

The Dialogic® Vision™ CX Video Gateway is a carrier-ready video gateway that can connect interactive SIP-based video and multimedia services to mobile, IP, and PSTN networks, in addition to IMS-based networks through support of BICC/Nb-Up. The Vision CX Video Gateway can also support real-time video and voice transcoding, allowing service providers and mobile operators to deliver enhanced video quality and interoperability for converged services, such as video portals, multimedia contact centers, and multi-terminal video conferencing.

Because of its ability to integrate ISDN and SS7/ISUP signaling in a single 2U unit and scale up to 5000 ports per SS7 point code, the Vision CX Video Gateway allows for extremely efficient deployment. It features web-based management with remote configuration, management, and monitoring, and easy scalability in carrier networks by permitting capacity upgrades through software licenses. Support of redundant SS7 links improves reliability by reducing service downtime.



Features	Benefits
3G-324M support that includes H.264	Enables the same video services to perform comparably on 3G wireless and IP networks
Real-time any-to-any video transcoding and rate adaptation on demand	Adapts codec, rate, and size dynamically as a video moves between mobile network devices and IP network devices to improve efficiency and the viewer experience
Video refresh	Reduces video corruption while maintaining a high frame rate
FastCall setup that includes MONA	Allows similar setup times for both video and voice calls
Simultaneous support of TDM voice calls	Supports seamless failover of video to voice calls with very low voice latency to eliminate complex routing schemes and multiple element management
Redundant SS7 link support	Improves reliability by reducing service downtime, which is important in a carrier environment
BICC/Nb-Up support	Can be deployed in both traditional mobile networks and next-generation IMS networks

Applications

Mobile Interactivity

- Personalization
 - Video Ring Tones and CRBT
 - Video, Voice, and Text SMS
 - Video and Voice Chat
 - Video Avatar Messaging
 - Video and Voice Messaging
 - Video Mail
- Entertainment
 - Video Portal
 - On-Demand Gaming
- Information
 - Stock Quotes
 - News
 - Video Sharing
 - Video-Based Training
 - Video Blogging
 - Video Portal

Network Services

- Business Productivity
 - Multimedia Contact Center
 - Self Service IVVR and IVR
 - Video and Voice Conferencing

Network Infrastructure

- Mobile-to-PC video telephony
- Video Call Completion to Voice (VCCV)

Connections for a Wide Variety of Network Types

Figure 1 provides an example of how the Vision CX Video Gateway can connect voice and video endpoints to SIP-based multimedia platforms and services in carrier environments. With integrated PSTN-SIP audio and video, the Vision CX Video Gateway can provide a wide range of carrier signaling services, making it suitable for a variety of network types, including IP, Mobile, PSTN, 3G-324M, and IMS networks. With its ability to provide real-time bi-directional transcoding, the Vision CX Video Gateway enables dynamic and efficient deployment of 3G services, including SIP-based video applications, speech, and multimedia services, as well as emerging 3G-324M video solutions.

One Gateway for both Voice-Only and Video Calls

The Vision CX Video Gateway can simultaneously support voice-only calls and 3G-324M video calls, and can supply only the audio portion of a video call to a non-video enabled endpoint. This enables application developers, OEMs, and system integrators to quickly develop and deploy rich multimedia solutions without complex routing, and allows the Vision CX Video Gateway to work with both 2G and 3G mobile networks and endpoints.

Simultaneously supporting voice-only and video calls is also important for mobile providers, for whom a top priority is to satisfy their video subscribers by making sure that all attempted calls are completed, even if the destination handset type is voice-only. The Vision CX Video Gateway provides an advantage in these cases by handling both types of calls on a single gateway without requiring any conversion. The audio call remains in the TDM domain, eliminating potential latency and providing a high quality voice connection. This functionality is provided in a single 2U unit, a very small footprint for such rich functionality.

