

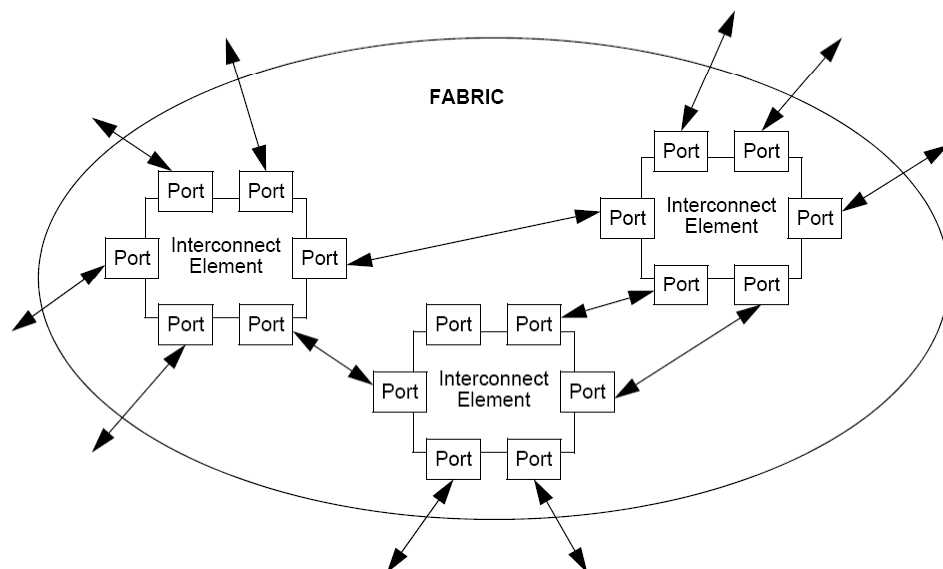
Changes to the Fabric Configuration Server Model (11-220v2)

