AUTHORIZED INFORMATION TECHNOLOGY SCHEDULE PRICELIST

Special Item Number 518210C – Cloud and Cloud-Related IT Professional Services

Special Item Number 54151S – Information Technology (IT) Professional Services
FPDS Code D301 IT Facility Operation and Maintenance
FPDS Code D302 IT Systems Development Services
FPDS Code D306 IT Systems Analysis Services
FPDS Code D307 Automated Information Systems Design and Integration Services
FPDS Code D308 Programming Services
FPDS Code D310 IT Backup and Security Services
FPDS Code D311 IT Data Conversion Services
FPDS Code D313 Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) Services
FPDS Code D316 IT Network Management Services
FPDS Code D317 Creation/Retrieval of IT Related Automated News Services, Data Services, or Other Information Services (All other information services belong under Schedule 76)
FPDS Code D399 Other Information Technology Services, Not Elsewhere Classified

Special Item Number 54151HEAL – Health Information Technology (IT) Services

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 as a means 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.

Contract Number: GS-35F-051AA

Period Covered by Contract: November 1, 2012 through October 31, 2022
Trowbridge & Trowbridge, LLC
1430 Spring Hill Rd, Suite 200, McLean, VA 22102
Telephone Number: (571) 298-8477
www.tt-llc.com

General Services Administration
Federal Acquisition Service

Pricelist current through Modification #A812 dated 2/08/2020.

Products and ordering information in this Authorized Information Technology Schedule Pricelist are also available on the GSA Advantage! System (http://www.gsaadvantage.gov).
CUSTOMER 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 micropurchase 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 micropurchase threshold, customers are to give preference to small business concerns when two or more items at the same delivered price will satisfy their requirement.

1a. SPECIAL ITEM NUMBERS (SINs):
   SIN 518210C – Cloud and Cloud-Related IT Professional Services
   SIN 54151S – Information Technology (IT) Professional Services
   SIN 54151HEAL – Health Information Technology (IT) Services

1b. GSA IT PROFESSIONAL SERVICES PRICE LIST:
   See pages 41-45

1c. DESCRIPTION OF PROFESSIONAL SERVICES LABOR CATEGORIES:
   See pages 46-100

2. MAXIMUM ORDER:
   (All dollar amounts are exclusive of any discount for prompt payment.)
   a. The Maximum Order is $500,000:
3. **MINIMUM ORDER:**
   The minimum dollar of orders to be issued is $100.00.

4. **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 aforementioned 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.
   - [X] The Geographic Scope of Contract will be domestic delivery only.

   For Special Item Number 132-53 Wireless Services ONLY, if awarded, list the limited geographic coverage area:
   ________________N/A__________________________________________

5. **POINT OF PRODUCTION:**
   Trowbridge & Trowbridge, LLC.
   1430 Spring Hill Rd, Suite 200
   McLean, VA 22102

6. **DISCOUNTS:**
   Prices shown are NET Prices; Basic Discounts have been deducted.
   - a. Dollar Volume: None
   - d. Other Special Discounts: None

7. **QUANTITY DISCOUNTS:**
   None

8. **PROMPT PAYMENT:**
   0% Net 30 days.

9. **GOVERNMENT PURCHASE CARDS:**
10. FOREIGN ITEMS:
None.

11. DELIVERY SCHEDULE:
   a. TIME OF DELIVERY: The Contractor shall deliver to destination within the number of calendar days after receipt of order (ARO), as defined by task order.
   b. EXPEDITED DELIVERY: Items available for expedited delivery are noted in this price list.”
   c. OVERNIGHT AND 2-DAY DELIVERY: Customers may contact Trowbridge for rates for overnight and 2-day delivery.
   d. 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 the purpose of 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.

12. F.O.B. POINT(S):
   Destination.

13. CONTRACTOR’S ORDERING ADDRESS AND PAYMENT INFORMATION:
   a. Ordering Address:
      Trowbridge & Trowbridge, LLC.
      1430 Spring Hill Road, Suite 200
      McLean, VA 22102

   b. Ordering Procedures:
      Contractor will 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: (571) 298-8477.

14. **PAYMENT ADDRESS:**
   Remittance address:
   Trowbridge & Trowbridge, LLC.
   1430 Spring Hill Road, Suite 200
   McLean, VA 22102

15. **WARRANTY PROVISION:**
   a. Unless specified otherwise per task order, the Contractor’s standard commercial guarantee/warranty as stated in the contract’s commercial pricelist will apply to this contract.
   b. The Contractor warrants and implies that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract.
   c. Limitation of Liability. Except as otherwise provided by an express or implied warranty, the Contractor will not be liable to the Government for consequential damages resulting from any defect or deficiencies in accepted items.

16. **EXPORT PACKAGING CHARGES:**
   Not applicable.

17. **TERMS AND CONDITIONS OF GOVERNMENT PURCHASE CARD ACCEPTANCE:**
   No thresholds above the micro-purchase level.

18. **TERMS AND CONDITIONS OF RENTAL, MAINTENANCE, AND REPAIR:**
   Not applicable.

19. **TERMS AND CONDITIONS OF INSTALLATION:**
   Not applicable.
20. TERMS AND CONDITIONS OF REPAIR PARTS INDICATING DATE OF PARTS PRICE LISTS AND ANY DISCOUNTS FROM LIST PRICES:
   Not applicable.

21. LIST OF SERVICE AND DISTRIBUTION POINTS:
   Not applicable.

22. LIST OF PARTICIPATING DEALERS:
   Not applicable.

23. PREVENTIVE MAINTENANCE:
   Not applicable.

24. SPECIAL ATTRIBUTES SUCH AS ENVIRONMENTAL ATTRIBUTES (E.G., RECYCLED CONTENT, ENERGY EFFICIENCY, AND/OR REDUCED POLLUTANTS):
   Not applicable.

25. DATA UNIVERSAL NUMBER SYSTEM (DUNS) NUMBER:
   80-547-6137

26. NOTIFICATION REGARDING REGISTRATION IN SYSTEM FOR AWARD MANAGEMENT (SAM) DATABASE:
   Trowbridge is registered in SAM database.

27. ADDITIONAL ITEMS:

A. 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.

B. 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: 805476137
Block 30: Type of Contractor: B – Other Than Small Business
Block 31: Woman-Owned Small Business - Yes
Block 37: Contractor's Taxpayer Identification Number (TIN): 65-1313681
Block 40: Veteran Owned Small Business (VOSB): No

4a. CAGE Code: 5CC18
4b. Contractor has registered with the System for Award Management

C. 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 or not 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 Telecommunication 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.
D. CONTRACTOR TASKS / SPECIAL REQUIREMENTS (C-FSS-370) (NOV 2003)

(a) Security Clearances: The Contractor may be required to obtain/possess varying levels of security clearances in the performance of orders issued under this contract. All costs associated with obtaining/possessing such security clearances should be factored into the price offered under the Multiple Award Schedule.

(b) 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.

(c) Certifications, Licenses and Accreditations: As a commercial practice, the Contractor may be required to obtain/possess any variety of certifications, licenses and accreditations for specific FSC/service code classifications offered. All costs associated with obtaining/possessing such certifications, licenses and accreditations should be factored into the price offered under the Multiple Award Schedule program.

(d) Insurance: As a commercial practice, the Contractor may be required to obtain/possess insurance coverage for specific FSC/service code classifications offered. All costs associated with obtaining/possessing such insurance should be factored into the price offered under the Multiple Award Schedule program.

(e) 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.

(f) Organizational Conflicts of Interest: Where there may be an organizational conflict of interest as determined by the ordering agency, the Contractor’s participation in such order may be restricted in accordance with FAR Part 9.5.

(g) Documentation/Standards: The Contractor may be requested to provide products or services in accordance with rules, regulations, OMB orders, standards and documentation as specified by the agency’s order.

(h) Data/Deliverable Requirements: Any required data/deliverables at the ordering level will be as specified or negotiated in the agency’s order.

(i) Government-Furnished Property: As specified by the agency’s order, the Government may provide property, equipment, materials or resources as necessary.

(j) Availability of Funds: Many Government agencies’ operating funds are appropriated for a specific fiscal year. Funds may not be presently available for any orders placed
under the contract or any option year. The Government’s obligation on orders placed under this contract is contingent upon the availability of appropriated funds from which payment for ordering purposes can be made. No legal liability on the part of the Government for any payment may arise until funds are available to the ordering Contracting Officer.

(k) Overtime: For professional services, the labor rates in the Schedule should not vary by virtue of the Contractor having worked overtime. For services applicable to the Service Contract Act (as identified in the Schedule), the labor rates in the Schedule will vary as governed by labor laws (usually assessed a time and a half of the labor rate).

E. 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:

1. Manufacturer;
2. Manufacturer's Part Number; and
3. Product categories.

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

F. 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-

1. 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));
2. The ordering activity contracting officer has determined the price for the items not on the Federal Supply Schedule is fair and reasonable;
3. The items are clearly labeled on the order as items not on the Federal Supply Schedule; and
4. All clauses applicable to items not on the Federal Supply Schedule are included in the order.
G. **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).

H. **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.

I. **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.

J. **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 ___X___
No ________

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): __________________

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

K. 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—

(1) For such period as the laws of the State in which this contract is to be performed prescribe; or

(2) 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.
The prices, terms and conditions stated under Special Item Number 518210C 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.

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

<table>
<thead>
<tr>
<th>SIN Description</th>
<th>Sub-Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Commerially available cloud computing services</td>
<td>1. <strong>Software as a Service (SaaS)</strong>: Consumer uses provider’s applications on cloud infrastructure. Does not manage/control platform or infrastructure. Limited application level configuration may be available.</td>
</tr>
<tr>
<td>● Meets the National Institute for Standards and Technology (NIST) definition of Cloud Computing essential characteristics</td>
<td>2. <strong>Platform as a Service (PaaS)</strong>: 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.</td>
</tr>
<tr>
<td>● Open to all deployment models (private, public, community or hybrid), vendors specify deployment models</td>
<td></td>
</tr>
</tbody>
</table>
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.

### 2. DESCRIPTION OF CLOUD COMPUTING SERVICES AND PRICING

#### a. Service Description Requirements for Listing Contractors

The description requirements below are in addition to the overall Schedule 70 evaluation criteria described in SCP-FSS-001, SCP-FSS-004 and other relevant publications.

Refer to overall Schedule 70 requirements for timelines related to description and other schedule updates, including but not limited to clauses 552.238-81 – section E and clause I-FSS-600.

Table 2 summarizes the additional Contractor-provided description requirements for services proposed under the Cloud Computing Services SIN. All mandatory description requirements must be complete, and adequate according to evaluation criteria.

In addition, there is one “Optional” reporting descriptions which exists to provide convenient service selection by relevant criteria. Where provided, optional description requirements must be complete and adequate according to evaluation criteria:

- The NIST Service Model provides sub-categories for the Cloud SIN and is strongly encouraged, but not required. The Service Model based sub-categories provide this SIN with a structure to assist ordering activities in locating and comparing services of interest. Contractors may optionally select the single service model most closely corresponding to the specific service offering.

- If a sub-category is selected it will be evaluated with respect to the NIST Service Model definitions and guidelines in “Guidance for Contractors”.

#### Table 2: Cloud Service Description Requirements

<table>
<thead>
<tr>
<th>#</th>
<th>Description Requirement</th>
<th>Reporting Type</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Provide a brief written description of how the proposed cloud computing services satisfies each individual essential NIST Characteristic</td>
<td>Mandatory</td>
<td>The cloud service must be capable of satisfying each of the five NIST essential Characteristics as outlined in NIST Special Publication 800-145. See ‘GUIDANCE FOR CONTRACTORS: NIST Essential Characteristics’ below in this document for detailed overall direction, as well as guidance on inheriting essential characteristics.</td>
</tr>
<tr>
<td>2</td>
<td>Select NIST deployment models for the cloud computing service proposed.</td>
<td>Mandatory</td>
<td>Contractors must select at least one NIST deployment model as outlined in NIST Special Publication 800-145 describing how the proposed cloud computing service is deployed. Select</td>
</tr>
</tbody>
</table>
multiple deployment models if the service is offered in more than one deployment model. See ‘GUIDANCE FOR CONTRACTORS: NIST Deployment Model’ below in this document for detailed direction on how to best categorize a service for the NIST deployment models.

| 3 | Optionally select the most appropriate NIST service model that will be the designated sub-category, or may select no sub-category. | Optional | Contractor may select a single NIST Service model to sub-categorize the service as outlined in NIST Special Publication 800-145. Sub-category selection is optional but recommended. See ‘GUIDANCE FOR CONTRACTORS: NIST Service Model’ below in this document for detailed direction on how to best categorize a service for the NIST IaaS, PaaS, and SaaS service models. |

b. **Pricing of Cloud Computing Services**

All current pricing requirements for Schedule 70, including provision SCP-FSS-001 (Section III Price Proposal), SCP-FSS-004 (Section III Price Proposal), and clause I-FSS-600 Contract Price Lists, apply. At the current time there is no provision for reducing or eliminating standard price list posting requirements to accommodate rapid cloud price fluctuations.

In addition to standard pricing requirements, all pricing models must have the core capability to meet the NIST Essential Cloud Characteristics, particularly with respect to on-demand self-service, while allowing alternate variations at the task order level at agency discretion, pursuant to the guidance on NIST Essential Characteristics.

3. **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 Computing 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.


4. **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**

   i. 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.

   ii. 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.

   iii. 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.

   iv. 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.

   v. 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 800-122 and OMB memos M-06-16 and M-07-16. 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.

- Profile, configuration and other metadata used to configure SaaS application services or PaaS platform services.

The key is to determine in advance the ownership of classes of data and the means by which Government owned data can be returned to the Government.

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.

1. 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.

5. GUIDANCE FOR CONTRACTORS

This section offers guidance for interpreting the Contractor Description Requirements in Table 2, including the NIST essential cloud characteristics, service models and deployment models. This section is not a list of requirements.

Contractor-specific definitions of cloud computing characteristics and models or significant variances from the NIST essential characteristics or models are discouraged and will not be considered in the scope of this SIN or accepted in response to Factors for Evaluation. The only applicable cloud characteristics, service model/subcategories and deployment models for this SIN will be drawn from the NIST 800-145 special publication. Services qualifying for listing as cloud computing services under this SIN must substantially satisfy the essential characteristics of cloud computing as documented in the NIST Definition of Cloud Computing SP 800-145.

Contractors must select deployment models corresponding to each way the service can be deployed. Multiple deployment model designations for a single cloud service are permitted but at least one deployment model must be selected.

In addition, contractors submitting services for listing under this SIN are encouraged to select a sub-category for each service proposed under this SIN with respect to a single principal NIST cloud service model that most aptly characterizes the service. Service model categorization is optional.

Both service and deployment model designations must accord with NIST definitions. Guidance is offered in this document on making the most appropriate selection.

a. NIST Essential Characteristics

<table>
<thead>
<tr>
<th>General Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIST’s essential cloud characteristics provide a consistent metric for whether a service is eligible for inclusion in this SIN. It is understood that due to legislative, funding and other constraints that government entities cannot always leverage a cloud service to the extent that all NIST essential characteristics are commercially available. For the purposes</td>
</tr>
</tbody>
</table>
of the Cloud SIN, meeting the NIST essential characteristics is determined by whether each essential capability of the commercial service is available for the service, whether or not the Ordering Activity actually requests or implements the capability. The guidance in Table 3 offers examples of how services might or might not be included based on the essential characteristics, and how the Contractor should interpret the characteristics in light of current government contracting processes.

