ClassOne® IP/SIP-based RADIO GATEWAY

Link incompatible radios so they can communicate seamlessly with each other and other phones through push-to-talk connectivity

iNEMSOFT solutions address a long-standing dilemma:
How do organizations communicate seamlessly with two-way, land-based mobile radio systems and link vital people and processes as part of a single, integrated communications community?

The ClassOne® IP/SIP Radio Gateway provides full interoperability and bridging over SIP-based communications between various radio types and the telephone network at a lower cost. The Radio Gateway provides full support for radio-to-radio bridging, inbound and outbound dialing, and mobile radio access connectivity to any back-office telephone system.

The ClassOne solution helps organizations integrate radio communications directly into their overall voice over IP (VoIP) communications infrastructure. All parties can communicate seamlessly on a single IP-enabled radio-telephony platform - boosting collaboration, speeding decision making and shortening response times. Radio operations can be fully integrated with corporate back-office systems, voice networks, self-service applications, customer service systems and more.
Features and Capabilities

The ClassOne IP/SIP Radio Gateway interfaces to many types of UHF/VHF, P25 or 700/800 MHz digital radios. This integration allows users to patch telephones to radios and radios to radios, regardless of the channel or frequency. Conferencing telephones with radios can be accomplished with the existing core communication system. Other features include:

- Linking UHF/VHF and 700/800 MHz digital radio systems with a telephone network.
- Instant access to radio-to-radio and telephone interoperability.
- Radio base stations appear as a telephone station on the PBX for dial-up. This enables you to originate and terminate calls, conference, hold and transfer.
- Dial-up or permanent connectivity over the IP/SIP trunk.
- Mobile Radio Access (MRAS) for dialing from any radio to any telephone on the PBX or PSTN.
- Support for COR (Carrier Operated Relay) dialing. The user can click a portable radio and dial a pre-programmed number for communication between a radio and a telephone.
- Inbound dialing from any telephone to any radio gateway with push-to-talk.
- Call patching or conference of any radio to any telephone, group of telephones or radio.
- User control of the frequency and channel of the radio.
- Compatible with IP/SIP protocol.
- Web-based administration.

Radio Cross-Banding Application

The ClassOne IP/SIP Radio Gateway Radio Bridging Application allows for various radios to communicate with each other with a cross-band feature, even if they are not the same radio type or tuned to the same channel or frequency. The Radio Bridging Application is activated automatically, and its IP/SIP foundation enables full device interoperability with radios, telephones, mobile and smart devices.

Specifications

- ClassOne system integration & SIP extension connectivity support
- Standard-based SIP extension connectivity
- Single or dual concurrent registration capability/two SIP stations
- Multiple simultaneous VoIP calls
- Analog/PSTN connectivity
- Local handset (4/6 wire push to signal) and legacy field connectivity and control
- Standard-based codecs (i.e., G.711, G.729)
- Auto-answer inbound calls/connections
- Support RFC-2833 for in-band/out-of-band DTMF
- HTTPS based administration & firmware update capability
- Web-based audio level adjustments
- Radio frequency/channel/zone change
- Audio content to be directly streamed as RTP to a recording server
- Boot time outbound call autoconnect
- Active/passive WAN failover support
- 2 LAN ports and 2 WAN ports with routing capability
- VPN support and SNMP
- QoS for voice traffic
- Metal enclosure, small form factor
- Industrial temperature specs
All-In-One VoIP/SIP Communications Systems

The iNEMSOFT ClassOne All-In-One Communications System can be configured with Avaya IP Office, ClassOne Radio Gateways, base radio stations, network and power connectivity, enabling an organization to recover communications in seconds. All system components are housed in a single, ruggedized enclosure for portability and quick deployment. The ruggedized enclosure may be configured with various options for radios, mobility and back-office connectivity over analog, TDM and VoIP/SIP, offering the following mission-critical features:

- Provides a low-cost, ready-to-deploy communications system connecting various base radios over SIP/VoIP with analog, digital or VoIP telephones, as well as smart and mobile devices.

- Enables field operations personnel to recover communications and be operational in seconds when disasters, outages or scheduled maintenance occurs, while maintaining dispatch and communications operations.

- Fast and dynamic, software-based radio bridging of UHF, VHF and narrowband base radio systems with each other and with the back-office telephone network, providing systems interoperability with existing dispatch systems and other emergency teams and business units.

- Supports expansion of radios, telephones and consoles to scale for the largest emergencies.

- Preconfigured with various radios, telephones and trunks with easy programming interfaces for quick adaptation to disaster and field operations.

