next generation EMYNOS emergency communications

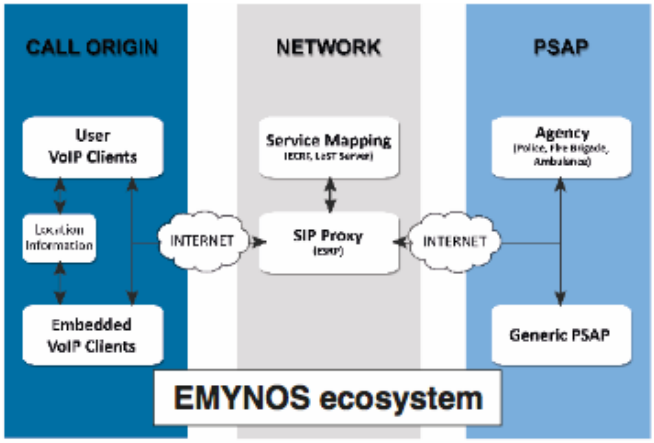
EMYNOS Newsletter #2

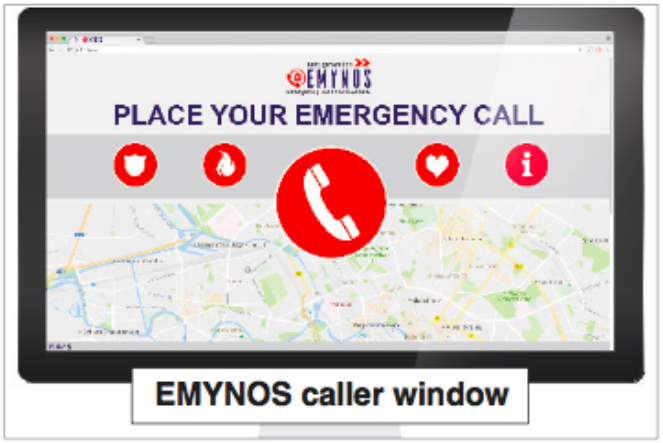
Current emergency systems and 112 services are based on legacy telecommunication technologies, which cannot cope with IP-based services that European citizens use every day. Some of the related limitations are the partial media support, the lack of integration of social media, and the use of an analogue modem for providing eCall services with limited data amount. As most operators have started migrating towards broadband IP-based infrastructures, current emergency systems need also to be upgraded and adapted in order to fulfil regulatory requirements in terms of Next Generation emergency services.

The main objective of the EMYNOS project is the design and implementation of a Next Generation platform capable of accommodating rich-media emergency calls that combine voice, text, and video, thus constituting a powerful tool for coordinating communication among citizens, call centers and first responders.

Additionally, EMYNOS addresses also issues such as call routing/redirection to the closest-available call center, retrieval of the caller location, hoax calls prevention, support for people with disabilities, and integration of social media.

In this issue





KEY FEATURES

- Fully IP-based infrastructure
- Standard VoIP protocols (SIP, SDP, RTP)
- Compliant with EENA NG112
  - Using service URNs
  - Location data encoding as PIDFLO (by value/by reference)
  - Location configuration using HELD
  - Location to service translation using LoST
- Browser-based emergency calling using WebRTC, WebSockets and geolocation API

KEY BENEFITS

- Rich media emergency calls (audio, video, real time text)
- Automatic transfer of caller location
- Focus on needs of disabled people
- Transfer of additional medical data

Galileo goes live

On 15 December 2016, Europe's satellite navigation system Galileo begins operating. Galileo will provide accurate positioning, navigation and timing services to all types of users worldwide. Galileo is fully interoperable with GPS, but will offer more accurate positioning for end users. The Galileo constellation currently consists of 18 satellites. The full constellation will comprise of a total of 30 satellites and is expected to be completed by 2020. This will gradually improve Galileo availability world-wide.
Commission Vice-President Maroš Šefčovič, responsible for the Energy Union, stated that: *"Geo-localisation is at the heart of the ongoing digital revolution with new services that transform our daily lives. Galileo will increase geo-location precision ten-fold and enable the next generation of location-based technologies; such as autonomous cars, connected devices, or smart city services."*

Commissioner for the Internal Market, Industry, Entrepreneurship and SMEs, Elżbieta Bieńkowska, added that: *"Galileo is the result of a concerted effort to design and build the most accurate satellite navigation system in the world. It demonstrates the technological excellence of Europe, its know-how and its commitment to delivering space-based services and applications. No single European country could have done it alone."*

Following the Declaration of Initial Services, Galileo will start delivering, jointly with the GPS, **assistance to emergency operations free of charge.** The current satellites may take three or more hours before passing close enough to a beacon to detect the signal, and can only locate it to within 10 kilometres. With the Search and Rescue Service (SAR), people placing a distress call from a Galileo-enabled beacon can now be found and rescued more quickly. The Galileo service picks up the signal within 10 minutes and narrows the range down to 5km, meaning that the area to be searched is just one quarter the size of the current area. The Search and Rescue Service is Europe's contribution to an international emergency locating system called "Cospas-Sarsat". The Commission will also look at possible actions to introduce Galileo in mobile phones. This will build on the experience from a current project, which is already testing how Galileo signals can be used in emergencies by automatically providing the accurate location of the caller to public services.