Joe White – Juniper Networks

John Crandall - Brocade

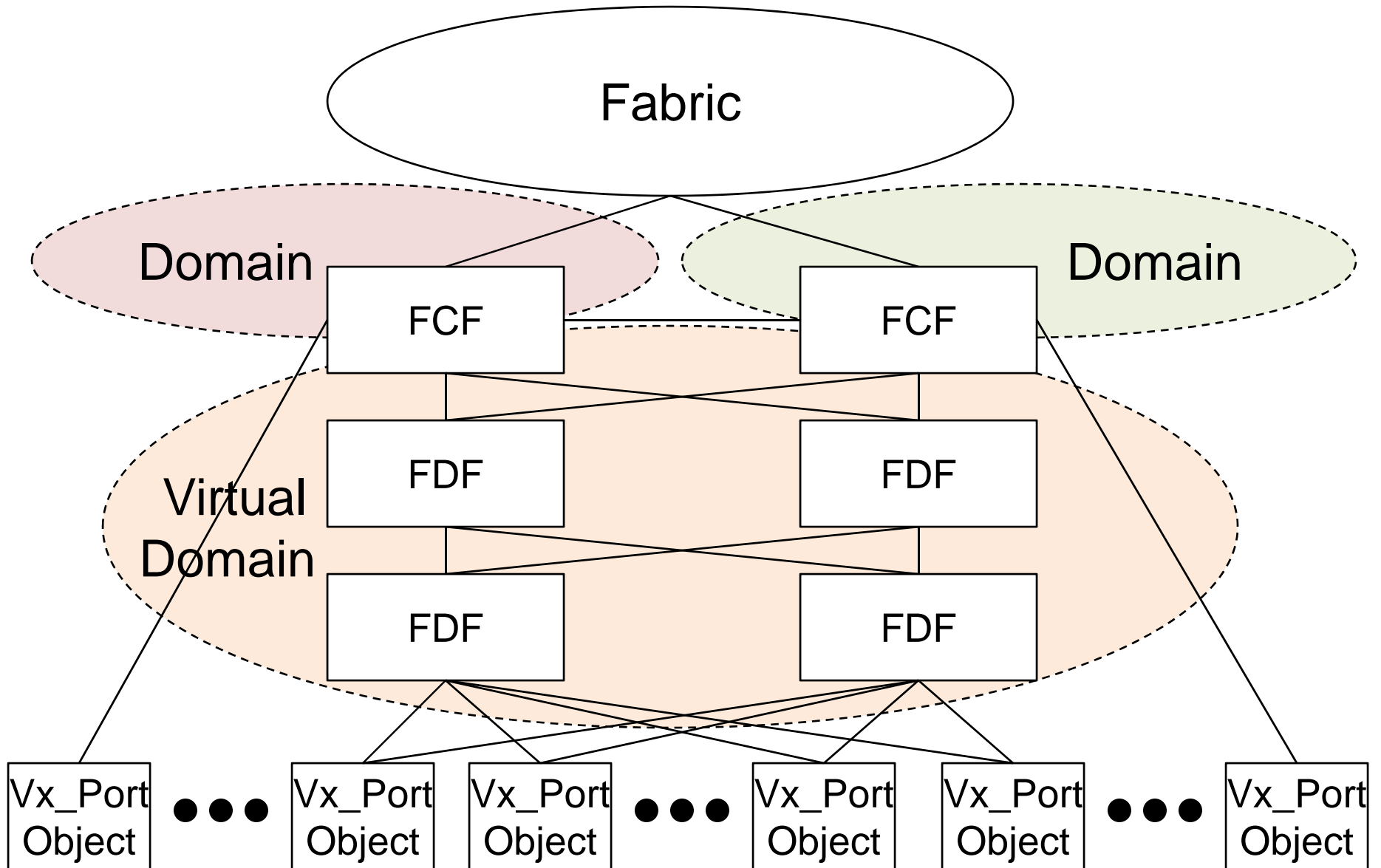
Fabric Configuration Server Model

- Fabric Illustration

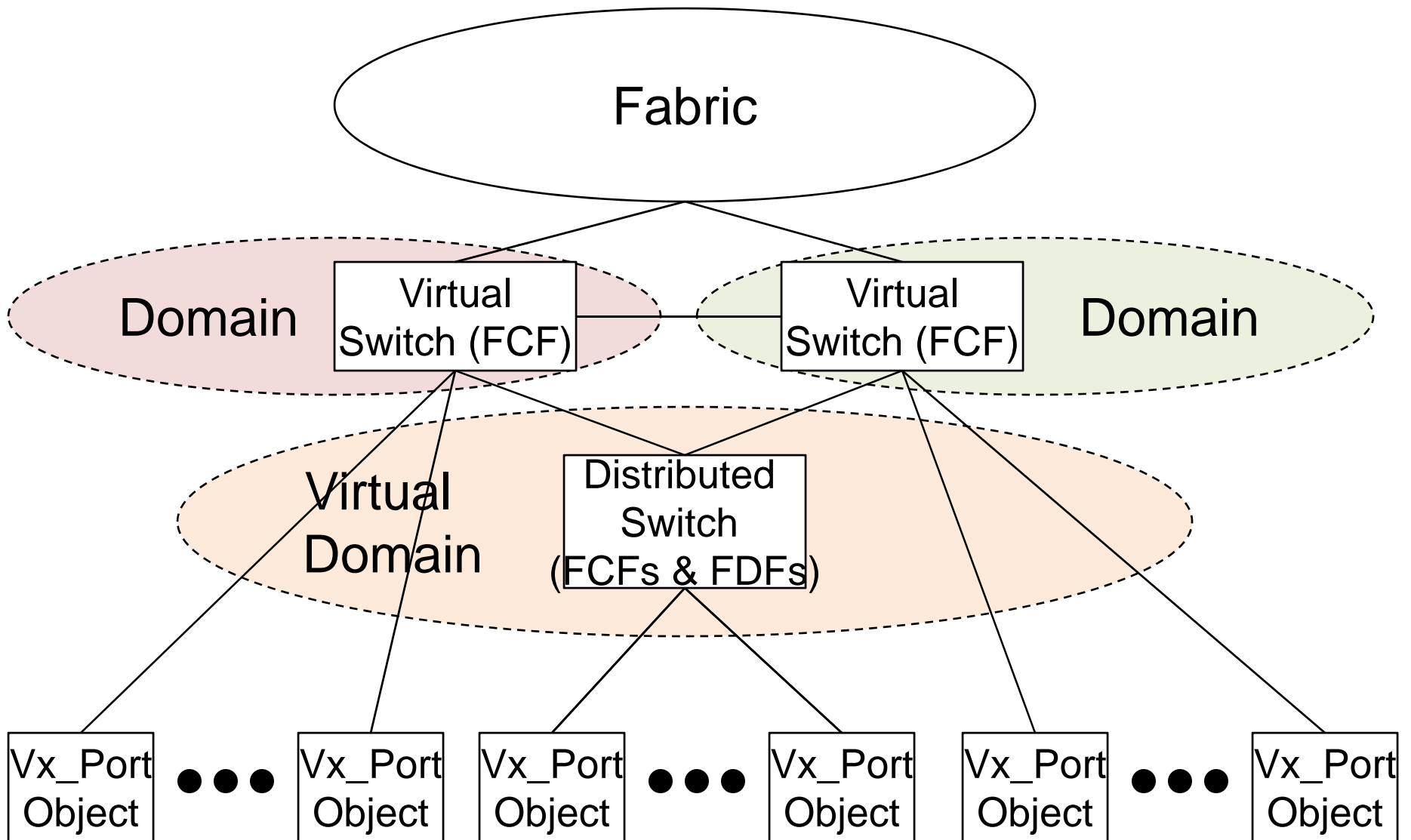


- States that it “illustrates the physical Fabric, consisting of one or more Interconnect Elements, that each have some number of physical Ports (i.e., LCFs). These Ports are then connected either to other Ports on other Interconnect Elements, or to Nx_Ports outside of the physical Fabric.”

