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INFORMATION TECHNOLOGY SCHEDULE 70 PRICE LIST

GENERAL PURPOSE COMMERCIAL
INFORMATION TECHNOLOGY
EQUIPMENT, SOFTWARE AND SERVICES

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Period Covered by Contract:
13 July 2015 - 12 July 2020

Price List Current as of 05 July 2019

Eagle TG, LLC (Eagle TG) provides expertise and services to help organizations reduce costs through improved IT. We help our clients increase organizational performance by combining our innovative use of technology and extensive experience in a range of industries to deliver solutions that help our clients achieve a rapid and sustainable business advantage.

Products and ordering information in this Authorized Information Technology Schedule Pricelist are also available on the GSA Advantage! System (<http://www.gsadvantage.gov>).

1. GSA SCHEDULE 70 - AWARDED SPECIAL ITEM NUMBERS (SINS)

Note: All non-professional labor categories must be incidental to and used solely to support hardware, software and/or professional services, and cannot be purchased separately.

Special Item No. 132-32 – Term Software License

SIN 132-32 includes **WSO2** application software.

Special Item No. 132-40 – Cloud Services

SIN 132-40 includes **WSO2** cloud computing services.

Special Item No. 132-50 – Training Courses

SIN 132-50 includes **WSO2** training products, services, and solutions.

Special Item No. 132-51 – Information Technology Professional Services

SIN 132-51 includes resources and facilities management, database planning and design, systems analysis and design, network services, programming, conversion and implementation support, network services project management, data/records management, and other services relevant to 29CFR541.400.

Special Item No. 132-56 – Health IT Services

SIN 132-56 includes a wide range of Health IT services to include connected health, electronic health records, health information exchanges, health analytics, personal health information management, innovative Health IT solutions, health informatics, emerging Health IT research, and other Health IT services.

Special Item No. 70-500 – Order-Level Materials (OLMs)

SIN 70-500 includes supplies and/or services acquired in direct support of an individual task or delivery order placed against a Federal Supply Schedule (FSS) contract or FSS blanket purchase agreement (BPA).

Note 1: All non-professional labor categories must be incidental to and used solely to support hardware, software and/or professional services, and cannot be purchased separately.

Note 2: Offerors and Agencies are advised that the Group 70 – Information Technology Schedule is not to be used to procure services which properly fall under the Brooks Act. These services include, but are not limited to, architectural, engineering, mapping, cartographic production, remote sensing, geographic information systems, and related services. FAR 36.6 distinguishes between mapping services of an A/E nature and mapping services which are not connected nor incidental to the traditionally accepted A/E Services.

Note 3: This solicitation is not intended to solicit for the reselling of IT Professional Services, except for the provision of implementation, maintenance, integration, or training services in direct support of a product. Under such circumstances the services must be performance by the publisher or manufacturer or one of their authorized agents.

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3. INFORMATION FOR ORDERING ACTIVITIES APPLICABLE TO ALL SPECIAL ITEM NUMBERS

SPECIAL NOTICE TO AGENCIES: SMALL BUSINESS PARTICIPATION

SBA strongly supports the participation of small business concerns in the Federal Acquisition Service. To enhance Small Business Participation SBA policy allows agencies to include in their procurement base and goals, the dollar value of orders expected to be placed against the Federal Supply Schedules, and to report accomplishments against these goals.

For orders exceeding the micro-purchase threshold, FAR 8.404 requires agencies to consider the catalogs/pricelists of at least three schedule contractors or consider reasonably available information by using the GSA Advantage!™ on-line shopping service (www.gsaadvantage.gov). The catalogs/pricelists, GSA Advantage!™ and the Federal Acquisition Service Home Page (www.gsa.gov/fas) contain information on a broad array of products and services offered by small business concerns.

This information should be used as a tool to assist ordering activities in meeting or exceeding established small business goals. It should also be used as a tool to assist in including small, small disadvantaged, and women-owned small businesses among those considered when selecting pricelists for a best value determination. For orders exceeding the micro-purchase threshold, customers are to give preference to small business concerns when two or more items at the same delivered price will satisfy their requirement.

1. [Geographic Scope of Contract](#)

Domestic delivery is delivery within the 48 contiguous states, Alaska, Hawaii, Puerto Rico, Washington, DC, and U.S. Territories. Domestic delivery also includes a port or consolidation point, within the areas, for orders received from overseas activities.

Overseas delivery is delivery to points outside of the 48 contiguous states, Washington, DC, Alaska, Hawaii, Puerto Rico, and U.S. Territories.

Offerors are requested to check one of the following boxes:

- The Geographic Scope of Contract will be domestic and overseas delivery.
- The Geographic Scope of Contract will be overseas delivery only.
- The Geographic Scope of Contract will be domestic delivery only.

2. [Contractor's Ordering Address and Payment Information](#)

Eagle TG, LLC – 2115 Stephens Place, Suite 310, New Braunfels, TX 78130

Contractor must accept the credit card for payments equal to or less than the micro-purchase for oral or written orders under this contract. The Contractor and the ordering agency may agree to use the credit card for dollar amounts over the micro-purchase threshold (See GSAR 552.232-79 Payment by Credit Card). In addition, bank account information for wire transfer payments will be shown on the invoice.

The following telephone number(s) can be used by ordering activities to obtain technical and/or ordering assistance:

- ✓ Steven McDonald – (270) 307-0703
- ✓ Ray Gluck – (618) 977-0804
- ✓ Randy Muennink – (830) 549-3108
- ✓ Mike Strickland – (618) 589-4373
- ✓ Fred Chandler – (830) 515-1498

3. [Liability for Injury or Damage](#)

The Contractor shall not be liable for any injury to ordering activity personnel or damage to ordering activity property arising from the use of equipment maintained by the Contractor, unless such injury or damage is due to the fault or negligence of the Contractor.

4. [Statistical Data for Government Ordering Office Completion of Standard Form 279](#)

Block 9: G. Order/Modification Under Federal Schedule Contract

Block 16: Data Universal Numbering System (DUNS) Number: 078459487

Block 30: Type of Contractor: Small Disadvantaged Business

Block 31: Woman-Owned Small Business - No

Block 37: Contractor's Taxpayer Identification Number (TIN): 45-4419855 Block 40: Veteran Owned Small Business (VOSB): No

a. CAGE Code: 6R8B4

b. Central Contractor Registration Database: Contractor is registered and current

5. [FOB Destination](#)

6. [Delivery Schedule](#)

a. Time of Delivery:

The Contractor shall delivery to destination within the number of calendar days after receipt of order (ARO), as set forth below:

SPECIAL ITEM NUMBER	DELIVERY TIME (DAYS)
132-32	TBD
132-40	TBD
132-50	TBD
132-51	TBD
132-56	TBD

b. Urgent Requirements:

When the Federal Supply Schedule contract delivery period does not meet the bona fide urgent delivery requirements of an ordering activity, ordering activities are encouraged, if time permits, to contact the Contractor for obtaining accelerated delivery. The Contractor shall reply to the inquiry within 3 workdays after receipt. (Telephonic replies shall be confirmed by the Contractor in writing.) If the Contractor offers an accelerated delivery time acceptable to the ordering activity, any order(s) placed pursuant to the agreed upon accelerated delivery time frame shall be delivered within this shorter delivery time and in accordance with all other terms and conditions of the contract.

7. [Discounts](#)

Prices shown are NET Prices; Basic Discounts have been deducted.

a. Prompt Payment: 1 % / 20 Net 30 days from receipt of invoice or date of acceptance, whichever is later.

b. Quantity Discount: N/A

c. Dollar Volume: 1 % > \$400,000

d. Other Special Discounts (i.e. Government Education Discounts, etc.): N/A

8. [Trade Agreements Act of 1979, as Amended](#)

All items are U.S. made end products, designated country end products, Caribbean Basin country end products, Canadian end products, or Mexican end products as defined in the Trade Agreements Act of 1979, as amended.

9. [Statement Concerning Availability of Export Packing](#)

10. [Small Requirements](#)

The minimum dollar of orders to be issued is **\$100.00**.

11. [Maximum Order \(All dollar amounts are exclusive of any discount for prompt payment\)](#)

The maximum Order for the following Special Item Numbers (SINs) is \$500,000:

132-32	Term Software License
132-40	Cloud Services
132-50	Training Courses
132-51	Information Technology Professional Services
132-56	Health IT Services

12. [Ordering Procedures for Federal Supply Schedule Contracts](#)

Ordering activities shall use the ordering procedures of Federal Acquisition Regulation (FAR) 8.405 when placing an order or establishing a BPA for supplies or services. These procedures apply to all schedules.

- ✓ FAR 8.405-1 – Ordering procedures for supplies and services not requiring a Statement of Work (SOW)
- ✓ FAR 8.405-2 – Ordering procedures for services requiring a SOW

13. [Federal Information Technology/Telecommunication Standards Requirements](#)

Ordering activities acquiring products from this Schedule must comply with the provisions of the Federal Standards Program, as appropriate (reference: NIST Federal Standards Index). Inquiries to determine whether specific products listed herein comply with Federal Information Processing Standards (FIPS) or Federal Telecommunication Standards (FED-STDS), which are cited by ordering activities, shall be responded to promptly by the Contractor.

a. Federal Information Processing Standards Publications (FIPS PUBS)

Information Technology products under this Schedule that do not conform to Federal Information Processing Standards (FIPS) should not be acquired unless a waiver has been granted in accordance with the applicable "FIPS Publication." Federal Information Processing Standards Publications (FIPS PUBS) are issued by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST), pursuant to National Security Act. Information concerning their availability and applicability should be obtained from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161. FIPS PUBS include voluntary standards when these are adopted for Federal use. Individual orders for FIPS PUBS should be referred to the NTIS Sales Office, and orders for subscription service should be referred to the NTIS Subscription Officer, both at the above address, or telephone number (703) 487-4650.

b. Federal Telecommunications Standards (FED-STDS)

Telecommunication products under this Schedule that do not conform to Federal Telecommunication Standards (FED-STDS) should not be acquired unless a waiver has been granted in accordance with the applicable "FED-STD." Federal Telecommunication Standards are issued by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST), pursuant to National Security Act. Ordering information and information concerning the availability of FED-STDS should be obtained from the GSA, Federal Acquisition Service, Specification Section, 470 East L'Enfant Plaza, Suite 8100, SW, Washington, DC 20407, telephone number (202)619-8925. Please include a self-addressed mailing label when requesting information by mail. Information concerning their applicability can be obtained by writing or calling the U.S. Department of Commerce, National Institute of Standards and Technology, Gaithersburg, MD 20899, telephone number (301)975-2833.

14. [Contractor Tasks / Special Requirements \(C-FSS-370\) \(Nov 2003\)](#)

a. Travel:

The Contractor may be required to travel in performance of orders issued under this contract. Allowable travel and per diem charges are governed by Pub. L. 99-234 and FAR Part 31 and are reimbursable by the ordering agency or can be priced as a fixed price item on orders placed under the Multiple Award Schedule. Travel in performance of a task order will only be reimbursable to the extent authorized by the ordering agency. The Industrial Funding Fee does NOT apply to travel and per diem charges.

b. Personnel:

The Contractor may be required to provide key personnel, resumes or skill category descriptions in the performance of orders issued under this contract. Ordering activities may require agency approval of additions or replacements to key personnel.

c. Data/Deliverable Requirements:

Any required data/deliverables at the ordering level will be as specified or negotiated in the agency's order.

15. [Contract Administration for Ordering Activities](#)

Any ordering activity, with respect to any one or more delivery orders placed by it under this contract, may exercise the same rights of termination as might the GSA Contracting Officer under provisions of FAR 52.212-4, paragraphs (l) Termination for the ordering activity's convenience, and (m) Termination for Cause (See 52.212-4).

16. [GSA Advantage!](#)

GSA Advantage! is an on-line, interactive electronic information and ordering system that provides on-line access to vendors' schedule prices with ordering information. GSA Advantage! will allow the user to perform various searches across all contracts including, but not limited to:

- a.** Manufacturer;
- b.** Manufacturer's Part Number; and
- c.** Product categories.

Agencies can browse GSA Advantage! by accessing the Internet World Wide Web utilizing a browser (ex.: Chrome). The Internet address is <http://www.gsaadvantage.gov>

17. [Purchase of Open Market Items](#)

NOTE: Open Market Items are also known as incidental items, noncontract items, non-Schedule items, and items not on a Federal Supply Schedule contract. Ordering Activities procuring open market items must follow FAR 8.402(f).

For administrative convenience, an ordering activity contracting officer may add items not on the Federal Supply Multiple Award Schedule (MAS) -- referred to as open market items -- to a Federal Supply Schedule blanket purchase agreement (BPA) or an individual task or delivery order, only if:

- a.** All applicable acquisition regulations pertaining to the purchase of the items not on the Federal Supply Schedule have been followed (e.g., publicizing (Part 5), competition requirements (Part 6), acquisition of commercial items (Part 12), contracting methods (Parts 13, 14, and 15), and small business programs (Part 19));
- b.** The ordering activity contracting officer has determined the price for the items not on the Federal Supply Schedule is fair and reasonable;
- c.** The items are clearly labeled on the order as items not on the Federal Supply Schedule; and
- d.** All clauses applicable to items not on the Federal Supply Schedule are included in the order.

18. [Contractor Commitments, Warranties and Representations](#)

- a.** For the purpose of this contract, commitments, warranties and representations include, in addition to those agreed to for the entire schedule contract:
 - (1) Time of delivery/installation quotations for individual orders;
 - (2) Technical representations and/or warranties of products concerning performance, total system performance and/or configuration, physical, design and/or functional characteristics and capabilities of a product/equipment/ service/software package submitted in response to requirements which result in orders under this schedule contract.
 - (3) Any representations and/or warranties concerning the products made in any literature, description, drawings and/or specifications furnished by the Contractor.
- b.** The above is not intended to encompass items not currently covered by the GSA Schedule contract.
- c.** The maintenance/repair service provided is the standard commercial terms and conditions for the type of products and/or services awarded.

19. [Overseas Activities](#)

The terms and conditions of this contract shall apply to all orders for installation, maintenance and repair of equipment in areas listed in the pricelist outside the 48 contiguous states and the District of Columbia, except as indicated below: None.

Upon request of the Contractor, the ordering activity may provide the Contractor with logistics support, as available, in accordance with all applicable ordering activity regulations. Such ordering activity support will be provided on a reimbursable basis and will only be provided to the Contractor's technical personnel whose services are exclusively required for the fulfillment of the terms and conditions of this contract.

20. [Blanket Purchase Agreements \(BPAs\)](#)

The use of BPAs under any schedule contract to fill repetitive needs for supplies or services is allowable. BPAs may be established with one or more schedule contractors. The number of BPAs to be established is within the discretion of the ordering activity establishing the BPA and should be based on a strategy that is expected to maximize the effectiveness of the BPA(s). Ordering activities shall follow FAR 8.405-3 when creating and implementing BPA(s).

21. [Contractor Team Arrangements](#)

Contractors participating in contractor team arrangements must abide by all terms and conditions of their respective contracts. This includes compliance with Clauses 552.238-74, Industrial Funding Fee and Sales Reporting, i.e., each contractor (team member) must report sales and remit the IFF for all products and services provided under its individual contract.

22. [Installation, Deinstallation, Reinstallation](#)

The Davis-Bacon Act (40 U.S.C. 276a-276a-7) provides that contracts in excess of \$2,000 to which the United States or the District of Columbia is a party for construction, alteration, or repair (including painting and decorating) of public buildings or public works with the United States, shall contain a clause that no laborer or mechanic employed directly upon the site of the work shall receive less than the prevailing wage rates as determined by the Secretary of Labor. The requirements of the Davis-Bacon Act do not apply if the construction work is incidental to the furnishing of supplies, equipment, or services. For example, the requirements do not apply to simple installation or alteration of a public building or public work that is incidental to furnishing supplies or equipment under a supply contract. However, if the construction, alteration or repair is segregable and exceeds \$2,000, then the requirements of the Davis-Bacon Act applies.

The ordering activity issuing the task order against this contract will be responsible for proper administration and enforcement of the Federal labor standards covered by the Davis-Bacon Act. The proper Davis-Bacon wage determination will be issued by the ordering activity at the time a request for quotations is made for applicable construction classified installation, deinstallation, and reinstallation services under SIN 132-8 or 132-9.

23. [Section 508 Compliance](#)

I certify that in accordance with 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794d), FAR 39.2, and the Architectural and Transportation Barriers Compliance Board Electronic and Information Technology (EIT) Accessibility Standards (36 CFR 1194) General Services Administration (GSA), that all IT hardware/software/services are 508 compliant:

Yes

The offeror is required to submit with its offer a designated area on its website that outlines the Voluntary Product Accessibility Template (VPAT) or equivalent qualification, which ultimately becomes the Government Product Accessibility Template (GPAT). Section 508 compliance information on the supplies and services in this contract are available at the following website address (URL): <http://www.eagletg.com/>.

The EIT standard can be found at: www.Section508.gov/.

24. [Prime Contractor Ordering from Federal Supply Schedules](#)

Prime Contractors (on cost reimbursement contracts) placing orders under Federal Supply Schedules, on behalf of an ordering activity, shall follow the terms of the applicable schedule and authorization and include with each order –

- a. A copy of the authorization from the ordering activity with whom the contractor has the prime contract (unless a copy was previously furnished to the Federal Supply Schedule contractor); and
- b. The following statement:

This order is placed under written authorization from _____ dated _____. In the event of any inconsistency between the terms and conditions of this order and those of your Federal Supply Schedule contract, the latter will govern.

25. [Insurance – Work on a Government Installation \(Jan 1997\) \(FAR 52.228-5\)](#)

- a. The Contractor shall, at its own expense, provide and maintain during the entire performance of this contract, at least the kinds and minimum amounts of insurance required in the Schedule or elsewhere in the contract.
- b. Before commencing work under this contract, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective—
 - (4) For such period as the laws of the State in which this contract is to be performed prescribe; or
 - (5) Until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.
- c. The Contractor shall insert the substance of this clause, including this paragraph (c), in subcontracts under this contract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required in the Schedule or elsewhere in the contract. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance and shall make copies available to the Contracting Officer upon request.

26. [Software Interoperability](#)

Offerors are encouraged to identify within their software items any component interfaces that support open standard interoperability. An item's interface may be identified as interoperable on the basis of participation in a Government agency-sponsored program or in an independent organization program. Interfaces may be identified by reference to an interface registered in the component registry located at <http://www.core.gov>.

27. [Advance Payments](#)

A payment under this contract to provide a service or deliver an article for the United States Government may not be more than the value of the service already provided or the article already delivered. Advance or pre-payment is not authorized or allowed under this contract. (31 U.S.C. 3324)

4. TERMS AND CONDITIONS APPLICABLE TO TERM SOFTWARE LICENSES (SPECIAL ITEM NUMBER 132-32) OF GENERAL-PURPOSE COMMERCIAL INFORMATION TECHNOLOGY SOFTWARE

1. [Inspection / Acceptance](#)

The Contractor shall only tender for acceptance those items that conform to the requirements of this contract. The ordering activity reserves the right to inspect or test any software that has been tendered for acceptance. The ordering activity may require repair or replacement of nonconforming software at no increase in contract price. The ordering activity must exercise its post acceptance rights (1) within a reasonable time after the defect was discovered or should have been discovered; and (2) before any substantial change occurs in the condition of the software, unless the change is due to the defect in the software.

2. [Enterprise User License Agreements Requirements \(EULA\)](#)

The Contractor shall provide all Enterprise User License Agreements which are non-negotiable and provided either with the Product Listing per line item or available as a separate document. GSA customers will be required to accept software EULAs upon purchase.

3. [Guarantee / Warranty](#)

The Contractor warrants that:

- a. Services will be performed in a timely, workmanlike and professional manner with reasonable skill and care and in accordance with sound and generally accepted industry standards and practices and in accordance with any and all applicable laws, codes, rules, regulations or other governmental or regulatory requirements,
- b. It has and will maintain all necessary licenses, consents, and permissions necessary for the performance of its obligations under this Agreement,
- c. The Services and Products will not violate the patent, copyright, trademark, trade secrets or other proprietary or intellectual property rights of any third party,
- d. The Products and/or Services will not contain or transmit to Customer any Harmful Code. Harmful Code means viruses, worms, time bombs, Trojan horses and other malicious code, files, scripts, agents or programs.