Table 3: Guidance on Meeting NIST Essential Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Capability</th>
<th>Guidance</th>
</tr>
</thead>
</table>
| On-demand self-service  | • Ordering activities can directly provision services without requiring Contractor intervention.  
                           | • This characteristic is typically implemented via a service console or programming interface for provisioning | Government procurement guidance varies on how to implement on-demand provisioning at this time. Ordering activities may approach on-demand in a variety of ways, including “not-to-exceed” limits, or imposing monthly or annual payments on what are essentially on demand services.  
                           |                                                                                           | Services under this SIN must be capable of true on-demand self-service, and ordering activities and Contractors must negotiate how they implement on demand capabilities in practice at the task order level:  
                           |                                                                                           | • Ordering activities must specify their procurement approach and requirements for on-demand service  
                           |                                                                                           | • Contractors must propose how they intend to meet the approach  
                           |                                                                                           | • Contractors must certify that on-demand self-service is technically available for their service should procurement guidance become available. |
| Broad Network Access    | • Ordering activities are able to access services over standard agency networks  
                           | • Service can be accessed and consumed using standard devices such as browsers, tablets and mobile phones | Broad network access must be available without significant qualification and in relation to the deployment model and security domain of the service  
                           |                                                                                           | • Contractors must specify any ancillary activities, services or equipment required to access cloud services or integrate cloud with other cloud or non-cloud networks and services. For example, a private cloud might require an Ordering Activity to purchase or provide a dedicated router, etc. which is |

Contract # GS-35F-051AA
| Resource Pooling       | • Pooling distinguishes cloud services from offsite hosting.  
|                       | • Ordering activities draw resources from a common pool maintained by the Contractor.  
|                       | • Resources may have general characteristics such as regional location.  
|                       | acceptable but should be indicated by the Contractor.  
| Rapid Elasticity      | • Rapid provisioning and de-provisioning commensurate with demand.  
|                       | • Rapid elasticity is a specific demand-driven case of self-service.  
|                       | • Procurement guidance for on-demand self-service applies to rapid elasticity as well, i.e. rapid elasticity must be technically available but ordering activities and Contractors may mutually negotiate other contractual arrangements for procurement and payment.  
|                       | • ‘Rapid’ should be understood as measured in minutes and hours, not days or weeks.  
|                       | • Elastic capabilities by manual request, e.g. via a console operation or programming interface call, are required.  
|                       | • Automated elasticity, which is driven dynamically by system load, etc. is optional. Contractors must specify whether automated demand-driven elasticity is
| Measured Service | • Measured service should be understood as a reporting requirement that enables an Ordering Activity to control their use in cooperation with self service | • Procurement guidance for on-demand self-service applies to measured service as well, i.e. rapid elasticity must be technically available but ordering activities and Contractors may mutually designate other contractual arrangements.  
• Regardless of specific contractual arrangements, reporting must indicate actual usage, be continuously available to the Ordering Activity, and provide meaningful metrics appropriate to the service measured  
• Contractors must specify that measured service is available and the general sort of metrics and mechanisms available |

### Inheriting Essential Characteristics
Cloud services may depend on other cloud services, and cloud service models such as PaaS and SaaS are able to inherit essential characteristics from other cloud services that support them. For example, a PaaS platform service can inherit the broad network access made available by the IaaS service it runs on, and in such a situation would be fully compliant with the broad network access essential characteristic. Services inheriting essential characteristics must make the inherited characteristic fully available at their level of delivery to claim the relevant characteristic by inheritance.

Inheriting characteristics does not require the inheriting provider to directly bundle or integrate the inherited service, but it does require a reasonable measure of support and identification. For example, the Ordering Activity may acquire an IaaS service from “Provider A” and a PaaS service from “Provider B”. The PaaS service may inherit broad network access from “Provider A” but must identify and support the inherited service as an acceptable IaaS provider.

### Assessing Broad Network Access
Typically, broad network access for public deployment models implies high bandwidth access from the public internet for authorized users. In a private cloud deployment internet access might be considered broad access, as might be access through a dedicated shared high bandwidth network connection from the Ordering Activity, in accord with the private nature of the deployment model.

### Resource Pooling and Private Cloud
All cloud resource pools are finite, and only give the appearance of infinite resources when sufficiently large, as is sometimes the case with a public cloud. The resource pool supporting a
private cloud is typically smaller with more visible limits. A finite pool of resources purchased as a private cloud service qualifies as resource pooling so long as the resources within the pool can be dynamically allocated to the ultimate users of the resource, even though the pool itself appears finite to the Ordering Activity that procures access to the pool as a source of dynamic service allocation.

b. NIST Service Model

The Contractor may optionally document the service model of cloud computing (e.g. IaaS, PaaS, SaaS, or a combination thereof, that most closely describes their offering, using the definitions in The NIST Definition of Cloud Computing SP 800-145. The following guidance is offered for the proper selection of service models.

NIST’s service models provide this SIN with a set of consistent sub-categories to assist ordering activities in locating and comparing services of interest. Service model is primarily concerned with the nature of the service offered and the staff and activities most likely to interact with the service. Contractors should select a single service model most closely corresponding to their proposed service based on the guidance below. It is understood that cloud services can technically incorporate multiple service models and the intent is to provide the single best categorization of the service.

Contractors should take care to select the NIST service model most closely corresponding to each service offered. Contractors should not invent, proliferate or select multiple cloud service model sub-categories to distinguish their offerings, because ad-hoc categorization prevents consumers from comparing similar offerings. Instead vendors should make full use of the existing NIST categories to the fullest extent possible.

For example, in this SIN an offering commercially marketed by a Contractor as “Storage as a Service” would be properly characterized as Infrastructure as a Service (IaaS), storage being a subset of infrastructure. Services commercially marketed as “LAMP as a Service” or “Database as a Service” would be properly characterized under this SIN as Platform as a Service (PaaS), as they deliver two kinds of platform services. Services commercially marketed as “Travel Facilitation as a Service” or “Email as a Service” would be properly characterized as species of Software as a Service (SaaS) for this SIN. However, Contractors can and should include appropriate descriptions (include commercial marketing terms) of the service in the full descriptions of the service’s capabilities.

When choosing between equally plausible service model sub-categories, Contractors should consider several factors:

1) **Visibility to the Ordering Activity.** Service model sub-categories in this SIN exist to help Ordering Activities match their requirements with service characteristics. Contractors should select the most intuitive and appropriate service model from the point of view of an Ordering Activity.

2) **Primary Focus of the Service.** Services may offer a mix of capabilities that span service models in the strict technical sense. For example, a service may offer both IaaS
capabilities for processing and storage, along with some PaaS capabilities for application deployment, or SaaS capabilities for specific applications. In a service mix situation, the Contractor should select the service model that is their primary focus. Alternatively, contractors may choose to submit multiple service offerings for the SIN, each optionally and separately subcategorized.

3) **Ordering Activity Role.** Contractors should consider the operational role of the Ordering Activity’s primary actual consumer or operator of the service. For example, services most often consumed by system managers are likely to fit best as IaaS; services most often consumed by application deployers or developers as PaaS, and services most often consumed by business users as SaaS.

4) **Lowest Level of Configurability.** Contractors can consider IaaS, PaaS and SaaS as an ascending hierarchy of complexity, and select the model with the lowest level of available Ordering Activity interaction. As an example, virtual machines are an IaaS service often bundled with a range of operating systems, which are PaaS services. The Ordering Activity usually has access to configure the lower level IaaS service, and the overall service should be considered IaaS. In cases where the Ordering Activity cannot configure the speed, memory, network configuration, or any other aspect of the IaaS component, consider categorizing as a PaaS service.

Cloud management and cloud broker services should be categorized based on their own characteristics and not those of the other cloud services that are their targets. Management and broker services typically fit the SaaS service model, regardless of whether the services they manage are SaaS, PaaS or IaaS. Use Table 3 to determine which service model is appropriate for the cloud management or cloud broker services, or, alternately choose not to select a service model for the service.

The guidance in Table 3 offers examples of how services might be properly mapped to NIST service models and how a Contractor should interpret the service model sub-categories.

Table 3: Guidance on Mapping to NIST Service Models

<table>
<thead>
<tr>
<th>Service Model</th>
<th>Guidance</th>
</tr>
</thead>
</table>
| Infrastructure as a Service (IaaS) | Select an IaaS model for service based equivalents of hardware appliances such as virtual machines, storage devices, routers and other physical devices.  
  - IaaS services are typically consumed by system or device managers who would configure physical hardware in a non-cloud setting  
  - The principal customer interaction with an IaaS service is provisioning then configuration, equivalent to procuring and then configuring a physical device.  
  Examples of IaaS services include virtual machines, object storage, disk block storage, network routers and firewalls, software defined networks. |
Gray areas include services that emulate or act as dedicated appliances and are directly used by applications, such as search appliances, security appliances, etc. To the extent that these services or their emulated devices provide direct capability to an application they might be better classified as Platform services (PaaS). To the extent that they resemble raw hardware and are consumed by other platform services they are better classified as IaaS.

| Platform as a Service (PaaS) | Select a PaaS model for service based equivalents of complete or partial software platforms. For the purposes of this classification, consider a platform as a set of software services capable of deploying all or part of an application.  
- A complete platform can deploy an entire application. Complete platforms can be proprietary or open source  
- Partial platforms can deploy a component of an application which combined with other components make up the entire deployment  
- PaaS services are typically consumed by application deployment staff whose responsibility is to take a completed agency application and cause it to run on the designated complete or partial platform service. The principal customer interaction with a PaaS service is deployment, equivalent to deploying an application or portion of an application on a software platform service.  
- A limited range of configuration options for the platform service may be available.  
Examples of complete PaaS services include:  
- A Linux/Apache/MySQL/PHP (LAMP) platform ready to deploy a customer PHP application,  
- A Windows .Net platform ready to deploy a .Net application,  
- A custom complete platform ready to develop and deploy a customer application in a proprietary language  
- A multiple capability platform ready to deploy an arbitrary customer application on a range of underlying software services.  
The essential characteristic of a complete PaaS is defined by the customer’s ability to deploy a complete custom application directly on the platform. PaaS includes partial services as well as complete platform services. Illustrative examples of individual platform enablers or components include:  
- A database service ready to deploy a customer’s tables, views and procedures,  
- A queuing service ready to deploy a customer’s message definitions  
- A security service ready to deploy a customer’s constraints and target applications for continuous monitoring  
The essential characteristic of an individual PaaS component is the customer’s ability to deploy their unique structures and/or data onto the component for a partial platform function. Note that both the partial and complete PaaS examples all have two things in
common:
- They are software services, which offer significant core functionality out of the box
  They must be configured with customer data and structures to deliver results
As noted in IaaS, operating systems represent a grey area in that OS is definitely a platform service, but is typically bundled with IaaS infrastructure. If your service provides an OS but allows for interaction with infrastructure, please sub-categorize it as IaaS. If your service “hides” underlying infrastructure, consider it as PaaS.

Software as a Service (SaaS)
Select a SaaS model for service based equivalents of software applications.
- SaaS services are typically consumed by business or subject-matter staff who would interact directly with the application in a non-cloud setting
- The principal customer interaction with a SaaS service is actual operation and consumption of the application services the SaaS service provides.

Some minor configuration may be available, but the scope of the configuration is limited to the scope and then the permissions of the configuring user. For example, an agency manager might be able to configure some aspects of the application for their agency but not all agencies. An agency user might be able to configure some aspects for themselves but not everyone in their agency. Typically, only the Contractor would be permitted to configure aspects of the software for all users.

Examples of SaaS services include email systems, business systems of all sorts such as travel systems, inventory systems, etc., wiki’s, websites or content management systems, management applications that allow a customer to manage other cloud or non-cloud services, and in general any system where customers interact directly for a business purpose.

Gray areas include services that customers use to configure other cloud services, such as cloud management software, cloud brokers, etc. In general, these sorts of systems should be considered SaaS, per guidance in this document.

c. Deployment Model
Deployment models (e.g. private, public, community, or hybrid) are not restricted at the SIN level and any specifications for a deployment model are the responsibility of the Ordering Activity.

Multiple deployment model selection is permitted, but at least one model must be selected. The guidance in Table 4 offers examples of how services might be properly mapped to NIST deployment models and how the Contractor should interpret the deployment model characteristics. Contractors should take care to select the range of NIST deployment models most closely corresponding to each service offered.
Note that the scope of this SIN does not include hardware or software components used to construct a cloud, only cloud capabilities delivered as a service, as noted in the Scope section.

### Table 4: Guidance for Selecting a Deployment Model

<table>
<thead>
<tr>
<th>Deployment Model</th>
<th>Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Cloud</td>
<td>The service is provided exclusively for the benefit of a definable organization and its components; access from outside the organization is prohibited. The actual services may be provided by third parties, and may be physically located as required, but access is strictly defined by membership in the owning organization.</td>
</tr>
<tr>
<td>Public Cloud</td>
<td>The service is provided for general public use and can be accessed by any entity or organization willing to contract for it.</td>
</tr>
<tr>
<td>Community Cloud</td>
<td>The service is provided for the exclusive use of a community with a definable shared boundary such as a mission or interest. As with private cloud, the service may be in any suitable location and administered by a community member or a third party.</td>
</tr>
<tr>
<td>Hybrid Cloud</td>
<td>The service is composed of one or more of the other models. Typically, hybrid models include some aspect of transition between the models that make them up, for example a private and public cloud might be designed as a hybrid cloud where events like increased load permit certain specified services in the private cloud to run in a public cloud for extra capacity, e.g. bursting.</td>
</tr>
</tbody>
</table>

### FACTORS FOR EVALUATION FOR IT SCHEDULE 70 CLOUD COMPUTING SERVICES SIN

The following technical evaluation factor applies in addition to the standard Schedule 70 evaluation factors outlined in CI-FSS-152 ADDITIONAL EVALUATION FACTORS and related documents and applies solely to the Cloud Computing Services SIN. A template will be provided at the time of solicitation refresh to complete the requested documentation.

### FACTOR - Cloud Computing Services Adherence to Essential Cloud Characteristics

Within a two page limitation for each cloud service submitted, provide a description of how the cloud computing service meets each of the five essential cloud computing characteristics as defined in described in National Institute of Standards and Technology (NIST) Special Publication 800-145 and subsequent versions of this publication. This standard specifies the definition of cloud computing for the use by Federal agencies. The cloud service must be capable of satisfying each of the five NIST essential Characteristics as follows:

- On-demand self-service
- Broad network access
• Resource Pooling
• Rapid Elasticity
• Measured Service

Refer to the ‘Guidance for Contractors’ section of the Terms & Conditions for the Cloud Computing Services SIN for guidance on meeting the NIST characteristics. For the purposes of the Cloud Computing Services SIN, meeting the NIST essential characteristics is concerned primarily with whether the underlying capability of the commercial service is available, whether or not an Ordering Activity actually requests or implements the capability.

**FACTOR – Cloud Computing Services Deployment Model**

For each cloud service submitted, provide a written description of how the proposed service meets the NIST definition of a particular deployment model (Public, Private, Community, or Hybrid), within a one half (1/2) page limitation for each designated deployment model of each cloud service submitted. Multiple deployment model selection is permitted, but at least one model must be indicated.

Refer to the ‘Guidance for Contractors’ section of the Terms & Conditions for the Cloud Computing Services SIN for guidance on identifying the appropriate deployment model according to the NIST service model definitions.