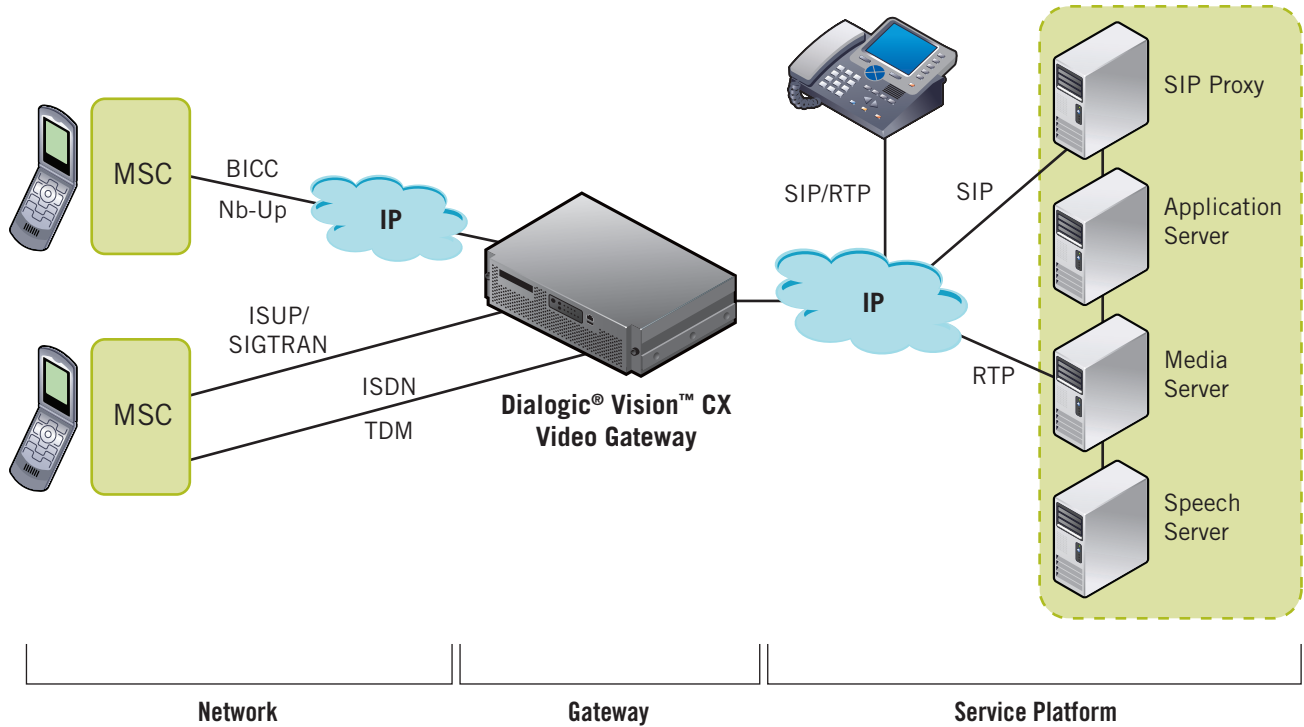


Figure 1: Dialogic® Vision™ CX Video Gateway in a Carrier Network Environment

Real-Time Any-to-Any Video Transcoding

The Vision CX Video Gateway offers excellent efficiency and an enhanced viewer experience by providing real-time any-to-any video transcoding only when needed. Rate matching and size matching of video streams is available on demand, and video transcoding capabilities include H.264 to H.263/MPEG-4 for interoperability between web-based video content and mobile video handsets.

Table 1 lists the dynamic video transcoding available with the Vision CX Video Gateway.

		Video Service				
		3G-324M Mobile Video Handset (QCIF)	SIP Video Phone (QCIF/CIF)	3GPP Stored Content (QCIF)	IP Video Streaming (QCIF/CIF)	2G/3G Non-Video Handset (audio only)
3G-324M Mobile Video Handset	H.264	x	x	x	x	x
	MPEG-4	x	x	x	x	x
	H.263	x	x	x	x	x

Table 1. Video Transcoding Supported

The Vision CX Video Gateway also enables a high-quality 3G video experience by incorporating advanced standards in mobile video technology. The Vision CX Video Gateway supports H.264 for high-quality video as well as industry-standard fast call setup procedures such as MONA, WNSRP, and Packed245.

