

NMI Integration Testbed Annual Report

September 1, 2001 - August 31, 2002

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The NMI Integration Testbed is included as part of the NSF Middleware Initiative (NMI, <http://www.nsf-middleware.org>) to provide evaluation of released NMI middleware components as they are integrated within actual projects and real life conditions. SURA is developing and managing the NMI Integration Testbed as a sub-award through UCAID to NSF Cooperative Agreement ANI-0123937, "Supporting Research and Collaboration through Integrated Middleware".

An interim project report was requested by the NSF and submitted by SURA through UCAID in June 2002. In addition, all Testbed sites submitted performance reports to SURA as part of their contracts. This annual report combines information summarized from the interim report, the site reports, and Testbed activities from July & August 2002 to serve as the annual performance report for 2001-2002.

Communication and Coordination

Just prior to the start of the NMI in September 2001, the NMI Testbed Manager began active participation in NMI communications. The foci of these activities are to further the planning and development of the NMI Integration Testbed and also to work collaboratively on broader NMI objectives as part of the NMI Management team (includes PIs from NMI GRIDS, <http://www.grids-center.org>, and NMI-EDIT, <http://www.nmi-edit.org>). Participation from September 2001 through June 2002 included weekly NMI management meetings, NMI-EDIT meetings every other week, a NSF external review, and group presentations at key conferences. The Testbed became active in June 2002 and participation then expanded to include:

- Testbed Council meetings every other week;
(Note: the Testbed Council is a sub-set of the NMI management team, with specific interest in coordinating with the Testbed)
- A Testbed Kickoff meeting (in-person, at GSU June 10 - 12);
- Monthly Testbed site meetings (via teleconference);
- Ongoing Testbed administration via a project listserv and Web site;
- Development and maintenance of the Testbed section of the NMI public Web site (<http://www.nsf-middleware.org/testbed>).

In addition, SURA has formed a NMI Advisory group consisting of SURA member institution CIOs with interest and expertise in middleware. This group provides ongoing consultative support for the NMI Testbed Manager.

In a presentation at the annual EDUCAUSE conference in October 2002, it was stated that, in addition to the NSF and the NMI Management team, directions for the NMI are set by the Internet2 Network Planning and Policy Advisory Council, PKI and Directory Technical Advisory Boards, and Internet2 members. With SURA members present on all of the named Councils and Boards and SURA membership comprising 46 of the approximately 200 Internet2 members, SURA is well invested in and committed to the growth and success of the NMI.

Formation and Structure of the NMI Integration Testbed

The NMI Integration Testbed includes four sponsored (funded) and four unsponsored testbed sites that were selected through the same competitive Call for Participation (http://www.sura.org/info_tech/testbedcfp.pdf) and subsequent review process. Only SURA member institutions were eligible for the sponsored category. The CFP was announced on February 1, 2002, the review process was completed March 29, 2002, and contracts were signed with all sites over the period of April - July 2002. Sites include:

Sponsored Sites -

University of Alabama at Birmingham, University of Florida, Texas Advanced Computing Consortium (University of Texas at Austin), University of Virginia

Unsponsored Sites -

University of Alabama in Huntsville, Florida State University, Georgia State University, University of Michigan

The CFP was open to any qualified institution and responses were evaluated by a review panel that included members of the NMI EDIT and GRIDS teams, a SURA IT Committee representative, and a representative from the NSF. This ensured a level of objectivity that may not have been possible had sites simply been "appointed" by the NMI management team or other stakeholders.

As intended, the combined middleware expertise and readiness of the selected sites enabled immediate evaluation for all components in the first NMI release. As the NMI progresses, efforts will be made to expand both the breadth and depth of capability at each participating site.

The Call for Participation also served to more tightly couple the work of the GRIDS and EDIT project teams. The "integration testbed" concept was originally proposed by the EDIT team but the development of the final description and related CFP evolved to become a collaborative activity. This caused some delay in bringing up the Testbed but resulted in a program that will be of substantially greater value to the NMI overall.

Testbed Site Activity Summary

The period of activity for Testbed sites within the first project year is officially from the signing of their contract with SURA (between April - July 2002, varies with each site) through 8/31/02. It is commendable on the part of all sites that they were willing to extend their own resources to begin working within the Testbed following the Testbed Kickoff meeting in June, before contract negotiations were complete.

Within this reporting period, Testbed sites have participated in:

- Evaluation of NMI Release 1 (the only release that occurred during the reporting period);
- Communication and coordination within the Testbed and with the Testbed Manager;
- Collaboration with the NMI Outreach program;
- "Evangelizing" middleware and the importance of the NMI at their own institutions.

Additional detail on Testbed activity is available in Testbed Site Summary report, available in the Status section of the NMI Testbed Web site.

Plans for the coming year

During Year 2 the NMI Integration Testbed will continue to evaluate all released NMI middleware components while expanding emphasis on documenting and disseminating the valuable lessons being learned. The NMI Testbed Manager together with the Testbed sites will actively seek ways to increase the set of "real life" projects that are committed to working with the NMI to integrate applicable components and provide input. This includes expansion of the Testbed within the constraints of current funding and the pursuit of additional funding.

The following related activities are already underway:

- The Testbed will conduct its first workshop to directly disseminate Testbed results to the broader community. This workshop is tentatively being planned to proceed the Internet2 Members' meeting in Washington DC in early April.
- SURA is planning to collaborate with Testbed participants and other NMI team members to develop "cookbook" style workshops that will teach deployment of the most ready and commonly useful NMI components. This is in conjunction with SURA's existing PACS agreement and will allow these programs to leverage combined resources and address overlapping objectives. The anticipated availability of the first workshop is summer 2003.
- Additional intra-testbed activities are being established to encourage mutual learning among Testbed sites and provide an extended means of technical support. Activities thus far include the creation of a "testbed tech" listserv and early planning towards development of an intra-testbed grid.
- The NMI Testbed Manager is investigating the NSF REU (Research Experiences for Undergraduates) as a possible means of involving students in the Testbed, providing those students with valuable experience and exposure to middleware integration while supplementing the resources available at Testbed sites.
- A preliminary concept for scaleable Testbed expansion has been developed in collaboration with Ann West, lead for NMI-EDIT Outreach. This builds upon the existing methods and model of the core Testbed but would extend that to the development of "community testbeds". Community testbeds would be organized around application specialties or organizational characteristics, e.g., a Coastal Sciences community testbed, a Small Colleges community testbed. Qualified community testbed leads would commit to following NMI evaluation processes and representing any special needs of their community. The NMI Testbed Program Manager would interact with community testbed leads to coordinate evaluation and reporting processes and ensure that the whole of the activity supports broad NMI objectives. This Testbed expansion concept will be further vetted within the NMI team and at SURA for possible inclusion in proposals to extend the existing Cooperative Agreement.