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**APPENDIX C. GS-35F-4984H OPTION EXTENSION RATES EFFECTIVE FOR NEW PROPOSALS ISSUED AFTER THE AWARD OF THE OPTION**

**GSA SCHEDULE LABOR RATES FOR SIN 132-51, IT SERVICES TECHNICAL AND CONSULTING, SIN 132-62 AUTHENTICATION SERVICES**

GSA Service Proposed (e.g. Labor Category or Job Title/Task)	Minimum Education / Certification Level	Minimum Years of Experience	Dec 21, 2015 -Dec 31, 2016	Jan 1, 2017 -Dec 31, 2017
			Proposed GSA Price (Including IFF)	Proposed GSA Price (Including IFF)
Architect I	Bachelors	1	\$149.62	\$150.87
Architect II	Bachelors	3	\$180.05	\$181.29
Architect III	Bachelors	5	\$210.47	\$211.72
Architect IV	Bachelors	7	\$254.36	\$256.47
Architect V	Bachelors	12	\$316.77	\$318.79
Business Analyst I	Bachelors	1	\$119.70	\$120.70
Business Analyst II	Bachelors	3	\$165.08	\$166.45
Business Analyst III	Bachelors	5	\$210.47	\$212.21
Business Analyst IV	Bachelors	7	\$255.30	\$256.47
Business Analyst V	Bachelors	12	\$316.77	\$319.39
Consultant I	Bachelors	1	\$206.14	\$207.85
Consultant II	Bachelors	3	\$232.60	\$234.34
Consultant III	Bachelors	5	\$254.36	\$256.47
Consultant IV	Bachelors	7	\$294.26	\$296.70
Consultant V	Bachelors	12	\$334.73	\$337.52
Database Administrator I	Bachelors	1	\$119.70	\$120.70
Database Administrator II	Bachelors	3	\$134.66	\$135.78
Database Administrator III	Bachelors	5	\$149.62	\$150.87
Database Administrator IV	Bachelors	7	\$214.65	\$216.43
Database Administrator V	Bachelors	12	\$278.94	\$281.26
Project Coordinator I	Bachelors	1	\$94.76	\$ 95.55
Project Coordinator II	Bachelors	3	\$104.01	\$104.87
Project Coordinator III	Bachelors	5	\$114.71	\$115.66
Project Coordinator IV	Bachelors	7	\$134.66	\$135.78
Project Manager I	Bachelors	1	\$115.87	\$116.83
Project Manager II	Bachelors	3	\$118.20	\$119.18
Project Manager III	Bachelors	5	\$174.93	\$176.38
Project Manager IV	Bachelors	7	\$224.43	\$226.30
Project Manager V	Bachelors	12	\$316.77	\$319.39

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GSA Service Proposed (e.g. Labor Category or Job Title/Task)	Minimum Education / Certification Level	Minimum Years of Experience	Dec 21, 2015 -Dec 31, 2016	Jan 1, 2017 -Dec 31, 2017
			Proposed GSA Price (Including IFF)	Proposed GSA Price (Including IFF)
Software Lab Services I	Bachelors	1	\$239.22	\$241.21
Software Lab Services II	Bachelors	3	\$256.24	\$258.37
Software Lab Services III	Bachelors	5	\$273.27	\$275.53
Software Lab Services IV	Bachelors	7	\$298.80	\$301.28
Software Lab Services V	Bachelors	12	\$334.73	\$337.50
Systems Administrator - Client, Enterprise and Data Center Technologies I	Bachelors	1	\$120.70	\$121.69
Systems Administrator - Client, Enterprise and Data Center Technologies II	Bachelors	3	\$134.16	\$135.27
Systems Administrator - Client, Enterprise and Data Center Technologies III	Bachelors	5	\$147.63	\$148.85
Systems Administrator - Client, Enterprise and Data Center Technologies IV	Bachelors	7	\$168.57	\$169.97
Systems Administrator - Client, Enterprise and Data Center Technologies V	Bachelors	12	\$202.24	\$203.92
Technical Systems and Solutions Specialist I	Bachelors	1	\$119.70	\$120.70
Technical Systems and Solutions Specialist II	Bachelors	3	\$165.08	\$166.45
Technical Systems and Solutions Specialist III	Bachelors	5	\$210.47	\$212.21
Technical Systems and Solutions Specialist IV	Bachelors	7	\$232.60	\$234.54
Technical Systems and Solutions Specialist V	Bachelors	12	\$260.04	\$262.20
IT Analyst - Solutions I	Bachelors	1		\$110.63
IT Analyst -Solutions II	Bachelors	3		\$123.20
IT Analyst - Solutions III	Bachelors	5		\$135.78
IT Analyst -Solutions IV	Bachelors	7		\$150.87
IT Analyst - Solutions V	Bachelors	12		\$182.30



