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Advanced Gateway 2330

Survivable SIP gateway services for the branch

The Avaya Advanced Gateway 2330 is a modular, voice gateway solution that enables enterprises to reliably extend centralized unified communications (UC) services to their remote branch users.

Avaya Advanced Gateway 2330

Delivering voice gateway capabilities in a flexible, cost-effective platform, the Advanced Gateway 2330 is ideal for enterprise branch offices or remote sites. It provides local branch connectivity to the public switched telephone network (PSTN) as well as SIP survivability in case of IP wide-area network failure or service outage. Optionally, it can be upgraded to provide advanced data and wide-area network (WAN) services and function as a full-featured integrated branch router.

The Advanced Gateway 2330 is interoperable with Avaya Aura® and Avaya Communications Server 1000, including Avaya 96xx SIP phones, Avaya 11xx SIP phones and Avaya One-X clients. It also can interoperate with other third-party call servers and phones. With a rich suite of SIP gateway features, PSTN interface options, global signaling protocols, and resiliency support, it is an ideal branch solution for centralized UC deployments. It also can be upgraded to deliver a complete suite of data and WAN services, consolidating multiple branch devices and significantly reducing an enterprise's total cost of ownership.

Product Features

Voice media gateway services

The Advanced Gateway 2330 offers a set of integrated voice interfaces that allow connection to the public switched telephone network (PSTN) as well as support of conventional TDM-based telephony devices. T1/E1 PRI, FXS and FXO interfaces are all available for flexible telephony connection with support for up to 100 simultaneous SIP users or devices. The Advanced Gateway 2330 media gateway and survivability services are interoperable with Avaya Aura® Session Manager/ Communications Manager (R6.0 or higher) and Communication Server 1000 (R6.0 or higher). The Advanced Gateway 2330 is also compatible with Microsoft OCS 2007 R2, as well as other third-party SIP call servers for flexible branch gateway deployment.

Survivable SIP gateway

The Advanced Gateway 2330's survivable SIP gateway capabilities enable business continuity in case of communication loss to a centralized UC/VoIP server. In this case, branch users can continue to make intra-branch calls, make/receive calls from the locally-connected PSTN, and access commonly used features such as hold, transfer, conferencing, and call waiting. When communication to the central server is restored, the Advanced Gateway 2330 automatically re-connects for resumed access to the UC and VoIP features of the central server.

Key Features

Voice Gateway services

- Range of integrated voice interfaces, including FXS, FXO, DID, CAMA, BRI and T1/E1, enable connection to the PSTN or analog telephony devices

- Supports up to 100 simultaneous users to address the voice gateway needs of small to large branch sites

- SIP survivability including inbound/outbound calling, hold, transfer, and call waiting to ensure branch resiliency

- Advanced features include call admission control, call detail recording, end-to-end measurement of latency and jitter, and SIP user access controls for improved network operations

- Multi-vendor interoperability with Avaya and third party SIP servers and phones

Upgradeable routing and WAN services

- Routing and WAN services can be optionally enabled via software

- IPv4 or IPv6 with BGP-4, Multicast services (PIM-SM, DVMRP), and MPLS

- Breadth of WAN interfaces (ADSL2+, T1/E1, Serial, Ethernet) and layer 2 protocols

- Stateful firewall and optional IPsec VPN services for secure voice and data transport

Additional gateway management features

The Advanced Gateway 2330 provides a number of additional capabilities which improve gateway management and monitoring, increase security, and enable multi-vendor interoperability.

- Call Admission Control allows the network manager to define thresholds for on-net calling, after which additional calls are routed directly to the PSTN. This provides capability to manage WAN bandwidth and ensure high quality communications from the remote branch.

- Call Detail Recording enables network managers to monitor call usage and patterns.

- End-to-end measurement and alarms based on packet delay, jitter, and loss enable networks managers to proactively monitor IP network behavior and isolate conditions which may degrade VoIP communications quality before they impact end user satisfaction.

- Primary and secondary call server registration provides support for geographically redundant servers.

- Offline prevention of unregistered users helps ensure that only registered and authorized users are able to connect to the Advanced Gateway 2330 during periods of WAN outage.

