SCOPIA™ 3G Video Gateway
The smart solution for IMS and converged video communications

Carrier-grade seamless telephony and streaming connectivity for video and voice between 3G-324M-enabled mobile devices and IP/IMS-based services

Bridge the gap between 3G mobile and IP/IMS-based services

RADVISION's SCOPIA 3G Video Gateway connects mobile networks and IP networks – where multimedia content and current video telephony systems reside. The SCOPIA 3G Video Gateway supports real-time bi-directional video and voice telephony and streaming between 3G-324M-based mobile handsets or devices and IP-based video media servers, messaging systems, RTSP streaming servers, SIP/H.323 terminals, network cameras, ISDN endpoints and more.

Best video quality experience with "any-to-any" transcoding

Robust media processing, using the latest DSP technology, enables unique H.264 support, including transcoding to existing H.263/MPEG4-enabled services. "Any-to-any" transcoding, rate matching and size matching of video streams provides superior video quality and assured interoperability for deployment of converged services.

Combined 3G-324M video and TDM voice support

Deploy voice only and video services using a single gateway, and eliminate complex routing schemes and multiple element management. Automatic failover of IP-originated calls from 3G-324M video-to-voice TDM allows the service to seamlessly connect to mobile handsets, regardless of what capabilities the handset supports.

SIP/IMS-ready

SCOPIA solutions are based on RADVISION's widely-deployed IMS SIP protocol stacks. The SCOPIA 3G Video Gateway incorporates the latest IETF RFC standard definitions enabling carrier grade SIP Server high-availability and keep-alive mechanisms, flexible SIP media channels transfer scenarios, ISUP to SIP standard mapping with RFC 3398, NSS/Q.1980.1 and more.

Harness the power of RADVISION's smart solutions to deploy IMS and converged video applications and services

Multiple application profiling

Using the easy-to-use graphic Web interface, the operator can set custom media parameters to each service served by the SCOPIA 3G Video Gateway. This flexible approach enables optimized service delivery, offering the best user experience per service and assures efficient use of costly operator media processing resources.


Enhanced Video Error Resiliency Algorithms

Mobile video communications can be adversely influenced by air interface reliability. The SCOPIA 3G Video Gateway achieves high video quality using multiple error resiliency algorithms that overcome noisy network environments, including QualiVision™ Image Refresh and Multi-NSRP methods.

RADVISION®
Delivering the Visual Experience™

RADVISION Optimal Transcoding

A unique optimal transcoding method uses both transparent and transcoded video traversal algorithms to deliver high video quality with minimal delay, reduced costs and less space. This modular architecture is ideal for a large variety of applications, including video mail and portal applications, which work in the native video codec and do not require transcoding.

RADVISION Optimal Trancoding method
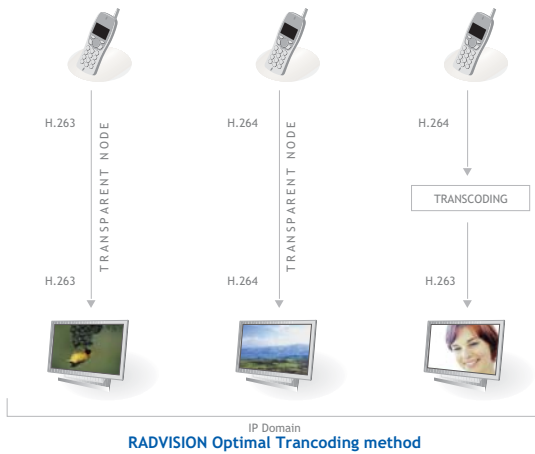
Fast call setup time

Support of ITU Standard WNSRP for H.324M fast call setup time. The ITU has included RADVISION's intellectual property related to fast call setup as an integral and mandated part of H.324M Annex K standard, also known as Media Oriented Negotiation Acceleration (MONA)*.

SS#7 ISUP, PRI connectivity

Single access point with full redundancy.

Robust security

Management and media traffic separation, access control lists, secured Web access, strong password enforcement, previous passwords tracking, session inactivity timeout and more.

Power real-time multimedia streaming

Offer subscribers revenue-generating services from a wide variety of content providers that use IP-based platforms/servers.

