



U.S. General Services Administration

**Streamlined Technology Acquisition Resources for Services (STARS)
Small Business Government Wide Acquisition Contracts Center**

*Functional Area 1 – Custom Computer Programming Services
Functional Area 3 – Computer Facilities Management Services*

Contract Number: GS-06F-0095Z

Contract Period: June 1, 2004 to May 31, 2011

Pricelist current through Modification 7 Dated March 7, 2008

For information, please visit www.powertekcorporation.com/GSASTars.php

For more detailed information on ordering from GSA Stars, please visit www.gsa.gov/8astars.

For more information, please contact:

Alex Vanjani (Contracts Administrator): (301) 795-0412

avanjani@powertekcorporation.com

**Powertek Corporation
9420 Key West Avenue
Suite 210
Rockville, MD 20850**

Business Size: Women Owned, Disadvantaged, Small Business, 8(a)



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CUSTOMER INFORMATION

1a. Awarded Functional Areas

FA 1: NAICS 541511 Custom Computer Programming Services
FA 3: NAICS 541513 Computer Facilities Management Services

1b. Please See Appendix A for Price List

1c. Please See Appendix B for Labor Category Descriptions

2. Maximum order: \$3,000,000.00

3. Minimum order: Not applicable

4. Geographic coverage: Domestic Delivery Only

5. Point(s) of production: Rockville, Montgomery County, MD

6. Discount from list prices: Prices shown are Net Prices.

7. Quantity discounts: None

8. Prompt payment terms: .25% Net 20 or Net 30 days from receipt of invoice or date of acceptance, whichever is later.

10. Foreign items: Not applicable.

11a. Time of delivery: Within the number of calendar days as negotiated between Powertek Corporation and government agency.

11b. Expedited delivery: Items available for expedited delivery are noted in this price list.

11c. Overnight and 2-day delivery: Not Applicable

11d. Urgent requirements: Agencies can contact the contract administration to obtain faster delivery.

12. F.O.B. point(s): Destination

13a. Ordering address:
Powertek Corporation
Attn: Contracts Administrator
9420 Key West Avenue, Suite 210
Rockville, MD 20850
(301) 795-0412 (phone)
(301) 795-0430 (facsimile)

13b. Ordering procedures: For supplies and services, the ordering procedures, information on blanket purchase agreements (BPAs), and a sample BPA can be found at the GSA Stars schedule homepage (www.gsa.gov/8astars).

CUSTOMER INFORMATION (Cont'd.)

14. **Payment address:** Powertek Corporation
9420 Key West Avenue, Suite 210
Rockville, MD 20850
15. **Warranty provision:** Not applicable
16. **Export packing charges:** Not applicable.
17. **Terms and conditions of Government purchase card acceptance:** Government purchase cards will be acceptable for payment.
18. **Terms and conditions of rental maintenance, and repair:** Not applicable.
19. **Terms and conditions of installation:** Not applicable.
20. **Terms and conditions of repair parts:** Not applicable.
- 20a. **Terms and conditions for any other services:** Not applicable.
21. **List of service and distribution points:** Not applicable
22. **List of participating dealers:** Not Applicable
23. **Preventative maintenance:** Not applicable.
- 24a. **Special attributes:** Not Applicable
- 24b. **Section 508:** If applicable, Section 508 compliance information on the supplies and services in this contract are available in Electronic and Information Technology (EIT) at the following: The EIT standard can be found at: www.Section508.gov.
25. **Data Universal Number System (DUNS) number:** 05-336-2443
26. **Central Contractor Registration (CCR) database:** Powertek Corporation is registered in the Central Contractor Registration database.



How to Order from the 8(a) STARS

There are two ways to order from the 8(a) STARS GWAC: Direct Order or through GSA FTS.

DIRECT ORDER-Delegations of Authority

Federal agencies that wish to conduct their own procurements may use the 8(a) STARS GWAC through a delegation of authority. Delegations of authority are easy to request. Only two pieces of information are needed to get started:

1. A request via e-mail from an e-mail account having a “.gov” or “.mil” suffix listing the name(s) of the party(ies) for whom authority is being requested; and
2. A copy of the warrant for each contracting officer for whom authority is being requested. The warrant(s) may accompany the e-mail as a scanned attachment, or may be faxed separately

The Small Business GWAC Center will then validate the information received and issue a Memorandum of Agreement, which includes the delegation of authority. Training will be provided to all personnel involved in the acquisition and a written delegation of authority to the covered contracting official will be issued. The contracting officer’s concurrence on the delegation is required. For information on delegations of authority or to request a delegation, please e-mail 8a@gsa.gov or call toll free (877) 327-8732.

GSA FTS-3 Steps

Doing business with GSA, Federal Technology Service (FTS) requires just three documents:

1. A signed interagency Memorandum of Understanding (MOU) or Service Agreement
2. Statement of Work (SOW) – used for technology or telecommunications services projects including the Functional Area under which it falls
3. Funding document which includes the FTS fee for services

Client/customer approval for the items described in SOW based on the price and availability proposed by an industry partner is required.

GSA FTS Client Support Centers:

- Provide direct client interface and support
- Issue and manage delivery and task orders against contracts
- Procure on behalf of federal customers

Information about GSA FTS is available on the web at www.gsa.gov/fts or by calling (703) 306-6000.

Guidance on Order Preparation

The ordering official responsible for the RFQ/RFP will provide a description of the requirement, which will include some or all of the following:

- A statement of work
- A desired completion date along with milestones and/or delivery schedule, period of performance
- The authorized order types available under this contract (i.e., any in the Fixed Price family, Time & Materials, Labor Hour)
- Any change from the standard response deadline
- Evaluation factors
- Any special instructions, conditions, notices, performance measures/metrics, etc.
- The applicable Section 508 accessibility standards from 36 CFR 1194

Orders shall contain, to the maximum extent practicable, performance based statements of work with meaningful performance measures/metrics. There is a useful Best Practices Guide issued by the Office of Federal Procurement Policy available on the web at <http://www.acqnet.gov/Library/OFPP/BestPractices/>. Funding for each Order shall be at the Order level, not at the contract level.

