



Commonwealth of Virginia
Virginia Information Technologies Agency

NEXT GENERATION SOFTWARE ANALYTICS

Optional Use Contract

Date: December 30, 2015

Contract #: VA-150915-TERA

Authorized User: Authorized User (AU): All public bodies, including VITA, as defined by §2.2-4301 and referenced by §2.2-4304 of the *Code of Virginia*. Also includes private institutions of higher education chartered in Virginia and granted tax-exempt status under §501(c)(3) of the Internal Revenue Code. A list of the private institutions eligible to use this contract can be found at: <http://www.cicv.org/Our-Colleges/Profiles.aspx>.

Contractor: Teradata Government Systems, LLC
430 National Business Parkway
Suite 450
Annapolis Junction, MD 20701

FIN: 14-2002217

Contact Person: Cindy Wiley
Phone: (757) 645-3167
Email: cindy.wiley@teradata.com

Pricing: Exhibit B

Term: September 15, 2015 – September 14, 2018

Payment: Net 30 days

For Additional Information, Please Contact:

Contract Information:

Supply Chain Management
Virginia Information Technologies Agency
Mike Novak
Phone: 804-416-6168
E-Mail: michael.novak@vita.virginia.gov
Fax: 804-416-6361

NOTES: Individual Commonwealth of Virginia employees are not authorized to purchase equipment or services for their personal use from this Contract.

For updates, please visit our Website at <http://vita2.virginia.gov/procurement/contracts.cfm>

VIRGINIA INFORMATION TECHNOLOGIES AGENCY (VITA): Prior review and approval by VITA for purchases in excess of \$100,000.00 is required for State Agencies and Institutions only.



Information Technology Solution Contract

between

The Virginia Information Technologies Agency

on behalf of

The Commonwealth of Virginia

and

Teradata Government Systems LLC

**INFORMATION TECHNOLOGY SOLUTION CONTRACT
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INFORMATION TECHNOLOGY SOLUTION CONTRACT

THIS INFORMATION TECHNOLOGY Solution CONTRACT (“Contract”) is entered into by and between the Virginia Information Technologies Agency (VITA) pursuant to §2.2-2012 of the Code of Virginia and on behalf of the Commonwealth of Virginia (hereinafter referred to as “VITA”), and Teradata Government Systems LLC (“Supplier”), a limited liability company headquartered at 430 National Business Parkway, Suite 450, Annapolis Junction, MD 20701 to be effective as of September 15, 2015 (“Effective Date”).

1. PURPOSE AND SCOPE

This Contract sets forth the terms and conditions under which Supplier shall provide Next generation software analytics to the Authorized Users. This includes next-generation analytics, supporting tools, the services needed to deploy and tune these tools, and training services. These tool sets include Business Intelligence (BI), predictive, prescriptive, statistical analytics, simulation, data visualization, data quality, data governance, unstructured data, Hadoop, MapReduce.

2. DEFINITIONS

A. Acceptance

Successful delivery and performance by the Supplier of its contractual commitments at the location(s) designated in the applicable Statement of Work or order, including completed and successful Acceptance testing in conformance with the Requirements as determined by the Authorized User in the applicable Statement of Work or order.

B. Agent

Any third party independent agent of any Authorized User.

C. Authorized Users

D. Except for telecommunications contracts, means all public bodies, including VITA, as defined by §2.2-4301 and referenced by §2.2-4304 of the Code of Virginia. Authorized Users shall include private institutions of higher education that are listed at:

<http://www.cicv.org/Our-Colleges/Profiles.aspx>. **Business Day/Hour**

Normal operating hours for the Commonwealth of Virginia: Monday-Friday, 8 a.m.-5 p.m. Eastern Standard/Daylight Time, unless otherwise specified on the applicable order or Statement of Work, excluding Commonwealth-designated holidays.

E. Component

Software or Deliverable delivered by Supplier under this Contract, including under all orders or Statements of Work.

F. Computer Virus

Any malicious code, program, or other internal component (e.g., computer virus, computer worm, computer time bomb, or similar component), which could damage, destroy, alter or disrupt any computer program, firmware, or hardware or which could, in any manner, reveal, damage, destroy, alter or disrupt any data or other information accessed through or processed by such software in any manner.

G. Confidential Information

Any confidential or proprietary information of a Party that is disclosed in any manner, including oral or written, graphic, machine readable or other tangible form, to any other Party in connection with or as a result of discussions related to this Contract or any order or SOW issued hereunder, and which at the time of disclosure either (i) is marked as being “Confidential” or “Proprietary”, (ii) is otherwise reasonably identifiable as the confidential or proprietary information of the disclosing Party, or (iii) under the circumstances of disclosure should reasonably be considered as confidential or proprietary information of the disclosing Party or (iv) is identifiable or should be reasonably considered as protected health information; (v) any personally identifiable information, including information about VITA’s employees, contractors, and customers, that is protected by statute or other applicable law.

H. Deliverable

The tangible embodiment of the work performed or Services, Maintenance Services, Licensed Services, Solution, Component, Software, plans, reports, data, Product, Supplier Product and Updates provided by the Supplier in fulfilling its obligations under the Contract or as identified in the applicable Statement of Work or order, including the development or creation of Work Product, if Work Product is authorized under the Contract.

I. (reserved)**J. Documentation**

Those materials (including user manuals, training materials, guides, product descriptions, technical manuals, product specifications, supporting materials and Updates) detailing the information and instructions needed in order to allow any Authorized User and its Agents or Application Users to make productive use of the Application, Software, Solution, Component, Product, Service, Licensed Services or Deliverable, and to implement and develop self-sufficiency with regard to the Application, Software, Solution, Component, Product, Service, Licensed Services or Deliverable, provided by Supplier in fulfilling its obligations under the Contract or as may be specified in any Statement of Work or order issued hereunder.

K. Electronic Self-Help

Any use of electronic means to exercise Supplier's license termination rights, if allowable pursuant to the Contract, upon breach or cancellation, termination or expiration of this Contract or any Statement of Work or order placed hereunder.

L. Health Record

"Health record" means any written, printed or electronically recorded material maintained by a health care entity in the course of providing health services to an individual concerning the individual and the services provided. "Health record" also includes the substance of any communication made by an individual to a health care entity in confidence during or in connection with the provision of health services or information otherwise acquired by the health care entity about an individual in confidence and in connection with the provision of health services to the individual. (§ 32.1-127.1:03, Code of Virginia)

M. (reserved)**N. Maintenance Level**

The defined parameters of Maintenance Services, including the times during which and time-frames in which Supplier shall respond to a request for Maintenance Services. The available Maintenance Levels shall be as defined in Exhibit X hereto or as defined in any Statement of Work or order issued hereunder. The actual Maintenance Level for a unit of Software or Product shall be set forth in the executed order or Statement of Work for Maintenance of that Software or Product referencing this Contract.

O. Maintenance Services (or "Maintenance" or "Software Maintenance")

If authorized by the Contract, means those services, preventive and remedial, provided or performed by Supplier under the Contract or for an Authorized User in order to ensure continued operation of the Software or Product, including Software Updates. Maintenance Services shall include support services. Software Maintenance Services may include the development of Work Product, if so authorized in the Contract.

P. Party

Supplier, VITA or any Authorized User.

Q. Protected Health Information

Protected health information means individually identifiable health information that is (i) transmitted in electronic media, (ii) maintained in electronic media, or (iii) transmitted or maintained in any other form or medium. Protected health information excludes individually identifiable health information in (a) education records covered by the Family Educational Rights

and Privacy Act (20 U.S.C. § 1232g); (b) records of any student who is 18 years of age or older, or is attending a postsecondary school, that are made or maintained by a physician, psychiatrist, psychologist, or other recognized professional or paraprofessional acting in his professional or paraprofessional capacity, or assisting in that capacity, and that are made, maintained, or used only in connection with the provision of treatment to the student and are not available to anyone other than persons providing such treatment, except that such records may be personally reviewed by a physician or other appropriate professional of the student's choice; and (c) employment records held, in its role as employer, by a health plan, health care clearinghouse, or health care provider that transmits health information in electronic form. (§ 37.2-1032, Code of Virginia)

R. Receipt

An Authorized User or its Agent has physically received or has unfettered access to any Deliverable at the correct "ship-to" location.

S. Requirements

The functional, performance, operational, compatibility, Acceptance testing criteria and other parameters and characteristics of the Product, Software, Solution, Component, Service(s), Application and Licensed Services and Deliverables, as authorized by the Contract and/or as set forth in Exhibit A and/or the applicable Statement of Work or order and such other parameters, characteristics, or performance standards that may be agreed upon in writing by the Parties.

T. Services

Any work performed or service provided by Supplier in fulfilling its obligations under the Contract or, as applicable, any Statement of Work or order issued under the Contract, including design, and development of software and modifications, software updates, solution, products, implementation, installation, maintenance, support, testing, training, or other provision to the Authorized User of any Deliverable described in the applicable Statement of Work or order, as authorized by the Contract scope. As permitted by the scope of the Contract, may include the discovery, creation, or development of Work Product, if any. If Work Product is authorized, refer to definition for Work Product. This definition does not include Licensed Services.

U. Software

If Software is authorized under the Contract, means the programs and code, and all intellectual property therein, provided by Supplier under the Contract or any order or SOW issued hereunder as a component(s) of any Deliverable or Component of any Solution, and any subsequent modification of such programs and code, excluding Work Product. For COTS (boxed) software, means the programs and code, and any subsequent releases, provided by Supplier under this Contract, for the term of this Contract or any SOW or order issued under this Contract, as set forth in Exhibit B or as described on Supplier's US and International price lists in effect at time of Authorized User's placement of order or Statement of Work. For Software Maintenance contracts Software also includes the programs and code provided by Supplier under the Contract or any order or SOW issued hereunder in the form of Software Updates.

V. Software Publisher

If Software is authorized under the Contract, means the licensor of the Software, other than Supplier, provided by Supplier under this Contract.

W. Solution

The Supplier's contractually committed technical approach for solving a technology business objective and associated Requirements as defined and authorized by the scope of the Contract or any order or Statement of Work issued under the Contract. Solution means all Supplier and Supplier's third-party providers' Components making up the Solution, including but not limited to Software, Product, configuration design, implementation, Supplier-developed interfaces, Services and Work Product.

X. Statement of Work (SOW)

The document template attached as Exhibit D (describing the deliverables, due dates, assignment duration and payment obligations for a specific project, engagement, or assignment

that Supplier commits to provide to an Authorized User), which, upon signing by both Parties, shall be deemed a part of the Contract.

Y. Supplier

Means the Supplier and any of its Affiliates (i.e., an entity that controls, is controlled by, or is under common control with Supplier).

Z. Update

As applicable, any update, modification or new release of the Software, System Software, Application, Documentation or Supplier Product that Supplier makes generally available to its customers at no additional cost. Software Updates include patches, fixes, upgrades, enhancements, improvements, or access mode, including without limitation additional capabilities to or otherwise improve the functionality, increase the speed, efficiency, or base operation of the Software.

AA. Work Product

Inventions, combinations, machines, methods, formulae, techniques, processes, improvements, software designs, computer programs, strategies, specific computer-related know-how, data and original works of authorship (collectively, the "Work Product") discovered, created, or developed by Supplier, or jointly by Supplier and an Authorized User(s) in the performance of this Contract. Work Product shall not include configuration of software.

3. TERM AND TERMINATION

A. Contract Term

This Contract is effective and legally binding as of the Effective Date and, unless terminated as provided for in this section, shall continue to be effective and legally binding for a period of three (3) years. VITA, in its sole discretion, may extend this Contract for up to two (2) additional one (1) year periods after the expiration of the initial three (3) year period. VITA will issue a written notification to the Supplier stating the extension period thirty (30) days prior to the expiration of any current term. In addition, performance of an order or SOW issued during the term of this Contract may survive the expiration of the term of this Contract, in which case all contractual terms and conditions required for the operation of such order or SOW shall remain in full force and effect until all of Supplier's obligations pursuant to such order or SOW have met the final Acceptance criteria of the applicable Authorized User.

B. Termination for Convenience

VITA may terminate this Contract, in whole or in part, or any order or SOW issued hereunder, in whole or in part, or an Authorized User may terminate an order or SOW, in whole or in part, upon not less than thirty (30) days prior written notice at any time for any reason.

C. Termination for Breach or Default

VITA shall have the right to terminate this Contract, in whole or in part, or any order or SOW issued hereunder, in whole or in part, or an Authorized User may terminate an order or SOW, in whole or in part, for breach and/or default of Supplier. Supplier shall be deemed in breach and/or default in the event that Supplier fails to meet any material obligation set forth in this Contract or in any order or SOW issued hereunder.

If VITA deems the Supplier to be in breach and/or default, VITA shall provide Supplier with notice of breach and/or default and allow Supplier fifteen (15) days to cure the breach and/or default. If Supplier fails to cure the breach as noted, VITA may immediately terminate this Contract or any order or SOW issued hereunder, in whole or in part. If an Authorized User deems the Supplier to be in breach and/or default of an order or SOW, such Authorized User shall provide Supplier with notice of breach and/or default and allow Supplier fifteen (15) days to cure the breach and/or default. If Supplier fails to cure the breach and/or default as noted, such Authorized User may immediately terminate its order or SOW, in whole or in part. Any such termination shall be deemed a Termination for Breach or Termination for Default. In addition, if Supplier is found by a court of competent jurisdiction to be in violation of or to have violated 31 USC 1352 or if Supplier becomes a party excluded from Federal Procurement and Nonprocurement Programs, VITA may

immediately terminate this Contract, in whole or in part, for breach, and VITA shall provide written notice to Supplier of such termination. Supplier shall provide prompt written notice to VITA if Supplier is charged with violation of 31 USC 1352 or if federal debarment proceedings are instituted against Supplier.

D. Termination for Non-Appropriation of Funds

All payment obligations from public bodies under this Contract are subject to the availability of legislative appropriations at the federal, state, or local level, for this purpose. In the event of non-appropriation of funds, irrespective of the source of funds, for the items under this Contract, VITA may terminate this Contract, in whole or in part, or any order or SOW, in whole or in part, or an Authorized User may terminate an order or SOW, in whole or in part, for those goods or services for which funds have not been appropriated. Written notice will be provided to the Supplier as soon as possible after legislative action is completed.

E. Effect of Termination

Upon termination, neither the Commonwealth, nor VITA, nor any Authorized User shall have any future liability except for Deliverables accepted by the Authorized User or Services, including as applicable, Licensed Services and Maintenance Services, rendered by Supplier and accepted by the Authorized User prior to the termination date.

In the event of a Termination for Breach or Termination for Default, Supplier shall accept return of any Deliverable that was not accepted by the Authorized User(s), and Supplier shall refund any monies paid by any Authorized User for such Deliverable, and all costs of de-installation and return of Deliverables shall be borne by Supplier.

F. Termination by Supplier

Termination by Supplier will not be considered.

G. Transition of Services

Prior to or upon expiration or termination of this Contract and at the request of VITA, Supplier shall provide all assistance as VITA or an Authorized User may reasonably require to transition the Supplier's contractual obligations, or any portion thereof, as requested by VITA or the Authorized User, to any other supplier with whom VITA or such Authorized User contracts for provision of same. This obligation may extend beyond expiration or termination of the Contract for a period not to exceed six (6) months. Supplier shall provide such assistance at the hourly rate or a charge agreed upon by Supplier and VITA or an Authorized User.

H. Contract Kick-Off Meeting

Within 30 days of Contract award, Supplier may be required to attend a contract orientation meeting, along with the VITA contract manager/administrator, the VITA and/or other agency project manager(s) or authorized representative(s), technical leads, VITA representatives for SWaM and Sales/IFA reporting, as applicable, and any other significant stakeholders who have a part in the successful performance of this Contract. The purpose of this meeting will be to review all contractual obligations for both parties, all administrative and reporting requirements, and to discuss any other relationship, responsibility, communication and performance criteria set forth in the Contract. The Supplier may be required to have its assigned account manager as specified in Section 6.0 and a representative from its contracts department in attendance. The time and location of this meeting will be coordinated with Supplier and other meeting participants by the VITA contract manager.

I. Contract Closeout

Prior to the contract's expiration date, Supplier may be provided contract close out documentation and shall complete, sign and return to VITA Supply Chain Management within 30 days of receipt. This documentation may include, but not be limited to: Patent/Royalty Certificate, Tangible Property/Asset Certificate, Escrow Certificate, SWaM Reports Completion Certificate, other required Small Business (SWaM) Procurement Plan compliance/variance and non-SWaM spend documentation as described in the Reporting section of this Contract, Sales Reports/IFA Payments Completion Certificate, and Final Payment Certificate. Supplier is required to process these as requested to ensure completion of close-out administration and to maintain a positive

performance reputation with the Commonwealth of Virginia. Any closeout documentation not received within 30 days of Supplier's receipt of the Commonwealth's request will be documented in the contract file as Supplier non-compliance. Supplier's non-compliance may affect any pending payments due the Supplier, including final payment, until the documentation is returned.

4. SUPPLIER PERSONNEL

A. Selection and Management of Supplier Personnel

Supplier shall take such steps as may be necessary to ensure that all Supplier personnel performing under this Contract are competent and knowledgeable of the contractual arrangements and the applicable order or SOW between Authorized User and Supplier. Supplier shall be solely responsible for the conduct of its employees, agents, and subcontractors, including all acts and omissions of such employees, agents, and subcontractors, and shall ensure that such employees and subcontractors comply with the appropriate Authorized User's site security, information security and personnel conduct rules, as well as applicable federal, state and local laws, including export regulations. Authorized User reserves the right to require the immediate removal from such Authorized User's premises of any employee, subcontractor or agent of Supplier whom such Authorized User believes has failed to comply with the above or whose conduct or behavior is unacceptable or unprofessional or results in a security or safety breach.

B. Supplier Personnel Supervision

Supplier acknowledges that Supplier or any of its agents, contractors, or subcontractors, is and shall be the employer of Supplier personnel, and shall have sole responsibility to supervise, counsel, discipline, review, evaluate, set the pay rates of, provide (to the extent required by law) health care and other benefits for, and terminate the employment of Supplier personnel. Neither VITA nor an Authorized User shall have any such responsibilities for Supplier or subcontractor personnel.

