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Technical Approach

1.0 Introduction. Using our proven technical approach to delivering solutions for High Performance Computing (HPC), Logicon will implement a secure Information Environment (IE) Web portal. Logicon will build upon the existing IE concepts using our experience in software development, systems engineering, and security analysis.

Our design incorporates a Web portal tied to a security server and supported by a centralized database, as shown in Figure 1-1. The IE Toolset will be developed to facilitate a simplified view into this common database. This common database will be periodically fed by the various processing resources within each of the MSRCs. By proposing an existing ORACLE database at NAVO maintained by Logicon, the IE effort will benefit by reducing cost and overall risk. The initial design will utilize the NRL standard Kerberos ticketing system to authenticate the researchers to the database and any associated systems. The security components, authentication, and access control will eliminate any complexities associated with logging into various heterogeneous systems while at the same time ensuring strong security. The user interface and security components are designed to enable the seamless deployment of a fully functioning PKI in the future.

This section describes our conceptual and logical architectures, the technical benefits of our solutions, our security design approach, our implementation process, and our technical risk management approach.

1.1. IE Solution Conceptual Architecture. The conceptual architecture proposed by Logicon can be viewed in Figure 1-1. At the heart of the architecture is the Information Environment Data Architecture (IEDA). The IEDA provides a centralized relational database wherein the site-specific data for each MSRC is uploaded and stored. Each MSRC provides an initial LOAD of

data to seed the IEDA. During MSRC operations, operational data such as utilization and queue status data is captured by the sites and made available as UPDATEs to the IEDA on a periodic basis. These operational data are available for display as reports to the distributed user community via their Web browsers. The report displays are generated by the five IE tools (Allocation/Utilization Reporting, Queue/Process Status, Allocation Matchmaker/Exchange, User Fill-In, and Account Application Management). These tools are Web applications that provide the business logic for interaction with the user, interfacing with the IEDA for data and subsequent presentation on the user's Web browser. For those tools that capture user input, namely Allocation Matchmaker/Exchange, User Fill-In, and Account Application Management, HTML forms containing user-entered data will be posted to the tool that will then use the data to update the IEDA.

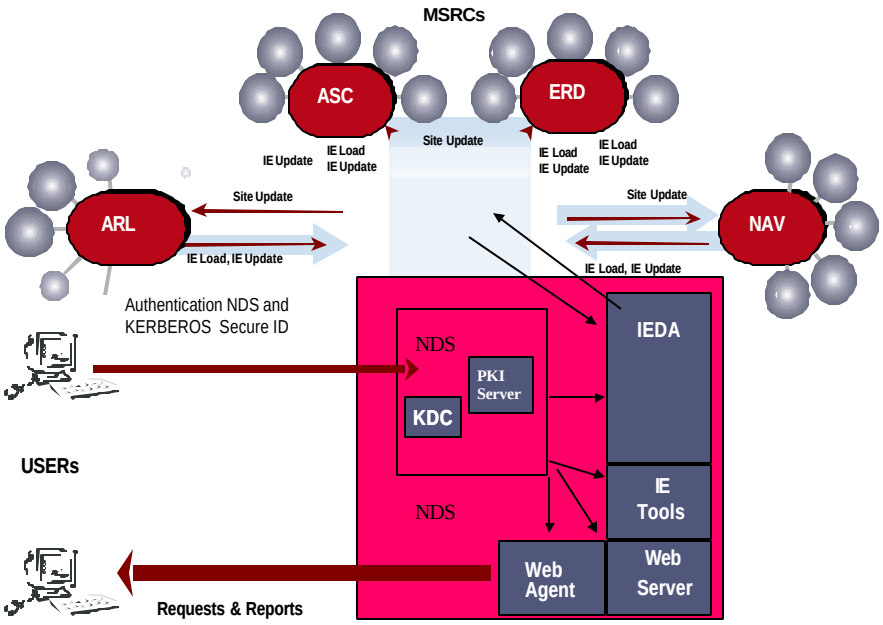


Figure 1-1. Conceptual IE Architecture.

The ***Allocation/Utilization Reporting Tool*** provides many statistical views of the allocation and utilization of MSRC resources, "slice and diced" by user, project, sites (all or selected), systems, service, S/AAA, machine, time period, project type, and job type. Allocation and utilization data can be downloaded to spreadsheet applications. The ***Queue/Process Status Tool*** provides a multi-view, consolidated display of the current queue status for all HPC computers within the HPC community. The ***Allocation Matchmaker/Exchange Tool*** provides an "eBay-type" bartering environment where an S/AAA can advertise allocations that are available to swap, search posted allocations, and notify and initiate allocation swapping. The ***User Fill-In Tool*** facilitates the data entry and submission of Sections 1 and 2 of the HPCMP account application form and facilitates the updating of project and contact information. The ***Account Application Management Tool*** facilitates the processing of HPCMP account applications to include resource assignments and entry of "S/AAA only" data in Sections 1 and 2.

1.2 Logical Architecture. The logical architecture can be seen in Figure 1-2. The primary components of the logical model are the IE Server, the MSRC Sites, the Distributed Clients and the Kerberos Key Distribution Center (KDC).

1.2.1 IE Server Components. The IE Server as proposed by Logicon, contains the Kerberized Web Server, the IEDA, the IE Tools, and the IE Integration Tools components. Logicon proposes to host the IE Server on the Sun Web server installed at NAVO.

1.2.1.1 Web Server with Novell Network Directory Service (NDS). Logicon has selected Sun/Netscape iPlanet as the Web environment of choice for the IE. The iPlanet provides a robust platform for the integration of Web-based applications with relational databases. The current use of the SecurID hardware token is supported by Novell NDS for Solaris. As an industry standard Web server, iPlanet supports the HTTP/HTTPS protocols, SSLv3/TLS, and PKI. Novell NDS E-

Directory provides commercial off-the-shelf (COTS) capability to integrate Quality of Service, Border Router Protocol, Public Key Encryption 128 Bit, Web-enabled groupware, user and group initiated file sharing, intranet E-mail with Microsoft Office integration, and extended third party hardware security authentication processes/services (e.g., retina scanners, fingerprint scanners, magnetic card readers, and digital code keys).

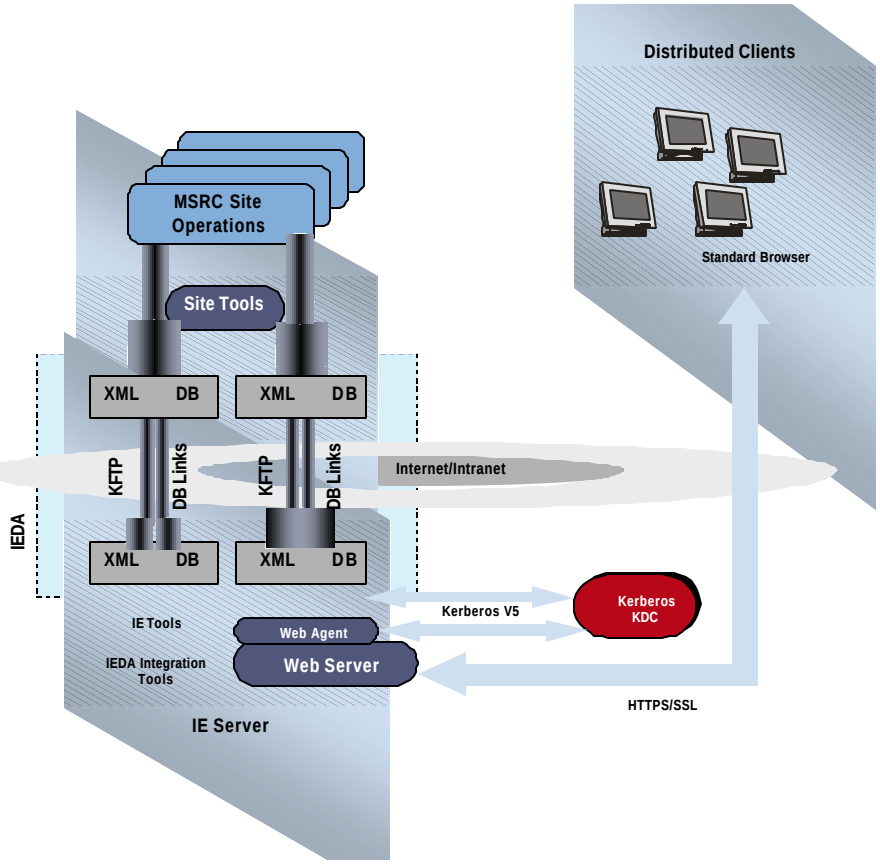


Figure 1-2. Logical IE Architecture.