Seamless interoperability

With over a decade of experience leading the market in seamless interoperability across all platforms, network protocols and devices, the SCOPIA 3G Video Gateway offers complete interoperability. Carriers can exploit all video enabled devices including 3G-324M enabled mobile handsets, laptops and PDAs, multi-vendor SIP servers, H.323 gatekeepers and terminals, value-added service and content platforms, RTSP based streaming servers, and network cameras. A regular bimonthly IOT report update is issued to all RADVISION customers.

Modular IP architecture for high scalability & full redundancy

All blades communicate over IP networks using standard protocols. This ensures a highly scalable solution that can support thousands of concurrent sessions, and assures fault-resiliency within and beyond the chassis boundaries. Hot swappable N+1 or 1+1 redundant elements on the same site or on multiple sites assure high availability service.

Multi-protocol

The SCOPIA 3G Video Gateway supports all carrier network communication protocols, including 3G-324M, TDM Voice, SIP, H.323,H.320 and RTSP all at the same time.

Market-proven

RADVISION is the company that developed and perfected the protocol stack that brought the visual experience to the market, the first to market with an IMS SIP stack and the first company to offer full connectivity to the 3G mobile arena. Leading mobile carriers and broadband service providers throughout the world are deploying RADVISION solutions.

Centralized management

The SCOPIA platform includes a comprehensive centralized management suite for status, monitoring, configuration and software version management for RADVISION platform multiple elements. The iVIEW™ Element Manager provides an easy-to-use Web interface for monitoring and configuration, secured by HTTPS. The iVIEW network manager also provides logging and trap forwarding mechanisms to third party management.

SCOPIA 3G Video Gateway Technical Specifications

Supported Protocols:

- 3GPP 3G-324M including:
  - H.223, H.223 Annex A, H.223 Annex B
  - H.245 ver.10
  - WNSRP fast call setup
  - H.324M Annex K (MONA)*
- SIP with latest IETFC RFC additions (see below)
- H.323 Ver. 4
- H.320 (optional)
- RTSP (optional)

RADVISION IMS SIP Protocol Stack:

Seamless support between mobile and SIP, IMS SIP-based SIP Servers, Media servers, messaging systems, video devices, and more using RADVISION's widely-deployed IMS SIP protocol stack.

The SCOPIA 3G Video Gateway supports the following IETF RFCs and drafts:

- Session Initiation Protocol (SIP) as defined in RFC 3261 and SDP as defined in RFC 2327
- RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals as defined in RFC 2833
- Offer/Answer Model as defined in RFC 3264
- SIP INFO Method as defined in RFC2976
- Locating SIP server as defined in RFC3263
- HTTP/Digest Authentication as defined in RFC2617
- SIP call transfer based on IP=0 procedure
- draft-levin-mmusic-xml-media-control-02, XML Schema for Media Control, April 2003, draft-koskelainen-sdp263-02, SDP syntax for H.263 options, June 1998
- RFC 3966 - Tel-URI (replaces RFC 2806)
- RFC 4028 - Session Timers
- RFC 3398 - Integrated Services Digital Network (ISDN) User Part (ISUP) to Session Initiation Protocol (SIP) Mapping
- Q.1912.5 translation between ISUP-SIP
- Q.1980.1/NSS Querying and setting of ISUP fields from SIP
- RFC 3325 - Privacy fields
- RFC 3326
- Softswitch/SIP Server keep-alive mechanism
- Additional IMS SIP related RFCs

RADVISION H.323 Protocol Stack:

Being the undisputed leader in video, voice and data conferencing on packet networks, the gateway uses version 4.0 of the H.323 protocol stack

RTSP Interface:

- Seamless connectivity between RTSP streaming servers and Web cameras
- ISMA implementation specification v1.0, profile 0
- 3GPP TS26.233 (version 5.0.0) and TS.26.234 (version 5.4.0).
- RFC 2326.

Advanced Transcoding, rate matching and size matching

- Video:
  - H.264, H.263, MPEG4
  - H.264<->H.263, H.264<->MPEG4, H.263<->MPEG4 with modular transcoding architecture
  - Rate and size matching
  - QualiVision™ Image Refresh error resiliency
  - Multi-NSRP mechanism
- Audio:
  - AMR pass-through and transcoding to G.711, G.723 and G.729.
  - Supports 2G voice TDM
  - AAC support for RTSP streaming sessions (with the MSP blade)

SIP Server High-Availability and Redundancy

- SIP Server keep alive mechanism - automatically identify faults and failover between SIP servers with a standard based bi-directional keep-alive mechanism
- Highly redundant solution with N+1 or N+N redundancy of the physical and logical components, taking advantage of RADVISION's IP modular architecture
- RAI/RAC Load Balancing - Resource Available Indication/Resource Available Confirmation function on H.323 networks