4. [Technical Services](#)

License & Support Purchases: The Contractor, without additional charge to the ordering activity, shall provide a hot line technical support number for the purpose of providing user guidance in the implementation of the software. In addition to telephone support, the Contractor provides online documentation, web forums, email and other options for submitting cases and tracking case status.

License Purchases Only: No support provided.

License Purchase Only Upgrade: A License Only Purchase can be upgraded to License and Support by purchasing a separate support contract.

5. [Software Maintenance](#)

- a. Software maintenance as it is defined: (select software maintenance type):

1. Software Maintenance as a Product (SIN 132-32)

Software maintenance as a product includes the publishing of bug/defect fixes via patches and updates/upgrades in function and technology to maintain the operability and usability of the software product. It may also include other no charge support that are included in the purchase price of the product in the commercial marketplace. No charge support includes items such as user blogs, discussion forums, on-line help libraries and FAQs (Frequently Asked Questions), hosted chat rooms, and limited telephone, email and/or web-based general technical support for user's self-diagnostics.

Software maintenance as a product does NOT include the creation, design, implementation, integration, etc. of a software package. These examples are considered software maintenance as a service. Software Maintenance as a product is billed at the time of purchase.

6. [Periods of Term Licenses \(SIN 132-32\)](#)

- a. The Contractor shall honor orders for periods for the duration of the contract period or a lesser period of time.
- b. Term licenses and/or maintenance may be discontinued by the ordering activity on thirty (30) calendar days written notice to the Contractor.
- c. Annual Funding. When annually appropriated funds are cited on an order for term licenses and/or maintenance, the period of the term licenses and/or maintenance shall automatically expire on September 30 of the contract period, or at the end of the contract period, whichever occurs first. Renewal of the term licenses and/or maintenance orders citing the new appropriation shall be required, if the term licenses and/or maintenance is to be continued during any remainder of the contract period.
- d. Cross-Year Funding Within Contract Period. Where an ordering activity's specific appropriation authority provides for funds in excess of a 12-month (fiscal year) period, the ordering activity may place an order under this schedule contract for a period up to the expiration of the contract period, notwithstanding the intervening fiscal years.
- e. Ordering activities should notify the Contractor in writing thirty (30) calendar days prior to the expiration of an order, if the term licenses and/or maintenance is to be terminated at that time. Orders for the continuation of term licenses and/or maintenance will be required if the term licenses and/or maintenance is to be continued during the subsequent period.

7. [Conversion from Term License to Perpetual License](#)

- a. The ordering activity may convert term licenses to perpetual licenses for any or all software at any time following acceptance of software. At the request of the ordering activity the Contractor shall furnish, within ten (10) calendar days, for each software product that is contemplated for conversion, the total amount of conversion credits which have accrued while the software was on a term license and the date of the last update or enhancement.
- b. Conversion credits which are provided shall, within the limits specified, continue to accrue from one contract period to the next, provided the software remains on a term license within the ordering activity.
- c. The term license for each software product shall be discontinued on the day immediately preceding the effective date of conversion from a term license to a perpetual license.
- d. The price the ordering activity shall pay will be the perpetual license price that prevailed at the time such software was initially ordered under a term license, or the perpetual license price prevailing at the time of conversion from a term license to a perpetual license, whichever is the less, minus an amount equal to N/A% of all term license payments during the period that the software was under a term license within the ordering activity.

8. [Term License Cessation](#)

- a. After a software product has been on a continuous term license for a period of N/A * months, a fully paid-up, non-exclusive, perpetual license for the software product shall automatically accrue to the ordering activity. The period of continuous term license for automatic accrual of a fully paid-up perpetual license does not have to be achieved during a particular fiscal year; it is a written Contractor commitment which continues to be available for software that is initially ordered under this contract, until a fully paid-up perpetual license accrues to the ordering activity. However, should the term license of the software Authorized IT Schedule Pricelist - GSA Contract #GS-035F- 0536X Page 14 of 26 be discontinued before the specified period of the continuous term license has been satisfied, the perpetual license accrual shall be forfeited.

- b.** The Contractor agrees to provide updates and maintenance service for the software after a perpetual license has accrued, at the prices and terms of Special Item Number I32-34, if the licensee elects to order such services. Title to the software shall remain with the Contractor.

9. [Utilization Limitations – \(SIN 132-32\)](#)

- a.** Software acquisition is limited to commercial computer software defined in FAR Part 2.101.
- b.** When acquired by the ordering activity, commercial computer software and related documentation so legend shall be subject to the following:
 - (1) Software licenses are by site and by ordering activity. An ordering activity is defined as a cabinet level or independent ordering activity. The software may be used by any subdivision of the ordering activity (service, bureau, division, command, etc.) that has access to the site the software is placed at, even if the subdivision did not participate in the acquisition of the software. Further, the software may be used on a sharing basis where multiple agencies have joint projects that can be satisfied by the use of the software placed at one ordering activity's site. This would allow other agencies access to one ordering activity's database. For ordering activity public domain databases, user agencies and third parties may use the computer program to enter, retrieve, analyze and present data. The user ordering activity will take appropriate action by instruction, agreement, or otherwise, to protect the Contractor's proprietary property with any third parties that are permitted access to the computer programs and documentation in connection with the user ordering activity's permitted use of the computer programs and documentation. For purposes of this section, all such permitted third parties shall be deemed agents of the user ordering activity.
 - (2) Except as is provided in paragraph 9.b(2) above, the ordering activity shall not provide or otherwise make available the software or documentation, or any portion thereof, in any form, to any third party without the prior written approval of the Contractor. Third parties do not include prime Contractors, subcontractors and agents of the ordering activity who have the ordering activity's permission to use the licensed software and documentation at the facility, and who have agreed to use the licensed software and documentation only in accordance with these restrictions. This provision does not limit the right of the ordering activity to use software, documentation, or information therein, which the ordering activity may already have or obtains without restrictions.
 - (3) The ordering activity shall have the right to use the computer software and documentation with the computer for which it is acquired at any other facility to which that computer may be transferred, or in cases of Disaster Recovery, the ordering activity has the right to transfer the software to another site if the ordering activity site for which it is acquired is deemed to be unsafe for ordering activity personnel; to use the computer software and documentation with a backup computer when the primary computer is inoperative; to copy computer programs for safekeeping (archives) or backup purposes; to transfer a copy of the software to another site for purposes of benchmarking new hardware and/or software; and to modify the software and documentation or combine it with other software, provided that the unmodified portions shall remain subject to these restrictions.
 - (4) "Commercial Computer Software" may be marked with the Contractor's standard commercial restricted rights legend, but the schedule contract and schedule pricelist, including this clause, "Utilization Limitations" are the only governing terms and conditions and shall take precedence and supersede any different or additional terms and conditions included in the standard commercial legend. Authorized IT Schedule Pricelist - GSA Contract #GS-035F-418CA.

10. [Software Conversions – \(SIN 132-32\)](#)

Full monetary credit will be allowed to the ordering activity when conversion from one version of the software to another is made as the result of a change in operating system, or from one computer system to another. Under a perpetual license (132-33), the purchase price of the new software shall be reduced by the amount that was paid to purchase the earlier version. Under a term license (132-32), conversion credits which accrued while the earlier version was under a term license

shall carry forward and remain available as conversion credits which may be applied towards the perpetual license price of the new version.

11. [Descriptions and Equipment Compatibility](#)

The Contractor shall include, in the schedule pricelist, a complete description of each software product and a list of equipment on which the software can be used. Also, included shall be a brief, introductory explanation of the modules and documentation which are offered.

12. [Right-To-Copy Pricing](#)

The Contractor shall insert the discounted pricing for right-to-copy licenses.

5. TERMS AND CONDITIONS APPLICABLE TO 132-40 (CLOUD SERVICES)

1. [Scope](#)

The prices, terms and conditions stated under Special Item Number (SIN) 132-40 Cloud Computing Services apply exclusively to Cloud Computing Services within the scope of this Information Technology Schedule.

This SIN provides ordering activities with access to technical services that run-in cloud environments and meet the NIST Definition of Cloud Computing Essential Characteristics. Services relating to or impinging on cloud that do not meet all NIST essential characteristics should be listed in other SINs.

The scope of this SIN is limited to cloud capabilities provided entirely as a service. Hardware, software and other artifacts supporting the physical construction of a private or other cloud are out of scope for this SIN. Currently, an Ordering Activity can procure the hardware and software needed to build on premise cloud functionality, through combining different services on other IT Schedule 70 SINs (e.g. 132-51).

Sub-categories in scope for this SIN are the three NIST Service Models: Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS). Offerors may optionally select a single sub-category that best fits a proposed cloud service offering. Only one sub-category may be selected per each proposed cloud service offering. Offerors may elect to submit multiple cloud service offerings, each with its own single sub-category. The selection of one of three sub-categories does not prevent Offerors from competing for orders under the other two sub-categories.

See service model guidance for advice on sub-category selection.

Sub-category selection within this SIN is optional for any individual cloud service offering, and new cloud computing technologies that do not align with the aforementioned three sub-categories may be included without a sub-category selection so long as they comply with the essential characteristics of cloud computing as outlined by NIST.

See Table 1 for a representation of the scope and sub-categories.

Table 1 – Cloud Computing Services SIN

SIN Description	Sub-Categories
<ul style="list-style-type: none"> ✓ Commercially available cloud computing services ✓ Meets the National Institute for Standards and Technology (NIST) definition of Cloud Computing essential characteristics ✓ Open to all deployment models (private, public, community or hybrid), vendors specify deployment models 	<p>1. Software as a Service (SaaS): Consumer uses provider’s applications on cloud infrastructure. Does not manage/control platform or infrastructure. Limited application level configuration may be available.</p> <p>2. Platform as a Service (PaaS): Consumer deploys applications onto cloud platform service using provider-supplied tools. Has control over deployed applications and some limited platform configuration but does not manage the platform or infrastructure.</p> <p>3. Infrastructure as a Service (IaaS): Consumer provisions computing resources. Has control over OS, storage, platform, deployed applications and some limited infrastructure configuration, but does not manage the infrastructure.</p>

2. [Responsibilities of the Contractor](#)

The Contractor shall comply with all laws, ordinances, and regulations (Federal, State, City, or otherwise) covering work of this character.

- a. Acceptance Testing

Any required Acceptance Test Plans and Procedures shall be negotiated by the Ordering Activity at task order level. The Contractor shall perform acceptance testing of the systems for Ordering Activity approval in accordance with the approved test procedures.

b. Training

If training is provided commercially the Contractor shall provide normal commercial installation, operation, maintenance, and engineering interface training on the system. Contractor is responsible for indicating if there are separate training charges.

c. Information Assurance/Security Requirements

The contractor shall meet information assurance/security requirements in accordance with the Ordering Activity requirements at the Task Order level.

d. Related Professional Services

The Contractor is responsible for working with the Ordering Activity to identify related professional services and any other services available on other SINs that may be associated with deploying a complete cloud solution. Any additional substantial and ongoing professional services related to the offering such as integration, migration, and other cloud professional services are out of scope for this SIN.

e. Performance of Cloud Services

The Contractor shall respond to Ordering Activity requirements at the Task Order level with proposed capabilities to Ordering Activity performance specifications or indicate that only standard specifications are offered. In all cases the Contractor shall clearly indicate standard service levels, performance and scale capabilities.

The Contractor shall provide appropriate cloud computing services on the date and to the extent and scope agreed to by the Contractor and the Ordering Activity.

f. Reporting

The Contractor shall respond to Ordering Activity requirements and specify general reporting capabilities available for the Ordering Activity to verify performance, cost and availability.

In accordance with commercial practices, the Contractor may furnish the Ordering Activity/user with a monthly summary Ordering Activity report.

3. [Responsibilities of the Ordering Activity](#)

The Ordering Activity is responsible for indicating the cloud computing services requirements unique to the Ordering Activity. Additional requirements should not contradict existing SIN or IT Schedule 70 Terms and Conditions. Ordering Activities should include (as applicable) Terms & Conditions to address Pricing, Security, Data Ownership, Geographic Restrictions, Privacy, SLAs, etc.

Cloud services typically operate under a shared responsibility model, with some responsibilities assigned to the Cloud Service Provider (CSP), some assigned to the Ordering Activity, and others shared between the two. The distribution of responsibilities will vary between providers and across service models.

Ordering activities should engage with CSPs to fully understand and evaluate the shared responsibility model proposed. Federal Risk and Authorization Management Program (FedRAMP) documentation will be helpful regarding the security aspects of shared responsibilities, but operational aspects may require additional discussion with the provider.

a. Ordering Activity Information Assurance/Security Requirements Guidance

- (1) The Ordering Activity is responsible for ensuring to the maximum extent practicable that each requirement issued is in compliance with the Federal Information Security Management Act (FISMA) as applicable.
- (2) The Ordering Activity shall assign a required impact level for confidentiality, integrity and availability (CIA) prior

to issuing the initial statement of work. The Contractor must be capable of meeting at least the minimum-security requirements assigned against a low-impact information system in each CIA assessment area (per FIPS 200) and must detail the FISMA capabilities of the system in each of CIA assessment area.

- (3) Agency level FISMA certification, accreditation, and evaluation activities are the responsibility of the Ordering Activity. The Ordering Activity reserves the right to independently evaluate, audit, and verify the FISMA compliance for any proposed or awarded Cloud Computing Services.
- (4) The Ordering Activity has final responsibility for assessing the FedRAMP status of the service, complying with and making a risk-based decision to grant an Authorization to Operate (ATO) for the cloud computing service, and continuous monitoring. A memorandum issued by the Office of Management and Budget (OMB) on Dec 8, 2011 outlines the responsibilities of Executive departments and agencies in the context of FedRAMP compliance.
- (5) Ordering activities are responsible for determining any additional information assurance and security related requirements based on the nature of the application and relevant mandates.

b. Deployment Model

If a particular deployment model (Private, Public, Community, or Hybrid) is desired, Ordering Activities are responsible for identifying the desired model(s). Alternately, Ordering Activities could identify requirements and assess Contractor responses to determine the most appropriate deployment model(s).

c. Delivery Schedule

The Ordering Activity shall specify the delivery schedule as part of the initial requirement. The Delivery Schedule options are found in Information for Ordering Activities Applicable to All Special Item Numbers.

d. Interoperability

Ordering Activities are responsible for identifying interoperability requirements. Ordering Activities should clearly delineate requirements for API implementation and standards conformance.

e. Performance of Cloud Computing Services

The Ordering Activity should clearly indicate any custom minimum service levels, performance and scale requirements as part of the initial requirement.

f. Reporting

The Ordering Activity should clearly indicate any cost, performance or availability reporting as part of the initial requirement.

g. Privacy

The Ordering Activity should specify the privacy characteristics of their service and engage with the Contractor to determine if the cloud service is capable of meeting Ordering Activity requirements. For example, a requirement could be requiring assurance that the service is capable of safeguarding Personally Identifiable Information (PII), in accordance with NIST SP 800-1224 and OMB memos M-06-165 and M-07-166. An Ordering Activity will determine what data elements constitute PII according to OMB Policy, NIST Guidance and Ordering Activity policy.

h. Accessibility

The Ordering Activity should specify the accessibility characteristics of their service and engage with the Contractor to determine the cloud service is capable of meeting Ordering Activity requirements. For example, a requirement could require assurance that the service is capable of providing accessibility based on Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. 794d).

i. Geographic Requirements

Ordering activities are responsible for specifying any geographic requirements and engaging with the Contractor to determine that the cloud services offered have the capabilities to meet geographic requirements for all anticipated task orders. Common geographic concerns could include whether service data, processes and related artifacts can be confined on request to the United States and its territories, or the continental United States (CONUS).

j. Data Ownership and Retrieval and Intellectual Property

Intellectual property rights are not typically transferred in a cloud model. In general, CSPs retain ownership of the Intellectual Property (IP) underlying their services and the customer retains ownership of its intellectual property. The CSP gives the customer a license to use the cloud services for the duration of the contract without transferring rights. The government retains ownership of the IP and data they bring to the customized use of the service as spelled out in the FAR and related materials.

General considerations of data ownership and retrieval are covered under the terms of Schedule 70 and the FAR and other laws, ordinances, and regulations (Federal, State, City, or otherwise). Because of considerations arising from cloud shared responsibility models, ordering activities should engage with the Contractor to develop more cloud-specific understandings of the boundaries between data owned by the government and that owned by the cloud service provider, and the specific terms of data retrieval.

In all cases, the Ordering Activity should enter into an agreement with a clear and enforceable understanding of the boundaries between government and cloud service provider data, and the form, format and mode of delivery for each kind of data belonging to the government.

The Ordering Activity should expect that the Contractor shall transfer data to the government at the government's request at any time, and in all cases when the service or order is terminated for any reason, by means, in formats and within a scope clearly understood at the initiation of the service. Example cases that might require clarification include status and mode of delivery for:

- ✓ Configuration information created by the government and affecting the government's use of the cloud provider's service.
- ✓ Virtual machine configurations created by the government but operating on the cloud provider's service.

k. Service Location Distribution

The Ordering Activity should determine requirements for continuity of operations and performance and engage with the Contractor to ensure that cloud services have adequate service location distribution to meet anticipated requirements. Typical concerns include ensuring that:

- ✓ Physical locations underlying the cloud are numerous enough to provide continuity of operations and geographically separate enough to avoid an anticipated single point of failure within the scope of anticipated emergency events.
- ✓ Service endpoints for the cloud are able to meet anticipated performance requirements in terms of geographic proximity to service requestors.

Note that cloud providers may address concerns in the form of minimum distance between service locations, general regions where service locations are available, etc.

l. Related Professional Services

Ordering activities should engage with Contractors to discuss the availability of limited assistance with initial setup, training and access to the services that may be available through this SIN.

Any additional substantial and ongoing professional services related to the offering such as integration, migration, and other cloud professional services are out of scope for this SIN. Ordering activities should consult the appropriate GSA professional services schedule.

6. TERMS AND CONDITIONS APPLICABLE TO 132-50 (TRAINING COURSES)**1. Scope**

- a.** The Contractor shall provide training courses normally available to commercial customers, which will permit ordering activity users to make full, efficient use of general purpose commercial IT products. Training is restricted to training courses for those products within the scope of this solicitation.
- b.** The Contractor shall provide training at the Contractor's facility and/or at the ordering activity's location, as agreed to by the Contractor and the ordering activity. The desired date can be provided at purchase but cannot be guaranteed.

2. Order

Written orders, EDI orders (GSA Advantage! and FACNET), credit card orders, and orders placed under blanket purchase agreements (BPAs) shall be the basis for the purchase of training courses in accordance with the terms of this contract. Orders shall include the student's name, course title, course date and time, and contracted dollar amount of the course.

3. Time of Delivery

The Contractor shall conduct training on the date (time, day, month, and year) agreed to by the Contractor and the ordering activity.

4. Cancellation and Rescheduling

- a.** The ordering activity will notify the Contractor at least seventy-two (72) hours before the scheduled training date, if a student will be unable to attend. With the exception of WSO2 QuickStart and Training Services, the Contractor will then permit the ordering activity to either cancel the order or reschedule the training at no additional charge. In the event the training class is rescheduled, the ordering activity will modify its original training order to specify the time and date of the rescheduled training class. For WSO2 QuickStart and Training Services, individual students may be substituted with a seventy-two (72) hour notice but the collective training cannot be rescheduled due to the extensive pre-coordination and travel requirements.
- b.** In the event the ordering activity fails to cancel or reschedule a training course within the time frame specified in paragraph a, above, the ordering activity will be liable for the contracted dollar amount of the training course. The Contractor agrees to permit the ordering activity to reschedule a student who fails to attend a training class within ninety (90) days from the original course date, at no additional charge, with the exception of WSO2 Training Services.

5. Follow-Up Support

Follow up support consists of white page and other support information on the WSO2 website.

6. Price for Training

The price that the ordering activity will be charged will be the ordering activity training price in effect at the time of order placement, or the ordering activity price in effect at the time the training course is conducted, whichever is less.

7. Invoices and Payment

Invoices for training shall be submitted by the Contractor after ordering activity completion of the training course. Charges for training must be paid in arrears (31 U.S.C. 3324).