1.2.1.2 IE Tools. IE Tools provide the business rules for generating displays to users from data in the IEDA. The IE Tools will in general be Java servlets that will execute in response to menu selections displayed by client browsers. Pertinent data will be retrieved from the IEDA database and formatted for display. User input data such as allocation exchange offers, acceptances, and user fill-in data will be stored back into the IEDA for subsequent distribution to and use by the

appropriate sites. The only exception will be the Queue Status tool that will use the krsh command to remotely query the queue status of each processing resource in each MSRC.

1.2.1.3 IEDA. The IEDA provides a common data architecture containing user contact, project, allocation, utilization, and queue status information. The IEDA combines MSRC site-specific portions of the enterprise data with a central, relational IE DB acting as the repository for the entire set of enterprise data.

The IE DB is populated from current data provided by each site. As each site continues operations, new versions of site data are generated, primarily utilization and queue status information. At pre-defined intervals, the IEDA "pulls" site-specific data to the IE Server and loads it into the IE DB. Conversely, as the IE Tools, such as Allocation Exchange/ Management and User Fill-in, modify the enterprise data in the IE DB, each affected site will receive updates to the site-specific data each site is responsible for incorporating back into it's site operations.

The initial data load and continuing update data and is generated by each site from site operations data and formatted as specified by XML specifications generated by Logicon and approved by HPCMO. Each site-specific data is a common XML-defined format providing a standard interface between each site and the IE DB. As seen in Figure 1-2, sites may interface their data through database links. If a site maintains its operations data in a relational database whose links are supported by ODBC, the site-specific data can be exchanged via this link.

IE DB - The central repository for the IE enterprise data will be an ORACLE relational database. This database engine is currently in use and maintained by Logicon on a 24-7-365 basis providing a proven, maintainable and reliable core of the IEDA with the resulting benefits of cost and risk reduction. The using facilities inherent in the ORACLE DBMS, a replicated, redundant copy of the database will be established and maintained for redundancy and recovery purposes.

XML-Defined Files - The IEDA on the IE Server will contain the current version of the XML-defined files copied to and from the sites. The actual XML schema will be defined by Logicon, reviewed and approved by the HPCMO and placed under configuration management control.

Database Links - Where a site maintains its operations data in a relational database that is capable of maintaining database links with the IE DB, this mechanism will be used to transfer data from the site to the IE DB.

1.2.1.4 IEDA Integration Tools. At predefined intervals such as each day at midnight, each site-specific IEDA data will be uploaded to the IE DB. For site-specific data in XML-defined files, the IEDA Integration Tools will KFTP (Kerberos FTP) the files to the IE Server repository for the XML-defined files and then insert the data into the IE DB. Where database links have been established, the IEDA Integration Tools will execute SQL scripts to copy the site-specific data from the local database to the IE DB. The IE Integration Tools will highlight any data conflicts such as duplicate userids from multiple sites. Conversely, following the modification of enterprise data in the IE DB by the IE Tools, the changes that affect each site will be copied to site by the IEDA Integration Tools. XML-defined files will be copied by first extracting the site-specific data to the IE Server repository for XML-defined files and then using KFTP to copy the file to the particular site. Data maintained in local site relational databases with database links to the IE DB will be updated via SQL scripts executed by the IEDA Integration Tools.

1.2.2 Site Components.

Site IEDA - The IEDA at each site consists of the site-specific data. This data will either be formatted into the XML-defined files by Site Tools or will consist of data in a relational database that has database links established with the IE DB.

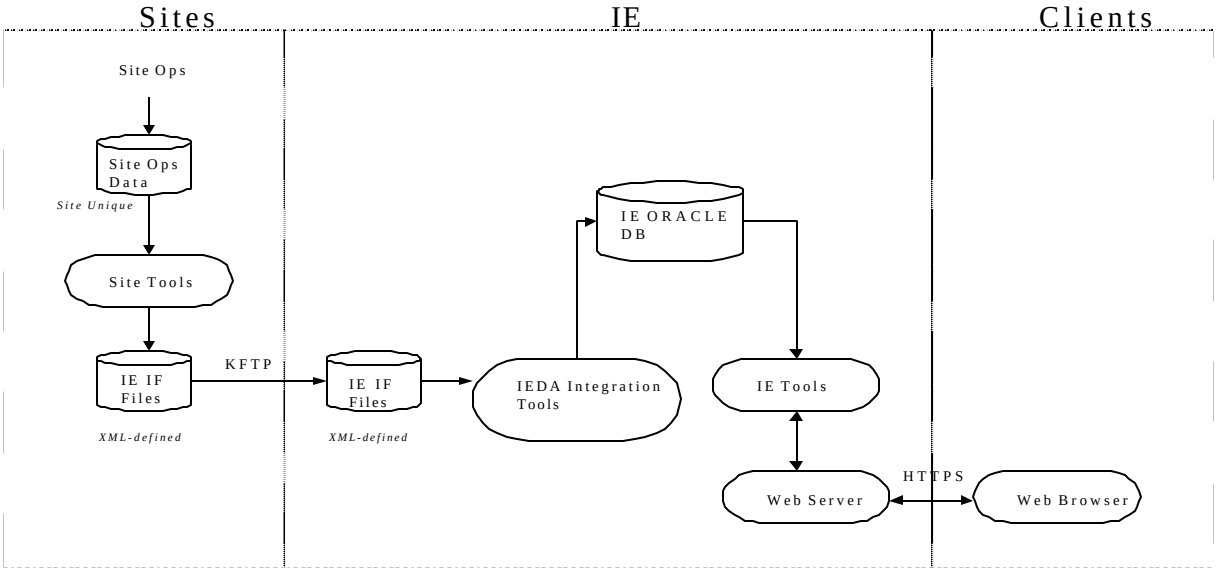
Site Tools - Each MSRC has a unique configuration of its operations data including user, project, allocation, and utilization. In order to feed the IE with site-specific data in the XML-defined format, some form of Site Tool will be required to perform the transfer from the site operations data store to the Site IEDA. Likewise, Site Tools will be required to import the IE-generated changes from the Site IEDA to the site operations data stores. Each site is responsible for providing its individual Site Tools. Logicon will work with each MSRC to identify site-unique implementations of the Site Tools.

Web Browser - Consists of all standard Web browsers (e.g., Netscape 4.7, MSIE 5.0) from either Unix or Windows clients that support SSLv3/TLS. Using the Novell NDS Web server plug-in, our solution requires no browser-side plug-ins, providing substantial benefits in deployability and maintainability.

1.3 Data Flow. Two scenarios will be provided as illustrations of the data flow among the components of the IE, namely Utilization Report and Allocation Exchange. Each scenario assumes that the user has already been authenticated.

1.3.1 Utilization Report. The Utilization Report scenario involves the display of utilization or queue status information. The scenario begins with the Site Operations updating its own data stores during operations with in this case, utilization information. From this site-specific data store, a site-unique Site Tools will extract the information from its local data store and format in the XML-defined IE format. At periodic intervals, in this case midnight of each day, an IEDA Integration Tool will KFTP (the Kerberized version of FTP) the site utilization file to the IE Server and upload it into the IE DB. When this process is repeated at midnight for all sites, the utilization data of the entire HPCMP enterprise will be available for review by users.

Figure 1-3. Utilization Report Scenario.

