

Digital Transformation

Next Generation Emergency Communication



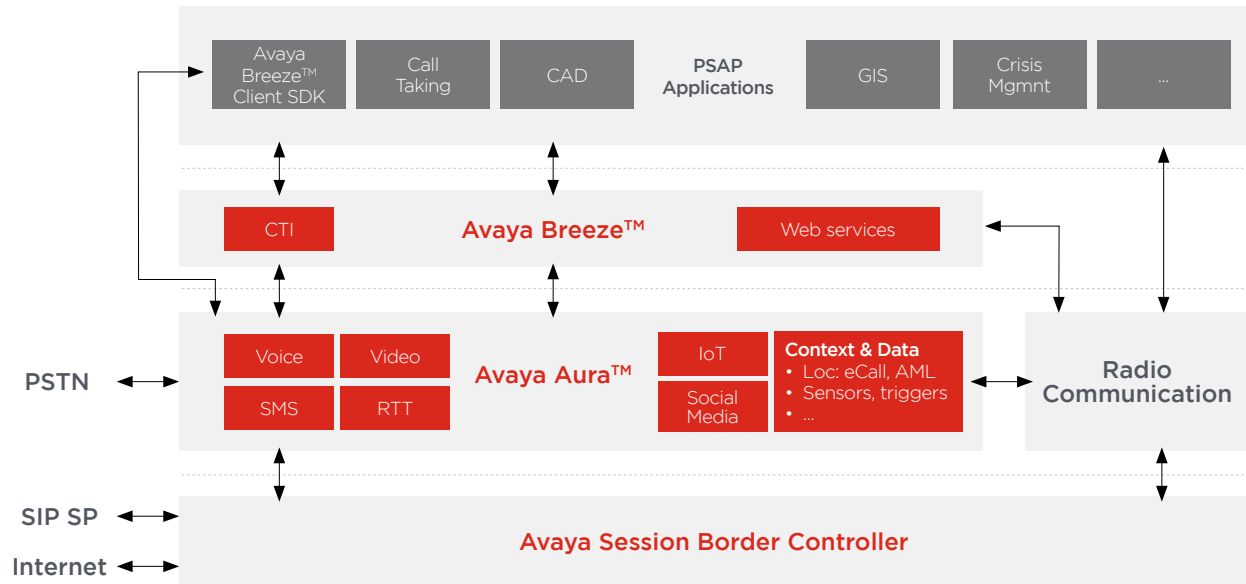
Emergency Services as drivers for a new universe of communication and interaction with citizens in emergency situations

Emergency Services' Digital Transformation for an advanced multi-channel citizen engagement

A key element for Digital Transformation in Public Safety and Emergency Services is to focus on interaction and engagement processes with callers in need of support and help. Currently the industry is experiencing **three compelling transformations** that will generate momentum towards innovation.

1. Citizens are changing their preferred channels for everyday communication switching over the last decade from phone calls to **text / visual-centric ways to interact** with each other and exchange information. On the other side, communication with emergency response services stays focused on spoken language, probably the most direct way of human interaction.
2. The European Union is about to update the Universal Service Directive, leading the regulatory baseline for 112 emergency calls towards a legal framework more compliant with digital age. The new text, to be introduced as the **European Electronic Communication Code (EECC)**, is expected to regulate the industry from 2020 and beyond. The EECC also aims to extend emergency communication capabilities and reach, accordingly to changed communication behaviors and citizens' expectations.

The new 112 will fully embrace location-aware communication, first introduced in 112 with **eCall**, providing automated calls from cars involved in accidents. A second step is **AML (Advanced Mobile Location)** which has been already introduced in some European countries and will help locating callers using modern smartphones. EECC is expected to add



- A full feature cloud-based contact center as a service solution:
- True multi-tenant customer experience
 - Uses standard Avaya software
 - Flexible deployment options
 - Scalable for seasonal ebbs and spikes
 - Usage-based pricing

Public Warning as an element of **Reverse 112**, as well as providing full accessibility, especially for deaf people, as well as citizens with speech disabilities. The accessibility project is summarized under the concept of **Total Conversation**, moving beyond voice communication by adding visual communication with **Video** and **Real-Time-Text (RTT)**.

3. From an European overall perspective, **transnational collaboration** support will be another area to focus on, as well as enhanced access to emergency services **from private networks**. This last element is a solution to address the transition from ISDN communication to Voice over IP with SIP with most major European Service Providers, and is considered the **third compelling transformation** for driving innovation, preparing the ground for the introduction of **Next Generation 112 (NG112)** the ultimate goal for the industry.

