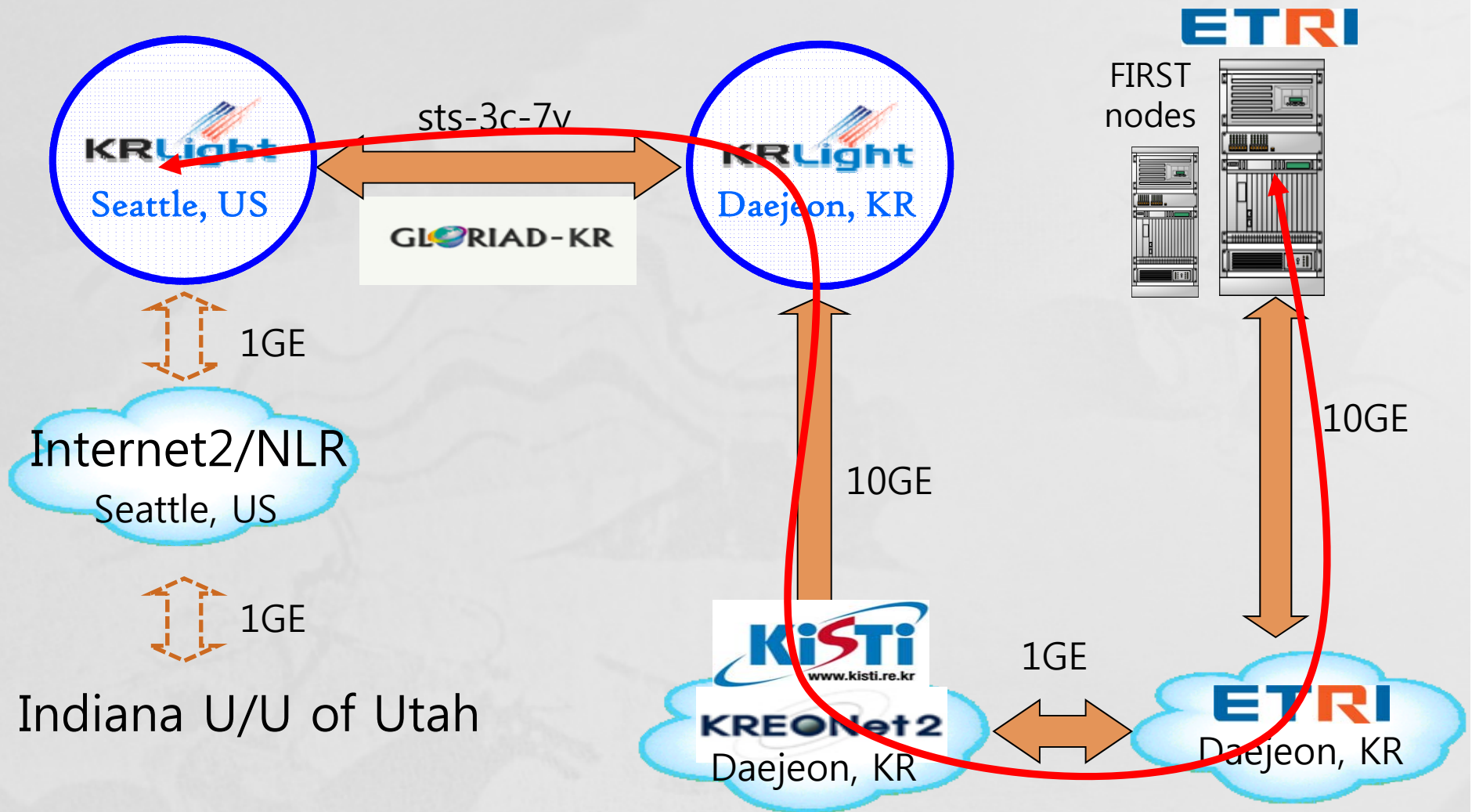# International GMOC Collaboration over K-GENI

Dongkyun Kim – KISTI, Myung-Ki SHIN – ETRI, James Williams – IU
mirr@kisti.re.kr, mkshin@etri.re.kr, william@indiana.edu