C. Key Personnel

An order or SOW may designate certain of Supplier's personnel as Key Personnel or Project Managers. Supplier's obligations with respect to Key Personnel and Project Managers shall be described in the applicable order or SOW. Failure of Supplier to perform in accordance with such obligations may be deemed a default of this Contract or of the applicable order or SOW.

D. Subcontractors

Supplier shall not use subcontractors to perform its contractual obligations under the Contract or any order or SOW issued thereunder unless specifically authorized in writing to do so by the Authorized User. If an order or SOW issued pursuant to this Contract is supported in whole or in part with federal funds, Supplier shall not subcontract to any subcontractor that is a party excluded from Federal Procurement and Nonprocurement Programs. In no event shall Supplier subcontract to any subcontractor which is debarred by the Commonwealth of Virginia or which owes back taxes to the Commonwealth and has not made arrangements with the Commonwealth for payment of such back taxes.

If Supplier subcontracts the provision of any performance obligation under this Contract to any other party, Supplier will (i) act as prime contractor and shall be the sole point of contact with regard to all obligations under this Contract, and (ii) hereby represents and warrants that any authorized subcontractors shall perform in accordance with the warranties set forth in this Contract.

5. NEW TECHNOLOGY

A. Access to New Technology

Supplier will bring to VITA's attention any new products or services within the scope of the Contract that it believes will be of interest to VITA and will work to develop proposals for the provision of any such products or services as VITA requests.

B. New Service Offerings Not Available from Supplier

If new or replacement product or service offerings become available to VITA under the scope of the Contract, and cannot be competitively provided by the Supplier, VITA may purchase such new or replacement products or services from a third party, and Supplier will reasonably assist VITA to migrate to such products or services, if VITA elects to use such new or replacement product or service offerings. Such assistance shall be at the hourly rate in Exhibit B as agreed upon by Supplier and VITA or an Authorized User.

If VITA elects to acquire new products or services as described in the above paragraph and such services replace existing Supplier-provided services, discount tiers and any commitments (as applicable per the Contract) will be reduced to reflect reductions in purchases of the replaced products or services.

6. SOFTWARE LICENSE

If Authorized User is a state agency, board, commission, or other quasi-political entity of the Commonwealth of Virginia or other body referenced in Title 2.2 of the Code of Virginia, the license shall be held by the Commonwealth. If Authorized User is a locality, municipality, school, school system, college, university, local board, local commission, or local quasi-political entity, the license shall be held by that public body. If Authorized User is a private institution of higher education which is listed at: <http://www.cicv.org/Our-Colleges/Profiles.aspx>, the license shall be held by that private institution.

A. License Grant

Supplier grants to the Commonwealth and all Authorized Users a fully paid, perpetual (unless otherwise specifically indicated in Exhibit B), worldwide, nonexclusive, transferable, irrevocable object code license to use, transmit and distribute the Software and Documentation including any subsequent revisions, in accordance with the terms and conditions set forth herein and subject only to the limitations and/or restrictions explicitly set forth in this Contract and Attachment 1 of this Contract. It is expressly understood that "perpetual" license rights shall commence upon delivery of the Software to the Authorized User and shall exist in perpetuity unless otherwise terminated in accordance with the applicable provisions of the Contract. The Software is the property of Supplier, and no title or ownership of the Software or any of its parts, including Documentation, shall transfer to the Commonwealth or any Authorized User.

The Commonwealth and all Authorized Users shall have the right to use, transmit and distribute the Software for their benefit, for their Internal Use, and for the benefit of their Agents, including internal and third-party information processing. For purposes of this Agreement, "Internal Use" shall mean use of the Software and Documentation for the Commonwealth's and all Authorized Users' general governmental purpose but does not include use of the Software and Documentation to conduct service bureau, application service provider, or time-share activities for third parties.

The Commonwealth and any Authorized User may allow access to the Software by third party vendors who are under contract with an Authorized User to provide services to or on behalf of such Authorized User, or by other entities as required for conducting the business of government. Access includes loading or executing the Software on behalf of such Authorized Users or their Agents, provided that any such third party vendor shall be subject to the same limitations and restrictions with respect to this license and shall be required to maintain the confidentiality and not use for its own purposes any proprietary or confidential information of Supplier.

The license fee includes a test system copy, which consists of the right to use the Software for non-production test purposes, including but not limited to, problem/defect identification, remediation, and resolution, debugging, new version evaluation, Software interface testing, and disaster recovery technique analysis and implementation.

In the event that all of an Authorized User's copies of the Software, including all backup copies, are destroyed, irreparably damaged or otherwise lost due to fire, explosion, sabotage, flood or

other disaster, Supplier shall provide to such Authorized User, at no additional cost, replacement copies of the Software and Documentation. Nothing contained in this Section shall obligate Supplier to replace or assist in the recovery of data lost concurrent with the loss of the Software.

An Authorized User may make a reasonable number of copies of the Software and Documentation for backup, archiving, and disaster recovery, and may run the Software concurrently at a back-up site, for no additional license fees or costs. Such Authorized User agrees that any copies of the Software or Documentation that it makes under this Contract shall bear all copyright, trademark and other proprietary notices included therein by Supplier. An Authorized User may add its own copyright or other proprietary notice, or copyright or other proprietary notice of the Commonwealth, to any copy of the Software or Documentation, which contains modifications to which the Commonwealth or such Authorized User has ownership rights pursuant to this Contract.

Except as expressly authorized, an Authorized User shall not distribute the Software to any third party without Supplier's prior written consent.

Except as provided or allowed by law, no Party shall reverse engineer, decompile, disassemble, or otherwise attempt to derive source code or other trade secrets from any software or other intellectual property of any other Party.

With respect to Software identified as "Protegrity" in Exhibit B, Any Software provided by Supplier shall include such Software as part of its Solution. Such Software that is licensed directly from the Software Publisher through an end user licensing agreement (EULA) shall be subject to the License Agreement Addendum (LAA), both of which are attached hereto as Exhibit F. Supplier shall have sole responsibility for ensuring that any such Software Publisher executes the LAA. The Software Publisher's EULA, along with the LAA executed by Software Publisher shall be added to Exhibit F for reference, but shall not become a part of this Contract.

Nothing contained herein shall be construed to restrict or limit the rights of the Commonwealth or any Authorized User to use any technical data, which the Commonwealth or such Authorized User may already possess or acquire under proper authorization from other sources.

Compliance with the terms and conditions of any license granted pursuant to this Contract is solely the responsibility of the Authorized User which purchased such license or for which such license was purchased and not the responsibility of VITA, unless VITA purchased such license on its own behalf.

B. License Type

All licenses granted, regardless of the type, include all uses set forth above. License type may vary by Software product and shall be set forth in Exhibit B and identified on any order or SOW issued pursuant to this Contract.

option C1 - Designated CPU License

The license(s) granted under this Section authorizes use of the Software only on the number of CPU(s) listed in the applicable order or SOW. An Authorized User may transfer the Software to a different machine to the extent that the license price for such new CPU(s) is equivalent to the CPU(s) initially licensed. If the licensed CPU is inoperative because of (i) malfunction, (ii) performance of maintenance, or (iii) modification to the licensed CPU, or (iv) because the Software is being transferred to another CPU, such Authorized User may use the Software on a replacement CPU as long as required by the mentioned conditions. Also refer to Attachment 1, Section 1 for additional Designated CPU License terms related to database platform software. Also refer to Attachment 1, Section 2 for additional Designated CPU License terms related to application software.

option C2 - Concurrent User License

The license(s) granted under this Section authorizes use of the Software on any system based on the total number of Concurrent Users. The number of "Concurrent Users" is defined as the maximum number of concurrent Sessions connected at a given point in time. A "Session" is

defined as an active user executing the Software. The Authorized User shall specify an initial number of Concurrent User licenses in its initial order or SOW pursuant to this Contract. An Authorized User may increase the number of Concurrent User licenses upon issuing an order or SOW for additional Concurrent User licenses. The license fee for additional Concurrent User licenses and payment of the license fee is set forth on Exhibit B. Also refer to Attachment 1, Section 2 for additional Designated CPU License terms related to application software.

C. No Subsequent, Unilateral Modification of Terms by Supplier (“Shrink Wrap”)

Notwithstanding any other provision or other unilateral license terms which may be issued by Supplier after the Effective Date of this Contract, and irrespective of whether any such provisions have been proposed prior to or after the issuance of an order for a Solution, the components of which are licensed under this Contract, or the fact that such other agreement may be affixed to or accompany Software upon delivery (“shrink wrap”), the terms and conditions set forth herein shall supersede and govern licensing and delivery of all products and services hereunder.

7. RIGHTS TO WORK PRODUCT

If Authorized User is a state agency, board, commission, or other quasi-political entity of the Commonwealth of Virginia or other body referenced in Title 2.2 of the Code of Virginia, any license to pre-existing work shall be held by, and all rights in, title to, and ownership of Work Product shall vest with the Commonwealth. If Authorized User is a locality, municipality, school, school system, college, university, local board, local commission, or local quasi-political entity, any license to pre-existing work shall be held by, and all rights in, title to, and ownership of Work Product shall vest with that public body. If Authorized User is a private institution of higher education which is listed at: <http://www.cicv.org/Our-Colleges/Profiles.aspx>, any license to pre-existing work shall be held by, and all rights in, title to, and ownership of Work Product shall vest with that private institution.

A. Work Product

VITA and Supplier each acknowledge that performance of this Contract may result in Work Product. The Parties shall document all Work Product specifications and such specifications shall be made an incorporated exhibit to this Contract. Supplier agrees that it shall promptly and fully disclose to the Commonwealth or the Authorized User any and all Work Product generated, conceived, reduced to practice or learned by Supplier or any of its employees, either solely or jointly with others, during the term or performance of this Contract, which in any way relates to the business of the Commonwealth, VITA or any Authorized User. Supplier further agrees that neither Supplier nor Supplier's employees, contractors, agents or subcontractors, nor any party claiming through Supplier or Supplier's employees, shall, other than in the performance of this Contract, make use of or disclose to others any proprietary information relating to the Work Product. All Services performed hereunder shall include delivery of all source and object code and all executables and documentation for all Work Product. Supplier shall at no time deny access to the Work Product, regardless of form, by the Commonwealth or the Authorized User.

B. Ownership

Supplier agrees that, whether or not the Services are considered “works made for hire” or an employment to invent, all Work Product discovered, created or developed under this Contract shall be and remain the sole property of the Commonwealth and its assigns or the Authorized User and its assigns. The Supplier will retain ownership of all its intellectual property incorporated into Work Product. Except as provided in the preceding sentence or as specifically set forth in writing and signed by both VITA and Supplier, or Authorized User and Supplier, Supplier agrees that the Commonwealth or the Authorized User shall have all rights with respect to any Work Product discovered, created or developed under this Contract without regard to the origin of the Work Product.

To the extent that VITA has a right and concurrent with the conveyance of ownership rights in all Work Product from the Supplier to VITA, VITA grants to the Supplier a worldwide, non-exclusive, royalty-free, perpetual license to use, modify, and distribute such Work Product, subject to applicable restrictions on any VITA Confidential Information contained therein, for its internal business purposes and for use with other clients. Each party shall be free to use its general knowledge, skills and experience, and any ideas, concepts, know-how, and techniques that are

acquired or used in the course of performing under this Contract. In no case may this Work Product be presented by the Supplier to other Commonwealth of Virginia agencies, political subdivisions, or other Commonwealth entities for payment.

If and to the extent that Supplier may, under applicable law, be entitled to claim any ownership interest in the Work Product, Supplier hereby irrevocably transfers, grants, conveys, assigns and relinquishes, except for the license granted above, exclusively to the Commonwealth or the Authorized User any and all right, title and interest it now has or may hereafter acquire in and to the Work Product under patent, copyright, trade secret and trademark law in perpetuity or for the longest period otherwise permitted by law. If any moral rights are created, Supplier waives such rights in the Work Product. Supplier further agrees as to the Work Product to assist, at the Commonwealth's sole cost and expense, the Commonwealth or the Authorized User in every reasonable way to obtain and, from time to time, enforce patents, copyrights, trade secrets and other rights and protection relating to the Work Product, and to that end, Supplier and its employees shall execute all documents for use in applying for and obtaining such patents, copyrights, and other rights and protection, and in protecting trade secrets, with respect to such Work Product, as the Commonwealth or the Authorized User may reasonably request, together with any assignments thereof to the Commonwealth or the Authorized User or entities designated by the Commonwealth or the Authorized User.

C. Pre-existing Work

If and to the extent that any pre-existing rights are embodied or reflected in the Work Product, Supplier hereby grants to the Commonwealth or the Authorized User the irrevocable, perpetual, non-exclusive, worldwide, royalty-free right and license to (i) use, execute, reproduce, display, perform, distribute copies of and prepare derivative works based upon such pre-existing rights and any derivative works thereof and (ii) authorize others to do any or all of the foregoing.

D. Return of Materials

Upon termination of this Contract or in the event Authorized User terminates any order or SOW issued hereunder, Supplier shall immediately return to VITA or the appropriate Authorized User all copies, in whatever form, of any and all Confidential Information and other properties provided by VITA or such Authorized User, which are in Supplier's possession, custody or control.

8. GENERAL WARRANTY

Supplier warrants and represents to VITA that Supplier will fulfill its contractual obligations and meet all needed requirements as described in Exhibit A as follows:

A. Ownership

Supplier has the right to perform and provide all contractual obligations and provide all needed services and products without violating or infringing any law, rule, regulation, copyright, patent, trade secret or other proprietary right of any third party.

B. Reserved

C. Component Warranty

For any Software or Deliverable ("Component"), the applicable warranty period shall be the period from written acceptance of the Component until final acceptance of the Solution, or as specified in the applicable order or SOW.

D. Interoperability Warranty

Supplier warrants that each Component, regardless of the origin of the Component, delivered under this Contract or pursuant to an order or SOW shall be interoperable with other Components so as to meet or exceed the performance specified in the Requirements and the applicable order or SOW.

E. Performance Warranty

Supplier warrants and represents the following with respect to Performance:

- i. All contractual obligations shall be performed with care, skill and diligence, consistent with or above applicable professional standards currently recognized in Supplier's profession, and Supplier shall be responsible for the professional quality, technical accuracy, completeness and

coordination of all plans, information, specifications, Deliverables and Services furnished under this Contract;

ii. All contractual obligations pursuant to a particular Request for Proposal ("RFP") or Invitation for Bid ("IFB"), quote, or Request for Quote (RFQ), and any associated Deliverables shall be fit for the particular purposes specified by VITA in the RFP/IFB and in this Contract and, if applicable, by the Authorized User requesting such quote or issuing such RFQ;

F. Documentation and Deliverables

Supplier warrants the following as applicable to the Contract:

i. The Solution or Software is pursuant to a particular Request for Proposal ("RFP") or Invitation for Bid ("IFB"), quote, or Request for Quote (RFQ), and therefore such Solution or Software shall be fit for the particular purposes specified by VITA in the RFP/IFB and in this Contract, and if applicable, by the Authorized User requesting such quote or issuing such RFQ;

ii. If the RFP/IFB or RFQ specified or if Exhibit A or Supplier's quote specifies the hardware equipment an Authorized User shall use to run the Solution, then Supplier warrants the Solution, and any subsequent Solution Component Software release, is compatible with and shall perform well with such hardware equipment;

iii. The Solution provided hereunder includes Component Software at the current release level unless an Authorized User specifies an older version in its order or SOW;

iv. No corrections, work arounds or future Software or Solution Component Software releases provided by Supplier under the warranty provisions or under maintenance shall degrade the Solution, cause any other warranty to be breached, or require an Authorized User to acquire additional hardware equipment or software;

v. Supplier warrants that the Documentation and all modifications or amendments thereto which Supplier is required to provide under this Contract shall be sufficient in detail and content to allow a sufficiently trained user/programmer to understand fully the Solution or Solution Component or to load/use/operate the Software without reference to any other materials or information.

G. Malicious Code

Supplier has used its best efforts through quality assurance procedures to ensure that there are no Computer Viruses or undocumented features in any Solution, Solution Component, Deliverables, Product, Software, System Software, Update, Application and/or Licensed Service, as obligated and provided by Supplier under the order or SOW, at the time of delivery to the Authorized User. Supplier warrants that the Solution, Solution Components, Deliverables, Product, Software, System Software, Update, Application and/or Licensed Services, as obligated and provided by Supplier under the order or SOW does not contain any embedded device or code (e.g., time bomb) that is intended to obstruct or prevent any Authorized User's use of the Solution, Solution Components, Deliverables, Product, Software, System Software, Application and/or Licensed Service.

Notwithstanding any rights granted under this Contract or at law, Supplier hereby waives under any and all circumstances any right it may have or may hereafter have to exercise Electronic Self-Help. Supplier agrees that an Authorized User may pursue all remedies provided under law in the event of a breach or threatened breach of this Section, including injunctive or other equitable relief.

H. Open Source

Supplier will notify all Authorized Users if the Solution, Solution Components, Deliverables, Product, Software, Updates, Application and/or Licensed Services, as obligated and provided by Supplier, contains any Open Source code and identify the specific Open Source License that applies to any embedded code dependent on Open Source code, provided by Supplier under this Contract.

I. Supplier's Viability

Supplier warrants that it has the financial capacity to perform and continue to perform its obligations under this Contract; that Supplier has no constructive or actual knowledge of a

potential legal proceeding being brought against Supplier that could materially adversely affect performance of this Contract; and that entering into this Contract is not prohibited by any contract, or order by any court of competent jurisdiction.

J. Supplier's Past Experience

Supplier warrants that it has met similar contractual obligations and fulfilled the Requirements as set forth in Exhibit A and in this Contract, in similar or greater complexity, to other customers without significant problems due to Supplier's performance and without causing a contractual breach or default claim by any customer.

THE OBLIGATIONS OF SUPPLIER UNDER THIS GENERAL WARRANTY SECTION ARE MATERIAL. SUPPLIER MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY CONCERNING MERCHANTABILITY OR FITNESS FOR ANY OTHER PARTICULAR PURPOSE.

9. DELIVERY AND INSTALLATION

A. Scheduling

Supplier shall deliver the Solution, including any Component parts, and complete performance of Services according to the delivery dates set forth on the appropriate order or SOW.

