

## Dialogic and Next Generation Public Safety

Dialogic is a global leader in enabling the secure and seamless transition of mission-critical Public Safety networks from legacy to next-generation platforms. For solutions from incident notification to mass reporting and coordinated response, Public Safety leaders are building on Dialogic.

Dialogic® media servers power high-density multi-modal communications (voice, video, SMS) that alert and update. Contact center solutions developed by Dialogic customers with Interactive Voice Response (IVR), recording, conferencing, and other important capabilities allow Public Service Answering Point (PSAP) calls to be handled efficiently and accurately the first time. Dialogic® Session Border Controller (SBC) products and expertise allow access to be managed securely and confidentially. With Dialogic® products, the benefits and efficiencies of a next-generation Emergency Services IP network (ESInet) are now within reach.

### PSAP and Emergency Dispatch

Many PSAPs in the United States today are TDM-based, but the move to IP has begun. This move is based largely on NENA i3 specifications, which transition TDM-based PSAPs to IP in order to take advantage of the benefits that this move can provide.

Dialogic supplies field-proven products and solutions for use in PSAPs. Dialogic® PowerMedia™ products, which provide software-based media processing, handle voice, SMS, data, and video, and can power PSAP contact centers, IVR, and conferencing. Other Dialogic® products enable TDM-to-IP transitions, workforce distribution, video, and unified communications. Benefits include:

- **Feature-Rich Media Processing** — PowerMedia products support a full suite of media processing features, including voice and video messaging, advanced voice and video conferencing, high-speed fax, advanced call progress analysis, and speech integration. The addition of High Definition Voice allows for the delivery of high levels of speech clarity if the calling network or device supports it. Voice calls are more understandable, even in noisy and stressful situations. In general, these advanced features enable important self-service options and an improved end-user experience.
- **Scalable** — The same public safety application can be designed to support a few agents or hundreds of agents and to run over IP or TDM. With network independence and advanced routing, agents can be located anywhere.
- **Cost-Effective** — Solutions based on Dialogic® components run on industry-standard “off-the-shelf” servers in both software-only and DSP-based configurations; solutions using Dialogic® platforms and appliances provide fast time-to-availability and easy support.
- **Delivery Choices** — Dialogic products support a wide variety of deployment options, which include premise-based, hosted, and cloud.

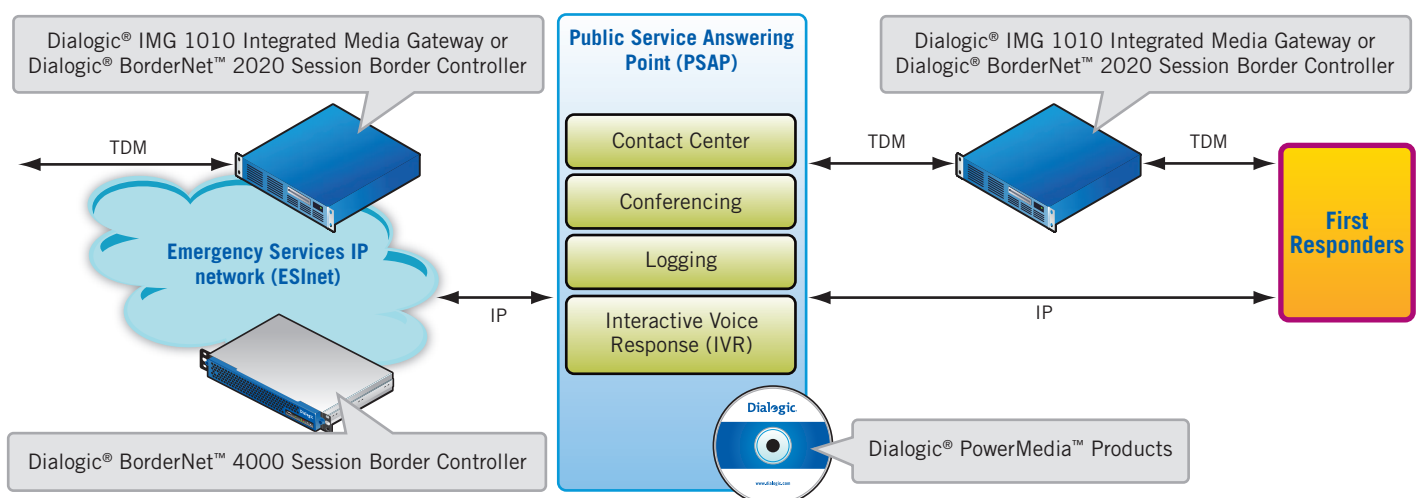


Figure 1. Dialogic in Public Safety — PSAP Services

Figure 1 shows a sample deployment of Dialogic products for PSAP services. These include Dialogic® PowerMedia™ products that deliver software media processing with the maturity, density, reliability, and capabilities needed for the development of next-generation IP-based PSAPs. Also pictured are a Dialogic® BorderNet™ 4000 Session Border Controller, the Dialogic® IMG 1010 Integrated Media Gateway and the Dialogic® BorderNet™ 2020 Session Border Controller (the BorderNet 2020 SBC supports higher densities than the IMG 1010).

