

ForCES LFB Subsidiary Management

<http://datatracker.ietf.org/doc/draft-khs-forces-lfb-subsidiary-management/>

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IETF90, 3:20-4:50 PM, Monday 21 July 2014

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Outline

- Background
- Discussion on version 01
- Plan for further updates
- Comments/suggestions
- Q&A, and Discussion
- Call for WG adoption
- THANKS!

Background

- Per the updated ForCES charter (<http://datatracker.ietf.org/wg/forces/charter/>), the LFB Subsidiary Management work is within the scope
 - Deployment experience has demonstrated the value of using ForCES to control the **Forwarding Element Manager (FEM)** by creating an LFB to represent its function using the same encoding rules as for any other LFB. This allows it to be controlled by the same **Control Element (CE)**
 - This work item assumes the **presence of an initially booted FE** whose configuration could then be **updated** at runtime via an FEM LFB for runtime config purposes (e.g., by adding a new CE and its associated IP address).
 - This work item can also be useful in addressing **control of virtual FEs** where individual FEM Managers can be addressed to control the creation, configuration, and resource assignment of such virtual FEs within a physical FE
 - This work would result in a standards track LFB FEM library RFC
- Draft version-01 was published on the 21st of July 2104
 - Added the details of a few potential scenarios
- Draft version-00 was published on the 10th of February 2014
 - Preliminary version with background information and high-level description of the potential scenarios
 - <http://www.ietf.org/proceedings/88/slides/slides-88-forces-6.pdf>
 - <http://www.ietf.org/id/draft-khs-forces-lfb-subsidiary-management-00.txt>

Discussion on Version 01

- Edits and updates
- Focused on adding further details on recovery from FE failure
- Focused on adding further details on recovery from CE failure
- Addressed a few general comments and suggestions

Plan for Further Updates

- Address the issues/concerns raised in the ForCES mailing list (<http://www.ietf.org/mail-archive/web/forces/current/msg04867.html>)
- Optional component in LFB definitions, number of LFB instances
- VNF pool management including load balancing, scalability, orchestration, etc.
- Preamble for XML definition
- Reports on implementation(s)
- Others (TBD)

