

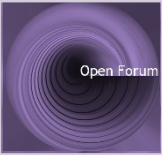
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UK Interoperability Standards

Open Forum 2018



7th November 2018



Emergency Location WG

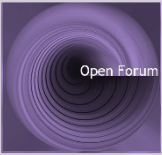


- Focus on securely providing location for 999/112 to:-
 - allow 999/112 emergency calls to be swiftly connected to correct local emergency authorities (EAs) and
 - enable (quicker) response for citizens as EAs have location
 - meet/inform regulatory expectations
- Membership is currently :-

CPs: EE, O2, Resilient, VM, Vodafone, KCOM, Magrathea and BT
Suppliers: Atos, Metaswitch, Oracle and Ribbon
Government Agencies: NCSC/CPNI, Ofcom

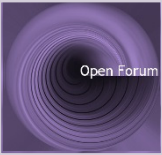
We'd like more representatives, especially from ISPs and VSPs – please can NICC members help find willing participants.....





- **ND1013 Emergency Location Information Interface**
 - defines the interface to be used between mobile network operators and emergency handling authorities within the UK to transport location information associated with 999/112 voice calls.
- **ND1432 SIP-PBX Configurations to Support Emergency Service**
 - identifies configuration options available to the enterprise's Network Maintainer to allow the Emergency Service to operate quickly/reliably in multi-site deployments
 - not all CPs provide the same options : an enterprise and its Private Network Maintainer must work with CPs to determine the most appropriate option for the particular enterprise's desired configuration and for the safety of its employees.
- ***ND1638 VOIP - Location for Emergency Calls***
 - *specifies a practical solution for identifying the physical locations of VoIP callers to UK emergency services, and for providing sufficient location information to the 999/112 service (basic case only).....**warning message on the public site about not implementing until ND1519 is complete***
- **TSG 022 - Routing of Emergency Calls in the UK**
 - describes principles currently used in the UK's SS7 networks that have evolved over the last 30 years to prioritise and protect emergency calls
 - help formulate requirements to enable the support of the service in the networks as SIP elements are introduced



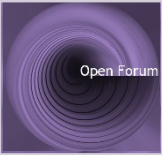


Current Work 1: Delivery of 999 calls in the UK - TSG 023



- Requirements for emergency calls carried over SIP networks
- Uses the principles successfully used in the UK's SS7 networks to prioritise and protect emergency calls (TSG022)
- Sessions initiated by SIP - still primarily voice, though they could include text or video at some point
- Call Servers, SBCs and Firewalls, along with equivalent nodes in IMS networks, all in scope.....
- Stage 1 PSAP planned to be SIP based by end 2019/early 2020
- Issue 1 currently under EmLoc TG final review prior to seeking TSG approval:-
 - identify mechanisms for all aspects of priority (signalling, media, bearer and access) so they can be applied for use in SIP-based emergency calls
 - include location information in SIP messages from both the originating end user's equipment, and/or inserted by the originating VSP, to be forwarded to the Stage 1 PSAP
 - identify the key interworking needed between SIP and SS7 networks



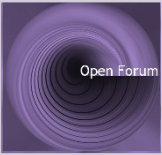


Implications of TSG023 – examples of priority + other needs for 999



- Priority shall be signalled by the inclusion of a Resource Priority header field (ND1035)
- At nodes, use differential SIP Call Admission Control, Rate Limits and reserved bearer bandwidth, along with load-sharing across multiple routes
- Consideration of IP layer too : use of Expedited Forwarding (RFC 2474)
- VSPs – to support urn:service:sos, as well as 999+112, a VSP ID, PAID (valid NN) and From Header. Must support at least G.711 A-law codec.
- Ongoing support for “out-of-band” location (including “ii” digits, cell/zone IDs and AML) but need to consider SIP Location Conveyance (ETSI ES 203 283).
- TDM to IP interworking is expected to be needed for a considerable period as the Stage 1 PSAP, large numbers of Stage 2 PSAPs and CPs will make the progression to SIP over several years.....