Escalation factor is 2% per year.

## **MACHINE MOVEMENT, MODIFICATION SERVICES**

Machine Movement/Modification services less than \$250,000	\$223.44 per hour
Machine Movement/Modification services greater than \$250,000	\$199.90 per hour

\*additional labor hours for services may apply such as Project Management time (see rates above).

## **LABOR DESCRIPTIONS**

### **PROJECT MANAGER**

- Provides direction to the teams
- Prepare and manage the overall project work plan
- Plans, organizes, monitors, and oversees IT projects, business strategies, and technology development.
- Manages cross functional teams
- Understands needs of business users as well as development and service support areas.
- Defines program and project goals, plans and reports.
- Responsible for all aspects of the development and implementation of assigned projects.

### **PROJECT COORDINATOR**

- -Advises project team on processes
- - Develops project schedule and supports deliverables
- - Analyzes impact change requests have on the schedule
- - Analyzes progress reported against work schedules
- - Organizes and facilitates sessions regarding the project management of the project

### **CONSULTANT**

- Leads or participate in consulting projects that deliver customer-focused results aligned with strategic and operational goals of the Client.



- Obtains and shares internal and external learning and knowledge, problem solving, strategy, methodologies, tool and processes.
- Facilitates identification, review and analysis of strategic issues and advises regarding development and implementation of strategy for the client's environment.
- May assist in developing, leading and conducting education classes
- Provides guidance in analyzing, investigating, and resolving issues.
- Analyzes trends and issues and provides recommendations.
- Responsible for development, implementation, and maintenance of guidelines, policies, procedures, and processes.
- Provides vision and guidance for area of responsibility
- Provides consultation and vision on process tools, methods, product lines, technology, implementation, support, process design, client initiatives, and business activities.
- May be required to oversee technical implementation and execution of strategic plans.
- Research and provide information on technical trends, evaluate and implement exiting applications and/or customized solutions.
- Has expertise and operates across one or more industries and variety of services such as information technology, e-business, cloud, security, and latest business transformation solutions.
- Adhere to project development and documentation standards
- Provides assistance and responsible for aspects of the development and implementation process, including tasks associated with program office support.

## ARCHITECT

- Responsible for overall system design or the component design of a large system or solution.
- Responsibility includes detailed documentation of technical requirements and design documents.
- Works with the development team for the development of applications or systems
- Facilitates and guides requirements gathering, analysis, development of hypotheses/conclusions
- Performs analysis of business models, logical specifications and/or user requirements to design client solutions.
- Has expert knowledge of application design and usability principles, issues, and techniques.
- Architects focused on solution architecture organizes the development effort of a system solution. Responsible for the overall vision that underlies the projected solution and

transform the vision through the execution of the solution. Shapes, designs and plan specific service line in product areas.

- May include roles such as Application Architect, Portfolio Architect, Network Architect, Systems
- Architect, Mainframe Architect, Enterprise/Infrastructure Architect, Solutions Architect.

