

The HARMAN logo is displayed in white, uppercase letters within a dark blue rectangular box. The background of the slide is a close-up, grayscale image of a speaker grille with a circular pattern of holes.

HARMAN

Real World SRP Limitations

Dave Olsen

The AKG logo features the letters 'AKG' in a bold, sans-serif font, with 'by HARMAN' in a smaller font below it.

AKG
by HARMAN

The harman/kardon logo consists of the words 'harman/kardon' in a lowercase, sans-serif font, with 'by HARMAN' in a smaller font below it.

harman/kardon
by HARMAN

The Infinity logo features a stylized infinity symbol followed by the word 'Infinity' in a serif font, with 'by HARMAN' in a smaller font below it.

Infinity
by HARMAN

The JBL logo consists of the letters 'JBL' in a bold, sans-serif font, enclosed in a square, with 'by HARMAN' in a smaller font below it.

JBL
by HARMAN

The lexicon logo features the word 'lexicon' in a lowercase, sans-serif font, with 'by HARMAN' in a smaller font below it.

lexicon
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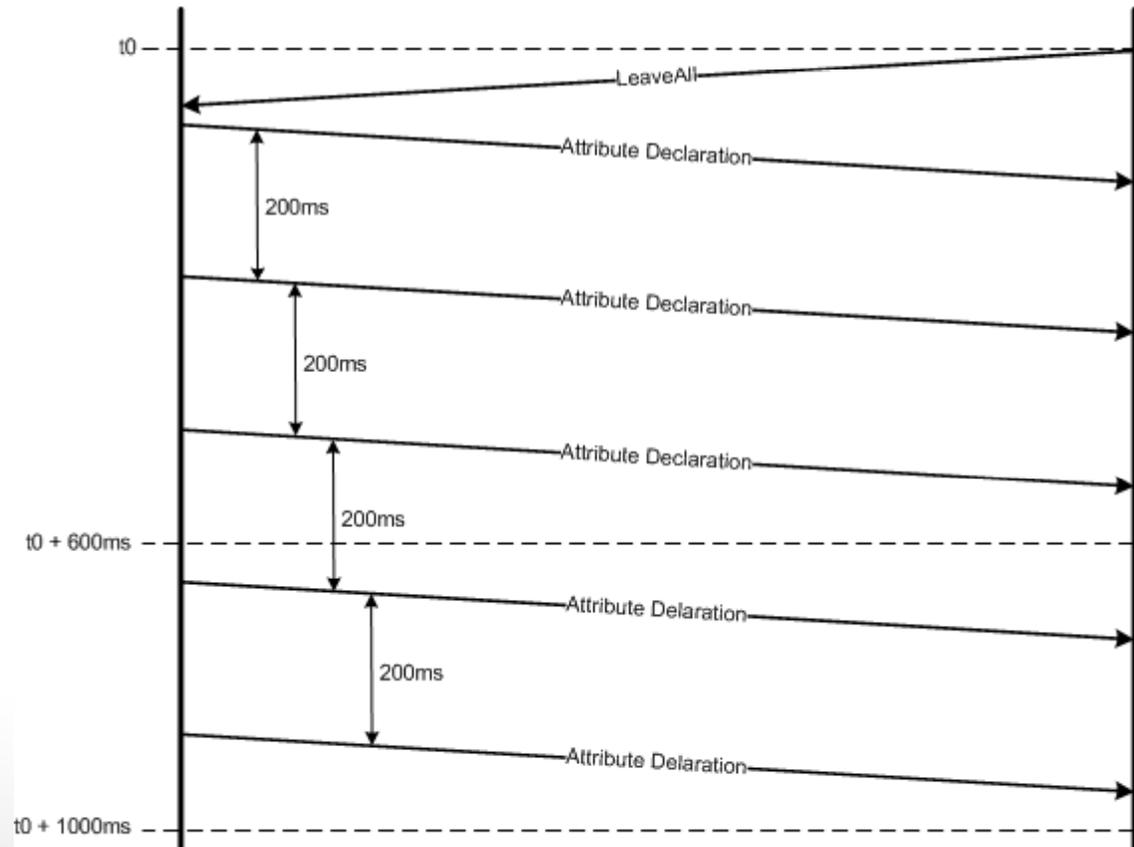
The mark Levinson logo consists of the words 'mark Levinson' in a lowercase, serif font, with 'by HARMAN' in a smaller font below it.

mark
Levinson
by HARMAN

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- **SRP Reservations are severely limited when noncontiguous DA and StreamID's are used**
 - **Due to defaults specified in MRP and the size of Talker Advertise's only a limited number of reservations can be maintained**
 - **Talker Advertise's are likely to grow in size as features are added making this problem worse**
 - **Unique items in the Talker Attributes used for Multipath will make packing attributes more difficult, again making this problem worse**