Supplier shall make available all appropriate and/or related Documentation at the time of delivery of the relevant Component of the Solution. Any Solution Component delivered without the appropriate and required Documentation shall be considered "shipped short" until the applicable documentation has been received.

B. Deployment of Solution

1. Supplier Deployment of Solution

The Solution fee includes initial deployment of the complete Solution. Supplier is required to deploy the Solution in accordance with the deployment schedule set forth on the order or SOW. Deployment shall include the installation of any Software Component and, if agreed, any hardware Component, of the Solution. Supplier shall conduct its standard appropriate diagnostic evaluation at the Authorized User's user site to determine that the Solution is properly deployed and fully ready for productive use, and shall supply such Authorized User with a copy of the results of the diagnostic evaluation promptly after completion of deployment.

Supplier agrees that failure to deploy the Solution in accordance with the delivery schedule in the applicable order or SOW, solely due to Supplier's acts or omissions, shall constitute a material breach of this Contract resulting in damages to such Authorized User. Authorized User reserves any and all other remedies available at law or in equity for delays lasting longer than thirty (30) days or for non-deployment.

2. Reserved

C. Documentation of Software Configuration

If the Solution includes configuration of Software by Supplier, Supplier shall provide to the appropriate Authorized User documentation containing a description of the configuration. Such documentation shall be sufficiently detailed such that any appropriately trained employee or Agent of any Authorized User may reconstruct the configuration of the Software.

10. ACCEPTANCE

A. Software and Deliverable Acceptance Criteria

Software and Deliverables shall be deemed accepted when the Authorized User determines that such Software and Deliverables successfully operate in accordance with the Requirements and applicable order or SOW. At a minimum, Acceptance Criteria for Software and Deliverables, and for the Solution as a whole, shall ensure that all of the functionality described in the Requirements set forth in Exhibit A and required by the Authorized User in the applicable order or SOW has been delivered to the Authorized User. Acceptance of any one Deliverable shall not imply Authorized User's concurrence that the Deliverable will function properly with or within the

Solution. Supplier shall be responsible for ensuring that all Deliverables function properly within the Solution. Should a previously Accepted Deliverable require further modification in order to work properly with or within the Solution, Supplier shall be responsible for all costs associated with such modification. Such Authorized User agrees to commence Acceptance testing within five (5) days, or within such other period as set forth in the applicable order or SOW, after receipt of the Software or Deliverable. Acceptance testing will be no longer than fifteen (15) days, or such other period as may be agreed in writing between Authorized User and Supplier, for the first instance of each product type set forth in Exhibit B. Supplier agrees to provide to such Authorized User such assistance and advice as such Authorized User may reasonably require, at no additional cost, during such Acceptance testing, other than pre-approved travel expenses for time and materials type orders or SOWs or for fixed price type orders or SOWs in which travel expenses were expressly excluded from the total price of the order or SOW. Any such travel expenses must be pre-approved by the Authorized User and shall be reimbursable by such Authorized User at the then-current per diem amounts as published by the Virginia Department of Accounts (<http://www.doa.virginia.gov>), or a successor URL(s)). If the Authorized User is a private institution chartered in Virginia and and granted tax-exempt status under §501(c)(3) of the Internal Revenue Code, such private institution may have its own per diem amounts applicable to Supplier's pre-approved travel expenses. Authorized User shall provide to Supplier written notice of Acceptance upon completion of successful Acceptance testing. Should Authorized User fail to provide Supplier written notice of successful or unsuccessful Acceptance testing within five (5) days following the Acceptance testing period, the Service shall be deemed Accepted.

B. Software and Deliverable Cure Period

Supplier shall correct any non-conformities identified during Acceptance testing and re-submit such non-conforming Software or Deliverable for re-testing within fifteen (15) days of receipt of the appropriate Authorized User's written notice of non-conformance, or as otherwise agreed between such Authorized User and Supplier in the applicable order or SOW. Should Supplier fail to cure the non-conformity or deliver Software or a Deliverable which meets the Requirements, such Authorized User may, in its sole discretion: (i) reject the Software or Deliverable in its entirety and recover amounts previously paid hereunder; (ii) issue a "partial Acceptance" of the Software or Deliverable with an equitable adjustment in the price to account for such deficiency; or (iii) conditionally accept the applicable Software or Deliverable while reserving its right to revoke Acceptance if timely correction is not forthcoming. Failure of the Software or a Deliverable to meet, in all material respects, the Requirements after the second set of acceptance tests shall constitute a default by Supplier. In the event of such default, the Authorized User may, at its sole discretion, terminate its order or SOW, in whole or in part, for the Solution to be provided thereunder by Supplier.

C. Solution Acceptance Criteria

Solution shall be deemed accepted when the Authorized User determines that such Solution successfully operates in accordance with the Requirements. Such Authorized User agrees to commence Acceptance testing within five (5) days after deployment of the Solution. Acceptance testing will be completed within fifteen (15) days, or such other period as may be agreed in writing between Authorized User and Supplier, after deployment of the Solution. Supplier agrees to provide to such Authorized User such assistance and advice as such Authorized User may reasonably require, at no additional cost, during such Acceptance testing, other than pre-approved travel expenses for time and materials type orders or SOWs or for fixed price type orders or SOWs in which travel expenses were expressly excluded from the total price of the order or SOW. Any such travel expenses must be pre-approved by the Authorized User and shall be reimbursable by such Authorized User at the then-current per diem amounts as published by the Virginia Department of Accounts <http://www.doa.virginia.gov>, or a successor URL(s)). If the Authorized User is a private institution chartered in Virginia and and granted tax-exempt status under §501(c)(3) of the Internal Revenue Code, such private institution may have its own per diem amounts applicable to Supplier's pre-approved travel expenses. Authorized User shall provide to Supplier written notice of Acceptance upon completion of successful Acceptance testing. Should Authorized User fail to provide Supplier written notice of successful or

unsuccessful Acceptance testing within five (5) days following the Acceptance testing period, the Service shall be deemed Accepted.

D. Solution Cure Period

Supplier shall correct any non-conformities identified hereunder and shall thereafter re-submit such previously non-conforming Solution or Component products or Services for re-testing within fifteen (15) business days of receipt of written notice of non-conformance to Supplier, or as otherwise agreed between the Authorized User and Supplier. Should Supplier fail to deliver a Solution which meets the Requirements, such Authorized User may, in its sole discretion: (i) reject the Solution in its entirety and recover amounts previously paid hereunder; (ii) issue a "partial Acceptance" of the Solution with an equitable adjustment in the price to account for such deficiency; or (iii) conditionally accept the applicable Solution while reserving its right to revoke Acceptance if timely correction is not forthcoming. Failure of the Solution to meet, in all material respects, the specifications and performance standards after the second set of acceptance tests shall constitute a default by Supplier. In the event of such default, the Authorized User may, at its sole discretion, terminate its order or SOW, in whole or in part, for the Solution to be provided hereunder by Supplier.

11. MAINTENANCE SERVICES

At any time during the Maintenance Period Supplier shall provide the following maintenance services (including unlimited telephonic support and all necessary travel and labor) to maintain the Solution in accordance with the Requirements. During the Maintenance Period, charges shall be in accordance with this Section and Exhibit B.

A. Known Defects

Promptly notify all Authorized Users in writing of any defects or malfunctions in the Solution or Documentation of which it learns from any source, correct any such defects or malfunctions or provide a work around until corrected, within five (5) days of Supplier's knowledge of such defect or malfunction and provide all Authorized Users with corrected copies of same.

B. New Releases

Provide to all Authorized Users no later than the first day of general release, copies of the Software and Documentation revised to reflect any enhancements, including all new releases, upgrades, and access modes, to the Software made by Supplier, including, without limitation, modifications to the Software which can increase the speed, efficiency or base of operation of the Software or add additional capabilities to or otherwise improve the functionality of the Software.

C. Coverage

See Exhibit X

D. Service Levels

See Exhibit X

E. Software Evolution

Should Supplier or Software Publisher merge or splinter the Software previously provided to any Authorized User, such action on the part of Supplier or Software Publisher shall not in any way result in any Authorized User being charged additional license or support fees in order to receive enhancements, releases, upgrade or support for the Software.

If Supplier or Software Publisher reduces or replaces functionality contained in a licensed Software product and provides the same or substantially similar functionality as or within a separate or renamed Software product, then the Commonwealth or the Authorized User shall be entitled to license such Software product at no additional license or maintenance fee, and subject to the terms and conditions herein.

If Supplier or Software Publisher releases an option, future Software product or other release that has substantially the same functionality as the Software products provided under this Contract, and Software Publisher and/or Supplier ceases to provide maintenance for the older Software product, then Supplier shall offer the Commonwealth or the Authorized User the option to exchange licenses for such replacement Software product or function at no additional charge.

F. Escalation Procedures

Teradata support processes include both technical escalation and management notification. These triggers are invoked based upon the severity of the incident and impact to product performance. The guidelines are as follows:

	Technical Resources Engaged	Teradata Management Notified				
	Customer Services Representative	Local Area 1 st Level Manager	Local Area 2 nd Level Manager	Region VP, Teradata CS	VP, Teradata Customer Svcs	
	Local Area Level 2 Technical Support Personnel	Regional Support Center 1 st Level Manager	Regional Support Center 2 nd Level Manager	Chief Support Office	VP, Teradata Regional Sales Leader	Senior VP, Teradata
	Global Support Center SME	Global Support Center Duty Manager	Global Support Center 2 nd Level Manager	Global Support Center, GM	VP, Teradata Development	
Priority						
1	Immediate	Within 30 minutes	Within 2 hours	Within 4 hours	Within 8 hours	Within 12
2	As Required	As Required	As Required	As Required	As Required	As Required
3	As Required	As Required	As Required	As Required	As Required	As Required

Communicating Status on Escalations

All problems declared Priority 1 are immediately escalated to the Shift Leader and any assigned Customer Service Representative(s), status of these problems will be provided to you hourly via a conference call bridge. For Priority 2 and Priority 3 incidents you can check the status by using [Teradata @ Your Service](#) and selecting the appropriate View an Incident option that meets your needs. You can also request to automatically receive an email update notice for any incident

G. Remedies

See Exhibit X

H. Solution Support Services (Maintenance) and Renewal Options

Supplier shall notify the Authorized User sixty (60) days prior to the expiration of the Maintenance Period, and the Authorized User, at its sole discretion, may renew Maintenance Services for an additional one (1) year period. The annual fee for Maintenance Services shall not exceed the fee charged for the preceding year's Maintenance Services by more than three percent (3%), or the annual change in CPI, as defined in the Fees and Charges section, in effect at the time, whichever is less. Supplier warrants that it shall make Support Services available for all the Solution components listed in Exhibit B for a period of at least five (5) years from the product purchase of any Solution provided to an Authorized User pursuant to this Contract. Cancellation of Maintenance Services by an Authorized User shall not affect this Contract or the grant of any license by Supplier.

12. FEES, ORDERING AND PAYMENT PROCEDURE

A. Fees and Charges

As consideration for the Supplier's performance obligations and any additional products and services provided hereunder to an Authorized User in accordance with the scope of this Contract and the Requirements, as authorized by Exhibit A, and per the Authorized User's order or SOW, an Authorized User shall pay Supplier the fee(s) set forth on Exhibit B, which lists any and all fees and charges. The fees and any associated discounts shall be applicable throughout the term of this Contract; provided, however, that in the event the fees or discounts apply for any period less than the entire term, Supplier agrees that it shall not increase the fees more than once during any twelve (12) month period, commencing at the end of year one (1). No such increase shall exceed

the lesser of three percent (3%) or the annual increase in the Consumer Price Index for All Urban Consumers (CPI-U), U.S. City Average, All Items, Not Seasonally Adjusted, as published by the Bureau of Labor Statistics of the Department of Labor (<http://www.bls.gov/cpi/home.htm>), for the effective date of the increase compared with the same index one (1) year prior. Any such change in price shall be submitted in writing to VITA and to the Authorized User if such change impacts any SOW or order and in accordance with the above and shall not become effective for sixty (60) days thereafter.

B. Ordering

Notwithstanding all Authorized User's rights to license or purchase Supplier's products or services under this Contract, an Authorized User is under no obligation to purchase or license from Supplier any of Supplier's products or services. This Contract is optional use and non-exclusive, and all Authorized Users may, at their sole discretion, purchase, license or otherwise receive benefits from third party suppliers of products and services similar to, or in competition with, the products and services provided by Supplier.

Supplier is required to accept any order or placed by an Authorized User through the eVA electronic procurement website portal (<http://www.eva.virginia.gov/>). eVA is the Commonwealth of Virginia's e-procurement system. State agencies, as defined in §2.2-2006 of the Code of Virginia, shall order through eVA. All other Authorized Users are encouraged to order through eVA, but may order through the following means:

- i. Purchase Order (PO): An official PO form issued by an Authorized User.
- ii. Any other order/payment charge or credit card process, such as AMEX, MASTERCARD, or VISA under contract for use by an Authorized User.

This ordering authority is limited to issuing orders or SOWs for the contractual offerings and Requirements available under the scope of this Contract. Under no circumstances shall any Authorized User have the authority to modify this Contract. An order or SOW from an Authorized User may contain additional terms and conditions; however, to the extent that the terms and conditions of the Authorized User's order or SOW are inconsistent with the terms and conditions of this Contract, the terms of this Contract shall supersede.

Notwithstanding the foregoing, Supplier shall not accept any order or SOW from an Authorized User if such order or SOW is to be funded, in whole or in part, by federal funds and if, at the time the order or SOW is placed, Supplier is not eligible to be the recipient of federal funds as may be noted on any of the Lists of Parties Excluded from Federal Procurement and Nonprocurement Programs.

ALL CONTRACTUAL OBLIGATIONS UNDER THIS CONTRACT IN CONNECTION WITH AN ORDER OR SOW PLACED BY ANY AUTHORIZED USER ARE THE SOLE OBLIGATION OF SUCH AUTHORIZED USER AND NOT THE RESPONSIBILITY OF VITA UNLESS SUCH AUTHORIZED USER IS VITA.

C. Reproduction Rights for Supplier-Provided Software

At an Authorized User's request, Supplier shall provide the Authorized User with a reproducible diskette, CD or passcode for content downloaded from the internet of Software and Updates. Such Authorized User shall be responsible for making copies and distributing the Software and Updates as required. Within thirty (30) days of the end of each calendar quarter, such Authorized User shall provide to Supplier a report of the net number of additional copies of the Software and/or Updates deployed during the quarter. Supplier shall invoice such Authorized User for the net number of new licenses reported as deployed.

D. Reimbursement of Expenses

If allowable pursuant to an Authorized User's Statement of Work, such Authorized User shall pay, or reimburse Supplier, for all reasonable and actual travel-related expenses for greater than thirty (30) miles from portal to portal incurred by Supplier during the relevant period; provided, however, that such Authorized User shall only be liable to pay for Supplier's travel-related expenses, including transportation, meals, lodging and incidental expenses, that have been authorized by

such Authorized User in advance in the Statement of Work and which will be reimbursable by such Authorized User at the then-current per diem amounts as published by the Virginia Department of Accounts (<http://www.doa.virginia.gov/>, or a successor URL(s)). Authorized Users who are not public bodies may have their own per diem amounts applicable to Supplier's pre-approved travel expenses.

All reimbursed expenses will be billed to the Authorized User on a pass-through basis without any markup by Supplier. At Authorized User's request, Supplier shall provide copies of receipts for all travel expenses over US\$30.00.

E. Demonstration

If the Supplier's contractual obligations include the provision of a Solution, an Application and Licensed Services, or Software-as-a-Service, at the request of any Authorized User, Supplier shall perform a demonstration of its Solution, or its Application and Licensed Services or Software-as-a Service at such Authorized User's location and at no charge.

F. Statement of Work

An SOW, the template provided in Exhibit D, shall be required for any orders placed by an Authorized User pursuant to this Contract. Supplier shall perform any and all contractual obligations at the times and locations set forth in the applicable SOW and at the rates set forth in Exhibit B herein. Unless VITA issues a written authorization for a time and materials type SOW, any SOW shall be of a fixed price type but may, with the written approval of VITA, contain a cost-reimbursable line item(s) for pre-approved travel expenses. In furtherance of compliance, invoicing, and auditing requirements, for time and materials type SOWs, Supplier personnel shall maintain daily time records of hours and tasks performed, which shall be submitted or made available for inspection by the Authorized User upon forty-eight (48) hours advance written notice.

Any change to an SOW must be described in a written change request (template provided as Exhibit E). Either Party to an SOW may issue a change request that will be subject to written approval of the other Party before it becomes part of this Contract. In no event shall any SOW or any modification thereto require the Supplier to provide any products or services that are beyond the scope of this Contract as such scope is defined in Exhibit A hereto.

G. Supplier Quote and Request for Quote

Should an Authorized User determine that a competitive process is required to ensure it receives the best value for its needed solution, product and/or services under this contract, such Authorized User may, at its sole discretion, on a case-by-case basis and upon approval by VITA, use a Request for Quote (RFQ) process to obtain identical or similar solutions, products and/or services to those provided by Supplier pursuant to this Contract. The RFQ process is typically used when an Authorized User requires a complete solution that may be fulfilled by Products and Services herein, but whose complexity or size may result in economies that could not be passed on to the Authorized User within the confines of the established contract catalog discount pricing. When an RFQ is used, the project timing and requirements will be clearly outlined in the RFQ document. In some situations, the Authorized User may not identify the exact specifications required. If that is the case, the RFQ respondents will be given the opportunity to identify and propose their recommended specifications.

Supplier shall respond to the RFQ by providing a quote, which shall include (a) a detailed description of each product or service proposed, including such product and services components, at the Exhibit B line item level, (b) the quantity of each such component, (c) the contract price, (d) any additional percentage discount offered, and (e) an extended price. If requested by the Authorized User, Supplier's quote shall also include a proposal describing the approach Supplier plans to take in developing, implementing, and maintaining its offering for the Authorized User. Should Supplier be unable to respond to the RFQ due, for example, to resource constraints, Supplier shall notify Authorized User in writing of its inability to perform the work requested by such Authorized User, and provide the reasons for such inability to perform, prior to the due date for the submission of quotes in response to the RFQ.