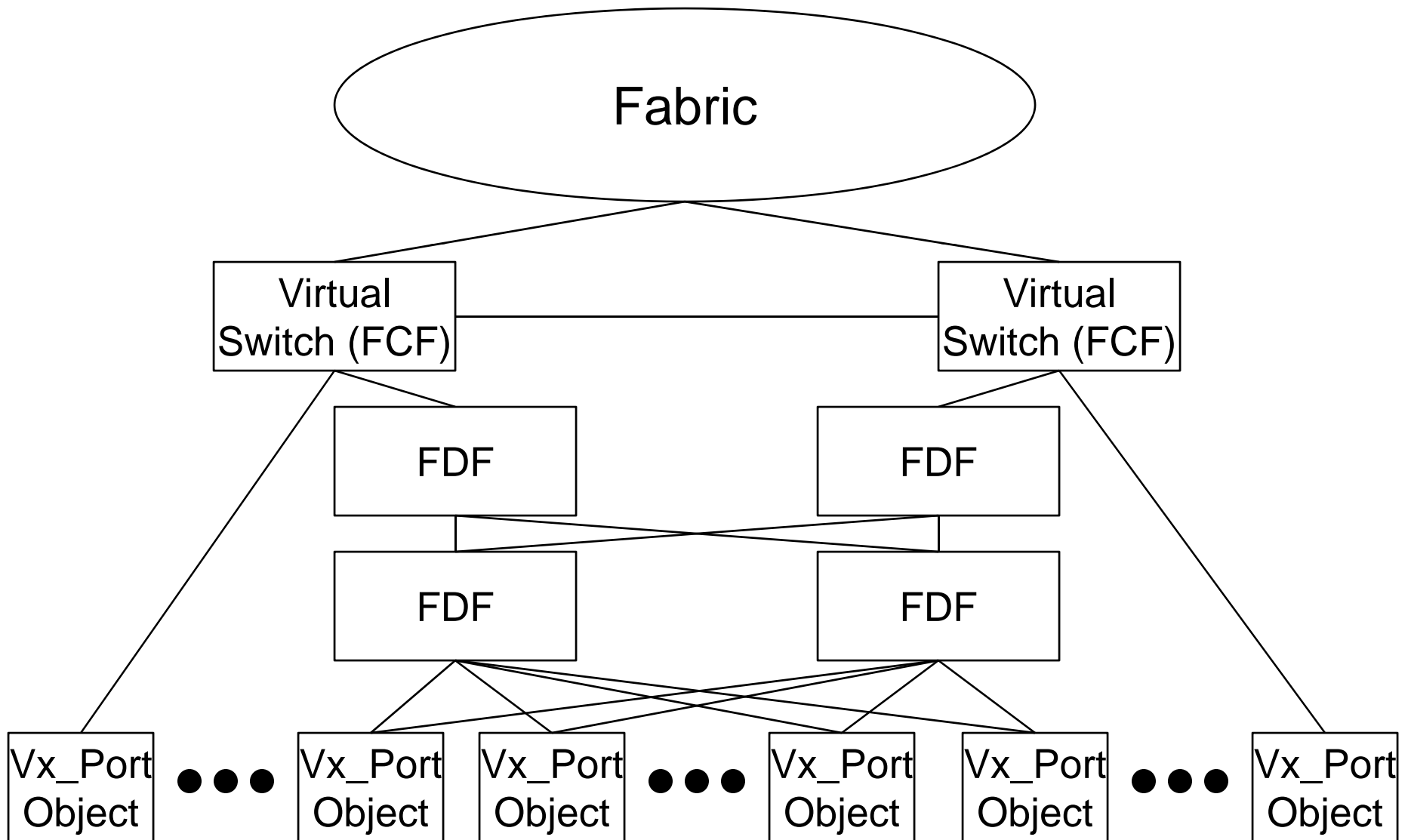
Current FCF-FDF Model



FSPF Topology View



Distributed Switch Topology View



Topology has two logical views

- Two Views
 - FSPF View
 - FCDFs removed
 - Just the FC Switching Object
 - No A_Port to A_Port links
 - 11-026v1 page 27
 - Distributed Switch View
 - Controlling Switches (FCF) and FCDFs
 - Logical topology of FCFs and FCDFs

Assumptions

- FCFs have Domains and unique names
 - Switch_Name
- A Virtual Domain has a unique name and Domain ID
 - Switch_Name
 - See Virtual Domain text (11-217v1) for persistence
- FDFs have unique names
 - FDF Switch_Name
 - Will be equivalent to Switch Name
- Virtual Links between:
 - Controlling FCFs and Controlling FCFs (VE_Port to VE_Port)
 - FCFs and FDFs (VA_Port to VA_Port)
 - FDFs and FDFs (VA_Port to VA_Port)
 - FDFs and End Device (VF_Port to VN_Port)

