End-to-End Session Identification in IP-Based Multimedia Communication Networks

IETF 81 Quebec City

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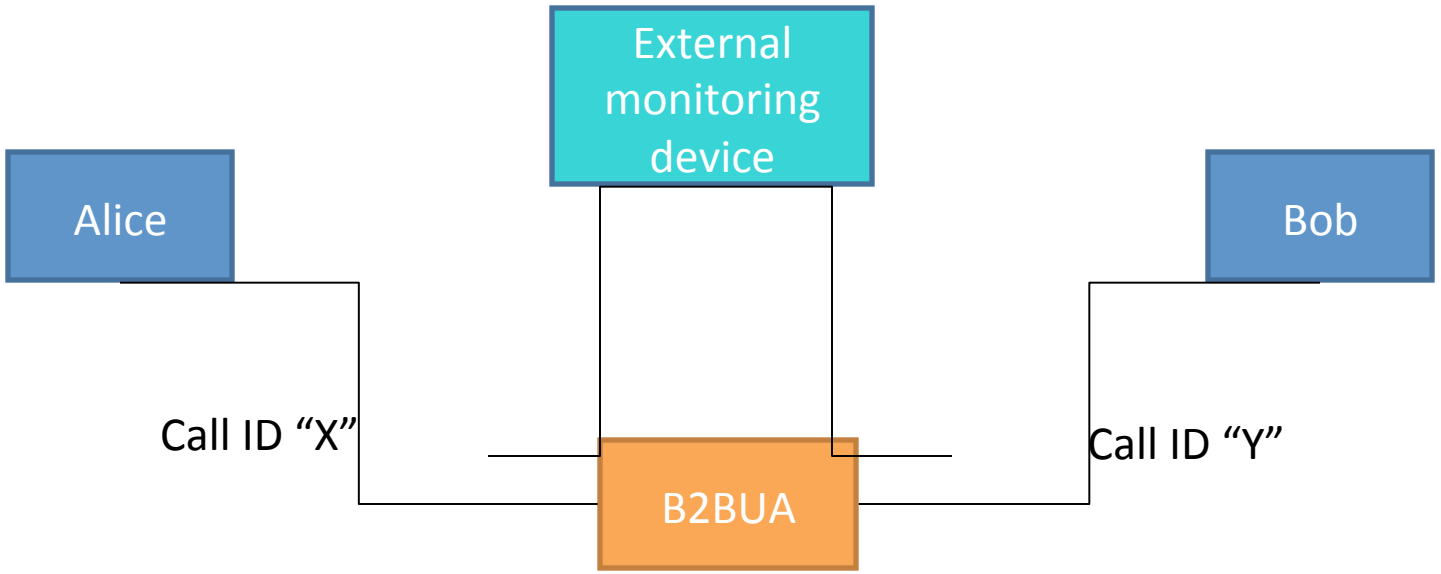
Existing Call Identifiers

- Both SIP and H.323 define identifiers that can identify a "call"

- None of the existing identifiers properly identify a session end-to-end.

  (*The call identifier comes closest, but still should not be passed end-to-end given that a B2BUA, by definition, terminates a call and re-originates a call.)*

Problem: Correlation of call legs for monitoring purposes



Monitoring or debugging of sessions with proper e2e identification is not possible

The End-to-End Session Identifier

A new signaling element referred to as the **Session-ID** that addresses the aforementioned issues is needed

- To uniquely identify a communication session end-to-end.

Requirements and use cases identified in:

draft-jones-ipmc-session-id-reqts-00

Is there really a difference between Call-ID and Session-ID?

- B2BUAs, by definition, terminate and re-originate a call → 2 calls with 2 Call-IDs.

- Session-ID is different in that it is explicitly designed and intended to survive as an end-to-end identifier of a logical session.

Who guarantees a Session-ID will not be modified by SBCs?

- Reason for introducing this identifier is to provide end-to-end session identification
- Unlike other identifiers, this identifier will be the first such identifier intended to be used (unmodified) end-to-end, even through B2BUAs
- Modifying the identifier would have no value and would clearly defeat the goal

Requirements for an end-to-end session identifier (1/2)

1. It must be possible to identify a set of related dialogs between caller and callee (end-to-end session)
2. It must be possible to pass the identifier unchanged through SIP B2BUAs or other intermediaries
3. It must be possible to maintain privacy (e.g. no IP or MAC address is revealed)

Requirements for an end-to-end session identifier (2/2)

1. The identifier must not reveal that any other identifiers in a session have been modified by middleboxes
2. The identifier should be unique in time and space, similar to the Call-ID
3. It should be possible to transmit the identifier in SIP, H.323, RSVP, and RTCP

Charter proposal (1/4)

End-to-end Session Identifier in SIP (charter proposal)

The end-to-end Session Identifier in an SIP-based multimedia communication refers to the ability for endpoints, intermediate devices, and management and monitoring system to identify and correlate SIP messages and dialogs of the same higher-level end-to-end "communication session" across multiple SIP devices and hops.

Unfortunately, there are a number of factors that contribute to the fact that the current dialog identifiers as defined in SIP is not suitable for end-to-end session identification. Perhaps the most important factor worth describing is that in real-world deployments devices like Session Border Controllers (SBC) often change the current call identifiers (e.g., the From-tag and To-tag that are used in conjunction with the Call-ID header to make the dialog-id) as the session signaling passes through.

Charter proposal(2/4)

An end-to-end Session Identifier should allow the possibility to identify the communication session from the point of origin, passing through any number of intermediaries, to the ultimate point of termination. It should have the same aim as the From-tag, To-tag and Call-ID conjunction, but should not be mangled by intermediaries.

A SIP end-to-end Session Identifier has been considered as possible solution of different use cases like troubleshooting, billing, session tracking, session recording, media and signaling correlation, and so forth. Some of these requirements have also been identified and come directly from other Existing working group within the RAI area (e.g. SIPRec, Splices). Moreover, other SDOs have identified the need for SIP and H.323 to carry the same "session ID" value(s) so that it is possible identify a call end-to end even when performing inter working between protocols.

Charter proposal (3/4)

This group will first focus on a document that will identify, collect and discuss all the requirements and the use cases that have been identified.

The document may identify the possibility to design a general mechanism or the need to design multiple purpose built identifiers.

Once the needs are clear and identified, the working group will specify the mechanism(s).

Charter proposal (4/4)

Specifically, the proposed working group will develop the following deliverable:

- A requirement and use case document with key consideration for SIP Session End-to-End identifier. The document will discuss the possibility of designing a general mechanism or the needs to design multiple purpose build identifier.

- Specification of new mechanism for SBC/B2BUA traversal.

Goal and Milestone:

- October 2011 - Requirement and use case document sent to the IESG (Information)

Questions ?