Optional WAN routing based on Avaya's Secure Router 2330

The Advanced Gateway 2330 can be software upgraded to a full suite of routing and wide-area networking (WAN) services. When upgraded, the Advanced Gateway becomes functionally equivalent to Avaya's Secure Router 2330 platform capable of delivering voice and data in a single platform. This can help to consolidate multiple devices and reduce an enterprise's branch deployment costs.

WAN routing services include a full IPv4 and IPv6 protocol set, including OSPF, RIP, BGP-4, MPLS and Multicast capabilities, and WAN protocols and interfaces, including frame relay, PPP, serial, T1/E1, ADSL2+ and ISDN BRI.

Multiple package options

The Advanced Gateway 2330 is available in multiple configurations to address a range of branch/remote site needs and sizes. The following Advanced Gateway 2330 packages are available through a single ordering code:

- AG2330 base: Includes chassis and packet voice module (PVM) with support for up to 8 active DSP/TDM channels and 25 SIP survivability users.

- AG2330-2FXO: Includes chassis, 2-port FXO module, 2-port FXS module and packet voice module (PVM) with support for up to 8 active DSP/TDM channels and 25 SIP survivability users.

- AG2330-4FXO: Includes chassis, 4-port FXO module, 4-port FXS module and packet voice module (PVM) with support for up to 8 active DSP/TDM channels and 25 SIP survivability users.

- AG2330-PRI: Includes chassis, 1-port T1/E1 (PRI) module, 4-port FXS module, and packet voice module (PVM) with support for up to 32 active DSP/TDM and 25 SIP survivability users.

All packages include voice gateway operating software with the option to upgrade to full routing and WAN functionality. Upgrade licenses are also available for up to 100 SIP users and up to 64 DSP/TDM channels. The Advanced Gateway 2330's modular design allows additional hardware modules to be installed to add more FXS, FXO or PRI/BRI ports, or to add WAN routing interfaces, including T1/E1, Serial, ADSL2+ or ISDN BRI.

Simple to install, simple to scale modular platform

The Advanced Gateway 2330 provides advanced operational features while simplifying, or eliminating, time-consuming and confusing installation tasks. The unit's chassis has 8 built-in Ethernet interfaces and open module slots for additional interface cards to support the dynamic demands of growing businesses.

Management

The Advanced Gateway 2330 employs an industry-aligned command line interface (CLI) that makes it easy to set up and manage. Features include:

- On-Premise, Console and Command Line Interface; Telnet, Events, Syslog

- Remote SSHv2 provides secure communication for configuration and maintenance

- Avaya Unified Communication Management (UCM) provides for fault management and device reporting

An easy choice

The Advanced Gateway 2330 is a flexible, cost-effective branch gateway solution that can address the UC connectivity needs of remote sites. It also can serve as the springboard for converged voice and data services in a common platform for simplified management, greater cost savings and a high quality of user experience.

Technical Specifications

Voice Features

Voice Signaling Support
- T1 ISDN PRI
  - NI2, DMS-100, 5ESS, NTT
- T1 Channel Associated Signaling (CAS)
  - Robbed Bit Signaling
  - E&M - Wink start, immediate start, delay dial
- ISDN BRI (User side)
  - NI, DMS-100, 5ESS
- FXS (Foreign Exchange Station)
  - Loop-start, Ground-start
  - Supports Type 1 Caller ID
- FXO (Foreign Exchange Office)
  - Loop-start, Ground-start
  - Supports Type 1 Caller ID
- Direct Inward Dialing (DID)
  - E&M - wink start, immediate start, delay dial

- Centralized Automated Message Accounting (CAMA)
  - Emergency calling

Codecs Supported
- G.711 - A-law and u-law
- G.726 - 16, 24, 32 Kbps
- G723.1 - 5.3, 6.3 Kbps
- G.729AB - 8 Kbps

Other Voice Features
- TDM to IP, IP to TDM conversion
- ITU G.168 Echo Canceller
- Voice Activity Detection/Comfort Noise Generation
- DTMF digit detection
- Caller ID generation and detection
- T.38 fax relay / Fax and Modem Pass-through
- Up to 64 DSP channels
- Compressed RTP (cRTP)
- Call Admission Control
- Call Detail Recording
- End-end measurement and alarms for jitter, delay, loss
- E-911 services