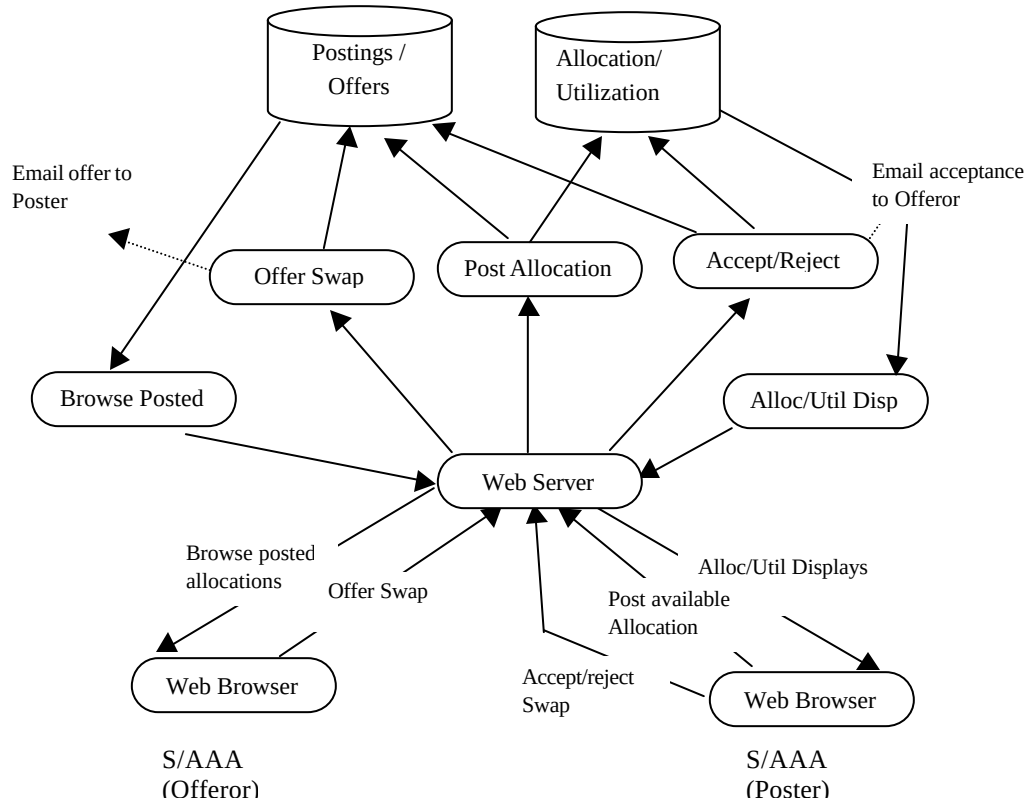


Users that have been authenticated will be able to access the Allocation Matchmaker/Utilization Reporting Tool, to review and download the enterprise-wide utilization data. Displays will be presented to the users, allowing the user to specify the selection criteria (e.g., which sites, projects, users, systems, reporting periods, etc.) as well as the type of report (summaries, counts of users, expansion factors, etc.). This report data is downloaded to the client for display and alternatively for use by spreadsheet applications.

1.3.2 Allocation Matchmaker/Exchange. The Allocation Matchmaker/Exchange scenario involves advertising of available allocations by S/AAAs, browsing of such offers by other S/AAAs, and the subsequent offer of their own allocations in exchange. The Allocation Matchmaker/Exchange data flow begins with the S/AAA (Poster) reviewing the Allocation/Utilization data using the tools described in the scenario above. The S/AAA (Poster) can select the Post Allocation Tool and enter the data for the allocation to be posted in an HTML

form. The Post Allocation Tool enters this posting in the Postings/Offers portion of the IE DB and places this allocation posting in reserve in the Allocation/Utilization portion of the IE DB.

Figure 1-4. Allocation Matchmaker/Exchange.



The S/AAA (Offeror) uses the Browse Posted Tool to browse posted allocations. If so desired, the S/AAA (Offeror) can access the Offer Swap Tool to enter an offer for a posted allocation. The tool will also send an e-mail to the S/AAA (Poster) to inform the poster than an offer has been made and should be reviewed. The S/AAA (Poster) then can browse the offer using the Browse Posted Tool. If acceptable, the S/AAA (Poster) can accept the offer by invoking the Accept/Reject Tool that makes modifications to the Allocation/Utilization database and sends an email to the S/AAA (Offeror) indicating acceptance of the offer.

1.4 Architectural Features.

1.4.1 Scalability. Increases in the number of sites and resources supported by the IE should not noticeably affect the performance of the IE as seen by the user. The addition of MSRC sites will consist of incorporating the site IEDB components and the addition of the MSRC user contact and project data to the IEDB. The addition of all other sites will consist only of additions of user contact data and project data to the IEDB. The use of standard Web browsers without the need for browser-side plug-ins, enables the easy scaling to an increased user base. Updates to the IEDB will occur at midnight and should not place a significant burden on the IE Server. As the system is sized for the entire HPC community, the addition of users up to that point should not be noticeable. If the community is expanded, the components of the iPlanet Web environment, the listener, application server, and applications can be distributed among multiple servers to optimize performance. Applications are multi-threaded, reducing the impact of additional requests for service. If required, the IE DB can easily be hosted on a separate server for improved capacity in response to new requirements for users, applications, and data.

1.4.2 Portability. The solution Logicon proposes uses Java as the primary development language, facilitating porting into the ubiquitous computing environments supporting Java. The use of SQL also improves the ability to port to a different DBMS. Using other standards for Web system development, HTTPS, SSL, HTML, and Javascript the Logicon solution enhances portability to new future computing environments.

1.4.3 Maintainability. The Logicon solution emphasizes a centralized, table-driven architecture as opposed to proliferation of code among the sites, improving software maintainability. The Logicon solution proposes to use software and hardware components already in place at NAVO

(Sun Web server, ORACLE DBMS, Queue Status Tool) and already supported in a 24-7-365 manner reducing learning curves and improving maintainability.

1.4.4 Ease of Use. The Logicon approach to maximizing ease of use of any computing system is user-centered design. This involves prototyping displays early in the development process and inviting HPCMO-selected portions of the user community to review and respond to the early prototypes. In this fashion, user acceptance is more likely to be achieved.

1.4.5 Extensibility. Logicon proposes a Novell NDS-based solution for the integration of the Web portal with HPC's Kerberos/SecurId security environment. Extending the IE to support other applications and databases will be a straightforward replication of the Logicon development approach using the IE components already in place. Our solution, based on industry standards, will easily incorporate PKI requirements should the HPC program commit to that direction.

1.5 Security Design. Logicon will integrate the COTS package from Novell NDS that implements a platform independent, server-side Kerberos tool, allowing single sign-on (SSO). A user logs in and authenticates through the Key Distribution Center (KDC) that then provides a Ticket Granting Ticket (TGT). Throughout the user session when a resource is required the userid presents the TGT, and if the user is granted permission via the access control list a Service Ticket (ST) is granted. Authorized users can easily access any Web-based content that they are approved to view and from any browser. This provides flexibility to the user community, along with the assurance that sensitive information, such as account allocation data, cannot be accessed by anyone not authorized to do so.

Novell NDS is a cost-effective solution. Because additional authentication software and access control of IE Tools are not required on users' desktops, the deployment costs and administration

costs are significantly reduced. In addition, user management and policy administration are on a single console making Novell NDS maintenance easy and centralized.

Novell NDS provides investment protection. The solution is based on industry standards and provides interoperability with Solaris and Windows security. In addition, the IE can leverage Novell NDS to allow authorized users to login to enterprise applications from a Web portal.

1.6 Implementation Approach. As an SEI CMM Level 3 organization, Logicon has an evaluated standard software process, Enabler, that defines the processes and tasks that are to be used for software development. As part of this process, Logicon tailors Enabler for each software project. As a result of this tailoring, Logicon has created a software development process for the IE project that maximizes reuse of existing prototypes while ensuring the delivery of an integrated, scalable system that meets all requirements specified in the Statement of Work. The development of each IE Tool will follow the same common user-centric implementation process with tool-specific adjustments as described below.

1.6.1 Common Implementation Process. The common implementation process consists of User Interface Prototyping, Requirements Management, Design, Coding, Integration and Test, Validation Testing and Deployment with User Feedback. User Interface Prototyping involves the user at the earliest stages of design by developing prototypes, either static or operating. User feedback is captured and incorporated into subsequent prototypes and design. Requirements Management ensures that all requirements in the SOW are captured in the design, implemented in the software and fully tested. The design is derived from the requirements baseline and captured in the Software Design Document. This design is implemented in code, and databases are configured and seeded with data. Components are integrated and tested to ensure interoperability and satisfactory performance. Validation testing ensures that the requirements

for each Release (Beta, Final and Integrating/Implementing) are completely and correctly implemented. During the Deployment phase user experiences with the deployed software will be captured and evaluated for incorporation into subsequent releases.