**FACTOR - Cloud Computing Services Service Model**

For each cloud computing service proposed to be categorized under a specific sub-category (IaaS, PaaS or SaaS), provide a written description of how the proposed service meets the NIST definition of that service model, within a half (1/2) page limitation for each cloud service submitted.

Refer to the ‘Guidance for Contractors’ section of the Terms & Conditions for the Cloud Computing Services SIN for guidance on categorizing the service into a sub-category according to the NIST service model definitions.

Note that it is not mandatory to select a sub-category, and therefore this factor for evaluation applies ONLY to cloud services proposed to fall under a specific sub-category. If no sub-category is selected, this factor does not need to be addressed. The two other factors (‘Adherence to Essential Cloud Characteristics’ and ‘Cloud Computing Services Deployment Model’) apply to all cloud services.
TERMS AND CONDITIONS APPLICABLE TO INFORMATION TECHNOLOGY (IT) PROFESSIONAL SERVICES
(SPECIAL ITEM NUMBER 54151S)

****NOTE: All non-professional labor categories must be incidental to, and used solely to support professional services, and cannot be purchased separately.

1. SCOPE

a. The prices, terms and conditions stated under Special Item Number 54151S Information Technology Professional 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 Incentives (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


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. INFORMATION TECHNOLOGY SERVICES
   Trowbridge & Trowbridge, LLC can provide a full range of Information Technology services listed below and can also provide contract workers to support existing opportunities.

   To order any of the following types of services a “Requirements Document” or “Statement of Work” needs to be provided to determine the cost of the effort involved.

   a. Facility Operation and Maintenance
      T&T can operate, maintain, and manage customer facilities. We can provide 24x7x365 help desk support and be the point of contact for customers nationwide. We can resolve
problems related to software and network infrastructure, remote access, upgrades, system configuration, and databases. We can diagnose and correct hardware problems, perform upgrades, install new hardware, and provide IT training.

We can operate, maintain, and manage the Network Operations Centers (NOC) and Application Hosting Environments (AHE). T&T can support the planning and implementation of IT infrastructure; network administration, access, and security; server management; disaster recovery planning and execution; inventory control; application system administration; workstation management; and IT training and education.

T&T can also support the infrastructure and provide services required to operate, maintain, and manage government telecommunication facilities, resources, and business functions. T&T’s infrastructure management services include support for configuration, operation, and maintenance of communication systems.

b. **Systems Development**

T&T can provide the full range of systems development service, including infrastructure engineering design and planning, development, implementation, integration, and operational support for network infrastructures.

We can perform systems development and integration support activities for existing and planned IT systems. Activities can include capturing functional, security, and performance requirements and developing logical and physical database models.

c. **Systems Analysis**

T&T can perform systems analysis on existing systems, troubleshoot data network systems, and provide periodic maintenance. We can design, modify, develop, and monitor customer systems and help develop procedures, processes, and policies governing the use of those systems.

We support systems development and sustainment; T&T can conduct systems analysis on legacy systems to determine their functionality and to gauge how best to implement new modifications without interfering with current operations.

d. **IT Strategy and Architecture (Automated Information Systems Services)**

T&T can provide guidance on the planning, development and implementation of new IT equipment. We can determine the needs of users and document operation practices. T&T can conduct program analysis related to business cases, cost-benefit analyses, stakeholder requirements, total cost of ownership, and cost effectiveness. We also support accounting and administration capabilities.

We coordinate with customers regarding IT strategy and architecture, with the goal of maintaining interoperability between future and existing systems. These systems included web-based software, COTS and GOTS applications, and custom applications. T&T’s
support complies with SEI CMMI Level 3-equivalent System Engineering Methodology (SEM), spanning the full spectrum of systems integration services.

e. Programming
T&T designs, programs, and deploys new software, as well as upgrades, for application suites. Our programming support includes requirements engineering, architecture design, software development, quality assurance (QA), and application testing. T&T uses a Software Development Life Cycle (SDLC) process that dovetails with industry standards and operates in a CMMI Level 3 equivalent environment.

Our full lifecycle programming support includes administrative and financial systems. In addition to programming, our software design and development services included feasibility, cost/benefit analysis, requirements analysis, functional and technical design, graphical user interface (GUI) development, testing, deployment, configuration management, development of systems/user documentation, system implementation, systems analysis, and final acceptance/turnover processing.

T&T also provides programming for voice switching systems, VoIP systems, and VoIP phones.

f. Cyber Security and Data Backup
T&T can design and implement cyber security approaches that include controls at each level. T&T can provide a site-specific remediation plan designed to protect affected assets from identified vulnerabilities. The plan includes processes for applying patches, upgrading operating systems or applications, or upgrading signature files for intrusion detection and anti-malware systems. We can perform duplication of production data to ensure the data’s availability and integrity. We can replicate information created to a backup facility to ensure continuity of operations. We provide contingency plans to operate all of the critical components of the infrastructure from backup locations in the event of an emergency/disaster. In addition, we can backup servers to tape.

We can manage and monitor workstations, server systems, and network infrastructure devices. T&T can provide customer-focused support for the Certification & Accreditation (C&A) of cyber security hardware and software. In addition, we can manage Public Key Infrastructure (PKI), that can serve as an enterprise-wide service that establishes a uniform method for creating trust and reliance attributes. We can provide users with information systems security awareness training. T&T also can support data backup systems and Storage Area Networks (SANs).

For telecommunications security and backup, T&T can survey all access control points, perform testing of the copper facilities, and identify locations where additional work may be needed. We can coordinate employee clearances and establish procedures for key control/lock combination measures and end-of-day security checks. We can employ password protection and other measures to ensure authorized personnel have access to switching equipment and systems. We also can perform inspections and data backups for voice switching systems to ensure data integrity.
g. **Data Conversion**

We can provide dedicated data conversion, data backup, and data storage support using MS SQL Server and SharePoint Portal Server and other services. We can maintain all aspects of database servers, including backup/recovery functions, tools necessary for operation and monitoring, and logical and physical design of all databases.

T&T can perform database design, development, maintenance, conversion, and administration tasks using Sybase, System 2000, Informix, Oracle, SQL, SQR, MS Access, dBase, and other data base tools.

h. **Computer Aided Design/Computer Aided Manufacturing (CAD/CAM)**

T&T can provide CAD/CAM support, to include capturing new builds using GPS, converting the information into a valid CAD format, and providing configuration management functional support to continue standardized planning, design, implementation, installation, operation, maintenance, and documentation of the supported infrastructure. We also can create and update drawings of all information systems circuits, lines, and systems in the customer’s CAD program. T&T can provide drawing changes and updates and establish new drawings using CAD/CAM support tools.

i. **Telecommunications and IT Network Management**

T&T can perform IT and telecommunication network management operations. We can provide network services that include security, VoIP, video communications, unified messaging systems, application delivery systems, end user system deployment, and third level support. We can perform installation and maintenance for enterprise wide area network (WAN) and local area networks (LANs).

We can operate, maintain, and configure customer Dial Center Office (DCO) Switching Systems, remote switching terminals, and voice mail systems. We can operate and maintain VoIP Telephony Voice Gateways. We can provide operational support for system connectivity to the network via PRI trunks and LAN network. We maintain network integrity and continuous operation of systems. We can respond to network requirements as specified by network-oriented local service requests. T&T can manage, operate, maintain, and repair outside cable plants.

j. **Web Based Subscription**

We can provide a Web-based subscription interface for users to communicate with each other, as well as Internet filtering to prevent access to unauthorized Web sites. In addition, we can perform regular penetration tests on all Intranet and Internet security devices to ensure compliance with federal requirements. This testing ensures that we have designed Internet content filtering and network services to be secure against common vulnerabilities.

T&T can perform web-based subscription support, by developing applications using WebLogic, Oracle Business Intelligence, Apache Web Server, Tomcat, and other tools.
k. Other IT and Telecommunications

Other IT and telecommunication services provided by T&T include enhanced support of customer infrastructure required to manage and operate telecommunication resources and business functions. Our personnel can provide configuration management support for standardized planning, design, implementation, installation, O&M, and documentation of all communications and IT systems. We can interface with customer logistics personnel regarding the location and condition of network components, the performance of site surveys, the collection of user requirements, and the verification of power, grounding, and ventilation needs for prospective network hub/switch locations in government facilities.

T&T can provide performance-based desktop configuration management services for users. Our capabilities extended across all major platforms and architectures, including databases, development tools, and applications. We can perform management support for IT policy development, strategic planning, capital planning and investment control, resource management, and special projects. In addition, T&T can support the administration of wireless communications for cellular, radio, paging, and Blackberry devices.
Vendor suitability for offering services through the new Health IT SIN must be in accordance with the following laws and standards when applicable to the specific task orders, including but not limited to:

- Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH)
- The Health Insurance Portability and Accountability Act of 1996 (HIPAA)
- National Institute of Standards and Technology (NIST) Federal Information Processing Standards (FIPS) and Special Publications
- Federal Information Security Management Act (FISMA) of 2002

1. SCOPE

a. The labor categories, prices, terms and conditions stated under Special Item Number 54151HEAL Health Information Technology Services apply exclusively to Health IT Services within the scope of this Information Technology Schedule.

b. This SIN is limited to Health IT Services only. Software and hardware products are out of scope. Hardware and software can be acquired through different Special Item Numbers on IT Schedule 70.

c. This SIN provides ordering activities with access to Health IT services.

d. Health IT Services provided under this SIN shall comply with all Healthcare certifications and industry standards as applicable at the task order level.

e. The Contractor shall provide services at the Contractor’s facility and/or at the

2. ORDER

a. Agencies may use written orders, Electronic Data Interchange (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


5. 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 (Deviation – May 2003) Rights in Data – General, may apply.

6. RESPONSIBILITIES OF THE ORDERING ACTIVITY

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

7. INDEPENDENT CONTRACTOR

All Health IT 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.

8. 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.

9. INVOICES
The Contractor, upon completion of the work ordered, shall submit invoices for IT 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.

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

11. 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.

12. 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.

13. DESCRIPTION OF IT SERVICES AND PRICING
a. The Contractor shall provide a description of each type of IT Service offered under Special Item Numbers 54151S IT 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 Services shall be in accordance with the Contractor’s customary commercial practices; e.g., hourly rates, monthly rates, term rates, and/or fixed prices.
## GSA Offered Pricing

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| 54151HEAL | Health IT Technical Writer/Editor II | N/A | N/A | $80.50 | $81.71 | $82.94 |
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| 54151HEAL | Health IT Test Specialist I | N/A | N/A | $57.20 | $58.06 | $58.93 |
| 54151HEAL | Health IT Test Specialist II | N/A | N/A | $112.88 | $114.57 | $116.29 |
| 54151HEAL | Health IT Test Specialist III | N/A | N/A | $156.19 | $158.53 | $160.91 |
| 54151HEAL | Health IT Training Specialist | N/A | N/A | $112.14 | $113.83 | $115.53 |
DESCRIPTION OF PROFESSIONAL SERVICES LABOR CATEGORIES:

SIN 518210C

Commercial Job Title: Cloud Architect I

Functional Responsibility: Applies knowledge and expertise designing, deploying, and supporting systems in cloud environments to provide oversight and management of system administrators, system engineers, developers, or other technical staff. Designs Information Technology (IT) solutions involving cloud technologies and cloud based environments. Develops and maintains project documentation. Coordinates project related procurements, develops project schedules, and manages project and contract resources. Responsible for project deliverables. Provides third-level support for network related issues. Must have excellent written and oral communications skills, and be able to present technical concepts to non-technical audiences. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience, and 4 years’ experience.

Commercial Job Title: Cloud Architect II

Functional Responsibility: Applies knowledge and expertise designing, deploying, and supporting systems in cloud environments to provide oversight and management of system administrators, system engineers, developers, or other technical staff. Designs IT solutions involving cloud technologies and cloud based environments. Develops and maintains project documentation. Coordinates project related procurements, develops project schedules, and manages project and contract resources. Responsible for project deliverables. Provides third-level support for network related issues. Must have excellent written and oral communications skills, and be able to present technical concepts to non-technical audiences. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience, and 6 years’ experience.

Commercial Job Title: Cloud Architect III

Functional Responsibility: Applies knowledge and expertise designing, deploying, and supporting systems in cloud environments to provide oversight and management of system administrators, system engineers, developers, or other technical staff. Designs IT solutions involving cloud technologies and cloud based environments. Develops and maintains project documentation. Coordinates project related procurements, develops project schedules, and manages project and contract resources. Responsible for project deliverables. Provides third level support for network related issues. Must have excellent written and oral communications skills, and be able to present technical concepts to non-technical audiences. May supervise and/or provide technical direction to one or more subordinates or manage a team.
General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience, and 8 years’ experience.

Commercial Job Title: Cloud Engineer I

Functional Responsibility: Applies knowledge and expertise designing, deploying, and supporting systems in cloud environments across multiple disciplines including systems engineering, security engineering, software engineering, database administration, database development, and/or network engineering. Designs IT solutions involving cloud technologies and cloud based environments. Provides cloud services expertise, including open source technology, software development, system engineering, scripting languages and multiple cloud provider environments. May support designing, developing, and deploying Web services in the cloud. Has knowledge and experience with programming languages such as Java, Python and Ruby and a broad range of cloud technologies which may include OpenStack, Linux, Amazon Web Services, Google compute engine, Microsoft Azure and Docker. Supports and provides guidance for implementation of APIs, orchestration, automation, DevOps and databases. Develops and maintains project documentation. Responsible for project deliverables. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience, and 4 years’ experience.

Commercial Job Title: Cloud Engineer II

Functional Responsibility: Applies knowledge and expertise designing, deploying, and supporting systems in cloud environments across multiple disciplines including systems engineering, security engineering, software engineering, database administration, database development, and/or network engineering. Designs IT solutions involving cloud technologies and cloud based environments. Provides cloud services expertise, including open source technology, software development, system engineering, scripting languages, and multiple cloud provider environments. May support designing, developing, and deploying Web services in the cloud. Has knowledge and experience with programming languages such as Java, Python and Ruby and a broad range of cloud technologies which may include OpenStack, Linux, Amazon Web Services, Google compute engine, Microsoft Azure and Docker. Supports and provides guidance for implementation of APIs, orchestration, automation, DevOps and databases. Develops and maintains project documentation. Responsible for project deliverables. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience, and 6 years’ experience.

Commercial Job Title: Cloud Engineer III

Functional Responsibility: Applies knowledge and expertise designing, deploying, and supporting systems in cloud environments across multiple disciplines including systems engineering, security engineering, software engineering, database administration, database development, and/or network engineering. Designs IT solutions involving cloud technologies
and cloud based environments. Provides cloud services expertise, including open source technology, software development, system engineering, scripting languages and multiple cloud provider environments. May support designing, developing, and deploying Web services in the cloud. Has knowledge and experience with programming languages such as Java, Python and Ruby and a broad range of cloud technologies which may include OpenStack, Linux, Amazon Web Services, Google compute engine, Microsoft Azure and Docker. Supports and provides guidance for implementation of APIs, orchestration, automation, DevOps and databases. Develops and maintains project documentation. Responsible for project deliverables. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience, and 8 years’ experience.