### Emergency Networks

Channeling important calls through the network to PSAPs requires the reliability, scalability, and interconnectivity offered by the IMG 1010 and the higher-density BorderNet 2020 SBC. The features of these gateways include:

- **Any-to-any voice network connectivity** — Can deliver SIP services into legacy PRI, CAS, and SS7 networks, as well as IP-to-IP transcoding
- **Multimedia border element capabilities** — Includes SIP mediation, topology hiding, and media transcoding
- **Simultaneous support** — Handles SS7 ISUP, SIGTRAN M3UA, and PRI interworking with SIP and SIP-I
- **NEBS-3 carrier-ready** — Provides reliable throughput and enhanced service availability

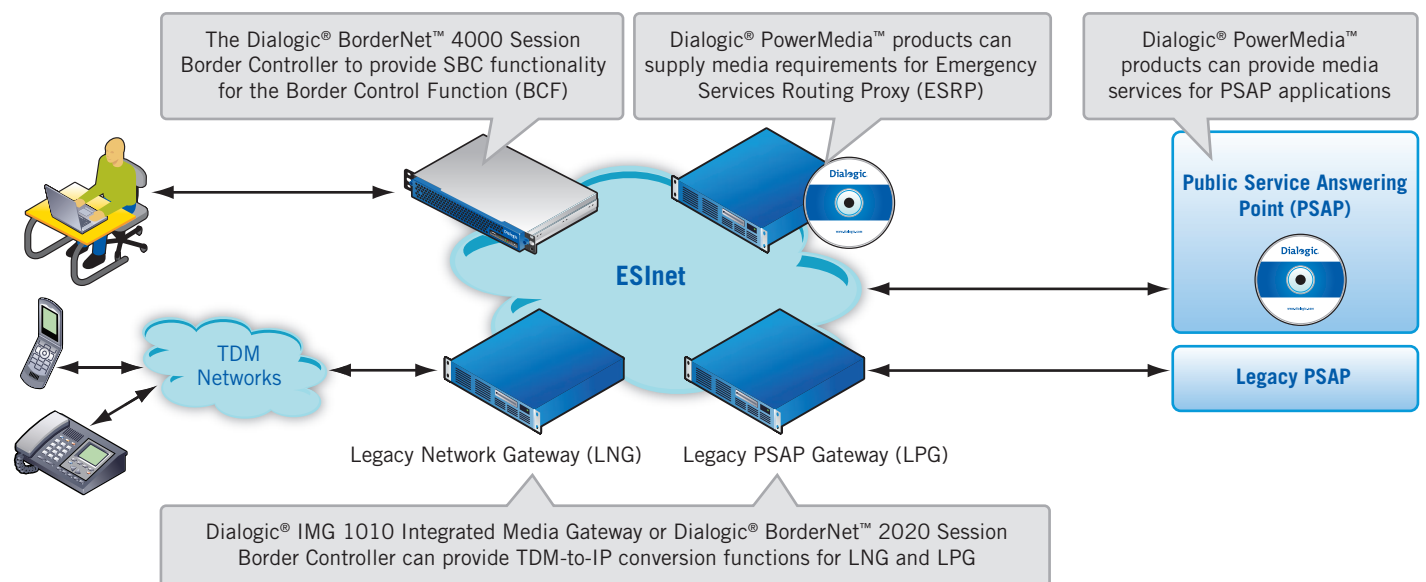


Figure 2. Dialogic in Public Safety — Emergency Networks

Figure 2 shows an example of the deployment and explains the functionality of Dialogic® products in Emergency Networks (NG9-1-1 environment).

### Legacy Network Gateway

The Legacy Network Gateway (LNG) is a media gateway solution with additional 9-1-1 specific features that allows legacy, TDM-based carrier networks to access the emergency services available in the ESInet. An IMG 1010 or higher density BorderNet 2020 SBC can provide the Protocol Interworking function of an LNG.

### Legacy PSAP Gateway

The Legacy PSAP Gateway (LPG) is a media gateway solution with additional 9-1-1 specific features that allows legacy, TDM-based PSAP networks to access the emergency services available in the ESInet. An IMG 1010 or a BorderNet 2020 SBC can supply the SS7 and Multi Frequency-Feature Group D (MF-FGD) capabilities for an LPG.

### Emergency Services Routing Proxy

The Emergency Services Routing Proxy (ESRP) is the base routing function for emergency calls for NG9-1-1. As needed, the ESRP queries the Emergency Call Routing Function (ECRF) for routing instructions and the Policy Resource Function (PRF) for applicable policy and then forwards the modified SIP signaling to the appropriate node. The ESRP is also used for calls originating in the PSAP, which are going to responders. PowerMedia products support the necessary recording and media anchoring requirements for the ESRP and can also deliver video services.

