Session Announcement Protocol

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The new SAP draft

The current spec (draft-ietf-mmusic-sap-v2-01.txt) is a merger of

- draft-ietf-mmusic-sap-00.txt (from November 1996!)
- draft-ietf-mmusic-sap-sec-04.txt
- draft-ietf-mmusic-sap-v2-00.txt

Aiming to get an experimental RFC out relatively soon.
Overview of changes

- Support for IPv6 and directory sessions
- Update address/port usage
- Update bandwidth recommendations
- Compression using zlib
- Payload type field
- Authenticated announcements
- Assorted minor bug-fixes
Support for IPv6

- Add an address type bit to the SAP header and allow the originating source field to be an IPv6 address

- The IPv6 SAP address is FF0X:0:0:0:0:0:2:7FFE, where X is the 4-bit scope value. The following scope values are defined in IPv6:

<table>
<thead>
<tr>
<th>Value</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x1</td>
<td>Node-local</td>
</tr>
<tr>
<td>0x2</td>
<td>Link-local</td>
</tr>
<tr>
<td>0x5</td>
<td>Site-local</td>
</tr>
<tr>
<td>0x8</td>
<td>Organization-local</td>
</tr>
<tr>
<td>0xE</td>
<td>Global</td>
</tr>
</tbody>
</table>
Directory Sessions

- Allow SAP directories to be announced within SAP – due to Ross Finlayson.

- SDP syntax:

  ```
  v=0
  o=cperkins 2890844526 2890842807 IN IP4 126.16.64.4
  s=Sample directory session
  m=directory 9875 SAP application/sdp
  c=IN IP4 224.2.127.12/255
  t=2873397496 2873404696
  ```

- Announced by SAP in the usual manner.
Directory Sessions

• Anyone may announce sessions within a directory
  – Do we want to restrict this?

• Changes to the announcement of the directory MUST be authenticated
  – If the directory is deleted, MUST stop announcing sessions within it
  – If the directory moves, MUST move announcements of sessions to the new group
Ports and TTLs

- Announcements MUST use port 9875 with TTL 255.
- Previous versions allowed TTL scoping - we do not - and admin scoped sessions were allowed to specify a different port.
- What do current implementations do?
Bandwidth recommendations

- Bandwidth limit for each group is now 4 kbps - previous versions used 200 bps for global scope groups, and 2 kbps for local groups.

- Minimum timeout is increased from 30 minutes to 1 hour.
Compression

- Specify zlib instead of gzip.
- Use of gzip was a mistake, and only implementation used zlib.
Payload type

We now allow an optional payload type to be included in each announcement.

- May be omitted, in which case default is SDP
- All implementations MUST support application/SDP
- Use of non-SDP payloads is NOT RECOMMENDED due to interoperability concerns
Encryption

- The SAP header retains a single bit to indicate that the payload is encrypted.

- We do not specify any encryption algorithms in this draft: leave to other drafts if support is desired.

- Encrypted announcements are NOT RECOMMENDED on groups where there may be many receivers without the decryption key, due to waste to bandwidth.
Authentication

- Specify authentication using either OpenPGP or CMS
- As in SAP security drafts, but updated for new versions of the authentication specs.
Packet format

```
| 0 | 1 | 2 | 3 |
+---+---+---+---+
| V=1 | ART| E |   |
+---+---+---+---+
| auth len | msg id hash |
+---+---+---+---+
|   : | originating source (32 or 128 bits) : |
+---+---+---+---+
|   : |   : |
+---+---+---+---+
|   : | optional authentication header |
+---+---+---+---+
|   : |   : |
+---+---+---+---+
|   : | optional timeout |
+---+---+---+---+
|   : | optional payload type |
+---+---+---+---+
|   : |   : |
+---+---+---+---+
|   : | payload |
+---+---+---+---+
```
Open Issues

- Should the SDP syntax for directory sessions be defined here?
- Calculation of announcement interval is not well specified