

TUTORIAL (1)

Why 802 needs an Emergency Services Project and what we think it should look like.

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SUPPORT OF EMERGENCY SERVICES
and THEIR (present and future)
REGULATORY REQUIREMENTS FOR
PACKET NETWORKS IS A HUGE,
COMPLEX PROBLEM FOR WHICH THE
PROBLEM ITSELF IS NOT YET FULLY
DEFINED.

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There are pieces of the ES problem that:

- Are well defined today
- Have existing regulatory requirements
- Are not addressed across 802.

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The biggest piece:

- 802 originated (and VoIP originated) “calls” to the PSTN don't carry the information required for emergency calls (e.g. 911 calls) (There are proprietary exceptions)
- There are existing regulatory requirements for these calls that are not being met.

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The IETF – ECRIT group has taken on the task of solving this problem for the upper layers

802 needs to work with ECRIT to provide a complete solution.

The solution should look the same to ECRIT without regard to which 802 technology is in use.

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Why VoIP doesn't work today:

- The Internet was designed to be “location neutral”.
- Traditional “911” was designed around and serviced by a localized infrastructure (end office circuit switched systems)
- VoIP services are highly decentralized and often cross national boundaries (regulatory problem)

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Why VoIP doesn't work today (cont'd):

- Today, the VoIP service provider has no knowledge of the callers location within the Internet (almost true)
- A PSAP has no prior knowledge that a caller is within their service area.
- Therefore associating caller and proper PSAP is a big problem
- VoIP service provider are not yet fully regulated, there are significant technical, geopolitical and legal jurisdiction problems involved.

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Regulatory Requirements:

- Call request directed to the correct PSAP
- Provide calling party location
- Non-subscriber access to network
- PSAP can call back
- Very high priority
- Call integrity (no drop, spoof-proof)

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What does ECRIT need from 802 to meet these requirements?

- Provide better location than just the router
- Provide LOCAL connection (e.g. bypass various tunneling schemes)
- Provide service to unauthenticated user
- Provide support for callback
- Emergency calls should be given network priority
- Spoofing and security are issues

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These are all problems that can be solved with technology that already exists in 802 standards.

There needs to be a uniform solution across 802.