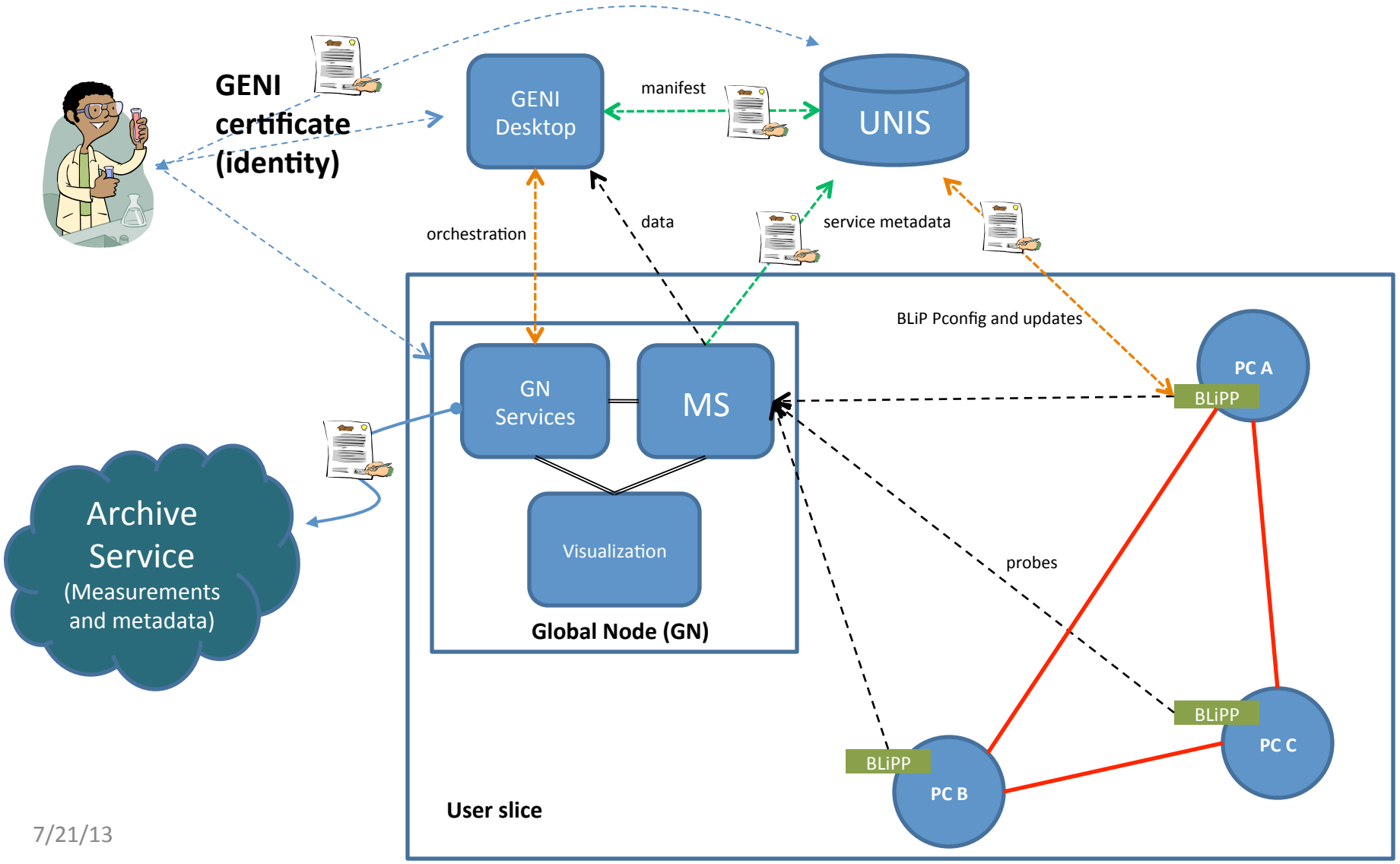
GEMINI Update

GEC17

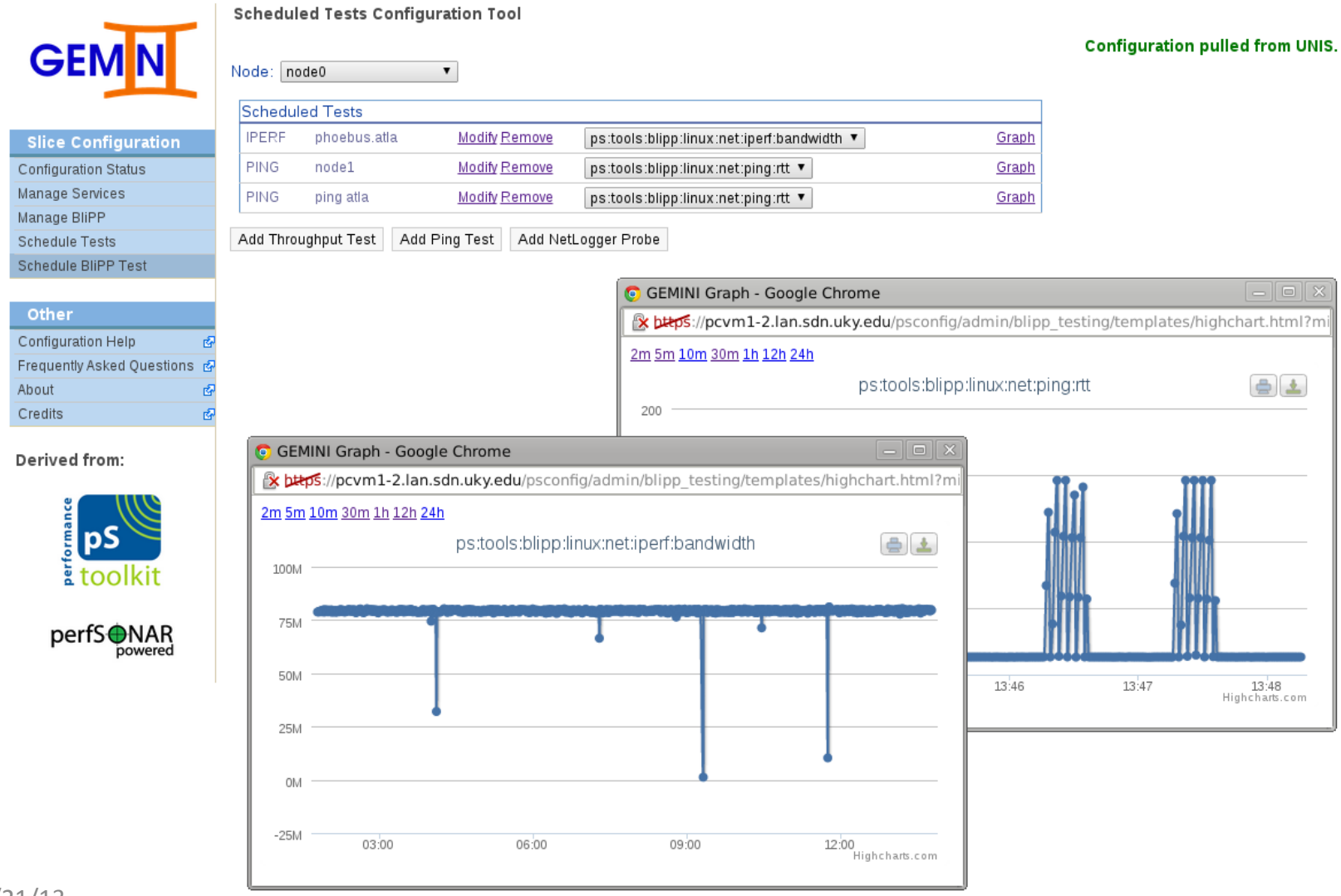
Measurement components

- 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


GEMINI
Slice Configuration
Configuration Status
Manage Services
Manage BliPP
Schedule Tests
Schedule BliPP Test
Other
Configuration Help
Frequently Asked Questions
About
Credits
Derived from:
performance
pS
toolkit
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powered
Scheduled Tests Configuration Tool
Configuration pulled from UNIS.
Node: node0
Scheduled Tests
IPERF phoebus.atla Modify Remove ps:tools:blipp:linux:net:iperf:bandwidth Graph
PING node1 Modify Remove ps:tools:blipp:linux:net:ping:rtt Graph
PING ping atla Modify Remove ps:tools:blipp:linux:net:ping:rtt Graph
Add Throughput Test
Add Ping Test
Add NetLogger Probe
GEMINI Graph - Google Chrome
https://pcvm1-2.lan.sdn.uky.edu/psconfig/admin/blipp_testing/templates/highchart.html?mi
2m 5m 10m 30m 1h 12h 24h
ps:tools:blipp:linux:net:ping:rtt
200
13:46
13:47
13:48
Highcharts.com
GEMINI Graph - Google Chrome
https://pcvm1-2.lan.sdn.uky.edu/psconfig/admin/blipp_testing/templates/highchart.html?mi
2m 5m 10m 30m 1h 12h 24h
ps:tools:blipp:linux:net:iperf:bandwidth
100M
75M
50M
25M
0M
-25M
03:00
06:00
09:00
12:00
Highcharts.com

Status

- Active measurement configuration support
  - Close to extensible script/schema definition in BLiPP
- Ready to push 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
  - Awaiting better integration with the GENI Desktop

What's next?

- Data access policy
- GEMINI infrastructure scalability
  - distribution of measurement stores and lookup infrastructure
  - necessary for "large-scale, highly customized, complex experiments"

- Highlighting:
  - The GENI Desktop
  - Active measurement configuration