**Commercial Job Title:** Cloud Program Business Analyst I

**Functional Responsibility:** Performs analysis and research for projects involving cloud technologies and/or in support of business processes and supporting systems deployed in or supporting cloud environments. Contributes to deliverables and performance metrics where applicable. Analyzes stakeholder requirements as well as applicable industry, agency, and Federal guidelines and requirements. Develops documentation and work products which may include systems scope statements, business process models, business process descriptions, workflow diagrams, functional and non-functional requirements, program performance documentation, end user documentation, testing documentation, training documentation, and other internal work products and deliverable documentation. May support governance bodies (e.g., Change Management and Configuration Control Boards) in analyzing and formulating proposed changes, analyzing the impact of proposed changes, and providing overall support for the governance process. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 1 year experience.

**Commercial Job Title:** Cloud Program Business Analyst II

**Functional Responsibility:** Performs analysis and research for projects involving cloud technologies and/or in support of business processes and supporting systems deployed in or supporting cloud environments. Contributes to deliverables and performance metrics where applicable. Analyzes stakeholder requirements as well as applicable industry, agency, and Federal guidelines and requirements. Develops documentation and work products which may include systems scope statements, business process models, business process descriptions, workflow diagrams, functional and non-functional requirements, program performance documentation, end user documentation, testing documentation, training documentation, and other internal work products and deliverable documentation. May support governance bodies (e.g., Change Management and Configuration Control Boards) in analyzing and formulating proposed changes, analyzing the impact of proposed changes, and providing overall support and advisory services for the governance process. Provides consultation on complex IT projects, helping translate functional/business needs into IT requirements while considering the business implications of the application of technology to the current and future IT environments,
particularly the impact of implementing cloud-based technologies. Provides liaison support between IT and the functional stakeholders. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 3 years’ experience.

**Commercial Job Title:** Cloud Program Business Analyst III

**Functional Responsibility:** Performs analysis and research for projects involving cloud technologies and/or in support of business processes and supporting systems deployed in or supporting cloud environments. Contributes to deliverables and performance metrics where applicable. Analyzes stakeholder requirements as well as applicable industry, agency, and Federal guidelines and requirements. Develops documentation and work products which may include systems scope statements, business process models, business process descriptions, workflow diagrams, functional and non-functional requirements, program performance documentation, end user documentation, testing documentation, training documentation, and other internal work products and deliverable documentation. May support governance bodies (e.g., Change Management and Configuration Control Boards) in analyzing and formulating proposed changes, analyzing the impact of proposed changes, and providing overall support and advisory services for the governance process. Provides consultation on complex IT projects, helping translate functional/business needs into IT requirements while considering the business implications of the application of technology to the current and future IT environments, particularly the impact of implementing cloud-based technologies. Provides liaison support between IT and the functional stakeholders. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 5 years’ experience.

**Commercial Job Title:** Cloud Program Cybersecurity Specialist I

**Functional Responsibility:** Provides support for implementation of enterprise and system security requirements for systems involving cloud technologies and deployed in or supporting cloud environments. Supports analysis of user, policy, and regulatory requirements and resource demands and coordination with customer organization to establish and define programs, resources, and risks. Provides monitoring, auditing, scanning, and other technical analysis and reporting as needed for compliance with security requirements. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 1 year experience.

**Commercial Job Title:** Cloud Program Cybersecurity Specialist II

**Functional Responsibility:** Implements enterprise and system security requirements for systems involving cloud technologies and deployed in or supporting cloud environments. Analyzes user,
policy, and regulatory requirements and resource demands and coordinates with customer 
organization to establish and define programs, resources, and risks. Provides strategy for and 
performs monitoring, auditing, scanning, and other technical analysis and reporting as needed for 
compliance with security requirements. May supervise and/or provide technical direction to one 
or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience 
and 3 years’ experience.

**Commercial Job Title:** Cloud Program Cybersecurity Specialist III

**Functional Responsibility:** Provides strategy and support for implementation of enterprise and 
system security requirements for systems involving cloud technologies and deployed in or 
supporting cloud environments. Analyzes user, policy, and regulatory requirements and resource 
demands and coordinates with customer organization to establish and define programs, 
resources, and risks. Provides strategy for and performs monitoring, auditing, scanning, and 
other technical analysis and reporting as needed for compliance with security requirements. May 
supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience 
and 5 years’ experience.

**Commercial Job Title:** Cloud Program Database Specialist I

**Functional Responsibility:** Assists in design, maintenance, and/or administration of databases 
in a cloud environment. Applies knowledge and experience with database technologies, 
development methodologies, and front-end (e.g., COGNOS)/back-end programming languages 
(e.g., SQL). May develop and maintain data models and data dictionaries. Performs database 
programming and supports systems design. Develops processes and scripts to support extraction, 
transformation, and loading of data. Complies with database standards and procedures. May 
support database backup and recovery tasks. Assists and provides guidance to users on accessing 
various databases. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience 
and 2 years’ experience.

**Commercial Job Title:** Cloud Program Database Specialist II

**Functional Responsibility:** Designs, maintains, and/or administers databases in a cloud 
environment. Applies knowledge and experience with database technologies, development 
methodologies, and front-end (e.g., COGNOS)/back-end programming languages (e.g., SQL). 
May develop and maintain data models and data dictionaries. Performs database programming 
and supports systems design. Develops processes and scripts to support extraction, 
transformation, and loading of data. Complies with database standards and procedures. Assists 
and provides guidance to users on accessing various databases. Supports QC and auditing of
databases to ensure accuracy and appropriate use of data. May design, implement, and maintains complex databases, with support for database environment and scripts, access methods, access time, device allocation, validation checks, organization, protection and security, documentation, and statistical methods. Supports planning and projection for long-range requirements for database administration and design in conjunction with other managers in the information systems function. May devise and implement overall strategies for data backup and recovery, data replication, and disaster recovery. Provides expertise for file design and storage, and integration of systems through database design. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 4 years’ experience.

**Commercial Job Title:** Cloud Program Database Specialist III

**Functional Responsibility:** Provides senior-level support and leadership for designs, maintenance, and/or administration of databases in a cloud environment. Applies knowledge and experience with database technologies, development methodologies, and front-end (e.g., COGNOS)/back-end programming languages (e.g., SQL). May develop and maintain data models and data dictionaries. Performs database programming and supports systems design. Devises overall strategies for and develops processes and scripts to support extraction, transformation, and loading of data. Complies with database standards and procedures. Assists and provides guidance to users on accessing various databases. Supports QC and auditing of databases in a to ensure accuracy and appropriate use of data. Designs, implements, and maintains complex databases, with support for database environment and scripts, access methods, access time, device allocation, validation checks, organization, protection and security, documentation, and statistical methods. Supports planning and projection for long-range requirements for database administration and design in conjunction with other managers in the information systems function. May devise and implement overall strategies for data backup and recovery, data replication, and disaster recovery. Provides expertise for file design and storage, and integration of systems through database design. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 6 years’ experience.

**Commercial Job Title:** Cloud Program Documentation Specialist

**Functional Responsibility:** Gathers, analyzes, and composes technical information. Conducts research and ensures the use of proper technical terminology for projects involving cloud technologies. Translates technical information into clear, readable documents to be used by technical and non-technical personnel.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 1 year experience.
Commercial Job Title: Cloud Program Help Desk Specialist I

Functional Responsibility: Provides first and second-tier support to end users for either PC, server, or mainframe applications and hardware for programs involving cloud technologies. Fulfills customer service requests as required. Responds to and diagnoses problems through discussions with users. Includes problem recognition, research, isolation, and resolution steps. May involve use of problem management database and help desk systems. May interact with network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. Escalates more complex problems. Assists in the evaluation of business problems, evaluates and recommends vendor packages, and implements required software. May assist in the evaluation of personnel end-user computing packages and equipment as well as in the implementation and testing of prototypes. Consults with client area management and staff regarding PC and LAN systems and equipment problems or malfunctions and recommends solutions. Generally, works under supervision of a team lead or manager.

General Experience/Education: Requires a High School degree and 1 year experience.

Commercial Job Title: Cloud Program Help Desk Specialist II

Functional Responsibility: Provides first and second-tier support to end users for either PC, server, or mainframe applications and hardware for programs involving cloud technologies. Fulfills customer service requests as required. Responds to and diagnoses problems through discussions with users. Includes problem recognition, research, isolation, and resolution steps. May involve use of problem management database and help desk systems. May interact with network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. Escalates more complex problems. Assists in the evaluation of business problems, evaluates and recommends vendor packages, and implements required software. May assist in the evaluation of personnel end-user computing packages and equipment as well as in the implementation and testing of prototypes. Consults with client area management and staff regarding PC and LAN systems and equipment problems or malfunctions and recommends solutions. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 2 years’ experience.

Commercial Job Title: Cloud Program Help Desk Specialist III

Functional Responsibility: Provides first and second-tier support to end users for either PC, server, or mainframe applications and hardware for programs involving cloud technologies. Fulfills customer service requests as required. Responds to and diagnoses problems through discussions with users. Includes problem recognition, research, isolation, and resolution steps. May involve use of problem management database and help desk systems. May interact with network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. Escalates more complex problems. Assists in the evaluation of business problems, evaluates and recommends vendor packages, and implements required software. May assist in the evaluation of personnel end-user computing
packages and equipment as well as in the implementation and testing of prototypes. Consults with client area management and staff regarding PC and LAN systems and equipment problems or malfunctions and recommends solutions. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 3 years’ experience.

**Commercial Job Title:** Cloud Program Manager

**Functional Responsibility:** Plans, organizes, and controls the overall activities of the contract and Task Orders (TOs) involving cloud technologies. Responsible for formulating and enforcing work standards, assigning contractor schedules, reviewing work discrepancies, supervising contract personnel, and communicating policies, purposes, and goals of an organization to subordinates. The Program Manager serves as primary client interface; confers with management on strategic issues; maximizes efficiency in achieving contract and Task Order cost, schedule, and technical quality parameters; performs and meets contract administrative requirements; and identifies and ensures the effectiveness of any corrective action resolution. In addition to management skills, the Program Manager directs and provides expertise for all phases of cloud technology program/projects from inception through completion across all Functional Areas. May also be responsible for serving as TO Project Manager for one or more TOs.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 10 years’ experience.

**Commercial Job Title:** Cloud Program Network Specialist I

**Functional Responsibility:** Provides support related to the design, development, and implementation of a network in cloud-based environments. Develops test strategies, devices, and systems. Assists with stress and performance tests on a variety of computer networks. May support development of architectural products and deliverables for the network. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 1 year experience.

**Commercial Job Title:** Cloud Program Network Specialist II

**Functional Responsibility:** Provides analysis and support related to the design, development, and implementation of a network in cloud-based environments. Develops test strategies, devices, and systems. Advises and assists with stress and performance tests on a variety of computer networks. May develop network-related architectural products and deliverables for the enterprise and operational business lines. May support development of strategy and design of network infrastructure necessary to support overall system strategy and design. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 3 years’ experience.
Commercial Job Title: Cloud Program Network Specialist III

Functional Responsibility: Provides strategy, analysis, and support related to the design, development, and implementation of a network in cloud-based environments. Develops test strategies, devices, and systems. Advises and assists with stress and performance tests on a variety of computer networks. May develop network-related architectural products and deliverables for the enterprise and operational business lines. May support development of strategy and design of network infrastructure necessary to support overall system strategy and design. May supervise and/or provide technical direction to one or more subordinates or manage a team.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 5 years’ experience.

Commercial Job Title: Cloud Program QA Analyst I

Functional Responsibility: Provides process guidance on cloud services tasks and provides quality review of program documentation, deliverables, and work products for accuracy, adherence to the program and organizational standards, and compliance with other applicable Government standards/requirements. Coordinates with QA team leads, the Project Manager, and/or Quality Assurance Manager to resolve quality-related issues. Follows approved processes and procedures to verify that services and work products for projects involving cloud technologies meet required standards and approved end-user requirements. May create test data for applications. May recommend improvements to current procedures to support continuous improvement. Generally, works under supervision of a team lead or manager.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 1 year experience.

Commercial Job Title: Cloud Program QA Analyst II

Functional Responsibility: Provides process guidance on cloud services tasks and provides quality review of program documentation, deliverables, and work products for accuracy, adherence to the program and organizational standards, and compliance with other applicable Government standards/requirements. Coordinates with QA team leads, the Project Manager, and/or Quality Assurance Manager to resolve quality-related issues. Follows approved processes and procedures to verify that services and work products for projects involving cloud technologies meet required standards and approved end-user requirements. May create test data for applications. Devises new procedures or improvements to current procedures to support continuous improvement. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 3 years’ experience.
Commercial Job Title: Cloud Program QA Analyst III

Functional Responsibility: Provides process guidance on cloud services tasks and provides quality review of program documentation, deliverables, and work products for accuracy, adherence to the program and organizational standards, and compliance with other applicable Government standards/requirements. Coordinates with QA team leads, the Project Manager, and/or Quality Assurance Manager to resolve quality-related issues. Follows approved processes and procedures to verify that services and work products for projects involving cloud technologies meet required standards and approved end-user requirements. May create test data for applications. Devises new procedures or improvements to current procedures to support continuous improvement. May supervise and/or provide technical direction to one or more subordinates or manage a team.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 5 years’ experience.

Commercial Job Title: Cloud Program Software Developer I

Functional Responsibility: Works from specifications to assist in developing and modifying software applications deployed in or supporting cloud environments. Assists with design, coding, benchmark testing, debugging, and documentation. May configure and/or customize Commercial-Off-The-Shelf (COTS) applications that are cloud-based or support cloud environments and assist in maintaining program libraries and technical manuals. Generally, works under supervision of a team lead or manager.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 1 year experience.

Commercial Job Title: Cloud Program Software Developer II

Functional Responsibility: Works from specifications to assist in developing and modifying software applications deployed in or supporting cloud environments. Assists with design, coding, benchmark testing, debugging, and documentation. May configure and/or customize Commercial-Off-The-Shelf (COTS) applications that are cloud-based or support cloud environments and assist in maintaining program libraries and technical manuals. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 3 years’ experience.

Commercial Job Title: Cloud Program Software Developer III

Functional Responsibility: Works from specifications to assist in developing and modifying software applications deployed in or supporting cloud environments. Assists with design, coding, benchmark testing, debugging, and documentation. May configure and/or customize Commercial-Off-The-Shelf (COTS) applications that are cloud-based or support cloud
environments and assist in maintaining program libraries and technical manuals. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 5 years’ experience.

**Commercial Job Title:** Cloud Program Software Engineer I

**Functional Responsibility:** Participates in the design of software tools and subsystems for projects involving cloud technologies. Analyzes functional business applications and design specifications for functional activities. Assists in interpreting software requirements and design specifications to code and integrates and tests software components. Prepares required documentation. May support refactoring of applications to support migration to cloud environments and/or improve efficiency and performance. May provide configuration management support, software development environment tool support, and/or automation of software engineering tasks using DevSecOps tools and processes. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 1 year experience.

**Commercial Job Title:** Cloud Program Software Engineer II

**Functional Responsibility:** Participates in the design of software tools and subsystems for projects involving cloud technologies. Analyzes functional business applications and design specifications for functional activities. Assists in interpreting software requirements and design specifications to code and integrates and tests software components. Prepares required documentation. May support refactoring of applications to support migration to cloud environments and/or improve efficiency and performance. May provide configuration management support, software development environment tool support, and/or automation of software engineering tasks using DevSecOps tools and processes. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 3 years’ experience.

