

IDMS Opt-In

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Center for Research in Extreme Scale Technologies

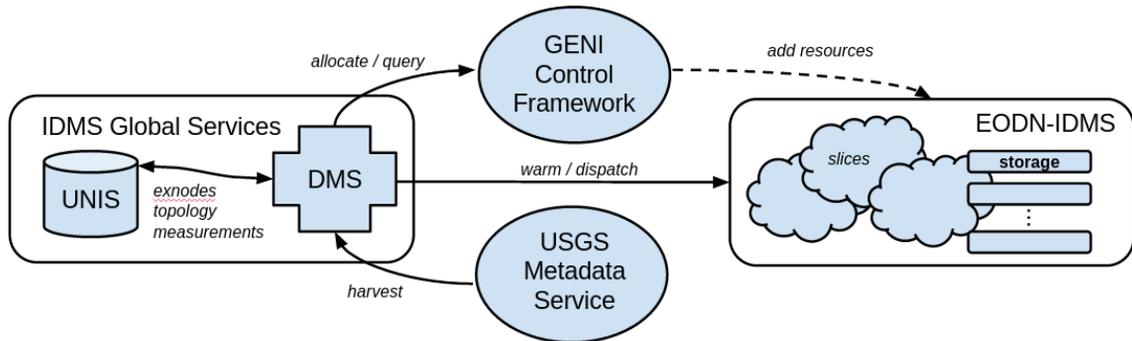
Intelligent Data Movement Service (IDMS)

- Storage depot (object store)
 - IBP implementation from our colleagues at LoCI and ACCRE
 - Manages physical storage, allows for distributed “allocations”
 - Supported by existing CLI tools (LoRS), new Java clients and webGUI
- Experiment I&M (components from GEMINI)
 - UNIS for service registration and discovery
 - Tracks experiment resources and metadata
 - Measurements over experiment lifetime
- Data Manager Service
 - Dynamic resource allocation and service placement
 - Policies for effective content distribution
- Experimenter opt-in
 - Shared VLANs
 - Implicit trust model, no ACLs or restrictions on traffic



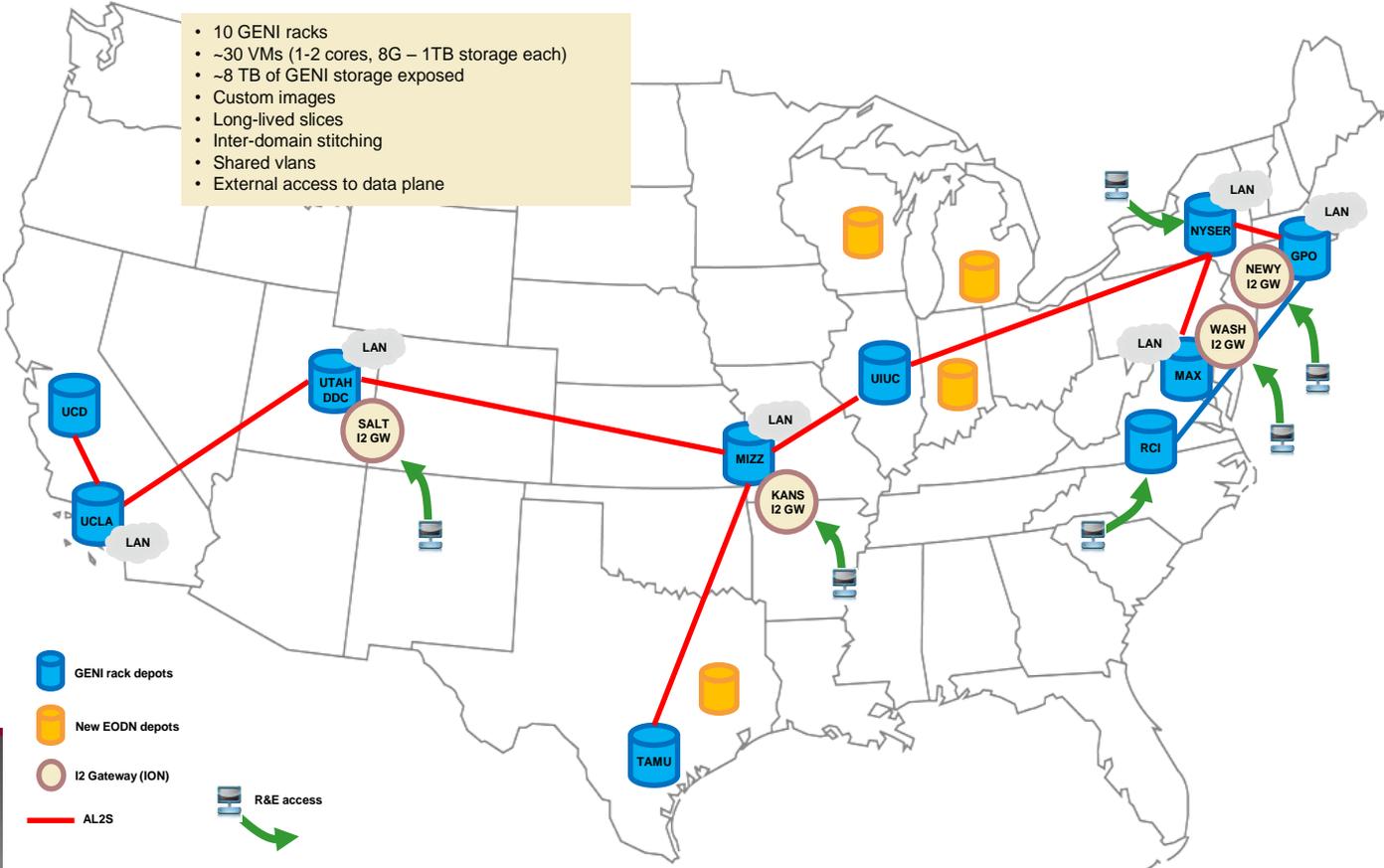
Earth Observatory Depot Network (EODN) and IDMS

- Collaboration with AmericaView community and Data Logistics Toolkit
 - Address the deployment concerns in enabling open access to remotely sensed data from a wide range of public, private, and commercial sources
- IDMS extends the EODN concept to work on GENI
 - Uses common DLT storage components with additional software
 - Appliance VM images for GENI use
- External gateways needed to bring R&E traffic into private data plane



Typical base topology

- 10 GENI racks
- ~30 VMs (1-2 cores, 8G – 1TB storage each)
- ~8 TB of GENI storage exposed
- Custom images
- Long-lived slices
- Inter-domain stitching
- Shared vlans
- External access to data plane



Discussion

- GENI shared VLAN policy
 - Who can attach and with what restrictions
 - Hooks for integration with experimenter AA?
- Bringing campus or commodity traffic into experiments
 - Potential with configurable “gateways” along the backbone
- Could GENI monitoring/ops provide long-lived slice dashboard?
 - Show “critical resource” status
 - Number of attached users
- Do opt-in users need to be aware of GENI at all?
 - IDMS considers both models

