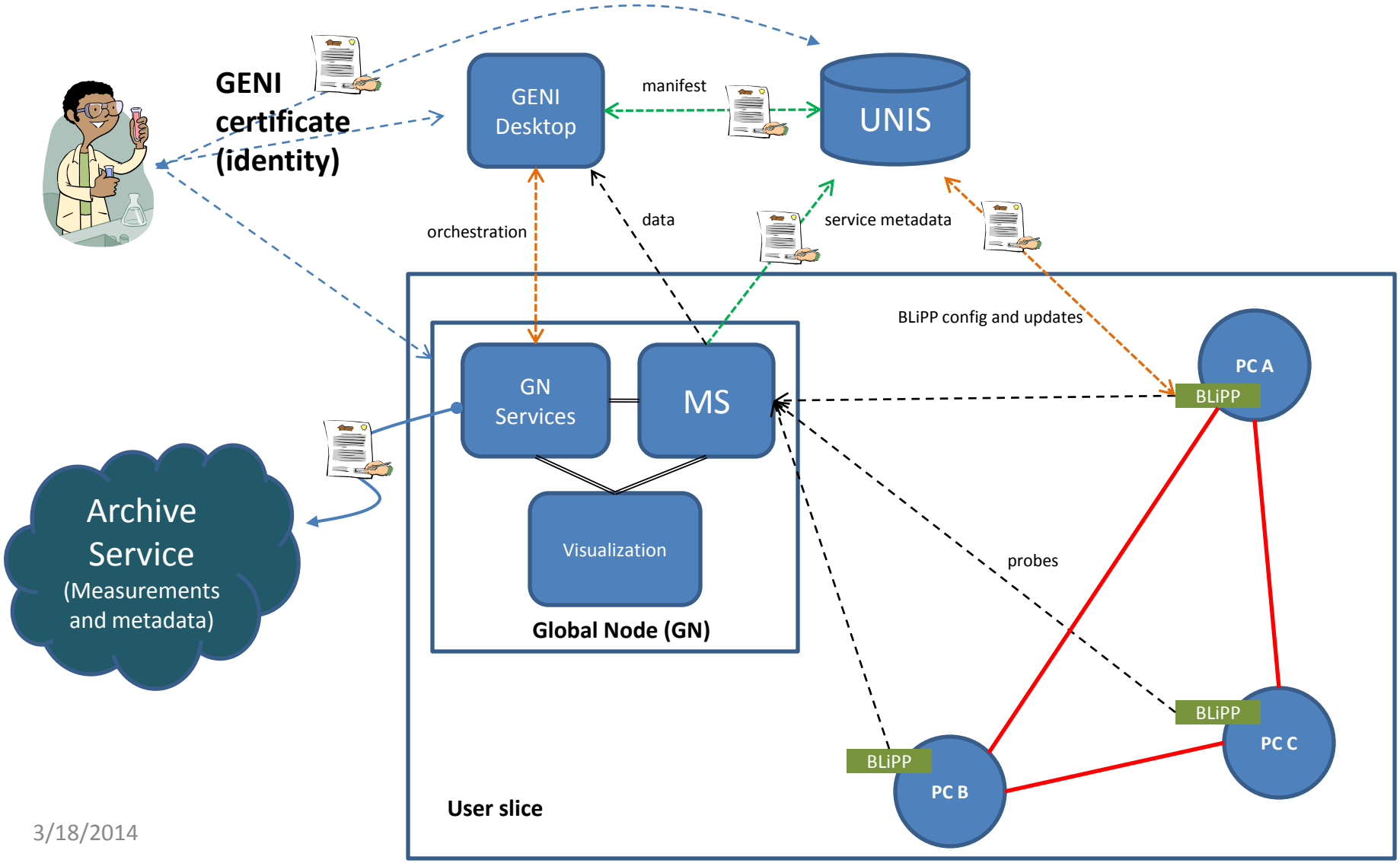
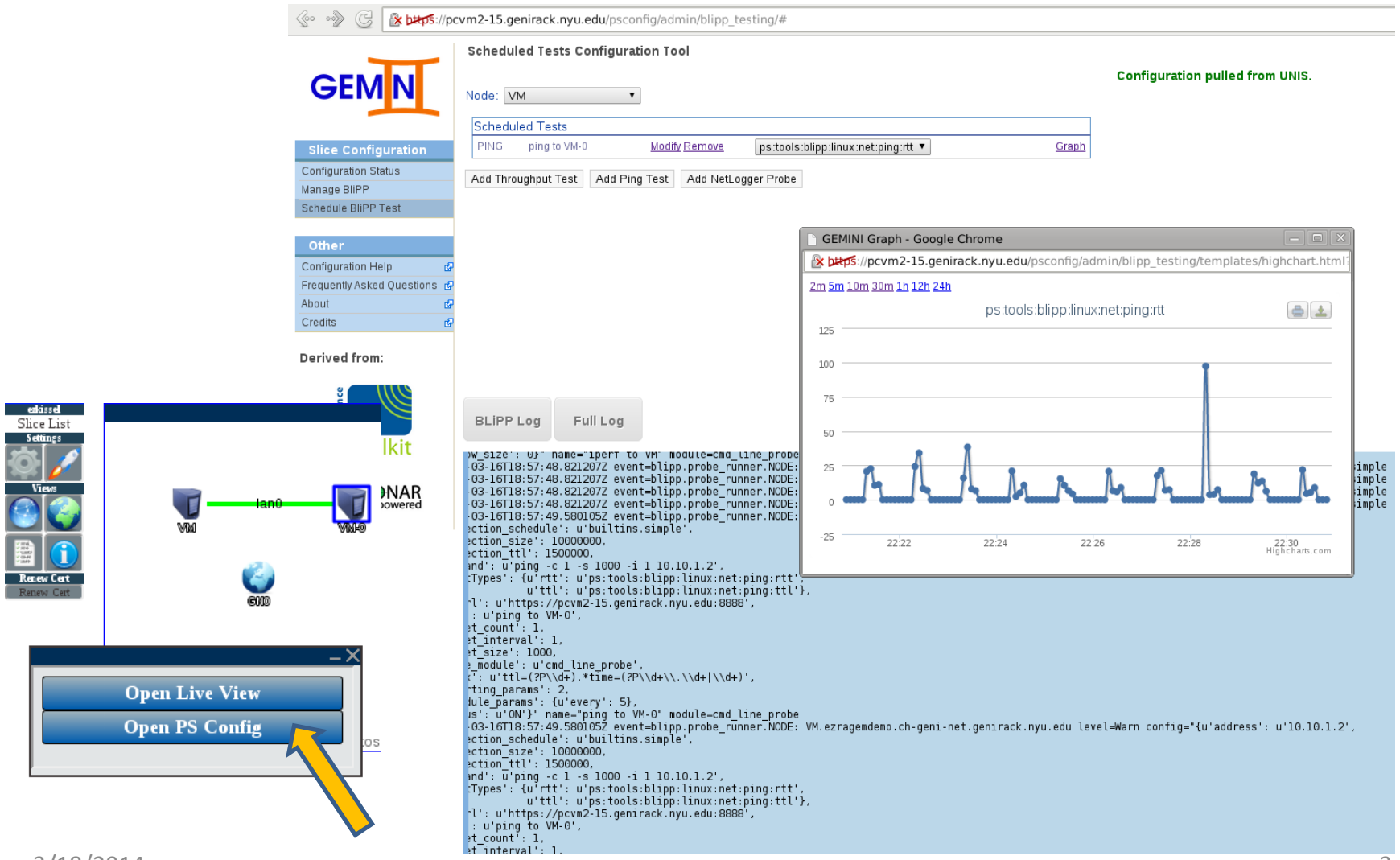
Measurement components

