Communications Technology For Emergency Services And Public Safety Organisations

Product deployment note

The communications needs of the emergency services

Public safety emergency (PSE) organisations and civil contingency response agencies need to be able to rely upon the communications tools they use. Hence reliability and interoperability are key system design factors for resilient communication systems.

Information received through emergency services communications systems needs to be efficiently delivered to the desired first responder personnel in real time and to a wide range of devices, both fixed and mobile. Additionally, any integrated information and communication technology (ICT) system for mission-critical multi-agency emergency services use has to be secured from eavesdroppers through the use of encryption techniques.

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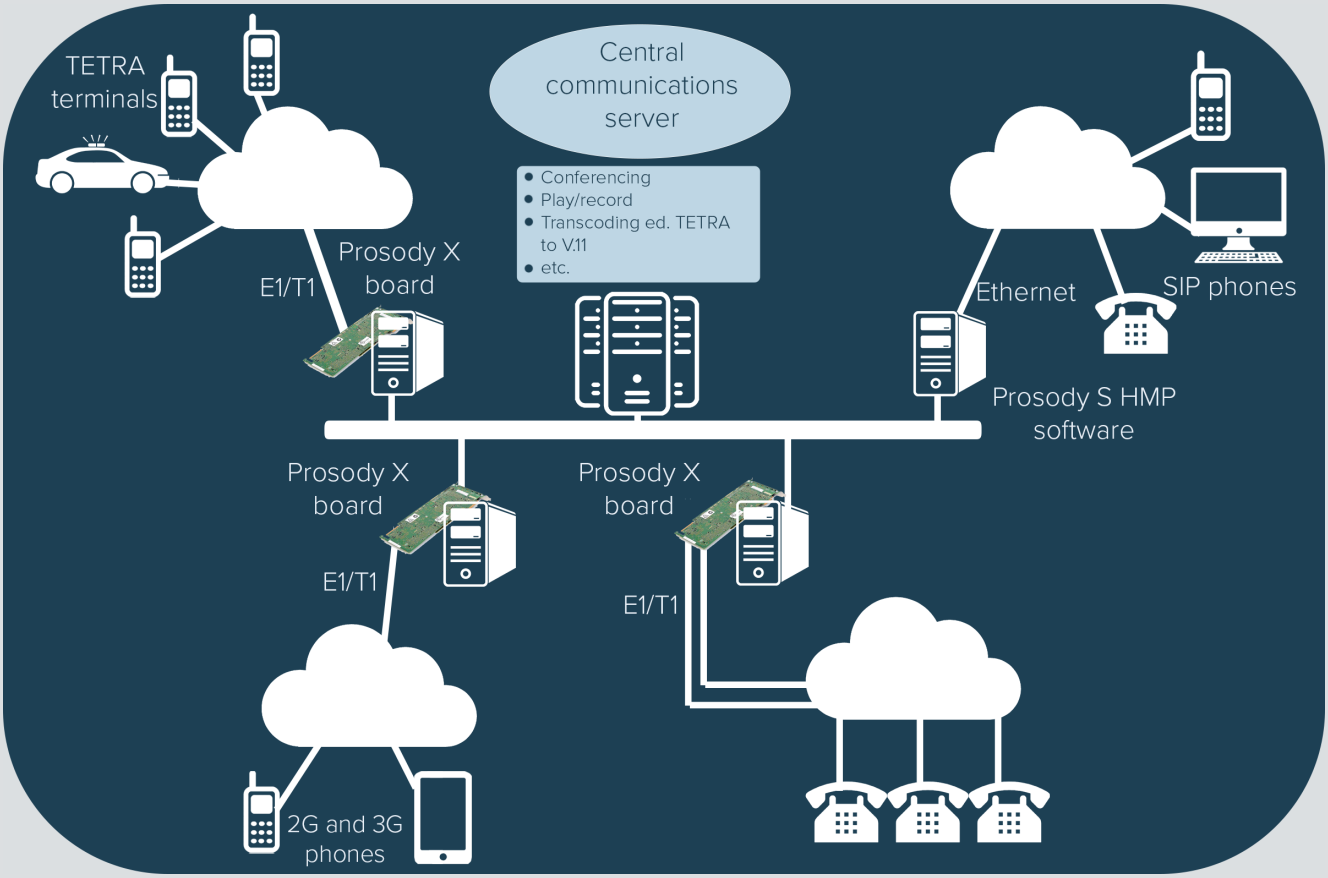
A requirement common to all sectors, including primary blue light services and the emergency services communications sector is the need for cost efficiencies. Accountability to the public is the driver for such programs in public sector service organisations where it has to be shown that a cost effective service is being provided. Cost savings through the convergence of legacy TDM and next generation IP voice and data networks is one way this can be achieved.

