Application Layer Multicast Extensions for RELOAD
draft-samrg-sam-baseline-protocol-01

John Buford, Mario Kolberg
11/17/2011
Changes Since Previous Version

draft-samrg-sam-baseline-protocol-00

- Add Splitstream algorithm
- Re-assign code points based on latest (-19) version of RELOAD
Changes Since
draft-kolberg-sam-baseline-protocol-01

• Remove Hybrid ALM material, will be moved to separate draft
• Define RELOAD architecture extensions
• Define new RELOAD messages
• Define ALM Usage
• Add Scribe as base algorithm for ALM usage.
• Define code points.
• Define preliminary ALM-specific security issues.
• Add CreateTree and Join examples
• Add open issues section
ALM Architecture Extensions for RELOAD

- **Usage Layer**
  - Set of application data types

- **Message Transport**
  - Handles end-to-end reliability and request state for usages

- **Topology Plug-in**
  - Implements specific overlay algorithm

- **Forwarding & Link Mgmt**
  - Forwarding packets between nodes

- **Group API**

- **SIP Usage**
- **XMPP Usage**
- **ALM Usage**
- **Storage**
- **Message Transport**
- **ALM Messages**
- **ALM Algorithm Plug-in**
- **Topology Plug-in**
- **Forwarding & Link Mgmt**
- **TLS**
- **DTLS**
# RELOAD Messages

(encoding per RELOAD -19 draft)

<table>
<thead>
<tr>
<th>Message</th>
<th>RELOAD Code Point</th>
<th>ALM Message Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CreateALMTree</td>
<td>35</td>
<td>00</td>
</tr>
<tr>
<td>CreateALMTreeResponse</td>
<td>36</td>
<td>01</td>
</tr>
<tr>
<td>Join</td>
<td>35</td>
<td>02</td>
</tr>
<tr>
<td>JoinAccept</td>
<td>36</td>
<td>03</td>
</tr>
<tr>
<td>JoinReject</td>
<td>36</td>
<td>04</td>
</tr>
<tr>
<td>JoinConfirm</td>
<td>35</td>
<td>05</td>
</tr>
<tr>
<td>JoinDecline</td>
<td>35</td>
<td>06</td>
</tr>
<tr>
<td>Leave</td>
<td>35</td>
<td>07</td>
</tr>
<tr>
<td>LeaveResponse</td>
<td>36</td>
<td>08</td>
</tr>
<tr>
<td>Reform</td>
<td>35</td>
<td>09</td>
</tr>
<tr>
<td>ReformResponse</td>
<td>36</td>
<td>x0A</td>
</tr>
<tr>
<td>Heartbeat</td>
<td>35</td>
<td>x0B</td>
</tr>
<tr>
<td>Push</td>
<td>35</td>
<td>x0C</td>
</tr>
<tr>
<td>PushResponse</td>
<td>36</td>
<td>x0D</td>
</tr>
</tbody>
</table>
IANA Considerations

- This memo includes no request to IANA.
- Code points for the kinds defined in this document MUST not conflict with any defined code points for RELOAD.
- For Data Kind-IDs, the RELOAD specification states: "Code points in the range 0xf0000001 to 0xffffffff are reserved for private use".
  - ALM Usage Kind-IDs will be defined in the private use range.
- Code points for new message types defined in this document must not conflict with any defined code points for RELOAD.
  - RELOAD -19 defines exp_a_req, exp_a_ans for experimental purposes.
  - This specification uses only these message types for all ALM messages, with a sub-type to distinguish the specific ALM message
- All ALM Usage messages support the RELOAD Message Extension mechanism.
IANA Considerations

• No new Error Codes are defined.
  – RELOAD -19 defines Error_Exp_A and Error_Exp_B. This will be used if new error codes are needed.

• Application-ID:
  – The ALM Usage Application-IDs must not conflict with other applications of reload.
  – Additionally if AppAttach is used, the port number must be selected to avoid conflicts.

• Access Control Policies: No new policies.

• ALM Algorithm Types:
  – SCRIBE-RELOAD
  – SPLITSTREAM-RELOAD
Open Issues

• The specific capabilities of clients in terms of tree creation and being parents of other nodes will be described in subsequent versions.

• ALM parameter definitions for the RELOAD configuration file will be defined in a later version.

• Scribe and SplitStream are being adopted as algorithms, should any other ALM algorithms be mapped?