Signaling for the Carrier Network

With its support of ISDN, SS7/ISUP, SIGTRAN, and BICC signaling, the Vision CX Video Gateway is ready for deployment in a wide variety of carrier environments. Trial, test, or small-scale deployments can begin with only 2U of rack space,

The Vision CX Video Gateway can accommodate initial commercial deployments in carrier environments, which normally require fault-tolerance, because it can provide 1+1 redundancy through a single point code with two units for increased reliability. From such an initial deployment, the Vision CX Video Gateway scales easily by adding units up to a total of 5000 ports — with redundancy.

Figure 2 provides an example of a full-scale, high-density, redundant deployment using Vision CX Video Gateways.

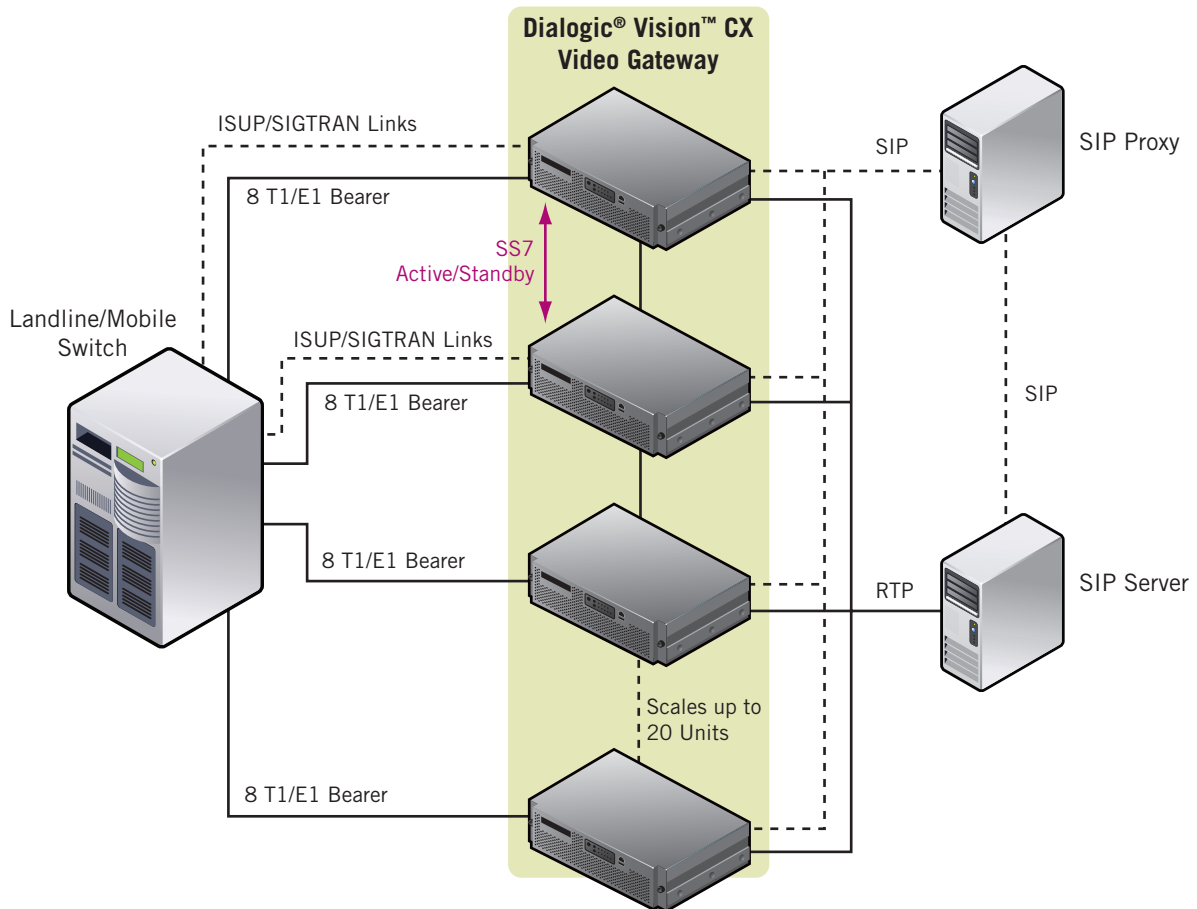


Figure 2. Full-Scale SS7 Deployment

Technical Specifications

Video Gateway Support

3GPP-324M	H.223, Annex B (Level 2) H.245 ver 11 H.263, H.263+ MPEG-4 part 2 H.264 (MPEG-4 part 10)
Fastcall Setup	H.324 Annex A, C (CCSRL/NSRP/WNSRP) H.324 Annex K (MONA APC & MPC)
Audio processing	Passthrough and transcoded AMR-NB, G.711 transcoding for video calls
User Indications	H.245 UII RFC 2833 In-band DTMF
Video Transcoding	H.263, H.263+, MPEG-4 part 2, H.264 (Supported by optional video transcoder)
Video Rate adaptation	42Kb to 384Kb, 6fps to 30 fps
Video Size adaptation	QCIF, CIF
Video Refresh	RFC 5168

Audio Gateway Support

Audio Processing	Passthrough and transcoded AMR-NB, G.711, G.723.1, G.729a transcoding
User indications	RFC 2833 In-band DTMF
Fax support	Incoming fax detection on CNG, T.38 transport

Call Routing

DNIS to URI mapping
Configurable route table
CCXML 1.0 W D June 29, 2005 compliant
Call transfer (REFER)
Call bridging between audio and/or video calls
Video call tromboning
Early Media (3G-324M requires switch support)

Media Transport

RFC 1889 (RTP/RTCP)
RFC 1890 (RTP profiles)
RFC 3550/3551 (RTP)
RFC 2833 (DTMF)
RFC 2429, RFC 2190 (H.263)
RFC 3267/IF2 (AMR)

Technical Specifications *(continued)*

SIGTRAN Compliance

M3UA (RFC 4666, ETSI TS 102 381 v1.1.1)