8. Format and Content of Training

- a.** The Contractor shall provide written materials (i.e., manuals, handbooks, texts, etc.) normally provided with course offerings. Such documentation will become the property of the student upon completion of the training class.
- b.** ****If applicable**** For hands-on training courses, there must be a one-to-one assignment of IT equipment to students.
- c.** The Contractor shall provide each student with a Certificate of Training at the completion of each training course.

- d.** The Contractor shall provide the following information for each training course offered:
 - (1) The course title and a brief description of the course content, to include the course format (e.g., lecture, discussion, hands-on training);
 - (2) The length of the course;
 - (3) Mandatory and desirable prerequisites for student enrollment;
 - (4) The minimum and maximum number of students per class;
 - (5) The locations where the course is offered;
 - (6) Class schedules; and
 - (7) Price (per student, per class (if applicable)).
- e.** For those courses conducted at the ordering activity's location, instructor travel charges (if applicable), including mileage and daily living expenses (e.g., per diem charges) are governed by Pub. L. 99-234 and FAR Part 31.205-46, and are reimbursable by the ordering activity on orders placed under the Multiple Award Schedule, as applicable, in effect on the date(s) the travel is performed. Contractors cannot use GSA city pair contracts. The Industrial Funding Fee does NOT apply to travel and per diem charges.
- f.** For Online Training Courses, a copy of all training material must be available for electronic download by the students.

9. ["No Charge" Training](#)

The Contractor shall describe any training provided with equipment and/or software provided under this contract, free of charge, in the space provided below.

7. TERMS AND CONDITIONS APPLICABLE TO 132-51 / 132-56 (IT PROFESSIONAL SERVICES / HEALTH IT SERVICES)

1. [Scope](#)

- a. The prices, terms and conditions stated under Special Item Number 132-51 Information Technology Professional Services and 132-56 Health IT Services apply exclusively to IT/IAM Professional Services within the scope of this Information Technology Schedule.
- b. The Contractor shall provide services at the Contractor's facility and/or at the ordering activity location, as agreed to by the Contractor and the ordering activity.

2. [Performance Incentives I-FSS-60 Performance Incentive \(April 2000\)](#)

- a. Performance incentives may be agreed upon between the Contractor and the ordering activity on individual fixed price orders or Blanket Purchase Agreements under this contract.
- b. The ordering activity must establish a maximum performance incentive price for these services and/or total solutions on individual orders or Blanket Purchase Agreements.
- c. Incentives should be designed to relate results achieved by the contractor to specified targets. To the maximum extent practicable, ordering activities shall consider establishing incentives where performance is critical to the ordering activity's mission and incentives are likely to motivate the contractor. Incentives shall be based on objectively measurable tasks.

3. [Order](#)

- a. Agencies may use written orders, EDI orders, blanket purchase agreements, individual purchase orders, or task orders for ordering services under this contract. Blanket Purchase Agreements shall not extend beyond the end of the contract period; all services and delivery shall be made and the contract terms and conditions shall continue in effect until the completion of the order. Orders for tasks which extend beyond the fiscal year for which funds are available shall include FAR 52.232-19 (Deviation – May 2003) Availability of Funds for the Next Fiscal Year. The purchase order shall specify the availability of funds and the period for which funds are available.
- b. All task orders are subject to the terms and conditions of the contract. In the event of conflict between a task order and the contract, the contract will take precedence.

4. [Performance of Services](#)

- a. The Contractor shall commence performance of services on the date agreed to by the Contractor and the ordering activity.
- b. The Contractor agrees to render services only during normal working hours, unless otherwise agreed to by the Contractor and the ordering activity.
- c. The ordering activity should include the criteria for satisfactory completion for each task in the Statement of Work or Delivery Order. Services shall be completed in a good and workmanlike manner.
- d. Any Contractor travel required in the performance of IT/IAM Services must comply with the Federal Travel Regulation or Joint Travel Regulations, as applicable, in effect on the date(s) the travel is performed. Established Federal Government per diem rates will apply to all Contractor travel. Contractors cannot use GSA city pair contracts.

5. [Stop-Work Order \(FAR 52.242-15\) \(Aug 1989\)](#)

- a. The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this contract for a period of 90 days after the order is delivered to the Contractor, and for any further period to which the parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during

the period of work stoppage. Within a period of 90 days after a stop-work is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, the Contracting Officer shall either-

- (1) Cancel the stop-work order; or
 - (2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.
- b.** If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if-
- (1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and
 - (2) The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; provided, that, if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon the claim submitted at any time before final payment under this contract.
- c.** If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.
- d.** If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

6. Inspection of Services

In accordance with FAR 52.212-4 CONTRACT TERMS AND CONDITIONS—COMMERCIAL ITEMS (MAR 2009) (DEVIATION I - FEB 2007) for Firm-Fixed Price orders and FAR 52.212-4 CONTRACT TERMS AND CONDITIONS COMMERCIAL ITEMS (MAR 2009) (ALTERNATE I OCT 2008) (DEVIATION I - FEB 2007) applies to Time-and-Materials and Labor-Hour Contracts orders placed under this contract.

7. Responsibilities of the Contractor

The Contractor shall comply with all laws, ordinances, and regulations (Federal, State, City, or otherwise) covering work of this character. If the end product of a task order is software, then FAR 52.227-14 (Dec 2007) Rights in Data – General, may apply.

8. Responsibilities of the Ordering Activity

Subject to security regulations, the ordering activity shall permit Contractor access to all facilities necessary to perform the requisite IT/IAM Professional Services.

9. Independent Contractor

All IT/IAM Professional Services performed by the Contractor under the terms of this contract shall be as an independent Contractor, and not as an agent or employee of the ordering activity.

10. Organizational Conflicts of Interest

a. Definitions

"Contractor" means the person, firm, unincorporated association, joint venture, partnership, or corporation that is a party to this contract.

"Contractor and its affiliates" and "Contractor or its affiliates" refers to the Contractor, its chief executives, directors, officers, subsidiaries, affiliates, subcontractors at any tier, and consultants and any joint venture involving the Contractor, any entity into or with which the Contractor subsequently merges or affiliates, or any other successor or assignee of the Contractor.

An "Organizational conflict of interest" exists when the nature of the work to be performed under a proposed ordering activity contract, without some restriction on ordering activities by the Contractor and its affiliates, may either (i) result in an unfair competitive advantage to the Contractor or its affiliates or (ii) impair the Contractor's or its affiliates' objectivity in performing contract work.

- b.** To avoid an organizational or financial conflict of interest and to avoid prejudicing the best interests of the ordering activity, ordering activities may place restrictions on the Contractors, its affiliates, chief executives, directors, subsidiaries and subcontractors at any tier when placing orders against schedule contracts. Such restrictions shall be consistent with FAR 9.505 and shall be designed to avoid, neutralize, or mitigate organizational conflicts of interest that might otherwise exist in situations related to individual orders placed against the schedule contract. Examples of situations, which may require restrictions, are provided at FAR 9.508.

11. [Invoices](#)

The Contractor, upon completion of the work ordered, shall submit invoices for IT/IAM Professional services. Progress payments may be authorized by the ordering activity on individual orders if appropriate. Progress payments shall be based upon completion of defined milestones or interim products. Invoices shall be submitted monthly for recurring services performed during the preceding month.

12. [Payments](#)

For firm-fixed price orders the ordering activity shall pay the Contractor, upon submission of proper invoices or vouchers, the prices stipulated in this contract for service rendered and accepted. Progress payments shall be made only when authorized by the order. For time-and-materials orders, the Payments under Time-and-Materials and Labor-Hour Contracts at FAR 52.212-4 (MAR 2009) (ALTERNATE I – OCT 2008) (DEVIATION I – FEB 2007) applies to time-and-materials orders placed under this contract. For labor-hour orders, the Payment under Time-and-Materials and Labor-Hour Contracts at FAR 52.212-4 (MAR 2009) (ALTERNATE I – OCT 2008) (DEVIATION I – FEB 2007) applies to labor-hour orders placed under this contract. 52.216-31(Feb 2007) Time-and-Materials/Labor-Hour Proposal Requirements—Commercial Item Acquisition As prescribed in 16.601(e)(3), insert the following provision:

- a.** The Government contemplates award of a Time-and-Materials or Labor-Hour type of contract resulting from this solicitation.
- b.** The offeror must specify fixed hourly rates in its offer that include wages, overhead, general and administrative expenses, and profit. The offeror must specify whether the fixed hourly rate for each labor category applies to labor performed by:
 - (1) The offeror;
 - (2) Subcontractors; and/or
 - (3) Divisions, subsidiaries, or affiliates of the offeror under a common control.

13. [Resumes](#)

Resumes shall be provided to the GSA Contracting Officer or the user ordering activity upon request.

14. [Incidental Support Costs](#)

Incidental support costs are available outside the scope of this contract. The costs will be negotiated separately with the ordering activity in accordance with the guidelines set forth in the FAR.

15. [Approval of Subcontracts](#)

The ordering activity may require that the Contractor receive, from the ordering activity's Contracting Officer, written consent before placing any subcontract for furnishing any of the work called for in a task order.

16. [Description of IT/IAM Professional Services and Pricing](#)

- a. The Contractor shall provide a description of each type of IT/IAM Service offered under Special Item Numbers 132-51 and 132-56 IT/IAM Professional Services should be presented in the same manner as the Contractor sells to its commercial and other ordering activity customers. If the Contractor is proposing hourly rates, a description of all corresponding commercial job titles (labor categories) for those individuals who will perform the service should be provided.
- b. Pricing for all IT/IAM Professional Services shall be in accordance with the Contractor's customary commercial practices; e.g., hourly rates, monthly rates, term rates, and/or fixed prices, minimum general experience and minimum education.

The following is an example of the manner in which the description of a commercial job title should be presented:

EXAMPLE: Commercial Job Title: System Engineer

Minimum/General Experience: Three (3) years of technical experience which applies to systems analysis and design techniques for complex computer systems. Requires competence in all phases of systems analysis techniques, concepts and methods; also requires knowledge of available hardware, system software, input/output devices, structure and management practices.

Functional Responsibility: Guides users in formulating requirements, advises alternative approaches, conducts feasibility studies.

Minimum Education: Bachelor's Degree in Computer Science.

8. USA COMMITMENT TO PROMOTE SMALL BUSINESS PARTICIPATION PROCUREMENT PROGRAMS**PREAMBLE**

Eagle TG provides commercial products and services to ordering activities. We are committed to promoting participation of small, small disadvantaged and women-owned small businesses in our contracts. We pledge to provide opportunities to the small business community through reselling opportunities, mentor-protégé programs, joint ventures, teaming arrangements, and subcontracting.

COMMITMENT

- ✓ To actively seek and partner with small businesses.
- ✓ To identify, qualify, mentor and develop small, small disadvantaged and women-owned small businesses by purchasing from these businesses whenever practical.
- ✓ To develop and promote company policy initiatives that demonstrate our support for awarding contracts and subcontracts to small business concerns.
- ✓ To undertake significant efforts to determine the potential of small, small disadvantaged and women-owned small business to supply products and services to our company.
- ✓ To insure procurement opportunities are designed to permit the maximum possible participation of small, small disadvantaged and women-owned small businesses.
- ✓ To attend business opportunity workshops, minority business enterprise seminars, trade fairs, procurement conferences, etc., to identify and increase small businesses with whom to partner.
- ✓ To publicize in our marketing publications our interest in meeting small businesses that may be interested in subcontracting opportunities.
- ✓ We signify our commitment to work in partnership with small, small disadvantaged and women- owned small businesses to promote and increase their participation in ordering activity contracts.

9. BEST VALUE BLANKET PURCHASE AGREEMENT FEDERAL SUPPLY SCHEDULE

(Insert Customer Name)

In the spirit of the Federal Acquisition Streamlining Act (ordering activity) and (Contractor), enter into a cooperative agreement to reduce the administrative costs of acquiring commercial items from the General Services Administration (GSA) Federal Supply Schedule Contract(s)_

Federal Supply Schedule contract BPAs eliminate contracting and open market costs such as: search for sources; the development of technical documents, solicitations and the evaluation of offers. Teaming Arrangements are permitted with Federal Supply Schedule Contractors in accordance with Federal Acquisition Regulation (FAR) 9.6.

This BPA will further decrease costs, reduce paperwork, and save time by eliminating the need for repetitive, individual purchases from the schedule contract. The result is to create a purchasing mechanism for the ordering activity that works better and costs less.

Signatures

Ordering Activity	Date	Contractor	Date
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10. BLANKET PURCHASE AGREEMENT

BPA NUMBER _____

(CUSTOMER NAME)

BLANKET PURCHASE AGREEMENT

Pursuant to GSA Federal Supply Schedule Contract Number(s) _____, Blanket Purchase Agreements, the Contractor agrees to the following terms of a Blanket Purchase Agreement (BPA) EXCLUSIVELY WITH (ordering activity):

1. The following contract items can be ordered under this BPA. All orders placed against this BPA are subject to the terms and conditions of the contract, except as noted below:

MODEL NUMBER/PART NUMBER	*SPECIAL BPA DISCOUNT/PRICE

2. Delivery:

DESTINATION	DELIVERY SCHEDULE / DATES

3. The ordering activity estimates, but does not guarantee, that the volume of purchases through this agreement will be _____.
4. This BPA does not obligate any funds
5. This BPA expires on _____ or at the end of the contract period, whichever is earlier.
6. The following office(s) is hereby authorized to place orders under this BPA:

OFFICE	POINT OF CONTACT

7. Orders will be placed against this BPA via Electronic Data Interchange (EDI), FAX, or paper.
8. Unless otherwise agreed to, all deliveries under this BPA must be accompanied by delivery tickets or sales slips that must contain the following information as a minimum:
 - a. Name of Contractor;
 - b. Contract Number;
 - c. BPA Number;
 - d. Model Number or National Stock Number (NSN);

- e. Purchase Order Number;
 - f. Date of Purchase;
 - g. Quantity, Unit Price, and Extension of Each Item (unit prices and extensions need not to be shown when incompatible with the use of automated; provided, that the invoice is itemized to show the information; and
 - h. Date of Shipment
9. The requirements of a proper invoice are specified in the Federal Supply Schedule contact. Invoices will be submitted to the address specified within the purchase order transmission issued against this BPA.
10. The terms and conditions included in this BPA apply to all purchases made pursuant to it. In the event of an inconsistency between the provisions of this BPA and the Contractor's invoice, the provisions of this BPA will take precedence.

11. BASIC GUIDELINE FOR USING "CONTRACTOR TEAM ARRANGEMENTS"

Federal Supply Schedule Contractors may use "Contractor Team Arrangements" (see FAR 9.6) to provide solutions when responding to an ordering activity requirement.

These Team Arrangements can be included under a Blanket Purchase Agreement (BPA). BPAs are permitted under all Federal Supply Schedule contracts.

Orders under a Team Arrangement are subject to terms and conditions of the Federal Supply Schedule Contract.

Participation in a Team Arrangement is limited to Federal Supply Schedule Contractors. Customers should refer to FAR 9.6 for specific details on Team Arrangements.

Here is a general outline on how it works:

- ✓ The customer identifies their requirements.
- ✓ Federal Supply Schedule Contractors may individually meet the customer's needs, or -
- ✓ Federal Supply Schedule Contractors may individually submit a Schedules "Team Solution" to meet the customer's requirement.
- ✓ Customers make a best value selection.

APPENDIX 1 – SIN 132-32 (TERM SOFTWARE LICENSE) PRICE LIST – WSO2 PRODUCTS AND SERVICES

Software	Part Number	Description	Price
WSO2	P-AS-6-19	Annual Subscription for WSO2 Application Server/Apache Tomcat	\$3,356.56
WSO2	P-AS-QA-6-19	Annual Subscription for WSO2 Application Server/Apache Tomcat (Pre-Prod)	\$855.60
WSO2	P-MSF4J-1-19	Annual Subscription for WSO2 MSF4J	\$1,974.45
WSO2	P-GR-5-19	Annual Subscription for WSO2 Governance Registry	\$32,380.95
WSO2	P-NX-3-19	Annual Subscription for Nginx Plus	\$5,232.29
WSO2	P-API-2-19	Annual Subscription for WSO2 API Manager (Renewal)	\$16,410.02
WSO2	P-API-QA-2-19	Annual Subscription for WSO2 API Manager (Pre-Prod Renewal)	\$4,102.51
WSO2	P-API-AP-2-19	Annual Subscription for WSO2 API Manager: Analytics Profile (Renewal)	\$1,062.37
WSO2	P-API-AP-QA-2-19	Annual Subscription for WSO2 API Manager: Analytics Profile (Pre-Prod Renewal)	\$265.59
WSO2	P-API-GP-2-19	Annual Subscription for WSO2 API Manager: Gateway Profile (Renewal)	\$10,943.45
WSO2	P-API-GP-QA-2-19	Annual Subscription for WSO2 API Manager: Gateway Profile (Pre-Prod Renewal)	\$2,735.87
WSO2	P-API-KM-2-19	Annual Subscription for WSO2 API Manager: Key Manager Profile (Renewal)	\$10,943.45
WSO2	P-API-KM-QA-2-19	Annual Subscription for WSO2 API Manager: Key Manager Profile (Pre-Prod Renewal)	\$2,735.87
WSO2	P-API-PP-2-19	Annual Subscription for WSO2 API Manager: Publisher Portal Profile (Renewal)	\$10,943.45
WSO2	P-API-PP-QA-2-19	Annual Subscription for WSO2 API Manager: Publisher Portal Profile (Pre-Prod Renewal)	\$2,735.87
WSO2	P-API-DP-2-19	Annual Subscription for WSO2 API Manager: Developer Portal Profile (Renewal)	\$10,943.45
WSO2	P-API-DP-QA-2-19	Annual Subscription for WSO2 API Manager: Developer Portal Profile (Pre-Prod Renewal)	\$2,735.87
WSO2	P-API-TP-2-19	Annual Subscription for WSO2 API Manager: Traffic Manager Profile (Renewal)	\$1,062.37
WSO2	P-API-TP-QA-2-19	Annual Subscription for WSO2 API Manager: Traffic Manager Profile (Pre-Prod Renewal)	\$265.60
WSO2	P-EI-BP-6-19	Annual Subscription for WSO2 Enterprise Integrator: Business Process Profile (Renewal)	\$16,410.02
WSO2	P-EI-BP-QA-6-19	Annual Subscription for WSO2 Enterprise Integrator: Business Process Profile (Pre-Prod Renewal)	\$4,102.51
WSO2	P-EI-IP-6-19	Annual Subscription for WSO2 Enterprise Integrator: Integration Profile (Renewal)	\$10,943.45
WSO2	P-EI-IP-QA-6-19	Annual Subscription for WSO2 Enterprise Integrator: Integration Profile (Pre-Prod Renewal)	\$2,735.86
WSO2	P-IS-5-19	Annual Subscription for WSO2 Identity Server (Renewal)	\$21,886.90
WSO2	P-IS-QA-5-19	Annual Subscription for WSO2 Identity Server (Pre-Prod Renewal)	\$5,471.73
WSO2	P-PL-00001-1-19	Annual WSO2 Integration Platform Subscription (<6 cores)	\$7,897.79
WSO2	P-PL-00006-1-19	Annual WSO2 Integration Platform Subscription (6+ cores)	\$5,923.34
WSO2	P-PL-00010-1-19	Annual WSO2 Integration Platform Subscription (10+ cores)	\$5,331.01

Software	Part Number	Description	Price
WSO2	P-PL-00025-1-19	Annual WSO2 Integration Platform Subscription (25+ cores)	\$4,804.49
WSO2	P-PL-00050-1-19	Annual WSO2 Integration Platform Subscription (50+ cores)	\$4,343.79
WSO2	P-PL-00100-1-19	Annual WSO2 Integration Platform Subscription (100+ cores)	\$3,883.08
WSO2	P-PL-00250-1-19	Annual WSO2 Integration Platform Subscription (250+ cores)	\$3,290.75
WSO2	P-PL-00500-1-19	Annual WSO2 Integration Platform Subscription (500+ cores)	\$2,830.04
WSO2	P-PL-01000-1-19	Annual WSO2 Integration Platform Subscription (1000+ cores)	\$2,237.71
WSO2	Dev-10-19	Subscription Query Support - 10 hours	\$2,277.20
WSO2	Dev-25-19	Subscription Query Support - 25 hours	\$5,416.57
WSO2	Dev-50-19	Subscription Query Support - 50 hours	\$10,319.78
WSO2	Dev-100-19	Subscription Query Support - 100 hours	\$18,559.81
WSO2	Dev-200-19	Subscription Query Support - 200 hours	\$32,670.53
WSO2	S-TAM-B-19	WSO2 Consulting Services - Migration Support (week)	\$10,216.05
WSO2	S-TAM-S-19	WSO2 Consulting Services - Technical Account Manager - Basic	\$58,938.75
WSO2	S-TAM-P-19	WSO2 Consulting Services - Technical Account Manager - Standard	\$137,523.75
WSO2	S-TAM-E-19	WSO2 Consulting Services - Technical Account Manager - Premium	\$255,401.25
WSO2	S-QSP-19	WSO2 QuickStart	\$19,724.84
WSO2	S-QR-19	Quarterly Review Package	\$23,575.50