Security

- Management and media traffic separation
- Configurable management access control lists
- Secured management Web access
- Strong password enforcement
- Previous passwords tracking
- Session inactivity timeout

Quality of Service (QoS)

- Configurable IP TOS bits for setting any desired IP class of service or DiffServ Code Point (DSCP)

Smart Dial Plans

Calls originating on 3G-324M can be routed, in addition to Direct Inward Dialing (DID) methods, with the following unique methods:

- Video-to-Voice Failover - automatic failover of IP originated calls from video call to voice TDM call based on media type not supported
- E-mail addressing - dialing from the handset an email address/SIP URI Instead of a number
- Sub-addressing (Q.932 IE) - sending from the handset both the access number as well as the destination number

Centralized Element Management

Easy and intuitive control, configuration, and maintenance of VAS from a single User Interface, including:

- Complete network-wide view of element status
- Forward SNMP traps from all components to designated third party management systems
- Display of events and errors received from elements for error management
- Multiple element configuration management, multiple element software upgrade capabilities, backup and restore of configurations and s/w versions.

*MONA support will be available in an upcoming release

SS7 Signaling

- Market-proven SS7G21 signaling gateway for complete ISUP support
- Single access point to the circuit-switched network, supporting up to 2,000 calls
- Standards-based redundant solution
- Supports International and Local Protocols in Variants including: ANSI, ITU, ETSI, UK, France and more

PRI

- Supports all common central office switches utilizing the many flavors of ISDN protocols - AT&T 5ESS, 4ESS, Nortel DMS 100, National ISDN-2 (NI-2), Euro-ISDN and Hong Kong and Taiwan PRI system NTT Japan

Hot Swappable

- Gateway cards can be plugged and unplugged (while powered) without interference to the rest of the system

SCOPIA 3G Gateway Deployment
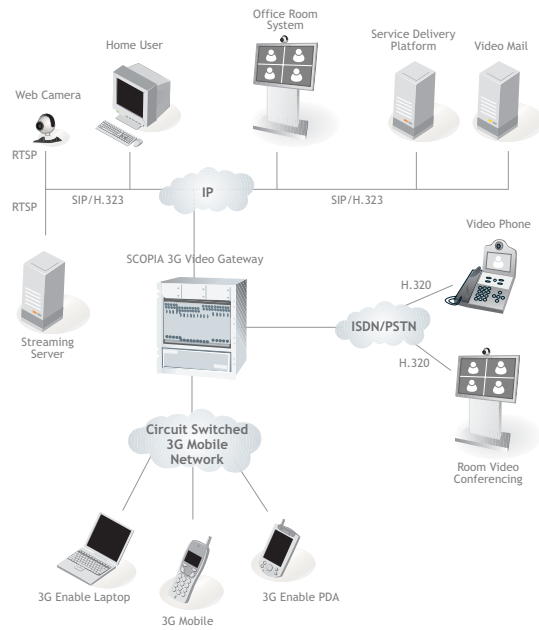
RADVISION SCOPIA platform comes in two versions

SCOPIA 400 Chassis

Four slots, carrier-grade compact PCI compliant

SCOPIA400

- Height: 2U (3.5 " or 88.9 mm)
- Width: 17.25 inches (438.15 mm) (A standard 19" Rack mount chassis)
- Depth: 10 inches (254 mm)
- Weight: 12.1 lbs (5.5 kg) for empty chassis without PSUs, 1.76 lbs (0.8 Kg) for each PSU

SCOPIA 1000 Chassis

21 slots, carrier-grade, PICMG 2.16 compliant

SCOPIA1000

- PICMG 2.16 - Dual redundant IP back plane
- Hot- Swap dual redundant Intelligent Shelf Manager blades
- Hot- Swap dual redundant internal L2 Ethernet Switches
- Hot- Swap N+ N redundant DC power supplies
- Hot- Swap N+ 1 redundant DC Cooling fan trays
- Height: 12U (21.00" or 533 mm)
- Width: 19" or 483 mm including mounting flanges
- Depth: 17.13 " or 435 mm deep from mounting flanges
- Weight: Approx. 30 lbs. [13.6 kg] unloaded. Approx. 100 lbs. [31.85 kg] fully loaded

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