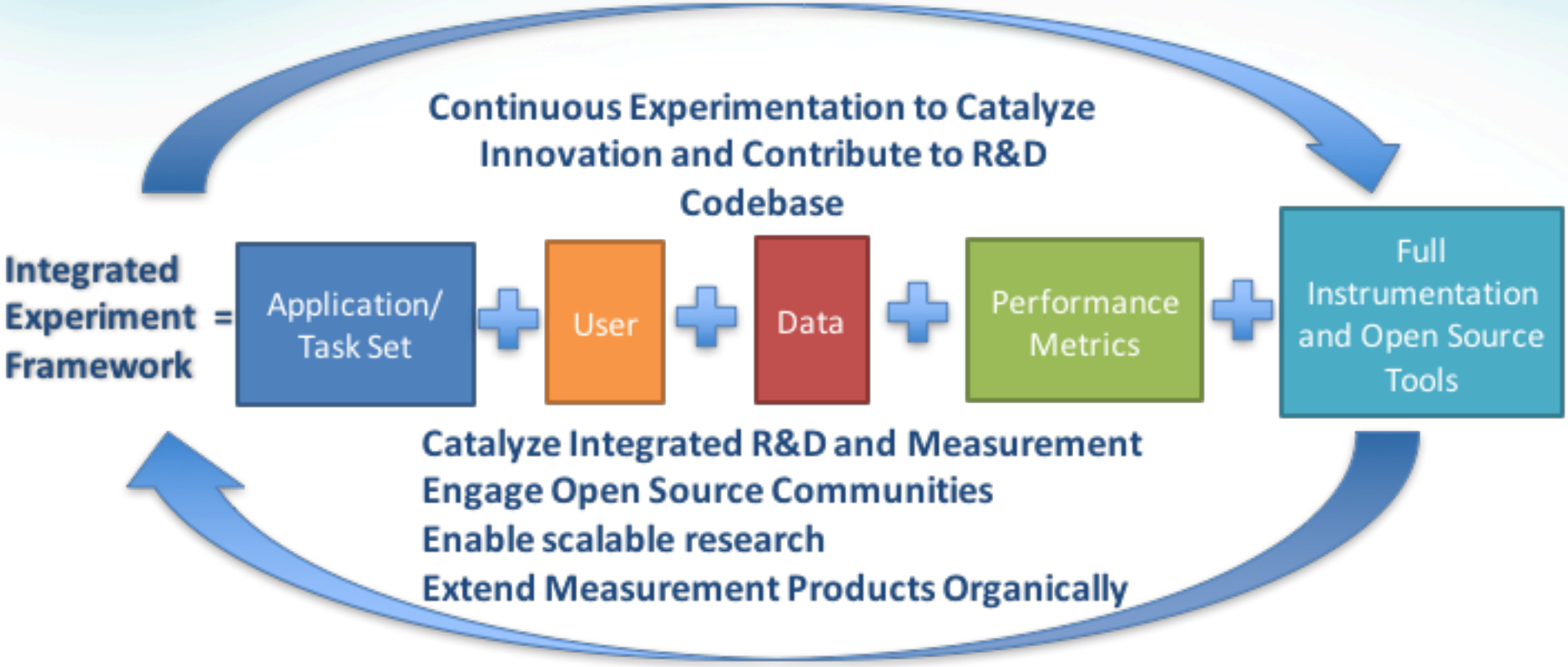
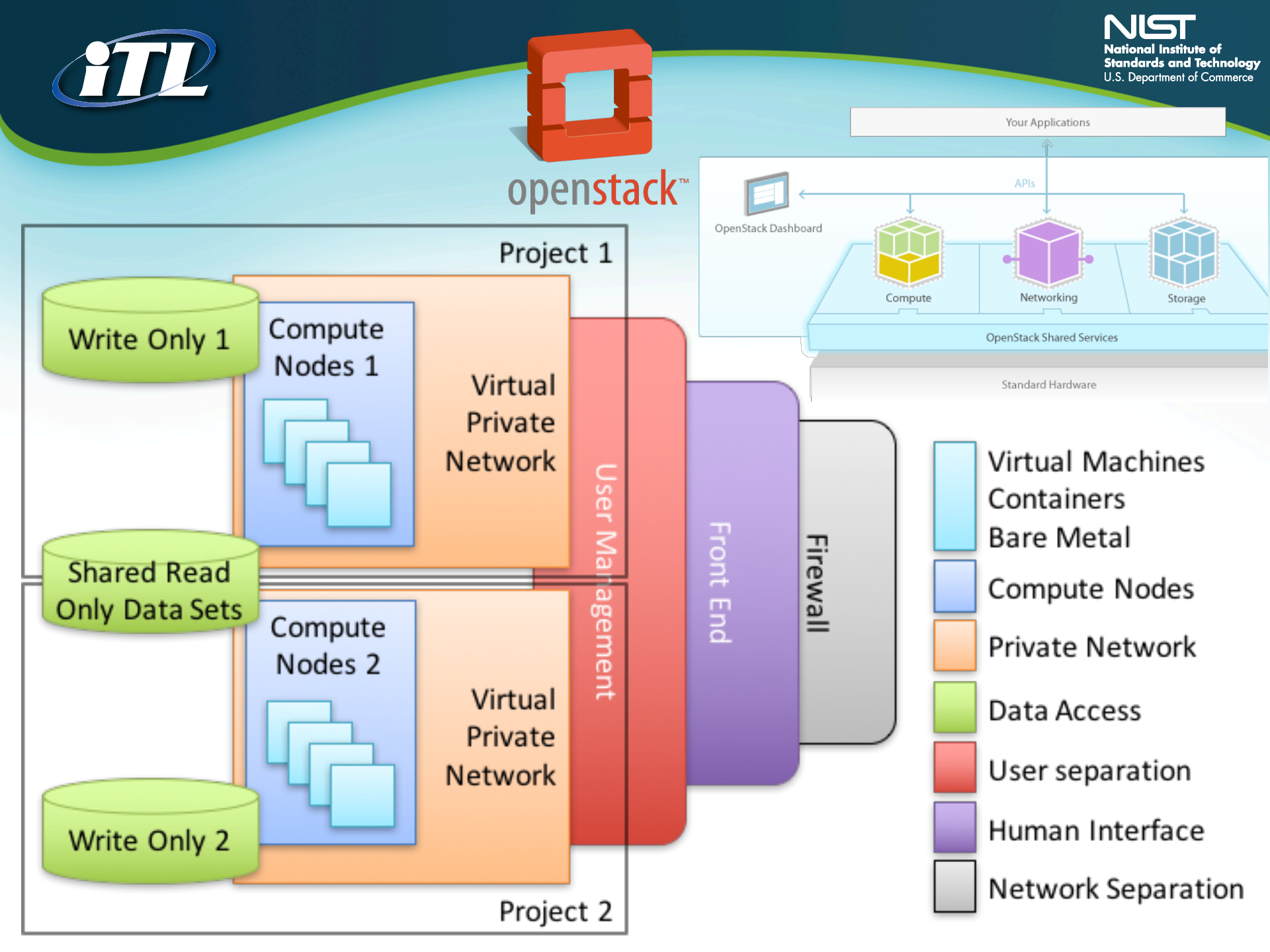
Infrastructure: Data Dissemination, Submission, On-Premise Private Cloud

Martial Michel
Jim Golden
Oleg Aulov

Open Science Big Data Analytic Technology R&D Model ("Bring the experiment to the data")





iTL
openstack™
NIST
National Institute of Standards and Technology
U.S. Department of Commerce
Your Applications
APIs
OpenStack Dashboard
Compute
Networking
Storage
OpenStack Shared Services
Standard Hardware
Project 1
Write Only 1
Compute Nodes 1
Virtual Private Network
Shared Read Only Data Sets
Compute Nodes 2
Virtual Private Network
Write Only 2
Project 2
User Management
Front End
Firewall
Virtual Machines
Containers
Bare Metal
Compute Nodes
Private Network
Data Access
User separation
Human Interface
Network Separation

Discussion

- VM vs Containers vs Bare Metal ?
- Benchmark model ?
- Data access methodology ?
- Compute paradigm ?
- Data reusability if given …
- Tasks to run …

EMS

Nodes:	16
CPU (cores):	32 (496)
HDD:	467.8 TB
RAM:	2.1 TB