The Definition of NPAC Deliveries

The overall Intranet architecture will be built around Oracle 8i, XML and Java to satisfy requirements defined in paragraph 2.4 (SOW).

- Oracle 8i database which is the next major version of Oracle database with improved performance, salability, manageability and large objects Oracle 8i adds extensive support for Java (Oracle JServer is an JVM component of Oracle8i), XML and SQLJ.
- JDBC object oriented API for database access in Java. (support for dynamic SQL)
- SQLJ for database stored procedures. (static SQL)
- Oracle Application Server, Apache secure server or Java Web Server with Servlet support.
- XML emerging technology for content modeling and as a building block for creating middle-tier server XML will the heart of the whole architecture.
- 3-tier web-database access model:
  - Client will exchange XML metadata with XML Application server. XML will be parsed into an appropriate User Interface on the client side.
  - XML Application Server (middle tier) accepts XML requests from a client and sends XML replies back to the client. XML Application Server can reside within the database. Application Server parses incoming XML requests, constructs SQL queries, executes JDBC calls to access data. XML requests can be converted into SQL, PL/SQL or Java Stored Procedure calls.
  - Oracle8i will store Java and PL/SQL procedures, data, and XML metadata. Data will be stored in XML or converted to XML before rendered into User Interface.

Deliverables and milestones from NPAC's perspective
(dates assume beginning of the project: 06/01/99)

1. First 2 weeks after starting the project:
   - Building majordomo email lists of technical contacts including all participating organizations (ARL, ASC, NCSA, NPAC)
   - Framework for Project web server
   - YuPing :participation in Oracle conference for developers iDevelope'99 (June 22-23)
     (new perspective on JServer, XML, SQLJ, iFS,...)
2. End for June 1999
   - Installation and testing of Oracle 8i in Solaris environment on Sun Ultra 450 in NPAC.
3. End of July 1999
   - Installation end testing of Oracle Application Server and Apache server. Prototyping the JDBC interface between the Application server and the database
3. End of August 1999 (end of the third month of the project)
   - Design of database architecture, tables, Java Stored Procedures and initial XML specification of the database contents for Document Repository, Email Repository and Project Development. Demo.
4. End of September 1999

- Installation of the Oracle environment in the final location (NCSA) on 2 computers

5. End of November 1999
   - Pilot implementation of Document Repository, Email Repository and Project Development in Oracle8i/XML environment.
6. End of December 1999
   - Integration of existing systems.
     Training Management System (NPAC)
     Alliance Intranet (NCSA)
     Project Submittal System (ARL)
7. End of January
   - Revalidation of the whole architecture in the context of emerging technologies (Oracle JServer, XSL, etc.)
7. End of February 2000
   - Final implementation of Project Development Database (tables, JDBC interface, stored procedure, UI XML metadata provided by NCSA) to store proposals,SOWs, activity reports, status reports, trip reports, budget, deliverables status.
8. End of June 2000
   - Full integration of Interface (NCSA), Calendar (NCSA) and Security (NCSA) with the XML Application Server and the database backend.
9. End of July 2000
   - Final implementation of Document Repository and Email Repository.
   - Full backup and recovery system.
10. End of August 2000
   - Testing.
   - Performance improvements.
   - User and administration manuals.

This plan does not include components scheduled to be developed by NCSA. (User Interface, Security, Calendar, Status Report Generation)