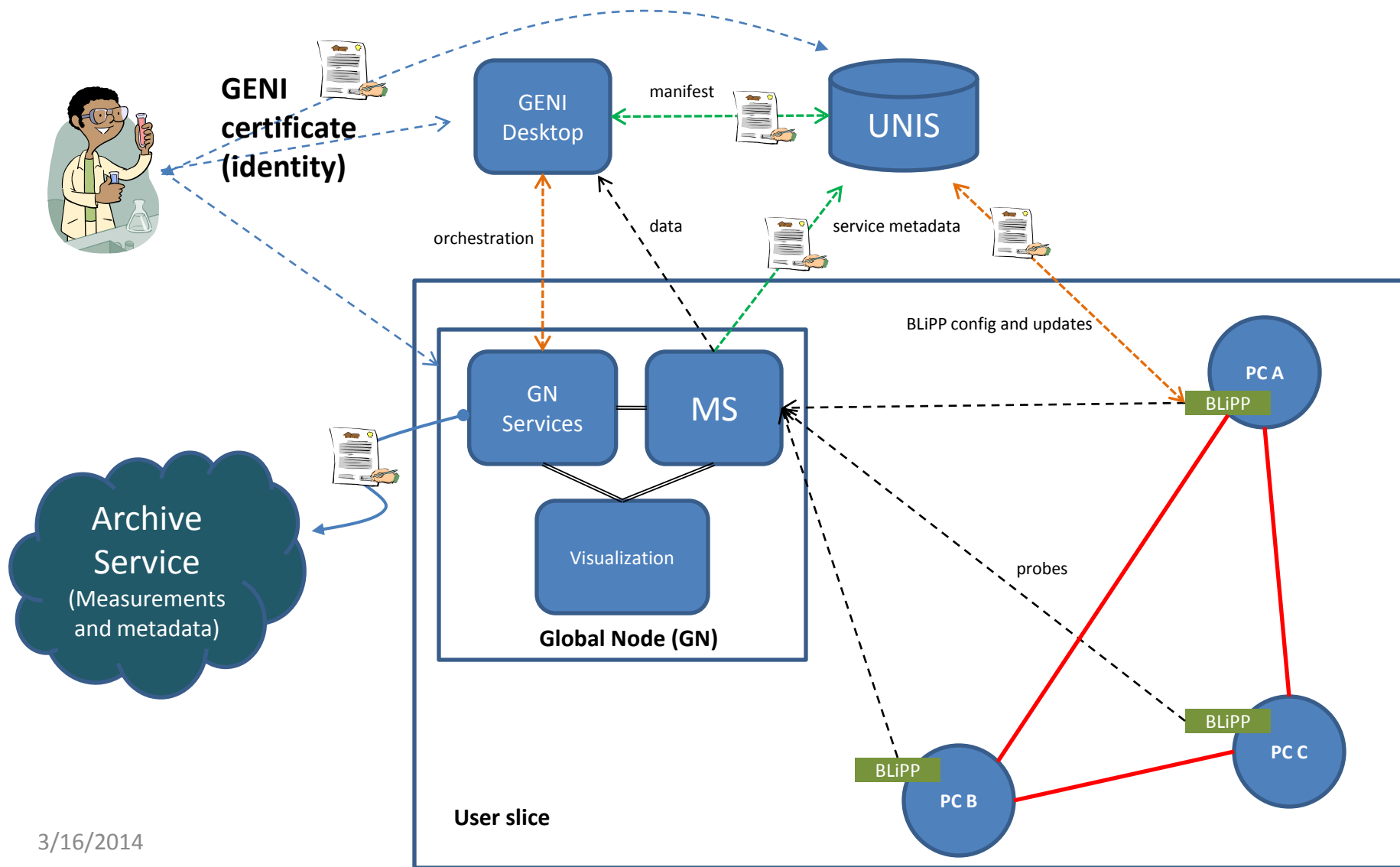

GEMINI I&M Update

GEC19

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

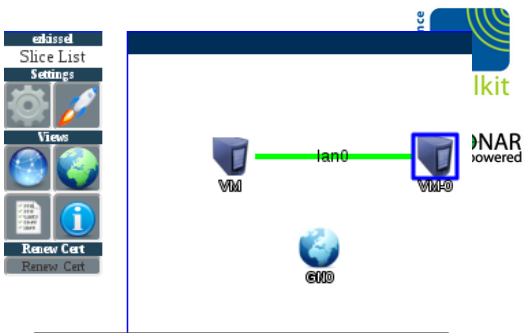
Browser address bar: https://pcvm2-15.genirack.nyu.edu/psconfig/admin/blipp_testing/#