Services and supplies will be ordered by:

- Issuance of Written Orders on GSA Form 300, Standard Form 1449 or DD Form 1155 using ITSS or other authorized agency form distributed by mail, fax or e-mail attachment. Oral Orders are not authorized.
- One copy of delegated orders including SOW shall be sent to the address listed below:

GSA, FSS, GWAC Management Center (4FG)
Attn: Angela Joslin
401 West Peachtree Street, Suite 2600
Atlanta, GA 30308

At completion of performance, Federal Acquisition Regulations requires the client agency to complete a past performance questionnaire. An on-line form is available from the 8(a) STARS website at www.gsa.gov/8astars.

All options shall be priced and evaluated at the time of initial receipt of offers. Quotes shall contain a line item breakdown. For any disparity of terms and conditions between an order and the actual contract, the terms and conditions of the contract shall prevail. Quotes shall remain valid for a period of not less than 60 calendar days if the minimum acceptance period is not stated in the RFQ/RFP. Although ceiling line item pricing has already been determined fair and reasonable based upon adequate price competition, government contracting officers are required to ensure that order pricing is fair and reasonable for their specific requirements. Hardware, software, and other IT items which fall within the scope of the contract may also be procured at the order level provided that they are within the scope of the selected Functional Area/NAICS code description. Other Direct Costs (ODCs) are those costs incurred by the contractor (when authorized by an order) to obtain supplies or services including hardware, software, training, subcontractor costs, etc. All ODCs must be itemized to the maximum extent possible on individual orders. Administrative Contracting Officers shall determine price reasonableness for all ODCs proposed under the order. Please refer to Sections B and C of the master contract for additional guidance on ODCs.

THE POWERTEK ADVANTAGE

Powertek is an 8(a) Woman-Owned Small Business providing customers with innovative, mission-critical solutions in a variety of technologies; we deliver outstanding customer service and high-value technical support that exceeds customer expectations — consistently. Powertek business units are organized around Federal Civilian, Defense Systems, and Homeland Security. We specialize in Systems Integration and Software Engineering, IT Systems and Infrastructure Support, Cyber Security, Business Consulting Services, and Financial Management Services; offering a broad range of information technology, business engineering, and program management services to Government customers — always with the goal of improved performance, reduced costs, minimized risk, and enterprise efficiencies. Powertek holds industry certifications including CMMI Level 2 Maturity Rating, ISO 9001:2008 Registration, and 90% of our Help Desk employees have obtained ITIL certification. We deploy a proven, enthusiastic approach to customers' projects by applying creative solutions, advanced technologies, and strategic thinking to solve complex challenges; maximizing the power of technology to deliver cost effective and targeted results.

Ranked #1036 on Inc. 500/5000 List of Fastest-Growing Private Companies in America in 2009



Ranked #91 "Top 100 Inc. 500/5000 Companies- Washington Metro Area in 2009



Ranked #86 "Top 100 Inc. 500/5000 Companies by Industry – Government Services" in 2009



Named 2008 Dept. of Commerce MBDA Regional Minority Technology Firm of the Year



Named 2008 Dept. of Commerce MBDA National Minority Technology Firm of the Year



Ranked #1092 on Inc. 500/5000 List of Fastest-Growing Private Companies in America in 2008



Nominated NASA Ames 2008 Small Business Prime Contractor



Ranked #25 on Washington Technology's Fast 50 in 2007



Ranked #41 of the Fastest-Growing Women-Owned / Led Firms in U.S. in 2007

POWERTEK GSA STARS

Functional Area 1

NAICS 541511 - Custom Computer Programming Services

This U.S. industry comprises establishments primarily engaged in writing, modifying, testing, and supporting software to meet the needs of a particular customer.

Business Categories:

- Applications Software Programming Services
- Computer Program or Software Development
- Computer Programming Services
- Computer Software Support Services
- Database Design/Generation
- Legacy Interfaces/Data Migration
- Software Analysis and Design
- Software Programming
- Software Testing
- Web Design

Functional Area 3

NAICS 541513 - Computer Facilities Management Services.

This U.S. industry comprises establishments primarily engaged in providing on-site management and operation of clients' computer systems and/or data processing facilities. Establishments providing computer systems or data processing facilities support services are included in this industry.

Business Categories:

- Computer Operations/Support
- Computer Systems Facilities Services
- Data Processing Facilities Services
- End User Support
- Equipment Inventory & Maintenance
- Hardware/Software Maintenance
- Help Desk
- IT Facilities Management, Operation, & Support
- IT Facilities Planning
- Network Management

Appendix A – Labor Rates - June 1, 2009 – May 31, 2010

Functional Area 1 (FA1)

	Labor Category Name	Rate
1.	Applications Programmer	\$121.85
2.	Applications Systems Analyst/Programmer – Intermediate	\$105.90
3.	Applications Systems Analyst/Programmer – Senior	\$123.25
4.	Business Subject Matter Specialist	\$215.78
5.	Chief Information Security Officer	\$178.32
6.	Client/Server Database Manager	\$145.89
7.	Communications Facility Engineer	\$125.29
8.	Communications Installer	\$ 85.22
9.	Communications Transmission Engineer	\$105.28
10.	Consultant	\$156.14
11.	Data Architect	\$172.57
12.	Data/Configuration Management Specialist	\$100.87
13.	Database Analyst/Programmer – Intermediate	\$105.90
14.	Database Analyst/Programmer – Senior	\$123.25
15.	Documentation Specialist – Intermediate	\$ 82.25
16.	Documentation Specialist – Senior	\$ 94.90
17.	Engineering Subject Matter Specialist	\$190.00
18.	Graphics Specialist	\$ 73.80
19.	Information Assurance Development Engineer	\$105.90
20.	Information Assurance Engineer	\$ 93.06
21.	Information Assurance Network Specialist	\$ 86.60
22.	Information Assurance Systems/Network Specialist	\$ 94.89
23.	Information Security Business Analyst	\$123.24
24.	IT Subject Matter Specialist	\$139.70
25.	Project Engineer	\$171.93
26.	Project Manager – Senior	\$171.94
27.	Quality Assurance Analyst – Intermediate	\$105.90
28.	Quality Assurance Analyst – Senior	\$123.25
29.	Quality Assurance Specialist	\$123.57
30.	Security Coordinator	\$ 75.83
31.	Software Architect	\$112.49
32.	Software Developer – Intermediate	\$119.24
33.	Software Developer – Senior	\$143.15
34.	Software Systems Engineer – Intermediate	\$125.29
35.	Software Systems Engineer – Senior	\$143.15
36.	Strategic Planner	\$187.74
37.	Systems Engineer	\$108.06
38.	Technical Editor	\$ 94.90
39.	Technical Writer	\$ 96.38
40.	Web Content Analyst	\$ 82.23
41.	Web Security Analyst	\$ 90.84
42.	Web Software Developer	\$108.06