New framework for Next Generation Emergency Services

Using localization data, AML is well suited to support emergency calls, but is not the only option. Leveraging **HTML5** location-aware web applications as an added service to regular 112 voice calls as well as using **Apps**, these mechanisms will also have the potential to enhance **non-emergency communication** in non-112 situations where proper knowledge of caller's location is crucial.

Total Conversation is addressing needs of a specific group of citizens and it is also expected to increase the use of **Multi-Channel access** in emergency services, including **Social Media**, aiming to add relevant context details to communication, enabling call takers and dispatchers to make fast and effective decisions, to increase emergency response's speed and quality.

Considering specific applications in **transnational collaboration**, **multi-agency** and **cross-border response**, the access to **cloud-based communication and collaboration** will increase incident managing consistency and efficiency



Avaya's solutions focus on supporting any kind of voice, video, text or social realtime or near—realtime communication.

across multiple independent agencies and response organisations, embracing a careful and controlled data exchange fully compliant with EU **General Data Protection Regulation (GDPR)**.

These upcoming changes and their influences on many levels, will increase the effectiveness of multiple media, both for user—generated as well as for automated communication, and is becoming a key requirement together with most critical applications in Command and Control, Computer Aided Dispatching and Geographic Information Systems.

Avaya's solutions focus on supporting any kind of **voice, video, text** or **social realtime** or **near—realtime communication**, with its highly resilient and reliable Avaya Aura™ framework. The situational context provided by all media, offering data about location and circumstances of the communication, is managed by the PSAP application layer Avaya Breeze™. This open and extensible software framework leverages RESTful web services and Java to automate and orchestrate workflows on the communication layer as well as between communication and application layer.

Considering that new media and new types of interactions are coming, PSAP operational staff, call takers and dispatchers will see the need to change their operations or amend existing procedures accordingly, to manage an eCall or to respond to an **Internet of Things**—originated or automated communication. Therefore it will be increasingly important to optimize the user interface and enable the selection of the most appropriate device (PC, IP hardphone, softphone, smartphone, tablet or Avaya Vantage™ new generation devices).

In addition to workflow management and orchestration, Avaya Breeze™ Client SDK enables the creation of **purpose—built user frontends** on the device of choice, handling realtime communications, as well as seamlessly integrating these functions and capabilities into open third—party command & control PSAP applications. These clients can be both Apps based on Apple iOS or Google Android smart devices, or fully Browser—based clients, leveraging **WebRTC** on both sides, caller and call taker. Optimal client choice and design to match operational requirements aims for the best possible user experience without distracting PSAP staff from its core business of managing incidents and emergency situations.

With **Avaya Aura™**, **Avaya Breeze™**, and **Avaya Breeze Client SDK™**, Emergency Response Organisations are empowered to introduce Next Generation Emergency Communication into their operation environment, and at the same time to get prepared and ready to move to standards—based **Next Generation 112** once this service will be fully supported by international standards and major Service Providers to allow an end—to—end digitally transformed emergency services chain.

About Avaya

We take a flexible cloud approach and believe all organizations, including large enterprises, will have a mix of how they leverage different deployment options to run and operate their applications. We support all of the different cloud models and mixes that exist to enable organizations to select the method that suits their business needs. We expect a continued hybridization of models, allowing our customers to mix and match these environments

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according to their needs. Cloud is no longer an afterthought or bolt-on feature. Our aim is that everything in our platform from now on is going to be built from a cloud-first perspective.

With our solutions, we can address the needs of a diverse range of businesses, including large multinational enterprises, small and medium-sized businesses and government organizations. Our customers operate in a broad range of industries, including financial services, manufacturing, retail, transportation, energy, media and communications, hospitality, healthcare, education and government.

Communications Solutions

Our communications solutions include contact center and unified communications solutions and real-time collaboration software and hardware products, all of which target small and medium to very large enterprise businesses and can be delivered through a hybrid cloud environment. Our omnichannel contact center applications offer highly reliable, scalable communications-centric solutions including voice, email, chat, social media, video, performance management and ease of third-party integration that can improve customer service and help companies compete more effectively.

Our unified communications solutions help companies increase employee productivity, improve customer service and reduce costs by integrating multiple forms of communications, including telephony, e-mail, instant messaging and video. Avaya embeds communications directly into the applications, browsers and devices employees use every day to create a single, powerful gateway for voice, video, messaging, conferencing and collaboration. We free people from their desktop and give them a more natural and efficient way to connect, communicate and share—when, where and how they want.

Avaya also has an open, extensible development platform, which allows customers and third parties to adapt our technology by creating custom applications and automated workflows for their unique needs and allows them to integrate Avaya's capabilities into their existing infrastructure and business applications.