March 17, 2010@OMIS WG Meeting, GEC7 in Durham

Korea–USA K–GENI Connectivity

KRLight Nodes Relocation to PNWGP
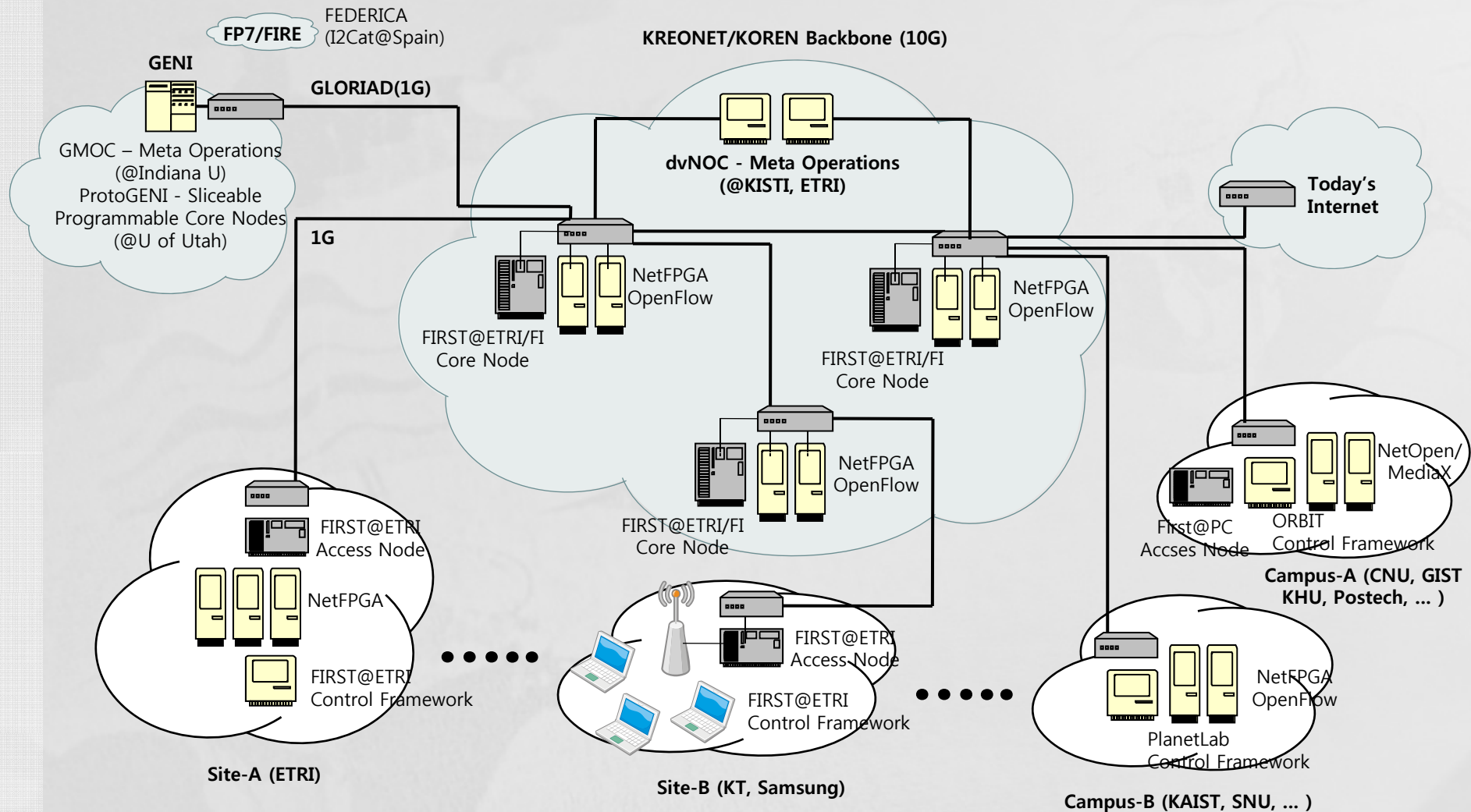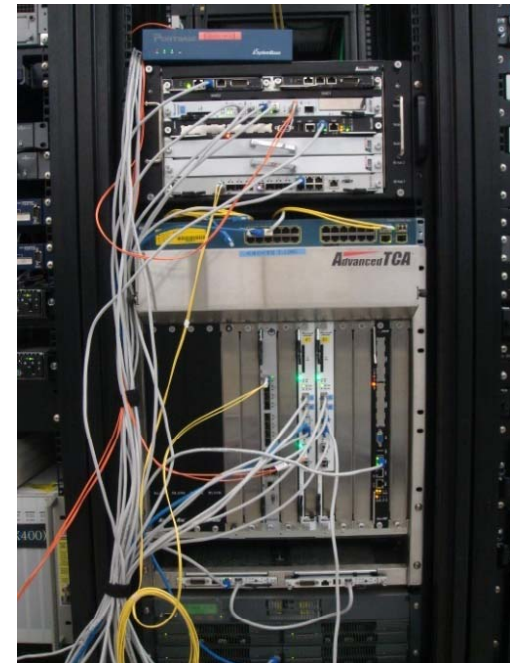