Functional Area 3 (FA3)

	Labor Category Name	Rate
1.	Business Subject Matter Specialist	\$215.78
2.	Chief Information Security Officer	\$178.32
3.	Client/Server Database Manager	\$145.89
4.	Client/Server Support Analyst	\$109.50
5.	Communications Facility Engineer	\$125.29
6.	Communications Installer	\$ 85.22
7.	Communications Transmission Engineer	\$105.28
8.	Computer Operations Manager	\$ 94.90
9.	Consultant	\$156.14
10.	Data Architect	\$172.57
11.	Electronic Mail Coordinator	\$ 75.83
12.	Help Desk Coordinator – Intermediate	\$ 63.28
13.	Help Desk Coordinator – Senior	\$ 73.80
14.	Help Desk Manager	\$ 75.18
15.	Help Desk Specialist	\$ 82.23
16.	Help Desk Support Services Specialist – Intermediate	\$ 63.28
17.	Help Desk Support Services Specialist – Senior	\$ 73.80
18.	Information Assurance Development Engineer	\$105.90
19.	Information Assurance Engineer	\$ 93.06
20.	Information Assurance Network Specialist	\$ 86.60
21.	Information Assurance Systems/Network Specialist	\$ 94.89
22.	Information Security Business Analyst	\$123.24
23.	IT Subject Matter Specialist	\$139.70
24.	LAN/WAN Administrator	\$105.90
25.	LAN/WAN/MAN Administrator	\$108.06
26.	Network Control Technician	\$ 75.17
27.	Network Operations Supervisor	\$105.90
28.	Network Systems Administrator	\$105.28
29.	Network Systems Manager	\$113.30
30.	Network/Hardware Support Technician	\$ 73.81
31.	Operations Manager – Data Communications	\$132.36
32.	Operations Manager – Voice Communications	\$125.29
33.	Operations Systems Manager	\$145.89
34.	Operations/Network LAN Administrator	\$ 97.61
35.	Operations/Technical Support Analyst	\$ 84.49
36.	Operations/Technical Support Manager	\$112.49
37.	PC Products Analyst	\$ 85.21
38.	PC Systems Specialist	\$ 85.21
39.	Project Engineer	\$171.93
40.	Project Manager – Senior	\$171.94
41.	Quality Assurance Specialist	\$123.57
42.	Security Coordinator	\$ 75.83
43.	Site Manager	\$152.32
44.	Strategic Planner	\$187.74
45.	Systems Engineer	\$108.06
46.	Telecommunications Network Help Desk	\$ 84.49
47.	Telecommunications/Communications Integration Engineer	\$113.80
48.	Voice Communications Technician	\$ 73.81

Appendix A – Labor Rates - June 1, 2010 – May 31, 2011

Functional Area 1 (FA1)

	Labor Category Name	Rate
1.	Applications Programmer	\$123.50
2.	Applications Systems Analyst/Programmer – Intermediate	\$110.13
3.	Applications Systems Analyst/Programmer – Senior	\$128.18
4.	Business Subject Matter Specialist	\$224.41
5.	Chief Information Security Officer	\$185.46
6.	Client/Server Database Manager	\$151.72
7.	Communications Facility Engineer	\$130.30
8.	Communications Installer	\$ 88.63
9.	Communications Transmission Engineer	\$109.49
10.	Consultant	\$162.39
11.	Data Architect	\$179.47
12.	Data/Configuration Management Specialist	\$104.90
13.	Database Analyst/Programmer – Intermediate	\$110.13
14.	Database Analyst/Programmer – Senior	\$128.18
15.	Documentation Specialist – Intermediate	\$ 85.54
16.	Documentation Specialist – Senior	\$ 98.70
17.	Engineering Subject Matter Specialist	\$197.60
18.	Graphics Specialist	\$ 76.75
19.	Information Assurance Development Engineer	\$110.14
20.	Information Assurance Engineer	\$ 96.78
21.	Information Assurance Network Specialist	\$ 90.07
22.	Information Assurance Systems/Network Specialist	\$ 98.68
23.	Information Security Business Analyst	\$128.17
24.	IT Subject Matter Specialist	\$145.29
25.	Project Engineer	\$178.81
26.	Project Manager – Senior	\$178.81
27.	Quality Assurance Analyst – Intermediate	\$110.14
28.	Quality Assurance Analyst – Senior	\$128.18
29.	Quality Assurance Specialist	\$128.52
30.	Security Coordinator	\$ 78.86
31.	Software Architect	\$116.99
32.	Software Developer – Intermediate	\$124.01
33.	Software Developer – Senior	\$148.88
34.	Software Systems Engineer – Intermediate	\$130.30
35.	Software Systems Engineer – Senior	\$148.88
36.	Strategic Planner	\$195.25
37.	Systems Engineer	\$112.39
38.	Technical Editor	\$ 98.69
39.	Technical Writer	\$100.24
40.	Web Content Analyst	\$ 85.52
41.	Web Security Analyst	\$ 94.48
42.	Web Software Developer	\$112.39

Functional Area 3 (FA3)