Interconnect Element Attributes

Physical Switch Attributes

**Interconnect
Element
Object**

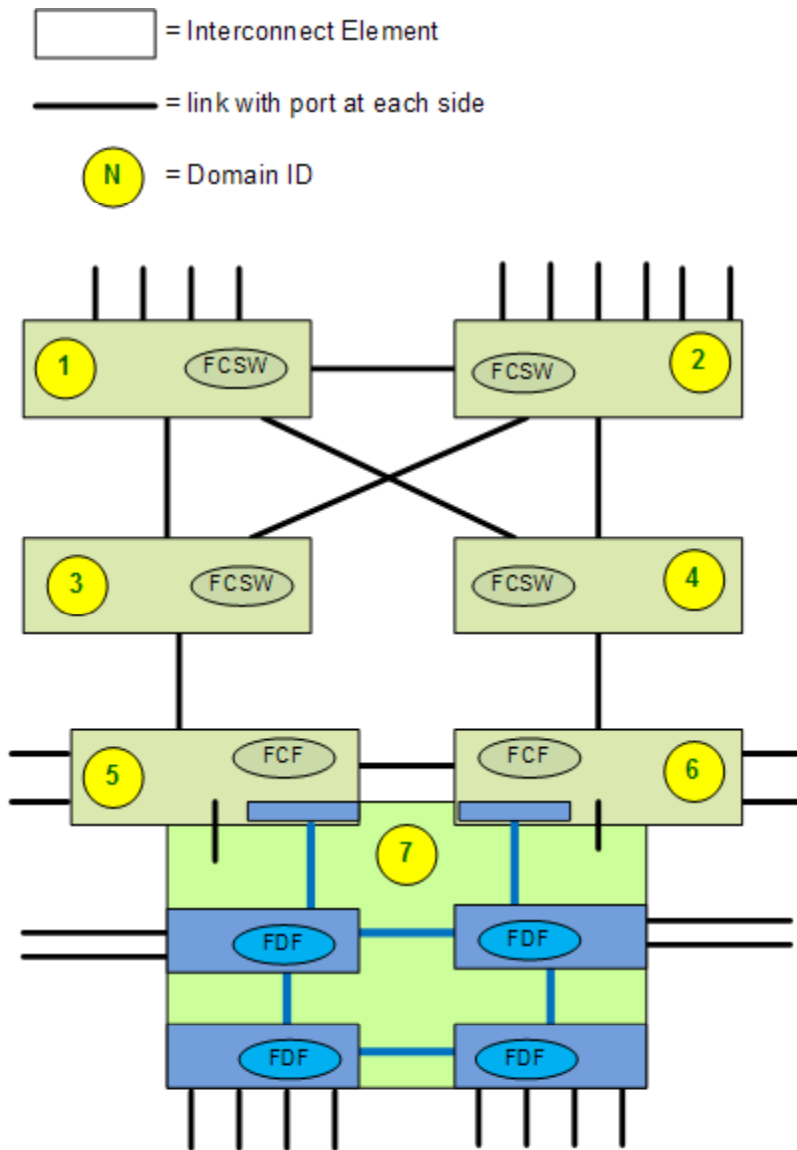
Name
Type
Domain ID(s)
Fabric Name
Logical Name
Management Address List
Transport Infrastructure Object (TIO) List

**List of (type,name) pairs
each object type is one of
Physical Object
Interconnect Element Object**

**Physical
Object**

Correlatable Identifier
Management Address List
Vendor Name
Model Name
Release Code
Vendor Specific Info