KRLight Nodes

Internet2 Nodes

NLR Nodes

Pacific North West GigaPoP Colo-Space@8F, Westin Building

Federations over K–GENI & FI Backbone in Korea
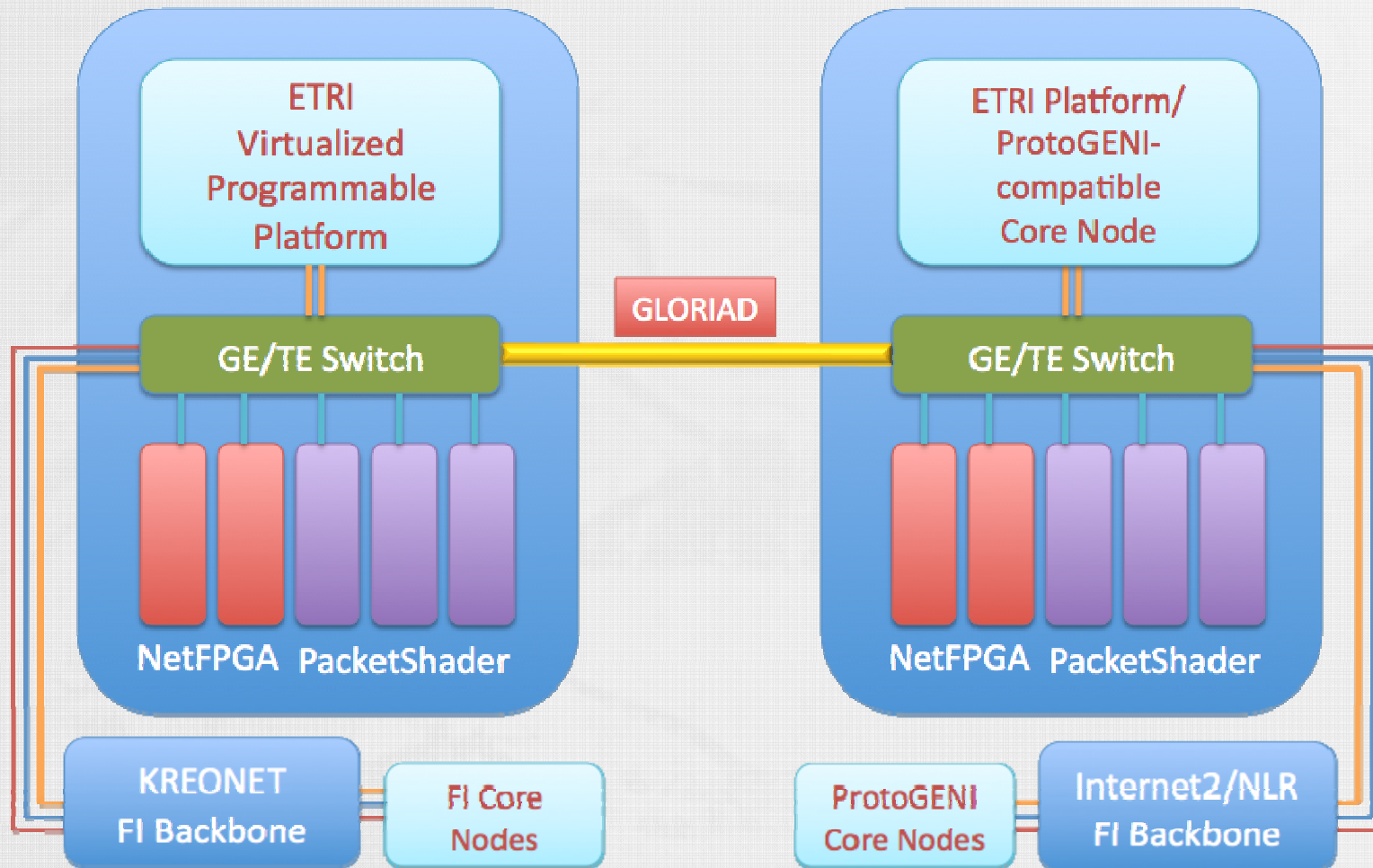
FIRST@ETRI Platforms

- Hardware-based platform
  - Virtualized programmable substrate that operate at high speed
  - Programming APIs for researchers (e.g., hardware-based packet processing APIs)
  - Common platform interfaces (e.g., Component Manager, Aggregate Manager, Slice Authority, etc.)