APPENDIX 2 – SIN 132-40 (CLOUD SERVICES) PRICE LIST - WSO2 PRODUCTS AND SERVICES

Software	Part Number	Description	Price
WSO2	S-MC-19	WSO2 Consulting Services - WSO2 API Hackathon-in-a-box	\$60,667.62
WSO2	S-MCL-19	WSO2 Consulting Services - WSO2 Managed Cloud Service (annual minimum)	\$30,333.81
WSO2	C-VPN-19	WSO2 Consulting Services - WSO2 Managed Cloud Service Lite (annual minimum)	\$11,787.75

APPENDIX 3 – SIN 132-50 (TRAINING) PRICE LIST - WSO2 PRODUCTS AND SERVICES

Software	Part Number	Description	Price
WSO2	T-D-19	WSO2 Training (Day)	\$3,442.02
WSO2	T-LA-D-19	WSO2 Training - Lab Assistant (Day)	\$1,477.40
WSO2	T-Admin-19	WSO2 Training - Admin fee	\$2,946.94
WSO2	T-HX-19	WSO2 API Hackathon-in-a-box	\$16,699.31

APPENDIX 4 – SIN 132-51 (PROFESSIONAL IT SERVICES) PRICE LIST

Labor Category	Price
Administration/Clerical Level 1 - Apprentice	\$39.69
Administration/Clerical Level 2 - Journeyman	\$45.04
Administration/Clerical Level 3 - Senior	\$65.87
Applications Developer Level 1 - Apprentice	\$65.87
Applications Developer Level 2 - Journeyman	\$83.28
Applications Developer Level 3 - Senior	\$104.11
Applications Developer Level 4 - Master	\$140.76
Applications Systems Analyst Level 1 - Apprentice	\$67.70
Applications Systems Analyst Level 2 - Journeyman	\$83.28
Applications Systems Analyst Level 3 - Senior	\$104.11
Applications Systems Analyst Level 4 - Master	\$140.76
Analyst I	\$90.93
Analyst II	\$98.58
Analyst III	\$117.73
Business Process Consultant Level 4 - Master	\$126.96
Business Systems Analyst Level 4 - Master	\$107.83
Chief Information Security Officer Level 6 - Executive	\$155.84

Labor Category	Price
Computer Forensic and Intrusion Analyst Level 4 - Master	\$108.05
Computer Scientist Level 5 - Director	\$242.23
Configuration Management Specialist Level 2 - Journeyman	\$89.84
Configuration Management Specialist Level 3 - Senior	\$113.39
Configuration Management Specialist Level 4 - Master	\$136.94
Consultant I	\$110.07
Consultant II	\$129.21
Consultant III	\$148.35
Data Architect Level 4 - Master	\$156.86
Data Warehousing Specialist Level 1 - Apprentice	\$89.84
Data Warehousing Specialist Level 2 - Journeyman	\$111.65
Data Warehousing Specialist Level 3 - Senior	\$141.91
Data Warehousing Specialist Level 4 - Master	\$156.86
Database Specialist Level 1 - Apprentice	\$83.85
Database Specialist Level 2 - Journeyman	\$111.65
Database Specialist Level 3 - Senior	\$132.55
Database Specialist Level 4 - Master	\$146.53
Disaster Recovery Specialist Level 2 - Journeyman	\$119.52
Disaster Recovery Specialist Level 3 - Senior	\$141.91
Enterprise Architect	\$167.50
Enterprise Architect Level 5 - Director	\$173.03
Enterprise Resource Planning (ERP) Analyst Level 4 - Master	\$128.16
ERP Business/Architectural Specialist Level 5 - Director	\$152.48
Financial Analyst Level 4 - Master	\$82.94
Geographic Information System Analyst/Programmer Level 4 - Master	\$84.72
Graphics Specialist Level 3 - Senior	\$76.24
Groupware Specialist Level 3 - Senior	\$112.04
Hardware Engineer Level 1 - Apprentice	\$58.92
Hardware Engineer Level 2 - Journeyman	\$81.30
Hardware Engineer Level 3 - Senior	\$104.22
Hardware Engineer Level 4 - Master	\$140.89
Helpdesk Specialist Level 1 - Apprentice	\$52.83



Labor Category	Price
Helpdesk Specialist Level 2 - Journeyman	\$61.34
Helpdesk Specialist Level 3 - Senior	\$85.01
Information Assurance/Security Specialist Level 1 - Apprentice	\$92.21
Information Assurance/Security Specialist Level 2 - Journeyman	\$104.67
Information Assurance/Security Specialist Level 3 - Senior	\$119.52
Information Assurance/Security Specialist Level 4 - Master	\$141.91
Information Specialist/Knowledge Engineer Level 3 - Senior	\$135.23
Modeling and Simulation Specialist Level 3 - Senior	\$151.89
Network Engineer I	\$100.50
Network Engineer II	\$112.94
Network Engineer III	\$148.35
Network Specialist Level 1 - Apprentice	\$75.09
Network Specialist Level 2 - Journeyman	\$104.67
Network Specialist Level 3 - Senior	\$119.52
Network Specialist Level 4 - Master	\$159.63
Program Manager I	\$105.28
Program Manager II	\$125.38
Program Manager Level 4 - Master	\$167.93
Project Manager I	\$93.80
Project Manager II	\$119.64
Project Manager Level 3 - Senior	\$146.53
Quality Assurance Specialist Level 1 - Apprentice	\$80.42
Quality Assurance Specialist Level 2 - Journeyman	\$89.62
Quality Assurance Specialist Level 3 - Senior	\$112.04
Quality Assurance Specialist Level 4 - Master	\$151.48
Research Analyst Level 4 - Master	\$100.36
Software Engineer I	\$86.14
Software Engineer II	\$102.41
Software Engineer III	\$124.43
Strategic/Capital Planner Level 5 - Director	\$193.37
Subject Matter Expert Level 2 - Journeyman	\$124.49
Subject Matter Expert Level 3 - Senior	\$159.63

Labor Category	Price
Subject Matter Expert Level 4 - Master	\$182.70
Subject Matter Expert I	\$129.21
Subject Matter Expert II	\$157.93
Subject Matter Expert III	\$186.64
Systems Administrator Level 1 - Apprentice	\$85.91
Systems Administrator Level 2 - Journeyman	\$101.07
Systems Administrator Level 3 - Senior	\$116.23
Systems Administrator I	\$71.78
Systems Administrator II	\$81.36
Systems Administrator III	\$90.93
Systems Engineer Level 4 - Master	\$124.93
Systems Engineer I	\$100.50
Systems Engineer II	\$112.94
Systems Engineer III	\$148.35
Technical Editor Level 4 - Master	\$89.62
Technical Writer Level 3 - Senior	\$85.46
Technician I	\$52.64
Technician II	\$62.21
Technician III	\$71.78
Technology Engineer I	\$110.07
Technology Engineer II	\$129.21
Technology Engineer III	\$162.71
Test Engineer Level 1 - Apprentice	\$83.28
Test Engineer Level 2 - Journeyman	\$104.11
Test Engineer Level 3 - Senior	\$124.93
Training Specialist Level 1 - Apprentice	\$72.47
Training Specialist Level 2 - Journeyman	\$104.67
Training Specialist Level 3 - Senior	\$125.57
Voice/Data Communications Engineer Level 1 - Apprentice	\$76.70
Voice/Data Communications Engineer Level 2 - Journeyman	\$87.08
Voice/Data Communications Engineer Level 3 - Senior	\$111.65
Voice/Data Communications Engineer Level 4 - Master	\$150.94



Labor Category	Price
Web Content Analyst Level 4 - Master	\$104.11
Web Designer Level 3 - Senior	\$81.45

APPENDIX 5 – SIN 132-51 (PROFESSIONAL IT SERVICES) LABOR CATEGORY DESCRIPTIONS**1. Administration / Clerical Level 1 – Apprentice**

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Administration/Clerical (Level 1-Apprentice) (a) Responsible for developing, drafting, writing and editing reports, briefs, proposals, and other documents in support of a client's requirements. (b) Interfaces with personnel to coordinate meetings, maintain logs, records and files, provides end-user support, and performs general administrative duties. (c) Assists in budgetary, billing, and financial management. (d) Responsible for preparing and/or maintaining systems, programming and operations documentation, procedures and methods, including user reference manuals. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

2. Administration / Clerical Level 2 – Journeyman

Minimum/General Experience: Associates Degree and 2-4 years of related Technical Experience.

Functional Responsibility: Administration/Clerical (Level 2-Journeyman) (a) Responsible for developing, drafting, writing and editing reports, briefs, proposals, and other documents in support of a client's requirements. (b) Interfaces with personnel to coordinate meetings, maintain logs, records and files, provides end-user support, and performs general administrative duties. (c) Assists in budgetary, billing, and financial management. (d) Responsible for preparing and/or maintaining systems, programming and operations documentation, procedures and methods, including user reference manuals. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

3. Administration / Clerical Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Administration/Clerical (Level 3-Senior) (a) Responsible for developing, drafting, writing and editing reports, briefs, proposals, and other documents in support of a client's requirements. (b) Interfaces with personnel to coordinate meetings, maintain logs, records and files, provides end-user support, and performs general administrative duties. (c) Assists in budgetary, billing, and financial management. (d) Responsible for preparing and/or maintaining systems, programming and operations documentation, procedures and methods, including user reference manuals. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

4. Analyst I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, or 3-5 Years' Experience without Degree.

Functional Responsibility: Works with multiple IT departments/sources to research, collect, identify and report software or system requirements using interviews, document analysis, requirements workshops, surveys, site visits, business process descriptions, use cases, scenarios, business analysis, task and workflow analysis. Critically evaluates information gathered, reconcile conflicts; decomposes high-level information into detail functional and development or system requirements. Assist IT project managers with project plan, version scopes and timelines Work with development or systems team t o implement requirements related to IT projects. Can solve simple problems, and most often will require direct supervision provided by more experienced personnel.

5. Analyst II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience without Degree.

Functional Responsibility: Works with multiple IT departments/sources to research, collect, identify and report software or system requirements using interviews, document analysis, requirements workshops, surveys, site visits, business process descriptions, use cases, scenarios, business analysis, task and workflow analysis. Critically evaluates information gathered, reconcile conflicts; decomposes high-level information into detail functional and development or system requirements. Assist IT project managers with project plan, version scopes and timelines Work with development or systems team to implement requirements related to IT projects. Can solve more complex problems with minimal supervision.

6. Analyst III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience without Degree.

Functional Responsibility: Works with multiple IT departments/sources to research, collect, identify and report software or system requirements using interviews, document analysis, requirements workshops, surveys, site visits, business process descriptions, use cases, scenarios, business analysis, task and workflow analysis. Critically evaluates information gathered, reconcile conflicts; decomposes high-level information into detail functional and development or system requirements. Assist IT project managers with project plan, version scopes and timelines Work with development or systems team to implement requirements related to IT projects. Can solve all problems with no supervision required. Shall supervise junior personnel.

7. Applications Developer Level 1 – Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Applications Developer (Level 1-Apprentice) (a) Designs, develops, enhances, debugs, and implements software. Troubleshoots production problems related to software applications. (b) Researches, tests, builds, and coordinates the conversion and/or integration of new products based on client requirements. Designs and develops new software products or major enhancements to existing software. (c) Addresses problems of systems integration, compatibility, and multiple platforms. (d) Consults with project teams and end users to identify application requirements. (e) Performs feasibility analysis on potential future projects to management. (f) Assists in the evaluation and recommendation of application software packages, application integration and testing tools. (g) Resolves problems with software and responds to suggestions for improvements and enhancements. (h) Acts as team leader on projects. (i) Instructs, assigns, directs, and checks the work of other software developers on development team. (j) Participates in development of software user manuals. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

8. Applications Developer Level 2 – Journeyman

Minimum/General Experience: Associates Degree and 2-4 years of related Technical Experience.

Functional Responsibility: Applications Developer (Level 2-Journeyman) (a) Designs, develops, enhances, debugs, and implements software. Troubleshoots production problems related to software applications. (b) Researches, tests, builds, and coordinates the conversion and/or integration of new products based on client requirements. Designs and develops new software products or major enhancements to existing software. (c) Addresses problems of systems integration, compatibility, and multiple platforms. (d) Consults with project teams and end users to identify application requirements. (e) Performs feasibility analysis on potential future projects to management. (f) Assists in the evaluation and recommendation of application software packages, application integration and testing tools. (g) Resolves problems with software and responds to suggestions for improvements and enhancements. (h) Acts as team leader on projects. (i) Instructs, assigns, directs, and checks the work of other software developers on development team. (j) Participates in development of software user manuals. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

9. Applications Developer Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Applications Developer (Level 3-Senior) (a) Designs, develops, enhances, debugs, and implements software. Troubleshoots production problems related to software applications. (b) Researches, tests, builds, and coordinates the conversion and/or integration of new products based on client requirements. Designs and develops new software products or major enhancements to existing software. (c) Addresses problems of systems integration, compatibility, and multiple platforms. (d) Consults with project teams and end users to identify application requirements. (e) Performs feasibility analysis on potential future projects to management. (f) Assists in the evaluation and recommendation of application software packages, application integration and testing tools. (g) Resolves problems with software and responds to suggestions for improvements and enhancements. (h) Acts as team leader on projects. (i) Instructs, assigns, directs, and checks the work of other software developers on development team. (j) Participates in development of software user manuals. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

10. Applications Developer Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Applications Developer (Level 4-Master) (a) Designs, develops, enhances, debugs, and implements software. Troubleshoots production problems related to software applications. (b) Researches, tests, builds, and coordinates the conversion and/or integration of new products based on client requirements. Designs and develops new software products or major enhancements to existing software. (c) Addresses problems of systems integration, compatibility, and multiple platforms. (d) Consults with project teams and end users to identify application requirements. (e) Performs feasibility analysis on potential future projects to management. (f) Assists in the evaluation and recommendation of application software packages, application integration and testing tools. (g) Resolves problems with software and responds to suggestions for improvements and enhancements. (h) Acts as team leader on projects. (i) Instructs, assigns, directs, and checks the work of other software developers on development team. (j) Participates in development of software user manuals. Knowledge/Skill Description Provides technical/management leadership on major tasks or technology assignments. Establishes goals and plans that meet project objectives. Has domain and expert technical knowledge. Directs and controls activities for a client, having overall responsibility for financial management, methods, and staffing to ensure that technical requirements are met. Interactions involve client negotiations and interfacing with senior management. Decision making and domain knowledge may have a critical impact on overall project implementation. May supervise others.

11. Applications Systems Analyst Level 1 – Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Applications Systems Analyst (Level 1-Apprentice) (a) Formulates/defines system scope and objectives. (b) Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time, and form of desired results. (c) Prepares detailed specifications for programs. Assists in the design, development, testing, implementation, and documentation of new software and enhancements of existing applications. (d) Works with project managers, developers, and end users to ensure application designs meet business requirements. (e) Formulates/defines specifications for complex operating software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. (f) Designs, codes, tests, debugs, and documents those programs. (g) Provides overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting, and advanced mathematical/scientific software packages. (h) Assists all phases of software systems programming applications. (i) Evaluates new and existing software products. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

12. Applications Systems Analyst Level 2 – Journeyman

Minimum/General Experience: Associates Degree and 2-4 years of related Technical Experience.

Functional Responsibility: Applications Systems Analyst (Level 2-Journeyman) (a) Formulates/defines system scope and objectives. (b) Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time, and form of desired results. (c) Prepares detailed specifications for programs. Assists in the design, development, testing, implementation, and documentation of new software and enhancements of existing applications. (d) Works with project managers, developers, and end users to ensure application designs meet business requirements. (e) Formulates/defines specifications for complex operating software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. (f) Designs, codes, tests, debugs, and documents those programs. (g) Provides overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting, and advanced mathematical/scientific software packages. (h) Assists all phases of software systems programming applications. (i) Evaluates new and existing software products. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

13. Applications Systems Analyst Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Applications Systems Analyst (Level 3-Senior) (a) Formulates/defines system scope and objectives. (b) Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time, and form of desired results. (c) Prepares detailed specifications for programs. Assists in the design, development, testing, implementation, and documentation of new software and enhancements of existing applications. (d) Works with project managers, developers, and end users to ensure application designs meet business requirements. (e) Formulates/defines specifications for complex operating software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. (f) Designs, codes, tests, debugs, and documents those programs. (g) Provides overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting, and advanced mathematical/scientific software packages. (h) Assists all phases of software systems programming applications. (i) Evaluates new and existing software products. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

14. Applications Systems Analyst Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Applications Systems Analyst (Level 4-Master) (a) Formulates/defines system scope and objectives. (b) Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time, and form of desired results. (c) Prepares detailed specifications for programs. Assists in the design, development, testing, implementation, and documentation of new software and enhancements of existing applications. (d) Works with project managers, developers, and end users to ensure application designs meet business requirements. (e) Formulates/defines specifications for complex operating software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. (f) Designs, codes, tests, debugs, and documents those programs. (g) Provides overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting, and advanced mathematical/scientific software packages. (h) Assists all phases of software systems programming applications. (i) Evaluates new and existing software products. Knowledge/Skill Description Provides technical/management leadership on major tasks or technology assignments. Establishes goals and plans that meet project objectives. Has domain and expert technical knowledge. Directs and controls activities for a client, having overall responsibility for financial management, methods, and staffing to ensure that technical requirements are met.

Interactions involve client negotiations and interfacing with senior management. Decision making and domain knowledge may have a critical impact on overall project implementation. May supervise others.

15. Business Process Consultant Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Business Process Consultant (a) Analyzes process and re-engineering, with an understanding of technical problems and solutions as they relate to the current and future business environment. (b) Creates process change by integrating new processes with existing ones and communicating these changes to impacted Business Systems teams. (c) Recommends and facilitates quality improvement efforts.

16. Business Systems Analyst Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Business Systems Analyst (a) Formulates and defines systems scope and objectives based on both user needs and a thorough understanding of business systems and industry requirements. (b) Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operation time, and form of desired results. Includes analysis of business and user needs, documentation of requirements, and translation into proper system requirements specifications. (c) Provides consultation on complex projects and is considered the top-level contributor/specialist of most phases of systems analysis, while considering the business implications of the application of technology to the current and future business environment.

17. Chief Information Security Officer Level 6 – Executive

Minimum/General Experience: Master's Degree and 5-9 years of related Technical Experience.

Functional Responsibility: Chief Information Security Officer (a) Responsible for determining enterprise information security standards. Develops and implements information security standards and procedures. (b) Provides tactical information security advice and examining the ramifications of new technologies. (c) Ensures that all information systems are functional and secure.

18. Computer Forensic and Intrusion Analyst Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Computer Forensic and Intrusion Analyst (a) Provides knowledge in computer and network forensics. (b) Conducts vulnerability assessments/penetration tests of information systems. (c) Develops, researches and maintains proficiency in tools, techniques, countermeasures, and trend in computer and network vulnerabilities, data hiding, and encryption. (d) Identifies, deters, monitors, and investigates computer and network intrusions. (e) Provides computer forensic support to high technology investigations in the form of evidence seizure, computer forensic analysis, and data recovery.

19. Computer Scientist Level 5 – Director

Minimum/General Experience: Master's Degree and 5-9 years of related Technical Experience.

Functional Responsibility: Computer Scientist (b) Develops, modifies, and applies computer modeling and programming applications to analyze and solve mathematical and scientific problems affecting system and program performance. (c) Participates in all phases of scientific and engineering projects such as research, design, development, testing, modeling, simulating, training, and documentation.

20. Configuration Management Specialist Level 2 – Journeyman

Minimum/General Experience: Associates Degree and 2-4 years of related Technical Experience.