### **BUSINESS ANALYST**

- Acts as liaison between business areas and IT
- Participates in research to evaluate business requirements and recommends solutions or assist in problem resolution.
- Works with client to plan and initiate the project
- Performs research, collection and collation of data from studies.
- Performs assessments and projections as part of analysis process.

### **TECHNICAL SYSTEMS AND SOLUTIONS SPECIALIST**

Works on client's key operations and business solutions. Analyzes, designs, and develops client's information systems and program specifications; involved in creation of specification/requirements, and maintenance/ design/build /test phases of systems and applications. May also be asked to provide technical support and analysis of infrastructure projects and production environment; develop upgrade/improvement recommendation; monitor, plan, and measure impact of new products and services.

Codes, test and debugs applications and programs. May participate in the application design of systems, including use of analytical techniques. Develops program specifications and detail design documents. Assists in testing, training, and preparation of operations. Works on systems business intelligence or decision support systems supporting client's key operations.

Roles may include: System Analyst, Programmer, Developer, Designer, Tester:

### **DATABASE ADMINISTRATOR**

Based on skill level, the administrator can be staffed to do one, or a combination of the following: 1) installs, upgrades, resolves (patches, updates) to applications, 2) Implements the database design, that may include setup (creating tables, columns, data types, constraints), improving availability and response times, 3) Creates databases logical design which involves data architecture design, data modeling, and schema definition, 4) performs industry research for data and DB technologies and related software, tools, standards and training.



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## **SYSTEM ADMINISTRATOR**

- Provides technical support and analysis of infrastructure project and production environment; develops upgrade/improvement recommendation; monitors, plans, measures, and tests new products and services
- Works on client technologies including operating support systems
- Works on enterprise technologies, software configurations management and distribution, storage area networks
- Work on data center technologies such as network (LAN,WAN, router) management, server management, mainframe operating system.

## **SOFTWARE LAB SERVICES SPECIALIST**

Collaborates closely with product development and product support, 2) Leading edge skill on the current versions of software products and on products in development/test, 3) Skills may include performance tuning, infrastructure logical designs, scaling, installation, integration, training, testing, migration.

## **IT ANALYST SOLUTIONS**

- Create, analyze, coordinate, and document complex IT projects, products processes and provide recommendations based on analysis for optimal solutions.
- Create/update reports, and propose action and/or implementation plans and present to leadership to assist in decision-making and drive the work to conclusion.
- Provide IT process and/or product subject matter expertise, conduct research, gather requirements, and conduct analysis and/or coordination activities related to IT processes, projects and/or services.
- Display a technical aptitude and the ability to coordinate, design, and manage IT processes and work.





## **SKILL LEVELS**

### **SKILL LEVEL I**

Under direct supervision, general knowledge in field, works on assignments that are generally semi routine in nature, may assist with moderately complex projects.

Minimum 1 year experience, Bachelor Degree

### **SKILL LEVEL II**

Experienced with frequent use and application of technical standards, principals and theories. Works under general supervision, providing solutions to technical problems of moderate scope and complexity.

Minimum 3 years experience, Bachelor Degree

### **SKILL LEVEL III**

Career level with a complete understanding and wide application of technical principles, theories and concepts. Working under only general direction, provides technical solutions to a wide range of difficult problems. Independently determines and develops approach to solutions.

Minimum 5 years experience, Bachelor Degree

### **SKILL LEVEL IV**

Considered an emerging authority, who applies extensive technical experience. Develops technical solutions to complex problems. Exercises considerable latitude in determining objectives and approaches to assignments.

Minimum 7 years experience, Bachelor Degree

### **SKILL LEVEL V**

Recognized expert within IBM, who designs, researches and develops highly advanced applications and provides highly innovative solutions. Develops technical solutions to complex problems. Leads and pursues courses of action necessary to obtain desired results.