H. Invoice Procedures

Supplier shall remit each invoice to the "bill-to" address provided with the order promptly after all Supplier's performance obligations have been accepted and in accordance with the milestone payment schedule, if any, in the applicable order or SOW. Payment for any support services, as authorized in the Contract and the Authorized User's applicable order or SOW, shall be annually in advance unless otherwise stated herein, or in any order or SOW referencing this Contract. No invoice shall include any costs other than those identified in the executed order or SOW, which costs shall be in accordance with Exhibit B. Without limiting the foregoing, all shipping costs are the Supplier's responsibility except to the extent such charges are identified in Exhibit B, or as noted in any executed order or SOW referencing this Contract. Invoices issued by the Supplier shall identify at a minimum:

- i. Dates/periods that invoice covers, including any service or subscription periods, as applicable.
- ii. Line item description of the Deliverable(s), Product(s), Software, Hardware, Services, Solution and Solution Components, Maintenance Services, and/or Licensed Services, as applicable to this Contract, including components thereof or service type, and, if applicable, the project milestone.
- iii. Quantity, charge and extended pricing for each line item
- iv. Applicable order and/or SOW date
- v. This Contract number and the applicable order number and/or SOW number
- vi. Supplier's Federal Employer Identification Number (FEIN)

Any terms included on Supplier's invoice shall have no force or effect and will in no way bind VITA or any Authorized User.

I. Purchase Payment Terms

Supplier is responsible for the accuracy of its billing information. Supplier agrees not to issue invoices hereunder until all Supplier's performance obligations have been accepted and in accordance with the milestone payment schedule, if any, in the applicable order or SOW, or until after services have been rendered. Charges for Deliverables, components or services accepted more than ninety (90) days prior to receipt of a valid invoice may not be paid. Authorized User will pay invoices within 30 days after the date of valid invoice.

13. REPORTING

Supplier is required to submit to VITA the following monthly reports:

- i. Report of Sales; and
- ii. Small Business Procurement and Subcontracting Report

These reports must be submitted using the instructions and further detailed requirements and templates found at the following URL: <http://www.vita.virginia.gov/scm/default.aspx?id=97>

Suppliers are encouraged to review the site periodically for updates on Supplier reporting requirements and methods.

In conjunction with the requirements in the Invoice Procedures section of this Contract, Supplier shall provide to VITA within 30 days of the date of expiration of the contract an accompanying statement certifying that Supplier has fully complied with the Contract's Small Business (SWaM) Procurement Plan, and if Supplier has not fully complied, provide a written explanation of any variances between such Plan and the actual participation. The Supplier's compliance confirmation and/or written explanation of variance shall be maintained by VITA, in the contract file.

Failure by Supplier to comply with its contractually obligated Small Business (SWaM) Procurement Plan may prohibit or delay any renewals of the Contract. Also, Supplier's failure to comply with its Small Business (SWaM) Procurement Plan or to explain any variance between the proposed Plan and actual SWaM subcontracting spend may result in the withholding of any final payment due Supplier.

Failure to comply with all reporting requirements may result in default of the Contract.

14. STATUS MEETINGS

The account team will be prepared to conduct monthly stewardship meetings with VITA to provide a broad review of all services, projects and ongoing operations. Supplier should also be prepared to conduct semi-annual meetings/presentations to discuss new products and services and their potential benefit to VITA.

15. STEERING COMMITTEE

In order to facilitate mutually beneficial contractual relationships with suppliers, VITA has procedures for establishing a steering committee ("Steering Committee"), consisting of senior management personnel, including personnel involved in the contractual relationship, from VITA and Supplier.

Roles of the Steering Committee include but are not be limited to a) identifying potential issues which may arise during the performance of a contract, b) discussing and assigning roles and responsibilities, c) establishing methods for quickly resolving potential disputes, d) setting rules for communication and decision making, e) monitoring and measuring the business relationship between the parties, and f) acting as a final decision board for escalated problems.

A meeting of the Steering Committee is intended to be a forum for brainstorming and sharing ideas, emphasizing respect, cooperation, and access, with the end goal of developing relationships to avoid conflict. A facilitator may, but is not required to, conduct a meeting of the Steering Committee.

A Steering Committee for this Contract will be formed at VITA's option. Meetings may be held at any time during the Contract term, should VITA, at its sole discretion, determine that a meeting(s) would be beneficial to the contractual relationship, and Supplier agrees to participate in such meeting(s). In addition, Supplier may at any time submit a written request to VITA for a meeting of the Steering Committee, which VITA will not unreasonably deny.

Supplier shall ensure the availability of the appropriate personnel to meet with the VITA contract management team. Additional Steering Committee meetings involving representatives from VITA, the Supplier, and an Authorized User may be required prior to or during performance on any specific SOW issued pursuant to this Contract.

16. RESERVED

17. TRAINING AND DOCUMENTATION

A. Training

In addition to any online tutorial training Supplier may make available, Supplier's fee, unless expressly excluded, includes all costs for any and all training as agreed upon for the training of one (1) Authorized User trainer per order or SOW on the use and operation of the Deliverable provided to Authorized User, to allow full benefit of the applicable Deliverable to Authorized User, including instruction in any necessary conversion, manipulation or movement of such Authorized User's data. Supplier shall provide personnel sufficiently experienced and qualified to conduct such training at a time and location mutually agreeable to Supplier and Authorized User. Available additional and optional training, and applicable pricing and discounts, are described in Exhibit B.

B. Documentation

Supplier shall deliver to Authorized User three (3), or such number as agreed upon between the parties under an order or SOW, complete hard copies or electronic media of Documentation applicable to Supplier's Deliverable provided to Authorized User, as requested by such Authorized User. Should Supplier revise or replace the Documentation, or should Documentation be modified to reflect Updates, Supplier shall deliver to the Authorized User such updated or replacement Documentation, in the same quantity and media format as originally requested by such Authorized User, or as agreed upon between the parties. Any Authorized User shall have

the right, as part of any license grant, to make as many additional copies of the Documentation, in whole or in part, for its own use as required. This Documentation shall include, but not be limited to, overview descriptions of all major functions, detailed step-by-step installation and operating procedures for each screen and activity, and technical reference manuals. Such Documentation shall be revised to reflect any modifications, fixes or updates made by Supplier. Any Authorized User shall have the right, as part of the license granted by Supplier, at its own discretion, to take all or portions of the Documentation, modify or completely customize it in support of the authorized use of the licensed application or software and may duplicate such Documentation and include it in such Authorized User's document or platform. All Authorized Users shall continue to include Supplier's copyright notice.

18. AUTHORIZED USER SELF-SUFFICIENCY

Prior to or at any time during Supplier's performance of an order or SOW issued pursuant to this Contract, an Authorized User may require that Supplier provide to Authorized User a detailed plan to develop Authorized User self-sufficiency and to transition operation and management to Authorized User or its Agent, which Agent may be VITA, or an agent of VITA, or a third party provider under contract with Authorized User. At Authorized User's request and pursuant to an order or SOW for Supplier's Services issued hereunder, Supplier shall provide all assistance reasonably required by Authorized User to develop Authorized User's self-sufficiency in operating and managing the Solution, Software, Products and/or Services that Supplier provided to Authorized User under the applicable order or SOW. During and/or after the transition period, Authorized User may, at its sole discretion, elect to order or continue Maintenance Services from Supplier, if authorized under the scope of the Contract, for any of the Software or hardware Product, components or Solution Components delivered to Authorized User by Supplier.

19. RESERVED

20. ESCROW AGREEMENT

Supplier shall maintain copies of all Software source code and related technical and user Documentation, in English, in an escrow account, and shall maintain with escrow agent the executed agreement attached hereto as Exhibit C (Escrow Agreement). VITA acknowledges that, prior to the Effective Date of this Contract, Supplier delivered to VITA and VITA received a copy of the executed Escrow Agreement naming the Commonwealth of Virginia as a third party beneficiary. VITA has reviewed Escrow Agreement to ensure that such Escrow Agreement does not impose upon the Commonwealth any requirements other than administrative responsibilities necessary for the operation of the Escrow Agreement. If events give rise to a need for the escrow agent to release escrowed materials to the Commonwealth, the Commonwealth's sole responsibility shall be to request the release of such materials from the escrow agent. Supplier agrees to notify VITA in writing not less than thirty (30) calendar days prior to termination or any modification of Escrow Agreement. Supplier warrants that the information and materials to be kept in escrow in a media safe environment for the benefit of the Commonwealth are specifically identified and listed in Attachment A to the Escrow Agreement and include the most current version used by all Authorized Users of:

- i. the source code for any Software identified in an executed order or statement of work and all future release versions,
- ii. identification of the development/support technology stack, including but not limited to, every software tool, driver, script, app, etc. with versions and details needed to develop, test, support all phases of the SDLC for all tiers of the Software as used in the Authorized User's solution or operating environment,
- iii. all Documentation related thereto as well as all necessary and available information, proprietary information must be in English,
- iv. technical Documentation must be in English and shall enable VITA, any Authorized User, or an Agent of VITA or any Authorized User to create, maintain and/or enhance the Software without the aid of Supplier or any other person or reference to any other materials, maintenance tools (test programs and program specifications), or proprietary or third party system utilities (compiler and

assembler descriptions); descriptions of the system/program generation; and descriptions of any Supplier tools required to enable VITA and all Authorized Users to continue to use the Software, and

v. all Documentation must be provided in unprotected MS Word and other commonly used formats that can be updated.

Supplier warrants that the Escrow Agreement provides for, among other items, the release of the list of items on Attachment A of the Escrow Agreement upon the happening of certain events, including, but not limited to, Supplier's failure to carry out its support and maintenance obligations imposed by this Contract for a period of sixty (60) days, Supplier's breach or default under this Contract, Supplier's bankruptcy, Supplier's failure to continue to do business in the ordinary course. Supplier agrees to pay all expenses associated with establishing and maintaining the escrow account and the contents mentioned above.

Subject to the information and materials listed on Attachment A of the Escrow Agreement being released to the Commonwealth pursuant to the terms of the Escrow Agreement, Supplier hereby grants to the Commonwealth a royalty-free, perpetual, irrevocable license, that permits disclosure to a third party support-vendor of a complete and accurate copy of then-current source code for the Software licensed hereunder, along with all related documentation.

Any Authorized User which is not a state agency, board, commission, or other quasi-political entity of the Commonwealth of Virginia or other body referenced in Title 2.2 of the Code of Virginia may require Supplier to execute an additional escrow agreement subject to the same requirements and binding Supplier to the same obligations as described above but naming such Authorized User as the beneficiary of the escrow agreement. Subject to the information and materials listed in such escrow agreement being released to such Authorized User, Supplier hereby grants to such Authorized User a royalty-free, perpetual, irrevocable license, that permits disclosure to a third party support-vendor of a complete and accurate copy of then-current source code for the Software licensed to such Authorized User, along with all related documentation.

21. CONFIDENTIALITY

A. Treatment and Protection

Each Party shall (i) hold in strict confidence all Confidential Information of any other Party, (ii) use the Confidential Information solely to perform or to exercise its rights under this Contract, and (iii) not transfer, display, convey or otherwise disclose or make available all or any part of such Confidential Information to any third-party. However, an Authorized User may disclose the Confidential Information as delivered by Supplier to subcontractors, contractors or agents of such Authorized User that are bound by non-disclosure contracts with such Authorized User. Each Party shall take the same measures to protect against the disclosure or use of the Confidential Information as it takes to protect its own proprietary or confidential information (but in no event shall such measures be less than reasonable care).

B. Exclusions

The term "Confidential Information" shall not include information that is:

- i. in the public domain through no fault of the receiving Party or of any other person or entity that is similarly contractually or otherwise obligated;
- ii. obtained independently from a third-party without an obligation of confidentiality to the disclosing Party and without breach of this Contract;
- iii. developed independently by the receiving Party without reference to the Confidential Information of the other Party; or
- iv. required to be disclosed under The Virginia Freedom of Information Act (§§2.2-3700 et seq. of the Code of Virginia) or similar laws or pursuant to a court order.

C. Return or Destruction

Upon the termination or expiration of this Contract or upon the earlier request of the disclosing Authorized User, Supplier shall (i) at its own expense, (a) promptly return to the disclosing

Authorized User all tangible Confidential Information (and all copies thereof except the record required by law) of the disclosing Authorized User, or (b) upon written request from the disclosing Authorized User, destroy such Confidential Information and provide the disclosing Authorized User with written certification of such destruction, and (ii) cease all further use of the Authorized User's Confidential Information, whether in tangible or intangible form.

VITA or the Authorized User shall retain and dispose of Supplier's Confidential Information in accordance with the Commonwealth of Virginia's records retention policies or, if Authorized User is not subject to such policies, in accordance with such Authorized User's own records retention policies.

D. Confidentiality Statement

All Supplier personnel, contractors, agents, and subcontractors performing Services pursuant to this Contract shall be required to sign a confidentiality statement or non-disclosure agreement. Any violation of such statement or agreement shall be deemed a breach of this Contract and may result in termination of the Contract or any order or SOW issued hereunder.

E. Health Insurance Portability and Accountability Act

Supplier agrees to comply with all applicable provisions of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and, as applicable to the performance of this Contract or to any SOW or order issued hereunder. Supplier shall:

- i. Not use or further disclose protected health information (PHI) other than as permitted or required by the terms of this Contract or any SOW or order issued hereunder or as required by law;
- ii. Use appropriate safeguards to prevent use or disclosure of PHI other than as permitted by this Contract or any SOW or order issued hereunder;
- iii. Report to VITA or Authorized User, as applicable, any use or disclosure of PHI not provided for by this Contract or the applicable SOW or order;
- iv. Mitigate, to the extent practicable, any harmful effect that is known to the Supplier of a use or disclosure of PHI by the Supplier or its employees, agents or subcontractors in violation of the requirements of this Contract or the applicable SOW or order;
- v. Impose the same requirements and restrictions contained in this provision on its employees, subcontractors and agents performing on this Contract or a SOW or order issued hereunder;
- vi. Provide access to PHI contained in its records to VITA or the requesting Authorized User, in the time and manner designated by VITA or the requesting Authorized User, or at the request of VITA or an Authorized User, to an individual in order to meet HIPAA access;
- vii. Make available PHI in its records to VITA or an Authorized User for amendment and incorporate any amendments to PHI in its records at VITA's or an Authorized User's request; (end of HIPAA additional language)

All Supplier documents now or later comprising the Contract may be released in their entirety under the Virginia Freedom of Information Act, and Supplier agrees that any confidentiality or similar stamps or legends that are attached to any future documents or information may be ignored to the extent they claim confidentiality beyond that permitted herein.

22. INDEMNIFICATION AND LIABILITY

A. Indemnification

Supplier agrees to indemnify, defend and hold harmless the Commonwealth, VITA, any Authorized User, their officers, directors, agents and employees (collectively, "Commonwealth's Indemnified Parties") from and against any and all losses, damages, claims, demands, proceedings, suits and actions, including any related liabilities, obligations, losses, damages, assessments, fines, penalties (whether criminal or civil), judgments, settlements, expenses (including attorneys' and accountants' fees and disbursements) and costs (each, a "Claim" and collectively, "Claims"), incurred by, borne by or asserted against any of Commonwealth's

Indemnified Parties by a third party to the extent such Claims in any way relate to, arise out of or result from: (i) any intentional or willful conduct or negligence of any employee, agent, or subcontractor of Supplier, (ii) any act or omission of any employee, agent, or subcontractor of Supplier, (iii) breach of any representation, warranty or covenant of Supplier contained herein, (iv) any defect in the Supplier-provided products or services, or (v) any actual or alleged infringement or misappropriation of any third party's intellectual property rights by any of the Supplier-provided products or services. Selection and approval of counsel and approval of any settlement shall be accomplished in accordance with all applicable laws, rules and regulations. For state agencies the applicable laws include §§ 2.2-510 and 2.2-514 of the Code of Virginia. In all cases involving the Commonwealth or state agencies, the selection and approval of counsel and approval of any settlement shall be satisfactory to the Commonwealth. In the event of a settlement between Supplier and a private institution of higher education who is an Authorized User of this contract, such settlement shall be satisfactory to that institution.

In the event that a Claim is commenced against any of Commonwealth's Indemnified Parties alleging that use of the Supplier-provided products or services, including any components thereof, or that the Supplier's performance or delivery of any product or service under this Contract infringes any third party's intellectual property rights and Supplier is of the opinion that the allegations in such Claim in whole or in part are not covered by this indemnification provision, Supplier shall immediately notify VITA and the affected Authorized User(s) in writing, via certified mail, specifying to what extent Supplier believes it is obligated to defend and indemnify under the terms and conditions of this Contract. Supplier shall in such event protect the interests of the Commonwealth's Indemnified Parties and secure a continuance to permit VITA and the affected Authorized User(s) to appear and defend their interests in cooperation with Supplier as is appropriate, including any jurisdictional defenses VITA or the affected Authorized User(s) may have.

In the event of a Claim pursuant to any actual or alleged infringement or misappropriation of any third party's intellectual property rights by any of the Supplier-provided Deliverables, Products, Software, Services, Solution, including Solution Components, Application and Licensed Services, as applicable, or Supplier's performance, and in addition to all other obligations of Supplier in this Section, Supplier shall at its expense, either (a) procure for all Authorized Users the right to continue use of such infringing Deliverables, Products, Software, Services, Solution, including Solution Components, Application and Licensed Services, as applicable, or any component thereof; or (b) replace or modify such infringing Deliverables, Products, Software, Services, Solution, including Solution Components, Application and Licensed Services, as applicable, or any component thereof, with non-infringing Deliverables, Products, Software, Services, Solution or Solution Component(s), Application and Licensed Services, as applicable, satisfactory to VITA. And in addition, Supplier shall provide any Authorized User with a comparable temporary replacement products and/or services or reimburse VITA or any Authorized User for the reasonable costs incurred by VITA or such Authorized User in obtaining an alternative product or service, in the event such Authorized User cannot use the affected Deliverable, Product, Software, Services, Solution or Solution Component(s), Application and Licensed Services, as applicable, or any component thereof. If Supplier cannot accomplish any of the foregoing within a reasonable time and at commercially reasonable rates, then Supplier shall accept the return of the infringing Deliverables, Products, Software, Services, Solution, Solution Component, Application and Licensed Services, as applicable, or any component thereof, along with any other components rendered unusable by any Authorized User as a result of the infringing component, and refund the price paid to Supplier for such components.