Another View of nested interconnect elements

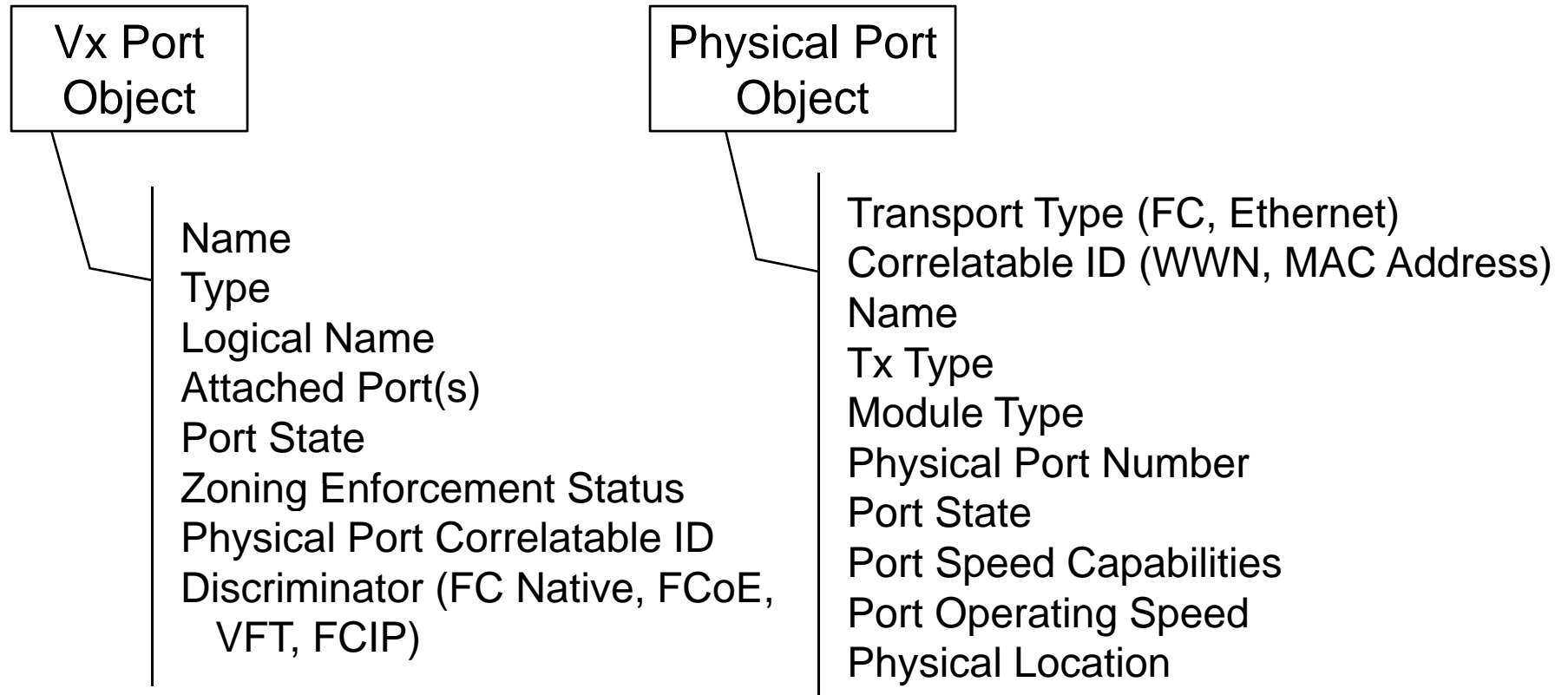


- Get IE List (GIEL) returns all green IEs
 - including the domain 7 distributed switch IE
 - GIEPL on each of these IEs returns all black port connected ports
- Attribute Group command (GIEAG) on domain 7 IE gets the TIO list of blue IEs
 - GIEPL on a Blue IE gets all black and Blue ports. Used with the GIEPL on domain 7 to determine which are which.
 - note that GIEAG on a blue FDF will return a physical object as the TIO list
- Get Attached Port List (GAPL) is used to determine how ports are attached to each other
- Domains 5 and 6 connect to 7 via an 'internal port' on each side
 - This point will need some discussion for both FCS and FSPF
- The FCFs housing Domains 5 and 6 also have 'embedded' FDFs (with no external/black ports) from an FCS topology view

Interconnect Element Types

- Previous Interconnect Element Types
 - Switch
 - Hub
 - Bridge
- We still need Hub and Bridge
- Now we have FDF and FCF also

Vx Port and Px Port Attributes



To be determined: How do we address FCIP where the Correlatable ID is the IP Address which may go over Ethernet?

FCIP

- B Port to B Port
 - IE of Bridge
- VE Port to VE Port
 - IE of Switch
- Both can have an IE of IE
 - IE of Type?
 - Have associated Port Object
 - VxPort Object Name changed to Port Object
 - IP Port

Enhanced Fabric Configuration Server

– Request Command Codes

this table is updated with the revised command names

Code (hex)	Mnem.	Description	Attribute(s) in Request CT_IU	Attribute(s) in Accept CT_IU
0100	GIEL	Get Interconnect Element List	none	List of Interconnect Element Names
0101	GIEAG	Get Interconnect Element Attribute Group	Interconnect Element Name	A group of attributes for the Interconnect Element
0102	GIEPL	Get Interconnect Element Port List	Interconnect Element Name	List of VxPort Objects
0110	GPOAG	Get Physical Object Attribute Group	Physical Object Correlatable Identifier	A group of attributes
0111	GPOPL	Get Physical Object Port List	Physical Object Correlatable Identifier	List of Physical Port Object
0130	GVPAG	Get Virtual Port Attribute Group	Interconnect Element Name, List of VxPort Names	A group of attributes for the listed ports
0131	GAPL	Get Attached Port List	VxPort Name	List of Attached Port Names
0140	GPPAG	Get Physical Port Attribute Group	Physical Object Correlatable Identifier, List of Physical Port Object Names	A group of attributes

From a FCS Model point of view:

Distributed switch slices things up differently than Virtual Fabrics does

- Virtual Fabrics
 - One (Physical Switch Object) to many (FC Switching Element)
 - One (Physical Port Object) to many (Vx Port Object)
- Distributed Switch
 - Many (Controlling Switches and FCDFs) to one
 - Many (Physical Port Object) to many (Vx Port Object)

Other ToDos

- Need to think about Virtual Fabric ID
- Need to think about the good(best) way to model FCIP connections

BACKUP

THE FOLLOWING SLIDES ARE FOR REFERENCE AND REFLECT THE CURRENT STATE OF THE FCS SPECIFICATIONS.