LeaveTime Operation

- LeaveTime is defined as 600-1000 milliseconds
- JoinTime is defined as 200 milliseconds
- No way to discover the LeaveTime of an unmanaged bridge
- See IEEE Std. 802.1Q-2011 Table 10-7

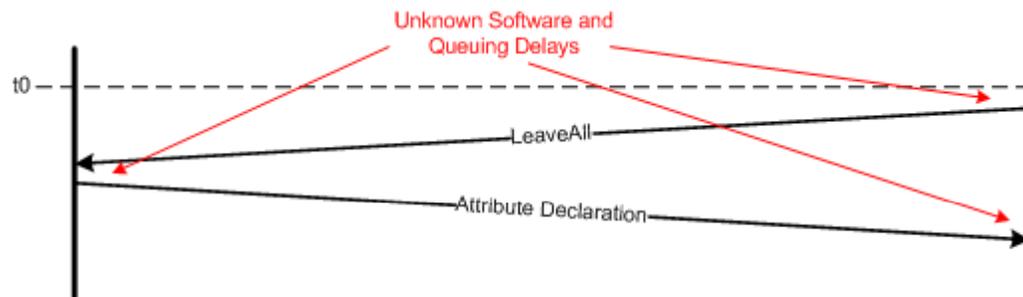


Talker Advertise Limits

- **Talker Advertise with no packing**
 - Limit of 46 Talker Advertises per Packet
 - Limit of 3 Packets before the 600ms LeaveTime
 - Limit of 138 Talker Advertises with no packing
- **Talker Advertises propagate through the entire network**
 - No way to discover LeaveTime
 - 600ms has to be assumed
 - LeaveTime violations causes stream to be dropped
 - Network limit of 138 reservations

Further Complications

- Depending on implementation it is possible for additional software and queuing delays to further reduce the LeaveTime



Possible Solutions

▪ Increase LeaveTime

- It may be possible to increase the LeaveTime on managed bridges
- No way to change LeaveTime on unmanaged bridges
- No way to discover the LeaveTime value of your link partner
- Propagation time through the network becomes unreasonably long
- To enable 4000 reservations
 - LeaveTime > 17 seconds
 - LeaveAllTime > 2 * LeaveTime