- Remote access, control and command of all voice devices, radio channels and frequency to meet ongoing field operations changes.

- Support for full duplex radio operations, public announcements and talkback speakers via analog and IP trunks. Link-up to satellite communications optional when land-based links are unavailable.

- Remote administration for support, features, firmware upgrades, audio level adjustment and system configurations, as well as redundant LAN/WAN ports for failover connectivity.

### Configurations and Options

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<thead>
<tr>
<th>QTY</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>8U Ruggedized Portable Enclosure</td>
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<tr>
<td>4</td>
<td>CLASSONE® IP/SIP Radio Gateways, power cables, connectors, expandable to 8 gateways</td>
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<tr>
<td>4</td>
<td>ICOM or Kenwood Narrowband, VHF or UHF radio base stations, connectors and cables; mobile and handheld radios optional</td>
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<tr>
<td>1</td>
<td>Interchangeable local handset for radio push-to-talk and office telephone callback</td>
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<td>1</td>
<td>AVAYA IP Office PBX, 2 analog station ports, 2 analog trunks, 4 digital ports, 6 VoIP station ports</td>
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<tr>
<td>1</td>
<td>24 port ethernet switch (8 POE ports, 16 standard)</td>
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<tr>
<td>1</td>
<td>Avaya VoIP telephones IP9608, various options available for analog or digital telephones</td>
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<tr>
<td>4</td>
<td>Power surge protector</td>
</tr>
<tr>
<td>4</td>
<td>Power connectors and cables</td>
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Case Study

Transforming Emergency Dispatch for a University Campus

The Challenge. Campus police dispatchers at a large university were responsible for fielding emergency calls from students, faculty and staff. But technology barriers meant they were unable to communicate seamlessly with the fixed and land-mobile radios used by campus police and city first responders. Multiple dispatch consoles, radio types and telephones were needed to receive incoming calls and engage the proper authorities on the right device.

The Solution. iNEMSOFT designed a solution to integrate campus police radios into the university’s unified communication network using our ClassOne® iCAS Radio Servers, IP Radio Gateways and Consoles.

The Benefits. Campus dispatchers are able to communicate seamlessly with phones and with radios of various types and frequencies for a rapid and well-coordinated response. Radio users have a host of new telephony features, including call-ins, multiparty conferencing and mobile radio access (MRAS). Benefits also include:

• Networking multiple gateways with multiple sites.
• 2 LAN ports and 2 WAN ports for failover connectivity.
• Remote changing of radio channels or frequency.
• Full duplex radio support.
• Connecting SIP VoIP telephones to radios.
• Providing a communications gateway for various types of radios, radio systems, SIP and IP telephones, analog devices and mobile devices.
• Linking radio-equipped field personnel with telephone-equipped back-office workers.
• Allowing emergency responders to provide 911 answering and dispatching services from a single system and from any remote mobile location.
• Bridging of UHF, VHF, 700/800 MHZ and P25 radio systems with each other and a telephone network.
• Remote administration of features, firmware upgrades, audio level and system configurations.

Why iNEMSOFT

iNEMSOFT is a long-standing, member of the Avaya DevConnect program and specializes in unified communications solutions that extend to telephone and radio endpoints of all types. Our products include multiple enterprise applications designed for emergency response, dispatch, disaster recovery and collaboration across previously disparate telephone and radio platforms.

iNEMSOFT has deep experience and specialized skills in integrating and managing endpoints of all varieties – especially in mission-critical environments where high reliability is a must. The company designs solutions that scale to support even the largest of global deployments – backed by a team of expert designers, engineers and project managers for optimal service and support.

Benefit from an Avaya Select Product

iNEMSOFT is committed to seamless interoperability with the Avaya product portfolio, helping companies extend and protect their investment in Avaya solutions.

One of the strengths of the iNEMSOFT ClassOne solution is its ability to interoperate seamlessly with Avaya Aura® and leverage the strengths of this platform to benefit a customer’s operations. Avaya Aura extends, enhances and integrates industry-leading Avaya Communication Manager, data, video and telephony solutions with new capabilities, simplified packaging and a SIP-based architecture.

The ClassOne solution includes the following Avaya Aura applications and Avaya hardware:

• Communication Manager
• Session Manager
• Application Enablement Services
• System Manager
• Meeting Exchange
• SIP & H.323 Telephones
• Media Gateway G430 or G450

 Selected as a strategic solution sold by Avaya and its channel partnersCompliance-tested for interoperability with Avaya Aura®