Current Interconnect Element and Port Attributes

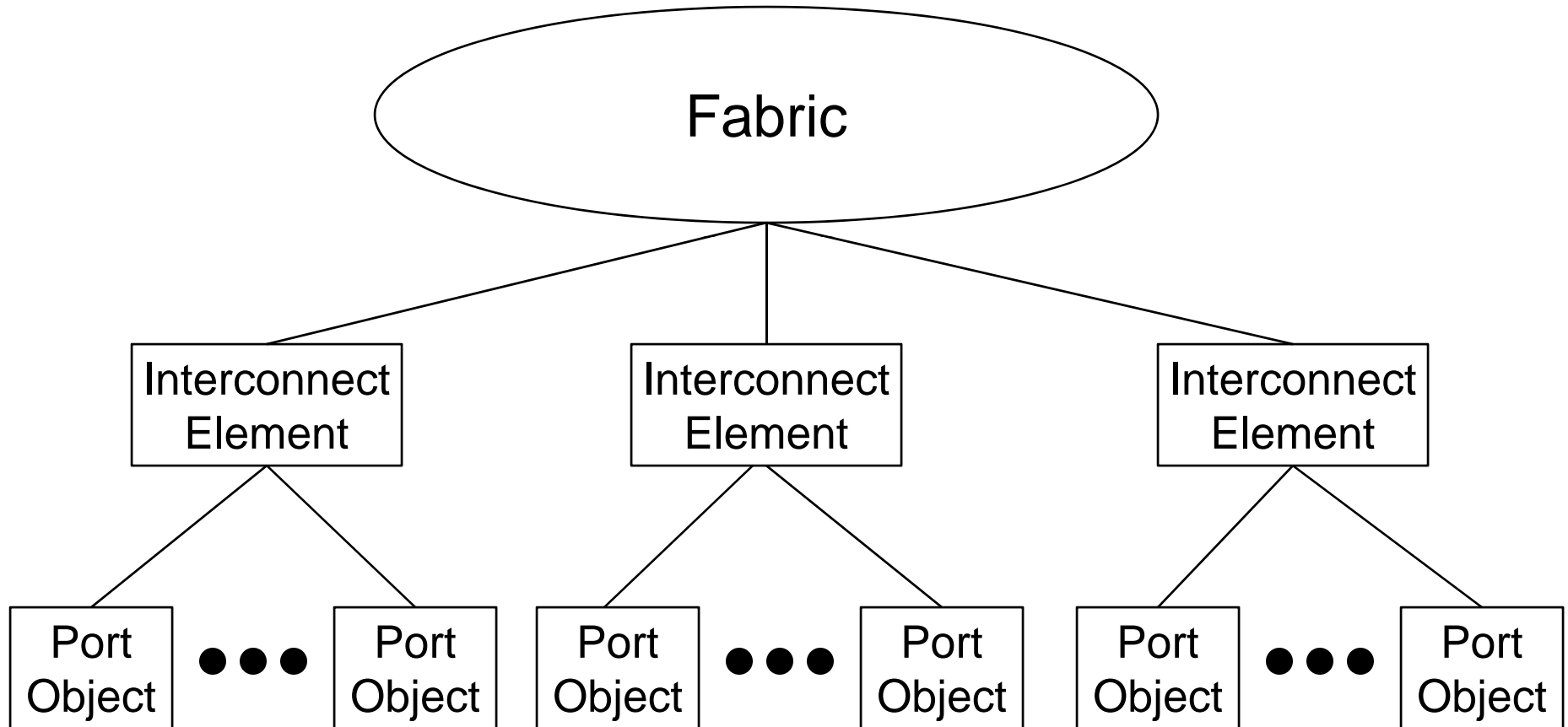
FC Switching
Element

Name
Type
Domain ID
Management ID
Fabric Name
Logical Name
Management Address(es)
Information List
 Vendor Name
 Model Name
 Release Code
 Vendor Specific Info