Minimum 12 years experience, Bachelor Degree



**Substitution Table**

Degree	Experience Equivalence	Other Equivalence
Bachelors	Associate degree +2 years relevant experience	Professional certifications such as (Project Management, Lean Sigma, or ITIL)
Masters (Advanced degree)	Bachelors +2 years relevant experience, or Associate + 4 years relevant experience	Masters Certificate or Professional license
Doctorate (Advanced degree)	Masters + 2 years relevant experience, or Bachelors + 4 years relevant experience	

\* Successful completion of higher education which has not yet resulted in a degree may be counted as 1 for 1 year's of experience for each year of college completed.  
 \* Skill Level minimum years of experience is defined as total years of experience

**GS-35F-4984H GSA SCHEDULE RATES VALID FOR PROPOSALS ISSUED PRIOR TO DECEMBER 21, 2015. RATES ARE VALID FOR EXISTING BPAs, CONTRACTS, AND ORDERS.**

	GFY14	10/1/2014 - 9/30/2015 (GFY15)	10/1/2015 - 9/30/2016 (GFY16)	10/1/2016 - 9/30/2017 (GFY17)
A'	\$404.00	\$412.08	\$420.32	\$428.73
A	\$336.00	\$342.72	\$349.57	\$356.57
B	\$307.00	\$313.14	\$319.40	\$325.79
C	\$280.00	\$285.60	\$291.31	\$297.14
D	\$246.00	\$250.92	\$255.94	\$261.06
E	\$216.00	\$220.32	\$224.73	\$229.22
F	\$206.00	\$210.12	\$214.32	\$218.61
G	\$190.00	\$193.80	\$197.68	\$201.63
H	\$168.00	\$171.36	\$174.79	\$178.28
I	\$136.00	\$138.72	\$141.49	\$144.32
J	\$109.00	\$111.18	\$113.40	\$115.67
K	\$73.00	\$74.46	\$75.95	\$77.47
L	\$43.00	\$43.86	\$44.74	\$45.63

Subject to agreement by both the Government and IBM, IBM will provide support outside IBM's normal working hours. Under such circumstances, the rates identified above will be increased by 15%.

### C.1.2 SKILL LEVEL DESCRIPTIONS

A Prime. Up to and possibly 25 years of experience of progressive accomplishment managing and implementing large, complex information technology systems with expertise in a specific discipline such as Enterprise Resource Planning, or Information Strategy. This individual may work in conjunction with a Center of Competency such as: Capacity Planning or they may work independently directly with senior customer executives as consultants.

A. Up to and possibly exceeding 25 years of experience of progressive accomplishment managing and implementing large, complex information technology systems. Experienced in advising senior executives on effective utilization of information technology systems and reengineering to meet business objectives.

B. Up to 20 years of experience with large, complex systems, providing key leadership in a multi-vendor environment. Extensive experience with large systems modernization and business practice reengineering.

C. Up to 15 years of progressive accomplishment as experts in large and complex information technology systems implementation. Expertise is applied across multiple information technology platforms and the integration of diverse architectures.

D. Up to 12 years of significant accomplishment as an expert in large integrated systems. Experience with several ADP architectures and platforms in an integrated environment.

E. A deep understanding of architecture, techniques and management processes across a broad spectrum of systems, applications and requirements. This level of personnel generally has up to ten years of professional experience in specialized areas of large customer applications.

F. Generally regarded as an expert in their particular discipline or technology. This level of personnel generally has up to eight years of professional experience in their field of expertise.

G. Broad knowledge of the labor category field and a demonstrated ability to independently work on complex assignments. This level of personnel generally has up to five years of professional experience in the field of expertise.

H. Significant knowledge of the labor category field and the ability to work independently on typical assignments. This level of personnel generally has up to four years of professional experience in the field of expertise.

I. General knowledge of the labor category field and the ability to work with minimal supervision. Assistant personnel generally have up to three years of professional experience in the field of expertise.

J. Basic knowledge of the labor category field and the ability to work with some supervision. Specialists generally have up to two years of professional experience in their field of expertise.

K. Some knowledge of the labor category field and the ability to work with supervision. Specialists generally have up to one year of professional experience in their field of expertise.