	Labor Category Name	Rate
1.	Business Subject Matter Specialist	\$224.41
2.	Chief Information Security Officer	\$185.46
3.	Client/Server Database Manager	\$151.72
4.	Client/Server Support Analyst	\$113.88
5.	Communications Facility Engineer	\$130.30
6.	Communications Installer	\$ 88.63
7.	Communications Transmission Engineer	\$109.49
8.	Computer Operations Manager	\$ 98.69
9.	Consultant	\$162.39
10.	Data Architect	\$179.47
11.	Electronic Mail Coordinator	\$ 78.86
12.	Help Desk Coordinator – Intermediate	\$ 65.81
13.	Help Desk Coordinator – Senior	\$ 76.75
14.	Help Desk Manager	\$ 78.18
15.	Help Desk Specialist	\$ 85.52
16.	Help Desk Support Services Specialist – Intermediate	\$ 65.81
17.	Help Desk Support Services Specialist – Senior	\$ 76.75
18.	Information Assurance Development Engineer	\$110.14
19.	Information Assurance Engineer	\$ 96.78
20.	Information Assurance Network Specialist	\$ 90.07
21.	Information Assurance Systems/Network Specialist	\$ 98.68
22.	Information Security Business Analyst	\$128.17
23.	IT Subject Matter Specialist	\$145.29
24.	LAN/WAN Administrator	\$110.13
25.	LAN/WAN/MAN Administrator	\$112.39
26.	Network Control Technician	\$ 78.18
27.	Network Operations Supervisor	\$110.13
28.	Network Systems Administrator	\$109.49
29.	Network Systems Manager	\$117.83
30.	Network/Hardware Support Technician	\$ 76.76
31.	Operations Manager – Data Communications	\$137.65
32.	Operations Manager – Voice Communications	\$130.30
33.	Operations Systems Manager	\$151.72
34.	Operations/Network LAN Administrator	\$101.52
35.	Operations/Technical Support Analyst	\$ 87.87
36.	Operations/Technical Support Manager	\$116.99
37.	PC Products Analyst	\$ 88.62
38.	PC Systems Specialist	\$ 88.62
39.	Project Engineer	\$178.81
40.	Project Manager – Senior	\$178.81
41.	Quality Assurance Specialist	\$128.52
42.	Security Coordinator	\$ 78.86
43.	Site Manager	\$158.41
44.	Strategic Planner	\$195.25
45.	Systems Engineer	\$112.39
46.	Telecommunications Network Help Desk	\$ 87.87
47.	Telecommunications/Communications Integration Engineer	\$118.35
48.	Voice Communications Technician	\$ 76.76



Appendix B – Labor Category Descriptions

GSA STARS

Contract Number: GS-06-0095Z

8(a) STARS Functional Area 1 Technical Refreshment Labor Category Descriptions

FUNCTIONAL AREA 1 - NAICS CODE 541511

CLIN 1 - Project Manager- Senior

Responsible for all aspects of the development and implementation of assigned projects and provides a single point of contact for those projects. Takes projects from original concept through final implementation. Interfaces with all areas affected by the project including end users, computer services, and client services. Defines project scope and objectives. Develops detailed work plans, schedules, project estimates, resource plans, and status reports. Conducts project meetings and is responsible for project tracking and analysis. Ensures adherence to quality standards and reviews project deliverables. Manages the integration of vendor tasks and tracks and reviews vendor deliverables. Provides technical and analytical guidance to project team. Recommends and takes action to direct the analysis and solutions of problems.

CLIN 2 - Applications Systems Analyst/Programmer - Intermediate

Under general supervision, formulates and defines system scope and objectives through research and fact-finding to develop or modify moderately complex information systems. Prepares detailed specifications from which programs will be written. Designs, codes, tests, debugs, documents, and maintains those programs. Competent to work on most phases of applications systems analysis and programming activities, but requires instruction and guidance in other phases.

CLIN 3 - Applications Systems Analyst/Programmer - Senior

Under general direction, formulates and defines system scope and objectives. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time, and form of desired results. Prepares detailed specifications from which programs will be written. Designs, codes, tests, debugs, and documents those programs. Competent to work at the highest technical level of all phases of applications systems analysis and programming activities. May be responsible for completion of a phase of a project. Regularly provides guidance and training to less-experienced analyst/programmers.



CLIN 4 - Database Analyst/Programmer - Intermediate

Under general supervision, designs, implements and maintains moderately complex databases. Maintains database dictionaries and integration of systems through database design. Competent to work on most phases of database administration but may require some instruction and guidance in other phases. Requires two years experience in the field.

CLIN 5 - Database Analyst/Programmer - Senior

Under general direction, designs, implements and maintains complex database with respect to JCL, access methods, access time, device allocation, validation checks, organization, protection and security, documentation and statistical methods. Includes maintenance of database dictionaries, overall monitoring of standards and procedures and integration of systems through database design. Competent to work at the highest level of all phases of database management. Requires three years experience in the field.

CLIN 6 - Documentation Specialist - Intermediate

Under general supervision, prepares and/or maintains systems, programming, and operations documentation, including user manuals. Maintains a current internal documentation library. Competent to work on most phases of documentation.

CLIN 7 - Documentation Specialist - Senior

Under general supervision, is responsible for preparing and/or maintaining systems, programming, and operations documentation, procedures, and methods including user manuals and reference manuals. Maintains a current internal documentation library. Provides or coordinates special documentation services as required. Competent to work at the highest level of all phases of documentation. May act as project leader for large positions.

CLIN 8 - Graphics Specialist

Responsible for graphics design and use, operation, and setup of computer graphic systems for business communications. Executes graphic projects and assists in coordination of all graphic production scheduling. Coordinates production support with outside vendors, as needed. Ensures that graphic projects are completed on time, within budget, and to user's satisfaction. Interfaces with users to determine scope of project and best graphic medium. Trains other personnel in proper use of computer graphic equipment. Troubleshoots computer equipment problems and performs minor preventive maintenance. Frequently reports to a department manager or information systems management.



CLIN 9 - Quality Assurance Analyst - Intermediate

Under general supervision, carries out procedures to ensure that all information systems, products and services meet minimum organization standards and end-user requirements. Thoroughly tests software to ensure proper operation and freedom from defects. Documents and works to resolve all problems. Reports progress on problem resolution to management. Devises improvements to current procedures and develops models of possible future configurations. Performs workflow analysis and recommends quality improvements. Frequently reports to a Quality Assurance Manager.

CLIN 10- Quality Assurance Analyst - Senior

Under general direction, carries out procedures to ensure that all information systems, products and services meet organization standards and end-user requirements. Performs and leads tests of software to ensure proper operation and freedom from defects. May create test data for applications. Documents and works to resolve all complex problems. Reports progress on problem resolution to management. Devises improvements to current procedures and develops models of possible future configurations. Acts as information resource about assigned areas to technical writers and other Quality Assurance Analysts. Performs complex workflow analysis and recommends quality improvements. Frequently reports to a Quality Assurance Manager.

CLIN 11 - Software Architect

Works independently designing and developing new software products or major enhancements to existing software. May lead a large development team in the design of highly complex software systems. Acts as highest-level technical expert, addressing problems of systems integration, compatibility, and multiple platforms. Responsible for project completion. Performs feasibility analysis on potential future projects to management.

