NENA's position on E9-1-1 and PSAP Connectivity
with VoIP / Internet based Emergency Communications

NENA Technical Policy Position

The following is the first in a series of technical positions on the integration of Internet Protocol based communication services with Enhanced 9-1-1. Any questions or comments can be referred to:

Roger Hixson, NENA Technical Issues Director, at rhixson@nena.org, or to
Billy Ragsdale, NENA Technical Committees Liaison, at bragsdal@bellsouth.net

August, 2004

NENA's position on E9-1-1 and PSAP Connectivity with VoIP / Internet based Emergency Communications

NENA's recommendation for the use of packet technology in the realm of E9-1-1 is that PSAPs (and other similar agencies) should be connected to a privately managed IP[1] network (NOT the Public Internet) that enables E9-1-1 calls and emergency messaging from any source or form of communication to arrive at the appropriate PSAP for handling.   Among many other functions to be defined in a future document, the following characteristics will be requirements for the privately managed IP network:

- an interface that allows calls to enter the privately managed IP network from any approved source, which could include the Internet, the PSTN or any other type of originating network or technology. The calls would all arrive at their designated answering point "through" the privately managed IP network infrastructure, by entering that infrastructure at the most appropriate layer.
- physically and electronically secure
- strictly limited to authorized entities under the direction of an overall administrative authority
- highly available
- highly reliable
- meets or exceeds current day QOS requirements including those for voice communication[2]
- any form of communication to & from a PSAP will be through mediated access [3]
- the privately managed IP network will be implemented using established authentication and authorization procedures etc.

**<u>The figure below is a high level example of a NENA sanctioned
Privately Managed IP Network design for E9-1-1</u>**

---
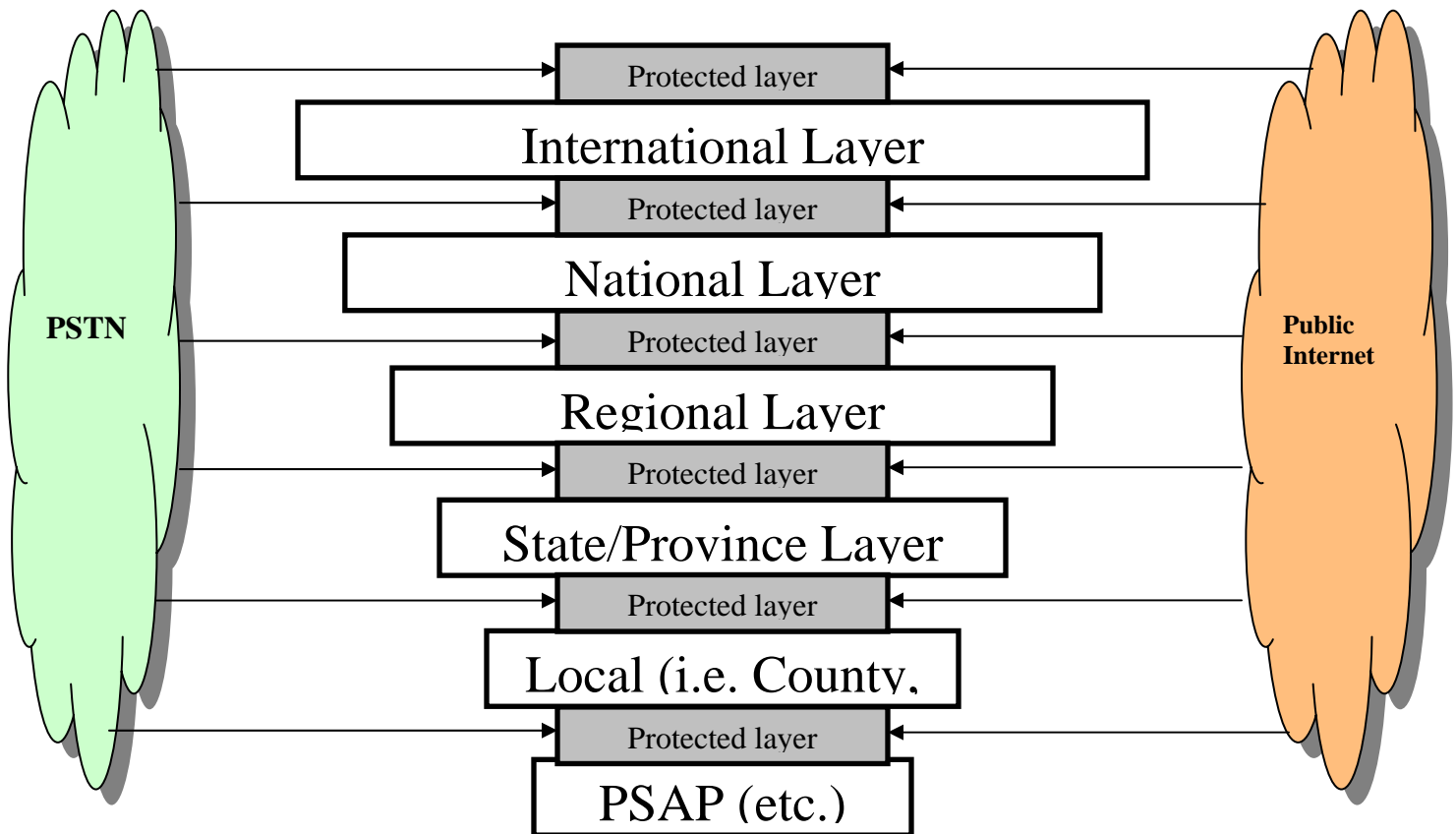
[1] IP = Internet Protocol, a packetized communications protocol used on both the Public Internet and on privately managed networks.

[2] Voice quality where the call enters the privately managed IP network will not be able to be improved, but will not be degraded once it is on the privately managed IP network

3 Mediated access includes processes such as the use of firewalls, port protection, certificated access, etc., designed to protect E9-1-1 service. These processes are at the network level, not the originating caller level.