Q&A and Discussion

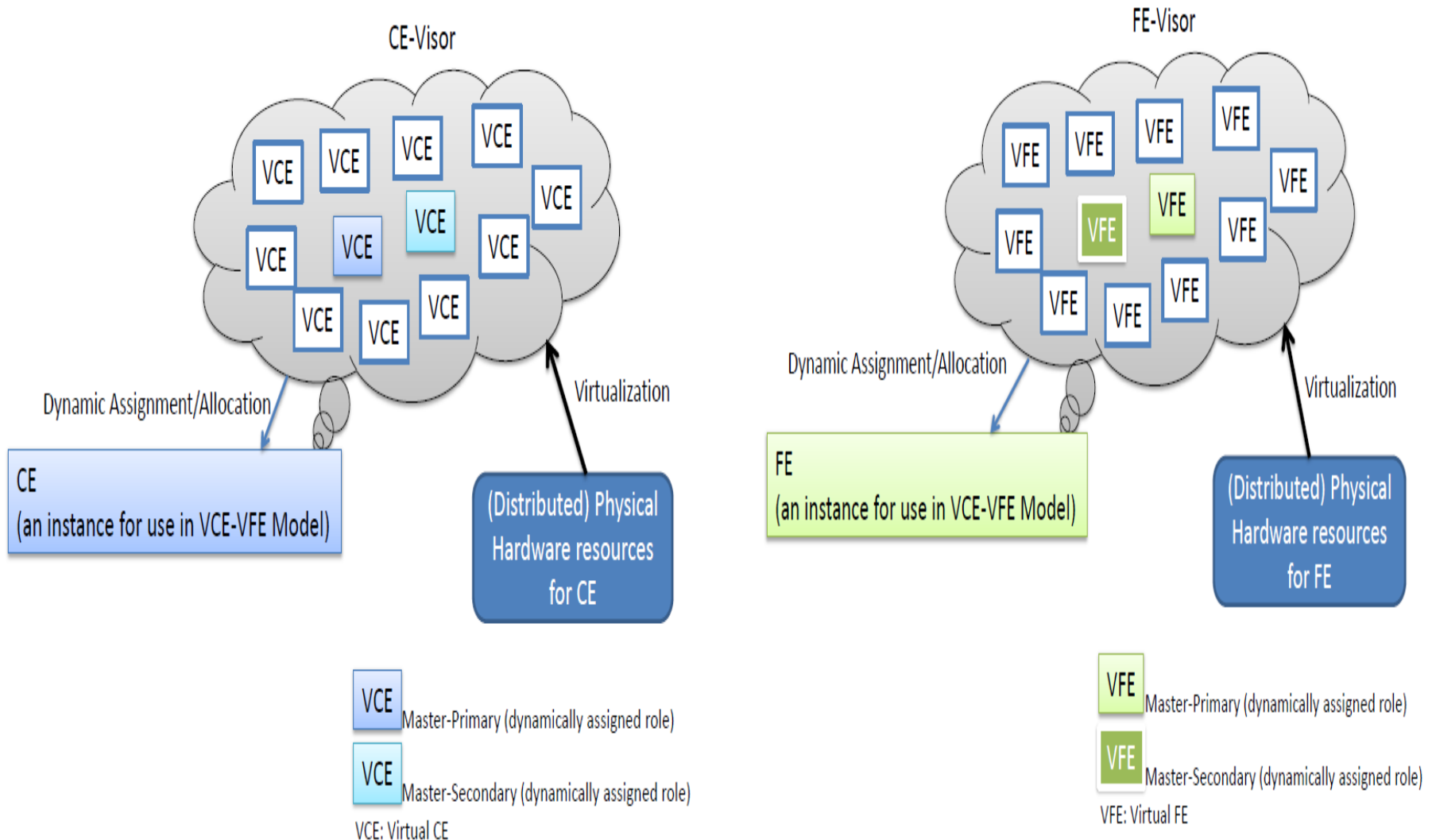
Next Steps

- **Calling for WG Adoption**
- **Continue updating/refining the draft**
 - **Welcome Contributions/Participation from others**
- **Comments/Suggestions**

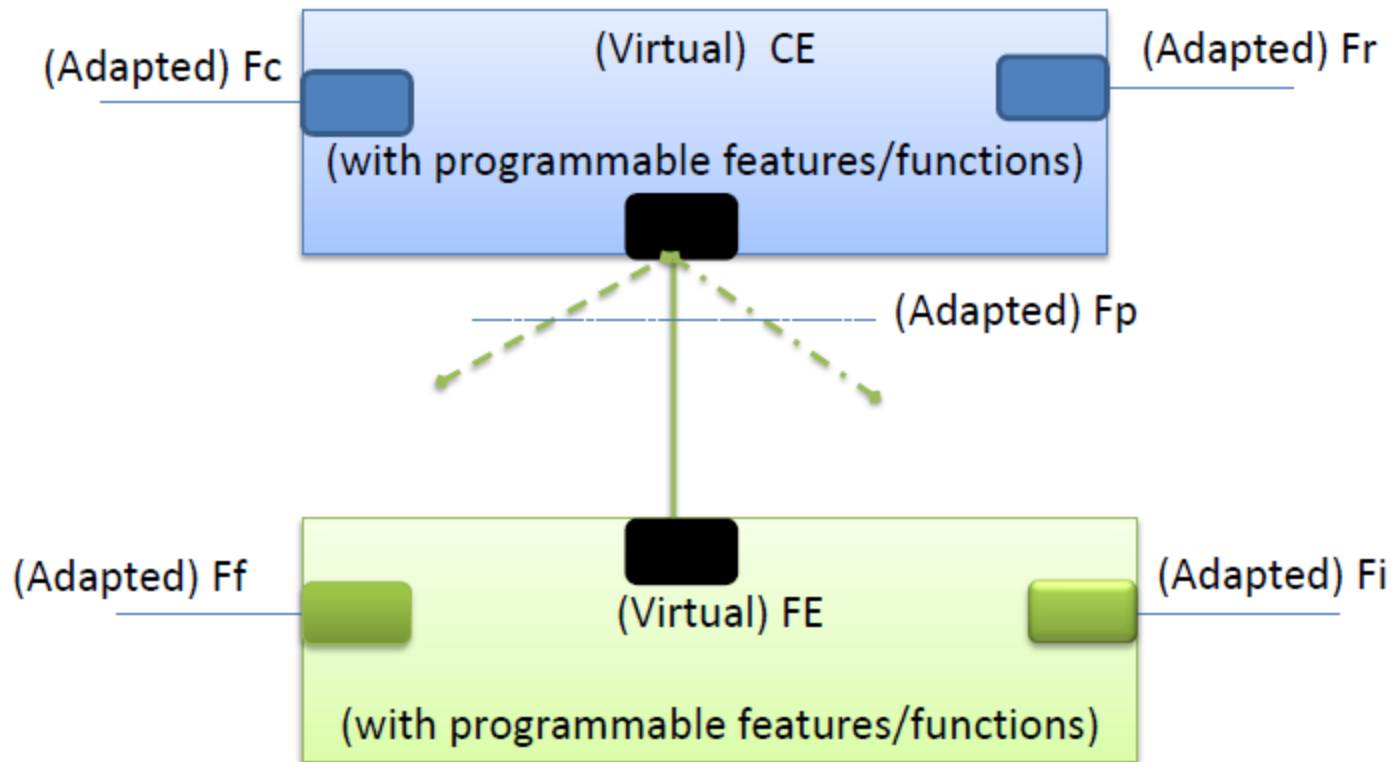
THANKS!