B. Liability

NEITHER PARTY (OR ITS, AFFILIATES, EMPLOYEES, CONTRACTORS OR SUPPLIERS, WHEN ACTING IN SUCH CAPACITY WITH RESPECT TO THIS AGREEMENT) WILL BE LIABLE TO THE OTHER (OR ITS, AFFILIATES, EMPLOYEES, CONTRACTORS OR SUPPLIERS, WHEN ACTING IN SUCH CAPACITY WITH RESPECT TO THIS AGREEMENT) FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES, FOR LOSS OF PROFITS OR REVENUE (OTHER THAN THE PROFITS AND REVENUE

INCLUDED IN THE PRICE FOR AN ACTION BY SUPPLIER TO RECOVER PAYMENT OF A PRICE OWED) OR LOSS OF TIME, OPPORTUNITY OR VALUE OF DATA, WHETHER IN AN ACTION IN CONTRACT, TORT, PRODUCT LIABILITY, STRICT LIABILITY, STATUTE, LAW, EQUITY OR OTHERWISE. NEITHER PARTY WILL BE CUMULATIVELY LIABLE TO THE OTHER (OR ITS AFFILIATES, EMPLOYEES, CONTRACTORS OR SUPPLIERS, WHEN ACTING IN SUCH CAPACITY WITH RESPECT TO THIS AGREEMENT) FOR ANY AMOUNT GREATER THAN [TWO TIMES] THE PURCHASE PRICE, FEES AND CHARGES SET FORTH IN THE ORDER(S) AT ISSUE.

Notwithstanding the above provision of this Section, Supplier's liability for:

- a) personal injury, including death to the extent caused by its negligence or willful misconduct is not limited by this Section;
- b) physical damage to tangible real or personal property to the extent caused by its negligence or willful misconduct is limited to direct damages up to \$5 million per occurrence;
- c) an express obligation under this Agreement to indemnify, defend and hold the other harmless from third party intellectual property infringement claims is not limited by this Section or Section; and
- d) violating the other party's intellectual property rights or intentionally breaching the confidentiality provisions of this Agreement is not limited by this Section.

23. EACH CLAUSE OF THIS SECTION IS SEPARATE FROM EACH OTHER CLAUSE OF THIS SECTION AND FROM THE REMEDY LIMITATIONS AND EXCLUSIONS ELSEWHERE IN THIS AGREEMENT, AND WILL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF A REMEDY OR ANY TERMINATION OF THIS AGREEMENT.INSURANCE

In addition to the insurance coverage required by law as referenced in the Incorporated Contractual Provisions section of this Contract, Supplier has an internal self-insurance program with respect to professional liability and errors/omission.

24. SECURITY COMPLIANCE

Supplier agrees to comply with all provisions of the then-current Commonwealth of Virginia security procedures, published by the Virginia Information Technologies Agency (VITA) and which may be found at: (<http://www.vita.virginia.gov/library/default.aspx?id=537#securityPSGs>) or a successor URL(s), as are pertinent to Supplier's operation. Supplier further agrees to comply with all provisions of the relevant Authorized User's then-current security procedures as are pertinent to Supplier's operation and which have been supplied to Supplier by such Authorized User. Supplier shall also comply with all applicable federal, state and local laws and regulations. For any individual Authorized User location, security procedures may include but not be limited to: background checks, records verification, photographing, and fingerprinting of Supplier's employees or agents. Supplier may, at any time, be required to execute and complete, for each individual Supplier employee or agent, additional forms which may include non-disclosure agreements to be signed by Supplier's employees or agents acknowledging that all Authorized User information with which such employees and agents come into contact while at the Authorized User site is confidential and proprietary. Any unauthorized release of proprietary or Personal information by the Supplier or an employee or agent of Supplier shall constitute a breach of its obligations under this Section and the Contract. Supplier shall immediately notify VITA and Authorized User, if applicable, of any Breach of Unencrypted and Unredacted Personal Information, as those terms are defined in Virginia Code 18.2-186.6, and other personal identifying information, such as insurance data or date of birth, provided by VITA or Authorized User to Supplier. Supplier shall provide VITA the opportunity to participate in the investigation of the Breach and to exercise control over reporting the unauthorized disclosure, to the extent permitted by law. Supplier shall indemnify, defend, and hold the Commonwealth, VITA, the Authorized User, their officers, directors, employees and agents harmless from and against any and all fines, penalties (whether criminal or civil), judgments, damages and assessments, including reasonable expenses suffered by, accrued against, or charged to or recoverable from the Commonwealth, VITA, the

Authorized User, their officers, directors, agents or employees, on account of the failure of Supplier to perform its obligations pursuant this Section.

25. IMPORT/EXPORT

In addition to compliance by Supplier with all export laws and regulations, VITA requires that any data deemed “restricted” or “sensitive” by either federal or state authorities, must only be collected, developed, analyzed, or otherwise used or obtained by persons or entities working within the boundaries of the United States.

26. BANKRUPTCY

If Supplier becomes insolvent, takes any step leading to its cessation as a going concern, fails to pay its debts as they become due, or ceases business operations continuously for longer than fifteen (15) business days, then VITA may immediately terminate this Contract, and an Authorized User may terminate an order or SOW, on notice to Supplier unless Supplier immediately gives VITA or such Authorized User adequate assurance of the future performance of this Contract or the applicable order or SOW. If bankruptcy proceedings are commenced with respect to Supplier, and if this Contract has not otherwise terminated, then VITA may suspend all further performance of this Contract until Supplier assumes this Contract and provides adequate assurance of performance thereof or rejects this Contract pursuant to Section 365 of the Bankruptcy Code or any similar or successor provision, it being agreed by VITA and Supplier that this is an executory contract. Any such suspension of further performance by VITA or Authorized User pending Supplier’s assumption or rejection shall not be a breach of this Contract, and shall not affect the rights of VITA or any Authorized User to pursue or enforce any of its rights under this Contract or otherwise.

27. GENERAL PROVISIONS

A. Relationship Between VITA and Authorized User and Supplier

Supplier has no authority to contract for VITA or any Authorized User or in any way to bind, to commit VITA or any Authorized User to any agreement of any kind, or to assume any liabilities of any nature in the name of or on behalf of VITA or any Authorized User. Under no circumstances shall Supplier, or any of its employees, hold itself out as or be considered an agent or an employee of VITA or any Authorized User, and neither VITA nor any Authorized User shall have any duty to provide or maintain any insurance or other employee benefits on behalf of Supplier or its employees. Supplier represents and warrants that it is an independent contractor for purposes of federal, state and local employment taxes and agrees that neither VITA nor any Authorized User is responsible to collect or withhold any federal, state or local employment taxes, including, but not limited to, income tax withholding and social security contributions, for Supplier. Any and all taxes, interest or penalties, (including, but not limited to, any federal, state or local withholding or employment taxes, and any penalties related to health care or employee benefits laws) that are imposed, assessed or levied as a result of this Contract or Services performed pursuant to this Contract shall be paid or withheld by Supplier or, if assessed against and paid by VITA or any Authorized User, shall be reimbursed by Supplier upon demand by VITA or such Authorized User.

B. Incorporated Contractual Provisions

The then-current contractual provisions at the following URL are mandatory contractual provisions, required by law or by VITA, and that are hereby incorporated by reference: http://www.vita.virginia.gov/uploadedfiles/VITA_Main_Public/scm/StatutorilyMandatedTsandCs.pdf

The contractual claims provision §2.2-4363 of the Code of Virginia and the required eVA provisions at http://www.vita.virginia.gov/uploadedfiles/VITA_Main_Public/scm/eVATsandCs.pdf are also incorporated by reference.

The then-current terms and conditions in documents posted to the aforereferenced URLs are subject to change pursuant to action by the legislature of the Commonwealth of Virginia, change in VITA policy, or the adoption of revised eVA business requirements. If a change is made to the

terms and conditions, a new effective date will be noted in the document title. Supplier is advised to check the URLs periodically.

C. Compliance with the Federal Lobbying Act

Supplier's signed certification of compliance with 31 USC 1352 (entitled "Limitation on use of appropriated funds to influence certain Federal Contracting and financial transactions") or by the regulations issued from time to time thereunder (together, the "Lobbying Act") is incorporated as an exhibit to this Contract.

D. Governing Law

This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia without regard to that body of law controlling choice of law. Any and all litigation shall be brought in the circuit courts of the Commonwealth of Virginia. The English language version of this Contract prevails when interpreting this Contract. The United Nations Convention on Contracts for the International Sale of Goods and all other laws and international treaties or conventions relating to the sale of goods are expressly disclaimed. UCITA shall apply to this Contract only to the extent required by §59.1-501.15 of the Code of Virginia.

E. Dispute Resolution

In accordance with §2.2-4363 of the Code of Virginia, Contractual claims, whether for money or other relief, shall be submitted in writing to the public body from whom the relief is sought no later than sixty (60) days after final payment; however, written notice of the Supplier's intention to file such claim must be given to such public body at the time of the occurrence or beginning of the work upon which the claim is based. Pendency of claims shall not delay payment of amounts agreed due in the final payment. The relevant public body shall render a final decision in writing within thirty (30) days after its receipt of the Supplier's written claim.

The Supplier may not invoke any available administrative procedure under §2.2-4365 of the Code of Virginia nor institute legal action prior to receipt of the decision of the relevant public body on the claim, unless that public body fails to render its decision within thirty (30) days. The decision of the relevant public body shall be final and conclusive unless the Supplier, within six (6) months of the date of the final decision on the claim, invokes appropriate action under §2.2-4364, Code of Virginia or the administrative procedure authorized by §2.2-4365, Code of Virginia.

Upon request from the public body from whom the relief is sought, Supplier agrees to submit any and all contractual disputes arising from this Contract to such public body's alternative dispute resolution (ADR) procedures, if any. Supplier may invoke such public body's ADR procedures, if any, at any time and concurrently with any other statutory remedies prescribed by the Code of Virginia.

In the event of any breach by a public body or a private institution, Supplier's remedies shall be limited to claims for damages and Prompt Payment Act interest and, if available and warranted, equitable relief, all such claims to be processed pursuant to this Section. In no event shall Supplier's remedies include the right to terminate any license or support services hereunder.

F. Advertising and Use of Proprietary Marks

Supplier shall not use the name of VITA or any Authorized User or refer to VITA or any Authorized User, directly or indirectly, in any press release or formal advertisement without receiving prior written consent of VITA or such Authorized User. In no event may Supplier use a proprietary mark of VITA or an Authorized User without receiving the prior written consent of VITA or the Authorized User.

G. Notices

Any notice required or permitted to be given under this Contract shall be in writing and shall be deemed to have been sufficiently given if delivered in person, or if deposited in the U.S. mails, postage prepaid, for mailing by registered, certified mail, or overnight courier service addressed to:

- i. To VITA and to Supplier, if Supplier is incorporated in the Commonwealth of Virginia, to the addresses shown on the signature page.

ii. To Supplier, if Supplier is incorporated outside the Commonwealth of Virginia, to the Registered Agent registered with the Virginia State Corporation Commission.

Pursuant to Title 13.1 of the Code of Virginia, VITA or Supplier may change its address for notice purposes by giving the other notice of such change in accordance with this Section.

Administrative contract renewals, modifications or non-claim related notices are excluded from the above requirement. Such written and/or executed contract administration actions may be processed by the assigned VITA and Supplier points of contact for this Contract and may be given in person, via U.S. mail, courier service or electronically.

H. No Waiver

Any failure to enforce any terms of this Contract shall not constitute a waiver.

I. Assignment

This Contract shall be binding upon and shall inure to the benefit of the permitted successors and assigns of VITA and Supplier. Supplier may not assign, subcontract, delegate or otherwise convey this Contract or any of its rights and obligations hereunder, to any entity without the prior written consent of VITA, and any such attempted assignment or subcontracting without consent shall be void. VITA may assign this Contract to any public body within the Commonwealth of Virginia or an entity under contract with, and acting for and on behalf of the Commonwealth of Virginia, so long as the assignee agrees in writing to be bound by the all the terms and conditions of this Contract.

If any law limits the right of VITA or Supplier to prohibit assignment or nonconsensual assignments, the effective date of the assignment shall be thirty (30) days after the Supplier gives VITA prompt written notice of the assignment, signed by authorized representatives of both the Supplier and the assignee. Any payments made prior to receipt of such notification shall not be covered by this assignment.

J. Captions

The captions are for convenience and in no way define, limit or enlarge the scope of this Contract or any of its Sections.

K. Severability

Invalidity of any term of this Contract, in whole or in part, shall not affect the validity of any other term. VITA and Supplier further agree that in the event such provision is an essential part of this Contract, they shall immediately begin negotiations for a suitable replacement provision.

L. Survival

Any provisions of this Contract regarding Software License, Rights To Work Product, Warranty, Escrow, Confidentiality, Content Privacy and Security, Liability, Indemnification, and the General Provisions shall survive the expiration or termination of this Contract.

M. Force Majeure

No Party shall be responsible for failure to meet its obligations under this Contract if the failure arises from causes beyond the control and without the fault or negligence of the non-performing Party. If any performance date under this Contract is postponed or extended pursuant to this section for longer than thirty (30) calendar days, VITA, by written notice given during the postponement or extension, may terminate Supplier's right to render further performance after the effective date of termination without liability for that termination, and in addition an Authorized User may terminate any order or SOW affected by such postponement or delay.

N. Remedies

The remedies set forth in this Contract are intended to be cumulative. In addition to any specific remedy, VITA and all Authorized Users reserve any and all other remedies that may be available at law or in equity.

O. Right to Audit

VITA reserves the right to audit those Supplier records that relate to the Contract or any SOWs or orders issued there under. VITA's right to audit shall be limited as follows:

- i. Three (3) years from end date of the Contract;
- ii. Performed at Supplier's premises, during normal business hours at mutually agreed upon times; and
- iii. Excludes access to Supplier cost information. In no event shall Supplier have the right to audit, or require to have audited, VITA or any Authorized User.

P. Offers of Employment

During the first twelve (12) months of the Contract, should Supplier hire an employee of any Authorized User who has substantially worked on any project covered by this Contract without prior written consent, the Supplier shall be billed for fifty percent (50%) of the employee's annual salary in effect at the time of termination.

Q. Contract Administration

Supplier agrees that at all times during the term of this Contract an account executive, at Supplier's senior management level, shall be assigned and available to VITA. Supplier reserves the right to change such account executive upon reasonable advance written notice to VITA.

R. Entire Contract

The following Exhibits, including all subparts thereof, are attached to this Contract and are made a part of this Contract for all purposes:

Exhibit A - Requirements

Exhibit B - Options List; Fees, Service Charges, and Payment Schedule

Exhibit C - Escrow Agreement

Exhibit D - Statement of Work (SOW) Template

Exhibit E - Change Order Template

Exhibit F - End User Licensing Agreement (for reference only)

Exhibit G - Certification Regarding Lobbying

Exhibit X – Premier Support

Attachment 1 – Additional Software License Terms

This Contract, its Exhibits, and any prior non-disclosure agreement constitute the entire agreement between VITA and Supplier and supersede any and all previous representations, understandings, discussions or agreements between VITA and Supplier as to the subject matter hereof. Any and all terms and conditions contained in, incorporated into, or referenced by the Supplier's Proposal shall be deemed invalid. The provisions of the Virginia Department of General Services, Division of Purchases and Supply Vendor's Manual shall not apply to this Contract or any order issued hereunder. This Contract may only be amended by an instrument in writing signed by VITA and Supplier. In the event of a conflict, the following order of precedence shall apply: this Contract document, Exhibit A, any individual SOW, Attachment 1, Exhibit X, Exhibit B.

An Authorized User and Supplier may enter into an ordering agreement pursuant to this Contract. To the extent that such ordering agreement, or any order or SOW issued hereunder, include any terms and conditions inconsistent with the terms and conditions of this Contract, such terms and conditions shall be of no force and effect.

VITA and Supplier each acknowledge that it has had the opportunity to review this Contract and to obtain appropriate legal review if it so chose.

Executed as of the last date set forth below by the undersigned authorized representatives of VITA and Supplier.

Supplier

VITA

By: David Kuenzel

By: Nelson P. Moe

(Signature)

(Signature)

Name: David Kuenzel

Name: Nelson P. Moe

(Print)

(Print)

Title: President, Teradata Government Systems, LLC

Title: CIO

Date: October 9, 2015

Date: 11-19-2015

Address for Notice:

Address for Notice:

430 National Business PKWY, STE 450

11751 Meadowville Lane

Annapolis Junction, MD 20701

Chester, VA 23836

Attention: Supplier Contact

Attention: Contract Administrator

Supplier contained herein, (iv) any defect in the Software, or (v) any actual or alleged infringement or misappropriation of any third party's intellectual property rights by any of the Software. Selection and approval of counsel and approval of any settlement shall be accomplished in accordance with all applicable laws, rules and regulations. For state agencies the applicable laws include §§ 2.2-510 and 2.2-514 of the Code of Virginia. In all cases the selection and approval of counsel and approval of any settlement shall be satisfactory to VITA or the Authorized User against whom the claim has been asserted.

- 41. Any Authorized User may rely on independent contractors, acting on behalf of such Authorized User, to perform functions requiring the use of and access to the Supplier's Software. Nothing in the Supplier's standard form contract shall limit such third parties' from using or accessing the Software in order to perform such functions. If any invention, work of authorship, or confidential information is developed exclusively by an employee, consultant, contractor, or subcontractor of an Authorized User during the performance of Services by Supplier, Supplier shall have no ownership claim to such invention, work of authorship, or confidential information.
- 42. Any travel expenses incurred by Supplier in the course of performing the services must be pre-approved by the appropriate Authorized User and shall be reimbursed at the then-current per diem rates published by the Virginia Department of Accounts.
- 43. An Authorized User may require that Supplier personnel submit to a criminal background check prior to performance of any services under this contract.

This contract, consisting of this VITA addendum and the Supplier's standard form contract, constitute the entire agreement between the parties and may not be waived or modified except by written agreement between the parties.