Functional Responsibility: Configuration Management Specialist (Level 2-Journeyman) (a) Provides configuration management planning. (b) Describes provisions for configuration identification, change control, configuration status

accounting, and configuration audits. (c) Regulates the change process so that only approved and validated changes are incorporated into product documents and related software. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

21. Configuration Management Specialist Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Configuration Management Specialist (Level 3-Senior) (a) Provides configuration management planning. (b) Describes provisions for configuration identification, change control, configuration status accounting, and configuration audits. (c) Regulates the change process so that only approved and validated changes are incorporated into product documents and related software. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

22. Configuration Management Specialist Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Configuration Management Specialist (Level 4-Master) (a) Provides configuration management planning. (b) Describes provisions for configuration identification, change control, configuration status accounting, and configuration audits. (c) Regulates the change process so that only approved and validated changes are incorporated into product documents and related software. Knowledge/Skill Description Provides technical/management leadership on major tasks or technology assignments. Establishes goals and plans that meet project objectives. Has domain and expert technical knowledge. Directs and controls activities for a client, having overall responsibility for financial management, methods, and staffing to ensure that technical requirements are met. Interactions involve client negotiations and interfacing with senior management. Decision making and domain knowledge may have a critical impact on overall project implementation. May supervise others.

23. Consultant I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree.

Functional Responsibility: Professional providing General IT assistance to help customers achieve a specific solution related to the organization's utilization of information technology products and services. Demonstrates exceptional oral and written communication skills.

24. Consultant II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Professional providing General IT assistance to help customers achieve a specific solution related to the organization's utilization of information technology products and services. Demonstrates exceptional oral and written communication skills.

25. Consultant III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience Without Degree.

Functional Responsibility: Professional providing General IT assistance to help customers achieve a specific solution related to the organization's utilization of information technology products and services. Demonstrates exceptional oral and written communication skills.

26. Data Architect Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Data Architect (a) Designs and builds relational databases. Performs data access analysis design, and archive/recovery design and implementation. (b) Develops strategies for data acquisitions, archive recovery, and implementation of a database. (c) Works in a data warehouse environment, which includes data design, database architecture, and metadata repository creation. (d) Translates business needs into long- term architecture solutions. (e) Defines, designs, and builds dimensional databases. (f) Develops data warehousing blueprints, evaluating hardware and software platforms, and integrating systems. (g) Reviews and develops object and data models and the metadata repository to structure the data for better management and quicker access.

27. Data Warehousing Specialist Level 1 – Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Data Warehousing Specialist (Level 1-Apprentice) (a) Coordinates the data administration technical function for both data warehouse development and maintenance. (b) Facilitates change control, problem management, and communication among data architects, programmers, analysts, and engineers. (c) Establishes and enforces processes to ensure a consistent, well managed, and well-integrated data warehouse infrastructure. (d) Analyzes and identifies data and metadata requirements. (e) Defines user requirements and database design specifications. (f) Designs, implements, and supports data warehousing requirements. Implements business rules via stored procedures, middleware, or other technologies. (g) Provides product support and maintenance of the data warehouse. (h) Performs data warehouse design and construction. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

28. Data Warehousing Specialist Level 2 – Journeyman

Minimum/General Experience: Associates Degree and 2-4 years of related Technical Experience.

Functional Responsibility: Data Warehousing Specialist (Level 2-Journeyman) (a) Coordinates the data administration technical function for both data warehouse development and maintenance. (b) Facilitates change control, problem management, and communication among data architects, programmers, analysts, and engineers. (c) Establishes and enforces processes to ensure a consistent, well managed, and well-integrated data warehouse infrastructure. (d) Analyzes and identifies data and metadata requirements. (e) Defines user requirements and database design specifications. (f) Designs, implements, and supports data warehousing requirements. Implements business rules via stored procedures, middleware, or other technologies. (g) Provides product support and maintenance of the data warehouse. (h) Performs data warehouse design and construction. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

29. Data Warehousing Specialist Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Data Warehousing Specialist (Level 3-Senior) (a) Coordinates the data administration technical function for both data warehouse development and maintenance. (b) Facilitates change control, problem management, and communication among data architects, programmers, analysts, and engineers. (c) Establishes and enforces processes to ensure a consistent, well managed, and well-integrated data warehouse infrastructure. (d) Analyzes and identifies data and metadata requirements. (e) Defines user requirements and database design specifications. (f) Designs, implements, and supports data warehousing requirements. Implements business rules via stored procedures, middleware, or other technologies. (g) Provides product support and maintenance of the data warehouse. (h) Performs data warehouse design and construction. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high

impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

30. Data Warehousing Specialist Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Data Warehousing Specialist (Level 4-Master) (a) Coordinates the data administration technical function for both data warehouse development and maintenance. (b) Facilitates change control, problem management, and communication among data architects, programmers, analysts, and engineers. (c) Establishes and enforces processes to ensure a consistent, well managed, and well-integrated data warehouse infrastructure. (d) Analyzes and identifies data and metadata requirements. (e) Defines user requirements and database design specifications. (f) Designs, implements, and supports data warehousing requirements. Implements business rules via stored procedures, middleware, or other technologies. (g) Provides product support and maintenance of the data warehouse. (h) Performs data warehouse design and construction. Knowledge/Skill Description Provides technical/management leadership on major tasks or technology assignments. Establishes goals and plans that meet project objectives. Has domain and expert technical knowledge. Directs and controls activities for a client, having overall responsibility for financial management, methods, and staffing to ensure that technical requirements are met. Interactions involve client negotiations and interfacing with senior management. Decision making and domain knowledge may have a critical impact on overall project implementation. May supervise others.

31. Database Specialist Level 1 – Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Database Specialist (Level 1-Apprentice) (a) Provides all activities related to the administration of computerized databases. (b) Projects long-range requirements for database administration and design in conjunction with other managers in the information systems function. (c) Designs, creates, and maintains databases in a client/server environment. (d) Conducts quality control and auditing of databases in a client/server environment to ensure accurate and appropriate use of data. (e) Advises users on access to various client/server databases. (f) Designs, implements, and maintains complex databases with respect to JCL, access methods, access time, device allocation, validation checks, organization, protection and security, documentation, and statistical methods. (g) Applies knowledge and experience with database technologies, development methodologies, and front-end (e.g., COGNOS)/back-end programming languages (e.g., SQL). Performs database programming and supports systems design. (h) Includes maintenance of database dictionaries, overall monitoring of standards and procedures, file design and storage, and integration of systems through database design. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

32. Database Specialist Level 2 – Journeyman

Minimum/General Experience: Associates Degree and 2-4 years of related Technical Experience.

Functional Responsibility: Database Specialist (Level 2-Journeyman) (a) Provides all activities related to the administration of computerized databases. (b) Projects long-range requirements for database administration and design in conjunction with other managers in the information systems function. (c) Designs, creates, and maintains databases in a client/server environment. (d) Conducts quality control and auditing of databases in a client/server environment to ensure accurate and appropriate use of data. (e) Advises users on access to various client/server databases. (f) Designs, implements, and maintains complex databases with respect to JCL, access methods, access time, device allocation, validation checks, organization, protection and security, documentation, and statistical methods. (g) Applies knowledge and experience with database technologies, development methodologies, and front-end (e.g., COGNOS)/back-end programming languages (e.g., SQL). Performs database programming and supports systems design. (h) Includes maintenance of database dictionaries, overall monitoring of standards and procedures, file design and storage, and integration of systems through database design. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable

latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

33. Database Specialist Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Database Specialist (Level 3-Senior) (a) Provides all activities related to the administration of computerized databases. (b) Projects long-range requirements for database administration and design in conjunction with other managers in the information systems function. (c) Designs, creates, and maintains databases in a client/server environment. (d) Conducts quality control and auditing of databases in a client/server environment to ensure accurate and appropriate use of data. (e) Advises users on access to various client/server databases. (f) Designs, implements, and maintains complex databases with respect to JCL, access methods, access time, device allocation, validation checks, organization, protection and security, documentation, and statistical methods. (g) Applies knowledge and experience with database technologies, development methodologies, and front-end (e.g., COGNOS)/back-end programming languages (e.g., SQL). Performs database programming and supports systems design. (h) Includes maintenance of database dictionaries, overall monitoring of standards and procedures, file design and storage, and integration of systems through database design. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

34. Database Specialist Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Database Specialist (Level 4-Master) (a) Provides all activities related to the administration of computerized databases. (b) Projects long-range requirements for database administration and design in conjunction with other managers in the information systems function. (c) Designs, creates, and maintains databases in a client/server environment. (d) Conducts quality control and auditing of databases in a client/server environment to ensure accurate and appropriate use of data. (e) Advises users on access to various client/server databases. (f) Designs, implements, and maintains complex databases with respect to JCL, access methods, access time, device allocation, validation checks, organization, protection and security, documentation, and statistical methods. (g) Applies knowledge and experience with database technologies, development methodologies, and front-end (e.g., COGNOS)/back-end programming languages (e.g., SQL). Performs database programming and supports systems design. (h) Includes maintenance of database dictionaries, overall monitoring of standards and procedures, file design and storage, and integration of systems through database design. Knowledge/Skill Description Provides technical/management leadership on major tasks or technology assignments. Establishes goals and plans that meet project objectives. Has domain and expert technical knowledge. Directs and controls activities for a client, having overall responsibility for financial management, methods, and staffing to ensure that technical requirements are met. Interactions involve client negotiations and interfacing with senior management. Decision making and domain knowledge may have a critical impact on overall project implementation. May supervise others.

35. Disaster Recovery Specialist Level 2 – Journeyman

Minimum/General Experience: Associates Degree and 2-4 years of related Technical Experience.

Functional Responsibility: Disaster Recovery Specialist (Level 2-Journeyman) (a) Designs and administers programs to include policies, standards, guidelines, training programs, and a viable quality assurance process for disaster recovery.(b) Oversees and reviews the testing and implementation of software, data systems, and data networks to ensure that the integrity and security of all electronic data and data systems are adequately protected. (c) Facilitates the preparation of an organization-wide business resumption plan. (d) Assists in the coordination and establishment of disaster recovery programs and business resumption planning across mainframe and client server platforms. (e) Coordinates and monitors simulation testing across all platforms. (f) Designs and administers programs to include policies, standards, guidelines, training programs, and a viable quality assurance process for disaster recovery. Knowledge/Skill Description Possesses and applies expertise on multiple

complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

36. Disaster Recovery Specialist Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Disaster Recovery Specialist (Level 3-Senior) (a) Designs and administers programs to include policies, standards, guidelines, training programs, and a viable quality assurance process for disaster recovery.(b) Oversees and reviews the testing and implementation of software, data systems, and data networks to ensure that the integrity and security of all electronic data and data systems are adequately protected. (c) Facilitates the preparation of an organization-wide business resumption plan. (d) Assists in the coordination and establishment of disaster recovery programs and business resumption planning across mainframe and client server platforms. (e) Coordinates and monitors simulation testing across all platforms. (f) Designs and administers programs to include policies, standards, guidelines, training programs, and a viable quality assurance process for disaster recovery. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

37. Enterprise Architect Level 5 – Director

Minimum/General Experience: Master's Degree and 5-9 years of related Technical Experience.

Functional Responsibility: Enterprise Architect (a) Provides high-level architectural expertise to managers and technical staff. (b) Develops architectural products and deliverables for the enterprise and operational business lines. (c) Develops strategy of system and the design infrastructure necessary to support that strategy. (d) Advises on selection of technological purchases with regards to processing, data storage, data access, and applications development. Sets standards for the client/server relational database structure for the organization (SQL, ORACLE, SYBASE, etc.). (e) Advises of feasibility of potential future projects to management.

38. Enterprise Architect

Minimum/General Experience: 7 Years of related Technical Experience with Bachelor's Degree, or 9- 11 Years' Experience Without Degree.

Functional Responsibility: Designs and develops complex business solutions using a variety of computer technologies. Independently performs a variety of system design and engineering tasks, which are broad in nature and are concerned with design and implementation of major enterprise systems development and integration, including supporting personnel, hardware, software, and support facilities and/or equipment. Considered a Subject Matter Expert (SME) in one or more specific areas of computer system design and networking.

Applies knowledge of complex concepts and techniques to develop and implement automated solutions to engineering, scientific, or business data acquisition and management problems. Uses scientific and engineering logic to independently identify conceptual or theoretical solutions to problems of technology systems hardware or software design and operation. Evaluates and recommends optimum solutions balancing specific project needs with economic constraints. Formulates architectural design, functional specification, interfaces and documentation of computer systems considering system interrelationships, operating modes, and equipment configurations. Responsible for developing project plans, justifications, guidelines, and controls.

39. Enterprise Resource Planning (ERP) Analyst Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Enterprise Resource Planning (ERP) Analyst (a) Assists with the development and maintenance of the Enterprise Resource Planning (ERP) program. (b) Analyzes and evaluates Enterprise Resource Planning (ERP) application

systems. Assists in software upgrades, documentation, and implementation. (c) Customizes and configures workflow to allow the integration of client/server applications. (d) Tests Enterprise Resource Planning (ERP) layout to ensure the system is meeting corporate needs.

40. Enterprise Resource Planning Business / Architectural Specialist Level 5 – Director

Minimum/General Experience: Master's Degree and 5-9 years of related Technical Experience.

Functional Responsibility: Enterprise Resource Planning Business/Architectural Specialist (a) Adapts functional business requirements and processes to technical solutions based upon comprehensive enterprise application solution sets.

(b) Enterprise resource planning and management processes, including but not limited to: knowledge management, investment analysis, data warehousing, ecommerce, return on investment analysis, human resource analysis, material management and logistics, supply chain management, procurement, ordering, manufacturing, decision support, and information dissemination.

41. Financial Analyst Level 4 – Master

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Financial Analyst (a) Provides support in the areas of budget, billing, reporting, and financial management for IT initiatives.

42. Geographic Information System (GIS) Analyst / Programmer Level 4 – Master

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Geographic Information System (GIS) Analyst/Programmer (a) Demonstrates proficiency in GIS analysis and data modeling. (b) Demonstrates and maintains proficiency with current and developing technologies and software related to geographic analysis. (c) Coordinates, manages, administers, and develops the Geographic Information Systems. (d) Develops various types of GIS maps and related data sets. (e) Designs and implements GIS analytical procedures.(f) Performs analysis and maintenance of GIS systems.

43. Graphics Specialist Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Graphics Specialist (a) Produces graphic art and visual materials for promotions, advertisements, films, presentations, packaging, and informative and instructional material through a variety of media outlets such as websites and CD-ROMs. (b) Generates, manipulates, and integrates graphic images, animations, sound, text and video generated with automated tools into consolidated and seamless multimedia programs.

44. Groupware Specialist Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Groupware Specialist (a) Provides the implementation, maintenance, and support of company messaging system. (b) Provides technical support on local groupware replication and client dial-up access issues.

45. Hardware Engineer Level 1 – Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Hardware Engineer (Level 1-Apprentice) (a) Provides analysis related to the design, development, and implementation of hardware for products. (b) Develops test strategies, devices, and systems. (c) Performs stress and performance tests on a variety of computer hardware including circuit boards, processors and wiring. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

46. Hardware Engineer Level 2 – Journeyman

Minimum/General Experience: Associates Degree and 2-4 years of related Technical Experience.

Functional Responsibility: Hardware Engineer (Level 2-Journeyman) (a) Provides analysis related to the design, development, and implementation of hardware for products. (b) Develops test strategies, devices, and systems. (c) Performs stress and performance tests on a variety of computer hardware including circuit boards, processors and wiring. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

47. Hardware Engineer Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Hardware Engineer (Level 3-Senior) (a) Provides analysis related to the design, development, and implementation of hardware for products. (b) Develops test strategies, devices, and systems. (c) Performs stress and performance tests on a variety of computer hardware including circuit boards, processors and wiring. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

48. Hardware Engineer Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Hardware Engineer (Level 4-Master) (a) Provides analysis related to the design, development, and implementation of hardware for products. (b) Develops test strategies, devices, and systems. (c) Performs stress and performance tests on a variety of computer hardware including circuit boards, processors and wiring. Knowledge/Skill Description Provides technical/management leadership on major tasks or technology assignments. Establishes goals and plans that meet project objectives. Has domain and expert technical knowledge. Directs and controls activities for a client, having overall responsibility for financial management, methods, and staffing to ensure that technical requirements are met. Interactions involve client negotiations and interfacing with senior management. Decision making and domain knowledge may have a critical impact on overall project implementation. May supervise others.

49. Helpdesk Specialist Level 1 – Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Helpdesk Specialist (Level 1-Apprentice) (a) Responds to and diagnoses problems through discussion with users. (b) Ensures a timely process through which problems are controlled. Includes problem recognition, research, isolation, resolution, and follow-up steps. (c) Supervises operation of help desk and serves as focal point for customer concerns.(d) Provides support to end users on a variety of issues. (e) Identifies, researches, and resolves technical problems. (f) Responds to telephone calls, email and personnel requests for technical support. (g) Documents, tracks, and monitors the problem to ensure a timely resolution. (h) Provides second-tier support to end users for either PC, server, or mainframe applications or hardware. (i) Interact with network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. (j) Simulates or recreates user problems to resolve operating difficulties. (k) Recommends systems modifications to reduce user problems. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

50. Helpdesk Specialist Level 2 – Journeyman

Minimum/General Experience: Associates Degree and 2-4 years of related Technical Experience.

Functional Responsibility: Helpdesk Specialist (Level 2-Journeyman) (a) Responds to and diagnoses problems through discussion with users. (b) Ensures a timely process through which problems are controlled. Includes problem recognition,

research, isolation, resolution, and follow-up steps. (c) Supervises operation of help desk and serves as focal point for customer concerns. (d) Provides support to end users on a variety of issues. (e) Identifies, researches, and resolves technical problems. (f) Responds to telephone calls, email and personnel requests for technical support. (g) Documents, tracks, and monitors the problem to ensure a timely resolution. (h) Provides second-tier support to end users for either PC, server, or mainframe applications or hardware. (i) Interact with network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. (j) Simulates or recreates user problems to resolve operating difficulties. (k) Recommends systems modifications to reduce user problems. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

51. Helpdesk Specialist Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Helpdesk Specialist (Level 3-Senior) (a) Responds to and diagnoses problems through discussion with users. (b) Ensures a timely process through which problems are controlled. Includes problem recognition, research, isolation, resolution, and follow-up steps. (c) Supervises operation of help desk and serves as focal point for customer concerns. (d) Provides support to end users on a variety of issues. (e) Identifies, researches, and resolves technical problems. (f) Responds to telephone calls, email and personnel requests for technical support. (g) Documents, tracks, and monitors the problem to ensure a timely resolution. (h) Provides second-tier support to end users for either PC, server, or mainframe applications or hardware. (i) Interact with network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. (j) Simulates or recreates user problems to resolve operating difficulties. (k) Recommends systems modifications to reduce user problems. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

52. Information Assurance / Security Specialist Level 1 – Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Information Assurance/Security Specialist (Level 1-Apprentice) (a) Determines enterprise information assurance and security standards. (b) Develops and implements information assurance/security standards and procedures. (c) Coordinates, develops, and evaluates security programs for an organization. Recommends information assurance / security solutions to support customers? Requirements. (d) Identifies, reports, and resolves security violations. (e) Establishes and satisfies information assurance and security requirements based upon the analysis of user, policy, regulatory, and resource demands. (f) Supports customers at the highest levels in the development and implementation of doctrine and policies. (g) Applies know-how to government and commercial common user systems, as well as to dedicated special purpose systems requiring specialized security features and procedures. (h) Performs analysis, design, and development of security features for system architectures. (i) Analyzes and defines security requirements for computer systems, which may include mainframes, workstations, and personal computers. (j) Designs, develops, engineers, and implements solutions that meet security requirements. (k) Provides integration and implementation of the computer system security solution. (l) Analyzes general information assurance-related technical problems and provides basic engineering and technical support in solving these problems. (m) Performs vulnerability/risk analyses of computer systems and applications during all phases of the system development life cycle. (n) Ensures that all information systems are functional and secure. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

53. Information Assurance / Security Specialist Level 2 – Journeyman

Minimum/General Experience: Associates Degree and 2-4 years of related Technical Experience.

