisco Systems® brings greater price/performance and higher density to the Cisco® AS5400XM and AS5350XM Universal Gateways with a new high-density packet voice/fax feature card, a new digital-signal-processor (DSP) module, plus support for the Adaptive Multi-Rate Narrow Band (AMR NB) codec. With these additions to the product line, the Cisco AS5400XM now offers increased capacity up to a full Channelized T3 (CT3) of voice calls with all codecs, and the Cisco AS5350XM offers 12-E1, 16-T1, and CT3 configurations using the G.711 codec.

NEW CISCO HIGH-DENSITY PACKET VOICE/FAX FEATURE CARD

The new Cisco High-Density Packet Voice/Fax Feature Card (part number AS5X-FC) for the Cisco AS5350XM and AS5400XM Universal Gateways facilitates higher-density configurations and improved price per port. The feature card supports up to six high-density packet voice/fax DSP modules, providing scalability from 64 to 384 channels.

NEW CISCO DSP MODULE

The new Cisco High-Density Packet Voice/Fax DSP Module (part number AS5X-PVDM2-64) facilitates higher-density configurations, making the Cisco AS5400XM an ideal platform for voice-over-IP (VoIP) service providers that use CT3 interfaces to interconnect with the public switched telephone network (PSTN). The Cisco AS5400XM supports 672 calls across the complete range of voice codecs in 2 rack units (2RU). The Cisco AS5350XM supports 672 calls for G.711 services in 1RU.

For E1 networks, Cisco AS5400XM Universal Gateways provide expanded capacity for medium-complexity and G.711 codec applications—up to 20 E1. Cisco AS5350XM Universal Gateways support 240 calls (8 E1) across the complete range of voice codecs, and 360 calls (12 E1) for G.711 services.

The module features the latest Cisco DSP technology, delivering up to 20-percent lower latency compared to earlier-generation DSP feature cards to help ensure highest voice quality, and provides complete flexibility in channel allocation to achieve highest densities. The DSP module is a field-replaceable unit (FRU), making additions and servicing much easier while reducing downtime (Figure 1).

Figure 1. Cisco AS5350XM and AS5400XM High-Density Packet Voice/Fax Feature Card

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NEW AMR NB CODEC SUPPORT

The Cisco AS5350XM and AS5400XM Universal Gateways offer multiple codecs to meet interoperability, compression, and latency requirements for a variety of voice applications. These gateways support the following voice codecs: G.711 mu-law and a-law; G.729ab and G729a; G.723.1 and G.723.1a (5.3 and 6.3 KB, respectively); G.726 (16, 24, and 32 KB); G.728; Clear Channel—and now the AMR NB codec for Session Initiation Protocol (SIP) and H.323 protocols. AMR NB support is obtained through a software feature license (part number FR54XM-AMR-LIC or FR535XM-AMR-LIC).

CUSTOMER BENEFITS

- **Enhanced call density per rack unit**—Expanded capacity makes the Cisco AS5400XM and AS5350XM Universal Gateways ideal for network operations centers and co-location sites where applications require high performance per port in a space-constrained environment. With support for tiered codec complexities, the Cisco High-Density Packet Voice/Fax Feature Card makes it easy to customize the voice-gateway DSP configuration to match individual network requirements. DSP resources are managed on a call-by-call basis to service all codec types (high, medium, and low complexity). The unique codec mix operating in the network determines the number of DSP modules required.
- **AMR NB codec support**—Designed to allow interoperability between packet voice (SIP and H.323) networks and Third Generation Partnership Program (3GPP) networks, AMR is the mandatory standard codec for narrowband speech and multimedia messaging services over Global System for Mobile Communications (GSM) networks. Using AMR instead of G.711 makes it possible for wireless service providers to reduce the space currently required for voicemail message storage and facilitates interconnections with VoIP networks.

In addition to AMR codec support, the high-density packet voice/fax feature card supports media authentication and encryption using Secure Real-Time Transport Protocol (SRTP), Super Group 3 fax interoperability, and modem relay.

- **Commonality between service provider and enterprise networks**—Cisco AS5400XM and AS5350XM high-density packet voice/fax feature cards share common DSP technology with Cisco market-leading integrated services routers, facilitating the transparent integration between service provider and enterprise IP Communications networks and thereby offering new service provider revenue opportunities for managed and hosted services.
- **Easy technology upgrade**—It is easy to integrate the new Cisco High-Density Packet Voice/Fax Feature Card and DSP modules into existing Cisco AS5400XM or AS5350XM Universal Gateway networks. The new feature card and DSP modules operate on these gateways without any changes to the Cisco IOS® Software configuration file in use today with existing universal port DSP feature cards, making it simple for customers to upgrade their networks.

PROVEN LEADERSHIP IN PACKET TELEPHONY SERVICES

With more than 24 million voice gateway ports shipped, Cisco Systems is a proven leader in product innovation for packet telephony services. Cisco AS5400XM and AS5350XM Universal Gateways are important components in many Cisco end-to-end applications, such as:

- Managed IP Communications services
- Residential voice-over-broadband (VoBB) PSTN termination services
- Contact centers, in combination with Cisco Unified Customer Voice Portal (CVP)
- Unified messaging
- Cisco Voice Infrastructure and Applications (VIA)
- Hosted IP telephony (IP Centrex)
- IP-enabled interactive voice response (IVR)

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