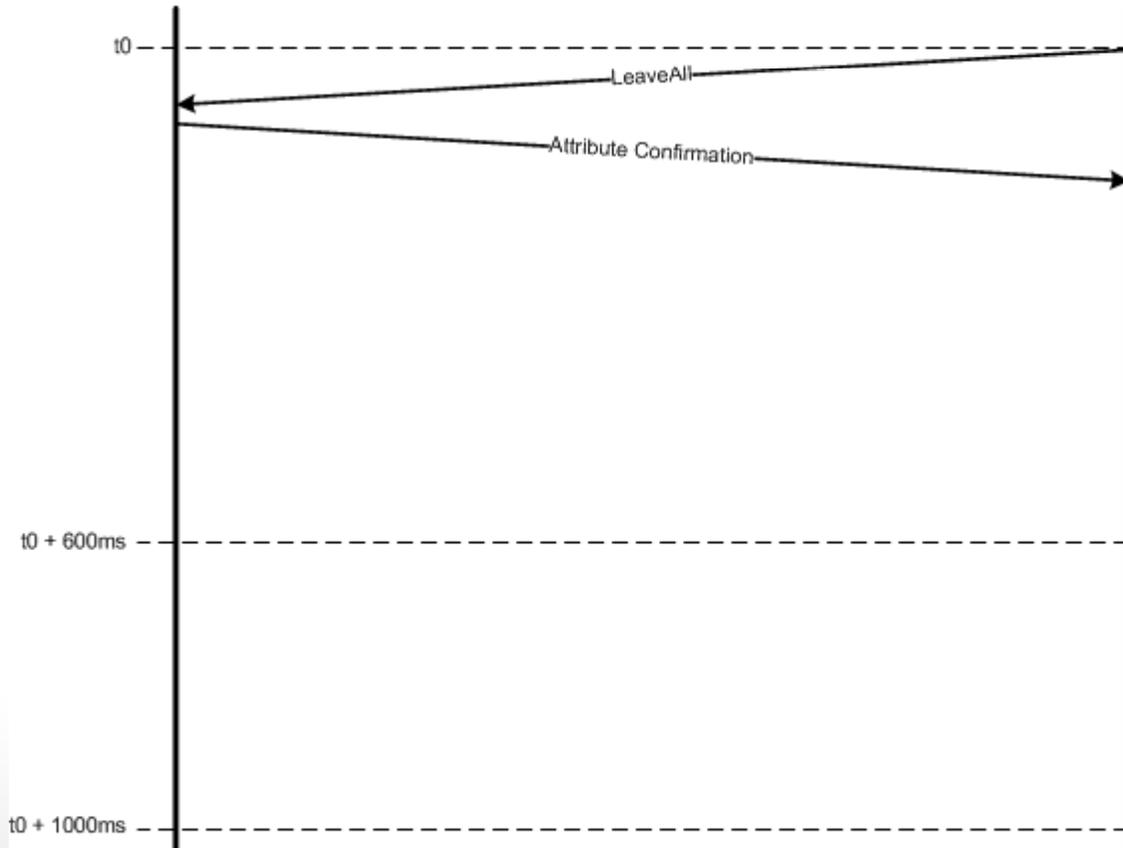
▪ New LeaveAll Response mechanism

- Define a new attribute that confirms all attributes of a given type
 - A hash token should be included to verify data integrity
- Define a new LeaveAll mode that requires attribute retransmission
 - To be used in the case of a hash token mismatch
- Pros:
 - Unlimited number of attributes can be supported
 - SRP traffic is greatly reduces
- Cons:
 - Possible race conditions between adding new attributes and calculating the hash token

Hash Token Operation

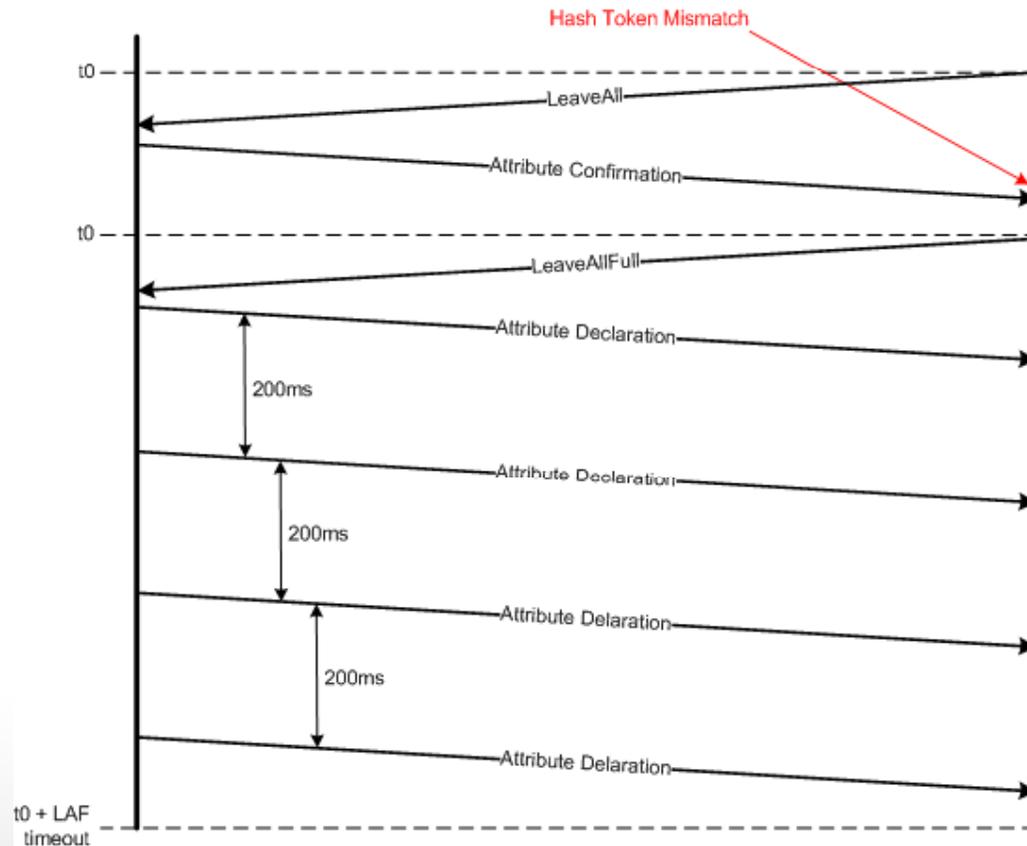


- Single packet is required to respond to LeaveAll
- No race to complete before 600ms timeout
- No need to extend the or be concerned with LeaveTime



Hash Token Mismatch

- A hash token mismatch would trigger a full declaration of attributes
- Timeout for new LeaveAll may be different/longer than LeaveTime
- Could we have a dynamic timeout that is communicated in the request that is based on number of attributes?



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WHERE SOUND MATTERS

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