Functional Responsibility: Information Assurance/Security Specialist (Level 2-Journeyman) (a) Determines enterprise information assurance and security standards. (b) Develops and implements information assurance/security standards and procedures. (c) Coordinates, develops, and evaluates security programs for an organization. Recommends information assurance/security solutions to support customers? Requirements. (d) Identifies, reports, and resolves security violations. (e) Establishes and satisfies information assurance and security requirements based upon the analysis of user, policy, regulatory, and resource demands. (f) Supports customers at the highest levels in the development and implementation of doctrine and policies. (g) Applies know-how to government and commercial common user systems, as well as to dedicated special purpose systems requiring specialized security features and procedures. (h) Performs analysis, design, and development of security features for system architectures. (i) Analyzes and defines security requirements for computer systems, which may include mainframes, workstations, and personal computers. (j) Designs, develops, engineers, and implements solutions that meet security requirements. (k) Provides integration and implementation of the computer system security solution. (l) Analyzes general information assurance-related technical problems and provides basic engineering and technical support in solving these problems. (m) Performs vulnerability/risk analyses of computer systems and applications during all phases of the system development life cycle. (n) Ensures that all information systems are functional and secure. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

54. Information Assurance / Security Specialist Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Information Assurance/Security Specialist (Level 3-Senior) (a) Determines enterprise information assurance and security standards. (b) Develops and implements information assurance/security standards and procedures. (c) Coordinates, develops, and evaluates security programs for an organization. Recommends information assurance/security solutions to support customers? Requirements. (d) Identifies, reports, and resolves security violations. (e) Establishes and satisfies information assurance and security requirements based upon the analysis of user, policy, regulatory, and resource demands. (f) Supports customers at the highest levels in the development and implementation of doctrine and policies. (g) Applies know-how to government and commercial common user systems, as well as to dedicated special purpose systems requiring specialized security features and procedures. (h) Performs analysis, design, and development of security features for system architectures. (i) Analyzes and defines security requirements for computer systems, which may include mainframes, workstations, and personal computers. (j) Designs, develops, engineers, and implements solutions that meet security requirements. (k) Provides integration and implementation of the computer system security solution. (l) Analyzes general information assurance-related technical problems and provides basic engineering and technical support in solving these problems. (m) Performs vulnerability/risk analyses of computer systems and applications during all phases of the system development life cycle. (n) Ensures that all information systems are functional and secure. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

55. Information Assurance / Security Specialist Level 4 – Master

Minimum/General Experience: Master's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Information Assurance/Security Specialist (Level 4-Master) (a) Determines enterprise information assurance and security standards. (b) Develops and implements information assurance/security standards and procedures. (c) Coordinates, develops, and evaluates security programs for an organization. Recommends information assurance/security solutions to support customers? Requirements. (d) Identifies, reports, and resolves security violations. (e) Establishes and satisfies information assurance and security requirements based upon the analysis of user, policy, regulatory, and resource demands. (f) Supports customers at the highest levels in the development and implementation of doctrine and policies. (g) Applies know-how to government and commercial common user systems, as well as to dedicated special purpose systems requiring specialized security features and procedures. (h) Performs analysis, design, and development of security features

for system architectures. (i) Analyzes and defines security requirements for computer systems, which may include mainframes, workstations, and personal computers. (j) Designs, develops, engineers, and implements solutions that meet security requirements. (k) Provides integration and implementation of the computer system security solution. (l) Analyzes general information assurance-related technical problems and provides basic engineering and technical support in solving these problems. (m) Performs vulnerability/risk analyses of computer systems and applications during all phases of the system development life cycle. (n) Ensures that all information systems are functional and secure. Knowledge/Skill Description Provides technical/management leadership on major tasks or technology assignments. Establishes goals and plans that meet project objectives. Has domain and expert technical knowledge. Directs and controls activities for a client, having overall responsibility for financial management, methods, and staffing to ensure that technical requirements are met. Interactions involve client negotiations and interfacing with senior management. Decision making and domain knowledge may have a critical impact on overall project implementation. May supervise others.

56. Information Specialist / Knowledge Engineer Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Information Specialist/Knowledge Engineer (a) Develops information retrieval solutions to support client requirements for specified domain subjects, using information retrieval software languages and automated text analysis and extraction techniques.

57. Modeling and Simulation Specialist Level 3 – Senior

Minimum/General Experience: Bachelor's Degree and 3-5 years of related Technical Experience.

Functional Responsibility: Modeling and Simulation Specialist (a) Specialist in modeling and simulation functions or operations such as, but not limited to exercises, plans, coordination, demonstrations, and instruction in the fields such as, but not limited to health, environmental, transportation, law enforcement, and security for military, and civil agencies. (b) Supports live, constructive, or virtual training.

58. Network Engineer I

Minimum/General Experience: Degree, Or 3-5 Years' Experience without Degree.

Functional Responsibility: Manages an engineering group responsible for telecommunications, networks, and other IT disciplines. Applies extremely complex networking concepts in the analysis, study, and design of data networks. Analyzes network characteristics (e.g., traffic, connect time, transmission speeds, packet sizes, and throughput) and recommends procurement, removals, and modifications to network components. Designs and optimizes network topologies and site configurations. Plans and supervises installations, transitions, and cutovers of network components and capabilities. Reviews existing network designs and capabilities with the goal of making refinements, reducing operating overhead, enhancing network throughput, and improving current network topologies. Generally, works under supervision of others.

59. Network Engineer II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Manages an engineering group responsible for telecommunications, networks, and other IT disciplines. Applies extremely complex networking concepts in the analysis, study, and design of data networks. Analyzes network characteristics (e.g., traffic, connect time, transmission speeds, packet sizes, and throughput) and recommends procurement, removals, and modifications to network components. Designs and optimizes network topologies and site configurations. Plans and supervises installations, transitions, and cutovers of network components and capabilities. Reviews existing network designs and capabilities with the goal of making refinements, reducing operating overhead, enhancing network throughput, and improving current network topologies. Can perform more complex tasks with minimal supervision.

60. Network Engineer III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience without Degree.

Functional Responsibility: Manages an engineering group responsible for telecommunications, networks, and other IT disciplines. Applies extremely complex networking concepts in the analysis, study, and design of data networks. Analyzes network characteristics (e.g., traffic, connect time, transmission speeds, packet sizes, and throughput) and recommends procurement, removals, and modifications to network components. Designs and optimizes network topologies and site configurations. Plans and supervises installations, transitions, and cutovers of network components and capabilities. Reviews existing network designs and capabilities with the goal of making refinements, reducing operating overhead, enhancing network throughput, and improving current network topologies. Can perform all tasks with no supervision required. Shall supervise junior personnel.

61. Network Specialist Level 1 – Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Network Specialist (Level 1-Apprentice) (a) Provides technical guidance for directing and monitoring information systems operations. Designs, builds, and implements network systems. (b) Directs compilation of records and reports concerning network operations and maintenance. Troubleshoots network performance issues. Analyzes network traffic and provides capacity-planning solutions. (c) 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. (d) Manages the purchase, testing, installation, and support of network communications, including LAN/MAN/WAN systems. (e) Performs system-level design and configuration of products including determination of hardware, OS, and other platform specifications. (f) Plans large-scale systems projects through vendor comparison and cost studies. (g) 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. (h) Provides quality assurance review and the evaluation of new and existing software products. (i) Provides assistance and oversight for all information systems operations activities, including computer and telecommunications/communications operations, data entry, data control, LAN/MAN/WAN administration and operations support, operating systems programming, system security policy procedures, and/or web strategy and operations. (j) Provides input to policy level discussions regarding standards and budget constraints. (k) Supervises all personnel engaged in the operation and support of network facilities, including all communications equipment on various platforms in large scale or multi-shift operations. (l) 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. (m) Monitors and responds to hardware, software, and network problems. (n) Provides the routine testing and analysis of all elements of the network facilities (including power, software, communications machinery, lines, modems, and terminals). (o) Utilizes software and hardware tools and identifies and diagnoses complex problems and factors affecting network performance. (p) Troubleshoots network systems when necessary and makes improvements to the network Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

62. Network Specialist Level 2 – Journeyman

Minimum/General Experience: Associates Degree with 2-4 years of related Technical Experience.

Functional Responsibility: Network Specialist (Level 2-Journeyman) (a) Provides technical guidance for directing and monitoring information systems operations. Designs, builds, and implements network systems. (b) Directs compilation of records and reports concerning network operations and maintenance. Troubleshoots network performance issues. Analyzes network traffic and provides capacity-planning solutions. (c) 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. (d) Manages the purchase, testing, installation, and support of network communications, including LAN/MAN/WAN systems. (e) Performs system-level design and configuration of products including determination of hardware, OS, and other platform specifications. (f) Plans large-scale systems projects through

vendor comparison and cost studies. (g) 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. (h) Provides quality assurance review and the evaluation of new and existing software products. (i) Provides assistance and oversight for all information systems operations activities, including computer and telecommunications/communications operations, data entry, data control, LAN/MAN/WAN administration and operations support, operating systems programming, system security policy procedures, and/or web strategy and operations. (j) Provides input to policy level discussions regarding standards and budget constraints. (k) Supervises all personnel engaged in the operation and support of network facilities, including all communications equipment on various platforms in large scale or multi- shift operations. (l) 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. (m) Monitors and responds to hardware, software, and network problems. (n) Provides the routine testing and analysis of all elements of the network facilities (including power, software, communications machinery, lines, modems, and terminals). (o) Utilizes software and hardware tools and identifies and diagnoses complex problems and factors affecting network performance. (p) Troubleshoots network systems when necessary and makes improvements to the network Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

63. Network Specialist Level 3 – Senior

Minimum/General Experience: Bachelor's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Network Specialist (Level 3-Senior) (a) Provides technical guidance for directing and monitoring information systems operations. Designs, builds, and implements network systems. (b) Directs compilation of records and reports concerning network operations and maintenance. Troubleshoots network performance issues. Analyzes network traffic and provides capacity planning solutions. (c) 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. (d) Manages the purchase, testing, installation, and support of network communications, including LAN/MAN/WAN systems. (e) Performs system- level design and configuration of products including determination of hardware, OS, and other platform specifications. (f) Plans large-scale systems projects through vendor comparison and cost studies. (g) 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. (h) Provides quality assurance review and the evaluation of new and existing software products. (i) Provides assistance and oversight for all information systems operations activities, including computer and telecommunications/communications operations, data entry, data control, LAN/MAN/WAN administration and operations support, operating systems programming, system security policy procedures, and/or web strategy and operations. (j) Provides input to policy level discussions regarding standards and budget constraints. (k) Supervises all personnel engaged in the operation and support of network facilities, including all communications equipment on various platforms in large scale or multi- shift operations. (l) 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. (m) Monitors and responds to hardware, software, and network problems. (n) Provides the routine testing and analysis of all elements of the network facilities (including power, software, communications machinery, lines, modems, and terminals). (o) Utilizes software and hardware tools and identifies and diagnoses complex problems and factors affecting network performance. (p) Troubleshoots network systems when necessary and makes improvements to the network Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

64. Network Specialist Level 4 – Master

Minimum/General Experience: Master's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Network Specialist (Level 4-Master) (a) Provides technical guidance for directing and monitoring information systems operations. Designs, builds, and implements network systems. (b) Directs compilation of records and reports concerning network operations and maintenance. Troubleshoots network performance issues. Analyzes network traffic and provides capacity planning solutions. (c) 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. (d) Manages the purchase, testing, installation, and support of network communications, including LAN/MAN/WAN systems. (e) Performs system-level design and configuration of products including determination of hardware, OS, and other platform specifications. (f) Plans large-scale systems projects through vendor comparison and cost studies. (g) 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. (h) Provides quality assurance review and the evaluation of new and existing software products. (i) Provides assistance and oversight for all information systems operations activities, including computer and telecommunications/communications operations, data entry, data control, LAN/MAN/WAN administration and operations support, operating systems programming, system security policy procedures, and/or web strategy and operations. (j) Provides input to policy level discussions regarding standards and budget constraints. (k) Supervises all personnel engaged in the operation and support of network facilities, including all communications equipment on various platforms in large scale or multi-shift operations. (l) 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. (m) Monitors and responds to hardware, software, and network problems. (n) Provides the routine testing and analysis of all elements of the network facilities (including power, software, communications machinery, lines, modems, and terminals). (o) Utilizes software and hardware tools and identifies and diagnoses complex problems and factors affecting network performance. (p) Troubleshoots network systems when necessary and makes improvements to the network Knowledge/Skill Description Provides technical/management leadership on major tasks or technology assignments. Establishes goals and plans that meet project objectives. Has domain and expert technical knowledge. Directs and controls activities for a client, having overall responsibility for financial management, methods, and staffing to ensure that technical requirements are met. Interactions involve client negotiations and interfacing with senior management. Decision making and domain knowledge may have a critical impact on overall project implementation. May supervise others.

65. Program Manager Level 4 – Master

Minimum/General Experience: Master's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Program Manager (a) Organizes, directs, and manages contract operation support functions, involving multiple, and complex and inter-related project tasks. (b) Manages teams of contract support personnel at multiple locations. (c) Maintains and manages the client interface at the senior levels of the client organization. (d) Meets with customer and contractor personnel to formulate and review task plans and deliverable items. Ensures conformance with program task schedules and costs.

66. Program Manager I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience without Degree.

Functional Responsibility: Provides program management for multiple projects. Prepares project implementation plan, coordinates project activities, monitors project milestones, and provides progress reports. Responsible for all aspects of performance (i.e., technical, contractual, administrative, financial). Consults with the customer to ensure adherence to contractual obligations establishes and maintains technical and financial reports to show progress of projects to management and customers, organizes and assigns responsibilities to subordinates, and oversees the completion of all assigned tasks. Performs overall management of contract support operations, possibly involving multiple projects and groups of personnel at multiple locations. Organizes, directs, and coordinates the planning and production of all contract support activities. Able to manage smaller programs with minimal supervision.

67. Program Manager II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience without Degree.

Functional Responsibility: Provides program management for multiple projects. Prepares project implementation plan, coordinates project activities, monitors project milestones, and provides progress reports. Responsible for all aspects of performance (i.e., technical, contractual, administrative, financial). Consults with the customer to ensure adherence to contractual obligations establishes and maintains technical and financial reports to show progress of projects to management and customers, organizes and assigns responsibilities to subordinates, and oversees the completion of all assigned tasks Performs overall management of contract support operations, possibly involving multiple projects and groups of personnel at multiple locations. Organizes, directs, and coordinates the planning and production of all contract support activities. Able to manage all programs with no supervision required.

68. Project Manager I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience without Degree.

Functional Responsibility: Responsible for assisting the management of small to med- sized projects. Assists in preparing implementation plan, coordinates activities, monitors milestones, and provides progress reports. Creation and management of project information related to contractual requirements and cost for submittal to the program manager for review and approval. Must have rudimentary understanding of accounting, management, and contract principles.

Performs day-to-day management of assigned delivery order projects that involve teams of data processing and other information system and management professionals who have previously been involved in analyzing, designing, integrating, testing, documenting, converting, extending, and implementing automated information and telecommunications systems. Demonstrates proven skills in those technical areas addressed by the delivery order to be managed. Organizes, directs, and coordinates the planning and production of all activities associated with assigned delivery order projects. Demonstrates writing and oral communication skills. May defer more complex problems to more senior project managers.

69. Project Manager II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience without Degree.

Functional Responsibility: Responsible for assisting the management of small to med- sized projects. Assists in preparing implementation plan, coordinates activities, monitors milestones, and provides progress reports. Creation and management of project information related to contractual requirements and cost for submittal to the program manager for review and approval. Must have rudimentary understanding of accounting, management, and contract principles.

Performs day-to-day management of assigned delivery order projects that involve teams of data processing and other information system and management professionals who have previously been involved in analyzing, designing, integrating, testing, documenting, converting, extending, and implementing automated information and telecommunications systems. Demonstrates proven skills in those technical areas addressed by the delivery order to be managed. Organizes, directs, and coordinates the planning and production of all activities associated with assigned delivery order projects. Demonstrates writing and oral communication skills. Able to manage more complex projects with no supervision required.

70. Project Manager Level 3 – Senior

Minimum/General Experience: Bachelor's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Project Manager (a) Leads team on large projects or significant segment of large complex projects. (b) Analyzes new and complex project related problems and creates innovative solutions involving finance, scheduling, technology, methodology, tools, and solution components. (c) Provides applications systems analysis and programming activities for a Government site, facility or multiple locations. (d) Prepares long and short-range plans for application selection, systems development, systems maintenance, and production activities and for necessary support resources. (e) Oversees all aspects of projects.

71. Quality Assurance Specialist Level 1 – Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Quality Assurance Specialist (Level 1-Apprentice) (a) Provides development of project Software Quality Assurance Plan and the implementation of procedures that conforms to the requirements of the contract. (b) 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. (c) May be responsible for all activities involving quality assurance and compliance with applicable regulatory requirements. (d) Conducts audits and reviews/analyzes data and documentation. (e) Develops and implements procedures and test plans for assuring quality in a system development environment which supports large databases and applications. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

72. Quality Assurance Specialist Level 2 – Journeyman

Minimum/General Experience: Associate's Degree with 2-4 years of related Technical Experience.

Functional Responsibility: Quality Assurance Specialist (Level 2-Journeyman) (a) Provides development of project Software Quality Assurance Plan and the implementation of procedures that conforms to the requirements of the contract. (b) 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. (c) May be responsible for all activities involving quality assurance and compliance with applicable regulatory requirements. (d) Conducts audits and reviews/analyzes data and documentation. (e) Develops and implements procedures and test plans for assuring quality in a system development environment which supports large databases and applications. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

73. Quality Assurance Specialist Level 3 – Senior

Minimum/General Experience: Bachelor's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Quality Assurance Specialist (Level 3-Senior) (a) Provides development of project Software Quality Assurance Plan and the implementation of procedures that conforms to the requirements of the contract. (b) 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. (c) May be responsible for all activities involving quality assurance and compliance with applicable regulatory requirements. (d) Conducts audits and reviews/analyzes data and documentation. (e) Develops and implements procedures and test plans for assuring quality in a system development environment which supports large databases and applications. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

74. Quality Assurance Specialist Level 4 – Master

Minimum/General Experience: Master's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Quality Assurance Specialist (Level 4-Master) (a) Provides development of project Software Quality Assurance Plan and the implementation of procedures that conforms to the requirements of the contract. (b) 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. (c) May be responsible for all activities involving quality assurance and compliance with applicable regulatory requirements. (d) Conducts audits and reviews/analyzes data and documentation. (e) Develops and implements procedures and test plans for assuring quality in a system development environment which supports large databases and applications. Knowledge/Skill Description Provides technical/management

leadership on major tasks or technology assignments. Establishes goals and plans that meet project objectives. Has domain and expert technical knowledge. Directs and controls activities for a client, having overall responsibility for financial management, methods, and staffing to ensure that technical requirements are met. Interactions involve client negotiations and interfacing with senior management. Decision making and domain knowledge may have a critical impact on overall project implementation. May supervise others.

75. Research Analyst Level 4-Master

Minimum/General Experience: Master's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Research Analyst (a) Plans, organizes, and conducts research in a variety of areas, such as new or existing products, science, social science, law or business, etc. in support of an IT initiative. (b) Searches sources such as reference works, literature, documents, newspapers, statistical records, and other sources of information. May use Internet, Intranet, magazines, periodicals, journals, and other media to perform research. (c) Analyzes information and statistical data to prepare reports and studies for use by professionals.

76. Software Engineer I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience without Degree.

Functional Responsibility: Develops and customizes application servers and toolsets to enhance business processes, including workflow development, knowledge and data management. Research, test and report capabilities of technology products, application server and toolsets, with business analysts to map business and functional requirements. Develops and applies departmental and organization- wide business modernization and process improvements models for use in designing and customizing integrated, shared application servers and knowledge and data management systems. Analyzes and resolves application software and toolset issues. Relies on experience and judgment to plan and accomplish goals. Can solve simple problems, and most often will require direct supervision provided by more experienced personnel.

77. Software Engineer II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience without Degree.

Functional Responsibility: Develops and customizes application servers and toolsets to enhance business processes, including workflow development, knowledge and data management. Research, test and report capabilities of technology products, application server and toolsets, with business analysts to map business and functional requirements.

Develops and applies departmental and organization-wide business modernization and process improvements models for use in designing and customizing integrated, shared application servers and knowledge and data management systems. Analyzes and resolves application software and toolset issues. Relies on experience and judgment to plan and accomplish goals. Can complete tasks of intermediate complexity alone and may only require supervision provided by more experienced personnel for more complex problems.

