



Instrumentation & Measurement in GENI

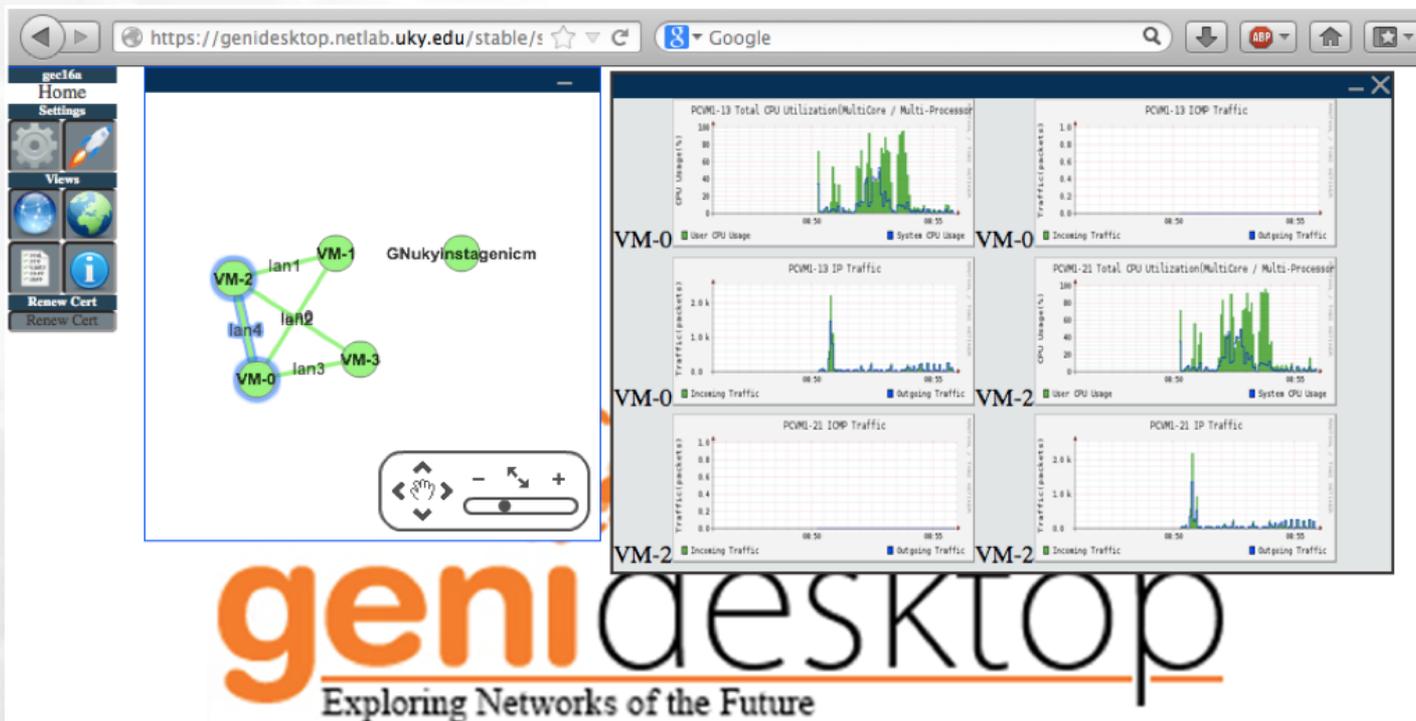
ICDCS
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www.geni.net

- Two major I&M systems being implemented
 - GEMINI (Indiana U. & U. of Kentucky)
 - GIMI (U. of Massachusetts, RENCi, NICTA)
- Support for active and passive measurements
- Repositories for archiving (and searching) for measurement data & meta-data