More information is available here: http://europa.eu/rapid/press-release_IP-16-4366_en.htm

112 awareness & accessibility raised during European Parliament debate

On 12 December 2016, a European Parliament debate on the Situation of fundamental rights in the European Union in 2015 took place in Strasbourg, France. Members of the European Parliament (MEPs) debated on different important topics related to citizens' fundamental rights.

During the debate, the common European emergency number 112 and accessibility to emergency services were raised as important issues. More specifically, MEP Mrs. Sylvia-Yvonne Kaufmann highlighted the **value of 112 awareness among Europeans, as well as the need to improve accessibility to 112 for people with disabilities.**

Successful workshop at TEMU 2016

The EMYNOS workshop on 'Next Generation Emergency Services' took place on Crete, Greece in July this year. The workshop provided a forum for researchers and industry partners to keep track of the work progress within this field by addressing in particular issues such as security and privacy, integration of social media, and extensions of eCall. Panel discussions were held and several projects were presented. This was all organized during the bi-annual International Conference on Telecommunications & Multimedia (TEMU).
The following topics were discussed in the panels:

1. **What are the obstacles for an IP deployment with regard to Emergency Services?**
2. **What is preventing Emergency Services from accepting emergency calls via the internet?**
3. **How could the Internet of Things be usefully integrated in Emergency Services?**

Besides the panel discussions, several key note talks were held. One key note talk that stood out was by Prof. Henning Schulzrinne, Columbia University, on 'Standardisation and Implementation of NG911 in US'. Another interesting key note was given by Ed Parsons from Google, on 'Advanced Mobile Location: Google's perspectives and implementation' regarding Google's new service for Android phones Emergency Location Service.

The current status and perspectives of several projects related to Emergency Services were also presented. Among these: EPISECC, COncORDE and NEXES. More information on the projects can be found on the dedicated project websites.

Watch the report made by Creta News for Greek television, in Greek, on the EMYNOS workshop here.
EMYNOS was also recently presented at the latest PSCE conference in Brussels, Belgium. PSCE is a partner in the EMYNOS project and hosts biannual Conferences, gathering crisis managers and first responders from across Europe. Read about the presentation at the PSCE conference here.The actual emergency systems are based on old-fashioned telecommunication technologies that cannot cope with the new IP-based services that the European citizens use every day. Some of these limitations are summarized below:

The aim of the EMYNOS project is to design, specify and develop a Next Generation emergency framework that resolves the above mentioned limitations.

Bulgaria makes 112 accessible to citizens with hearing, speech disabilities

The Bulgarian parliament adopted a decision requiring the 112 emergency phone number centres to provide the necessary conditions for access to citizens with impaired hearing and speaking abilities.

Under the act the interior minister should guarantee the access of people with hearing and speech disabilities to the 112 emergency phone number within a one-year deadline.

The adopted amendments bring the Bulgarian legislation in line with the European one.

1. **Emergency calls to police, fire brigade, and ambulance**
2. **Communications between the rescue teams' members**
3. **Disaster management and coordination, and**
4. **Emergency warning.**

This workshop will provide a forum to researchers and industry partners to keep track of the work progress within this field by addressing in particular issues such as security and privacy, integration of social media, and extensions of eCall, in addition to experiences gained in the implementation of the EENA LTD.

In more detail, the two latest European projects NEXES RIA and EMYNOS RIA (H2020 framework, DRS 19 – 2014: Communication technologies and interoperability) dealing with Next Generation Emergency services will present their current status and perspectives. Additionally, the Austrian Red Cross will present their vision on Next Generation Emergency Communication (NGEC) and how social media could be helpful in this context.

In addition to the presentations of the key speakers, a panel session will be organized. The Panel will discuss the latest EU and US initiatives related to NG112 & NG911 and how to speed up the migration.

More information is available here:

http://www.temu.gr/Special%20Sessions.html

Android smartphones to send location info when calling emergency services in several countries

Emergency Location Service feature in Android will send location information automatically when someone calls emergency services.

When someone calls from a landline, their location can be identified because it is already tied to a physical address. But when you call 911 from your mobile phone, even if it has GPS, emergency services often have no idea where you are.

Google's new Emergency Location Service takes direct aim at that problem by sending your location directly to emergency services. This feature is solely for the use of emergency service providers, and your precise location is never seen or handled by Google. It is sent from your handset to emergency services only when you explicitly place an emergency call, either directly or through your mobile network.

More information is available here: http://www.androidauthority.com/emergency-location-uk-estonia-705620/

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The EMYNOS Consortium

The EMYNOS framework will be implemented by partners with complementary expertise (telecom/satellite operators, VoIP provider, eCall testers, end users), which together form the chain for the provision of emergency services and which will deliver the EMYNOS demonstrator that will be validated in operational environment.

The EMYNOS consortium covers a wide set of complementary capabilities, expertise, background and understanding in dealing with Crisis management.

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