**Commercial Job Title:** Cloud Program Software Engineer III

**Functional Responsibility:** Participates in the design of software tools and subsystems for projects involving cloud technologies. Analyzes functional business applications and design specifications for functional activities. Assists in interpreting software requirements and design specifications to code and integrates and tests software components. Prepares required documentation. May support refactoring of applications to support migration to cloud environments and/or improve efficiency and performance. May provide configuration management support, software development environment tool support, and/or automation of software engineering tasks using DevSecOps tools and processes. May supervise and/or provide technical direction to one or more subordinates or manage a team.
General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 5 years’ experience.

Commercial Job Title: Cloud Program Subject Matter Expert I

Functional Responsibility: Serves as subject matter expert, possessing knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences, in support of programs involving cloud technologies. Provides technical knowledge and support of highly specialized applications and operational environments, functional systems analysis, design, integration, documentation and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation of cloud technologies and deploying or supporting systems in a cloud environment. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 4 years’ experience.

Commercial Job Title: Cloud Program Subject Matter Expert II

Functional Responsibility: Serves as subject matter expert, possessing knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences, in support of programs involving cloud technologies. Provides technical knowledge and support of highly specialized applications and operational environments, functional systems analysis, design, integration, documentation and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation of cloud technologies and deploying or supporting systems in a cloud environment. Applies principles, methods and knowledge of the technical and or 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. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 6 years’ experience.

Commercial Job Title: Cloud Program Subject Matter Expert III

Functional Responsibility: Serves as subject matter expert, possessing knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences, in support of programs involving cloud technologies. Provides technical knowledge and support of highly specialized applications and operational environments, functional systems analysis, design, integration, documentation and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation of cloud technologies and deploying or supporting systems in a cloud environment. Applies principles, methods and knowledge of the technical and or 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. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 8 years’ experience.

**Commercial Job Title:** Cloud Program System Administrator I

**Functional Responsibility:** Provides system administration support for a wide variety of IT related systems and networks within a cloud environment, including high volume/high availability systems. Maintains overall system efficiency and operation by conducting routine system administration tasks, including monitoring and performing preventative maintenance on supported systems and logging system support in system admin logs. Responsible for installation of software as well as applying required patches and upgrades. Applies knowledge and expertise in debugging protocols and processes within a cloud environment to troubleshoot problems and issues identified by customers and implement corrective actions quickly. May provide user account administration support. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 1 year experience.

**Commercial Job Title:** Cloud Program System Administrator II

**Functional Responsibility:** Provides system administration support for a wide variety of IT related systems and networks within a cloud environment, including high volume/high availability systems. Maintains overall system efficiency and operation by conducting routine system administration tasks, including monitoring and performing preventative maintenance on supported systems and logging system support in system admin logs. Responsible for installation of software as well as applying required patches and upgrades. Applies knowledge and expertise in debugging protocols and processes within a cloud environment to troubleshoot problems and issues identified by customers and implement corrective actions quickly. May provide user account administration support. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 3 years’ experience.

**Commercial Job Title:** Cloud Program System Administrator III

**Functional Responsibility:** Provides system administration support for a wide variety of IT related systems and networks within a cloud environment, including high volume/high availability systems. Maintains overall system efficiency and operation by conducting routine system administration tasks, including monitoring and performing preventative maintenance on supported systems and logging system support in system admin logs. Responsible for installation of software as well as applying required patches and upgrades. Applies knowledge and expertise in debugging protocols and processes within a cloud environment to troubleshoot
problems and issues identified by customers and implement corrective actions quickly. May provide user account administration support. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 5 years’ experience.

**Commercial Job Title:** Cloud Program Systems Engineer I

**Functional Responsibility:** Provides support related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated IT solution deployed in or supporting cloud environments. Assists with integrated system test requirement, strategies, devices and systems. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 1 year experience.

**Commercial Job Title:** Cloud Program Systems Engineer II

**Functional Responsibility:** Provides analysis and engineering related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated IT solution deployed in or supporting cloud environments. Develops integrated system test requirement, strategies, devices and systems. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 3 years’ experience.

**Commercial Job Title:** Cloud Program Systems Engineer III

**Functional Responsibility:** Provides senior level analysis and engineering related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated IT solution deployed in or supporting cloud environments. Develops integrated system test requirement, strategies, devices and systems. Directs overall system level testing. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 5 years’ experience.

**Commercial Job Title:** Cloud Program Technical Writer/Editor I

**Functional Responsibility:** Writes a variety of technical articles, reports, brochures, and/or manuals for documentation for programs and projects involving cloud technologies. Coordinates the display of graphics and the production of documents. Conforms with applicable documentation standards and style guides. May assist in production of technical and scientific...
Illustrations for presentations, documents, and/or publications, as required. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 2 years’ experience.

**Commercial Job Title:** Cloud Program Technical Writer/Editor II

**Functional Responsibility:** Writes a variety of technical articles, reports, brochures, and/or manuals for documentation for programs and projects involving cloud technologies. Coordinates the display of graphics and the production of documents. Provides high-quality content that conforms with standards and applicable style guides. Reviews content of technical documentation for quality and conformance with standards and applicable style guides. May produce technical and scientific illustrations for presentations, documents, and/or publications, as required. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 4 years’ experience.

**Commercial Job Title:** Cloud Program Technical Writer/Editor III

**Functional Responsibility:** Writes a variety of technical articles, reports, brochures, and/or manuals for documentation for programs and projects involving cloud technologies. Coordinates the display of graphics and the production of documents. Provides high-quality content that conforms with standards and applicable style guides. Reviews content of technical documentation for quality and conformance with standards and applicable style guides. May produce technical and scientific illustrations for presentations, documents, and/or publications, as required. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 6 years’ experience.

**Commercial Job Title:** Cloud Program Test Specialist I

**Functional Responsibility:** Assists with overall test tools and strategies for projects involving cloud technologies and/or deploying or supporting systems in a cloud environment. Executes test and evaluation procedures to ensure system requirements are met. Develops, maintains, and upgrades manual and, where applicable, automated test scripts. Develops reports for test results and overall test status. Participates in risk management activities with emphasis on analysis of user requirements for testability, test design, test tools, and test environments. May provide assistance with Government acceptance testing. May support development and configuration of test environments, test tools, and test databases. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 1 year experience.
Commercial Job Title: Cloud Program Test Specialist II

Functional Responsibility: Evaluates, recommends, and implements overall test tools and strategies for projects involving cloud technologies and/or deploying or supporting systems in a cloud environment. Develops and executes test and evaluation procedures to ensure system requirements are met. Develops, maintains, and upgrades manual and, where applicable, automated test scripts. Develops and reviews reports for test results and overall test status. Participates in risk management activities with emphasis on analysis of user requirements for testability, test design, test tools, and test environments. May provide assistance with Government acceptance testing. May support selection of tools and the development and configuration of test environments, test tools, and test databases. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 3 years’ experience.

Commercial Job Title: Cloud Program Test Specialist III

Functional Responsibility: Evaluates, recommends, and implements overall test tools and strategies for projects involving cloud technologies and/or deploying or supporting systems in a cloud environment. Develops and executes test and evaluation procedures to ensure system requirements are met. Develops, maintains, and upgrades manual and, where applicable, automated test scripts. Develops and reviews reports for test results and overall test status. Participates in risk management activities with emphasis on analysis of user requirements for testability, test design, test tools, and test environments. May provide assistance with Government acceptance testing. May support selection of tools and the development and configuration of test environments, test tools, and test databases. May supervise and/or provide technical direction to one or more subordinates or manage a team.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 5 years’ experience.

Commercial Job Title: Cloud Program Training Specialist

Functional Responsibility: Responsible for preparing cloud technology and associated IT related Training Plans and curricula; scheduling of resources; conducting classroom and distance training; preparing, updating and distributing User Manuals; updating training material as system changes are implemented, for developing remedial training as necessary and for developing special training as the need arises. Responsible for identifying and effectively communicating the knowledge and skills required to successfully complete tasks.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 2 years’ experience.

Commercial Job Title: Cloud Project Control Specialist

Functional Responsibility: Directs budgeting, manpower and resource planning, and financial reporting in support of IT projects involving cloud technologies. Performs complex evaluations
of existing procedures, processes, techniques, models, and/or systems related to management
problems or contractual issues. Develops work breakdown structures, prepares charts, tables,
graphs, and diagrams to assist in analyzing problems. May support cost estimation and tracking
of licenses for products and managed services in cloud environments.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience
and 4 years’ experience.

**Commercial Job Title:** Cloud Project Manager

**Functional Responsibility:** Serves as project manager for a large, complex IT related Task
Order or contract involving cloud technologies. Assists Program Manager in working with
Government Contracting Officer, contract or task-level Contracting Officer’s Representative,
Government management personnel, and customer agency representatives. Responsible for
developing the Project Management Work Plan and other contract documents to provide cloud
services and implement solutions in cloud-based environments. Directs the day-to-day efforts of
the contractor technical personnel. Ensures the quality of deliverable documents, software,
engineering plans, or installations. Monitors activities under the contract to ensure that all
activities are properly executed in accordance with TO requirements and the Contracting
Officer’s Technical Representative (COTR) direction. Performs enterprise wide horizontal
integration planning and interfaces to other functional systems.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience
and 5 years’ experience.
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**Commercial Job Title:** Administrative Specialist

**Functional Responsibility:** Performs high level of administrative support work under general supervision for information technology related projects and personnel. Types and proofreads. Maintains filing system. Answers telephones and routine requests, schedules meetings, performs mail distribution, and makes travel arrangements.

**General Experience/Education:** Requires a high school diploma and 1 year of experience in an information technology environment. Must possess word processing and general office skills.

**Commercial Job Title:** Business Analyst

**Functional Responsibility:** Prepares financial and business related analysis and research in such areas as financial and expense performance, rate of return, depreciation, working capital, and investments for information technology related projects and programs. Assists in the development of business policies, and conducts special financial and business related studies.

**General Experience/Education:**
- Business Analyst Level I: Requires a Bachelor’s degree or 4 years equivalent experience and 2 years’ experience in a related field.
- Business Analyst Level II: Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience in a related field.
- Business Analyst Level III: Requires a Bachelor’s degree or 4 years equivalent experience with 5 years’ experience in a related field.

**Commercial Job Title:** Business Process Consultant

**Functional Responsibility:** Provide information technology related consulting to agency heads, directors, and senior managers on quality improvement, ISO 9000 certification, CMMI, business process reengineering, and strategic implementation of information technology techniques. Designs, organizes, leads, and conducts executive level workshops, benchmarking, and surveys.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience with 3 years’ experience in a related field.

**Commercial Job Title:** CAD Specialist

**Functional Responsibility:** Develops designs or may be required to draft designs from the specifications of other designers. Works with information technology engineers to develop the specifications for various systems or structures.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience in a related field.
Commercial Job Title: Cyber Security Analyst

Functional Responsibility: Establishes and satisfies system-wide information security requirements based upon the analysis of user, policy, regulatory, and resource demands. Coordinates with customer organization to establish and define programs, resources, and risks.

General Experience/Education:
- Cyber Security Analyst Level I: Requires a Bachelor’s degree or 4 years equivalent experience and 2 years’ experience in a related field.
- Cyber Security Analyst Level II: Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience in a related field.
- Cyber Security Analyst Level III: Requires a Bachelor’s degree or 4 years equivalent experience and 10 years’ experience in a related field.

Commercial Job Title: Database Administrator

Functional Responsibility: Designs, implements, and maintains moderately complex databases. Includes maintenance of database dictionaries and integration of systems through database design. Competent to work on most phases of database administration.

General Experience/Education:
- Database Administrator Level I: Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience in a related field.
- Database Administrator Level II: Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience in a related field.
- Database Administrator Level III: Requires a Bachelor’s degree or 4 years equivalent experience and 8 years’ experience in a related field.

Commercial Job Title: Database Specialist I

Functional Responsibility: Provides support activities related to the administration of computerized databases. Assists in the designs and maintains databases in a client/server environment. Conducts quality control and auditing of databases in a client/server environment to ensure accurate and appropriate use of data. Advises users on access to various client/server databases. 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. Applies entry level 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.

General Experience/Education: Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience and 4 years’ experience in an information technology environment.
Commercial Job Title: Database Specialist II

Functional Responsibility: Provides all activities related to the administration of computerized databases. Projects long-range requirements for database administration and design in conjunction with other managers in the information systems function. Designs, creates, and maintains databases in a client/server environment. Conducts quality control and auditing of databases in a client/server environment to ensure accurate and appropriate use of data. Advises users on access to various client/server databases. 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. 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. Includes maintenance of database dictionaries, overall monitoring of standards and procedures, file design and storage, and integration of systems through database design.

General Experience/Education: Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience and 5 to 7 years’ experience in an information technology environment.

Commercial Job Title: Database Specialist III

Functional Responsibility: Provides high-level activities related to the administration of computerized databases. Projects long-range requirements for database administration and design in conjunction with other managers in the information systems function. Designs, creates, and maintains databases in a client/server environment. Conducts quality control and auditing of databases in a client/server environment to ensure accurate and appropriate use of data. Advises users on access to various client/server databases. 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. 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. Includes maintenance of database dictionaries, overall monitoring of standards and procedures, file design and storage, and integration of systems through database design. May be required manage a small technical team.

General Experience/Education: Requires a Bachelor’s degree or applicable training certificates or 6 years equivalent experience with 8 or more years’ experience in an information technology environment.

Commercial Job Title: Documentation Specialist

Functional Responsibility: Gathers, analyzes, and composes technical information. Conducts research and ensures the use of proper technical terminology. Translates technical information into clear, readable documents to be used by technical and non-technical personnel.
General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience.

Commercial Job Title: Functional Analyst

Functional Responsibility: Analyzes user needs to determine functional and cross-functional requirements related to information technology projects. Performs functional allocation to identify required tasks and their interrelationships. Identifies resources required for each task. Must demonstrate the ability to work independently or under only general direction.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 6 years’ experience of which 3 years must be specialized including developing functional requirements for complex integrated ADP systems with programming.

Commercial Job Title: Help Desk Specialist

Functional Responsibility: Provides first and second-tier support to end users for either PC, server, or mainframe applications and hardware. Responds to and diagnoses problems through discussions with users. Includes problem recognition, research, isolation, and resolution steps. May involve use of problem management database and help desk systems. May interact with network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. Escalates more complex problems. Assists in the evaluation of business problems, evaluates and recommends vendor packages, and implements required software. May assist in the evaluation of personnel end-user computing packages and equipment as well as in the implementation and testing of prototypes. Consults with client area management and staff regarding PC and LAN systems and equipment problems or malfunctions and recommends solutions.

General Experience/Education:

- Help Desk Specialist Level I: Requires a high school diploma and 1 year of experience in an information technology environment.
- Help Desk Specialist Level II: Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience and 2 years’ experience in an information technology environment.
- Help Desk Specialist Level III: Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience with 3 to 5 years’ experience in an information technology environment.

Commercial Job Title: Information Engineer I

Functional Responsibility: Supports information retrieval solutions to support client requirements for specified domain subjects, using information retrieval software languages and automated text analysis and extraction techniques

General Experience/Education: Requires a Bachelor’s degree, 4 years equivalent experience and 2 years’ experience in an information technology environment.
Commercial Job Title: Information Engineer II

Functional Responsibility: Develops information retrieval solutions to support client requirements for specified domain subjects, using information retrieval software languages and automated text analysis and extraction techniques.

General Experience/Education: Requires a Bachelor’s degree, 4 years equivalent experience with 3 to 5 years’ experience in an information technology environment.