This contract has been reviewed by staff of VITA. Its substantive terms are appropriate to the needs of VITA.

IN WITNESS WHEREOF, the parties have caused this contract to be duly executed as of the last date set forth below by the undersigned authorized representatives of the parties, intending thereby to be legally bound.

<p>VITA</p> <p>By: <u>Nelson P. Moe</u> (Signature)</p> <p>Name: <u>Nelson P. Moe</u> (Print)</p> <p>Title: <u>CIO</u></p> <p>Date: <u>11-19-2015</u></p>	<p>Protegrity USA, Inc.</p> <p>By: <u>Suni Munshani</u> (Signature)</p> <p>Name: <u>Suni Munshani</u> (Print)</p> <p>Title: <u>CEO</u></p> <p>Date: <u>10/8/2015</u></p>
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EXHIBIT A REQUIREMENTS
CONTRACT NUMBER VA-150915-TERA
BETWEEN
VIRGINIA INFORMATION TECHNOLOGIES AGENCY
AND
TERADATA GOVERNMENT SYSTEMS LLC

Exhibit A is hereby incorporated into and made an integral part of Contract Number VA-150915-TERA (“Contract”) between the Virginia Information Technologies Agency (“VITA” or “Commonwealth” or “State”) and Teradata Government Systems LLC (“Supplier”).

In the event of any discrepancy between this Exhibit A and the Contract, the provisions of the Contract shall control.

2.1 A. Product Specifications & Standards

	Requirements	A	B
1	<p>Does your solution comply with all current COV ITRM Policies and Standards, as applicable, found at: http://www.vita.virginia.gov/library/default.aspx?id=537.</p> <p>If proposed solution does not, please provide details that specify the Standard/Policy and how Supplier's solution does not comply.</p>	Yes	<p><i>Teradata acknowledges and aligns with applicable Virginia ITRM policies and standards. Teradata has significant rigor and consistent adoption of industry best practices in the development and deployment of solutions, models and processes to address data governance, data quality management, data integration, metadata management, master data management, data security and privacy tools, data modeling, Business Intelligence and analytics tools, master identity management, and enterprise solution architecture.</i></p>

<p>2</p>	<p>Do your proposed interfaces to Commonwealth systems comply with or have approved exceptions to all applicable Commonwealth Data Standards as found at http://www.vita.virginia.gov/oversight/default.aspx?id=10344</p> <p>If not, please explain.</p>	<p>Yes</p>	<p><i>Teradata's development philosophy is to implement new features in an industry-standards-compliant manner whenever there is an industry standard defined for any new functionality. Thus, to the extent that the state's standards are consistent with industry standards, alignment to standards will be excellent.</i></p> <p><i>Teradata supports all of the relevant open industry standards to provide seamless connectivity. Teradata also continues to invest in and evaluate new industry standards. Among the relevant standards Teradata supports are ANSI SQL-2003, GSSAPI, ISO 8859-1, and ISO 11179, ADO.NET, CIM, SQL-MM (spatial), Unicode 4.0 UTF16, JDBC Type-4, Eclipse DTP/WTP, JMS, JDK, JVM, JSR168, Kerberos, SSL, TLS, Sigest-MD5, LDAP, named pipes, .NET Framework 2 and 3, .NET Data Provider, OLE-DB, ODBC, OIM, OMG CWM and XMI, openLDAP, PMML, SDF, SNMP, WSDL, XML/XSLT/XSDs</i></p>
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			<p>via UDFs, C, COBOL, JAVA, PL/I, TCP/IP, WFS, and MDX 2005.</p> <p><i>Teradata's adherence to industry standards allows for direct access via a vast array of third-party tools, both analytical and operational.</i></p> <p><i>Teradata provides a complete set of data load and export utilities and APIs that are readily leveraged by development groups and third-party tool vendors to facilitate loading and access to data. The robustness and maturity of Teradata's utilities is unmatched both in terms of functionality and in terms of the breadth of client platforms these utilities can be deployed upon.</i></p> <p><i>Additionally, Teradata provides a complete "enterprise integration" suite of standard database interfaces such as ODBC, JDBC (3 & 4), OLE-DB and access to message-oriented services within a service-oriented architecture environment. Teradata also provides best-in-class legacy mainframe connectivity based upon our heritage of making data available for analytic uses regardless of where the source data originates.</i></p>
<p>3</p>	<p>Does your solution provide effective, interactive control and use with nonvisual means and provide 508 Compliance in accordance with the following standard regarding IT Accessibility and 508 Compliance:</p> <p>http://www.vita.virginia.gov/uploadedFiles/Library/AccessibilityStandard_GOV103-00_Eff_11-04-05.pdf</p> <p>(Refer to www.section508.gov and www.access-board.gov for further information)</p> <p>If yes, please describe how this functionality is achieved and include a completed Voluntary Product Accessibility Template (VPAT) with your proposal: <i>(The VPAT template is located in APPENDIX C of the Accessibility Standard (GOV103-00)).</i></p>	<p>Yes</p>	<p><i>Our products are compliant or are in the process of being compliant.</i></p> <p><i>Teradata Accessibility Compliance Approach</i></p> <p><i>Step 1 - Document Product Plan</i></p> <p><i>This step determines if an assessment is necessary or warranted and at what level (i.e. documentation only). The product plan decisions will be documented on this wiki site.</i></p> <p><i>Step 2 - Perform Product Assessment</i></p> <p><i>Where deemed necessary, Teradata will have compliance assessments completed for products and the outcome of reports posted. Teradata internal and formal contractual</i></p>

	<p>If no, does your solution provide alternate accessibility functionality? Please describe.</p>	<p><i>Assessments will be documented in the form of a VPAT and/or other formal assessment report and updated until compliance is achieved. This is represented in the compliance tables below as "Compliance Audits".</i></p> <p><i>Step 3 - Scope Compliance Effort</i></p> <p><i>This step involves in-depth review of the assessment findings and prioritizes tasks and scopes effort to plan the development schedule and resources for compliance. Development efforts will be aligned and continued as necessary with a product release or releases until full compliance is achieved.</i></p> <p><i>Step 4 - Confirm Product Compliance</i></p> <p><i>Complete final audit to confirm accessibility compliance. This will result in a compliance VPAT and/or other formal assessment report to be posted declaring compliance and represented in the compliance tables below.</i></p> <p><i>Throughout the process, updates will be posted to a Wiki site.</i></p> <p><i>For further information on Teradata Products Accessibility and Compliance, please see the attached.</i></p> <div data-bbox="1075 1283 1146 1346" data-label="Image"> </div> <p>2.1 a.3. Teradata Products Accessibility</p>
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2.2 B. General

	Requirements	A	B
1	Selected vendors, if asked, will need to perform a selected vendor proposed pilot within one year of contract award. Does your Solution meet this requirement?	Yes	<i>Teradata conducts proof of value concept pilots routinely.</i>
2	There will be no cost to the Commonwealth or the participating agencies for the use of tools or Supplier resources utilized during this evaluation and pilot(s). Does your Solution meet this requirement?	Yes	<i>Acknowledged and accepted.</i>
3	Vendors selected for pilots will need to work with any agency providing data to support that pilot to develop a mutually agreed upon document before a pilot can commence. That agreement needs to address exactly how the vendor intends to analyze any agency data and all of the controls and associated roles that will be applied to that data. Does your Solution meet this requirement?	Yes	<i>This is a common requirement for all Teradata pilots. Prior to the commencement of any pilot, a mutually agreeable and detailed Scope of Work will be developed in partnership with individual agencies that outlines objectives, timeline, data sources, technology, resources, exclusions and deliverables.</i>
4	All applicable state and federal laws concerning the protection of this data must be complied with. Does your Solution meet this requirement?	Yes	<i>Acknowledged and accepted.</i>
5	All Commonwealth data utilized during pilots must remain at the hosting agency. No Commonwealth data is to be analyzed offsite, copied, transformed to obscure Commonwealth's ownership, or transmitted in any way without formal agency approval. Does your Solution meet this requirement?	Yes	<i>Acknowledged and accepted. Pilots will be conducted on-premise, as requested.</i>
6	Pilots are to be performed on dedicated devices (laptops) supplied by VITA or on vendor supplied appliances. Vendor provided appliances will need an approved plan (by VITA & participating agencies) for protecting and deleting Commonwealth data. Does your Solution meet this requirement?	Yes	<i>Acknowledged and accepted.</i>
7	<ul style="list-style-type: none"> • VITA supplied laptops and vendor supplied appliances must be under full control of the pilot hosting agency for the duration of the pilot. Vendor will have no administrative rights to VITA supplied laptop. Agency or VITA staff will load any required software. • Pilot should be accomplished with the minimum amount of Commonwealth data as possible/practical • The agency may require that the analytic methods be demonstrated to agency staff by the vendor on agency provided test data and any analysis of actual agency data would only 	Yes	<i>Yes. Teradata does reserve the right to define the professional qualifications to the State of any staff resources, assigned to operating Teradata systems in line with our commercial practices.</i>

	Requirements	A	B
	be performed by agency staff • Vendor access to agency data may require vendor staff to attend specific training provided by the agency. Does your Solution meet these requirements?		
8	Suppliers will provide subject matter experts as need to support the pilots. Does your Solution meet this requirement?	Yes	<i>Teradata's subject matter experts are well versed in our technology and solutions. Teradata expects the agencies to provide expertise with regard to the State's data and programs.</i>
9	Does your Solution safeguard sensitive data? If yes, explain how.	Yes	<p><i>Teradata uses the most stringent controls available in the industry today to safeguard sensitive data. These include, but are not limited to, standard user-based SQL authorizations (grants), role based access controls, OS hardening with periodic audits to reassess and re-harden, full separation of duties and auditability of access, encryption of network traffic, selective encryption of PII and PHI columns of data-at-rest, file-based encryption where appropriate, row level security, full disk encryption, encryption of BAR tape media, and others.</i></p> <p><i>For further information on optional information security service offerings, refer to Question 3.7 G.</i></p>

	Requirements	A	B
10	Does your solution have mechanisms that will prevent one entity from viewing another entity's data if applicable if the toolset was deployed on a shared platform? If yes, explain how they work.	Yes	<p><i>The tools briefly described in response to Question 9 above prevent unauthorized entities, internal and external, from viewing another entity's data.</i></p> <ul style="list-style-type: none"> -OS hardening prevents unauthorized access thru the operating system -SQL authorizations and role based access methods allow select authorization only to the tables/views authorized -Separation of duties and auditability allows full tracking of access -Encryption of network traffic prevents unauthorized capture of data on your networks -Encryption of data-at-rest and file-based encryption prevent anyone not authorized from seeing the encrypted data -Full disk encryption prevents anyone from accessing the data, even if they steal disk drives -encryption of BAR tape media prevents anyone from accessing the data, even if they steal tapes. <p><i>For more information, please see the attachment below.</i></p> <div style="text-align: center;">  </div> <p>2.2.b.10_Teradata Security White Paper</p>
11	Does your solution have the ability to extract data from multiple existing analytic tool sets (Cognos, SAS, Business Objects, MicroStrategy, Microsoft Analytics, etc.)? If so, please list.	Yes	<p><i>Teradata can accept data from multiple analytic and BI tools. That said, BI tools are not data source systems; they are data consuming systems used for reporting and visualization. A Teradata solution would access the same source systems as those BI tools, but for the purpose of discovering new data relevancies and linkages. The State may choose to leverage whichever BI or visualization tool they want. For a complete list of Teradata's third party software vendor partners, please see the attached.</i></p>

	Requirements	A	B
			 2.2.B.11 Partner Interoperability Detai
12	Supplier staff will submit to background checks conducted and paid for by the Commonwealth. Does your Solution meet this requirement?	Yes	<i>Acknowledged and accepted.</i>
13	Agencies may need expertise/resources in utilizing these next-generation analytics tools to address business needs. Role examples include: Data Scientists, Data Analysts, Data Hygienists, Data Explorers, Data Visualizers, Does your Solution have the ability to provide these types of resources? If so, what roles can you provide?	Yes.	<i>Teradata is a full solution service provider. It is quite common for Teradata to provide these types of resources and more, e.g. data lineage and data wrangling specialists, Information Security experts, project managers, etc. Teradata has a deep and mature Big Data services bench available to deliver value for these projects.</i>

2.3 C. Solution Information (by category)

2.3.1 Business Intelligence

1. Business Intelligence – the set of techniques and tools for the transformation of raw data into meaningful and useful information for business analysis purposes. Common functions are querying, reporting, online analytical processing (OLAP), "alerts", dashboards, process mining, complex event processing, business performance management, benchmarking, data warehousing, data marts, etc. This also includes:

a. Descriptive analytics - looks at past performance and understands that performance by mining historical data to look for the reasons behind past success or failure. Most management reporting - such as sales, marketing, operations, and finance - uses this type of post-mortem analysis.

C.	Requirements	A	B
1	Identify the components of your analytics tool set that fit this category	n/a	<p><i>As described in Section 1.0, Executive Summary, there is a distinction between what an advanced analytic discovery platform does and what a Business Intelligence (BI) tool does. For the purposes of advanced analytics, a discovery platform does the work and provides visualization to the analyst, and a BI or visualization tool typically delivers the visualization to the business user in a format they are comfortable with. Forrester defines the BI tools in the market as, "...referring to just the top layers of the BI architectural stack such as reporting, business analytics and dashboards." This is the layer that is "presented" to the business user community. Teradata delivers the layers which address the underlying processing of all data; it is the foundation of the BI layer. Teradata provides Data Management, discovery and development of existing and new data sources (and data types) and the produces this data in a scalable environment. This is the core business of Teradata. Aster enhances the relevance, accuracy and value of our customer's user-facing BI tools. New data types and data volume have exploded and new analytic capabilities are constantly emerging. These trends make it increasingly challenging for any organization to keep up and "connect the dots". Solving use cases one at a time with disparate tools quickly leads to data and analytic silos. These silos need to be minimized wherever possible</i></p>

		<p><i>because they are expensive, reduce the accuracy of information, decrease the validity of decisions, increase complexity, and can ultimately slow the organization down. Teradata has taken a data and analytic-centric approach to solving this. By enabling complex analytics with different degrees of data integration from tightly coupled, loosely coupled, and non-coupled methods. Teradata leverages combinations of the right tools and analytics for the right job. It orchestrates these technologies to mask complexity for the end users, and manages the complexity for IT in a hybrid data environment. It is this underlying architecture that enables BI to target the right question against evolving data models that are revealed by the data science performed in the Logical Data Warehouse. The following “components” meet this category:</i></p> <p><i>Platform: The Teradata Aster Discovery Platform is a fully integrated analytic platform.</i></p> <p><i>1.) The Aster Analytic Portfolio includes more than 150+ pre-packaged SQL-MapReduce (SQL-MR) and SQL-Graph (SQL-GR) functions. (see attachment X – analytic white paper). It is these multi-genre analytics, hosted within the same platform that allows Aster to reveal paths, connections, sentiments, and graphs from the data; then to develop profiles of behavior and form predictive and prescriptive models.</i></p> <p><i>2) For customized analytics, Aster provides an embedded development feature to allow analysts to build and install new functions in the SQL, SQL-MapReduce and SQL-Graph paradigms, in Python, Perl, Ruby, and C++.</i></p> <p><i>3) 3rd party functions from analytic vendors, like SAS, can run in-database in Aster and deliver Open Source R. (see attachment X – statement of delivery on R).</i></p>
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		<p><i>Because these functions are performed in-database, the data does not have to be moved for processing, which reduces cost and increases the speed in which query results are delivered.</i></p> <p><i>4) Teradata QueryGrid™ provides Teradata and Aster access to data in Hadoop, as well as any other database, through a standard SQL interface for running queries. This means that a multitude of source systems, including Hadoop, can be queried with a single SQL query, and processing can take place where the data resides.</i></p> <p><i>5) Aster works with most existing BI tools such as MicroStrategy, SAS, BusinessObjects, Tableau, Cognos and Spotfire. It is this layer that most commonly is thought of as the reporting and end user console.</i></p> <p><i>6) Aster includes analytic functions for the transformation of raw data such as Apache, JSON and XML parsers to quickly prep data for querying (through SQL, SQL-MR and SQL-GR analytic functions).</i></p> <p><i>7) Aster is an ANSI SQL database designed specifically to mine any data type of historical data for new insights and post-mortem analysis and to report results in both SQL and visualized form.</i></p> <p><i>8) Aster can query and analyze unstructured data such as JSON, XML and web logs. Aster can use ANSI SQL to query data and execute standard reporting functions (min, max, avg) across production sized data set.</i></p> <p><i>In Aster, it takes only one or a few SQL queries with its embedded pre-built analytics, to acquire, prepare, analyze, and visualize data. As important insights are discovered, the Aster results can be distributed to the enterprise through the existing BI tools previously mentioned for enterprise reporting and ad hoc inquiries, delivering a much deeper and dynamic view of corporate data than can be practically delivered in an OLAP</i></p>
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			<p>only, BI environment.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>2.3.1.1 New Discovery Portfolio W</p> </div> <div style="text-align: center;">  <p>2.3.1.1 Foundation 6.0.pptx</p> </div> </div>
2	Identify platforms for deployment (cloud, Intel, appliance, OSs, database versions etc.) for the tools you have included in this category	n/a	<p><i>Teradata delivers all three components of the Gartner-endorsed Unified Data Architecture. All Teradata platforms are MPP, Intel/Linux based systems, and all of these systems are available as on-premise or as cloud based solutions. They are optimized to coexist together, or as stand-alone, individual systems in other homogeneous environments.</i></p> <ul style="list-style-type: none"> - <i>The <u>Teradata Integrated Data Warehouse</u> (Data Warehouse) Teradata (v15) database and appliance.</i> - <i>The <u>Teradata Aster “Integrated Discovery Platform”</u> (Discovery Analytics) is also an Intel / Linux and an ANSI SQL-92 (v6.1) database, available as an appliance or as s/w only options.</i> - <i><u>Teradata Hadoop</u> (Data Management) is an Intel / Linux based HDFS HDS (Hortonworks v2.1) appliance or as s/w only.</i> <p><i>Teradata appliances are delivered on COTS hardware. Examples: Teradata Specifications (variety of hardware platforms):</i></p> <ul style="list-style-type: none"> - <i>ANSI standard DBMS</i> - <i>Massive Parallel Processing (MPP) architecture</i> - <i>Intel Servers</i> - <i>SUSE Linux</i> - <i>No single point of failure</i> <p><i>Aster node specifications:</i></p> <ul style="list-style-type: none"> - <i>Aster Database v6.1, 100% ANSI SQL-92 compatible</i> - <i>Dual 2.5 GHz ten-core Intel Ivy Bridge CPUs (20MB L3 cache)</i> - <i>256 GB memory using 16 GB DIMMs (1333 MHz DDR3)</i> - <i>(2) 900GB SAS 2.5” 10K rpm boot drives</i> - <i>(24) 900GB SAS 2.5” 10K rpm</i>