1.6.2 Tool Unique Processes. Logicon has participated in the prototyping of two of the five IE Tools, namely the Queue Status Tool and the Allocation Matchmaker/Exchange Tool. In fact, Logicon is in the process of recoding these tools as a result of analysis of the prototyping process. Logicon will initially focus its implementation process on these tools and will use the lessons learned on the design phase (for maintainability), the coding phase (for satisfaction of any remaining requirements), and the integration testing and acceptance phases for the other tools.

1.6.3 Releases.

Prototype **-** The prototype release requires the demonstration of two of the IE Tools by day 90. With in-depth hands-on experience in redeveloping the existing IE Tool prototypes, Logicon is in a unique position demonstrate powerful prototypes of the Allocation Matchmaker/Utilization Reporting and Queue Status tools by day 90.

Beta **-** Logicon proposes to deploy a fully functional, integrated release of all five IE Tools at five sites by day 180. Full functionality will be dependent on the successful ability of the sites to generate and accept the IE interface data. This release will focus on the configuration and testing of the integration with the HPC Kerberos implementation.

Full Release **-** This release, delivered at 300 days, will incorporate user feedback from the Beta release and will include the full set of system and user documentation and manuals.

Installing and Integrating Release - Five additional sites of the HPCMO's choosing will be supported to demonstrate the scalability of the IE solution at day 365.

User Feedback - The deployment of each release will include the capture of user feedback relative to the release, the analysis of the user feedback, and a definitive approach to the incorporation of the feedback in subsequent releases.

Maintenance - Computer software must perform satisfactorily from acceptance date for 6 months. If defects are discovered and identified within this period by the government, Logicon shall correct them within 14 calendar days of written notification at their own expense.

1.7 Technical Risk Management.

As an SEI Level 3 organization, Logicon takes a proactive approach to the identification and mitigation of technical risks. Each week the program manager conducts a review of program risks which includes a presentation of their mitigation approach(es) and the status of the mitigation of each risk. The initial identification of technical risks is presented in Table 1-1. Program/management risks are addressed in the Management Plan.

Risk Identification	Risk Mitigation Approach
Integration of the Web environment with the Kerberos security environment	Leverage Logicon Information Assurance Group. Use Novell NDS. Prototype security solution as early as possible.

Table 1-1. Technical Risk Mitigation Approach.

Management Plan

1.0 Introduction. Logicon is pleased to have the opportunity to propose the solution for the High Performance Computing (HPC) Information Environment (IE) as the developer, implementer, and integrator for the IE tools and capabilities. We have successfully executed software development, independent verification and validation (IV&V), and systems integration for 40 years. Logicon is a standalone solution. We do not require subcontractors to fill capability voids. Logicon has over 14,000 information technology professionals from which to draw. Our parent company, Northrop Grumman, has over 40,000 employees. Our Past Performance citations (Appendix 3) are a small window into why our $1.4 billion company is thriving, and they are also indicative of our customers' highest levels of satisfaction with our current performance. Our Program Manager, Iman Elbakry, has led many software development, validation, and integration efforts in many environments, and all of her work has been firm fixed price (FFP). Our management and technical skills, experience, performance record, and fair price are why Logicon is the Best Value to the High Performance Computing Modernization Office (HPCMO).

1.1 Understanding of the Requirement. The HPCMO is seeking a company not only to develop, implement, and integrate tools, but also to be a seamless member of the HPC community. As the Program Environment and Training (PET) Program Manager (PM) at the Naval Oceanographic Office (NAVO) Major Shared Resource Center (MSRC) in Mississippi, we co-developed and successfully fielded in the operational environment the Queue/Process Status and the Allocation Matchmaker/Exchange prototype tools, two of the five tools in the Request for Proposal (RFP). We know and understand the HPC community users' requirements. Based on our broad operating system, application, Web, e-commerce, XML, Kerberos, and

SecurID experience, within our proposal we have provided detailed implementation, validation, and deployment plans that can be implemented immediately.

1.1.1 Option. As the PET PM at the NAVO MSRC, Logicon is very familiar with the PET Online Knowledge Center. Logicon has a proven track record in Knowledge Management (KM). We submitted a white paper, accepted by the HPCMO for further consideration, describing an approach for enhancing KM at PET HPC. If the HPCMO desires, we can negotiate building KM into the HPC IE and linking it to the Online Knowledge Center.

1.2 Scope. The HPC IE applies to all Major Shared Resource Center (MSRCs), Distributed Centers (DCs), and Distributed Clients (DCls).

1.3 Organizational Roles and Responsibilities.

1.3.1 Our PM will work closely with the HPCMO IE COTR to document and establish a common agreement and understanding on schedule and scope at all times. The ***HPCMO HPC IE Contracting Representative (COTR)*** will (1) provide support for the HPC IE at the management level; (2) provide timely response (i.e., within three business days) to actions items, issues, and requests for information; and (3) provide timely (i.e., within three business days) review of deliverables. The HPCMO COTR will manage requirements and pass validated requirements within the scope of the Statement of Work (SOW) to Logicon's IE Program Manager in an agreed upon method, such as email and weekly meetings.

1.3.2 The Logicon HPC IE Program Manager (PM) is responsible for successfully completing the HPC IE program. Ms Elbakry will perform/direct/coordinate all SOW-level functions for the program, contract planning, customer relations, contract tracking and oversight, software configuration management (CM), quality assurance (QA), prepare progress and status reports, and conduct and attend meetings to affecting program cost, schedule, and performance. She will

make all task related business decisions, and resolve cost, technical, schedule, and scope issues. Ms Elbakry will apply best practices to deliver the tools and services stated in the SOW, and will operate within the constraints of the HPCMO's, the MSRC's, and Logicon's enterprise architecture, engineering standards, and program/program management control systems. She is responsible for document maintenance, to include this and associated HPC IE program plans, and preparing necessary updates.

1.3.3 MSRCs, DCs, DCls, and other users will follow guidance set forth by the HPCMO HPC IE COTR.

1.4 Location. The HPC IE program will be developed and validated at our facility in Reston, VA. Upon acceptance by the HPCMO COTR, work will be transferred to wherever the HPCMO wishes to host the IE. We recommend our NAVO MSRC team, already experienced with two prototype tools, Queue/Process Status and Allocation Matchmaker/Exchange, for deployment and training. If the tools and all the other capabilities are located at the NAVO MSRC, this will be the lowest cost and least risk to the Government. It is the lowest cost because system operators at NAVO MSRC, who were part of the development team for the Queue/Process Status and Allocation Matchmaker/Exchange prototype tools, found them unsuitable in the operational environment. They coordinated with users and rewrote the software, plus developed documentation. The tools are now useful, and it will not be a large effort for our people, already skilled with the tools and environment, and with the added benefit of knowing the users' needs, to turn them into "final products." This capability is unique to the NAVO MSRC.

1.5 Corporate Commitment. We ask you to evaluate our corporate commitment to the HPCMO by our actions. Our most valuable asset is our personnel. We have committed three of our most experienced people to this program. The quality of the people we have committed to you is

evident in their management and technical experience, as well as the performance ratings they received from previous customers. Our second most valuable asset is our processes and infrastructure. We are committed to bring to this RFP the processes and corporate infrastructure successfully used on large contracts (such as in our past performance cites).

1.5.1 Software Development and System Engineering History. Our corporate commitment of being an industry leader in software development, IV&V, and systems engineering is evidenced by our history. Below are a few of the highlights.

1.5.1.1 Software development. We have level three SEI CMM software development programs, International Standards Organization (ISO) 9001 certification, and we were the principal author of DoD Standard 2168, "Software Quality Program."

1.5.1.2 IV&V. We were the chair and the key author of ANSI/IEEE Std-1012, "Software Verification and Validation Plans," chaired the ANSI/ANS 10.4-1987, "Guidelines for Verification and Validation of Scientific and Engineering Computer Programs," and have continuous IV&V contracts since 1961 with over 3000 staff years of IV&V experience.

1.5.1.3 Systems Engineering. We chaired the USA JTC1/SC7 TAG "International Software Engineering Standards" and contributed to ANSI/IEEE Std-730, "Software Quality Assurance."

2.0 Program Objectives. The HPC IE will provide a secure, Web-based IE. The goal is to provide the High Performance Computing Modernization Program (HPCMP) community with access to distributed relational data, improve information sharing and gathering among HPCMP associated sites, standardize data exchange and reporting, and integrate data into a common information architecture.