Commercial Job Title: Information Engineer III

Functional Responsibility: Develops high-level information retrieval solutions to support client requirements for specified domain subjects, using information retrieval software languages and automated text analysis and extraction techniques. May be required manage a small technical team.

General Experience/Education: Requires a Bachelor’s degree, 7 years equivalent experience with 6 or more years’ experience in an information technology environment.

Commercial Job Title: Network Architect I

Functional Responsibility: Provides suggestions to managers and technical staff. Develops architectural products and deliverables for the enterprise and operational business lines. Develops strategy of system and the design infrastructure necessary to support that strategy. Advises on standards for the client/server relational database structure for the organization.

General Experience/Education: Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience and 2 years’ experience in an information technology environment.

Commercial Job Title: Network Architect II

Functional Responsibility: Provides mid-level architectural expertise to managers and technical staff. Develops architectural products and deliverables for the enterprise and operational business lines. Supports the development of strategy of system and the design infrastructure necessary to support that strategy. 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. Advises of feasibility of potential future projects to management.

General Experience/Education: Requires a Bachelor’s degree or applicable training certificates or 6 years equivalent experience with 3 to 5 years’ experience in an information technology environment.
Commercial Job Title: Network Architect III

Functional Responsibility: Provides high-level architectural expertise to managers and technical staff. Develops architectural products and deliverables for the enterprise and operational business lines. Develops strategy of system and the design infrastructure necessary to support that strategy. 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. Advises of feasibility of potential future projects to management. May be required manage a small technical team.

General Experience/Education: Requires a Master’s degree or applicable training certificates or 9 years equivalent experience with 6 or more years’ experience in an information technology environment.

Commercial Job Title: Network Engineer

Functional Responsibility: Assists with the installation and support of network communications. Follows standard practices and procedures in analyzing situations involving readily identifiable problems. Assists in the planning of large-scale systems projects.

General Experience/Education:
- Network Engineer Level I: Requires a Bachelor’s degree or 4 years equivalent experience and 3 to 5 years’ experience in a related field.
- Network Engineer Level II: Requires a Bachelor’s degree or 4 years equivalent experience and 6 to 9 years’ experience in a related field.

Commercial Job Title: Principal Network Engineer I

Functional Responsibility: Provides support related to the design, development, and implementation of a network. Develops test strategies, devices, and systems. Assists with stress and performance tests on a variety of computer networks.

General Experience/Education: Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience and 2 years’ experience in an information technology environment.

Commercial Job Title: Principal Network Engineer II

Functional Responsibility: Provides analysis related to the design, development, and implementation of a network. Develops test strategies, devices, and systems. Performs stress and performance tests on a variety of computer networks.

General Experience/Education: Requires a Bachelor’s degree or applicable training certificates or 6 years equivalent experience with 3 to 5 years’ experience in an information technology environment.
Commercial Job Title: Principal Network Engineer III

Functional Responsibility: Provides high-level analysis related to the design, development, and implementation of a network. Develops and implements test strategies, devices, and systems. Performs stress and performance tests on a variety of computer networks. May be required to manage a small technical team.

General Experience/Education: Requires a Master’s degree or applicable training certificates or 9 years equivalent experience with 6 or more years’ experience in an information technology environment.

Commercial Job Title: Program Manager

Functional Responsibility: Plans, organizes, and controls the overall activities of the contract and Task Orders. Responsible for formulating and enforcing work standards, assigning contractor schedules, reviewing work discrepancies, supervising contract personnel, and communicating policies, purposes, and goals of organization to subordinates. The Program Manager serves as primary client interface; confers with management on strategic issues, and maximizes efficiency in achieving contract and Task Order cost, schedule, and technical quality parameters; performs and meets contract administrative requirements, identifies, and ensures the effectiveness of any corrective action resolution. In addition to management skills, the Program Manager directs and provides ADP expertise for all phases of program/projects from inception through completion across all SOW Functional Areas, and when appropriate, will serve as a Task Order Project Manager.

General Experience/Education: Requires a Bachelor’s Degree or 4 years equivalent experience, and 12 or more years of experience managing and administering multi-million dollar, ADP, technical, business or administrative services contracts and Task Orders; with demonstrated success in simultaneous management of multiple projects and supervision of all levels of project personnel.

Commercial Job Title: Project Control Specialist

Functional Responsibility: Directs budgeting, manpower and resource planning, and financial reporting in support of information technology projects. Performs complex evaluations of existing procedures, processes, techniques, models, and/or systems related to management problems or contractual issues. Develops work breakdown structures, prepare charts, tables, graphs, and diagrams to assist in analyzing problems.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience with four years’ experience in a related field.

Commercial Job Title: Project Manager

Functional Responsibility: Serves as project manager for a large, complex information technology related Task Order or contract. Assists Program Manager in working with Government Contracting Officer, contract or task-level Contracting Officer’s Representative,
government management personnel, and customer agency representatives. Responsible for developing the Project Management Work Plan and other contract documents. Directs the day-to-day efforts of the contractor technical personnel. Ensures the quality of deliverable documents, software, engineering plans, or installations. Monitors activities under the contract to ensure that all activities are properly executed in accordance with Task Order requirements and the COTR’s direction. Performs enterprise wide horizontal integration planning and interfaces to other functional systems.

General Experience/Education:

- **Project Manager Level 1**: Requires a Bachelor’s degree or 4 years equivalent work experience and 6 years’ experience in a related field.
- **Project Manager Level 2**: Requires a Bachelor’s degree or 4 years equivalent work experience and 8 years’ experience in a related field.

Commercial Job Title: Quality Assurance Analyst

**Functional Responsibility**: Provides technical and administrative direction on software development tasks, including the review of work products for correctness, adherence to the design concept and to user standards, review of program documentation to assure government standards/requirements are adhered to, and for progress in accordance with schedules. Coordinates with the Project Manager and/or Quality Assurance Manager to ensure problem solution and user satisfaction. Carries out procedures to ensure that all information systems products and services meet organization standards and end-user requirements. May create test data for applications. Devises improvements to current procedures and develops models of possible future configurations.

General Experience/Education:

- **QA Analyst Level I**: Requires a Bachelor’s degree or 4 years equivalent experience and 3 to 5 years’ experience in a related field.
- **QA Analyst Level II**: Requires a Bachelor’s degree or 4 years equivalent experience and 6 to 9 years’ experience in a related field.

Commercial Job Title: Software Developer

**Functional Responsibility**: Participates in the design of software tools and subsystems to support reuse and domain analysis. Assists with design specification and code. Analyzes functional business applications and design specifications for functional activities. Prepares required documentation. Enhances software to reduce operating time or improve efficiency. Participates in the design of software tools and subsystems to support reuse and domain analysis. Assists in interpreting software requirements and design specifications to code, and integrates and tests software components.

General Experience/Education:

- **Software Developer Level 1**: Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience in a related field.
➢ Software Developer Level II: Requires a Bachelor’s degree or 4 years equivalent experience and 6 years’ experience in a related field.

➢ Software Developer Level III: Requires a Bachelor’s degree or 4 years equivalent experience with 8 years’ experience in a related field.

➢ Software Developer Level IV: Requires a Bachelor’s degree or 4 years equivalent experience with 10 years’ experience in a related field.

Commercial Job Title: Software Systems Engineer

Functional Responsibility: Works from specifications to assist in developing and modifying operating software programming applications. Assists with design, coding, benchmark testing, debugging, and documentation. May customize purchased applications and assist in maintaining program libraries and technical manuals.

General Experience/Education:

➢ Software Systems Engineer Level I: Requires a Bachelor’s degree or 4 years equivalent experience and 2 years’ experience in a related field.

➢ Software Systems Engineer Level II: Requires a Bachelor’s degree or 4 years equivalent experience and 8 years’ experience in a related field.

Commercial Job Title: Sr. System Administrator

Functional Responsibility: Must have experience in conducting routine system administration tasks and logging data in system admin logs. Systems administrators are responsible for maintaining system efficiency. Experience in maintaining troubleshooting a wide variety of information technology related systems and networks to include high volume/high availability systems. Must have knowledge on a number of debugging protocols and processes. Must be able to troubleshoot problems and issues identified by customers and implement corrective actions quickly.

General Experience/Education:

➢ Sr. System Administrator Level I: Requires a Bachelor’s degree or 4 years equivalent experience and 3 to 5 years’ experience in a related field.

➢ Sr. System Administrator Level II: Requires a Bachelor’s degree or 4 years equivalent experience and 6 to 9 years’ experience in a related field.

Commercial Job Title: Subject Matter Expert – I

Functional Responsibility: Serves as subject matter expert, possessing knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences. Provides technical knowledge and support of highly specialized applications and operational environments, functional systems analysis, design, integration, documentation and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation. Participates as needed in all phases of software
development with emphasis on the planning, analysis, testing, integration, documentation, and presentation phases.

**General Experience/Education:** Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience and 4 years’ experience in an information technology environment.

**Commercial Job Title:** Subject Matter Expert – II

**Functional Responsibility:** Serves as subject matter expert, possessing extensive knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences. Provides technical knowledge and analysis of highly specialized applications and operational environments, mid-level functional systems analysis, design, integration, documentation and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation. Participates as needed in all phases of software development with emphasis on the planning, analysis, testing, integration, documentation, and presentation phases. 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.

**General Experience/Education:** Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience with 5 to 9 years’ experience in an information technology environment.

**Commercial Job Title:** Subject Matter Expert – III

**Functional Responsibility:** Serves as subject matter expert, possessing in-depth knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences. Provides technical knowledge and analysis of highly specialized applications and operational environments, high-level functional systems analysis, design, integration, documentation and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation. Participates as needed in all phases of software development with emphasis on the planning, analysis, testing, integration, documentation, and presentation phases. 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. May be required to manage a small technical team.

**General Experience/Education:** Requires a Master’s degree or applicable training certificates or 7 years equivalent experience with 10 or more years’ experience in an information technology environment.
**Commercial Job Title:** System Architect

**Functional Responsibility:** Provides oversight and management of system administrators or other technical staff. Designs information technology solutions in support projects and objectives. Develops and maintains project documentation. Coordinates project related procurements, develops project schedules, and manages project and contract resources. Responsible for project deliverables. Provides third level support for network related issues. Must have excellent written and oral communications skills, and be able to present technical concepts to non-technical audiences.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience with 10 or more years’ experience in a related field.

**Commercial Job Title:** Systems Engineer I

**Functional Responsibility:** Provides support related to engineering related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated IT solution. Assists with integrated system test requirement, strategies, devices and systems. Directs overall system level testing.

**General Experience/Education:** Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience and 2 years’ experience in an information technology environment.

**Commercial Job Title:** Systems Engineer II

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

**General Experience/Education:** Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience with 3 to 5 years’ experience in an information technology environment.

**Commercial Job Title:** Systems Engineer III

**Functional Responsibility:** Provides high-level analysis and engineering related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide an integrated IT solution. Develops integrated system test requirement, strategies, devices and systems. Directs overall system level testing. May be required manage a small technical team.

**General Experience/Education:** Requires a Master’s degree or applicable training certificates or 4 years equivalent experience with 6 or more years’ experience in an information technology environment.
Commercial Job Title: Technical Writer

Functional Responsibility: Researches, creates, and maintains documentation that is technically accurate and conforms to the company's writing style. Establishes and maintains standardized documentation practices within the company. Documentation to be created and maintained includes: user manuals, reference manuals, training materials, presentations, newsletters, release notes, online help, technical bulletins, software specifications, security plans, and disaster recovery plans. Experience with Adobe Presenter, Adobe Captivate, Adobe Connect, MS Office, Adobe CS3 Suite, Acrobat Distiller, expert level skills in MS Word. Demonstrated ability to analyze job scope, prioritize work, manage multiple projects, and meet deadlines

General Experience/Education: Requires a high school degree and at least 4 years’ experience performing technical writing tasks.

Commercial Job Title: Technical Writer/Editor I

Functional Responsibility: Writes a variety of technical articles, reports, brochures, and/or manuals for documentation for a wide range of uses. Coordinates the display of graphics and the production of the document. Reviews content of technical documentation for quality. Assists in the production of technical and scientific illustrations for presentations and/or publication, as appropriate to the requirements.

General Experience/Education: Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience and 4 years’ experience in an information technology environment.

Commercial Job Title: Technical Writer/Editor II

Functional Responsibility: Writes a variety of technical articles, reports, brochures, and/or manuals for documentation for a wide range of uses. Coordinates the display of graphics and the production of the document. Ensures content is of high quality and conforms with standards. Reviews content of technical documentation for quality. Produces technical and scientific illustrations for presentations and/or publication, as appropriate to the requirements. Ensures that documents follow the style laid out in the company's style guide.

General Experience/Education: Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience and 4 to 8 years’ experience in an information technology environment.

Commercial Job Title: Technical Writer/Editor III

Functional Responsibility: Writes a variety of high-level technical articles, reports, brochures, and/or manuals for documentation for a wide range of uses. Coordinates the display of graphics and the production of the document. Ensures content is of high quality and conforms with standards. Reviews content of technical documentation for quality. Produces technical and scientific illustrations for presentations and/or publication, as appropriate to the requirements.
Ensures that documents follow the style laid out in the company's style guide. May be required to manage a small technical team.

**General Experience/Education:** Requires a Bachelor’s degree or applicable training certificates or 6 years equivalent experience with 8 or more years’ experience in an information technology environment.

**Commercial Job Title:** Telecommunications Engineer

**Functional Responsibility:** Responsible for moderately complex engineering and/or analytical activities associated with one or more technical areas within the telecommunications function (such as, but not limited to, network design, engineering, implementation, or operations/user support). Monitors and responds to complex technical control facility hardware and software problems. Interfaces with vendor support service groups to ensure proper escalation during outages or periods of degraded system performance. Maintains PBX/systems and associated hardware.

**General Experience/Education:**
- Telecommunications Engineer Level 1: Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience in a related field.
- Telecommunications Engineer Level II: Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience in a related field.
- Telecommunications Engineer Level III: Requires a Bachelor’s degree or 4 years equivalent experience and 8 years’ experience in a related field.
- Telecommunications Engineer Level IV: Requires a Bachelor’s degree or 4 years equivalent experience and 10 years’ experience in a related field.

**Commercial Job Title:** Test Engineer I

**Functional Responsibility:** Assists with automated test tools and strategies. Supports test and evaluation procedures to ensure system requirements are met. Develops, maintains, and upgrades automated test scripts and architectures for application products. Also writes, implements, and reports status for system test cases for testing. Assists with providing testing know-how for the support of user requirements of complex to highly complex software/hardware applications. 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.

**General Experience/Education:** Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience and 4 years’ experience in an information technology environment.
**Commercial Job Title:** Test Engineer II

**Functional Responsibility:** Evaluates, recommends, and implements automated test tools and strategies. Designs, implements, and conducts test and evaluation procedures to ensure system requirements are met. 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. Provides testing know-how for the support of user requirements of complex to highly complex software/hardware applications. 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.

**General Experience/Education:** Requires a Bachelor’s degree or applicable training certificates or 4 years equivalent experience and 5 to 7 years’ experience in an information technology environment.

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**Commercial Job Title:** Test Engineer III

**Functional Responsibility:** Evaluates, recommends, and implements high-level automated test tools and strategies. Designs, implements, and conducts test and evaluation procedures to ensure system requirements are met. 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. Serves as subject matter specialist providing testing know-how for the support of user requirements of complex to highly complex software/hardware applications. 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. May be required manage a small technical team.