- Dynamic end-to-end slice operations
  - ProtoGENI compatible control framework
  - Allocate Rspec to sliver and link (e.g., CPU, memory, bandwidth, etc.)
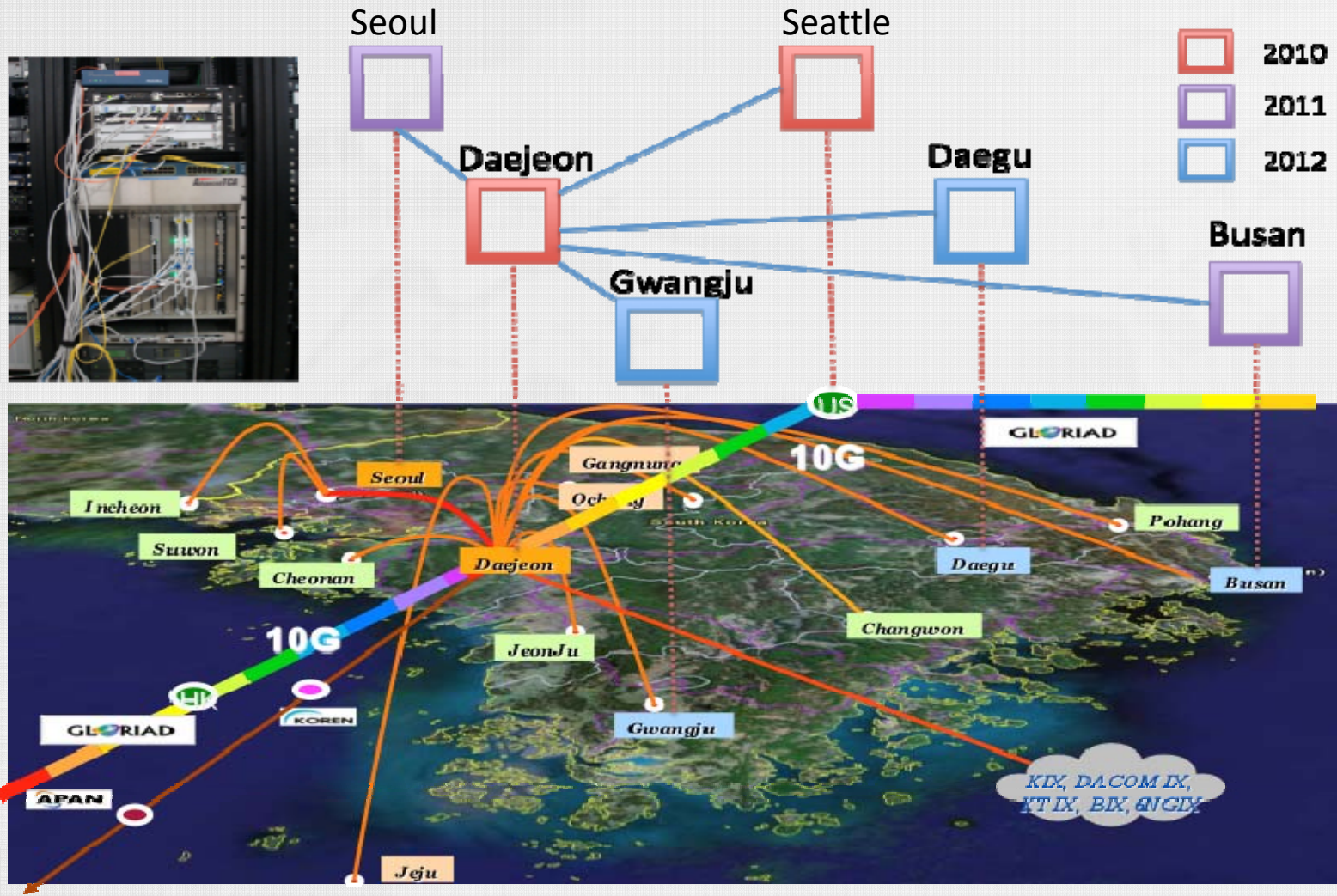 - Change Rspec during operation

