

## **HYBRID INFORMATION TECHNOLOGY SERVICES FOR STATE (HITSS)**

### **1 BACKGROUND**

The Department of State requires computer-related technical services support for its operating systems, and hardware and software applications. The Department's mission of foreign policy, national security and consular affairs requires sound management of information resources in the Department and overseas. Currently, the Department's information technology consists of radios, telephones, specialized telecommunications terminals, relay facilities, leased circuits, minicomputers, mainframe systems, network servers, personal computers, microfiche and CD-ROM document archives.

### **2 SCOPE OF WORK**

The contractor shall supply the qualified personnel and other services necessary to perform the specific and generic tasks needed to provide systems and software analysis and development; document analysis, development of systems design documents; computer programming; computer center operations; configuration management; software maintenance, testing, and troubleshooting; computer security; technical writing; training; and word processing. Task Orders will be issued within the general scope of the contract and specifically define the scope of the project and schedules of deliverables, along with performance standards and metrics when applicable. Support services shall not be limited to the bureaus and offices listed below. Services may be required for field offices throughout the United States and at overseas posts.

Bureau of Administration (A)  
Bureau of Consular Affairs (CA)  
Bureau of Diplomatic Security (DS)  
Bureau of International Organization Affairs (IO)  
Bureau of Information Resource Management (IRM)  
Bureau of Finance and Management Policy (FMP)  
Office of the Inspector General (OIG)  
Office of Protocol (OP)

### **3 SUPPORT SERVICES**

Task Orders will be Performance Based whenever applicable and will be issued for support services outlined in the following sections. Each Task Order will provide details of required services, deliverables, performance measures, time and place of performance, and level of security required. Services to be performed shall be non-personal and not inherently governmental. As required in individual task orders, the Contractor shall perform the required services and shall perform them in accordance with the highest standards in the industry, the specific task order standards of performance and quality assurance. Any dispute regarding contract scope issues will be referred to the CO for resolution.

#### **3.1 IT Planning**

Identification, evaluation and recommendation of solutions and opportunities, including the modification and process re-engineering of existing systems to encourage and facilitate the development of integrated systems, provide added functionality and improve productivity.

### **3.2 Requirements Analysis**

A set of procedures followed by the project team to learn how the present system operates and what are its benefits and shortcomings. Users' requirements are documented meaningfully. It is assumed that the user knows what he wants, but has difficulty in translating requirements into data-processing terminology. This procedure helps get the requirements in writing to guide the subsequent efforts of the systems design and implementation. This sub-phase is one of the most important in the entire project life-cycle.

### **3.3 Systems and Database Design**

Includes the design approach, alternative designs and analysis, and impact analysis. Maps and maintains traceability of the design to requirements; develops user interfaces; identifies the major components and interfaces of the system; determines impact on work flow processes; and develops testing strategies, test cases and testing plans. Also includes conducting design reviews to clarify design drivers; select an IT platform and/or architecture; identify and weigh portability considerations, potential capacity and performance implications; identify existing systems that may be reused, and other pertinent design information.

### **3.4 Systems Procedures and Standards**

Devising systems procedures and standards using all applicable standards and procedures as required by the Federal Information Processing Standards, other standards, and the client organization's standards and policies. Includes identifying the applicable standards and procedures and making recommendations about their use to the client organization.

### **3.5 Systems Development and Testing**

Translating system specifications and detailed design documentation into system components, code or both. May include initial development of a prototype of the system that will be tested and evaluated before the systems development effort. Includes: developing code, conducting peer reviews and providing summary progress of the development effort; establishing and maintaining the integrity of baseline configuration, software version descriptions and related documentation; establishing test and verification procedures to ensure system integrity so that the system meets functional requirements; and, conducting unit, system and integration testing to validate the system's capabilities.

