

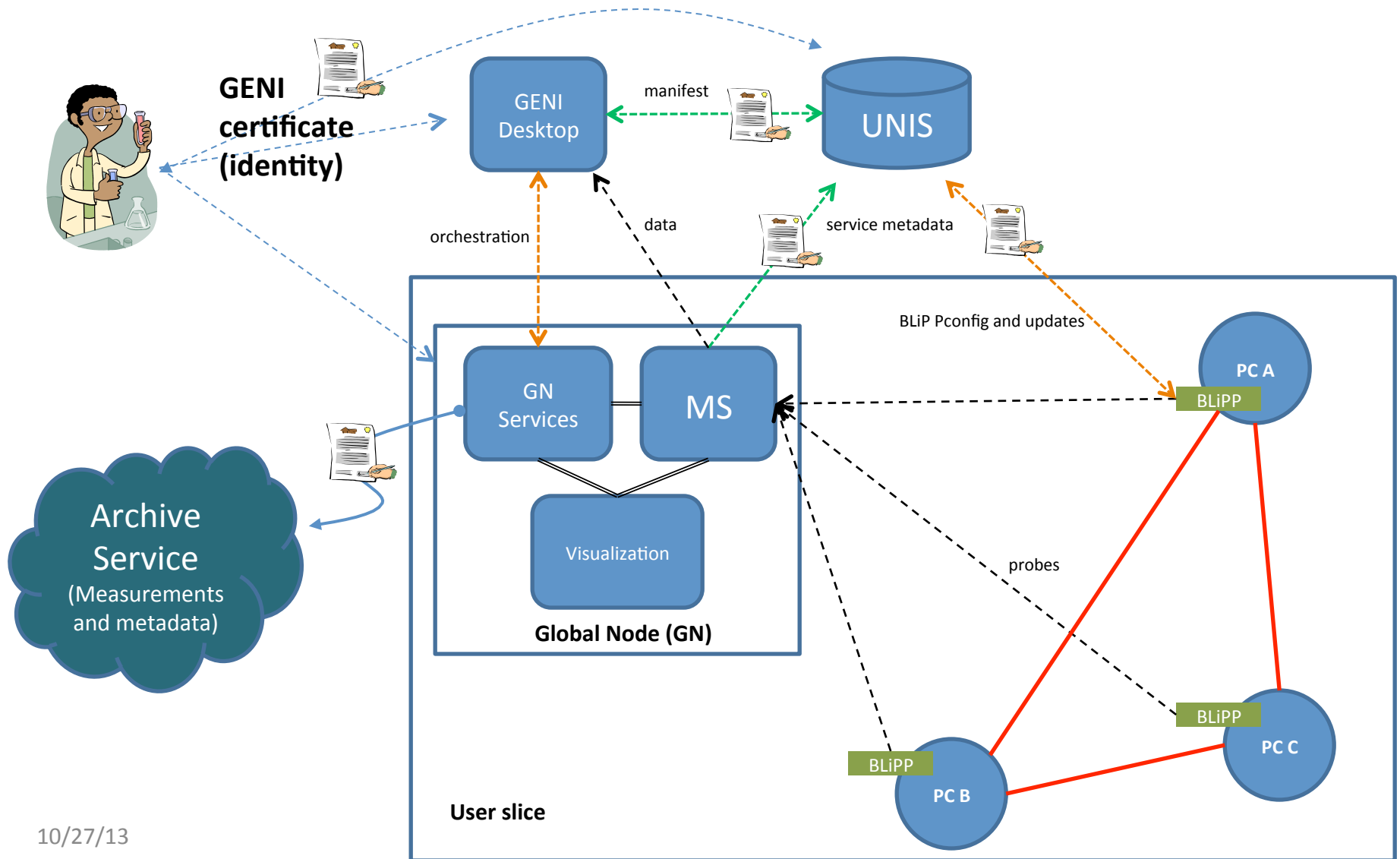
GEMINI Update

GEC18

Measurement components

- Unified Network Information Service (UNIS)
 - Topology and service information plus measurement metadata
 - RESTful implementation, built-in AuthN/AuthZ
- Measurement Store (MS)
 - Stores timestamp-value pairs, validates metadata
 - Configurable data collections
- Measurement collectors
 - Basic Lightweight Periscope Probes (BLiPP)
 - Active and passive measurements
 - Interacts with UNIS and MS
- Configuration and visualization
 - Web-frontends (GUIs), CLIs, etc.
 - Config updates pushed to UNIS, pulled by collectors

GEMINI measurement architecture



Web GUI



- Slice Configuration
- Configuration Status
- Manage Services
- Manage BlIPP
- Schedule Tests
- Schedule BlIPP Test
- Other
- Configuration Help
- Frequently Asked Questions
- About
- Credits