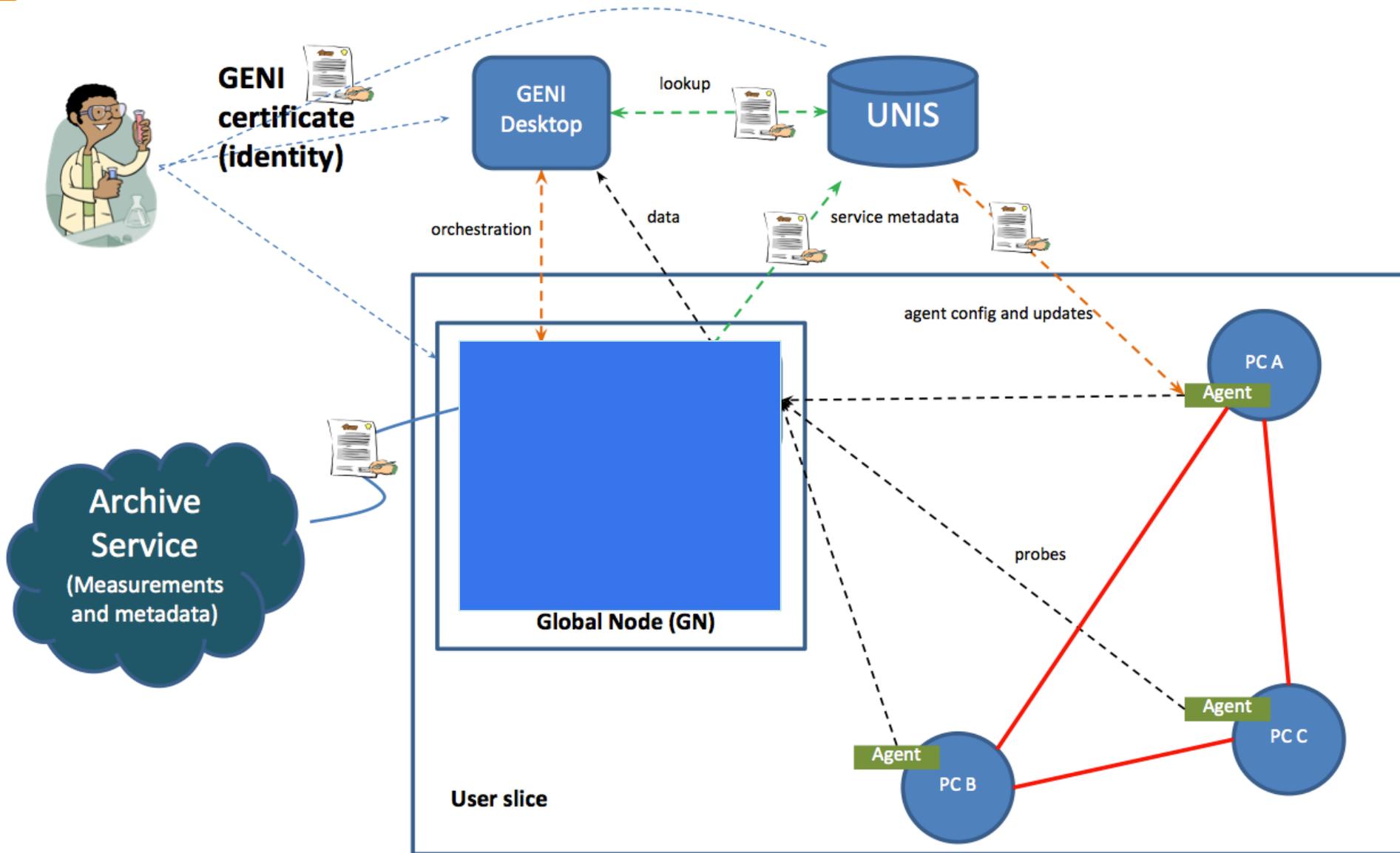
Today we will focus on the GEMINI I&M system.

- Collects host and network measurements on each node in the experiment
 - Measurements to be collected are configurable
- GENI Desktop: Primary interface to GEMINI
 - A web-based tool to configure and view experiments



- When you “instrumentize” your experiment using GEMINI
 - Measurement probes are installed on your nodes
 - A “Global Node” is added to your slice
 - One Global Node per aggregate
 - Collects measurement data from all nodes in the slice
 - Sends measurement data to the GENI Desktop
- A service called “UNIS” is used to store information about your slice
 - Topology, measurement services installed, etc.
 - Not visible to the experimenter (unless it fails ☹)

GEMINI Measurement Architecture



- Use Flack to reserve resources
- Use Flack to add “GEMINI Extensions”
 - Installs GEMINI software on nodes
 - Adds a Global Node
- Go to the GENI Desktop and ask GEMINI to “instrumentize” slice
 - Starts up instrumentation software and data collection
- View instrumentation data
 - Sent to GENI Desktop by Global Node

- Instructions at <http://groups.geni.net/geni/wiki/Tutorials/ICDCS2013/GEMINI/Procedure>