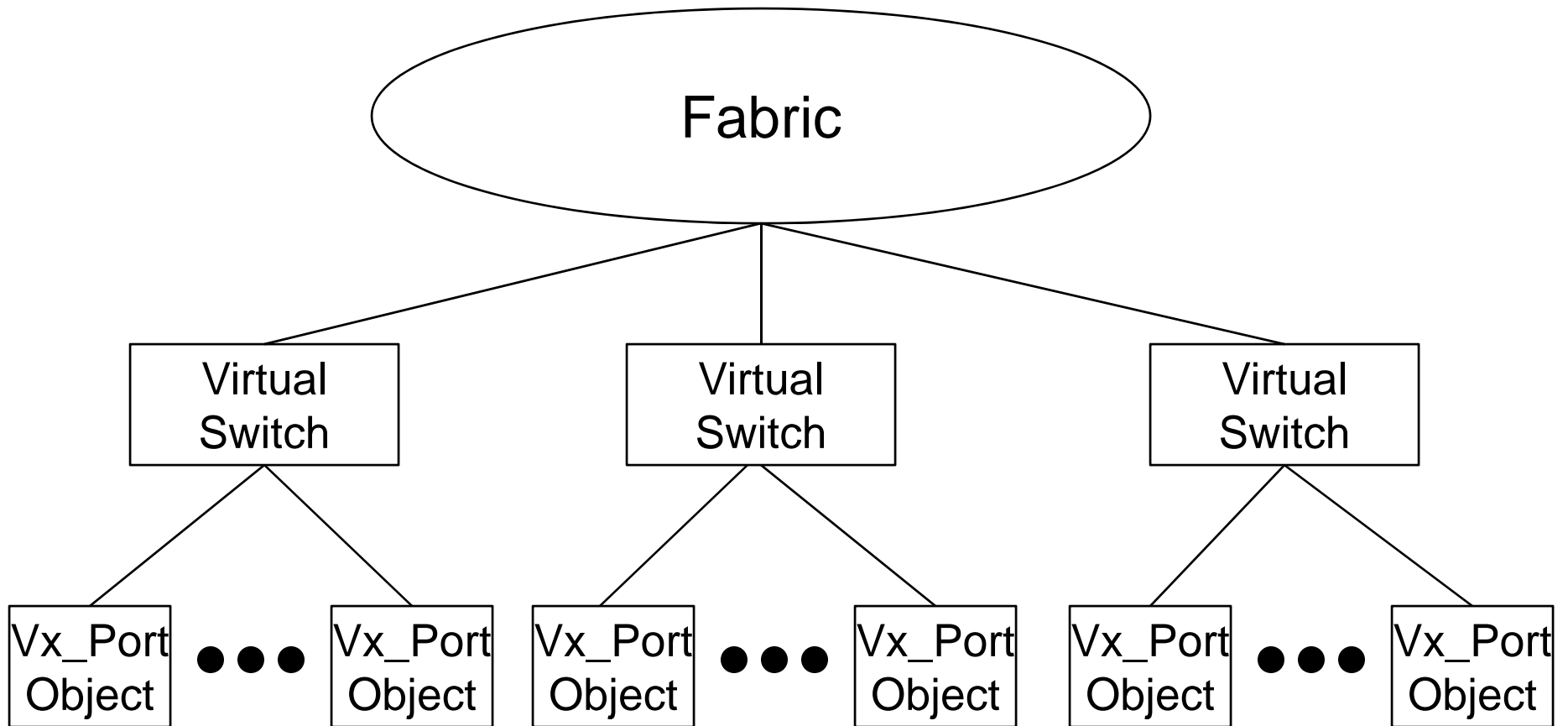
Port
Object

Name
Type
Tx Type
Module Type
Physical Port Number
Attached Ports
Port State
Port Speed Capabilities
Port Operating Speed
Zoning Enforcement Status

Current Fabric Configuration Server Object Model



Fabric Configuration Server Object Model (SW and FS Terms)



Fabric Configuration Server Object Model