2.1 Deliverables. The end-item deliverables are five tools: (1) Allocation/Utilization Reporting; (2) Queue/ Process Status; (3) Allocation Matchmaker/Exchange; (4) User Fill-In; and

(5) Account Application Management. These tools are supported by layered security based on the Naval Research Lab's instantiation of Kerberos as modified to include SecurID authentication, and Secure Sockets Layer (SSL). Other features include a fully integrated scalable architecture, robust environment, appropriate operating system and application interfaces, and other deliverable requirements in the SOW. We will also provide user manuals, documentation, and warranties, per the "Questions and Answers" by the HPCMO.

2.1.1 Critical Success Factors. The major critical success factors include (1) continued HPCMO participation; (2) continued HPCMO championing; (3) continued and uninterrupted funding; (4) continued staffing with high-caliber support; (5) continued HPC community support and participation; (6) timely delivery of work products; and (7) timely review of deliverables.

2.2 Risk Management. Our risk management approach is based on a proven risk management methodology that is part of the Evolutionary Spiral Process of the Software Productivity Consortium, of which Logicon is an active member. Once the contract is issued, risks will be reviewed with the HPCMO to determine ownership, closure process and date, and risk priority. If the mitigation plan fails and the risk becomes imminent within 30 days, the risk will be tracked until resolved by HPC IE COTR and PM actions. See Appendix 1 for our Risk Mitigation Plan.

2.2.1 Issue Resolution Procedures. Help Desk personnel will be trained so they can answer users' questions. Those questions that cannot be adequately addressed will be referred to trained system operators. If these people cannot adequately answer the questions, they can go through the HPC IE PM, Ms Elbakry, to reach back to Logicon's Subject Matter Experts. Ms Elbakry will manage a single correction process, categorizing and prioritizing the issues for sequencing. If the question cannot be resolved to the user's satisfaction, these will be identified as affecting the HPC IE, and will be recorded and assigned an issue owner, an anticipated resolution, and a

unique identification number. The issue will be resolved or mitigated within 30 days. If it cannot, the issue will be classified as a risk and tracked. Issues that cannot be resolved by Ms Elbakry are raised to the HPC IE COTR. Program issues are evaluated for impact and a cost is assessed. The cause of the issue is determined, and if justified, a modification to the contract may be delivered to cover the performance, cost, and/or schedule changes. The HPC IE PM is responsible for ensuring issues are documented and tracked through resolution.

2.3 Quality Assurance (QA). We will provide, follow, and maintain a Quality Assurance Plan (QAP) that specifically identifies the management techniques and controls we will employ for the performance and technical reviews and audits to validate the quality of our work. The QAP will address procedures and processes unique to software development, software validation, and system integration. The plan will identify the individual(s) by name, title, location, telephone numbers, and organization(s) responsible for implementation and management of QA activities.

2.4 Configuration Management and Change Control. The HPC IE PM will oversee the change management process. A Configuration Control Board (CCB) will be established, comprised of the HPC IE COTR, HPC IE PM, technical staff, and key users. The CCB will meet as appropriate to review and approve/reject changes. The HPC IE PM is responsible for ensuring all documentation is updated.

2.5 Reporting. The HPC IE PM will provide monthly written status reports to the HPC IE COTR. Status reports will be written to identify the milestones for each tool for the Implementation, Validation, and Deployment phases. Each milestone will identify end states, start and completion dates, and explanation of complications/missed/slipped completion dates (note: the HPC IE Program Manager will be informed of these as they arise). Each status report will include (1) work performed during the month; (2) hours worked during the month; (3) work

planned for the next month; and (4) problems and issues. Review meetings and status reports will examine relevant program data to track progress, and identify deviations and corrective actions to ensure the tools are delivered on time.

2.5.1 Program, Design, Peer, and In Progress Reviews. These reviews, to be held as required, will assess the progress of implementation, validation, and deployment. Minutes will be kept in the program library.

2.5.2 Technical Interchange Meetings. These meetings may be held as needed to discuss design and implementation issues that will affect any phase of the software life cycle. As needed, program management and technical personnel will review progress and provide feedback. Minutes will be kept in the program library, and action items will be tracked to completion.

2.6 Training. Logicon is aware of the PET Online Knowledge Center and the Education, Outreach, and Training Coordination capabilities at the Engineering Research and Development Center (EDRC) MSRC. Logicon is pleased to provide, if the HPCMO agrees, the ERDC MSRC with the user documentation in a compatible electronic format to facilitate user acceptance of and participation in the HPC IE.

2.7 Acceptance Criteria and Procedures. Acceptance criteria of the system will be based on meeting the requirements in the SOW. Acceptance procedures for HPC IE will be developed by Logicon and approved by the HPC IE COTR. The final products (with the agreed-upon changes and issues) will be delivered to the PC IE COTR. If all the comments and issues are addressed, the Government will accept the deliverables within five business days.

2.8 Security Management Plan (SMP). Logicon will document our security program in the SMP. A guiding document for this will be National Industrial Security Program Operating Manual. The Logicon security program will ensure the protection and safeguarding of

Government furnished information and equipment, and will meet all the requirements of HPCMO security standards, including the requirements of the Privacy Act of 1974, the Computer Security Act of 1987, the Office of Management and Budget Circular A-130, and the DoD guidelines and directives regarding security requirements. Our corporate security officer has developed many similar plans for our contracts with DoD and other Federal agencies.

2.9 Assumptions.

1. The task start date is July 1, 2001.
2. Government furnished equipment includes existing and new systems to host the IE products, Kerberos, SecurID tokens and related products, SSL, and an uninterruptible power supply (UPS) and back up power.
3. Government furnished information will be relevant, appropriate, applicable, and made available within three days of the request.
4. The Government will provide GFE, GFI, and access to Logicon upon our selection as the PM, thus enabling Logicon personnel to "hit the ground running" at the contract start date.
5. Effort for Logicon to assist with any tasking outside the SOW is not included in the basis-of-estimate (BOE). If it is necessary Logicon to support additional tasking and activities as this program progresses, a change order may be negotiated.
6. Delivery schedules are built on the assumption that GFE will be available to support installation, testing, and acceptance of the tools and related products and services.
7. Performance of the tools and security features will be based on reasonable throughput. Performance may be dependent on factors outside the scope of this contract (e.g., "noisy" networks).

8. This is a development and fielding effort. We recommend that HPCMO provide personnel to operate and maintain the tools and security environment.
9. End users will be assigned and available for capability testing.
10. Within five days of contract award, we will be provided with data flows, software code, documentation, for each prototype tool and the NRL version of Kerberos with SecurID.
11. The software code, APIs, internal networks, and other hardware and software provided as GFE are stable.
12. Changes to the HPC IE will be coordinated with the HPC IE PM so that implementation and deployment will be based on the planned environment.
13. Logicon will provide basic training to Help Desk personnel and system operators, not the entire HPC community. Logicon will provide, if HPCMO accepts, user documentation in compatible electronic format.
14. Logicon is not responsible for populating the data into the tool databases beyond that required to demonstrate functionality.
15. Per the first question and answer, number 38, our warranty applies to deliverable items 51-58. Our six-month warranty services applies to all inspection and acceptance or rejection milestones deliveries referenced in E-3(b), except where subsequent acceptance of E-3(b) milestone deliveries supersedes prior milestone delivery inspections and acceptance or rejection as provided in written notification by the government.
16. Our warranty applies to our work. It does not extend to any hardware of software not developed by us for the HPC IE.
17. The NRL version of Kerberos with SecurID will be compatible with Web applications.

18. The data structure of prototypes tools in their current form have the required fields to perform the functions specified in the SOW.
19. We will be provided with unlimited remote access to the HPC operational environment by 30 days after contract start.
20. We will be provided with test data by 30 days after contract start.
21. Documents will be delivered in contractor format.
22. Based on Question and Answer number 53, real-time will be based on IEEE standards, which are based on fault tolerance.
23. The software integration and development will take no more than 70 percent of our engineering hours in the prototype and beta stages for tool and security environment development efforts.
24. All the prototype tools have documentation and we will make changes to that documentation.
25. Each delivery supersedes and replaces the existing warranty.

Implementation and Validation Plan

3.0 Implementation Approach. Logicon's implementation approach is to have parallel development of the five tools, initially emphasizing the Queue/Process Status and the Allocation Matchmaker/Exchange prototype tools that are now being used, then use the lessons learned to develop, validate, and deploy the other three tools.