78. Software Engineer III

Minimum/General Experience: 5 Years of related Technical Experience.

Functional Responsibility: Develops and customizes application servers and toolsets to enhance business processes, including workflow development, knowledge and data management. Research, test and report capabilities of technology products, application server and toolsets, with business analysts to map business and functional requirements.

Develops and applies departmental and organization-wide business modernization and process improvements models for use in designing and customizing integrated, shared application servers and knowledge and data management systems. Analyzes and resolves application software and toolset issues. Relies on experience and judgment to plan and accomplish goals. Can complete all tasks with no supervision required. Shall supervise junior personnel.

79. Strategic/Capital Planner Level 5-Director

Minimum/General Experience: Master's Degree with 5-9 years of related Technical Experience.

Functional Responsibility: Strategic/Capital Planner (a) Provides strategic planning of large projects or a significant segment of a strategic planning portion of a large complex project. (b) Provides the overall approach to clarify mission statements so they can be used as springboards in envisioning their desired future. (c) 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. (d) Assist in preparation of key strategic planning documentation, including OMB Form 300.

80. Subject Matter Expert I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience without Degree.

Functional Responsibility: Has advanced understanding of area of expertise related to IT disciplines and principles. Advises team members of implication of approaches during solution development. Serves as facilitator for Integrated Product Team meetings.

Provides expert consultative support to a functional IT technical area of the project. Develops solutions to complex problems. Works closely with the information technologists to identify the best technological solution to technical issues. Familiar with a specific field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. This position will not perform management duties.

81. Subject Matter Expert II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience without Degree.

Functional Responsibility: Has advanced understanding of area of expertise related to IT disciplines and principles. Advises team members of implication of approaches during solution development. Serves as facilitator for Integrated Product Team meetings. Provides expert consultative support to a functional IT technical area of the project. Develops solutions to complex problems. Works closely with the information technologists to identify the best technological solution to technical issues. Familiar with a specific field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. This position may perform limited management duties.

82. Subject Matter Expert III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience without Degree.

Functional Responsibility: Has advanced understanding of area of expertise related to IT disciplines and principles. Advises team members of implication of approaches during solution development. Serves as facilitator for Integrated Product Team meetings. Provides expert consultative support to a functional IT technical area of the project. Develops solutions to complex problems. Works closely with the information technologists to identify the best technological solution to technical issues. Familiar with a specific field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. This position will perform managerial duties as requested with minimal support from more experienced personnel.

83. Subject Matter Expert Level 2-Journeyman

Minimum/General Experience: Associate's Degree with 2-4 years of related Technical Experience.

Functional Responsibility: Subject Matter Expert (Level 2-Journeyman) (a) Serves as subject matter expert, possessing in-depth knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences. (b) 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. (c) Participates as needed in all

phases of software development with emphasis on the planning, analysis, testing, integration, documentation, and presentation phases. (d) Applies principles, methods and knowledge of the functional area of capability to specific task order requirements, advanced mathematical principles and methods to exceptionally difficult and narrowly defined technical problems in engineering and other scientific applications to arrive at automated solutions. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

84. Subject Matter Expert Level 3-Senior

Minimum/General Experience: Bachelor's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Subject Matter Expert (Level 3-Senior) (a) Serves as subject matter expert, possessing in-depth knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences. (b) 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. (c) Participates as needed in all phases of software development with emphasis on the planning, analysis, testing, integration, documentation, and presentation phases. (d) Applies principles, methods and knowledge of the functional area of capability to specific task order requirements, advanced mathematical principles and methods to exceptionally difficult and narrowly defined technical problems in engineering and other scientific applications to arrive at automated solutions. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

85. Subject Matter Expert Level 4-Master

Minimum/General Experience: Master's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Subject Matter Expert (Level 4-Master) (a) Serves as subject matter expert, possessing in-depth knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences. (b) 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. (c) Participates as needed in all phases of software development with emphasis on the planning, analysis, testing, integration, documentation, and presentation phases. (d) Applies principles, methods and knowledge of the functional area of capability to specific task order requirements, advanced mathematical principles and methods to exceptionally difficult and narrowly defined technical problems in engineering and other scientific applications to arrive at automated solutions. Knowledge/Skill Description Provides technical/management leadership on major tasks or technology assignments. Establishes goals and plans that meet project objectives. Has domain and expert technical knowledge. Directs and controls activities for a client, having overall responsibility for financial management, methods, and staffing to ensure that technical requirements are met. Interactions involve client negotiations and interfacing with senior management. Decision making and domain knowledge may have a critical impact on overall project implementation. May supervise others.

86. Systems Administrator I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience without Degree.

Functional Responsibility: Responsible for the installing, managing, maintaining and troubleshooting hardware and software on systems, to maintain the on-going operational performance of programs (software) and the hardware on which the programs run within the Mainframe, Mid-Range, or PC environments. Implements and supports local area network (LAN) and Wide area network (WAN) hardware and software. Analyzes customer workflow and procedures to recommend operational support tools and technologies to satisfy customer needs. Acts as a liaison between the customer, suppliers, and other technical

groups to resolve network and hardware problems. Analyzes performance problems and recommends solutions to enhance functionality, reliability and/or usability. Implements operational support standards and procedures relating to change management, performance management, and security. Recommends changes and improvements to existing standards. Provides support for the overall IT system administration activities such as user access, backup and recovery procedures, patches and upgrades, tuning, and performance. Generally, works under supervision.

87. Systems Administrator II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience without Degree.

Functional Responsibility: Responsible for the installing, managing, maintaining and troubleshooting hardware and software on systems, to maintain the on-going operational performance of programs (software) and the hardware on which the programs run within the Mainframe, Mid-Range, or PC environments. Implements and supports local area network (LAN) and Wide area network (WAN) hardware and software. Analyzes customer workflow and procedures to recommend operational support tools and technologies to satisfy customer needs. Acts as a liaison between the customer, suppliers, and other technical groups to resolve network and hardware problems. Analyzes performance problems and recommends solutions to enhance functionality, reliability and/or usability. Implements operational support standards and procedures relating to change management, performance management, and security. Recommends changes and improvements to existing standards. Provides support for the overall IT system administration activities such as user access, backup and recovery procedures, patches and upgrades, tuning, and performance. Can perform more complex tasks with minimal supervision.

88. Systems Administrator III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience without Degree.

Functional Responsibility: Responsible for the installing, managing, maintaining and troubleshooting hardware and software on systems, to maintain the on-going operational performance of programs (software) and the hardware on which the programs run within the Mainframe, Mid-Range, or PC environments. Implements and supports local area network (LAN) and Wide area network (WAN) hardware and software. Analyzes customer workflow and procedures to recommend operational support tools and technologies to satisfy customer needs. Acts as a liaison between the customer, suppliers, and other technical groups to resolve network and hardware problems. Analyzes performance problems and recommends solutions to enhance functionality, reliability and/or usability. Implements operational support standards and procedures relating to change management, performance management, and security. Recommends changes and improvements to existing standards. Provides support for the overall IT system administration activities such as user access, backup and recovery procedures, patches and upgrades, tuning, and performance. Can perform all complex tasks with no supervision required. Shall perform supervisory duties over junior personnel.

89. Systems Administrator Level 1-Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: The System Administrator maintains the enterprise's servers and educates all professional staff and operating personnel in the use of the Windows platform, both as a server and a client server operating environment. The System Administrator is responsible for managing the coordination of communication and support between the user community and the technical and operational functions of IT in relationship with all server functions. The System Administrator is a key technical resource for other Senior Staff, providing advice, training and technical support for various projects. In addition, the System Administrator works closely with professional technical staff in the IT management team in evaluating current systems and making decisions on future development.

90. Systems Administrator Level 2-Journeyman

Minimum/General Experience: Associate's Degree with 2-4 years of related Technical Experience.

Functional Responsibility: The System Administrator maintains the enterprise's servers and educates all professional staff and operating personnel in the use of the Windows platform, both as a server and a client server operating environment. The System Administrator is responsible for managing the coordination of communication and support between the user community and the technical and operational functions of IT in relationship with all server functions. The System Administrator is a key technical resource for other Senior Staff, providing advice, training and technical support for various projects. In addition, the System Administrator works closely with professional technical staff in the IT management team in evaluating current systems and making decisions on future development.

91. Systems Administrator Level 3-Senior

Minimum/General Experience: Bachelor's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: The System Administrator Lead is responsible for several System Administrators in directing maintenance of the integrity and security of enterprise's servers and systems, which support the various operating units of the enterprise. The System Administrator - Lead also provides primary direction in developing programs and support systems for all the enterprise's operation units. The System Administrator – Lead directs the conduct of system analysis and development, with limited support and direction from other professional staff, to keep our systems current with changing technologies.

92. Systems Engineer I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience without Degree.

Functional Responsibility: (a) Provides analysis related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated IT solution. (b) Develops integrated system test requirement, strategies, devices and systems. (c) Directs overall system level testing. Generally, works under supervision.

93. Systems Engineer II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience without Degree.

Functional Responsibility: (a) Provides analysis related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated IT solution. (b) Develops integrated system test requirement, strategies, devices and systems. (c) Directs overall system level testing. Can perform more complex tasks with minimal supervision.

94. Systems Engineer III

Minimum/General Experience: 5 Years of related Technical Experience.

Functional Responsibility: (a) Provides analysis related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated IT solution. (b) Develops integrated system test requirement, strategies, devices and systems. (c) Directs overall system level testing. Can perform all complex tasks with no supervision required. Shall perform supervisory duties over junior personnel.

95. Systems Engineer Level 4-Master

Minimum/General Experience: Master's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Systems Engineer (a) Provides analysis related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated IT solution. (b) Develops integrated system test requirement, strategies, devices and systems. (c) Directs overall system level testing.

96. Technical Editor Level 4-Master

Minimum/General Experience: Master's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Technical Editor (a) Reviews content of technical documentation for quality. (b) Produces technical and scientific illustrations for presentations and/or publication, as appropriate to the requirements. (c) Ensures that documents follow the style laid out in the company's style guide.

97. Technical Writer Level 3-Senior

Minimum/General Experience: Bachelor's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Technical Writer (a) writes a variety of technical articles, reports, brochures, and/or manuals for documentation for a wide range of uses. (b) Coordinates the display of graphics and the production of the document. (c) Ensures content is of high quality and conforms with standards.

98. Technician I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience without Degree.

Functional Responsibility: Performs installation of equipment, and system testing and evaluation activities. Inspects and reviews hardware installation, wiring, power, grounding, system database validation, and other activities to ensure quality installation of services. Performs de-installation, and relocation activities including, but not limited to, site preparation and installation and/or removal of cabling and wiring systems, terminal equipment, automated data processing services, hardware and software. Performs under the supervision of others.

99. Technician II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience without Degree.

Functional Responsibility: Performs installation of equipment, and system testing and evaluation activities. Inspects and reviews hardware installation, wiring, power, grounding, system database validation, and other activities to ensure quality installation of services. Performs de-installation, and relocation activities including, but not limited to, site preparation and installation and/or removal of cabling and wiring systems, terminal equipment, automated data processing services, hardware and software. Can perform more complex tasks with minimal supervision.

100. Technician III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience without Degree.

Functional Responsibility: Performs installation of equipment, and system testing and evaluation activities. Inspects and reviews hardware installation, wiring, power, grounding, system database validation, and other activities to ensure quality installation of services. Performs de-installation, and relocation activities including, but not limited to, site preparation and installation and/or removal of cabling and wiring systems, terminal equipment, automated data processing services, hardware and software. Can perform all complex tasks with no supervision required. Shall perform supervisory duties over junior personnel.

101. Technology Engineer I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience without Degree.

Functional Responsibility: Performs computer engineering and software development. Analyzes business processes, functions, and procedures to develop the best software. Establishes systems specifications and objectives. Participates in systems development and design, including software programming and user interface design. Formulates test plans, coordinates, and performs software testing. Has application knowledge of commonly used concepts, practices and procedures with the information technology fields. Analyzes engineering problems and develops solutions. Makes recommendation after performing system analysis.

102. Technology Engineer II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience without Degree.

Functional Responsibility: Performs computer engineering and software development. Leads engineers in the activities of solving computer problems and enabling computer technology to meet the needs of the organization. Assigns, coordinates, and reviews work of engineering personnel. Responsible for applying concepts or modernization, innovation, consolidation, and cost reduction to assigned tasks. A certain degree of creativity and latitude is expected.

103. Technology Engineer III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience without Degree.

Functional Responsibility: Performs computer engineering and software development. Applies full understanding of computer engineering discipline and industry best practices plus innovation to effectively design, implement, and support software products. Gives technical guidance to other engineers in the team. Analyzes engineering problems and develops innovative solutions. Leads engineers in performing system trade studies to maximize investments in equipment, personnel, and business processes.

104. Test Engineer Level 1-Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Test Engineer (Level 1-Apprentice) (a) Evaluates, recommends, and implements automated test tools and strategies. (b) Designs, implements, and conducts test and evaluation procedures to ensure system requirements are met. (c) Develops, maintains, and upgrades automated test scripts and architectures for application products. Also writes, implements, and reports status for system test cases for testing. Analyzes test cases and provides regular progress reports. (d) Serves as subject matter specialist providing testing know-how for the support of user requirements of complex to highly complex software/hardware applications. (e) Directs and/or participates in all phases of risk management assessments and software/hardware development with emphasis on analysis of user requirements, test design and test tools selection. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

105. Test Engineer Level 2-Journeyman

Minimum/General Experience: Associate's Degree with 2-4 years of related Technical Experience.

Functional Responsibility: Test Engineer (Level 2-Journeyman) (a) Evaluates, recommends, and implements automated test tools and strategies. (b) Designs, implements, and conducts test and evaluation procedures to ensure system requirements are met. (c) Develops, maintains, and upgrades automated test scripts and architectures for application products. Also writes, implements, and reports status for system test cases for testing. Analyzes test cases and provides regular progress reports. (d) Serves as subject matter specialist providing testing know-how for the support of user requirements of complex to highly complex software/hardware applications. (e) Directs and/or participates in all phases of risk management assessments and software/hardware development with emphasis on analysis of user requirements, test design and test tools selection. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

106. Test Engineer 3- Senior

Minimum/General Experience: Bachelor's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Test Engineer (Level 3-Senior) (a) Evaluates, recommends, and implements automated test tools and strategies. (b) Designs, implements, and conducts test and evaluation procedures to ensure system requirements are

met. (c) Develops, maintains, and upgrades automated test scripts and architectures for application products. Also writes, implements, and reports status for system test cases for testing. Analyzes test cases and provides regular progress reports. (d) Serves as subject matter specialist providing testing know-how for the support of user requirements of complex to highly complex software/hardware applications. (e) Directs and/or participates in all phases of risk management assessments and software/hardware development with emphasis on analysis of user requirements, test design and test tools selection. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

107. Training Specialist Level 1-Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Training Specialist (Level 1-Apprentice) (a) Assesses, designs, and conceptualizes training scenarios, approaches, objectives, plans, tools, aids, curriculums, and other state of the art technologies related to training and behavioral studies. (b) Identifies the best approach training requirements to include, but not limited to hardware, software, simulations, course assessment and refreshment, assessment centers, oral examinations, interviews, computer assisted and adaptive testing, behavior-based assessment and performance, and team and unit assessment and measurement. (c) Develops and revises training courses. Prepares training catalogs and course materials. (d) Trains personnel by conducting formal classroom courses, workshops, and seminars. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

108. Training Specialist Level 2-Journeyman

Minimum/General Experience: Associate's Degree with 2-4 years of related Technical Experience.

Functional Responsibility: Training Specialist (Level 2-Journeyman) (a) Assesses, designs, and conceptualizes training scenarios, approaches, objectives, plans, tools, aids, curriculums, and other state of the art technologies related to training and behavioral studies. (b) Identifies the best approach training requirements to include, but not limited to hardware, software, simulations, course assessment and refreshment, assessment centers, oral examinations, interviews, computer assisted and adaptive testing, behavior-based assessment and performance, and team and unit assessment and measurement. (c) Develops and revises training courses. Prepares training catalogs and course materials. (d) Trains personnel by conducting formal classroom courses, workshops, and seminars. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

109. Training Specialist Level 3-Senior

Minimum/General Experience: Bachelor's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Training Specialist (Level 3-Senior) (a) Assesses, designs, and conceptualizes training scenarios, approaches, objectives, plans, tools, aids, curriculums, and other state of the art technologies related to training and behavioral studies. (b) Identifies the best approach training requirements to include, but not limited to hardware, software, simulations, course assessment and refreshment, assessment centers, oral examinations, interviews, computer assisted and adaptive testing, behavior-based assessment and performance, and team and unit assessment and measurement. (c) Develops and revises training courses. Prepares training catalogs and course materials. (d) Trains personnel by conducting formal classroom courses, workshops, and seminars. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

110. Voice/Data Communications Engineer Level 1-Apprentice

Minimum/General Experience: 1-3 years of related Technical Experience.

Functional Responsibility: Voice/Data Communications Engineer (Level 1-Apprentice) (a) Provides technical direction and engineering knowledge for communications activities including planning, designing, developing, testing, installing and maintaining large communications networks. (b) Ensures that adequate and appropriate planning is provided to direct building architects and planners in building communications spaces and media pathways meet industry standards. (c) Develops, operates, and maintains voice, wireless, video, and data communications systems. (d) Provides complex engineering or analytical tasks and activities associated with one or more technical areas within the communications function. Knowledge/Skill Description Applies fundamental concepts, processes, practices, and procedures on technical assignments. Performs work that requires practical experience and training. Work is performed under supervision.

111. Voice/Data Communications Engineer Level 2-Journeyman

Minimum/General Experience: Associate's Degree with 2-4 years of related Technical Experience.

Functional Responsibility: Voice/Data Communications Engineer (Level 2-Journeyman) (a) Provides technical direction and engineering knowledge for communications activities including planning, designing, developing, testing, installing and maintaining large communications networks. (b) Ensures that adequate and appropriate planning is provided to direct building architects and planners in building communications spaces and media pathways meet industry standards. (c) Develops, operates, and maintains voice, wireless, video, and data communications systems. (d) Provides complex engineering or analytical tasks and activities associated with one or more technical areas within the communications function. Knowledge/Skill Description Possesses and applies expertise on multiple complex work assignments. Assignments may be broad in nature, requiring originality and innovation in determining how to accomplish tasks. Operates with appreciable latitude in developing methodology and presenting solutions to problems. Contributes to deliverables and performance metrics where applicable.

112. Voice/Data Communications Engineer Level 3-Senior

Minimum/General Experience: Bachelor's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Voice/Data Communications Engineer (Level 3-Senior) (a) Provides technical direction and engineering knowledge for communications activities including planning, designing, developing, testing, installing and maintaining large communications networks. (b) Ensures that adequate and appropriate planning is provided to direct building architects and planners in building communications spaces and media pathways meet industry standards. (c) Develops, operates, and maintains voice, wireless, video, and data communications systems. (d) Provides complex engineering or analytical tasks and activities associated with one or more technical areas within the communications function. Knowledge/Skill Description Possesses and applies a comprehensive knowledge across key tasks and high impact assignments. Plans and leads major technology assignments. Evaluates performance results and recommends major changes affecting short-term project growth and success. Functions as a technical expert across multiple project assignments. May supervise others.

113. Voice/Data Communications Engineer Level 4-Master

Minimum/General Experience: Master's Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Voice/Data Communications Engineer (Level 4-Master) (a) Provides technical direction and engineering knowledge for communications activities including planning, designing, developing, testing, installing and maintaining large communications networks. (b) Ensures that adequate and appropriate planning is provided to direct building architects and planners in building communications spaces and media pathways meet industry standards. (c) Develops, operates, and maintains voice, wireless, video, and data communications systems. (d) Provides complex engineering or analytical tasks and activities associated with one or more technical areas within the communications function. Knowledge/Skill Description Provides technical/management leadership on major tasks or technology assignments. Establishes goals and plans that meet project objectives. Has domain and expert technical knowledge. Directs and controls activities for a client, having overall responsibility for financial management, methods, and staffing to ensure

that technical requirements are met. Interactions involve client negotiations and interfacing with senior management. Decision making and domain knowledge may have a critical impact on overall project implementation. May supervise others.

