Aastra DRG22i System

» Analog extension integration over IP

The Aastra Digital Residential Gateway (DRG22i) analog extension gateway enables cost-efficient integration of remote analog phones or G3 fax machines* with Aastra's MX-ONE™ system platforms, the MD110 Convergence Communication System, MD Evolution and BusinessPhone systems via an IP connection. To use the telephony services, the user plugs the terminal or fax machine* into the DRG22i, regardless of its location in the corporate IP network.

This provides a cost-effective solution that is easy to deploy in small remote branch offices, which are typically connected via a WAN/ IP router to their central office network. The DRG22i gives remote users two analog extension lines and one 10/100 Mb LAN port, providing connection to the corporate network via the WAN port.

* Fax is not supported with the BusinessPhone system

Secure Ethernet access

With always-on broadband connections, many users are concerned about security. With the built-in routing function, certain types of traffic can be filtered to avoid undesired traffic through the downlink LAN port. The built-in packet filter is capable of blocking certain types of traffic. Embedded functions, such as VLAN tagging can be enabled for added security.

High quality IP telephony in all networks

The DRG22i enables carrier-grade voice quality through priority mechanisms, such as DiffServ or Class of Service, both on the Ethernet and the IP level. With the DRG22i, both narrow-band speech codecs and uncompressed speech (G.711) can be used.

Deployment with MD110 or with MX-ONE™ Telephony Switch

The DRG22i serves as an ideal and cost-effective IP gateway for fax or voice calls. Using the CAS extension feature combined with the Integrated Trunk Gateway (ITG) function on the MD110 BC12.1, analog phones or G3 fax machines connected via the DRG22i have access to a complete range of system services. Alternatively, with the MX-ONE Telephony Switch, Service Pack 2 (SP2), the DRG22i can be registered directly with the system IP extension board (IPLU) to offer analog phone functionality for both fax and voice calls. With SP2, the system services available are the ones invoked at dial tone (e.g. abbreviated dialing, account code, follow-me, group call pick-up, message diversion, personal number, etc.). Suffix services are supported as well with SP3. If the remote location is equipped with an Enterprise Branch Node (EBN), the DRG22i may be registered there to provide local PSTN access for DRG users. When registered to the EBN, fax and voice calls may be routed to the main site system via IP networking.

For any of these scenarios, a system specific configuration file may be loaded into the DRG22i to keep installation and configuration to a minimum.

Deployment with MX-ONE™ Telephony Server

DRG22i can be registered directly to MX-ONE™ Telephony Server, running version 2.0 minimum. When connected to this system, extensions on the DRG22i will be supported both for analog extension and/or G3 fax usage.

The system services available are the ones invoked at dial tone (e.g., abbreviated dialing, account code, follow-me, group call pick-up, message diversion, personal number, etc.). With MX-ONE TS 3.x, the DRG22i may be configured for operation using SIP and will have access to system services using SIP info. By loading a specific configuration file into the DRG22i, the installation and configuration effort is kept to a minimum.

Deployment with BusinessPhone

The DRG22i can be registered directly with the BusinessPhone systems gatekeeper. When connected to BusinessPhone, extensions on the DRG22i will be supported for analog extension usage (no fax support). When used with an analog telephone, users will have access to a complete range of BusinessPhone services. By loading a BusinessPhone-specific configuration file into the DRG22i, installation and configuration effort is kept to a minimum.

Deployment with MD Evolution

The DRG22i can be registered directly to the gatekeeper function of MD Evolution V8.0c or later releases. When connected to MD Evolution, extensions on the DRG22i will be supported for analog extension and fax support. When used with an analog telephone, users will have access to a complete range of MD Evolution services. By loading a specific configuration file into the DRG22i, the installation and configuration effort is kept to a minimum.

Suitable for a broad range of networks

Complying with existing standards, e.g., H.323v2/4, SIP, HTTP, SNMP, etc., the DRG22i works in many environments and systems. It can be used in Ethernet, xDSL, cable TV or broadband wireless networks.

Simplicity through remote management

The DRG22i is plug-and-play for the user. It is designed for remote management, configuration and software upgrades. This is performed by the system administrator through an easy-to-use embedded web server for configuration and maintenance. Optionally, the DRG Element Manager may be used to simplify management of a large population of DRGs dispersed over multiple sites.