3.1 Implementation Testing. We will conduct testing throughout development to measure performance of each of the tools and users' acceptance of the presentation and functionality of the tools. After we prove that portions of each tool are operationally feasible, we will have selected users "test drive" them. Users' constructive feedback will be incorporated.

3.2 Implementation Schedule. The prototypes for the Queue/Process Status and Allocation Matchmaker/Exchange tools will be implemented, validated, and approved by day 90. By day 180 the Beta Release of the HPC IE system will be completed at five sites. By day 300 Full Release of the IE system will be completed at the five sites. Documentation to include system and user manuals, and data and file relationships and data flows will be delivered by day 300. By day 365 the full release of the HPC IE system will be completed at five additional sites. A detailed implementation schedule is in the Technical Plan. Based on Logicon's previous development and validation efforts, this schedule is feasible. Our High Level Schedule is in Appendix 4.

3.2.1 Implementation Schedule Risk Analysis. The information technology and information assurance tools, techniques, and procedures already in use and to be applied are all mature. These therefore are low risk. All have been previously used successfully by Logicon in HPCMP and other computing environments. Logicon also determined the prototype code for the Queue/Process Status and Allocation Matchmaker/Exchange tools was not adequate in the operational environment, so we rewrote the code and wrote documentation. The version of Kerberos we will use, a Navy Research Lab (NRL) modified version that has been successfully fielded, is already in use. Secure Sockets Layer is a mature commercial off the shelf product, as is RSA's SecurID token. We will use the powerful and proven in user Novell NDS to interface Kerberos with SecurID to the Web environment. XML, although a relative newcomer to the market, is well understood by Logicon programmers. We see no hardware, software, network, or personnel risks interfering with the implementation schedule.

3.3 Implementation Control and Tracking. Implementation control and monitoring will be conducted weekly to ensure HPC IE deliverables are within cost and on schedule, corrective

actions are implemented for identified problems, and appropriate and complete information is reported to program members. The HPC IE PM will (1) provide cost and schedule estimates for each task; (2) baseline and update plans using Microsoft Project; (3) develop and maintain a Program Management Plan; (4) gather program status; (5) track and report program progress; (6) identify and manage program risks; (7) perform program assessments; (8) manage requirements; and (9) initiate corrective action and manage change.

3.4 Validation Testing Prior to Deployment. After thorough implementation testing to ensure the deliverables comply with the requirements in the SOW, we will conduct validation testing following ANSI/IEEE 1012 and 1059 processes. Criticality analysis will focus on those functions, capabilities, and elements of each tool that implement the performance critical to their secure operations and effective use. Validation testing will include management, concept, requirements, design, implementation, and operations and maintenance to ensure the deliverable satisfies the requirements in the SOW and meets or exceeds the acceptance criteria. Based upon the acceptance criteria, the software will be demonstrated to the HPC IE COTR. Upon approval, we will proceed to deployment.

Deployment Plan

4.0 Deployment approach. Logicon will use a deployment approach that enhances installation in parallel at multiple sites. To do this, a “friendly user” will connect to the IE, tailor their site as appropriate to interface with the IE, and upload and download information. The lessons learned will expedite tailoring and installation at the other sites.

4.1 Deployment testing. Logicon will test the deliverables in the operational environment only after testing in the development environment. As possible, installation and testing will be done

outside normal duty hours or as coordinated well in advance for normal duty hours. This approach will reduce risk to current operations.

4.2 Deployment schedule. Each tool will be deployed upon acceptance by the HPC IE COTR. The Queue/Process Status and Allocation Matchmaker/Exchange tools will be installed and tested by day 90. Installation and testing of the five tools at five HPCMP sites will be completed by day 180 as a beta, and by day 300 as a final release. Installation and testing will be completed by day 365 at five additional HPCMO sites. Based on Logicon's development, validation, and installation experience, there are no feasibility issues precluding us adhering to this schedule.

4.2.1 Deployment schedule risk analysis. Equipment may be unavailable because it is used to support operational missions (e.g., Military Operations Other Than War), or hardware or software may have a massive failure requiring extended recovery and restoral. We view these as risks of low probability. Sufficient time is built into the deployment schedule. Logicon will deploy on time to meet the HPCMO's schedule.

4.3 Deployment control and tracking. Deployment control and monitoring will be conducted weekly to ensure HPC IE deliverables are within cost and on schedule, corrective actions are implemented for identified problems, and appropriate information is reported.

Personnel Plan

5.0 Management Approach to Selecting and Retaining Personnel. Our corporate management philosophy is three pronged: delegation of authority to highly competent and experienced program managers; problem and risk reporting elevation procedures; and a corporate review process including earned value reporting and oversight of FFP software programs. Our Program Manager, Iman Elbakry, is very experienced with tool development and integration, and all of her work is FFP based. Her resume is at Appendix 2. We provide the PM with the infrastructure

and tools to be successful. For the HPC IE program, we are providing Ms Elbakry with a strong, credentialed team that is already on board and who have performed similar tasks. Finally, we reward our people for their successes. We provide key personnel, such as program and task managers, with monetary incentives and career paths based on customer satisfaction and the success of their programs. This approach has resulted in a low turnover rate, well below the industry average.

Conclusion

6.0 Summary. Logicon provides the Best Value for the HPCMO. We are the PET PM at the NAVO MSRC, have already developed prototype software and have successfully used it in the operational environment for two of the five tools, know the users and their needs, and are respected by the users and the HPCMO for delivering high quality products and services on time and at a fair price. We are ready now to do the same for the HPC IE.

Appendix 1

Risk Mitigation Plan

Risk	Type	Probability of Occurrence	Consequence	Mitigation Approach
Users, responsible for connecting to the HPC IE, don't	Schedule	Medium to Low	High	See para 2.6, Training; identify and use alternate sites
Change in the architecture cited in the questions and answers	Performance Schedule Cost	Low	Medium Medium High	The HPC PM will liaise closely with the HPC IE COTR to be aware of the network and system migration path, ensuring capabilities are built to coincide with the path
Requirements creep	Schedule	Low	Medium	The HPC PM will liaise closely with the HPC IE COTR to control additional validated requirements
GFE, GFI, and people will not be available as scheduled to support testing and deployment	Schedule	Medium	Medium	Liaison with the HPCMO to know of resource schedule changes so HPC IE developers can be rescheduled to support other HPC IE efforts

Appendix 2

Resume of Program Manager

Company Identifier: **1735/5575**

IMAN ELBAKRY

Updated Date: 02/01

LOCATION: Reston, VA

WORK SUMMARY: Ms Elbakry has over 22 years of experience in program/program management, software development, communications theory, electronics, software and hardware testing, and data communications with a strong foundation in OSI protocols. Experience covers program leadership, requirements definition, networking, and problem analysis. Participated in the NIST OSE Implementer's Workshops (OIW) as the Chair of the Directory Services SIG, also participated in the Upper Layer SIG, Network Management SIG and Lower Layer SIG. Experienced in program management, including cost analysis, mission analysis, performance and functional specification and design, systems integration, acquisition, testing, and life cycle support. Ms Elbakry has extensive technical and programmatic management of FFP contracts.

EDUCATION: MS, Electrical Engineering (with distinction), The George Washington University, Washington, DC, 1986.

BS, Electrical Engineering, The University of Cairo, 1979.

SECURITY CLEARANCE: Secret

QUALIFYING EXPERIENCE:

Logicon Inc. **08/93 - Present**
Manager, Software Engineering Group

August 97 - Present: Responsible for the execution of several programs including the Defense Information Infrastructure (DII) Asset Distribution Architecture and Requirements, which included implementation of PKI, LDAP, X509, and SSL; the development of DII Common Operating Environment (COE) compliant segment for the Global Command & Control System (GCCS), and the Global Combat Support System (GCSS); as well as the integration of the following applications for the DII COE: Internet Security System (ISS) RealSecure products, several of Remedy's products, NCR's Teradata, SAP's R/3, Cabletron SPECTRUM, and BMC PATROL & PATROLVIEW. Also, established a security Lab to evaluate various security products for the DII COE. Help generate new business by meeting with customers, evaluating applications for segmentation, and developing proposals.