CLIN 12 - Software Developer - Intermediate

Under general supervision, develops codes, tests, and debugs new software or enhancements to existing software. Has good understanding of business applications. Works with technical staff to understand problems with software and resolve them. Resolves customer complaints with software and responds to suggestions for improvements and enhancements. May assist in development of software user manuals. Requires two years experience in the field.

CLIN 13 - Software Developer - Senior

Under general direction, participates as high-level technical expert in design development, coding, testing, and debugging new software or significant enhancements to existing software. Works with technical staff to understand problems with software and develops specifications to resolve them. Resolves customer complaints and responds to suggestions for improvements and enhancements. Participates in the development of software user manuals. May act as team leader on less complex projects. Assists in training less experienced software development staff. Requires five years experience in the field.

CLIN 14 - Software Systems Engineer - Intermediate

Under general supervision, works from specifications to develop or modify moderately complex software programming applications. Assists with design, coding, benchmark testing, debugging, and documentation of programs. Applications generally deal with utility programs, position control language, macros, subroutines, and other control modules. Competent to work on most phases of software systems programming applications, but requires instruction and guidance in other phases.

CLIN 15 - Software Systems Engineer - Senior

Under general direction, formulates and defines specifications for complex operating software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. Designs, codes, tests, debugs, and documents those programs. Responsible for applications dealing with the overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting, and advanced mathematical/scientific software packages. Competent to work at this highest technical level on all phases of software systems programming applications. May have responsibility for the evaluation of new and existing software products. May assist other systems programmers to effectively utilize the system's technical software.

CLIN 16 - Technical Editor

Responsible for content of technical documentation. Checks author's document for spelling, grammar and content problems (e.g., missing instructions or sections; redundant or unnecessary sections). Accuracy of content may fall under this position or the programmer, depending on the expertise of the editor. Ensures that documents follow the style laid out in the organization's style guide. May also be responsible for maintaining the style guide. Suggests revisions to the style guide as appropriate. Editor is often a technical writer who has moved to this position. Note: This description is for a technical editor in a large software house or an editor in a technical lab, which produces papers for publication. Newsletter, newspaper, or magazine editors should not be matched to this position.

CLIN 17 - Web Software Developer

Designs, develops, troubleshoots, debugs, and implements software code (such as HTML, CGI, and JavaScript) for a component of the website. Works with graphic designers and other members of a project team to develop the site concept, interface design, and architecture of the website. Responsible for interface implementation. Integrates web applications with backend databases. Deploys large web-based transaction systems using application servers. Researches, tests, builds, and coordinates the integration of new products per production and client requirements. Requires strong navigation and site-design instincts.

CLIN 20 - Applications Programmer

Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time, and form of desired results. Designs, codes, tests, debugs, and documents.



CLIN 21 - Business Subject Matter Specialist

Provides technical knowledge and analysis of highly specialized applications and operational environments, high-level functional systems analysis, design, integration, documentation and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation. Participates as needed in all phases of software development with emphasis on the planning, analysis, testing, integration, documentation, and presentation phases.

CLIN 22 - Chief Information Security Officer

Ensures that all information systems are functional and secure.

CLIN 23 - Client/Server Database Manager

Projects long-range requirements for client/server database administration in conjunction with other managers in the information systems function as well as business function managers. Prepares activity and progress reports regarding the client/server database management section.

CLIN 24 - Communications Facility Engineer

Provides technical direction and engineering knowledge for communications systems infrastructure activities, including planning, designing, and implementing communications infrastructure requirements for buildings and systems. Ensures that adequate and appropriate planning is provided to direct building architects and planners in building communications spaces and media pathways meet industry standards.

CLIN 25 - Communications Installer

Assists in the planning, design, and implementation of communications networks. Responsible for providing assistance and technical support for network design activities. Assists in the review/assessment of user needs. Performs feasibility studies for small projects. Assists in the evaluation and selection of equipment.

CLIN 26 - Communications Transmission Engineer

Provides technical direction and engineering knowledge for communications activities including planning, designing, installing and maintaining large communications networks. Develops, operates, and maintains voice, wireless, video, and data communications systems. Provides complex engineering or analytical tasks and activities associated with one or more technical areas within the communications function.

CLIN 27 – Consultant

Works with end user groups to evaluate and solve technical problems. Evaluates existing systems and/or user needs to analyze, design, recommend, and implement system changes

CLIN 28 - Data Architect

Designs and builds relational databases. Develops strategies for data acquisitions, archive recovery, and implementation of a database. Works in a data warehouse environment, which includes data design, database architecture, metadata and repository creation. Translates business needs into long-term architecture solutions. Defines, designs, and builds dimensional databases. Develops data warehousing blueprints, evaluating hardware and software platforms, and integrating systems. Evaluates reusability of current data for additional analyses. Reviews object and data models and the metadata repository to structure the data for better management and quicker access.

CLIN 29 - Data/Configuration Management Specialist

Provides configuration management planning. Describes provisions for configuration identification, change control, configuration status accounting, and configuration audits. Regulates the change process so that only approved and validated changes are incorporated into product documents and related software.

CLIN 30 - Engineering Subject Matter Specialist

Provides technical knowledge and analysis of highly specialized applications and operational environment, high-level functional systems analysis, design, integration, documentation, and implementation advice on exceptionally complex problems that necessitate high-level knowledge of the subject matter for effective implementation. Participates as needed in all phases of software development with emphasis on the planning, analysis, modeling, simulation, testing, integration, documentation and presentation phases.

CLIN 31 - Information Assurance Development Engineer

Analyzes and defines security requirement for computer systems which may include mainframes, workstations, and personal computers. Designs, develops, engineers, and implements solutions that meet security requirements. Provides integration and implementation of the computer system security solution.

CLIN 32 - Information Assurance Engineer

Establishes and satisfies complex system-wide information security requirements based upon the analysis of user, policy, regulatory, and resource demands. Supports customers at the highest levels in the development and implementation of doctrine and policies. Applies know-how to government and commercial common user systems, as well as to dedicated special purpose systems requiring specialized security features and procedures.

CLIN 33 - Information Assurance Network Specialist

Analyzes general information assurance-related technical problems and provides basic engineering and technical support in solving these problems. Designs, develops, engineers, and implements solutions that meet network security requirements. Performs vulnerability/risk analyses of computer systems and applications during all phases of the system development life cycle.