System Requirements

System requirements	MD110	MX-ONE™ Telephony Switch	MX-ONE™ Telephony Server	BusinessPhone	MD Evolution
Voice call support	MD110 BC12.1 if used as a basic analog gateway directly connected via the IP extension board or via the ITG using CAS extension The ITG (and EBG if used) requires V3.1.6B11 or higher.	MX-ONE™ TelephonySwitch SP 2 minimum.The DRG is directly connected via the IPLUextension board.	MX-ONE™ Telephony Server 2.0 or higher.	BusinessPhone 7.0 or higher. IPU	Version 8.0c or later
Fax call support	Supported	Supported	Supported	Not supported	Supported

Product Specifications for the DRG22i

Interfaces	
Ethernet LAN, downlink	1 10/100 Base-TX RJ45 connector (max. 100 m)
Telephony	2 RJ11 connectors, for analog telephones (max. 500 m)
Ethernet WAN	10/100 Base-TX (max. 100 m) RJ45 connector

Security	
Packet Filter	Capable of blocking certain types of traffic
VLAN	Separates data, management and telephony traffic
Authentication per registration	H.225.0 RAS
Authentication per call	H.235

Telephone and fax services	
External Class 5 services	Activation of Class 5 services supported by MX-ONE™ Telephony Server, MX-ONE™Telephony Switch/ MD110 (with ITG or EBG), MD Evolution and BusinessPhone system*
G3 Fax	Based on G.711 and T.38
Calling number identification	FSK, DTMF
3rd-party initiated	External re-routing of media stream during speech pause and rerouting
DTMF	In-band and out-band using H.245 and H.225 bi-directional (ITG and CAS extension features are required for MD110 services to be supported). If operating in SIP mode, then SIP info is used for DTMF transport.

* limitations may apply dependent on connected communication system

Speech quality	
Speech codecs	G.711, G.729a, G.729ab, G.723.1*
DiffServ	Level 3 (IP) mechanism for handling of QoS
Class of service	Level 2 (Ethernet) mechanism for handling of QoS
Internal delay	5-10 ms delay for decoding/encoding/AEC/internal operations in the DRG
General	Adaptive jitter buffer, echo cancellation, speech sampling 10-60 ms, silence suppression with comfort notice insertion

* Available on request

Product Specifications for the DRG22i

Configuration and management	
SNMP Management	For remote management, SNMPv1, MIBII, Enterprise MIB
Internal web server	Used for remote configuration and firmware downloads
Enhanced Plug & Play functionality	DHCP messages option 60, 61 and 43
DRG Element Manager	For handling of large DRG22i populations

Flexibility and service differentiation	
Daisy-chaining	Up to 3 DRG22i units can be connected in series (daisy-chained), providing up to 6 analog telephony ports
Regional settings properties	Telephone signals, tones and cadences

Protocols and standards	
DRG22i with R2H FW supports the following standards	IPv4, TCP, UDP, RTP, DHCP, RTCP, SNMP, IEEE 802.1D, IEEE 802.1Q, IEEE 802.1P,NAT, IEEE 802.2, IEEE 802.3, ICMP, HTTP, TFTP, NTP, H.323v2/4, SIP, MGCP*, G.711, G.729a, G.729ab, G.723.1*, G.165, G.167, G.168, T.38, G3, FSK, DTMF

* Available on request

Reliability	
MTBF	>300,000 hours
Configurable 1st and 2nd gatekeeper	High availability through gatekeeper back-up

Physical and environmental	
Dimensions	28 mm (H) x 110 mm (D) x 176 mm (W)
Weight	Approximately 350 gr.
Power requirement	7-10 watts operating, 7 watts stand-by (incl. AC/DC adapter)
Power supply	12V, external plug-in wall adapter
Operating conditions	Temperature +5C to +40C

Regulatory compliance	
EU directives for CE label	Low Voltage Directive (LVD) 73/23/EEC, EMC 89/336/EEG
Safety	EN 60950 (2000), CSA C22.2 No.950-95/UL 1950 3rd Edition, AS/NZS 60950:2000
Emission	EN 55022:1998 Class B, EN 61000-3-2:1995, Harmonics: EN 61000-3-3:1995, Flicker: FCC Part 15 (1998) Class B, AS/NZS 3548 (1995)
Immunity	EN 55024:1998

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