Propagating Fabric Name to the FCDFs

Henry May
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Background

- **Added to FC-BB-6, Section 7.12.5.1**
  An FDF is part of a Distributed FCF internal topology if the initialization exchanges with the Primary controlling FCF are completed. (See FC-SW-6.)

  If an FDF is not part of a Distributed FCF internal topology:
  a) all VA_Port capable FDF-MACs on that FDF shall transmit Discovery Advertisements with the Fabric_Name field of the Fabric Descriptor set to zero; and
  b) all VF_Port capable FDF-MACs on that FDF shall not transmit Discovery Advertisements.

  If an FDF is part of a Distributed FCF internal topology, all VA_Port capable and VF_Port capable FDF-MACs on that FDF shall have the Fabric_Name received from the Primary Controlling FCF in the Fabric_Name field of the Fabric Descriptor in all transmitted Discovery Advertisements.

- **Q: How Does the Primary Controlling FCF Convey the Fabric Name to the FDF?**
  - **A: Include the Fabric Name in DFMD**
Option 1: Instructions to the Editor (1 of 1)

- Referring to 13-047v0
  Change to Table 246 – DFMD Request Payload

<table>
<thead>
<tr>
<th>Item</th>
<th>Size(Bytes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW_ILS Code = XX00 0008h</td>
<td>4</td>
</tr>
<tr>
<td>Destination FCDF Switch_Name</td>
<td>8</td>
</tr>
<tr>
<td>Originating Controlling Switch Switch_Name</td>
<td>8</td>
</tr>
<tr>
<td>Descriptor List Length</td>
<td>4</td>
</tr>
<tr>
<td><strong>Fabric_Name</strong></td>
<td>8</td>
</tr>
<tr>
<td>Membership Set Descriptor</td>
<td>See 1.1.2.12</td>
</tr>
<tr>
<td>Integrity Descriptor</td>
<td>See 1.1.2.13</td>
</tr>
</tbody>
</table>

**Fabric Name**: Contains the fabric World Wide Name.
Option 2: Instructions to the Editor (1 of 3)

- Referring to 13-047v0
  Add row to end of Table 212 – Descriptor Tags with Tag Value 0013h, Descriptor ‘Fabric Name’, and reference to new sub-section 17.7.2.16 with title ‘Fabric Name Descriptor’

- Note: specific tag values and section numbers may be changed to suit the needs of the document.
Referring to 13-047v0
Add new sub-section 17.7.2.16

1.1.2.16 Fabric Name Descriptor

<table>
<thead>
<tr>
<th>Item</th>
<th>Size(Bytes)</th>
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</thead>
<tbody>
<tr>
<td>Tag Value = 0015h</td>
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</tr>
<tr>
<td>Length = 8</td>
<td>4</td>
</tr>
<tr>
<td>Fabric WWN</td>
<td>8</td>
</tr>
</tbody>
</table>

**Fabric WWN:** contains the Fabric World Wide Name.
Option 2: Instructions to the Editor (3 of 3)

- Referring to 13-047v0
  Change to Table 246 – DFMD Request Payload

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<td>4</td>
</tr>
<tr>
<td><strong>Fabric_Name Descriptor</strong></td>
<td>See 17.7.2.16</td>
</tr>
<tr>
<td>Membership Set Descriptor</td>
<td>See 17.7.2.12</td>
</tr>
<tr>
<td>Integrity Descriptor</td>
<td>See 17.7.2.13</td>
</tr>
</tbody>
</table>

*Fabric Name Descriptor:* see 1.1.2.16
Option Agnostic Instructions to the Editor (1 of 1)

- **Referring to 13-047v0, Section 17.9.2, Paragraph 2**
  Upon instantiating an ASL with an FCDF, the Primary Controlling Switch shall initiate an FDRN Exchange describing that link with the Secondary Controlling Switch, if available, to keep the state synchronized. Upon completion of this FDRN Exchange, the Primary Controlling Switch shall provide to that FCDF the Distributed Switch Membership information and Fabric WWN through a DFMD Exchange. At this point the instantiated ASL becomes part of the Distributed Switch internal topology (i.e., the set of ASLs internal to the Distributed Switch). The Primary Controlling Switch shall recompute the N_Port_ID routes and distribute them to each FCDF belonging to the Distributed Switch through NPRD Exchanges.
Thank you
Backup
FDF Fabric Name Prior to Learning

- **cFCF** sends MC Discovery Solicitation to catch any FDFs that are already up. Receiving FDF skips to step 3.

- **Primary**
  - 0. FIP MC Discovery Solicit to All-FCF-MACs
  - 1a. FIP MC Discovery Advert to All-FCF-MACs
  - 1b. FIP MC Discovery Advert to All-FCF-MACs
  - 1c. FIP MC Discovery Advert to All-FCF-MACs

- **Secondary**
  - cFCF
  - 2. FIP UC Discovery Solicitation
  - 3. FIP UC Discovery Advertisement
  - 4. FIP ELP Request
  - 5. FIP ELP Reply

- **FDF advertises Fabric Name = 0.**

- **cFCF** sends MC Discovery Solicitation.

- FC-MAP in Fabric Descriptor must match or receiving switch discards frame (see note 1). Receiving switch creates FCF list entry for SA. Max FCoE Size Verified set to 0 (see note 2).

- **cFCF** sends sends MC Discovery Solicitation to catch any FDFs that are already up. Receiving FDF skips to step 3.

- **Primary**
  - 0. FIP MC Discovery Solicit to All-FCF-MACs
  - 1a. FIP MC Discovery Advert to All-FCF-MACs
  - 1b. FIP MC Discovery Advert to All-FCF-MACs
  - 1c. FIP MC Discovery Advert to All-FCF-MACs

- **Secondary**
  - cFCF
  - 2. FIP UC Discovery Solicitation
  - 3. FIP UC Discovery Advertisement
  - 4. FIP ELP Request
  - 5. FIP ELP Reply

- **FC-MAP in FC-MAP descriptor must match or FDF discards frame (see note 1).**

- **FC-MAP in FC-MAP descriptor must match or cFCF discards frame (see note 1).**

- **cFCF** must send ELP per note 3. It can do this because in step 3 the FDF advertised A=1 and step 3 also set Max FCoE Size Verified to 1 in the FCF list entry for FDF.

- FDF will accept the ELP, instantiating the ASL
FDF/FCDF Learns the Fabric Name

1. FIP ELP Request
2. FIP ELP Reply
3. FDRN
4. FDRN ACC
5. DFMD
6. ACC DFMD
7. NPRD
8. ACC NPRD

Primary

Secondary

CNA  FDF2

FDF1  cFCF  cFCF

ASL instantiated by ELP
FDRN sent to secondary cFCF per Note 1..
Primary cFCF sends DFMD per Note 1. **FDF/FCDF Learns Fabric WWN**
Primary cFCF sends NPRD. FDF knows how to route frames to cFCF.

7a. Include Fabric WWN in Adverts to All_FCF_MACs

7b. Advertise Fabric to All_ENode_MACs