CLIN 34 - Information Assurance Systems/Network Specialist

Installs, configures and maintains organization's operating systems. Analyzes and resolves problems associated with server hardware, NT, applications software. Detects, diagnoses, and reports NT related problems on both NT server and NT desktop systems. Performs a wide variety of tasks in software/hardware maintenance and operational support of NT Server systems.

CLIN 35 - Information Security Business Analyst

Determines enterprise information security standards. Develops and implements information security standards and procedures. Ensures that all information systems are functional and secure.

CLIN 36 -IT Subject Matter Specialist

Provides extremely high-level subject matter proficiency for work described in the task. Provides advanced technical knowledge and analysis of highly specialized applications and operational environment, high-level functional systems analysis, design, integration, documentation, training, and implementation advice on complex problems that require doctorate level knowledge of the subject matter for effective implementation.

CLIN 37 - Project Engineer

Manages long-term IT engineering projects. Performs engineering design evaluations and works to complete projects within budget and scheduling restraints. Develops, implements, and monitors information systems policies and controls to ensure data accuracy, security, and regulatory compliance. Reviews reports of computer and peripheral equipment production, malfunction, and maintenance to determine and address problems.

CLIN 38 - Quality Assurance Specialist

Provides development of project Software Quality Assurance Plan and the implementation of procedures that conforms to the requirements of the contract. Provides an independent assessment of how the project's software development process is being implemented relative to the defined process and recommends methods to optimize the organization's process.

CLIN 39 - Security Coordinator

Coordinates, develops, and evaluates security programs for an organization.



CLIN 40 - Strategic Planner

Provides strategic planning of large projects or a significant segment of a strategic planning portion of a large complex project. Provides the overall approach to clarify mission statements so they can be used as springboards in envisioning their desired future. Assists in developing mission and vision statements, subsequent goal delineation, provides guidance for building operational plans and specifying measurable outcomes to include capital outlay planning efforts in a consolidated strategic planning process and prioritizes those initiatives.

CLIN 41 - Systems Engineer

Performs a variety of systems engineering tasks and activities that are broad in nature and are concerned with major systems design, integration, and implementation, including personnel, hardware, software, budgetary, and support facilities and/or equipment. Provides quality assurance review and the evaluation of new and existing software products.

CLIN 42 - Technical Writer


Writes a variety of technical articles, reports, brochures, and/or manuals for documentation for a wide range of uses. Coordinates the display of graphics and the production of the document.

CLIN 43 - Web Content Analyst

Provides for development and content that will motivate and entertain users so that they regularly access the website and utilize it as a major source for information and decision-making. Provides managing/performing website editorial activities including gathering and researching information that enhances the value of the site.

CLIN 44 - Web Security Analyst

Performs all procedures necessary to ensure the safety of the organization's website and transactions across the Internet/intranet. Applies Internet firewall technologies to maintain security. Ensures that the user community understands and adheres to necessary procedures to maintain security. Updates and deletes users, monitors and performs follow-up on compliance violations, and develops security policies, practices, and guidelines.



**8(a) STARS Functional Area 3
Technical Refreshment
Labor Category Descriptions**

FUNCTIONAL AREA 3 - NAICS CODE 541513

CLIN 1 - Project Manager- Senior

Responsible for all aspects of the development and implementation of assigned projects and provides a single point of contact for those projects. Takes projects from original concept through final implementation. Interfaces with all areas affected by the project including end users, computer services, and client services. Defines project scope and objectives. Develops detailed work plans, schedules, project estimates, resource plans, and status reports. Conducts project meetings and is responsible for project tracking and analysis. Ensures adherence to quality standards and reviews project deliverables. Manages the integration of vendor tasks and tracks and reviews vendor deliverables. Provides technical and analytical guidance to project team. Recommends and takes action to direct the analysis and solutions of problems.

CLIN 2 – Client/Server Support Analyst

Under general supervision, assists with personal computer operating systems software and communication system software. Designs, tests, and maintains personal computer systems. Responsible for analyzing and solving personal computer-related problems. Responsible for security, integrity, and reliability of personal computer systems. Tests and integrates new hardware, systems and modifications to existing equipment and systems. Performs research/investigations, analysis, design, testing, and installation of supported hardware and software. Schedules installation of new hardware and software and modifications to existing systems. Monitors performance of hardware and its capacity in all assigned locations. Recommends and implements enhancements to existing hardware and systems.

CLIN 3 - Computer Operations Manager

Responsible for all activities relating to the operation of centralized data processing equipment and peripheral information systems equipment. Establishes detailed schedules for the utilization of all equipment in the computer operations section to obtain maximum utilization. Assigns personnel to various operations and directs their activities. Reviews and evaluates work and prepares performance reports. Confers with and advises subordinates on administrative policies and procedures, technical problems, priorities, and methods. Consults with personnel in other information systems sections to coordinate activities. Prepares activity and progress reports regarding the computer operations section. Frequently reports to a Director of Information Systems Operations.

CLIN 4 - Help Desk Coordinator - Intermediate

Under general supervision, responds to and diagnoses problems through discussions with users. Includes problem recognition, research, isolation, and resolution steps. Typically is able to resolve less complex problems immediately, while more complex problems are assigned to senior level support. May involve use of problem management database and help desk systems.

CLIN 5 - Help Desk Coordinator - Senior

Under general direction, responsible for ensuring the timely process through which problems are controlled. Includes problem recognition, research, isolation, resolution, and follow-up steps. Requires experience and understanding of MIS environment. Typically involves use of problem management database and help desk system. May provide guidance/training for less-experienced personnel.

CLIN 6 - Help Desk Manager

Has overall responsibility for help desk operations associated with the identification, prioritization and resolution of reported problems. Ensures that all phases of help desk support are properly coordinated, monitored, logged, tracked and resolved appropriately. May maintain responsibility for development, maintenance and integrity of help desk software. Requires 3 years experience in the field.

CLIN 7 - Help Desk Support Services Specialist - Intermediate

Under general supervision, provides second-tier support to end users for either PC, server, or mainframe applications and hardware. Handles problems that the first-tier of help desk support is unable to resolve. May interact with network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. Simulates or recreates user problems to resolve operating difficulties. Recommends systems modifications to reduce user problems. Maintains currency and high level of technical skill in field of expertise. Escalates more complex problems to senior level.