Derived from:

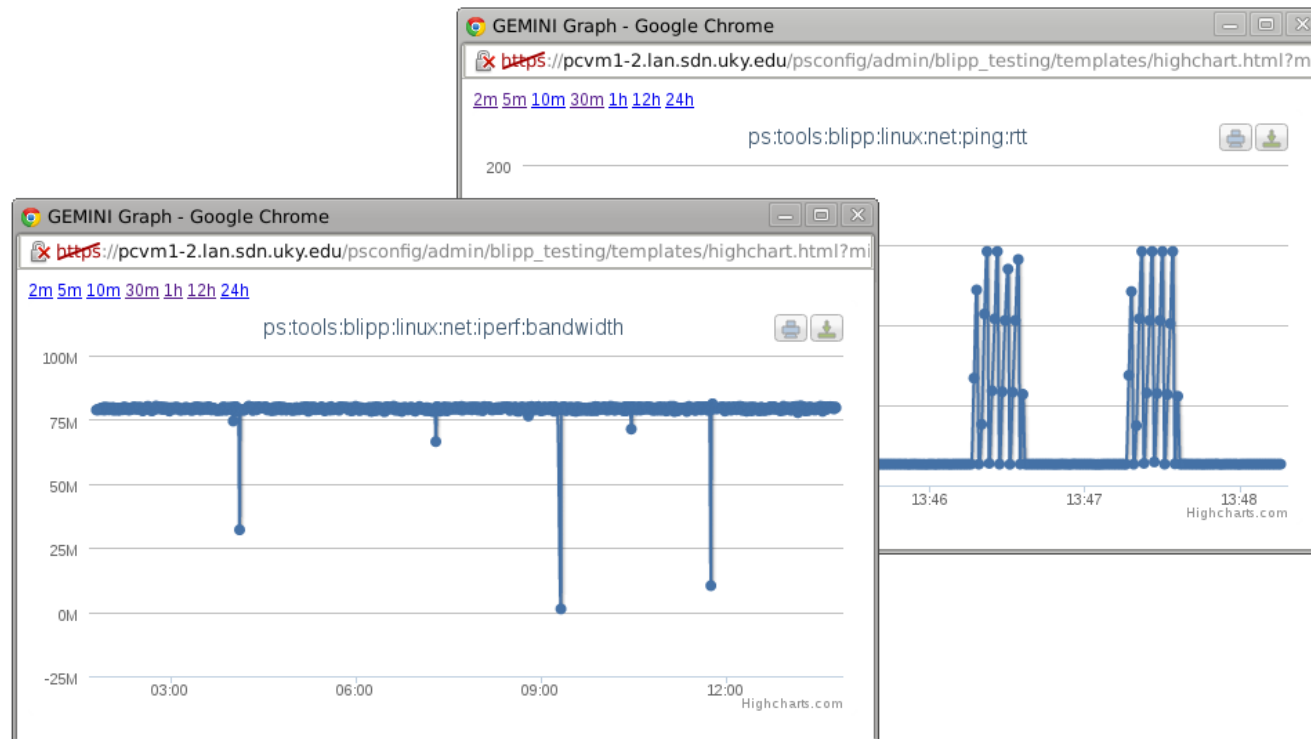


Scheduled Tests Configuration Tool

Node:

Scheduled Tests				
IPERF	phoebus.atla	Modify Remove	<input type="text" value="ps:tools:blipp:linux:net:iperf:bandwidth"/>	Graph
PING	node1	Modify Remove	<input type="text" value="ps:tools:blipp:linux:net:ping:rtt"/>	Graph
PING	ping atla	Modify Remove	<input type="text" value="ps:tools:blipp:linux:net:ping:rtt"/>	Graph

Configuration pulled from UNIS.



Status

- Plan for GEC18 – minimal new functionality; focus on stability and portability
- Active measurement configuration support
 - Extensible script/schema definition in BLiPP
- Active measurement scheduler
 - Measurement set definition
 - Compute non-overlapping measurements
 - Distributed locking
- Successful in pushing intra-slice performance data to the GMOC
 - Planned for eventual integration of intra- and extra-slice performance data
- Application-level monitoring with NetLogger
 - User-defined performance measurements or application events
- Support for graphing arbitrary data with the GENI Desktop
 - One issue with ExoGENI integration

What's next?

- Data access policy (still next)
- GEMINI infrastructure scalability
 - distribution of measurement stores and lookup infrastructure
 - necessary for “large-scale, highly customized, complex experiments”
- Instrumented system calls with NetLogger
 - Straightforward to enable read/write monitoring of socket calls