### **3.6 Systems Documentation**

Development of all documentation, including manuals, e.g., operations, system maintenance, user and training, and plans, e.g., system integration and site implementation. The document is dynamic in that it will be modified to take advantage of new methodologies, techniques and tools. The documentation follows the latest approved standards at the time of development

### **3.7 Systems Installation and Acceptance**

All activities associated with the installation and operation of the system. During systems implementation, includes providing support through the development of prototype installation test plans, installation test reports and the preparation of systems manuals including operations, maintenance and user manuals customized by site. Delivery of the system and all documentation and products associated with the system. Installation, integration, testing and implementation of the systems developed to include all activities associated with data conversion, data collection, capture, validation, and verification, user training and system turnover

### **3.8 Systems Programming**

Programs are written using the programming standards established by the client organization. Substantial emphasis is put on a structured process for preparing a test plan, which outlines all of the testing to be done. The programmer plans testing problems thoroughly before testing begins. The results of the testing are then reviewed by qualified personnel to decide that each program and module is operating satisfactorily.

### **3.9 Systems Integration**

Includes the analysis of the distribution of functionality across systems, development of system interface concepts, designs and specifications, and the development of specifications and standards for information transfer between systems.

### **3.10 Interoperability Verification and Testing**

Verification and testing to ensure interoperability with existing systems. May include access to existing mainframes and servers, compatibility with operating systems, COTS software and client organization applications, and communications and telecommunications systems.

### **3.11 Systems Conversion**

Converting systems from current environments to new ones, for example, from assembler language to 4GL. May include the development of specifications, programming, testing and documentation. Legacy systems may also be selected for the development of new front-end user interfaces.

### **3.12 Systems Enhancements, Support and Maintenance**

All requests for system modification and/or enhancements, received after the systems design freeze and after the system is implemented, are classified as planned software maintenance. These requests consist of actions that are important for corrections to the design and future enhancements to the system. Systems support is provided to ensure the successful operation of the system in an accurate, efficient and timely manner. Any necessary fine-tuning and re-testing are done following client organization standards and procedures

### **3.13 Systems Configuration Management**

Systems configuration management activities commence early in the systems development life-cycle and continue for the life of the system. Configuration Management responsibilities include the review of all software, hardware, network and application changes and the identification of potential issues, conflicts or problems relating to the proposed changes, or the timing of the changes. Changes include installation of new products and components, new versions, upgrades, engineering changes, new agency-developed applications and modifications to agency applications. May include the development and implementation of a Configuration Management database and associated plans. Data to be maintained include parameters and configuration information on existing systems, reasons for the changes, associated changes and other items as recommended by the Contractor or required by the client organization. Preparation of reports and briefings to give client organization management recommendations and alternatives.

### **3.14 Database Administration**

The Database Administrator (DBA) is responsible for database and data dictionary design and establishment, performance monitoring and timing, database reorganization, database backup and recovery, DBMS service utilities, DBMS software maintenance, disk-space management and software planning and evaluation. The DBA is responsible for safekeeping the data and for control of the data and its structure. The DBA is also concerned with the various design methods used in developing databases.

### **3.15 Data Conversion**

Data conversion and migration services to move data between existing client organization systems and between existing and new systems. This could be across operating systems and/or hardware platforms or between different databases. It applies to client organization application files and end-user database files. Activities include creating file inventories, developing procedures for, and conducting, data conversions and ports, and acceptance testing activities. Also includes developing procedures and proposed methods for performing file migration with a minimum disruption to end-users.

### **3.16 Information Security**

Enhancing IT security of data residing in computer files or during transmission, assessing IT risks relating to privacy, fraud and abuse and the adequacy of internal controls to eliminate and/or mitigate risks to systems being built. Contingency plans cover system failure and recovery procedures. Procedures are developed in case of disaster or other conditions that may severely affect the provision of timely and efficient system services. Includes evaluating and implementing encryption, authenticating users on a system, providing for digital signatures to ensure integrity of electronic messages and files. May include analyzing and maintaining a list of critical systems to decide for each system the time available to transfer to an alternative processing site without significant programmatic impact. Includes systems handling National Security and Sensitive But Unclassified data. Also includes the conduct of risk analyses and the development of recommendations and implementations, plans for new procedures and changes to existing systems. Identification and recommendation of new security-related technology product versions and enhancements to existing products and services. Developing implementation, transition

and verification testing plans for installing these products within the existing client organization technology infrastructure.