L. Entry level IT knowledge, with the ability to provide Level 1 System and Software Support. Professionals have up to one year experience.



General Note:

Consultants at these skill levels provide managerial and technical leadership for development, implementation and operations of complex information technology systems implementation. They are recognized for their experience in providing expert guidance to senior executives.

IBM has identified below a series of service offerings performed under SIN 132-51. For each service, IBM has listed the title of the professionals to perform the service and the hourly rates for each.

The technical/experience level or systems expertise required for a particular task shall be determined by IBM in conjunction with the end user's requirements.

**C.1.3 CONVERSION SUPPORT**

Assesses the feasibility, cost and practicality of converting systems against developing new Software. Develops detailed conversion plans to define the conversion process, the size of conversion work packages, environmental considerations, system constraints, vendor extensions and schedule. Utilizes software conversion tools in conjunction with manual refinement to convert the system work packages.

**POSITIONS AND EXPERIENCE LEVELS AVAILABLE**

Position Title	Experience Levels Available			
Senior Consultant IT Specialist	A Prime	A		
Certified IT Specialist	B			
Senior IT Specialist	C			
Advisory IT Specialist	D			
Senior Hardware/Software Conversion Specialist	E	F		
Staff Hardware/Software Conversion Specialist	G	H		
Associate Hardware/Software Conversion Specialist	I	J	K	L

**C.1.4 DATABASE PLANNING AND DESIGN**

Provides technical expertise for the production of detailed database designs and design documentation, including data models, and data flow diagrams. Evaluates and configures DBMS products to match user requirements with system capabilities. Determines file organization, indexing methods, and security procedures for system databases. Plans coordinates conversion and migration of existing (or legacy) databases to state of the art DBMS's.

**POSITIONS AND EXPERIENCE LEVELS AVAILABLE**

Position Title	Experience Levels Available			
Senior Consultant IT Specialist	A Prime	A		
Certified IT Specialist	B			
Senior IT Specialist	C			
Advisory IT Specialist	D			
Senior Database Management Specialist	E	F		
Staff Database Management Specialist	G	H		
Senior Database Administrator	E	F		



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Staff Database Administrator	G	H		
Database Designer/Architect	A	B	C	D



### C.1.5 DATA RECORDS MANAGEMENT

Provides services relating to the management of physical and/or electronic data. Establishes and maintains a data management facility to monitor, report on and maintain the status of documentation.

#### POSITIONS AND EXPERIENCE LEVELS AVAILABLE

Position Title	Experience Levels Available			
Data Records Management Specialist	I	J	K	

### C.1.6 INFORMATION TECHNOLOGY CONSULTING

Guides the assessment of IT System Objectives and concept of operations. Guides identification of top level system requirements. Prepares high level system architecture in terms of hardware, software, database and telecommunications components.

#### POSITIONS AND EXPERIENCE LEVELS AVAILABLE

Position Title	Experience Levels Available			
Executive Consultant	A Prime	A		
Senior Consultant	B			
Consultant	C			
Associate Consultant	D			

### C.1.7 IMPLEMENTATION SUPPORT

Provides assistance in all aspects of the development and implementation process. Assists in planning, organizing, directing, coordinating, and evaluating the work of personnel in charge of task orders and/or integrated product teams. Assists in developing management plans and preparing management/cost performance reports.

#### POSITIONS AND EXPERIENCE LEVELS AVAILABLE

Position Title	Experience Levels Available			
Senior Program Office Support Specialist	E	F		
Staff Program Office Support Specialist	G	H		
Associate Program Office Specialist	I	J	K	L



### C.1.8 NETWORK COMMUNICATIONS

Provides assistance in all aspects of network management from network design through implementation and the maintenance of upgrading existing networks. Analyzes, designs, specifies, documents, and implements communication system requirements to support the distributed functionality of a software engineering environment.