May 1997 – August 1997: Senior Systems Engineer. Provided technical support to the Defense Information Systems Agency (DISA) Global Combat Support System (GCSS) Chief Engineer for preparation and conduct of the 1997 Joint Warrior Interoperability Demonstration (JWID 97) operational exercise. Responsible for the installation and integration of DII COE compliant GCSS applications to be used in JWID 97 on Sun Solaris and Windows NT platforms. Provided mentor and operator training, and on site technical support during conduct of the demonstration. Developed detailed equipment configurations and documents technical lessons learned during the demonstration.

October 1996 – May 1997: Senior Systems Engineer. Software testing for the Defense Information Infrastructure (DII) Common Operating Environment (COE). Performs Lock & Load, Compliance, and Functional testing on various segments submitted to be COE compliant. Tests are conducted on several platforms including Solaris, HP-UX, and WinNT.

August 1993 – October 1996**:** Senior Systems Engineer. Chair of the Directory Services SIG at the OSE Implementer's Workshops (OIW) until November 1996, and also participated in the Upper Layer SIG, Network Management SIG and Lower Layer SIG. Developed the Protocol Implementation Conformance Statement (PICS) Proforma for the 93 X.500 Standard, where ITU and ISO will publish them. Also, involved in investigating other X.500 issues such as services for messaging, routing, security issues, implementation of X509 certificates, modifications to the Directory Information Base (DIB) and Directory Information Tree (DIT) structure, and how to support Internet-based applications with X.500. Worked on several International Standardized Profiles (ISPs) for the 93 X.500 Standard as well as Defense Standardized Profiles (DSPs) for X.500 Directory Services. Conducted a study for a DOD Trusted Networking Standard, the study identifies security standards currently being used to accomplish secure networking or to connect to a secure network, including Network Layer Security Protocol (NLSP) and Transport Layer Security Protocol (TLSP), which are OSI-based. Also, assisted in the development of three OSI profiles and a six part Internet (TCP/IP) based data communications profile.

ARINC Research Corp. **01/87 - 08/93**
Principal Engineer

January 1989 - August 1993: Provided support to the Federal Aviation Administration (FAA) for the National Airspace data communications upgrade. Developed an Open System Interconnection (OSI) Transition Plan for the FAA. Established the approach to transition FAA data communications to OSI architecture, facilitating FAA compliance with the Government OSI Profile (GOSIP) and future connection to the emerging International Aeronautical Telecommunications Network (ATN) Architecture. This position required a working knowledge of X.500 directory procedures, Local Area Networks (LANs), Wide Area Networks (WANs), and ISDN. Established the communication architecture design for a program to consolidate FAA

air traffic Approach Control facilities. Also, developed National Airspace Data Interchange Network (NADIN) Packet Switching Network System requirements documents and interface requirements documents for use with the (PSN), an X.25 network, used in Air Traffic Control Facilities. Performed trade-off studies that compare the relative utility of different systems in meeting specified requirements. Provided acquisition support for several programs related to the NADIN II and evaluated technical proposals and developed Operational Capabilities Demonstrations (OCDs) plans for vendor hardware verification as part of selection process. Participated in the development of OSI protocol requirements specifications and standards selection. This included the architecture, naming and addressing conventions, priority of traffic issues, and security. Also, responsible for interface management between various programs and FAA facilities and provided technical support for voice switching systems.

Senior Communications Engineer

January 1987 - January 1989: A member of the systems development team supporting the FAA NADIN II program for development of an X.25 PSN. Developed system specifications, site-interface requirements and statements of work. Developed the procedural technical instructions for bringing the X.25 NADIN II PSN on line with no impact to existing operating systems. As a Group Leader I supervised ten engineers and was responsible for technical evaluation of all NADIN II PSN proposals for change, upgrade, etc. Also served as the Regional Coordinator, reporting to the FAA Program Manager during system implementation. Provided technical liaison for questions on X.25 performance and capability issues and presented technical issue briefs and teleconferences.

Science Applications International Corp. (SAIC) **06/85 - 12/86**
Staff Engineer

Conducted international marketing efforts for multifunction engineering systems and programs involving voice and data switching, networking, and Command, Control, Communications, and Intelligence (C3I) applications. Developed and presented system design and architecture proposals involving CCITT, OSI, and proprietary military standards.

Dictaphone Corporation **10/79 - 06/85**
Staff Engineer

Research and Development Division. Developed and implemented procedures for ""Beta"" testing and final acceptance testing of products and interfacing equipment. Served as technical liaison between field service organization and product Research and Development to identify and document recurring telecommunications-related or equipment malfunctions. Determined appropriate products design alterations/improvements, and incorporated design changes into production and was responsible for the design of various customized integrated circuit boards.

The following works were completed as chair of ISO committees and incorporated in ISO Standards:

X.500 Directory Access Protocol (DAP) Protocol Implementation Conformance Statement (PICS)

X.500 Directory Systems Protocol (DSP) PICS

X.500 Directory Operational Binding Management Protocol (DOP) PICS

X.500 Directory Information Shadowing Protocol (DISP) PICS

X.500 International Standardized Profile

Other works:

DOD Trusted Network Study

MIL-STD 2045-14501 Simplex Transport Profile - CLTS over Connectionless Protocol (CLNP)

Appendix 3

Past Performance Citations

1. Major Shared Resource Center (MSRC) at Naval Oceanographic Office (NAVO)

Name of contracting organization: Naval Oceanographic Office

Contract number: DAHC94-96-C-0008

Contracting Officer and telephone number: Mr. Donald Hutchison (CO), (228) 689-8365

Contracting Officer Representative, Program Manager, or similar official and telephone number: Mr. Bobby Knesel (COTR), (228) 688-5126

Contract type: CPAF and FFP

Total contract value: $200M total contract value; $25M for labor

Description: For over nine years, Logicon (previously Northrop Grumman) has been providing a full complement of information technology functions for the successful design, installation, operations, administration, and maintenance of the high-performance Major Shared Resource Center (MRSC) located at Stennis Space Center, MS. We provide the computing resources to maintain a computational environment that supports DOD's basic research, exploratory and advanced development efforts in the Science & Technology and Test & Evaluation areas, and a wide range of oceanographic modeling, prediction, and data collection techniques for the Naval Oceanographic Office (NAVO). This program modernizes DoD's computing and communications capacity and capability to a level that is equal to or greater than that available in the foremost academic research centers and industry. Logicon provides the computing environment, collaborative research assistance, academia coordination, systems integration and administration, scientific visualization, networking, communications, operations, systems

engineering, and facility management services. Logicon's experience on this contract demonstrates its success in modernizing a major computational environment, including system installation, management, support, and training.

Proof of success in developing and deploying similar Web-based tools, http://www.gcn.com/vol18_no28/snapshot/513-1.html.

2. Defense Information Infrastructure (DII) Asset Distribution (DAD)

Name of contracting organization: Defense Information Systems Agency

Contract Number: DCA 100-97-D-0025

Contracting Officer and telephone number: Ms. Rhonda LaGarde, (703) 604-6912

Contracting Officer Representative and/or Program Manager, and telephone numbers: Karen Little, (703) 696-1887

Contract type: CPFF

Total contract value: $864,407.00

Description: Logicon has demonstrated **specialized Unix, Oracle, and Sun experience** in support of DISA under the JIEO Omnibus and I-CASE contracts beginning in 1996. The experience includes Defense Information Infrastructure Asset Distribution System support, Common Operational Environment (COE) Integration and testing, software development, as well as kernel and API testing. Key concepts of this program included: "Enter once, use everywhere" data entry; an Oracle database housed on a combination of Unix and NT servers; a client/server architecture utilizing PL/SQL to offload the processing from the client onto the server; one time log-in approach that provided the user with access to all authorized MSIS applications; centrally-administered, role based security architecture that allowed MSIS to control the user's privilege for each application from a central module. Logicon has performed system administration

functions on these workstations such as installing and upgrading operating systems and COE versions, and installing, configuring, and testing various COTS and GOTS applications. Logicon also provided extensive COE evaluations and segmentation for COTS software (i.e., Remedy, Cabletron, BMC, and Oracle). Logicon developed and integrated into the COE for the Global Combat Support System (GCSS) Portal Server that includes Netscape SuiteSpot Servers, Microsoft SQL Server, Allaire Cold Fusion Server, and utilizes LDAP and PKI for authentication and access control. To support the evolving needs of the DADS user community, Logicon evaluated technologies such as portal services, push, subscribed pull, PKI, and LDAP. Logicon helped integrate LDAP and PKI into the DADS architecture and documented the DADS.