Misc. Additional Information

Virtualization of CE and FE



Updated VCE-VFE Model

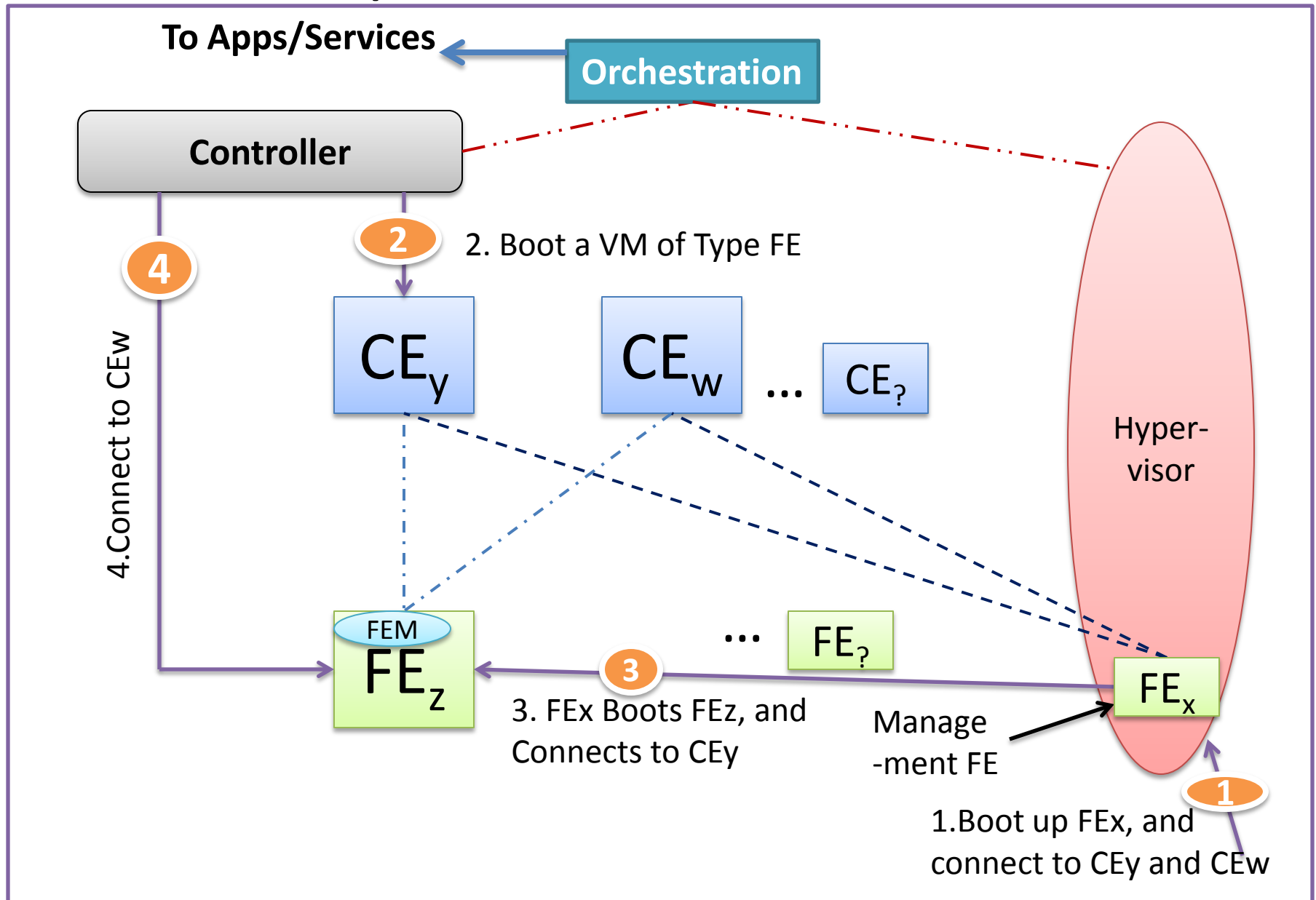


Preliminary Scenarios

(Recovery from FE Failure)

- An **FE** can initially boot using a default Association and Configuration
 - The A & C can be updated at runtime via an FE-Visor/FEM LFB for runtime configuration purposes
 - For example, by adding a new CE and its associated IP address
- A **CE** can initially boot using a default Configuration and State(s)
 - The C & S can be updated at runtime via a CE-Visor/CEM LFB to satisfy runtime requirements

Sequence of Events in FEM



Implementation

- Please see the demo during Bits-N-Bites session on Thursday, 7 Nov. 2013 at 7 PM in Regency D/E/F
 - Looking for further inputs/suggestions

Another Potential Scenario

(Recovery from CE Failure)

- A **CE** can initially boot using a default Association and Configuration
 - The A & C can be updated at runtime via an CE-Visor/CEM LFB for runtime configuration purposes
 - For example, by adding a new CE and its associated IP address
- An **FE** can initially boot using a default Configuration, Association (with a CE) and State(s)
 - The C & A can be updated at runtime via a FE-Visor/FEM LFB to satisfy runtime requirements

Application and Orchestration

- Applications can adapt based on
 - Loading and Recovery status
 - Pre- and post-condition(s)
 - Other Requirements
- Orchestration
 - Multiple CE/VCE scenarios
 - Handling of Bursts and/or Multiple Conflicting Requests from the Apps/Services

CE/FE/LFB Life Cycle Management