Position Title	Experience Levels Available						
Network Designer/Architect	A						
Senior Consultant IT Specialist	A						
Certified IT Specialist	B						
Senior IT Specialist	C						
Advisory IT Specialist	D						
Senior Networking Systems Programmer	E	F					
Staff Networking Systems Programmer	G	H					
Data Communications Specialist	F	G	H	I	J	K	L
LAN/WAN Specialist	F	G	H	I	J	K	L
Telecommunications Technician	I	J	K	L			

### C.1.9 PROGRAMMING

Codes, and tests software based upon software specifications and designs. Uses sound software engineering principles to ensure that developed code is modifiable efficient, reliable, understandable, and fault tolerant. Provides software process management and control throughout the coding portion of the software development process.

#### POSITIONS AND EXPERIENCE LEVELS AVAILABLE

Position Title	Experience Levels Available					
Senior Consultant IT Specialist	A					
Certified IT Specialist	B					
Senior IT Specialist	C					
Advisory IT Specialist	D					
Senior Programmer/Analyst	G					
Junior Programmer/Analyst	I					
Journeyman Programmer/Analyst	J	K				
Senior Systems Programmer/Analyst	C	D	E	F		
Systems Programmer/Analyst	G	H	I			



**C.1.10 PROJECT MANAGEMENT**

Plans, coordinates, and manages all aspects of complex information technology projects. Prepares and presents status on project schedule, project costs, project deliverables, project risks, and risk containment strategies.

**POSITIONS AND EXPERIENCE LEVELS AVAILABLE**

Position Title	Experience Levels Available				
Project Executive	A Prime	A			
Senior Project Manager	B				
Project Manager	C	D	E	F	G
Task Leader	H	I	J	K	

**C.1.11 RESOURCES AND FACILITIES MANAGEMENT**

Plans, organizes, directs, coordinates and evaluates all tasks relating to the smooth operation of an ADP facility. Develops facility/resource management plans and prepares management/costs performance reports.

**POSITIONS AND EXPERIENCE LEVELS AVAILABLE**

Position Title	Experience Levels Available				
Facilities Manager	C	D	E	F	G

**C.1.12 SYSTEMS ANALYSIS DESIGN**

Analyzes users requirements, concept of operations documents, and high level system architecture to develop system requirements specifications. Develops detailed system Architecture and system design documentation. Guides system development and implementation planning through assessment or preparation of system engineering management plans and system integration and test plans. Develops system configuration documentation, including detailed designs for capacity planning, security systems and disaster recovery.

**POSITIONS AND EXPERIENCE LEVELS AVAILABLE**

Position Title	Experience Levels Available				
Systems Architect	A Prime	A			
Senior Programmer/Analyst	G				
Junior Programmer/Analyst	I				
Journeyman Programmer Analyst	J	K			
Senior Systems Programmer/Analyst	C	D	E	F	
Senior Consultant IT Specialist	A				
Certified IT Specialist	B				
Senior IT Specialist	C				
Advisory IT Specialist	D				





**C.1.13 SYSTEMS ENGINEERING**

Provides expertise in the areas of system architecture, system design, systems engineering techniques, and systems management processes. Analyzes and recommends commercially available hardware capable of meeting systems requirements.

**POSITIONS AND EXPERIENCE LEVELS AVAILABLE**

Position Title	Experience Levels Available				
Senior Consultant IT Specialist	A				
Certified IT Specialist	B				
Senior IT Specialist	C				
Advisory IT Specialist	D				
Senior Systems Engineer	E	F			
Systems Engineer	G	H			

**C.1.14 SYSTEMS INSTALLATION**

Performs site surveys, installs, tests, and validates operational automation and communications equipment/software as specified by installation standards, manufacturer's guidance, and safety codes.

