

# **GENI: Slivers and Slices in a Diverse, Outdoor, Mobile Network Environment (DOME) Testbed**

## **Milestones 1e, 1f, 1g, 1h, 1i and 1j Completion Status**

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Project Number 1599  
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### **Summary**

The purpose of this document is to summarize the status of DOME's fiscal year-end milestones and mark the completion of Year 1.

### **Milestones**

**Milestone 1e:** Implement, integrate and document a first release (v1.0) of the software for your mobile nodes (bricks), your centralized server, and web-based experiment control software, to provide basic virtualization and experiment control functions, including ORCA GENI-compliant control framework. (12mo)

**Milestone 1f:** Demo basic virtualization and experiment control functions in your testbed, and at a GEC. (12mo)

**Milestone 1g:** Contingent upon available budget, provide a VLAN connection from your testbed's server to the Internet2 backbone network. (12mo)

**Milestone 1h:** Collaborate with O&M team on methods to share your O&M data with other GENI groups for Spiral 1. (1-12mo)

**Milestone 1i:** Collaborate with Security team on security design for Spiral 1. (1-12mo)

**Milestone 1j:** Specific contribution to GENI outreach plan required for Spiral 1: Host an "NSF Research Experience for Undergraduates Site". (1-12mo)

### **Milestone 1e: Implement, integrate and document a first release**

This has been completed. The GENI DOME implementation has been installed on all buses. The DOME Portal is up and available at:

<http://geni.cs.umass.edu/dome>

The documentation for DOME is available at:

<http://geni.cs.umass.edu/dome/docs.php>

Specifically, the primary documentation is available at:

<http://geni.cs.umass.edu/dome/docs/DOME-Manual.pdf>

Software, including examples. can be found at:

<http://geni.cs.umass.edu/dome/software.php>

We have completed the Year 1 development and documentation of DOME. We will announce the availability of DOME to the GENI community before the end of the month.

### **Milestone 1f: Demo basic virtualization and experiment control**

This has been completed. DOME demonstrated its virtualization and control functions, including integration with ORCA, at GEC5. Another demo is likely at GEC6.

### **Milestone 1g: Contingent ... provide a VLAN connection**

Completed. Though we did not have specific funding for a VLAN connection, we have accomplished the following:

- The UMass DOME and ViSE projects have collectively worked with the UMass Office of Information Technology (OIT). We have agreed to a high-level plan to get an Internet2 VLAN to our server in the Computer Science department.
- We have an MOU with OIT for the installation of an Internet2/VLAN.
- OIT is actively working on the details to connect our server to Internet2.
- We have worked with the GPO to define specific Internet2/VLAN deliverables for Year 2.

### **Milestone 1h: Collaborate with O&M team on methods to share ...**

Done. We have provided all information requested of us to the O&M team. We have made the DOME ORCA controller and handler available to our cluster, and we provided the O&M team early access to the DOME portal.

### **Milestone 1i: Collaborate with Security team on security design**

Completed, though not specifically as written. Year 1 evolved such that the focus was on cluster-related discussions and designs. We fully participated in those discussions.

### **Milestone 1j: Specific contribution to GENI outreach**

Done. We hired an undergraduate student in the previous school year to work on the buses and develop software to provide usage statistics on the bus's the 3G modem. This software is deployed on the GENI version of DOME. We have rehired the undergraduate to develop a DOME GENI-based experiment.