		<p><i>DBMS drives</i></p> <ul style="list-style-type: none"> - Node to Node connection: 40 Gb/s InfiniBand adapters - Two 900 GB SAS 2.5" 10K rpm drives for OS - Twenty-four 900 GB SAS 2.5" 10K rpm drives for data storage - Total uncompressed direct attached storage, 5.5TB per node - RAID-5 controller - 64 bit Linux, SLES 11 OS SP2 or RHEL 6.3/6.4 for S/W only deployments. - Scalable to 5PB <p><i>Hadoop Node Specs:</i></p> <ul style="list-style-type: none"> - Hortonworks HDS v2.1 - Intel Ivy Bridge Dual Ten Core 2.5 processors in the Hadoop Master nodes - Intel Ivy Bridge Dual Six Core 2.1 GHz Processors in the Hadoop data nodes - (12) 4TB Internal Drives per Node - 128GB Memory per node - SUSE Linux 11 - Software data replication - Scalable to 25PB with larger network switches <p><i>For s/w only specs, refer to the Aster Database Platform/OS Support Matrix Version 6.00 attachment below.</i></p>  <p>2.3.1.2 Aster DB Platform OS Support.</p>
3	Explain licensing options for the tools you have included in this category	<p>n/a</p> <p><i>Choices are important when it comes to investing in any of the Teradata offerings. All of the Teradata products are available as On-Premise or Cloud offerings. Teradata strives for the right technology at the right entry point and the right configuration for its customers. The metrics for Data Warehouse, Discovery Platform and Hadoop are all different. The IDW may be an enterprise class platform, an appliance or a cloud offering.</i></p>

		<p><i>The Discovery platform, Aster, is very flexible, and is available as an appliance, s/w only or Cloud, with a variety of funding options, including a short term subscription model. Hadoop configuration is typically a matter of the size of a customer's Big Data. All of these platforms are highly scalable, and can accommodate multiple petabytes of data. There are no seats, concurrent user or named user licenses to limit the use of the platforms.</i></p> <p><i>Aster Discovery Platform Examples:</i></p> <ul style="list-style-type: none"> - <i>Teradata Aster Appliance 4 – turn key, inclusive, sold by the node (Worker Node, 24 cores). All S/W and H/W are included. Enterprise</i> - <i>Teradata Aster 6.00 S/W Only Analytic Bundle for Commodity Hardware – sold per core, Enterprise</i> - <i>Teradata Aster 6.00 S/W Only Analytic Bundle for Commodity Hardware – sold per core, Subscription</i> - <i>Teradata Aster Cloud – Sold by the Cloud Compute Unit (CCU)</i> - <i>Private Cloud</i> <p><i>Teradata RDBMS is licensed by number of nodes; not by number of users.</i></p> <p><i>See Attachment "License Options" for a more detailed description of licensing options.</i></p> <div style="text-align: center;">  <p>2.3.1.3 Teradata License Options.pdf</p> </div>
4	Does your Solution allow for your tool sets to be deployed in order to support shared use among Commonwealth agencies? Explain how.	<p>Yes</p> <p><i>Teradata imposes no limitations for sharing the Teradata platforms (Teradata, Aster, Hadoop) across different Commonwealth agencies.it is commonly done. For example, in Michigan, nearly every state agency, all branches of government and over 11,000 users share and access the system every day. An</i></p>

			<p><i>outline of Michigan's project is attached in section 3.5E of this response. Another example might be: HR wants to do a Benefits / Employee retention study, while Finance may want to determine waste in funded activities or programs that do not demonstrate a positive return for the dollars spent. Investigators may want to find suspicious combinations of events and transactions, payment histories, procedures, associations or other events that warrant closer examination. Often, the data needed to perform these analyses resides in a variety of source systems. With Aster, that is not a problem. The platform is designed to connect with any data source required. Assuming policy allows, any of these groups may use the system for their own requirements. It is a matter of sizing the system for the data sets anticipated and the number of different Agencies intending to use it.</i></p>
<p>5</p>	<p>Do you provide training on your solution? If yes, please explain the options.</p>	<p>Yes</p>	<p><i>Teradata offers a full suite of education offerings; including web-based training, in person training, mentoring and formalized knowledge transfer. We recommend a plan that leverages both formal training and mentoring as a best practice.</i></p> <ul style="list-style-type: none"> <i>- Customer Education provides courses that teach the product capabilities, and how to use the various features. Our program provides instruction and support to enable our customers to gain the highest degree of proficiency possible to become self-sufficient. Formal education is essential to establishing a baseline of knowledge and competency.</i> <i>- Teradata's Professional Services can design and tailor mentoring programs to assist the agency or users in the use and adoption of applications, platforms and tools in their specific environment, leveraging their own use cases. For Aster-specific training, a working knowledge of SQL is</i>

		<p><i>typically a prerequisite.</i></p> <ul style="list-style-type: none"> - <i>All students begin with the Introduction to Teradata Aster course. Database Administrators then attend Teradata Aster Database Administration. Both of these courses are three days in length, and are instructor-led and can be delivered on-site at the customer's location. Both courses are also offered as scheduled, public classes.</i> - <i>The Aster public classes are presented as Virtual Instructor-led Training (VILT). VILT classes are delivered live over the Internet with a live Instructor and a full hands-on lab environment. No travel by the student is necessary. See attachment X for class schedules and descriptions.</i> <p><i>Customer Education and Aster Professional Services each offer unique programs to ensure our clients get the right information at the right time. See attachments below.</i></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  2.3.1.5 Teradata Education Course Cat </div> <div style="text-align: center;">  2.3.1.5 Intro to Teradata Aster.pdf </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="text-align: center;">  2.3.15. Teradata Aster DB Admin.pdf </div> <div style="text-align: center;">  2.3.1.5 Teradata Aster FAQ.pdf </div> </div>
6	Do you provide installation (including configuration) services for these tool components above?	<p>Yes</p> <p><i>TD invented the original appliance, and has delivered fully functional and integrated solution stacks of both hardware and software since inception. This ensures that your system will be up and running in days, as opposed to weeks or months. We are a full service solution provider, including hardware, software and services, providing a complete compliment of installation services, training and ongoing support for our customers. Teradata systems are designed to be rapidly deployed and we have the staff that will do it for you.</i></p> <p><i>See attached Aster installation specifications:</i></p>

			 <p>2.3.1.6 Installation Specifications v.3.pdf</p>
7	<p>Do you provide implementation services for the above tool components? (working with an agency to deploy a solution based on these tools to meet a business need)</p>	Yes	<p><i>Teradata has one of the deepest professional services benches in the world focused on data analytics and we continue to expand our value for customers in this area. For example, in 2014, we acquired Think Big, the leading on-shore/near on-shore Open Source Hadoop consulting firm in the country. We have consultants with domain expertise in all facets of government for VITA to access, and can help define requirements with State staff to deliver the right solution.</i></p>
8	<p>For your Solution, provide examples of how the tools were used by both business and IT users and the level of training and skill required by each. Include what entity used the tools. If possible, use government related examples.</p>	n/a	<p><i>At a recognized large Mortgage/Credit Card accompany, both the Aster and Teradata IDW platforms are being used in analytic studies for:</i></p> <p><i><u>Marketing</u> – Interactive Voice Response (IVR) Use Case: The Company wishes to understand what their customers experience when they are engaged with their IVR system. The goal is to reduce the number of customers who “zero out” to Customer Care. With Aster, they are able to identify points of frustration or misunderstanding in the IVR decision tree that cause people to exit the automated process and connect to a live person in the Customer Care group. With the use of Aster, they can identify people who are bypassing the IVR (repeat callers) and identify specific events that lead to the redirection of a call to Customer Care and, ultimately, optimize their IVR for a better customer experience.</i></p> <p><i>In the Marketing Department, the IVR data is kept in the Teradata</i></p>

		<p><i>IDW and fed to Aster for analysis. Aster can then tag the metadata like time of day, length of call, type of inquiry, customer ID, frequency of calls per ID, time periods between calls of specific customers, call volumes and dozens of other attributes. Using the nPath and Collaborative Filter functions in Aster, they can profile a customer(s), their experience and any bottlenecks or poor performance points in the IVR system; and respond to correct any problems.</i></p> <p><i>In IT, a common workload use case is to understand usage of history data and develop insights to improve archive strategy. Enterprise systems monitoring tools are very mature and work well as designed, but are limited when it comes to researching elements of the database and who uses the database, from a single view. Aster can generate a multitude of new views of what is going on inside the IDW. Aster can capture and ingest various channels of source data such as log files, sensor data and monitoring system reports. Analytic studies can then be performed, beginning with data transformations with functions like “Apache Log Parser”, “OutlierFilter” and “IdentityMatch”. Next, using statistical, time series and pattern matching functions, the user can create lists that clearly demonstrate how and what data is being accessed to make better decisions about what and when to archive. These lists, or views, include information about which users access what data, most frequently used data, frequency of access, users who access the IDW the least, location of least accessed data, etc. This type of analysis is not practical, and sometimes not possible, to do without the sequence of analytics and joining of disparate data sources made possible by Aster.</i></p>
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2.3.2 Predictive and Prescriptive Analytics

- a. Predictive analytics - the three basic cornerstones of predictive analytics are: Predictive modeling; Decision analysis and Optimization; Transaction profiling. Predictive analytics answers the question what will happen. This is when historical performance data is combined with rules, algorithms, and occasionally external data to determine the probable future outcome of an event or the likelihood of a situation occurring.
- b. Prescriptive analytics - ingests hybrid data, a combination of structured (numbers, categories) and unstructured data (videos, images, sounds, texts), and business rules to predict what lies ahead and to prescribe how to take advantage of this predicted future without compromising other priorities.

C.	Requirements	A	B
1	Identify the components of your analytics tool set that fit this category	n/a	<p><i>Teradata provides the <u>tools</u> (Platforms), <u>consulting services</u> (to deploy and manage your analytic environment) <u>training</u> (to teach your staff to master the analytic discipline themselves) and all of the <u>pre-built analytic functions</u> in a comprehensive solution that will support a wide variety of analytics, including both Predictive and Prescriptive analytics, for the State. Hadoop can be offered in conjunction with Teradata platforms and is exceptional for directly ingesting any data type and securing it in its highly available architecture.</i></p> <p><i>a) Predictive Analytics</i></p> <p><i>The Hadoop platform performs well with large data sets such as machine data (sensor data), for example. But when it comes to processing it, there are many steps, requiring multiple skills, to produce a predictive model. It is much easier to use the right tool for the right task. In this case, Aster and its portfolio of prebuilt predictive functions like standard regression, logistic regression, general linear model functions, clustering and text analysis requires fewer skills and no programming, making it a much more cost and time effective choice. Time to value is much faster with Aster. Aster's multiple genres of functions are used by diverse industries including healthcare, finance, government and military, and retail, to help build predictive views from their data. This can be performed from one or a few interactive SQL queries, without any coding. Also, unlike many statistical</i></p>

			<p><i>or graph software packages, Aster can scale, using unlimited size data sets to produce these models quickly and without having a large effect on computation time.</i></p> <p><i>b) Prescriptive Analytics</i></p> <p><i>Aster also has a variety of prebuilt prescriptive functions, these functions allow the user to easily interpret and visualize patterns, such as frequent paths and relationships in the data to help make better future business decisions or policy changes based on these insights from the data.</i></p>
2	Identify platforms for deployment (cloud, Intel, appliance, OSs, database versions etc.) for the tools you have included in this category	n/a	<p><i>The Teradata Aster Big Analytics Appliance 4 (abbreviated as A4), is a unified big analytics appliance that, delivers an enterprise-ready solution for iterative discovery with the ability to store, manage, refine and analyze Big Data. The Teradata Aster Big Analytics Appliance can combine both Aster Discovery Platform and Hadoop within a single appliance and scale to multiples of petabytes. As described in Section C 2.3.1.2 and 2.3.1.3, all of Teradata's clusters are designed with commercial off the shelf components, and fully integrated with our databases and software.</i></p> <p><i>All of Teradata's platforms are offered as On-Premise or Cloud. The architectures are consistent with the Intel/Linux platforms described previously in Section C 2.3.1.2.</i></p>
3	Explain licensing options for the tools you have included in this category	n/a	<p><i>Teradata offers license usage options that will provide for a range of economies, from Enterprise to subscription and Cloud. Costs can be amortized over time, or absorbed up front, depending on budgets and what works best for the customer.</i></p>
4	Does your Solution allow for your tool sets to be deployed in order to support shared use among Commonwealth agencies? Explain how.	Yes	<p><i>Teradata appliances are sold as enterprise solutions, not by seat or by number of users. Our customers are free to distribute access to the systems as they need or desire to, based on their own policy and criteria. The platform is designed to connect with any data source</i></p>

			<i>required. Any State Agency may use the system for its own requirements, depending on state data-sharing practices. It is a matter of sizing the system for the data sets anticipated and the number of concurrent Agencies intending to use it.</i>
5	Do you provide training on your solution? If yes, please explain the options.	Yes	<i>Teradata has training for all levels of users on every platform offered. We recommend a plan that leverages both formal training and mentoring as a best practice. Our training formats include web-based, on-premise at the customer's location, and Virtual Instructor-led Training (VILT). The Aster public classes are presented as VILT classes are delivered live over the Internet with a live Instructor and a full hands-on lab environment. No travel by the student is necessary. For additional details on training please refer to Section 2.3.1.5.</i>
6	Do you provide installation (including configuration) services for these tool components above?	Yes	<i>Yes. As an enterprise vendor of Big Data solutions, Teradata provides installation on all of its systems to insure customers are satisfied and experience a rapid time to value from Teradata.</i>
7	Do you provide implementation services for the above tool components? (working with an agency to deploy a solution based on these tools to meet a business need)	Yes	<i>The Teradata Professional Services teams are ready to implement any of our products, with a proven, repeatable process driven by business requirements. They excel at meeting customers' expectations and SLAs on time and as agreed upon. (For a deeper look at our program, please refer to Section 3.8.2)</i>
8	For your Solution, provide examples of how the tools were used by both business and IT users and the level of training and skill required by each. Include what entity used the tools. If possible, use government related examples.	n/a	<i>A large Point-of-Sale, ATM, self-checkout and kiosk manufacturer partners with Teradata to receive Big Data telemetrically from the Internet of Things. With this data, they are performing predictive analytics that allow them to proactively anticipate and repair devices prior to failure. These analyses allow the company to allocate technicians and parts, and to schedule device downtime, rather than react to it. This insight</i>

		<p><i>has resulted in significant cost savings and has dramatically changed and improved process efficiency. With a comprehensive Teradata UDA (data warehouse, Aster and Hadoop) this organization performs predictive analytics across all three platforms. This is a tremendous improvement over previous processes, which required that analysts manually create predictive algorithms, which could take up to six months to implement. Today, their analysts can harvest fresh sensor data from Hadoop, create a new algorithm, test and release it to the IDW as production code in 3 weeks! This new paradigm allows the cross reference supplier parts and commonalities with their many business units and they are no longer limited to viewing supplier parts from every siloed business units. Now, the organization can view and address supplier parts across a global enterprise. The company staff that helped to design this system have SQL skills and domain knowledge of their target equipment under service contract.</i></p>
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2.3.3 Statistical Analysis and Simulation

- a. Statistical programming - traditional analysis of variance and linear regression to exact methods and statistical visualization techniques, statistical programming is essential for making data-based decisions in every field
- b. Econometrics - modeling, forecasting and simulating business processes for improved strategic and tactical planning. This method applies statistics to economics to forecast future trends
- c. Operations research - identifies the actions that will produce the best results - based on many possible options and outcomes. Scheduling, simulation, and related modeling processes are used to optimize business processes and management challenges
- d. Matrix programming - powerful computer techniques for implementing your own statistical methods and exploratory data analysis using row operation algorithms
- e. Statistical visualization - fast, interactive statistical analysis and exploratory capabilities in a visual interface can be used to understand data and build models
- f. Statistical quality improvement - mathematical approach to reviewing the quality and safety characteristics for all aspects of production.
- g. High-performance statistics - in-memory infrastructures and parallel processing can fit predictive models faster, perform more modeling iterations and use complex techniques for faster results
- h. Simulation - tools that allow users to simulate and observe an operation without actually performing that operation

C.	Requirements	A	B
1	Identify the components of your analytics tool set that fit this category	n/a	<p><i>Aster is a particularly compelling product for statistical analysis and simulation. We offer Aster in conjunction with Hadoop to reduce cost and complexity. While this functionality is possible in Hadoop alone, the labor and consulting cost quickly becomes exorbitant. Solution adoption by the agencies will suffer because a typical user cannot query Hadoop – it requires specialized skills in languages like Hive and Pig – so IT must become involved to fulfill even the simplest request. With Aster, functions are built in and can be invoked by users, dramatically reducing costs and time to implementation. Aster embeds dozens of statistical and machine learning functions in-database and continues to grow the portfolio, quarterly. With Open Source R, there will be over 5,000 additional functions, many statistical, available to our users.</i></p> <p><i>a) Statistical Programming</i></p> <p><i>Aster has prebuilt standard regression functions (linear, logistic, glm) as well as a large library of clustering, text classification, graph, and time series functions. More detail about prebuilt statistical functions can be found in the</i></p>