114. Web Content Analyst Level 4-Master

Minimum/General Experience: Master’s Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Web Content Analyst (a) 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. (b) Provides managing/performing website editorial activities including gathering and researching information that enhances the value of the site.

115. Web Designer Level 3-Senior

Minimum/General Experience: Bachelor’s Degree with 3-5 years of related Technical Experience.

Functional Responsibility: Web Designer (a) Designs and builds web pages using a variety of graphics software applications, techniques, and tools. (b) Designs and develops user interface features, site animation, and special-effects elements. Contributes to the design group’s efforts to enhance the look and feel of the organization’s online offerings. (c) Designs the website to support the organization’s strategies and goals relative to external communications.

APPENDIX 6 – SIN 132-56 (HEALTH IT SERVICES) PRICE LIST

Labor Category	Price
Health IT Analyst I	\$92.75
Health IT Analyst II	\$100.55
Health IT Analyst III	\$120.08
Health IT Consultant I	\$112.27
Health IT Consultant II	\$131.79
Health IT Consultant III	\$151.32
Health IT Enterprise Architect	\$170.85
Health IT Network Engineer I	\$102.51
Health IT Network Engineer II	\$115.20
Health IT Network Engineer III	\$151.32
Health IT Program Manager I	\$107.39
Health IT Program Manager II	\$127.89
Health IT Project Manager I	\$95.68
Health IT Project Manager II	\$122.03
Health IT Software Engineer I	\$87.86
Health IT Software Engineer II	\$104.46
Health IT Software Engineer III	\$126.92
Health IT Subject Matter Expert I	\$131.79
Health IT Subject Matter Expert II	\$161.09

Labor Category	Price
Health IT Subject Matter Expert III	\$190.37
Health IT Systems Administrator I	\$73.22
Health IT Systems Administrator II	\$82.99
Health IT Systems Administrator III	\$92.75
Health IT Systems Engineer I	\$102.51
Health IT Systems Engineer II	\$115.20
Health IT Systems Engineer III	\$151.32
Health IT Technician I	\$53.69
Health IT Technician II	\$63.45
Health IT Technician III	\$73.22
Health IT Technology Engineer I	\$112.27
Health IT Technology Engineer II	\$131.79
Health IT Technology Engineer III	\$165.96

APPENDIX 7 – SIN 132-56 (HEALTH IT SERVICES) LABOR CATEGORY DESCRIPTIONS

1. Health IT Analyst I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree.

Functional Responsibility: Works with multiple Health IT departments/sources to research, collect, identify and report software or system requirements using interviews, document analysis, requirements workshops, surveys, site visits, business process descriptions, use cases, scenarios, business analysis, task and workflow analysis. Critically evaluates Health IT information gathered, reconcile conflicts; decomposes high-level information into detail functional and development or system requirements. Assists Health IT project managers with project plans, version scopes and timelines. Works with Health IT development or systems teams to implement requirements related to Health IT projects. Can solve simple problems, and most often will require direct supervision provided by more experienced personnel.

2. Health IT Analyst II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience without Degree.

Functional Responsibility: Works with multiple Health IT departments/sources to research, collect, identify and report software or system requirements using interviews, document analysis, requirements workshops, surveys, site visits, business process descriptions, use cases, scenarios, business analysis, task and workflow analysis. Critically evaluates Health IT information gathered, reconcile conflicts; decomposes high-level information into detail functional and development or system requirements. Assists Health IT project managers with project plans, version scopes and timelines. Works with Health development or systems teams to implement requirements related to Health IT projects. Can solve more complex problems with minimal supervision, development or system requirements.

3. Health IT Analyst III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience Without Degree.

Functional Responsibility: Works with multiple Health IT departments/sources to research, collect, identify and report software or system requirements using interviews, document analysis, requirements workshops, surveys, site visits, business process descriptions, use cases, scenarios, business analysis, task and workflow analysis. Critically evaluates Health IT information gathered, reconcile conflicts; decomposes high-level information into detail functional and development or system requirements. Assists Health IT project managers with project plans, version scopes and timelines. Works with Health development or systems teams to implement requirements related to Health IT projects. Can solve all problems with no supervision required. Shall supervise junior personnel.

4. Health IT Consultant I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree.

Functional Responsibility: Professional providing general Health IT assistance to help customers achieve a specific solution related to the organization's utilization of information technology products and services. Demonstrates exceptional oral and written communication skills.

5. Health IT Consultant II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Professional providing general Health IT assistance to help customers achieve a specific solution related to the organization's utilization of information technology products and services. Demonstrates exceptional oral and written communication skills.

6. Health IT Consultant III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience Without Degree.

Functional Responsibility: Professional providing general Health IT assistance to help customers achieve a specific solution related to the organization's utilization of information technology products and services. Demonstrates exceptional oral and written communication skills.

7. Health IT Enterprise Architect

Minimum/General Experience: 7 Years of related Technical Experience with Bachelor's Degree, or 9-11 Years' Experience Without Degree.

Functional Responsibility: Designs and develops complex business/Health IT solutions using a variety of computer technologies. Independently performs a variety of Health IT system design and engineering tasks which are broad in nature and are concerned with design and implementation of major Health enterprise systems development and integration, including supporting personnel, hardware, software, and support facilities and/or equipment. Considered a Subject Matter Expert (SME) in one or more specific areas of computer system design to include Health IT networking.

Applies knowledge of complex concepts and techniques to develop and implement automated solutions to engineering, scientific, or business data acquisition and management problems. Uses scientific and engineering logic to independently identify conceptual or theoretical solutions to problems of technology systems hardware or software design and operation. Evaluates and recommends optimum solutions balancing specific project needs with economic constraints. Formulates architectural design, functional specification, interfaces and documentation of computer systems considering system interrelationships, operating modes, and equipment configurations. Responsible for developing health/Health IT project plans, justifications, guidelines, and controls.

8. Health IT Network Engineer I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree.

Functional Responsibility: Manages an engineering group responsible for telecommunications, networks, and other Health IT disciplines. Applies extremely complex networking concepts in the analysis, study, and design of data networks. Analyzes network characteristics (e.g., traffic, connect time, transmission speeds, packet sizes, and throughput) and recommends procurement, removals, and modifications to network components. Designs and optimizes network topologies and site configurations. Plans and supervises installations, transitions, and cutovers of network components and capabilities. Reviews existing network designs and capabilities with the goal of making refinements, reducing operating overhead, enhancing network throughput, and improving current Health IT network topologies. Generally, works under supervision of others.

9. Health IT Network Engineer II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Manages an engineering group responsible for telecommunications, networks, and other Health IT disciplines. Applies extremely complex networking concepts in the analysis, study, and design of data networks. Analyzes network characteristics (e.g., traffic, connect time, transmission speeds, packet sizes, and throughput) and recommends procurement, removals, and modifications to network components. Designs and optimizes network topologies and site configurations. Plans and supervises installations, transitions, and cutovers of network components and capabilities. Reviews existing network designs and capabilities with the goal of making refinements, reducing operating overhead, enhancing network throughput, and improving current network topologies. Can perform more complex tasks with minimal supervision.

10. Health IT Network Engineer III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience Without Degree.

Functional Responsibility: Manages an engineering group responsible for telecommunications, networks, and other Health IT disciplines. Applies extremely complex networking concepts in the analysis, study, and design of data networks. Analyzes network characteristics (e.g., traffic, connect time, transmission speeds, packet sizes, and throughput) and recommends procurement, removals, and modifications to network components. Designs and optimizes network topologies and site configurations. Plans and supervises installations, transitions, and cutovers of network components and capabilities. Reviews existing network designs and capabilities with the goal of making refinements, reducing operating overhead, enhancing network throughput, and improving current network topologies. Can perform all tasks with no supervision required. Shall supervise junior personnel.

11. Health IT Program Manager I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree.

Functional Responsibility: Provides program management for multiple Health IT projects. Prepares Health IT project implementation plans, coordinates project activities, monitors project milestones, and provides progress reports. Responsible for all aspects of performance (i.e., technical, contractual, administrative, financial). Consults with the Health IT customer to ensure adherence to contractual obligations, establishes and maintains technical and financial reports to show progress of Health IT projects to management and customers, organizes and assigns responsibilities to subordinates, and oversees the completion of all assigned tasks. Performs overall management of Health IT contract support operations, possibly involving multiple Health IT projects and groups of personnel at multiple locations. Organizes, directs, and coordinates the planning and production of all Health IT contract support activities. Able to manage smaller programs with minimal supervision.

12. Health IT Program Manager II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Provides program management for multiple Health IT projects. Prepares Health IT project implementation plans, coordinates project activities, monitors project milestones, and provides progress reports. Responsible for all aspects of performance (i.e., technical, contractual, administrative, financial). Consults with the Health IT customer to ensure adherence to contractual obligations, establishes and maintains technical and financial reports to show progress of Health IT projects to management and customers, organizes and assigns responsibilities to subordinates, and oversees the completion of all assigned tasks. Performs overall management of Health IT contract support operations, possibly involving multiple Health IT projects and groups of personnel at multiple locations. Organizes, directs, and coordinates the planning and production of all Health IT contract support activities. Able to manage larger programs with minimal supervision.

13. Health IT Project Manager I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree.

Functional Responsibility: Responsible for assisting the management of small to med- sized Health IT projects. Assists in preparing Health IT implementation plans, coordinates activities, monitors milestones, and provides progress reports. Creation and management of Health IT project information related to contractual requirements and cost for submittal to the program manager for review and approval. Must have rudimentary understanding of accounting, management, and contract principles.

Performs day-to-day management of assigned Health IT delivery order projects that involve teams of data processing and other information system and management professionals who have previously been involved in analyzing, designing, integrating, testing, documenting, converting, extending, and implementing automated information and telecommunications systems. Demonstrates proven skills in those Health IT technical areas addressed by the delivery order to be managed. Organizes, directs, and coordinates the planning and production of all Health IT activities associated with assigned delivery order projects. Demonstrates writing and oral communication skills. May defer more complex problems to more senior project managers.

14. Health IT Project Manager II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Responsible for assisting the management of small to med- sized Health IT projects. Assists in preparing Health IT implementation plan, coordinates activities, monitors milestones, and provides progress reports. Creation and management of Health IT project information related to contractual requirements and cost for submittal to the program manager for review and approval. Must have rudimentary understanding of accounting, management, and contract principles.

Performs day-to-day management of assigned Health IT delivery order projects that involve teams of data processing and other information system and management professionals who have previously been involved in analyzing, designing, integrating, testing, documenting, converting, extending, and implementing automated information and telecommunications systems. Demonstrates proven skills in those Health IT technical areas addressed by the delivery order to be managed. Organizes, directs, and coordinates the planning and production of all Health IT activities associated with assigned delivery order projects. Demonstrates writing and oral communication skills. May defer more complex problems to more senior project managers. Able to manage more complex projects with no supervision required.

15. Health IT Software Engineer I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree.

Functional Responsibility: Develops and customizes Health IT application servers and toolsets to enhance business processes, including workflow development, knowledge, and data management. Research, test and report capabilities of technology products, application server and toolsets, with analysts to map requirements.

Develops and applies departmental and organization-wide business modernization and process improvements models for use in designing and customizing integrated, shared application servers and knowledge and Health IT data management systems. Analyzes and resolves application software and toolset issues. Relies on experience and judgment to plan and accomplish goals. Can solve simple problems, and most often will require direct supervision provided by more experienced personnel.

16. Health IT Software Engineer II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Develops and customizes Health IT application servers and toolsets to enhance business processes, including workflow development, knowledge, and data management. Research, test and report capabilities of technology products, application server and toolsets, with business analysts to map business and functional requirements.

Develops and applies departmental and organization-wide business modernization and process improvements models for use in designing and customizing integrated, shared application servers and knowledge and Health IT data management systems. Analyzes and resolves application software and toolset issues. Relies on experience and judgment to plan and accomplish goals. Can complete tasks of intermediate complexity alone and may only require supervision provided by more experienced personnel for more complex problems.

17. Health IT Software Engineer III

Minimum/General Experience: 5 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience Without Degree.

Functional Responsibility: Develops and customizes Health IT application servers and toolsets to enhance business processes, including workflow development, knowledge, and data management. Research, test and report capabilities of technology products, application server and toolsets, with business analysts to map business and functional requirements.

Develops and applies departmental and organization-wide business modernization and process improvements models for use in designing and customizing integrated, shared application servers and knowledge and Health IT data management systems. Analyzes and resolves application software and toolset issues. Relies on experience and judgment to plan and accomplish goals. Can complete all tasks with no supervision required. Shall supervise junior personnel.

18. Health IT Subject Matter Expert I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree.

Functional Responsibility: Provides advanced understanding and Health IT expertise related to Health IT disciplines and principles. Advises Health IT team members of implication of approaches during solution development. Serves as Health IT facilitator for Integrated Product Team meetings.

Provides expert Health IT consultative support to a functional technical area of the project. Develops solutions to complex problems. Works closely with the information technologists to identify the best technological solution to technical issues. Familiar with a specific Health field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. This position will not perform management duties.

19. Health IT Subject Matter Expert II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Provides advanced understanding and Health IT expertise related to Health IT disciplines and principles. Advises Health IT team members of implication of approaches during solution development. Serves as Health IT facilitator for Integrated Product Team meetings.

Provides expert Health IT consultative support to a functional technical area of the project. Develops solutions to complex problems. Works closely with the information technologists to identify the best technological solution to technical issues. Familiar with a specific Health field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. This position may perform limited management duties.

20. Health IT Subject Matter Expert III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience Without Degree.

Functional Responsibility: Provides advanced understanding and Health IT expertise related to Health IT disciplines and principles. Advises Health IT team members of implication of approaches during solution development. Serves as Health IT facilitator for Integrated Product Team meetings.

Provides expert Health IT consultative support to a functional technical area of the project. Develops solutions to complex problems. Works closely with the information technologists to identify the best technological solution to technical issues. Familiar with a specific Health field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. This position will perform managerial duties as requested with minimal support from more experienced personnel.

21. Health IT Systems Administrator I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree.

Functional Responsibility: Responsible for the installing, managing, maintaining, and troubleshooting of hardware and software on Health IT systems, to maintain the on-going operational performance of programs (software) and the hardware on which the programs run within the Mainframe, Mid-Range, or PC environments. Implements and supports local area network (LAN) and Wide area network (WAN) hardware and software. Analyzes customer workflow and procedures to recommend operational support tools and technologies to satisfy customer needs. Acts as a liaison between the customer, suppliers, and other technical groups to resolve network and hardware problems. Analyzes Health IT performance problems and recommends solutions to enhance functionality, reliability and/or usability. Implements Health operational support standards and procedures relating to change Health IT management, performance management, and security. Recommends changes and improvements to existing standards. Provides support for the overall Health IT system administration activities such as user access, backup and recovery procedures, patches, and upgrades, tuning, and performance. Generally, works under supervision.

22. Health IT Systems Administrator II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Responsible for the installing, managing, maintaining, and troubleshooting hardware and software on Health IT systems, to maintain the on-going operational performance of programs (software) and the hardware on which the programs run within the Mainframe, Mid-Range, or PC environments. Implements and supports local area network (LAN) and Wide area network (WAN) hardware and software. Analyzes customer workflow and procedures to recommend operational support tools and technologies to satisfy customer needs. Acts as a liaison between the customer, suppliers, and other technical groups to resolve Health IT network and hardware problems. Analyzes Health IT performance problems and recommends solutions to enhance functionality, reliability and/or usability. Implements Health operational support standards and procedures relating to change Health IT management, performance management, and security. Recommends changes and improvements to existing standards. Provides support for the overall Health IT system administration activities such as user access, backup and recovery procedures, patches, and upgrades, tuning, and performance. Can perform more complex tasks with minimal supervision.

23. Health IT Systems Administrator III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience Without Degree.

Functional Responsibility: Responsible for the installing, managing, maintaining, and troubleshooting hardware and software on Health IT systems, to maintain the on-going operational performance of programs (software) and the hardware on which the programs run within the Mainframe, Mid-Range, or PC environments. Implements and supports local area network (LAN) and Wide area network (WAN) hardware and software. Analyzes customer workflow and procedures to recommend operational support tools and technologies to satisfy customer needs. Acts as a liaison between the customer, suppliers, and other technical groups to resolve network and hardware problems. Analyzes Health IT performance problems and recommends solutions to enhance functionality, reliability and/or usability. Implements Health operational support standards and procedures relating to change Health IT management, performance management, and security. Recommends changes and improvements to existing standards. Provides support for the overall Health IT system administration activities such as user access, backup and recovery procedures, patches, and upgrades, tuning, and performance. Can perform all complex tasks with no supervision required. Shall perform supervisory duties over junior personnel.

24. Health IT Systems Engineer I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree.

Functional Responsibility: Provides analysis related to the design, development and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated Health IT solution. Develops integrated Health IT system testing requirement, strategies, devices and systems. Directs overall system level testing. Normally works under supervision.

25. Health IT Systems Engineer II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Provides analysis related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated Health IT solution. Develops integrated Health IT system testing requirement, strategies, devices and systems. Directs overall system level testing. Can perform more complex tasks with minimal supervision.

26. Health IT Systems Engineer III

Minimum/General Experience: 5 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience Without Degree.

Functional Responsibility: Provides analysis related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated Health IT solution. Develops integrated Health IT system testing requirement, strategies, devices and systems. Directs overall system level testing. Shall perform supervisory duties over junior personnel.

27. Health IT Technician I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree.

Functional Responsibility: Performs installation of Health IT equipment, and system testing and evaluation activities. Inspects and reviews Health IT hardware installation, wiring, power, grounding, system database validation, and other activities to ensure quality installation of services. Performs de-installation, and relocation activities including, but not limited to, Health IT site preparation and installation and/or removal of cabling and wiring systems, terminal equipment, automated data processing services, hardware, and software. Performs under the supervision of others.

28. Health IT Technician II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Performs installation of Health IT equipment, and system testing and evaluation activities. Inspects and reviews Health IT hardware installation, wiring, power, grounding, system database validation, and other activities to ensure quality installation of services. Performs de-installation, and relocation activities including, but not limited to, Health IT site preparation and installation and/or removal of cabling and wiring systems, terminal equipment, automated data processing services, hardware, and software. Can perform more complex tasks with minimal supervision.

29. Health IT Technician III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience Without Degree.

Functional Responsibility: Performs installation of Health IT equipment, and system testing and evaluation activities. Inspects and reviews Health IT hardware installation, wiring, power, grounding, system database validation, and other activities to ensure quality installation of services. Performs de-installation, and relocation activities including, but not limited to, Health IT site preparation and installation and/or removal of cabling and wiring systems, terminal equipment, automated data processing services, hardware, and software. Can perform all complex tasks with no supervision required. Shall perform supervisory duties over junior personnel.

30. Health IT Technology Engineer I

Minimum/General Experience: 1 Year of related Technical Experience with Associates Degree, Or 3-5 Years' Experience Without Degree

Functional Responsibility: Performs computer engineering and software development. Analyzes Health IT business processes, functions, and procedures to develop the best software. Establishes systems specifications and objectives. Participates in Health IT systems development and design, including software programming and user interface design. Formulates test plans and coordinates and performs software testing. Has application knowledge of commonly used concepts, practices and procedures within the Health information technology fields. Analyzes engineering problems and develops solutions. Makes recommendation after performing system analysis.

31. Health IT Technology Engineer II

Minimum/General Experience: 3 Years of related Technical Experience with Associates Degree, or 5-7 Years' Experience Without Degree.

Functional Responsibility: Performs computer engineering and software development. Leads Health IT engineers in the activities of solving computer problems and enabling computer technology to meet the needs of the organization. Assigns, coordinates, and reviews work of Health IT engineering personnel. Responsible for applying concepts or modernization, innovation, consolidation, and cost reduction to assigned tasks. A certain degree of creativity and latitude is expected.

32. Health IT Technology Engineer III

Minimum/General Experience: 3 Years of related Technical Experience with Bachelor's Degree, or 7-9 Years' Experience Without Degree.

Functional Responsibility: Performs computer engineering and software development. Applies full understanding of computer engineering discipline and Health IT industry best practices plus innovation to effectively design, implement, and support software products. Gives technical guidance to other Health IT engineers on the team. Analyzes engineering problems and develops innovative solutions. Leads engineers in performing Health IT system trade studies to maximize investments in equipment, personnel, and business processes.