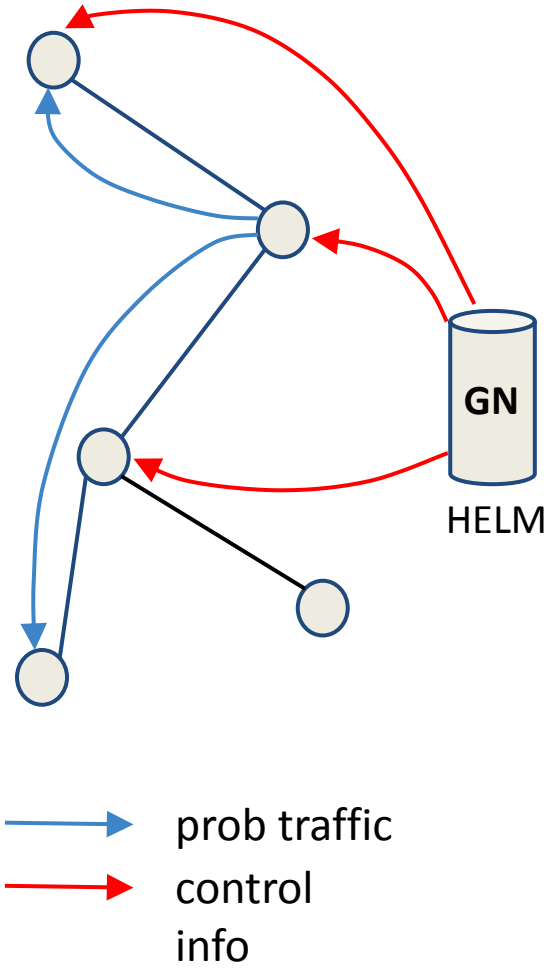
- Unified Network Information Service (UNIS)
  - Topology and service information plus measurement metadata
  - RESTful implementation, built-in AuthN/AuthZ
- Measurement Store (MS)
  - Stores timestamp-value pairs, validates metadata
  - Configurable data collections
- Measurement collectors
  - Basic 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


https://pcvm2-15.genirack.nyu.edu/psconfig/admin/blipp_testing/#
Scheduled Tests Configuration Tool
Configuration pulled from UNIS.
Node: VM
Scheduled Tests
PING ping to VM-0 Modify Remove ps:tools:blipp:linux:net:ping:rtt Graph
Add Throughput Test
Add Ping Test
Add NetLogger Probe
Slice Configuration
Configuration Status
Manage BliPP
Schedule BliPP Test
Other
Configuration Help
Frequently Asked Questions
About
Credits
Derived from:
BLiPP Log
Full Log
GEMINI Graph - Google Chrome
https://pcvm2-15.genirack.nyu.edu/psconfig/admin/blipp_testing/templates/highchart.html?
2m 5m 10m 30m 1h 12h 24h
ps:tools:blipp:linux:net:ping:rtt
125
100
75
50
25
0
-25
22:22
22:24
22:26
22:28
22:30
Highchart.com
Slice List
Settings
Views
Renew Cert
lkit
lan0
VM
VM-0
GW
Open Live View
Open PS Config

BLiPP measurement scheduling

- HELM is at the “helm”: controlling the distributed BLiPP services to run measurements without contention
- HELM discovers all BLiPP services
- BLiPP services run setup probes to find shared resources
  - Provides input into the HELM controller
- A schedule of measurements is advertised to BLiPP that meets the desired goal
  - “full mesh” tests working now
  - Node collections, deterministic time slot scheduling in the works