Logicon has **demonstrated experience with Asset Management and distribution technologies** in their support of the Department of State Bureau of Consular Affairs (DOS/CA). Logicon supports the DOS/CA in their efforts to develop, manage, and distribute information technology systems for 260 posts located worldwide.

Logicon has **experience with WWW automated system security technologies** in their support of the JSE and other contracts. Logicon is the prime contractor for the engineering and development of the GCSS-Web system. Logicon is implementing a security feature that includes PKI, integration of existing program applications and data sources, operational planning for GCSS engineering and fielding activities, and data access through data mediation and brokering services. Logicon supported GCSS-Web by developing a Public Key Encryption-based security mechanism for protecting Web-based resources, and developing the initial security architecture for GCSS. Logicon's approach is documented in the GCSS-Web System Security and Unitary Logon Manual. This manual describes the technology and methods for all GCSS-related

applications to follow to achieve seamless unitary logon among Web servers using DOD PKI issued X.509v3 personal certificates and LDAP directory servers. Logicon implemented certificate-based signed or encrypted S/MIME e-mail. Using the same PKI, user certificates are published to an LDAP directory. Logicon provided DITSCAP-based Certification and Accreditation support to Forces Command, including in-depth certification testing of their Global Command and Control System (GCCS) and DII COE installation. Several weaknesses were uncovered and Logicon recommended appropriate actions to resolve the problems.

3. U.S. Joint Forces Command Knowledge Today

Name of contracting organization: U.S. Joint Forces Command

Contract number: N00140-97-D-1370

Contracting Officer and telephone number: Jim Swizewski, 215-697-9630

Contracting Officer Representative and/or Program Manager, and telephone numbers: Al Diaz, 757-836-7544

Contract type: CPFF

Total contract value: $1,448,018.72

Description: Logicon has supported the United States Joint Forces Command (USJFCOM) (formerly U.S. Atlantic Command (USACOM)) initiatives to transform USJFCOM into a Knowledge Based Organization (KBO) for over four years. This work involves extensive use of Commercial Off the Shelf (COTS) products, inter and intranet technologies, and innovative incorporation of information sharing applications to existing USJFCOM information and communication systems. A key element of this work was the process definition and documentation performed prior the start of each system or application development. Logicon utilized a variety of techniques to accomplish this phase of the support program, including

facilitated groupware sessions, subject matter expert interviews, brainstorming sessions, and formal requirements reviews. Central to the KBO concept was the creation of a dedicated team of military, government, and Logicon personnel chartered to improve the information distribution capabilities of USJFCOM by evaluating technologies and methods.

Logicon personnel are an integral part of this team, designated as CINC Decision Processes Division (JX). The major goal of the JX initiative is to improve the decision making of USJFCOM staff by raising their knowledge level by increasing the timeliness, accuracy, and availability of information. The goal is not to provide additional information to USJFCOM staff, but to provide smarter, more usable information The USACOM Knowledge Today combined multiple news sources into a single product and was disseminated through the use of Web-based technology in the form of a classified "Intranet." The Knowledge Today applies Internet technologies to improve the level of staff knowledge and the internal information distribution processes of USJFCOM. One of the site's successfully implemented goals is to improve the staff's awareness about legislative decisions that affect USJFCOM and allows real time updates from J8 offices.

Logicon provides the technology research, and the system level planning, design, Internet application programming and development, operations support, documentation, and training. Logicon also provides training to staff, as well as help desk functions, for the different applications involved in Knowledge Today. At an Industry Advisory Council's Executive Leadership Conference, the IAC and the Federal Chief Information Officers' Council released a joint study program: "Best IT Practices in the Federal Government." Knowledge Today was selected as the best IT Practice in DoD. CIO Magazine has recognized the effectiveness of Knowledge Today by selecting it in the four consecutive years as a Top 50 Intranet Site.

4. Program Manager, Night Vision Reconnaissance, Surveillance, and Target Acquisition

Name of contracting organization: U.S. Army

Contract number: GS-35F-4506G

Contracting Officer and telephone number: Tina Jaworski, (816) 823-2342

Contracting Officer Representative and/or Program Manager, and telephone numbers: Anne Thorpe, (703) 704-3499

Contract type: CPFF

Total contract value: $2,379,227

Description: The U.S. Army's PM NV/RSTA provides program and procurement management for Night Vision systems associated with Reconnaissance, Surveillance and Target Acquisition. This management requires extensive technical, management and fiscal activities across a broad range of programs. PM NV/RSTA requires contract assistance to enhance and maintain its intranet (called Vision Web) and related system. These systems support organizational business processes and facilitate the visibility, accuracy, consistency, and currency of information. PM NV/RSTA also requires a central working database to record, update, manipulate and report on financial transactions. Logicon supports these requirements through secure, Web-enabled access to databases and development of a Microsoft SQL Server-based financial management database with data analysis and manipulation tools. This system is being developed through extensive use of COTS products and includes interfacing with a number of Army and Defense financial management and reporting systems.

The approach established an online "corporate brain" with the innate ability to treat work products on an assembly-line basis and to focus on prioritized areas and track progress against them. The PM NV/RSTA intranet, Vision Web, automates key program and procurement

processes and provides secure access to program status reports, databases, and funding data and program information using a Web browser. Other enhancements provide notification, assignment, monitoring and control over suspensed one-time and recurring actions; a staff calendar for greater visibility and convenient coordination of activities; and a travel workflow system which automates requests, processing and approvals of travel orders. The financial management system, being developed with COTS products, supports the control of a multitude of funding sources for acquisition of night vision devices and the related reconciliation of funding information at agency, contractor, service and Defense levels.

5. Joint Information Engineering Organization (JIEO) Support Engineering (JSE) Contract

Name of contracting organization: Defense Information Systems Agency

Contract number: DCA100-97-D-0025**,** Task Order Number 0048, Global Combat Support System (GCSS) System Engineering Support

Contracting Officer and telephone number: Ms. Rhonda LaGarde, (703) 607-6912

Contracting Officer Representative and/or Program Manager and telephone number: Karen Little, (703) 696-1887

Contract type: CPFF

Total contract value: in excess of $5.7 million

Description: The GCSS Portal is a Web-based capability hosted on the Netscape SuiteSpot family of Web servers, including the Enterprise and Directory and Allaire ColdFusion Application Server. These software servers are installed, configured, and integrated with state-of-the-art multiprocessor, fault-tolerant hardware platforms and a combination of Logicon-developed static and dynamic content to provide combat support users with a multitude of Web-based services.

The GCSS Portal provides a Web-based query capability via the data mediated system known as the Combat Support Data Environment (CSDE). The CSDE provides access to a variety of command and control and combat support databases such as the Joint Operational Planning and Execution System (JOPES), GCCS Status of Operational Readiness and Training System (GSORTS), Global Transportation Network (GTN), and the Joint Total Asset Visibility (JTAV) system. The GCSS Portal accesses the CSDE through a Java Database Connectivity (JDBC) interface to return data from one or more of these data sources through a single Web-based user interface of the GCSS Portal Server.

The GCSS Portal makes use of Java and eXtensible Markup Language (XML) in addition to the Web and Application servers to provide a dynamically driven ability to drill down on data available through the CSDE. The overall site is constructed from a small set of ColdFusion pages driven by an XML file that "describes" the site. It places hyperlinks, object types and text into categories that provide a set of "Homepages."

It also uses a Java Application Programming Interface (API) to access a set of queries known as the GCSS Navigable Object Model Extension (GNOME) that is a part of the CSDE. Upon startup, the GCSS Portal accesses the GNOME through the API. Two separate XML files are then applied to the GNOME. The first one to instantiate the model in the Portal, and a second one to extend it to add Web-based searches, hyperlinks and other Portal/Web-based functionality without disturbing the model.

Each GCSS Portal Homepage will have available a list of queries dynamically populated from the GNOME based on the object types accessible through that Homepage. In addition, any hyperlinks or Web-based searches related to the functional areas will also be available from the XML file that extends the GNOME. The user will execute queries by selecting one of the

available GNOME queries and entering the parameter required by the query. In the event the user does not know the exact parameter, additional query capability is provided to assist the user using heuristics such as “contains” and “starts with.” Query result sets are examined for key fields that lead to other queries and returned as hyperlinks providing a complete “drill down” capability.

Appendix 4

Information Environment High Level Schedule