CLIN 8 - Help Desk Support Services Specialist - Senior

Under general direction, provides second-tier support to end users for either PC, server, or mainframe applications and hardware. Handles problems that the first-tier of help desk support is unable to resolve. May interact with network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. Simulates or recreates user problems to resolve operating difficulties. Recommends systems modifications to reduce user problems. Maintains currency and highest level of technical skill in field of expertise.

CLIN 9 – LAN/WAN Administrator

Monitors LAN, WAN, and servers. Provides batch monitoring, tape back-up, and restoration. Responsibilities include performing data configuration and installation of routers and firewalls. Administers mail system and implements new database architecture. Monitors and conducts performance evaluation of networks. Supports, installs, maintains, and troubleshoots all local area and wide area networking devices and related software for branch offices and internal and external networks.

CLIN 10 - Network Operations Supervisor

Provides first level guidance/direction (either as a full-time supervisory position or on a project management basis) to network operation and maintenance analysts, technicians, and/or engineers. Performs technical analysis of complex software, hardware, and transmission facility using various diagnostic tools in support of efficient network operations. Provides guidance/direction for engineering efforts and test and evaluation programs. Performs on-site engineering when required. Typically requires five years of experience in operations, maintenance, and sustained engineering of LAN to WAN internetworking. Frequently reports to a Regional Manager or Operations Manager.

CLIN 11 – Operations/Technical Support Manager

Responsible for all activities relating to technical guidance for planning, directing, and monitoring information systems operations. Plans and recommends machine modifications or additional equipment to increase the capacity of the system. Prepares operational cost estimates for current and proposed projects. Evaluates vendor proposals for purchases of hardware. May manage related outsourcing contracts and service levels. Directs compilation of records and reports concerning production, machine malfunctioning, and maintenance. May advise or consult on organizational, procedural, and workflow plans, methods, and procedures analysis. Analyzes the results of workflow plans, monitors the operating system(s) and recommends changes to improve processing and utilization. May have departmental staff responsibility. Frequently reports to an Information Systems Operations Manager or Director of Information Systems Operations.

CLIN 12 - PC Products Analyst

Under general supervision, analyzes and evaluates microcomputer products and systems available in the marketplace. Analyzes such products for compatibility, expandability, and ease of use and support. Recommends to management the support or nonsupport of evaluated products. Participates in the development and customization of products. Designs application options/screens compatible with mainframe applications. Prepares product development documentation regarding use of product. Frequently reports to a PC Support Manager.

CLIN 13 - PC Systems Specialist

Under general supervision, performs analytical, technical, and administrative work in the planning, design, and installation of new and existing personal computer systems. Works on moderately complex applications. Confers with end users to determine types of hardware and software required. Writes programs to fulfill requirements or selects appropriate off-the-shelf software and modifies to suit. May maintain or utilize telecommunications protocols. Installs new hardware and maintains existing hardware. Trains end users in use of equipment and software. Frequently reports to a PC Support Manager.

CLIN 16 - Business Subject Matter Specialist

Provides technical knowledge and analysis of highly specialized applications and operational environments, high-level functional systems analysis, design, integration, documentation and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation. Participates as needed in all phases of software development with emphasis on the planning, analysis, testing, integration, documentation, and presentation phases.

CLIN 17 - Chief Information Security Officer

Ensures that all information systems are functional and secure.

CLIN 18 - Client/Server Database Manager

Projects long-range requirements for client/server database administration in conjunction with other managers in the information systems function as well as business function managers. Prepares activity and progress reports regarding the client/server database management section.

CLIN 19 - Communications Facility Engineer

Provides technical direction and engineering knowledge for communications systems infrastructure activities, including planning, designing, and implementing communications infrastructure requirements for buildings and systems. Ensures that adequate and appropriate planning is provided to direct building architects and planners in building communications spaces and media pathways meet industry standards.

CLIN 20 - Communications Installer

Assists in the planning, design, and implementation of communications networks. Responsible for providing assistance and technical support for network design activities. Assists in the review/assessment of user needs. Performs feasibility studies for small projects. Assists in the evaluation and selection of equipment.

CLIN 21 - Communications Transmission Engineer

Provides technical direction and engineering knowledge for communications activities including planning, designing, installing and maintaining large communications networks. Develops, operates, and maintains voice, wireless, video, and data communications systems. Provides complex engineering or analytical tasks and activities associated with one or more technical areas within the communications function.

CLIN 22 - Consultant

Works with end user groups to evaluate and solve technical problems. Evaluates existing systems and/or user needs to analyze, design, recommend, and implement system changes.

CLIN 23 - Data Architect

Designs and builds relational databases. Develops strategies for data acquisitions, archive recovery, and implementation of a database. Works in a data warehouse environment, which includes data design, database architecture, metadata and repository creation. Translates business needs into long-term architecture solutions. Defines, designs, and builds dimensional databases. Develops data warehousing blueprints, evaluating hardware and software platforms, and integrating systems. Evaluates reusability of current data for additional analyses. Reviews object and data models and the metadata repository to structure the data for better management and quicker access.

CLIN 24 - Electronic Mail Coordinator

Monitors servers, replication, and mail routing. Creates user accounts and maintains security levels on databases. Provides first-level telephone support and troubleshoots. Monitors existing messaging infrastructure and server usage, ensuring proper working order.

CLIN 25 - Help Desk Specialist

Provides support to end users on a variety of issues. Identifies, researches, and resolves technical problems. Responds to telephone calls, email and personnel requests for technical support. Documents, tracks, and monitors the problem to ensure a timely resolution.

CLIN 26 - Information Assurance Development Engineer

Analyzes and defines security requirement for computer systems which may include mainframes, workstations, and personal computers. Designs, develops, engineers, and implements solutions that meet security requirements. Provides integration and implementation of the computer system security solution.

CLIN 27 - Information Assurance Engineer

Establishes and satisfies complex system-wide information security requirements based upon the analysis of user, policy, regulatory, and resource demands. Supports customers at the highest levels in the development and implementation of doctrine and policies. Applies know-how to government and commercial common user systems, as well as to dedicated special purpose systems requiring specialized security features and procedures.

CLIN 28 - Information Assurance Network Specialist

Analyzes general information assurance-related technical problems and provides basic engineering and technical support in solving these problems. Designs, develops, engineers, and implements solutions that meet network security requirements. Performs vulnerability/risk analyses of computer systems and applications during all phases of the system development life cycle.