**POSITIONS AND EXPERIENCE LEVELS AVAILABLE**

Position Title	Experience Levels Available				
Senior Consultant IT Specialist	A				
Certified IT Specialist	B				
Senior IT Specialist	C				
Advisory IT Specialist	D				
Senior Hardware/Software Installation Specialist	E	F	G		
Hardware/Software Installation Specialist	H	I	J	K	L



**C.1.15 SECURITY**

Formulates and assesses IT security policy to include business impact. Prepares security plans for employing an enterprise wide security architecture to include the design of cryptographic solutions. Develops integrated security services management. Executes security awareness training. Assesses and audits network penetration testing anti virus planning assistance, risk analysis and incident response. Provides security engineering support for application development (including system security certifications and project evaluations). This may include the development, design and implementation of firewalls, and evaluation, review and test of security code.

**POSITIONS AND EXPERIENCE LEVELS AVAILABLE**

Position Title	Experience Levels Available				
Senior Consultant IT Specialist	A				
Certified IT Specialist	B				
Senior IT Specialist	C				
Advisory IT Specialist	D				
Senior Security Systems Specialist	C	D	E	F	G

**C.1.16 IMAGE SYSTEM SUPPORT**

Provides technical expertise for the installation, configuration and customization of imaging technologies. Evaluates and selects the appropriate technologies and solutions based on client requirements including both hardware and software. Evaluates methodologies and performs the integration of imaging systems with legacy applications. Provides services for both Digital Library and Computer Output to Laser Disk (COLD) environments.

**POSITIONS AND EXPERIENCE LEVELS AVAILABLE**

Position Title	Experience Levels Available				
Senior Consultant IT Specialist	A				
Certified IT Specialist	B				
Senior IT Specialist	C				
Advisory IT Specialist	D				
Image Systems Specialist	E	F	G	H	

### C.1.17 INDEPENDENT VALIDATION AND VERIFICATION

Verifies and validates the products and performance of a third party development effort. Evaluates software and associated documents for compliance with specified requirements, and test results for adherence to test plans. Evaluates the products of a given software development activity to determine the correctness and consistency with respect to the products and standards provided as input to the activity. Evaluates and makes recommendations for solutions regarding problems associated with development efforts.

#### POSITIONS AND EXPERIENCE LEVELS AVAILABLE

Position Title	Experience Levels Available							
IV & V Specialist	E	F	G	H	I	J	K	L

### C.1.18 SOFTWARE TEST

Performs software testing at all levels from module or unit testing through all levels of software integration testing. Writes software test plans in support of software design to ensure the integrity of test plans. Interfaces with the software development group throughout the software development process. Develops test data and predefines specific test acceptance criteria. Supports the software configuration management process and understands all software components and their interface requirements.

#### POSITIONS AND EXPERIENCE LEVELS AVAILABLE

Position Title	Experience Levels Available				
Quality Assurance Specialist	E	F	G		
Senior Software Test Engineer	E	F	G		
Software Test Engineer	H	I	J	K	

### C.1.19 SYSTEM TEST

Supports testing at a system level. Develops system test plans during systems requirements definition to ensure functional completeness of system testing. Works closely with both the systems engineering and software development groups throughout the systems and development process. Develops master test plans and identifies specific functional and performance test requirements. Supports the configuration management process and understands all system components and their relationship in an integrated environment.

#### POSITIONS AND EXPERIENCE LEVELS AVAILABLE

Position Title	Experience Levels Available				
Quality Assurance Specialist	E	F	G		
Senior Hardware Test Engineer	E	F	G		
Hardware Test Engineer	H	I	J	K	



**C.1.20 TRAINING**

Has overall responsibility for conducting customized training classes. Develops training plans and the associated curricula. Identifies the resources necessary to implement the plan and ensures that training is conducted in accordance with the plan. Identifies and analyzes training considerations such as central vs. regional, hands-on vs. classroom, train-the-trainer vs. train-the-user, etc.

**POSITIONS AND EXPERIENCE LEVELS AVAILABLE**

Position Title	Experience Levels Available				
Training Management/Systems Analyst	E	F	G	H	I

**C.1.21 MACHINE MOVEMENT**

Position Title	Experience Levels Available	
IT Specialist	C	D