### **3.17 Telecommunication Systems, incl. Local, Metropolitan and Wide-area Networking**

Includes services to support hardware, firmware, software, proof-of-concept capability and prototype engineering maintenance and support to initiate and complete the end-to-end transmission of data. May also include the end-to-end transmission of voice and video traffic; performance and operational threshold monitoring, tuning, and overall network management to include remote host connectivity; automated network management procedures that can rapidly respond to network fault conditions; management query and reporting of current and historic network performance; and simulation of network operations, fault conditions and proposed conditions. Includes designing, implementing, operating and maintaining networks with appropriate diagnostic tools and equipment to monitor, troubleshoot and repair end-to-end transmission of voice, video and data traffic.

### **3.18 User Training**

Schedules for implementation are completed, and the users are given their manuals and comprehensive training in the operation of the system. The production files are created or converted to make the system operational. User training also includes formal instruction on the use of commercially available COTS software.

### **3.19 Data Entry**

Initialization of data collection processes to capture existing unstructured data to validate data being captured, verify integrity of data collected, and assure all data captured complies with data administration standards. Includes system data dictionaries and documentation to support data collection functions. Personnel may operate keyboard-controlled data entry devices to transcribe data into forms suitable for computer processing. The work requires experience and judgment in searching, interpreting and selecting items from a variety of source documents.

### **3.20 Object Oriented Design/Programming**

Transforming an object-oriented model into the specifications required to create the system. Moving from object-oriented analysis to object-oriented design is accomplished by expanding the model into ever more detail. Object-oriented programming is more flexible than standard programming. It is an evolutionary form of modular programming with more formal rules that allow pieces of software to be reused and interchanged among programs. Each object can then be examined, discussed, modeled, designed, programmed, tested and implemented.

### **3.21 Technical Support**

Providing a full range of technical expertise in all areas of computer knowledge. This includes programming, systems design and development, systems analysis and other software tasks. It includes the ability to operate and maintain computer systems and associated peripheral equipment including servers, monitors, disk-drives, printers and modems. Support may be requested in mainframe, minicomputer, network server, and/or

personal computer environments, help desk/Info Center, and in field sites. The technical assistance may include database maintenance, performance monitoring and tuning, networking and telecommunications support.

### **3.22 Workflow Processing**

The use of automated methods for the routing and control of documents and transactions through a process such as procurement requests, personnel requests, etc. Also involves scanning and storing information in digital form on computers. The information may be pictures, drawings or text. This process may also be described as the combining of single work units and their (partial) products as they are aggregated in an overall process, such as data entry to verification to populating a database to query and reporting. It could be represented in a flowchart or a process model where each function is shown with inputs, methods and controls from other functions, outputs to other functions that serve these purposes, and the overall initiating activity and end-product.

### **3.23 Records/Document Management and Information Distribution**

Use of automated systems to manage and distribute records and documents. Records management includes, but is not limited to, data entry, tracking, archiving and destruction, reporting and security of paper records through the use of automated tools such as bar-coding. Document management includes, but is not limited to, records management and the use of automated tools to assist in gaining control over revision cycles, tracking revision history, setting user authorizations, redlining, multiple department communications and data-sharing, and storing the data about an organization's documents to assist in search and retrieval.

### **3.24 Joint Requirements Planning (JRP)**

JRP consists of workshops with key end-users for planning and designing a system. The users are encouraged to do most of the talking. Information Systems staff translate what the users want into structured specifications and design so that users can understand and discuss the results. JRP sessions do not contain technical detail. They often involve higher-level managers and sometimes top-management. They establish requirements and justification for a system and the detailed functions it will perform. A major benefit of JRP is making executives think creatively about how information systems can help them. The workshops cause an examination of goals, problems, success factors and strategic opportunities in information strategy planning.

### **3.25 Joint Applications Development (JAD)**

In the JAD session, several knowledgeable people in the subject organization or in the subject functional area meet for extensive and intensive discussions and brain-storming sessions. These sessions are professionally facilitated and discussion/conclusions and disagreements are formally captured and distributed. These sessions strive to accomplish agreement or consensus on the topics of the session. Disagreements are resolved so everyone understands what the target/new process/function/system will and will not accomplish.