SCTP (RFC 2960, RFC 3309)

BICC Compliance

ITU-T Q.1902.1 – Q.1902.6, 07/2001

ANSI T1.673-2000

ANSI T1.673-2002 (CS1+)

ISDN Compliance

AT&T 5ESS10

Nortel DMS-100

Bellcore National 2

Euro ISDN and Euro Numbers

NTT INS 1500

QSIG

ANSI T1.607

SIP Compliance

RFC 3261 (SIP core)

RFC 3263 (Locating SIP Servers)

RFC 3264 (SDP Offer/Answer)

RFC 3515 (REFER)

RFC 3398 (ISUP/SIP mapping)

RFC 2327 (SDP)

RFC 2976 (INFO)

RFC 5168 (Video Refresh)

Management

Web management console

Usage indication: CDR reporting

Front panel visual, info/minor/major/critical

SNMP v1/v2/v3

Lights out management

IPMI 1.5 compliant

DB-15 telco alarm connector

Detailed event logging with configurable levels

System

Kontron carrier class (2U/1U TIG family)

Dual 73Gb RAID 1 disks, hot swap, front accessible

Dual 1+1 AC/DC power supply, with dedicated fans, hot swappable, rear accessible

Quad fan subsystem for CPU and network cards

Technical Specifications *(continued)*

Vision CX Video Gateway Physical

2U, 19" rack mount (600 mm standard telcom rack)	
Height	3.45 in (87.6 mm)
Width	17.14 in (435.3 mm)
Depth	20 in (508 mm)
Environmental	5°C to 35°C operating -40°C to 70°C non-operating

Gateway Capacity (per unit)

Up to 240 gateway ports per system
Capacity upgrade through software license
Optional Video Transcoder required for real-time any-to-any video transcoding ports

Optional Video Transcoder Physical

1U, 19" rack mount (600 mm standard telcom rack)	
Height	1.72 in (43.7 mm)
Width	17.14 in (435.3 mm)
Depth	20 in (508 mm)
Environmental	5°C to 40°C operating -40°C to 70°C non-operating

Optional Video Transcoder Capacity (per unit)

Capacity depends on codec, frame rate, bit rate, and size. For example:
At least 480 streaming ports of H.263/MPEG-4 transcoding/transrating
Up to 180 streaming ports of H.263 to H.264 (QCIF) transcoding

Approvals, Standards, and Compliance

Hazardous substances: RoHS Compliance Information at <http://www.dialogic.com/rohs>

Compliance

Safety, EMC, Telco, NEBS-3/ETSI-designed
May be approved as NFV2122A or NFV2122B

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