SIP survivability calling features
- Inbound/outbound calling
- Intra-branch calling
- Call hold, consultation hold
- Call transfer (attended, unattended)

- 3-way conferencing (phone delivered)
- Click to dial
- User registration security

Management Service Provisioning
- Management Telnet, SSHv2, SFTP, PAP, CHAP, SNMPv2, Syslog, DHCP, RADIUS, TACACS+, TCL scripting support
- Monitoring Syslog, statistics, alarm
- Diagnostics BERT, loopback testing, trace route
- Avaya Unified Communication Management (UCM) for fault management and reporting

Physical Specifications

Chassis
- Height x Width x Depth: 4.4cm x 44.4cm x 30.5cm (1.75in x 17.5in x 12in)
- Chassis Slots:
  - 3 small module slots (Note: 2 slots pre-installed with voice modules)
  - All slots are hot swappable
- 4 x 10/100 Fast Ethernet copper
- 2 x 10/100/1000 Ethernet copper
- 2 x GigE SFP Fiber ports
- Management ports:
  - Compact Flash
  - Console port (RJ-45)

Power options
• AC Power Supply - 50-60 Hz 90-269 VAC, 60 Watts

• 12 VDC Input for optional external redundant DC power supply

Environmental
• Operating Temperature: 32° to 104°F (0° to 40°C)

• Relative Humidity: 0 to 95% (non-condensing)

Optional Routing, WAN and Security Features

Note: All features below available only with the Advanced Gateway 2330 router upgrade option:

Internet Routing
• IPv4 and IPv6 support, including IPv4-IPv6 tunnels

• Static routing, RIPv1/2, RIPng for IPv6, OSPFv2 and v3, BGP4/4+

• Policy-based routing

• Inter-VLAN routing

• High availability: VRRP, redundant router connections

• ACL, NAT, GRE Tunneling, IP-IP for GRE

WAN Layer 2
• T1/E1, both data and TDM, including ISDN-PRI support

• ISDN BRI (U and S/T)

• ADSL2+ (Annex A and B)

• Serial (V.35, RS-232/V.28, RS-449/V.11, EIA-530/A, or X.21/RS-422)

WAN Layer 3
• Point-to-Point Protocol (PPP) including PPP over Ethernet (PPPoE) and Multilink PPP

• Frame Relay (FRF.9 FRF.12, FRF.16)

IP Multicast
• IGMPv1/2/3 for IPv4; MLDv1/2 for IPv6

• PIM-SM for IPv4/v6

• DVMRPv3 for IPv4

MPLS Label Edge Routing (LER) services
• Label Distribution Protocol (LDP)

• RSVP-TE, OSPF-TE

• MPLS Fast Reroute

• MPLS Martini Pseudo-wire (Ethernet, PPP, HDLC over MPLS)

Quality of Service/Traffic Management
• RED, WRED, DiffServ, bandwidth guarantee/sharing, flow monitoring

• Traffic Policing

• 8 level Priority Class Based Queuing (per IP address/subnets, Ports, DSCP and ToS bits, VLAN ID (802.1q), VLAN Priority (802.1p)

• Frame Relay traffic shaping and policing

• VLAN Classification (port, subnet or protocol-based)

Security Features

VPN
• IPSec VPN, NAT-Traversal

• DES / 3DES, AES, SHA1, MD5

• Site-to-site and remote access support

• Embedded VPN acceleration hardware

• 100 VPN tunnels

Firewall
• Stateful Packet Inspection Firewall

• 25-zone support (including Corporate, Internet, DMZ)

• Policy based NAT/PAT

• 60+ Distributed Denial of Service (DDoS) Attack Preventions

• 30+ ALG support (including H.323/SIP)

• Pass through, IPSec, L2TP, PPTP

Learn More
To learn more about the Avaya Advanced Gateway please contact your Avaya Account Manager or Authorized Partner. Or visit us at **www.avaya.com**.

About Avaya
Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.