Mobile and integrated communications control systems (ICCS) for emergency services and civil contingency responders are increasingly based on next generation, IP-based technology and application platforms. It is the same for public safety communication solutions, and early warning and response or disaster management systems. These next generation public safety solutions need to be able to interconnect with tiers of command at strategic, tactical and operational levels, in addition to mobile users. And it is the same, regardless of which type of network they are operating within - be that TETRA, TDM, SIP or UDP/RTP.



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Aculab technology for emergency service communications system developers

Aculab products are well suited for use in tailored telecommunications solutions for the public safety and emergency (999/E911) services, emergency responders, government agencies and commercial organisations that rely on mission-critical communications. The Prosody portfolio is based around a high availability IP architecture that incorporates optional E1/T1 functionality (Prosody X boards) to provide links into legacy TDM communications networks. Mobile, TETRA and IP network codecs are supported as standard by the Prosody range of products.

With these wide-ranging capabilities, Prosody technology is ideal for use in recording, conferencing and transcoding gateways and servers for both secure and unsecured networks. In addition, Aculab's GroomerII - a highly adaptable signalling and media gateway - is ideal for interconnecting today's IP-based E911 or ICCS systems to legacy PSTN network infrastructures.

For more information on the Prosody portfolio visit the DSP-based media processing or host media processing pages on the Aculab website.

Aculab's partnership approach

To complement our feature rich product range, we offer customers a solid vendor partnership in the field of professional services, ongoing development and support, based on our in-depth expertise and experience. The foundation of Aculab's approach is our industry-recognised agility and willingness to meet and exceed customer demands.

We focus on our customers recognising that their success is our success and we are willing to listen and invest in the technology they need to achieve their goals. One of the key areas that sets Aculab apart is our ability to respond to customers near term requirements through our Request for Change (RFC) process. Adding a TETRA codec to the Prosody portfolio has been done at the request of existing customers. The multi-channel implementation of the TETRA low bit rate codec - a software solution for use with Prosody S or a DSP-based option to run on Prosody X media processing boards, will enable developers of communications systems for the emergency services to create recording, conferencing and transcoding gateways for both secure and unsecured networks. We are always willing to consider other specific requirements of projects so that you get the solution specific to your needs.

Visit our partners section for a list of partners offering platforms for the emergency services and public safety sectors based on Aculab's technology.

Aculab is a member of BAPCO (UK and Europe), EENA (UK and Europe) and NENA (United States).

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Emergency services requirements	Aculab media processing functionality
Scalability	The Prosody family can provide a communications system scalable from just a few voice channels on Prosody S HMP software through to hundreds of channels per board with Prosody X. The same Prosody unit can support multiple media types e.g., it is not necessary to dedicate one unit for mobile channels and a separate unit for TETRA.
Flexibility: ability to work with multiple endpoints, TDM and IP, fixed and mobile	Wide range of voice codecs supported: VoIP codecs - G.711, G.723.1A, G.726, G.728, G. 729AB/A/D Mobile codecs - AMR-NB, AMR-WB, GSM FR, MS-GSM, EVRC, iLBC Wideband codecs - iSAC, G722.2, Speex
Support for emergency services standards	TETRA support - ETS 300 395-2 TETRA speech codec supported on Prosody X and Prosody S
Reliability and redundancy	Aculab's Prosody X media processing product line benefits from a distributed architecture and remote API, which means that boards can be installed in different chassis for resilience, controlled by local or remote application servers.
Cost efficiency	High channel counts, per Prosody X media processing board and Prosody S HMP platform, enable low costs per channel Support for VoIP protocols enables integration of toll-free communications into the overall system
Modem over IP (MoIP)	Prosody X media processing boards can be used to implement a V.150.1 (MoIP) gateway for IP-to-PSTN and other use cases. This can also be useful in telemetry or M2M applications where data communication over IP networks is needed.
Audio channel pre-emphasis/ de-emphasis	API controlled, frequency banded linear amplification (or attenuation), with adjustable gain, can be applied to selected outgoing (or incoming) speech channels to compensate for attenuation of high frequencies in radio networks.

About Aculab

Aculab is an innovative company that offers deployment proven technology for any telecoms related application. Its enabling technology serves the evolving needs of automated and interactive systems, whether on-premise, data centre hosted, or cloud-based.

Over 1000 customers in more than 80 countries worldwide, including developers, integrators, and solutions and service providers, have adopted Aculab's technology for a wide variety of business critical services and solutions.

Aculab offers development APIs for voice, data, fax and SMS, on hardware, software and cloud-based platforms, giving a choice between capital investment and cost-effective, 'pay as you go' alternatives.

For more information

To learn more about Aculab Cloud and Aculab's extensive telephony solutions visit:

www.aculab.com

Contact us

Phone
+44 (0) 1908 273800 (UK)
+1 (781) 352 3550 (USA)

Email
info@aculab.com
sales@aculab.com
support@aculab.com

Social
@aculab
aculab