**General Experience/Education:** Requires a Master’s degree or applicable training certificates or 4 years equivalent experience with 8 or more years’ experience in an information technology environment.

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**Commercial Job Title:** Training Specialist

**Functional Responsibility:** Responsible for preparing information technology related Training Plans and curricula; scheduling of resources; conducting classroom and distance training; preparing, updating and distributing Users Manuals; updating training material as system changes are implemented, for developing remedial training as necessary and for developing special training as the need arises. Responsible for identifying and effectively communicating the knowledge and skills required to successfully complete tasks.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience with 3 years’ experience conducting training sessions in a related field.
Commercial Job Title: UNIX Administrator

Functional Responsibility: Has the thorough knowledge to create plans to assure effective management, operations, and maintenance of systems and/or networks. Manages teams of system administrators and is able to prioritize work and identify high-risk critical problems and dedicate appropriate resources. Has extensive knowledge of a wide variety of systems and networks to include high volume/high availability systems. Must be able to schedule jobs, execute restores, and restart failed jobs. Additionally, must be able to troubleshoot failed jobs down to the root cause level and document steps used to solve the issue and prevent future occurrences.

General Experience/Education:

- UNIX Administrator Level 1: Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience in a related field.
- UNIX Administrator Level II: Requires a Bachelor’s degree or 4 years equivalent experience and 8 years’ experience in a related field.
Commercial Job Title: Health Data/Database Specialist I

Functional Responsibility: Assists in analysis and quality review of data and the design, maintenance, and/or administration of databases integrated with Health IT systems or supporting health-related missions. Applies knowledge and experience with database technologies, development methodologies, and front-end (e.g., COGNOS)/back-end programming languages (e.g., SQL), as required. May provide health informatics expertise working with healthcare functional representatives to design, develop, and assess ways to collect, share, standardize, and integrate health data within complex Health IT system. May develop and maintain data models and data dictionaries. May perform database programming and support systems design. Develops processes and scripts to support extraction, transformation, loading, and analysis of data. Complies with database standards and procedures and provides guidance for Health Insurance Portability and Accountability Act (HIPAA) and Privacy Act compliance. May support database backup and recovery tasks. Assists and provides guidance to users on accessing various databases. May support quality control and auditing of databases to ensure accuracy and appropriate use of data. Generally, works under supervision of a team lead or manager.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 2 years’ experience.

Commercial Job Title: Health Data/Database Specialist II

Functional Responsibility: Assists in analysis and quality review of data and the design, maintenance, and/or administration of databases integrated with Health IT systems or supporting health-related missions. Applies knowledge and experience with database technologies, development methodologies, and front-end (e.g., COGNOS)/back-end programming languages (e.g., SQL), as required. May provide health informatics expertise working with healthcare functional representatives to design, develop, and assess ways to collect, share, standardize and integrate health data within complex Health IT system. May develop and maintain data models and data dictionaries. May perform database programming and support systems design. Develops processes and scripts to support extraction, transformation, loading, and analysis of data. Complies with database standards and procedures and provides guidance for Health Insurance Portability and Accountability Act (HIPAA) and Privacy Act compliance. Assists and provides guidance to users on accessing various databases. Supports quality control and auditing of databases to ensure accuracy and appropriate use of data. May design, implement, and maintains complex databases, with support for database environment and scripts, access methods, access time, device allocation, validation checks, organization, protection and security, documentation, and statistical methods. Supports planning and projection for long-range requirements for database administration and design in conjunction with other managers in the information systems function. May devise and implement overall strategies for data backup and recovery, data replication, and disaster recovery. Provides expertise for file design and storage, and integration of systems through database design. May supervise and/or provide technical direction to one or more subordinates.
**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 4 years’ experience.

**Commercial Job Title:** Health Data/Database Specialist III

**Functional Responsibility:** Provides senior-level support and leadership for analysis and quality review of data and the design, maintenance, and/or administration of databases integrated with Health IT systems or supporting health-related missions. Applies knowledge and experience with database technologies, development methodologies, and front-end (e.g., COGNOS)/back-end programming languages (e.g., SQL), as required. May provide health informatics expertise working with healthcare functional representatives to design, develop, and assess ways to collect, share, standardize and integrate health data within complex Health IT system. May develop and maintain data models and data dictionaries. May perform database programming and support systems design. Develops processes and scripts to support extraction, transformation, loading, and analysis of data. Complies with database standards and procedures and provides guidance for Health Insurance Portability and Accountability Act (HIPAA) and Privacy Act compliance. Assists and provides guidance to users on accessing various databases. Supports quality control and auditing of databases to ensure accuracy and appropriate use of data. Designs, implements, and maintains complex databases, with support for database environment and scripts, access methods, access time, device allocation, validation checks, organization, protection and security, documentation, and statistical methods. Supports planning and projection for long-range requirements for database administration and design in conjunction with other managers in the information systems function. May devise and implement overall strategies for data backup and recovery, data replication, and disaster recovery. Provides expertise for file design and storage, and integration of systems through database design. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 6 years’ experience.

**Commercial Job Title:** Health IT Architect I

**Functional Responsibility:** Applies knowledge and expertise designing, deploying, and supporting complex Health IT systems or systems supporting health-related missions to provide oversight and management of system administrators, system engineers, developers, or other technical staff. Designs IT solutions involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Develops and maintains project documentation. Coordinates project related procurements, develops project schedules, and manages project and contract resources. Responsible for project deliverables. Provides third level support for network related issues. Must have excellent written and oral communications skills, and be able to present technical concepts to non-technical audiences. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 4 years’ experience.
Commercial Job Title: Health IT Architect II

Functional Responsibility: Applies knowledge and expertise designing, deploying, and supporting complex Health IT systems or systems supporting health-related missions to provide oversight and management of system administrators, system engineers, developers, or other technical staff. Designs IT solutions involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Develops and maintains project documentation. Coordinates project related procurements, develops project schedules, and manages project and contract resources. Responsible for project deliverables. Provides third level support for network related issues. Must have excellent written and oral communications skills, and be able to present technical concepts to non-technical audiences. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 6 years’ experience.

Commercial Job Title: Health IT Architect III

Functional Responsibility: Applies knowledge and expertise designing, deploying, and supporting complex Health IT systems or systems supporting health-related missions to provide oversight and management of system administrators, system engineers, developers, or other technical staff. Designs IT solutions involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Develops and maintains project documentation. Coordinates project related procurements, develops project schedules, and manages project and contract resources. Responsible for project deliverables. Provides third level support for network related issues. Must have excellent written and oral communications skills, and be able to present technical concepts to non-technical audiences. May supervise and/or provide technical direction to one or more subordinates or manage a team.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 8 years’ experience.

Commercial Job Title: Health IT Business Analyst I

Functional Responsibility: Performs analysis and research for projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. May provide clinical, public health, or related health-domain specific expertise. Contributes to deliverables and performance metrics where applicable. Analyzes stakeholder requirements as well as applicable industry, agency, and Federal guidelines and requirements. Develops documentation and work products which may include systems scope statements, business process models, business process descriptions, workflow diagrams, functional and non-functional requirements, program performance documentation, end user documentation, testing documentation, training documentation, and/or other internal work products and deliverable documentation. May analyze and document business and clinical workflows and clinical content requirements. May support governance bodies (e.g., Change Management and Configuration Control Boards) in analyzing
and formulating proposed changes, analyzing the impact of proposed changes, and providing overall support for the governance process. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 1 year experience.

**Commercial Job Title:** Health IT Business Analyst II

**Functional Responsibility:** Performs analysis and research for projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. May provide clinical, public health, or related health-domain specific expertise. Contributes to deliverables and performance metrics where applicable. Analyzes stakeholder requirements as well as applicable industry, agency, and Federal guidelines and requirements. Develops documentation and work products which may include systems scope statements, business process models, business process descriptions, workflow diagrams, functional and non-functional requirements, program performance documentation, end user documentation, testing documentation, training documentation, and/or other internal work products and deliverable documentation. May analyze and document business and clinical workflows and clinical content requirements. May support governance bodies (e.g., Change Management and Configuration Control Boards) in analyzing and formulating proposed changes, analyzing the impact of proposed changes, and providing overall support and advisory services for the governance process. Provides consultation on complex IT projects, helping translate functional/business needs into IT requirements while considering the business implications of the application of technology to the current and future IT environments. Provides liaison support between IT and the functional stakeholders. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience.

**Commercial Job Title:** Health IT Business Analyst III

**Functional Responsibility:** Performs analysis and research for projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. May provide clinical, public health, or related health-domain specific expertise. Contributes to deliverables and performance metrics where applicable. Analyzes stakeholder requirements as well as applicable industry, agency, and Federal guidelines and requirements. Develops documentation and work products which may include systems scope statements, business process models, business process descriptions, workflow diagrams, functional and non-functional requirements, program performance documentation, end user documentation, testing documentation, training documentation, and/or other internal work products and deliverable documentation. May analyze and document business and clinical workflows and clinical content requirements. May support governance bodies (e.g., Change Management and Configuration Control Boards) in analyzing and formulating proposed changes, analyzing the impact of proposed changes, and providing overall support and advisory services for the governance process. Provides consultation on complex IT projects, helping translate functional/business needs into IT requirements while considering the business implications of the application of technology to the current and future IT environments. Provides liaison support between IT and the functional stakeholders. May supervise and/or provide technical direction to one or more subordinates.
support and advisory services for the governance process. Provides consultation on complex IT projects, helping translate functional/business needs into IT requirements while considering the business implications of the application of technology to the current and future IT environments. Provides liaison support between IT and the functional stakeholders. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience.

**Commercial Job Title:** Health IT Cybersecurity Specialist I

**Functional Responsibility:** Provides support for implementation of enterprise and system security requirements for systems involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Supports analysis of user, policy, and regulatory requirements and resource demands. Supports coordination with customer organization to establish and define programs, resources, and risks. Provides monitoring, auditing, scanning, and other technical analysis and reporting as needed for compliance with security requirements. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 1 year experience.

**Commercial Job Title:** Health IT Cybersecurity Specialist II

**Functional Responsibility:** Implements enterprise and system security requirements for systems involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Analyzes user, policy, and regulatory requirements and resource demands and coordinates with customer organization to establish and define programs, resources, and risks. Provides strategy for and performs monitoring, auditing, scanning, and other technical analysis and reporting as needed for compliance with security requirements. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience.

**Commercial Job Title:** Health IT Cybersecurity Specialist III

**Functional Responsibility:** Provides strategy and support for implementation of enterprise and system security requirements for systems involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Analyzes user, policy, and regulatory requirements and resource demands and coordinates with customer organization to establish and define programs, resources, and risks. Provides strategy for and performs monitoring, auditing, scanning, and other technical analysis and reporting as needed for compliance with security requirements. May supervise and/or provide technical direction to one or more subordinates or manage a team.
General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience.

Commercial Job Title: Health IT Documentation Specialist

Functional Responsibility: Gathers, analyzes, and composes technical information. Conducts research and ensures the use of proper technical terminology for projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Translates technical information into clear, readable documents to be used by technical and non-technical personnel.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 1 year experience.

Commercial Job Title: Health IT Help Desk Specialist I

Functional Responsibility: Provides first and second-tier support to end users for either PC, server, or mainframe applications and hardware for programs involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Fulfills customer service requests as required. Responds to and diagnoses problems through discussions with users. Includes problem recognition, research, isolation, and resolution steps. May involve use of problem management database and help desk systems. May interact with Health IT network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. Escalates more complex problems. Assists in the evaluation of business problems, evaluates and recommends vendor packages, and implements required software. May assist in the evaluation of personnel end-user computing packages and equipment as well as in the implementation and testing of prototypes. Consults with client area management and staff regarding PC and LAN systems and equipment problems or malfunctions and recommends solutions. Generally, works under supervision of a team lead or manager.

General Experience/Education: Requires a High School degree and 1 year experience.

Commercial Job Title: Health IT Help Desk Specialist II

Functional Responsibility: Provides first and second-tier support to end users for either PC, server, or mainframe applications and hardware for programs involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Fulfills customer service requests as required. Responds to and diagnoses problems through discussions with users. Includes problem recognition, research, isolation, and resolution steps. May involve use of problem management database and help desk systems. May interact with Health IT network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. Escalates more complex problems. Assists in the evaluation of business problems, evaluates and recommends vendor packages, and implements required software. May assist in the evaluation of personnel end-user computing packages and equipment as well as in the implementation and testing of prototypes. Consults with client area management and staff
regarding PC and LAN systems and equipment problems or malfunctions and recommends solutions. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 2 years’ experience.

**Commercial Job Title:** Health IT Help Desk Specialist III

**Functional Responsibility:** Provides first and second-tier support to end users for either PC, server, or mainframe applications and hardware for programs involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Fulfills customer service requests as required. Responds to and diagnoses problems through discussions with users. Includes problem recognition, research, isolation, and resolution steps. May involve use of problem management database and help desk systems. May interact with Health IT network services, software systems engineering, and/or applications development to restore service and/or identify and correct core problem. Escalates more complex problems. Assists in the evaluation of business problems, evaluates and recommends vendor packages, and implements required software. May assist in the evaluation of personnel end-user computing packages and equipment as well as in the implementation and testing of prototypes. Consults with client area management and staff regarding PC and LAN systems and equipment problems or malfunctions and recommends solutions. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience.

**Commercial Job Title:** Health IT Network Specialist I

**Functional Responsibility:** Provides support related to the design, development, and implementation of a network supporting complex Health IT systems or systems supporting health-related missions. Develops test strategies, devices, and systems. Assists with stress and performance tests on a variety of computer networks. May support development of architectural products and deliverables for the network supporting Health IT systems. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 1 year experience.

**Commercial Job Title:** Health IT Network Specialist II

**Functional Responsibility:** Provides analysis and support related to the design, development, and implementation of a network supporting complex Health IT systems or systems supporting health-related missions. Develops test strategies, devices, and systems. Advises and assists with stress and performance tests on a variety of computer networks. May develops network-related architectural products and deliverables for the enterprise and operational business lines. May support development of strategy and design of network infrastructure necessary to support
overall Health IT system strategy and design. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience.

**Commercial Job Title:** Health IT Network Specialist III

**Functional Responsibility:** Provides strategy, analysis, and support related to the design, development, and implementation of a network supporting complex Health IT systems or systems supporting health-related missions. Develops test strategies, devices, and systems. Advises and assists with stress and performance tests on a variety of computer networks. May develops network-related architectural products and deliverables for the enterprise and operational business lines. May support development of strategy and design of network infrastructure necessary to support overall Health IT system strategy and design. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience.

**Commercial Job Title:** Health IT Program Manager

**Functional Responsibility:** Plans, organizes, and controls the overall activities of the contract and Task Orders involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Responsible for formulating and enforcing work standards, assigning contractor schedules, reviewing work discrepancies, supervising contract personnel, and communicating policies, purposes, and goals of an organization to subordinates. May provide clinical, public health, or related health-domain specific expertise. The Program Manager serves as primary client interface; confers with management on strategic issues; maximizes efficiency in achieving contract and Task Order cost, schedule, and technical quality parameters; performs and meets contract administrative requirements; and identifies and ensures the effectiveness of any corrective action resolution. In addition to management skills, the Program Manager directs and provides expertise for all phases of program/projects from inception through completion across all Functional Areas. May also be responsible for serving as Task Order Project Manager for one or more Task Orders.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 10 years’ experience.