CLIN 29 - Information Assurance Systems/Network Specialist

Installs, configures and maintains organization's operating systems. Analyzes and resolves problems associated with server hardware, NT, applications software. Detects, diagnoses, and reports NT related problems on both NT server and NT desktop systems. Performs a wide variety of tasks in software/hardware maintenance and operational support of NT Server systems.

CLIN 30 - Information Security Business Analyst

Determines enterprise information security standards. Develops and implements information security standards and procedures. Ensures that all information systems are functional and secure.

CLIN 31 - IT Subject Matter Specialist

Provides extremely high-level subject matter proficiency for work described in the task. Provides advanced technical knowledge and analysis of highly specialized applications and operational environment, high-level functional systems analysis, design, integration, documentation, training, and implementation advice on complex problems that require doctorate level knowledge of the subject matter for effective implementation.

CLIN 32 - LAN/WAN/MAN Administrator

Monitors LAN, WAN, MAN, and servers. Provides batch monitoring, tape back-up, and restoration. Supports, installs, maintains, and troubleshoots all local area and wide area networking devices and related software for branch offices and internal and external networks.

CLIN 33 - Network Control Technician

Tests and analyzes all elements of complex network facilities (including power, software, communications devices, lines, modems, and terminals). Monitors and controls the performance and status of the network resources. Utilizes software and hardware tools and identifies and diagnoses complex problems and factors affecting network performance.



CLIN 34 - Network Systems Administrator

Provides system administration of Network, Web, and/or communication systems, including Local Area Network (LAN) and Wide Area Network (WAN) systems, involving network security. Prepares technical implementation plans that provide integrated solutions including actions, milestones, timelines and critical paths required for complete solutions.

CLIN 35 - Network Systems Manager

Supervises all personnel engaged in the operation and support of network facilities, including all communications equipment in large scale or multi-shift operations. Supervises complex operations that involve two or more additional functions such as, but not limited to, network operations, systems security, systems software support, and production support activities.

CLIN 36 - Network/Hardware Support Technician

Monitors and responds to hardware, software, and network problems. Provides the routine testing and analysis of all elements of the network facilities (including power, software, communications machinery, lines, modems, and terminals). Monitors and controls the performance and status of the network resources.

CLIN 37 - Operations Manager - Data Communications

Manages all aspects of the daily operation for data network(s) in either a stand-alone data network environment in a voice and data separated network environment. Develops project plans for the implementation of new telecommunications technology and systems. Directs technical analysis of complex software, hardware, and transmission systems. Coordinates with vendors involved in providing communication activities.

CLIN 38 - Operations Manager - Voice Communications

Manages all aspects of the daily operation for voice network(s) in either a stand-alone voice network OR in a voice and data separated network environment. Develops project plans for the implementation of new telecommunications technology and systems. Directs technical analysis of complex software, hardware, and transmission systems.

CLIN 39 - Operations Systems Manager

Provides assistance and oversight for all information systems operations activities, including computer and telecommunications/communications operations, data entry, data control, operations support, operating systems programming, system security policy procedures, and/or web strategy and operations. Provides input to policy level discussions regarding standards and budget constraints.

CLIN 40 - Operations/Network LAN Administrator

Supports, monitors, tests, and troubleshoots hardware and software problems pertaining to LAN. Recommends and schedules repairs. Provides end users support for all LAN- based applications. Installs and configures workstations.

CLIN 41 - Operations/Technical Support Analyst

Provides technical guidance for directing and monitoring information systems operations. Implements machine modifications to increase the capacity of the system. Directs compilation of records and reports concerning production, machine malfunctioning and maintenance.

CLIN 42 - Project Engineer

Manages long-term IT engineering projects. Performs engineering design evaluations and works to complete projects within budget and scheduling restraints. Develops, implements, and monitors information systems policies and controls to ensure data accuracy, security, and regulatory compliance. Reviews reports of computer and peripheral equipment production, malfunction, and maintenance to determine and address problems.

CLIN 43 - Quality Assurance Specialist

Provides development of project Software Quality Assurance Plan and the implementation of procedures that conforms to the requirements of the contract. Provides an independent assessment of how the project's software development process is being implemented relative to the defined process and recommends methods to optimize the organization's process.

CLIN 44 - Security Coordinator

Coordinates, develops, and evaluates security programs for an organization.

CLIN 45 - Site Manager

Provides applications systems analysis and programming activities for a Government site, facility or multiple locations. Prepares long and short-range plans for application selection, systems development, systems maintenance, and production activities and for necessary support resources.

CLIN 46 - Strategic Planner

Provides strategic planning of large projects or a significant segment of a strategic planning portion of a large complex project. Provides the overall approach to clarify mission statements so they can be used as springboards in envisioning their desired future. Assists in developing mission and vision statements, subsequent goal delineation, provides guidance for building operational plans and specifying measurable outcomes to include capital outlay planning efforts in a consolidated strategic planning process and prioritizes those initiatives.

CLIN 47 - Systems Engineer

Performs a variety of systems engineering tasks and activities that are broad in nature and are concerned with major systems design, integration, and implementation, including personnel, hardware, software, budgetary, and support facilities and/or equipment. Provides quality assurance review and the evaluation of new and existing software products.

CLIN 48 - Telecommunications Network Help Desk

Responds to user complaints to research complex problems associated with the organization's telecommunications networks (voice and/or data). Diagnoses problem source through discussions with users. Coordinates with internal company support and operations groups and/or with vendors to resolve problems. Follows up with users to ensure problem has been resolved. Develops supporting documentation of all activities.

CLIN 49 - Telecommunications/Communications Integration Engineer

Provides technical direction and analysis for telecommunication activities, including planning, designing, integrating, installing and maintaining large-scale telecommunications/ communications networks and services with computer systems. Applies telecommunications/communications engineering principles and theory to propose design and configuration alternatives. Analyzes network performance, usage and traffic flows, accesses and interfaces, transmission techniques, and protocols to interface with computer systems.

CLIN 50 - Voice Communications Technician

Monitors and responds to complex technical control facility hardware and software problems. Interfaces with vendor support service groups to ensure proper escalation during outages or periods of degraded system performance. Maintains PBX/systems and associated hardware.