### Border Control Function

The Border Control Function (BCF) provides a secure entry into the ESInet for emergency calls presented to the network. The BCF incorporates firewall and admission control, and may include the anchoring of session and media as well as other security mechanisms to prevent malicious attacks on PSAPs or other entities connected to the ESInet. The BorderNet 4000 SBC can satisfy BCF requirements.

### Emergency Notification

The delivery of emergency notifications that are targeted at the right people in the right place can save lives by providing important warnings in time for people to take action. Figure 3 shows a sample deployment of Dialogic products in an Emergency Notification System (ENS).

Traditionally, emergency notification systems have been focused on Short Message Service (SMS). Because of its many years of experience in creating products that enable notification systems and because these products support a variety of data types and functions, products like Dialogic® DSI Signaling Web Services can help broaden the effectiveness of emergency notification systems with video support and location services in addition to SMS. Emergency notification systems using Dialogic products can:

- Add video segments containing suspect or victim information to crisis notifications such as amber alerts
- Deliver information to mobile devices, websites, email systems, and road-side displays
- Send the right type of media to the right person, including SMS/MMS, voice, or video
- Alert as many people as possible as quickly as possible
- Manage the multiple formats required for distributing video
- Perform required conversions (transcoding/transrating) facilitated by an architecture that understands the capabilities of a remote terminal (stored in a user billing profile)

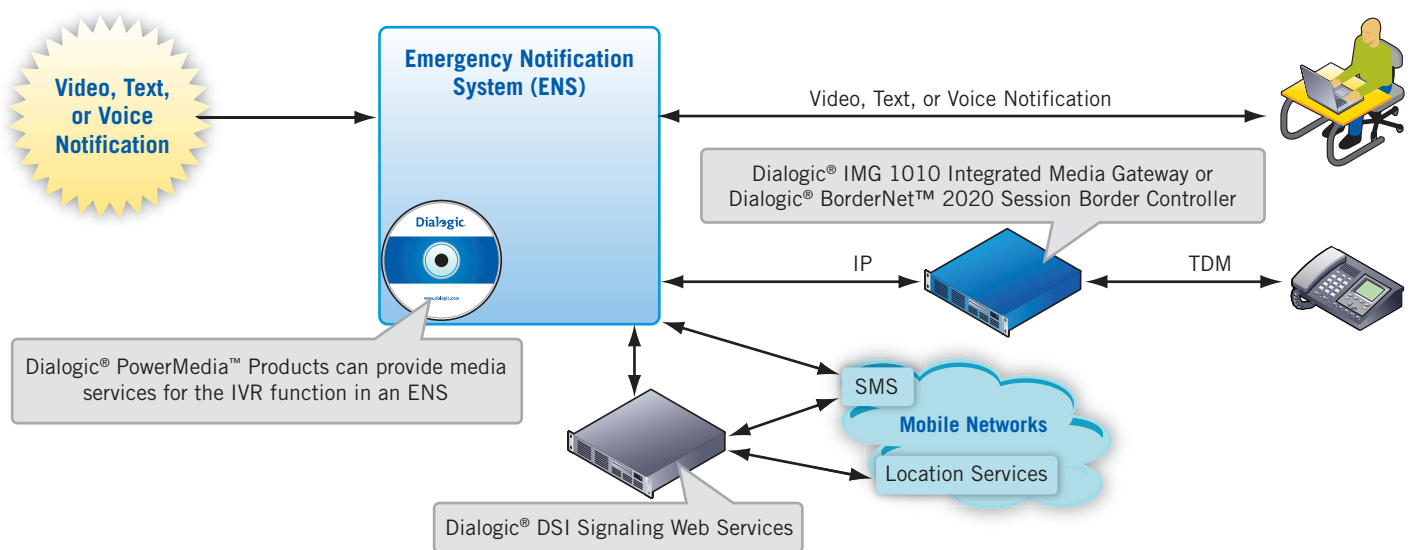


Figure 3. Dialogic in Public Safety — Emergency Notification

PowerMedia products can deliver the software-based media processing with field-proven reliability and easy scalability needed for the IVR function in an ENS. In addition, their support for advanced capabilities, such as predictive dialing, answering machine detection, and call progress analysis, can add to the effectiveness of an ENS. PowerMedia products also support a wide variety of software development environments, and a broad ecosystem of Dialogic partners can add toolkits and software development platforms that can help deploy a new ENS quickly.

### For More Information

For information about Dialogic® products for Public Safety, [contact](#) your local Dialogic representative. Product information is also available [online](#).

[Dialogic® PowerMedia™ Products](#)

[Dialogic® IMG 1010 Integrated Media Gateway](#)

[Dialogic® BorderNet™ 2020 Session Border Controller](#)

[Dialogic® BorderNet™ 4000 Session Border Controller](#)



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