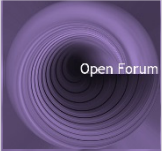


Current Work 2 – locating VoIP callers

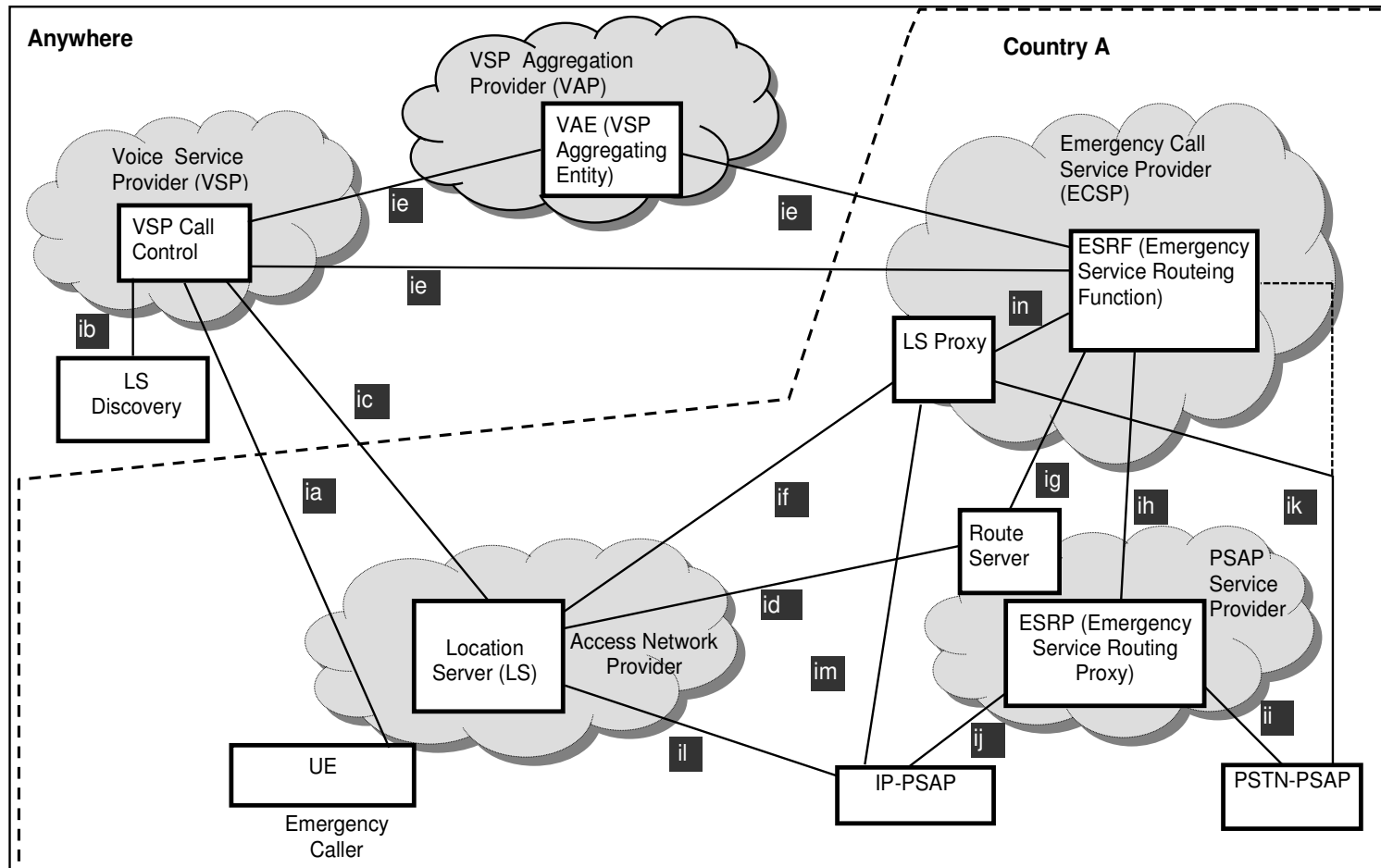


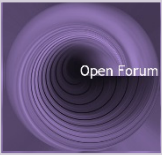
- UK review of ETSI architecture (and protocols) for locating VoIP emergency calls....
....impacts on ISPs, as well as VoIP SPs, transit networks and 999 CHA/PSAP
- Develop a UK profile of the ETSI standard explaining how architecture and protocols can be implemented
- Apply to specific complex use cases of Wi-Fi access and IP Multimedia Subsystem (IMS) networks





ETSI ES 203 178 and ETSI 203 283






- ISPs to provide Location Information Server (LIS) that tracks to which geographic access point an IP address is currently allocated
=> new interfaces to LIS for VSPs + for 999 CHA/PSAP
- VSPs to find caller location info, to route call and to provide location(reference) to emergency services : network location + device location *
=> new interfaces for VSP to discover and access appropriate ISP LIS
=> use of SIP location header in messaging
- Vendors/Providers of SBCs are affected (as well as those providing CPs' Call Servers) : to allow IP "Flows" to be tracked across them, and not to remove vital information

*When available





Thank You