**Commercial Job Title:** Health IT Project Control Specialist

**Functional Responsibility:** Directs budgeting, manpower and resource planning, and financial reporting in support of IT projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Performs complex evaluations of existing procedures, processes, techniques, models, and/or systems related to management problems or contractual issues.
Develops work breakdown structures, prepares charts, tables, graphs, and diagrams to assist in analyzing problems. May support cost estimation and tracking of licenses for products and managed services supporting Health IT mission areas.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 4 years’ experience.

**Commercial Job Title:** Health IT Project Manager

**Functional Responsibility:** Serves as project manager for a large, complex IT related Task Order or contract involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Assists Program Manager in working with Government Contracting Officer, contract or task-level Contracting Officer’s Representative, Government management personnel, and customer agency representatives. Responsible for developing the Project Management Work Plan and other contract documents. May provide clinical, public health, or related health-domain specific expertise. Directs the day-to-day efforts of the contractor technical personnel. Ensures the quality of deliverable documents, software, engineering plans, or installations. Monitors activities under the contract to ensure that all activities are properly executed in accordance with Task Order requirements and the COTR’s direction. Performs enterprise wide horizontal integration planning and interfaces to other functional systems.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience.

**Commercial Job Title:** Health IT QA Analyst I

**Functional Responsibility:** Provides process guidance for tasks on programs and projects supporting Health IT, health data, and IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Provides quality review of program documentation, deliverables, and work products for accuracy, adherence to the program and organizational standards, and compliance with other applicable Government standards requirements. May provide clinical, public health, or related health-domain specific expertise. Coordinates with QA team leads, the Project Manager, and/or Quality Assurance Manager to resolve quality-related issues. Follows approved processes and procedures to verify that services and work products meet required standards and approved end-user requirements. May create test data for applications. May recommend improvements to current procedures to support continuous improvement. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 1 year experience.

**Commercial Job Title:** Health IT QA Analyst II

**Functional Responsibility:** Provides process guidance for tasks on programs and projects supporting Health IT, health data, and IT support for Healthcare services delivery, Electronic
Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Provides quality review of program documentation, deliverables, and work products for accuracy, adherence to the program and organizational standards, and compliance with other applicable Government standards/requirements. May provide clinical, public health, or related health-domain specific expertise. Coordinates with QA team leads, the Project Manager, and/or Quality Assurance Manager to resolve quality-related issues. Follows approved processes and procedures to verify that services and work products meet required standards and approved end-user requirements. May create test data for applications. Devises new procedures or improvements to current procedures to support continuous improvement. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience.

Commercial Job Title: Health IT QA Analyst III

Functional Responsibility: Provides process guidance for tasks on programs and projects supporting Health IT, health data, and IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Provides quality review of program documentation, deliverables, and work products for accuracy, adherence to the program and organizational standards, and compliance with other applicable Government standards/requirements. May provide clinical, public health, or related health-domain specific expertise. Coordinates with QA team leads, the Project Manager, and/or Quality Assurance Manager to resolve quality-related issues. Follows approved processes and procedures to verify that services and work products meet required standards and approved end-user requirements. May create test data for applications. Devises new procedures or improvements to current procedures to support continuous improvement. May supervise and/or provide technical direction to one or more subordinates or manage a team.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience.

Commercial Job Title: Health IT Software Developer I

Functional Responsibility: Works from specifications to assist in developing and modifying Health IT software applications or other business applications supporting health-related missions. Assists with design, coding, benchmark testing, debugging, and documentation. May configure and/or customize Health IT and other Commercial-Off-The-Shelf (COTS) applications and assist in maintaining program libraries and technical manuals. Generally, works under supervision of a team lead or manager.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 1 year experience.

Commercial Job Title: Health IT Software Developer II

Functional Responsibility: Works from specifications to assist in developing and modifying
Health IT software applications or other business applications supporting health-related missions. Assists with design, coding, benchmark testing, debugging, and documentation. May configure and/or customize Health IT and other Commercial-Off-The-Shelf (COTS) applications and assist in maintaining program libraries and technical manuals. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience.

**Commercial Job Title:** Health IT Software Developer III

**Functional Responsibility:** Works from specifications to assist in developing and modifying Health IT software applications or other business applications supporting health-related missions. Assists with design, coding, benchmark testing, debugging, and documentation. May configure and/or customize Health IT and other Commercial-Off-The-Shelf (COTS) applications and assist in maintaining program libraries and technical manuals. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience.

**Commercial Job Title:** Health IT Software Engineer I

**Functional Responsibility:** Participates in the design of software tools and subsystems for projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Analyzes clinical and other functional business applications and design specifications for functional activities. Assists in interpreting software requirements and design specifications to code and integrates and tests software components. Prepares required documentation. May provide configuration management support, software development environment tool support, and/or automation of software engineering tasks using DevSecOps tools and processes. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 1 year experience.

**Commercial Job Title:** Health IT Software Engineer II

**Functional Responsibility:** Participates in the design of software tools and subsystems for projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Analyzes clinical and other functional business applications and design specifications for functional activities. Assists in interpreting software requirements and design specifications to code and integrates and tests software components. Prepares required documentation. May provide configuration management support, software development environment tool support, and/or automation of software engineering tasks using DevSecOps
tools and processes. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience.

**Commercial Job Title:** Health IT Software Engineer III  
**Functional Responsibility:** Participates in the design of software tools and subsystems for projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Analyzes clinical and other functional business applications and design specifications for functional activities. Assists in interpreting software requirements and design specifications to code and integrates and tests software components. Prepares required documentation. May provide configuration management support, software development environment tool support, and/or automation of software engineering tasks using DevSecOps tools and processes. May supervise and/or provide technical direction to one or more subordinates or manage a team.  
**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience.

**Commercial Job Title:** Health IT Subject Matter Expert I  
**Functional Responsibility:** Serves as subject matter expert, possessing knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences, in support of programs involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. May provide specialized clinical, public health, or related health-domain specific expertise. Provides technical knowledge and support of highly specialized applications and operational environments, functional systems analysis, design, integration, documentation, and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation of complex Health IT and deploying or supporting Health IT systems. May supervise and/or provide technical direction to one or more subordinates.  
**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 4 years’ experience.

**Commercial Job Title:** Health IT Subject Matter Expert II  
**Functional Responsibility:** Serves as subject matter expert, possessing knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences, in support of programs involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. May provide specialized clinical, public health, or related health-domain specific expertise. Provides technical knowledge and support of highly specialized
applications and operational environments, functional systems analysis, design, integration, documentation, and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation of complex Health IT and deploying or supporting Health IT systems. Applies principles, methods, and knowledge of the technical and or 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. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 6 years’ experience.

**Commercial Job Title:** Health IT Subject Matter Expert III  
**Functional Responsibility:** Serves as subject matter expert, possessing knowledge of a particular area, such as business, computer science, engineering, mathematics, or the various sciences, in support of programs involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. May provide clinical, public health, or related health-domain specific expertise. Provides technical knowledge and support of highly specialized applications and operational environments, functional systems analysis, design, integration, documentation, and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation of complex Health IT and deploying or supporting Health IT systems. Applies principles, methods, and knowledge of the technical and or 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. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 8 years’ experience.

**Commercial Job Title:** Health IT System Administrator I  
**Functional Responsibility:** Provides system administration support for wide variety of Health IT and business systems supporting health-related missions and networks and infrastructure, including high volume/high availability systems. Maintains overall system efficiency and operation by conducting routine system administration tasks, including monitoring and performing preventative maintenance on supported systems and logging system support in system admin logs. Responsible for installation of Health IT system software as well as applying required patches and upgrades. Applies knowledge and expertise in debugging protocols and processes to troubleshoot problems and issues identified by customers and implement corrective actions quickly. May provide user account administration support. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 1 year experience.
Commercial Job Title: Health IT System Administrator II

Functional Responsibility: Provides system administration support for wide variety of Health IT and business systems supporting health-related missions and networks and infrastructure, including high volume/high availability systems. Maintains overall system efficiency and operation by conducting routine system administration tasks, including monitoring and performing preventative maintenance on supported systems and logging system support in system admin logs. Responsible for installation of Health IT system software as well as applying required patches and upgrades. Applies knowledge and expertise in debugging protocols and processes to troubleshoot problems and issues identified by customers and implement corrective actions quickly. May provide user account administration support. May supervise and/or provide technical direction to one or more subordinates.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience.

Commercial Job Title: Health IT System Administrator III

Functional Responsibility: Provides system administration support for wide variety of Health IT and business systems supporting health-related missions and networks and infrastructure, including high volume/high availability systems. Maintains overall system efficiency and operation by conducting routine system administration tasks, including monitoring and performing preventative maintenance on supported systems and logging system support in system admin logs. Responsible for installation of Health IT system software as well as applying required patches and upgrades. Applies knowledge and expertise in debugging protocols and processes to troubleshoot problems and issues identified by customers and implement corrective actions quickly. May provide user account administration support. May supervise and/or provide technical direction to one or more subordinates or manage a team.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience.

Commercial Job Title: Health IT Systems Engineer I

Functional Responsibility: Provides support related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide complex, integrated Health IT solutions and business systems supporting health-related missions. Assists with integrated Health IT system test requirement, strategies, devices and systems. Generally, works under supervision of a team lead or manager.

General Experience/Education: Requires a Bachelor’s degree or 4 years equivalent experience and 1 year experience.

Commercial Job Title: Health IT Systems Engineer II

Functional Responsibility: Provides analysis and engineering related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide complex, integrated Health IT solutions and business systems supporting
health-related missions. Develops integrated Health IT system test requirement, strategies, devices and systems. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 3 years’ experience.

**Commercial Job Title:** Health IT Systems Engineer III

**Functional Responsibility:** Provides senior level analysis and engineering related to the design, development, and integration of hardware, software, man-machine interfaces and all system level requirements to provide complex, integrated Health IT solutions and business systems supporting health-related missions. Develops integrated Health IT system test requirement, strategies, devices and systems. Directs overall system level testing. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 5 years’ experience.

**Commercial Job Title:** Health IT Technical Writer/Editor I

**Functional Responsibility:** Writes a variety of technical articles, reports, brochures, and/or manuals for documentation for programs and projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Coordinates the display of graphics and the production of documents. Conforms with applicable documentation standards and style guides. May assist in production of technical and scientific illustrations for presentations, documents, and/or publications, as required. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 2 years’ experience.

**Commercial Job Title:** Health IT Technical Writer/Editor II

**Functional Responsibility:** Writes a variety of technical articles, reports, brochures, and/or manuals for documentation for programs and projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Coordinates the display of graphics and the production of documents. Provides high-quality content that conforms with standards and applicable style guides. Reviews content of technical documentation for quality and conformance with standards and applicable style guides. May produce technical and scientific illustrations for presentations, documents, and/or publications, as required. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years equivalent experience and 4 years’ experience.
**Commercial Job Title:** Health IT Technical Writer/Editor III

**Functional Responsibility:** Writes a variety of technical articles, reports, brochures, and/or manuals for documentation for programs and projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Coordinates the display of graphics and the production of documents. Provides high-quality content that conforms with standards and applicable style guides. Reviews content of technical documentation for quality and conformance with standards and applicable style guides. May produce technical and scientific illustrations for presentations, documents, and/or publications, as required. May supervise and/or provide technical direction to one or more subordinates or manage a team.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 6 years’ experience.

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**Commercial Job Title:** Health IT Test Specialist I

**Functional Responsibility:** Assists with overall test tools and strategies for projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Executes test and evaluation procedures to ensure system requirements are met. Develops, maintains, and upgrades manual and, where applicable, automated test scripts. Develops reports for test results and overall test status. Participates in risk management activities with emphasis on analysis of user requirements for testability, test design, test tools, and test environments. May provide assistance with Government acceptance testing. May support development and configuration of test environments, test tools, and test databases. Generally, works under supervision of a team lead or manager.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 1 year experience.

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**Commercial Job Title:** Health IT Test Specialist II

**Functional Responsibility:** Evaluates, recommends, and implements overall test tools and strategies for projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Develops and executes test and evaluation procedures to ensure system requirements are met. Develops, maintains, and upgrades manual and, where applicable, automated test scripts. Develops and reviews reports for test results and overall test status. Participates in risk management activities with emphasis on analysis of user requirements for testability, test design, test tools, and test environments. May provide assistance with Government acceptance testing. May support selection of tools and the development and configuration of test environments, test tools, and test databases. May supervise and/or provide technical direction to one or more subordinates.

**General Experience/Education:** Requires a Bachelor’s degree or 4 years’ equivalent experience and 3 years’ experience.
Commercial Job Title: Health IT Test Specialist III

Functional Responsibility: Evaluates, recommends, and implements overall test tools and strategies for projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Develops and executes test and evaluation procedures to ensure system requirements are met. Develops, maintains, and upgrades manual, and where applicable, automated test scripts. Develops and reviews reports for test results and overall test status. Participates in risk management activities with emphasis on analysis of user requirements for testability, test design, test tools, and test environments. May provide assistance with Government acceptance testing. May support selection of tools and the development and configuration of test environments, test tools, and test databases. May supervise and/or provide technical direction to one or more subordinates or manage a team.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 5 years’ experience.

Commercial Job Title: Health IT Training Specialist

Functional Responsibility: Supports training requirements for programs and projects involving Health IT and/or IT support for Healthcare services delivery, Electronic Health Record (EHR), Healthcare claims or payment processing, and other Health-related mission areas. Responsible for preparing Training Plans and curricula; scheduling of resources; conducting classroom and distance training; preparing, updating and distributing User Manuals; updating training material as system changes are implemented, for developing remedial training as necessary and for developing special training as the need arises. Responsible for identifying and effectively communicating the knowledge and skills required to successfully complete tasks.

General Experience/Education: Requires a Bachelor’s degree or 4 years’ equivalent experience and 2 years’ experience.
USA COMMITMENT TO PROMOTE SMALL BUSINESS PARTICIPATION PROCUREMENT PROGRAMS

PREAMBLE

Trowbridge & Trowbridge 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 ensure 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. To accelerate potential opportunities please contact Annie Lee, 571-499-4150, annie.lee@tt-llc.com, Fax: 571-499-4153.
(Insert Customer Name)

In the spirit of the Federal Acquisition Streamlining Act (ordering activity) and (Contractor) enter into a cooperative agreement to further 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 end result is to create a purchasing mechanism for the ordering activity that works better and costs less.

Signatures

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<tr>
<th>Ordering Activity</th>
<th>Date</th>
<th>Contractor</th>
<th>Date</th>
</tr>
</thead>
</table>
(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:

<table>
<thead>
<tr>
<th>MODEL NUMBER/PART NUMBER</th>
<th>BPA DISCOUNT/PRICE</th>
<th>*SPECIAL</th>
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(2) Delivery:

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<tr>
<th>DESTINATION</th>
<th>DELIVERY SCHEDULES / DATES</th>
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(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:

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<tr>
<th>OFFICE</th>
<th>POINT OF CONTACT</th>
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(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 be shown when incompatible with the use of automated systems; 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 contract. 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.

*************************************************************************************************************
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Federal Supply Schedule Contractors may use “Contractor Team Arrangements” (see FAR 9.6) to provide solutions when responding to an ordering activity requirements.

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 or 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.