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052907-041

Joanne McMillen, Avaya, Inc. (Joanne@avaya.com)
 Chair, TIA TR41.4 (IP Telephony Infrastructures)

RE: ESIF Response to Comments on Protocol, Single Protocol, and General Architecture and LLDP-MED Comments Against the Technical Report (LS Reference [040107-057](#))

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 Interconnection Forum
 (ESIF)**

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Dear Joanne:

Below are the ATIS ESIF comments to the Liaison Statement (040107-057) that was provided by TIA TR41.4 as input to the ATIS ESIF Technical Report on Location Acquisition Protocols:

Sec 7.1.2 Last paragraph:

The recommended usage for LLDP-MED is to provide the client location (e.g., wiremap wall jack location), not the 802.3 switch port location since this can vary significantly due to cable or fiber lengths. LLDP-MED supports three location types: the location of the DHCP server, the location of the network element believed to be closest to the client, or the location of the client.

ATIS ESIF changed this paragraph as follows:

“The recommended usage for LLDP-MED is to provide the client location (e.g. wiremap wall jack location), not the 802.3 switch port location since this can vary significantly due to cable or fiber lengths. LLDP-MED supports three location types: the location of the DHCP server, the location of the network element believed to be closest to the client, or the location of the client.”

Table 7.2 (DA-9 - Assert on behalf of)

LLDP-MED supports both client-based and network-based location acquisition mechanisms. The network based location method uses SNMP notifications (optional) to inform SNMP management applications that a new LLDP-MED capable device attached to a port or moved to another port on a network infrastructure device. It is the understanding of ATIS ESIF that this notification is not actually part of the LLDP-MED protocol and that, in any case, it does not actually permit a location client (such as an Enterprise VoIP PBX) to arbitrarily query the service for the location of a device with a given IP address. The intent of this requirement is that the protocol includes the ability for a client to query location “on behalf of the device” when the device itself does not have its own native location query capability.

Table 7.2 (DA-12 - Request Response Time)

This is not applicable for LLDP-MED since it associates location with the device at startup time and continuously updates thereafter on an advertisement cycle, hence location is always associated and up-to-date. In addition, there is currently an LLDP revision in process within IEEE 802.1 (p802.1AB-rev) that is modifying the LLDP transmission algorithms to support fast start behavior, and as such LLDP-MED will be able to support a rapid location request/response.

The intent of this requirement is to support those access technologies, such as wide area wireless, which may have time consuming location technologies (such as uplink timing measurements, or assisted-GPS) as part of their accurate location determination capabilities. It permits the location server to distinguish between those requests which can afford to wait for an accurate location calculation versus those

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which may have to accept a more approximate location in the interest of a faster response. ATIS ESIF will interpret the response as being that LLDP-MED is not suitable for such access networks and/or cannot support this aspect of client control. [Please advise if this is not correct.](#)

Table 7.2 (Rep-1 - Request by reference and by value)

LLDP-MED also currently supports a form of location by-reference using ELIN identifiers, which are, in effect, references into a pre-existing database. However, LLDP-MED does not currently support location by-reference using passing of location URIs to the device, but could be extended to support this if needed. This requirement can also potentially be met by the device itself, if the device is capable of self-supporting access to the referenced location object or pushing the location object to a server that would support it.

[ATIS ESIF agrees with TIA TR41.4 that an ELIN can be considered to be a reference. We deleted the parenthetical caveat associated with Rep-1. The table now reflects that LLDP-MED = Yes for Rep-1.](#)

Table 7.2 (Rep-2 - Support all fields of PIDF-LO)

TIA TR41.4 invites NENA feedback and discussion to extended LLDP-MED to support location of PIDF-LO objects from the network infrastructure to the device. The LLDP-MED location TLV has been designed with extensibility in mind and can support multiple location formats concurrently.

[ATIS ESIF acknowledges that this would require the protocol to be reworked to deliver a PIDF-LO instead of the current protocol \(i.e., it would be a different protocol\).](#)

Table 7.2 (Rep-3 – Backwards compatibility)

LLDP-MED is designed for extensibility and supports multiple location formats concurrently. As such, LLDP-MED will support backwards compatibility as location information evolves and new options are defined.

[The NENA requirement was intended to convey that the location form and content, as defined by a PIDF-LO, could be evolved without changing anything in the location acquisition protocol specification. Until LLDP-MED delivers a PIDF-LO, this will not be the case.](#)

Table 7.2 (LocSec-2 - Preserve privacy)

We believe LLDP-MED meets this requirement. LLDP-MED location information is supplied "on the local wire". Hence, it does not represent a significant privacy risk. LLDP uses a multicast address that is not forwarded by switches or routers, so only directly connected endpoints will see LLDP frames for the specified port.

[ATIS ESIF agrees that LLDP-MED, being constrained to communication on the physical link, does not entail any significant privacy issues in its implementation. The table now reflects that LLDP-MED = Yes for LocSec-2.](#)

Table 7.2 (LocSec-3, LocSec-4, LocSec-5) and Section 7.3

TIA TR41.4 invites NENA feedback and discussion to extended LLDP-MED to support location by reference and/or direct acquisition of PIDF-LO objects from the network infrastructure to the device.

[ATIS ESIF acknowledges the need for further discussion.](#)

Thank you again for your feedback and input.

Best Regards,

Robert Montgomery

Bob Montgomery
ESIF Chair

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