- Slice Configuration**
- Configuration Status
- Manage BLiPP
- Schedule BLiPP Test

- Other**
- Configuration Help
- Frequently Asked Questions
- About
- Credits

Derived from:



Open Live View

Open PS Config

Scheduled Tests Configuration Tool

Node: VM

Scheduled Tests			
PIING	ping to VM-0	Modify	Remove
		ps.tools:blipp:linux:net:ping:rtt	
Graph			

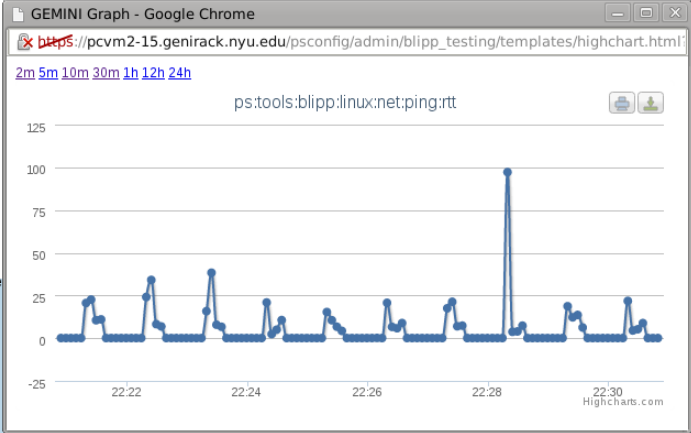
[Add Throughput Test](#)
[Add Ping Test](#)
[Add NetLogger Probe](#)

Configuration pulled from UNIS.

BLiPP Log Full Log

```

jw size': 'U' name='lbert to VM' module='cmd_line_probe
03-16T18:57:48.821207Z event-blipp.probe_runner.NODE:
03-16T18:57:48.821207Z event-blipp.probe_runner.NODE:
03-16T18:57:48.821207Z event-blipp.probe_runner.NODE:
03-16T18:57:48.821207Z event-blipp.probe_runner.NODE:
03-16T18:57:49.580105Z event-blipp.probe_runner.NODE:
03-16T18:57:49.580105Z event-blipp.probe_runner.NODE:
action_schedule': 'u'builtins.simple',
action_size': 1000000,
action_ttl': 1500000,
cmd': 'u'ping -c 1 -s 1000 -i 1 10.10.1.2',
:Types': {'u'rtt': 'u'ps:tools:blipp:linux:net:ping:rtt',
          'u'ttl': 'u'ps:tools:blipp:linux:net:ping:tll'},
-l': 'u'https://pcvm2-15.genirack.nyu.edu:8888',
: 'u'ping to VM-0',
rt_count': 1,
rt_interval': 1,
rt_size': 1000,
module': 'u'cmd_line_probe',
: 'u'ttl=(?P\\d+).*time=(?P\\d+\\.\\d+|\\d+)',
ting_params': {'u'every': 5},
is': 'u'ON' name='ping to VM-0' module='cmd_line_probe
03-16T18:57:49.580105Z event-blipp.probe_runner.NODE: VM.ezragememo.ch-geni-net.genirack.nyu.edu level=Warn config="{u'address': u'10.10.1.2',
action_schedule': 'u'builtins.simple',
action_size': 1000000,
action_ttl': 1500000,
cmd': 'u'ping -c 1 -s 1000 -i 1 10.10.1.2',
:Types': {'u'rtt': 'u'ps:tools:blipp:linux:net:ping:rtt',
          'u'ttl': 'u'ps:tools:blipp:linux:net:ping:tll'},
-l': 'u'https://pcvm2-15.genirack.nyu.edu:8888',
: 'u'ping to VM-0',
rt_count': 1,
rt_interval': 1.
                    
```



ps.tools:blipp:linux:net:ping:rtt

GEC19 Status

- Active probe console on the webGUI (BLiPP)
- NetLogger-Calipers wrapper
 - Instrument existing network and I/O applications
- Active measurement scheduler
 - Measurement set definition
 - Compute non-overlapping measurements
- Common I&M image
 - Need a little more support from aggregates
- Bug fixes and stability testing

Next steps

- Finish up integration with GeniDesktop
- GEMINI infrastructure scalability (still next)
 - Distribution of measurement stores and lookup infrastructure
 - Necessary for “large-scale, highly customized, complex experiments”
- Documentation of existing components
 - Make available standalone services for broader, customized use