

# SURA-PACS NMI Implementation Workshop: Deploying Directory Services & Directory-enabled Applications

## Course Description August 2003

This course provides guided instruction for using NMI (NSF Middleware Initiative) middleware components to enable the actualization of enterprise directory services and directory-enabled applications.

A comprehensive view of the deployment process is emphasized, covering necessary technical and administrative steps for implementation at an institutional level. Participants will work together with select NMI components and supplementary materials to follow the development of an enterprise directory service and exercise related applications for a hypothetical institution. Through this process, participants will gain experience with the most critical decision points and key tools for establishing these services at their own institutions.

The course includes an in-person workshop (Day One: 8 a.m. – 5 p.m., Day Two: 8 a.m. - 12 p.m.) and instructor-guided review of key materials and concepts via electronic discussion list before and after the in-person workshop.

NMI components that will be discussed include:

- Enterprise Directory Implementation Roadmap, <http://www.nmi-edit.org/roadmap/directories.html>
- LDAP Recipe, <http://www.georgetown.edu/gia/internet2/ldap-recipe>
- eduPerson, <http://www.educause.edu/eduperson/>
- Metadirectory Practices for Enterprise Directories in Higher Education, <http://middleware.internet2.edu/dir/metadirectories/internet2-mace-dir-metadirectories-practices-200210.htm>
- Practices in Directory Groups, <http://middleware.internet2.edu/dir/groups/internet2-mace-dir-groups-best-practices-200210.htm>
- LDAP Analyzer, <http://ldap.mtu.edu/internet2/analyzer/index.shtml>

It is strongly recommended that workshop participants familiarize themselves with these components prior to the workshop via the links above. Additional information and background on enterprise middleware is available via the NMI-EDIT Web site, <http://www.nmi-edit.org>.

**Note:**

The components above represent concepts and architecture that are intended to be broadly applicable to enterprise directory structure and applications as used within the higher education and research community. However, many examples, tools, and implementations based on these components and used within this workshop reflect their development by research universities using various operating systems and applications.

*Who should attend?*

This course is designed for small group instruction with a maximum class size of 20 - 25 attendees. Individual attendees will represent their institution's interests in developing and deploying enterprise directory services and related applications. For any given institution, it is strongly recommended that both administrative (IT policy/project management) and technical (IT architect/implementer) viewpoints be represented. This may require participation from two individuals or it may be one individual representing both perspectives if that applies.

This workshop is focused on practical deployment. Attendees will gain the most from participation if they are from an institution that:

- Believes there is value in creating an enterprise directory and deploying applications and services that use it, and has the backing of their institutional hierarchy to begin.
- Anticipates beginning implementation immediately or very soon after the course and will allocate time over the next 6 - 9 months to complete the process.
- Have identified drivers for a successful deployment.

### *Instructional Overview*

#### 1) Pre-course communication:

In the two weeks preceding the in-person workshop, the course instructor(s) will communicate with participants via an electronic discussion list to: a) welcome and introduce participants; b) introduce and review course materials, including the "Enterprise Directory Implementation Roadmap", and highlight resources or portions of resources of particular interest; c) encourage participants to reflect on their approach and status of directory services implementation going into the workshop.

#### 2) In-person workshop:

##### Section I: The Directory Scenario - Review of Project Planning, Preparation & Requirements

"Howeer University" has been designed as a hypothetical university environment to highlight the most important and challenging aspects of enterprise directory service and directory-enabled application development. Workshop attendees, working in collaborative teams representing various stakeholders in this institution's implementation, will familiarize themselves with the conditions and objectives presented and will review aspects related to an enterprise directory business case, project plan, and resource requirements.

##### Section II: Process Overview & the NMI Enterprise Directory Implementation Roadmap

The overall process for an enterprise directory implementation will be reviewed including introduction of the NMI Enterprise Directory Implementation Roadmap, "a series of steps and related documents campuses can use to assist them in building enterprise directory services." Participants will discuss and develop an overall implementation timeline that could apply to Howeer

University and serve as a background for subsequent workshop activities.

#### Section III: Directory Architecture Design & Initial Policy Development

Workshop participants will inventory campus identifiers and design an enterprise identifier strategy. Directory services components will be reviewed and an overall architecture will be modeled. The LDAP Recipe, eduPerson objectclass schema and other middleware components will be used to highlight concepts of meta-data, groups and inter-institutional interoperability of enterprise directories. An immediately useful and extensible enterprise directory architecture will be developed for use at Howeer U. Policy issues related to the enterprise directory will be presented along with a model for policy development and approval processes.

#### Section IV: Data Flow & Business Process Review

Goals and objectives for various directory-enabled applications will be explored and a timeline developed for implementing these applications. The timeline will consider business processes, data flow architecture, technical challenges, and related policy impacts on the business processes. Sample directory-enabled applications that would be useful for Howeer U. will be demonstrated.

#### Section V: Enterprise Directory & Applications Implementation & Deployment

Participants will define implementation tasks and develop a prototype enterprise directory for Howeer U. Participants will be introduced to tools and techniques for verifying the structure and performance of a directory. Topics for the communication plan related to implementation, rollout and operation will be reviewed.

### 3) Follow-up discussion:

Following the in-person workshop, the course instructor(s) will discuss with participants what has been learned and how this can be applied to specific situations at their institutions. Participants will be encouraged to re-examine those NMI directory components that are most applicable to their institution's stage of deployment and to share their experience with workshop participants.