### **3.26 Rapid Applications Development (RAD)**

An approach to systems development that incorporates a variety of automated design tools (CASE). RAD focuses on human management and user involvement as much as on technology. RAD aims for rapid development of a single, stand-alone system of limited scope. The use of CASE tools is a necessity for this path, as are rapid development techniques and features such as time-box management, reusability and user workshops. RAD techniques are largely a subset of Systems and Information Engineering techniques.

### **3.27 Feasibility Study**

Identifies objectives, requirements, system concepts, and candidate approaches. It researches possible solutions and analyzes commercial off-the-shelf (COTS) products available for achieving the objectives. May include making recommendations on the approach to be taken. The feasibility studies will be used by managers to decide whether to proceed with the task.

### **3.28 Cost-benefit Analysis**

An in-depth evaluation of a given approach as to technical feasibility and/or the benefits to be gained for a specific cost. The analysis involves identifying, developing and analyzing the costs (actual and opportunity) and benefits of a given approach in quantitative terms if feasible and in qualitative terms otherwise, and preparation of a recommendation to proceed or not to proceed. The user may require that this type of analysis occur independently or with other activities comprising a full system development effort.

### **3.29 Business Process Re-engineering**

A complete analysis of the processes used to generate desired products and services with a possible revamping of the entire approach. The primary drivers should always be the customer's needs. These needs ultimately dictate the scope and the level of technology investment. The issues that need to be reconciled include time, quality, customer perspective, people empowerment, efficiency and flexibility. Technology is considered a potential enabler of the new approach.

### **3.30 Systems and Information Engineering**

An integrated set of methodologies and products used to guide and develop information processing within an organization. It starts with enterprise-wide strategic planning and ends with operational applications. It includes activities required for the support of operational systems oriented to enhancing operations of hardware and software systems to include the collection and analysis of systems information, diagnosis of problems and development of recommendations to resolve problems. It establishes and maintains systems and software configuration baseline data and documentation. It includes redesign activities that modify functionality and/or produce technical improvements to enhance software and security. It monitors system execution and performance; performs problem analysis and resolution; and provides technical assistance to the end-user. It performs system and software conversion activities that include the transition of existing applications from one environment to another. It performs production control activities such as the support of cyclical changes to operational workloads, data compression, data restores, reorganization of files, recovery of systems, production of reports,

download/upload of information, and setup and verification of fields and programs for the execution of production runs. It prepares and executes disaster recovery procedures; analyzes, compiles and aggregates data to produce statistical trend analysis reports; develops user-friendly interfaces between different automation functions and upload/download capabilities; and develops and implements an audit strategy to ensure the integrity and confidentiality of data.

### **3.31 Earned Value Analysis**

The contractor shall provide analysis of earned value data in accordance with the ANSI/EIA-748-A Standard, "Earned Value Management Systems," to help determine schedule and cost status. Acceptance criteria applicable to Earned Value Analysis include the following:

- Applicable trend analysis is presented
- Evaluations of mitigation strategies are clear and articulate
- Early warning of potential cost and/or schedule variance is provided
- Estimate to complete is provided
- Government task manager is given insight into project status

### **3.32 Multi-Media Broadcast Operations and Administration**

The operations and administration of an integrated network of audiovisual and IT equipment to produce and support streaming video service. Broadcast operations management includes technical expertise to help guide and inform the introduction and maintenance of new and existing broadcast services and technologies. IT operations require IT engineering and media services, audio-visual support, web and database services, development of new/foreign-affairs centric content, and video encoding for multicasting and video on demand (VOD).

### **3.33 Other IT- Related Services**

Examples include but are not limited to technical and quality reviews, documentation of existing systems and procedures, preparation of IT Standards and Procedures, Preparation and Performance of Special Presentations, Provision of IT Training, Document Analysis, Data Collection, Operational Analysis, Strategic Information Systems, video conferencing, artificial intelligence and expert systems, network management and control, TCP/IP, Secure/Non-Secure Voice Data Systems, Multilevel Security Systems, Messaging Work Flow Systems, Physical security, E Commerce Support, E Gov, Independent Verification and Validation (IV&V), Certification and Accreditation (C&A), Configuration Management (CM), and Enterprise Architecture.