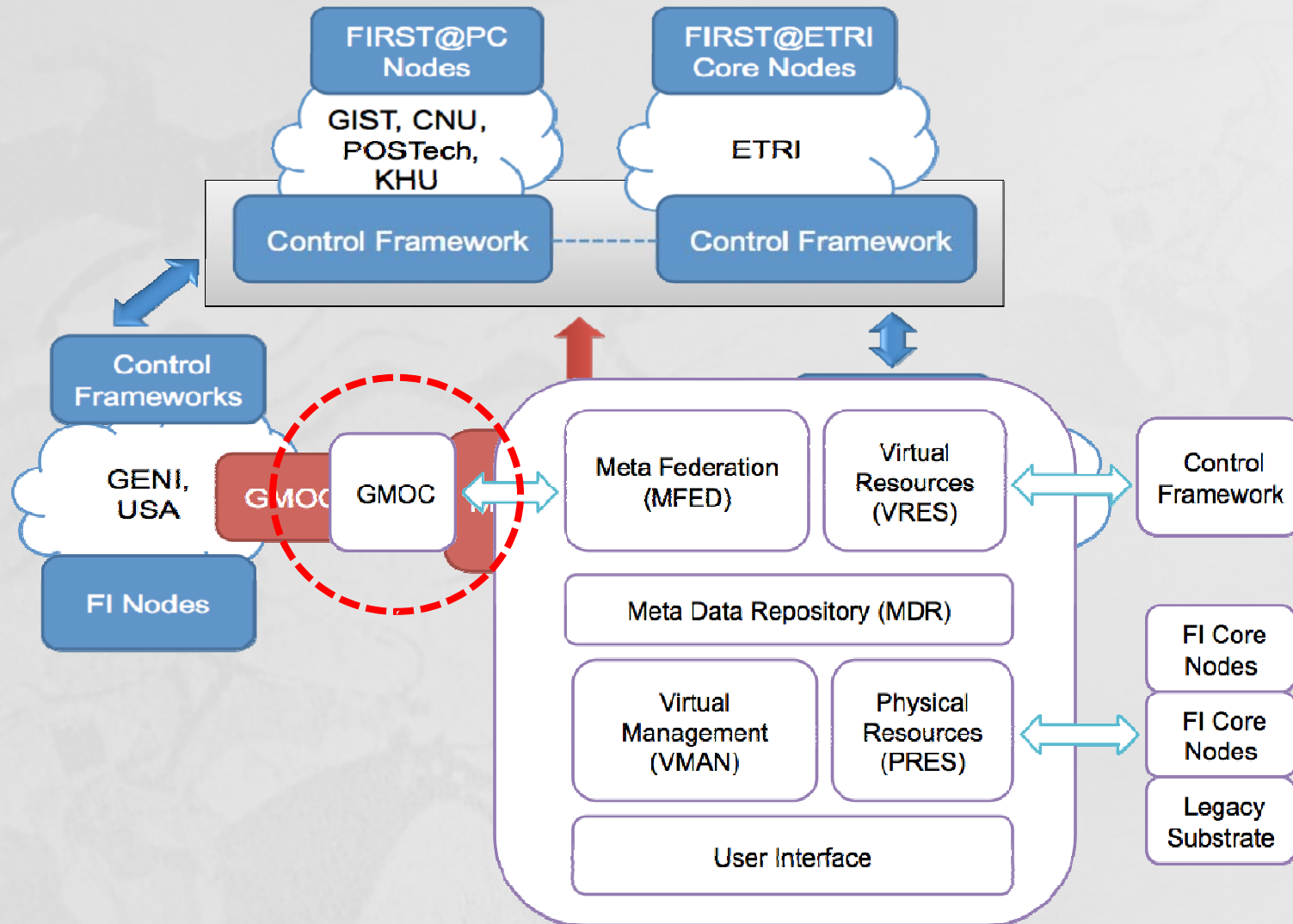# Core Node Interconnections

KREONET Daejeon PoP in Korea

GLORIAD-KR Seattle PoP in USA

Node Deployment Plan on KREONET

VirtualNOC Development

GMOC Collaboration Plan (draft)

- Local GMOC Deployment at KISTI (and ETRI)
  - To come up with federated operations plan and design efficiently
  - To do experiments without intervention to main system
  - To collect operational data for the sharing test purposes
- GMOC Collaboration over K-GENI
  - Connecting two systems in the same VLAN across national boundaries
  - Sharing operational data between GMOC-US and GMOC-KR
  - Visualizing shared operational data set in the federated way
- As a Next Step…
  - GMOC and VirtualNOC Federations: GMOC-KR comes first
  - Performing Joint Demonstrations: @GEC8 and/or @GEC9

Further Works

- **Setting-up K-GENI 1Gbps End-to-End Connectivity**
  - ETRI/KISTI (Korea) – Seattle KRLight (USA)
  - VLAN connection to IU and U of Utah over Internet2/NLR

- **Korea-USA Federated Meta Operations**
  - GMOC and VirtualNOC (of dvNOC)
  - Experiments of FI operational data sharing and federations
  - Scheduled meetings with IU and KISTI/ETRI team
    - Local GMOC deployment and following experiments
    - Demonstrations at GENI Engineering Conferences