		<p><i>attachment New Discovery Portfolio Whitepaper September 2014 at the end of this section. Please note that because of the rapid expansion of Aster functions, many of the newer R and Graph functions are not covered in the current whitepaper edition.</i></p> <p><i>b) Econometrics</i></p> <p><i>Aster has a number of time series and forecasting functions, one example of this is Symbolic Aggregation Approximation (SAX). SAX is a cutting-edge algorithm that powers quick, scalable processing of large- scale time series data sets to identify data anomalies and trends. The SAX function is implemented to classify, cluster, and discover motifs (reoccurring patterns), rule identification, novelty detection, and querying.</i></p> <p><i>c) Operations Research</i></p> <p><i>Aster has many prebuilt path functions; these functions analyze what events lead to a certain outcome. Aster has functions to find the most common series of events that lead to an outcome, visualize all of the paths that lead to that outcome, as well as tools to drill deeper into path patterns and characteristics.</i></p> <p><i>d) Matrix Programming</i></p> <p><i>Teradata has aimed to create the most important and representative set of such functions to address the broadest possible set of use cases. Aster supports over 70 SAS Procs and SAS functions in-database today. Aster supports Open Source R, as well. New functions are continually added to our Teradata portfolio. For any unique or urgent needs, customers will be able to address any gaps between current capabilities and their needs by developing custom functions through our PS teams, or on their own, by using the embedded Aster Developer Express (ADE). ADE is a crucial component of the Aster solution and is an easy to use,</i></p>
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		<p><i>visual development environment for writing new SQL, SQL-MR and SQL-GR functions.</i></p> <p><i>e) Statistical Visualization</i></p> <p><i>Aster provides prebuilt interactive graphing functions to visualize paths, trees, and associations. Aster is also compatible with graphing software such as Tableau, and, with new R integration, can access all of the capabilities of R visualization packages.</i></p> <p><i>f) Statistical Quality Improvement</i></p> <p><i>As stated, Aster embeds over 24 statistical and machine learning functions in-database today. With 3rd party enablement of in-database execution and the domain knowledge of the agency, Aster excels at Statistical Quality Improvement.</i></p> <p><i>g) High-Performance Statistics</i></p> <p><i>Aster delivers High-Performance Statistics via a Massively Parallel Processing (MPP) engine, MapReduce, SQL-MapReduce and SQL-Graph frameworks for advanced, iterative, and rapid discovery. Aster is highly scalable and optimized for high performance analytics, which can be done on entire production-level data sets without needing to sample. Teradata systems come standard with in-memory functionality, known as Teradata Intelligent Memory™., so we understand the need for in-memory solutions, though the need to perform analytics on an in-memory solution is an operational requirement. For discovery, it is more important to run larger sets of data for accuracy; particularly when mining for the unknown insight. .</i></p> <p><i>h) Simulation</i></p> <p><i>Teradata provides for simulation functions as part of the Teradata Unified Data Architecture; most often with Fuzzy Logix in-database analytics. This adds an additional 600 algorithms, including Simulation algorithms like Monte Carlo</i></p>
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			<p><i>simulations, univariate distributions, multivariate distributions, and correlated multivariate distributions as described in the New Discovery Portfolio White Paper attachment in Section 2.3.1.1.</i></p>
2	<p>Identify platforms for deployment (cloud, Intel, appliance, OSs, database versions etc.) for the tools you have included in this category</p>	n/a	<p><i>Teradata delivers all three components of the Gartner-endorsed Unified Data Architecture. All are MPP, Intel/Linux based systems, and all of these systems are available as on-premise or as cloud based solutions. They are optimized to coexist together, or as stand-alone, individual systems in other homogeneous environments.</i></p>
3	<p>Explain licensing options for the tools you have included in this category</p>	n/a	<p><i>All of the Teradata products are available as On-Premise or Cloud offerings. Teradata strives for the right technology at the right entry point and the right configuration for its customers. The metrics for Data Warehouse, Discovery Platform and Hadoop are all different. This particular requirement is best met by the Aster Discovery Platform. Aster is very flexible, and is available as an appliance, s/w only or Cloud, with a variety of funding options, including a short term subscription model. Aster is highly scalable, and can accommodate multiple petabytes of data. There are no seats, concurrent user or named user licenses to limit the use of the platforms.</i></p> <p><i>Aster Discovery Platform Examples:</i></p> <ul style="list-style-type: none"> - <i>Teradata Aster Appliance 4 – turn key, inclusive, sold by the node (Worker Node, 24 cores). All S/W and H/W are included. Enterprise</i> - <i>Teradata Aster 6.00 S/W Only Analytic Bundle for Commodity Hardware – sold per core, Enterprise</i> - <i>Teradata Aster 6.00 S/W Only Analytic Bundle for Commodity Hardware – sold per core, Subscription</i> - <i>Teradata Aster Cloud – Sold by the Cloud Compute Unit (CCU)</i>

			- Private Cloud
n4	Does your Solution allow for your tool sets to be deployed in order to support shared use among Commonwealth agencies? Explain how.	Yes	<i>Teradata imposes no limitations for sharing the Teradata platforms (Teradata, Aster, Hadoop) across different Commonwealth agencies. it is commonly done. For example, in Michigan, nearly every state agency, all branches of government and over 11,000 users share and access the system every day. An outline of Michigan's project is attached in section 3.5E of this response.</i>
5	Do you provide training on your solution? If yes, please explain the options.	Yes	<p><i>Teradata offers full suites of education offerings; including web-based training, in person training, mentoring and formalized knowledge transfer. We recommend a plan that leverages both formal training and mentoring as a best practice.</i></p> <p><i>- Customer Education provides courses that teach the product capabilities, and how to use the various features. Our program provides instruction and support to enable our customers to gain the highest degree of proficiency possible to become self-sufficient. Formal education is essential to establishing a baseline of knowledge and competency.</i></p> <p><i>- Teradata's Professional Services can design and tailor mentoring programs to assist the agency or users in the use and adoption of applications, platforms and tools in their specific environment, leveraging their own use cases.</i></p> <p><i>For Aster-specific training, a working knowledge of SQL is typically a prerequisite.</i></p> <p><i>- All students begin with the Introduction to Teradata Aster course. Database Administrators then attend Teradata Aster Database Administration. Both of</i></p>

			<p><i>these courses are three days in length, and are instructor-led and can be delivered on-site at the customer's location. Both courses are also offered as scheduled, public classes.</i></p> <p><i>- The Aster public classes are presented as Virtual Instructor-led Training (VILT). VILT classes are delivered live over the Internet with a live Instructor and a full hands-on lab environment. No travel by the student is necessary. See attachment X for class schedules and descriptions.</i></p> <p><i>Customer Education and Aster Professional Services each offer unique programs to ensure our clients get the right information at the right time. For additional material about Teradata Aster education, please refer to Section 2.3.1, question #5.</i></p>
6	Do you provide installation (including configuration) services for these tool components above?	Yes	<p><i>Teradata invented the original appliance, and has delivered fully functional and integrated solution stacks of both hardware and software since inception. This ensures that your system will be up and running in days, as opposed to weeks or months, and can begin to integrate skill sets and enterprise sources into Teradata. We are a full service solution provider, including hardware, software and services, providing a complete compliment of installation services, training and ongoing support for our customers. Teradata systems are designed to be rapidly deployed and we have the staff that will do it for you. For Aster-specific installation specifications, please refer to the attachment in Section 2.3.1, question #6.</i></p>
7	Do you provide implementation services for the above tool components? (working with an agency to deploy a solution based on these tools to meet a business need)	Yes	<p><i>Teradata has one of the deepest professional services benches in the world focused on data analytics and we continue to expand our value for customers in this area. For example, in 2014, we acquired Think Big, the leading on-shore/near on-shore Open Source Hadoop consulting firm in the</i></p>

			<p><i>country. We have consultants with domain expertise in all facets of government for VITA to access, and can help define requirements with State staff to deliver the right solution.</i></p>
<p>8</p>	<p>For your Solution, provide examples of how the tools were used by both business and IT users and the level of training and skill required by each. Include what entity used the tools. If possible, use government related examples.</p>	<p>n/a</p>	<p><i>A branch of the US Military partnered with Teradata in a quest to improve:</i></p> <ul style="list-style-type: none"> <i>- Aviation safety for pilots and crews</i> <i>- Readiness: Identify aircraft that were grounded due to parts failures, address a lack of ability to forecast faults and to conduct routine preventive measures; and understand appropriate parts inventories to facilitate rapid repairs.</i> <i>-Cost Reduction: Reduce the cost associated with over and underestimating parts requirements and better forecast parts production requirements.</i> <i>-Multi-event Sensor Path Analysis: The data required to perform this study resided in a Teradata IDW, which manages much of the source data regarding maintenance, flight and usage. Additional sources included Aircraft Sensor data (XML files), and Flight Logs. The analytics used for this study were:</i> <ul style="list-style-type: none"> <i>-Sessionization for sequencing the periods of time events were occurring,</i> <i>-nPath to map the events over time as they occurred and the outcome,</i> <i>-Sankey GraphData to visualize the events over time and the connections between the events and a particular outcome, which may have been caused by a degraded or failed part on the aircraft.</i> <p><i>Using the functions in Aster, the team was able to find anomalies in faults between the left and right hanger bearings of one aircraft type studied. From the data provided, we discovered that left engine hanger bearing faults for vibration and temperature were nearly double that of the right engine, across the entire</i></p>

		<p><i>fleet (over 100 aircraft).</i></p> <p><i>In a second study, on a second type of rotary aircraft, Aster uncovered that a vibration condition was a leading indicator of parametric engine data faults. These faults were consistently shown to immediately follow a significant vibration event. The sensor data that was used for this analysis had always been capturing these events; however the Military could not identify the patterns through existing tools and analysis. The outcome is a behavioral profile that is repeatable, and facilitated a change in the maintenance procedures that drastically reduced preventable aircraft down-time. This study was conducted by a Teradata field systems engineer in two days, who had no prior experience with the sensor data.</i></p>
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2.3.4 Data Visualization

4. Data Visualization - pictorial representation of data that may take the form of an animation, a cloud, a map, a chart, or a simple picture. This also includes: infographics, dials and gauges, geographic maps, sparklines, heat maps, and detailed bar, pie and fever charts. The images may include interactive capabilities, enabling users to manipulate them or drill into the data for querying and analysis.

C.	Requirements	A	B
1	Identify the components of your analytics tool set that fit this category	n/a	<p><i>As discussed in the Executive Summary and in Section 2.3.1, question #1, there is a distinction between what an advanced analytic discovery platform does and what a Business Intelligence (BI) or visualization tool does. For the purposes of advanced analytics, a discovery platform does the work, and a BI tool delivers visualization to a business user. Teradata Aster pre-built visualizations include:</i></p> <ul style="list-style-type: none"> <i>-Flow Visualizer - Sankey Chart, visualize the flow of a natural series of behaviors through a system</i> <i>-Hierarchy Visualizer - Tree Hierarchy, parent-child relationships between data objects</i> <i>-Affinity Visualizer - Sigma Diagram, visualize nodes and edges and the relationships between objects.</i> <p><i>The Aster analytic workflows produced can be output to embedded visualizations and are typically intended for use by the data analyst or data scientist to use during data mining studies. They are a great tool for collaboration between the technologists and the operational staff in an organization. For a business user, which is the intended audience of BI and visualization-specific tools, Aster integrates with Tableau, BOBJ, SAS, Cognos, MicroStrategy and others to leverage existing tools and licenses and allow the business user to use tools with which they are comfortable.</i></p>
2	Identify platforms for deployment (cloud, Intel, appliance, OSs, database versions etc.) for the tools you have included in this category	n/a	<p><i>Teradata offers analyst-level visualization tools with all platforms, though most often integrates and leverages a 3^d party BI or visualization tool of the customer's choosing to deliver views to the business community. Unlike other</i></p>

			<p><i>“packaged” advanced analytical solutions, Teradata does not mandate that customers learn and use a specific delivery or top layer tool. Teradata Big Data analytics solutions have enjoyed a high level of user adoption and success – due on large part to the fact that the rigors of the analytical processes are invisible to the end user. They can continue to use visualization tools that they are familiar with so, despite the new insights and functionality they obtain, the learning curve is dramatically shorter.</i></p>
3	<p>Explain licensing options for the tools you have included in this category</p>	n/a	<p><i>Licensing for Teradata platforms is per node, as opposed to per seat or concurrent user, so VITA and COV agencies can deploy the tool to as many people as they wish. With regard to end user BI and visualization tools, licensing is determined by the tool vendor. Teradata integrates the BI / visualization tool of the customer’s choosing, and delivers a complete solution. We can leverage tools and licenses that may already exist in an agency, as well.</i></p>
4	<p>Does your Solution allow for your tool sets to be deployed in order to support shared use among Commonwealth agencies? Explain how.</p>		<p><i>There is no licensing limitation imposed by Teradata, as it is licensed on a per node basis, not per seat or concurrent user. Where end user visualization tools are concerned, Teradata can be used as a State wide asset and can connect with any number of BI tools simultaneously - even if different ones exist across agencies.</i></p>
5	<p>Do you provide training on your solution? If yes, please explain the options.</p>	Yes	<p><i>We can provide training on all Teradata solutions and training can be extended to include training on all common BI and visualization tools, as well. As stated in earlier sections, Teradata provides training in a variety of formats: web-based, on-premise, mentoring and knowledge transfer.</i></p>
6	<p>Do you provide installation (including configuration) services for these tool components above?</p>	Yes	<p><i>As the inventor of the enterprise appliance solution, Teradata delivers a fully integrated stack of both hardware and software, including 3rd party software.</i></p>

			<p><i>Installation is included for all of our systems. This ensures that the system will be up and running in days, as opposed to weeks or months. Teradata systems are designed to be rapidly deployed and we have the staff that will do it for you.</i></p>
7	<p>Do you provide implementation services for the above tool components? (working with an agency to deploy a solution based on these tools to meet a business need)</p>	Yes	<p><i>As a comprehensive solution provider, Teradata fully implements all aspects of our solutions, including 3rd Party BI/Visualization tools. We have consultants with domain expertise in all facets of government and can bring agency-specific knowledge to every implementation.</i></p>
8	<p>For your Solution, provide examples of how the tools were used by both business and IT users and the level of training and skill required by each. Include what entity used the tools. If possible, use government related examples.</p>	n/a	<p><i>As a recent customer example, a large healthcare insurance provider wanted to understand relevant patterns in an effort to better manage the off-label prescription utilization of certain drugs. Specifically, they wanted to identify clinically inappropriate utilization, identify specialties and conditions driving that utilization and identify patient safety risks. To address this study, Teradata combined 10 years of claim data:</i></p> <ul style="list-style-type: none"> <i>-Integrated RX and Medical Claims</i> <i>-Identified a subset of data that spanned a 5 year period for longitudinal study</i> <i>-Provider/prescriber specialty information</i> <p><i>This source data was fed into the Aster Discovery Platform, followed by a series of queries using the Aster Text functions (“text parser”, “named entity”), pathing (“nPath”) and the pattern analysis functions (“Sessionization”, “Path Analyzer” and “Attribution”). This resulted in:</i></p> <ul style="list-style-type: none"> <i>-Identification of members taking the specific drugs with 5 years of continuous coverage</i> <i>-Identification of all health services received prior to taking the drugs in the study</i> <i>-Identification of all doctors/prescribers who provided treatments and prescribed the</i>

		<p>drugs.</p> <p><i>This allowed the company to identify clear safety and spend-related impacts based on a subscriber's medical outcomes, quantify exposure and identify utilization patterns for subscribers to understand potentially related adverse effects consistent with clinical data. They could then provide insights for relevant messaging and targeted education or intervention.</i></p> <p><i>Perhaps one of the most significant business advantages of Aster was demonstrated in that IT was not required to support the development of unique applications to conduct these studies. With a focus on formulating the right questions for the study, the non-technical business and operations staff were able to leverage common SQL skills to run predictive analytics in the Teradata platform, and visualize the results via their existing BI / visualization tool.</i></p>
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2.3.5 Data Quality

- b. Parsing and standardization — Decomposition of text fields into component parts and formatting of values into consistent layouts based on industry standards, local standards (for example, postal authority standards for address data), user-defined business rules, and knowledge bases of values and patterns
- c. Generalized “cleansing” — Modification of data values to meet domain restrictions, integrity constraints or other business rules that define sufficient data quality for the organization
- d. Matching — Identification, linking or merging related entries within or across sets of data. This includes technologies that enable analysis of diverse depersonalized data sets (example: anonymization and resolution and the functions that support this type of technology: standardization, masking/hashing, encryption, linkage of records, etc.)
- e. Profiling — Analysis of data to capture statistics (metadata) that provide insight into the quality of the data and aid in the identification of data quality issues
- f. Monitoring — Deployment of controls to ensure ongoing conformance of data to business rules that define data quality for the organization
- g. Enrichment — Enhancing the value of internally held data by appending related attributes from external sources (for example, consumer demographic attributes or geographic descriptors)

C.	Requirements	A	B
1	Identify the components of your analytics tool set that fit this category	n/a	<p><i>Teradata provides broad experience in providing the services to insure data cleanliness, transformation, and preparation for production use; data quality monitoring and the process of adding new sources to customer databases. It is a part of the business Teradata has been excelled at for over 36 years.</i></p> <p><i>Teradata tools are designed to reduce the time it takes to actually begin to execute analytics on a customer’s data. The platform is unique in that it comes standard with many in-database functions to achieve this goal, such as:</i></p> <p><i>b) Parsing and Standardization</i></p> <p><i>Below are three examples of Aster's parsers.</i></p> <p><i>Web log parser: Web logs are footprints that capture a visitor’s behavior on a Web site as well as information on the Web server’s performance that can be analyzed to troubleshoot problems and manage capacity to satisfy traffic demands. These log files conform to the National Center for Supercomputing Applications (NCSA) standard, and the Apache log parser takes each entry and parses out the data into a structured format.</i></p> <p><i>E-mail parser: The predominant mode of communication within and</i></p>

		<p><i>across organizations today is e-mail. This parser deconstructs large volumes of text data into meaningful buckets for analysis, monitoring, classification and so on.</i></p> <p><i>Text parser. Text parser is a function that tokenizes an input stream of words, can optionally stem them, and then emit the individual words and counts for the each word appearance. Text parsers are used as an initial step in collecting word (or stem) occurrences so that we can do frequency analysis, including TF-IDF (understanding how important a word is in a given document or text). Once we know how important a word is, we could then determine the weight to be placed on it for future information retrieval.</i></p> <p><i>c & d) Cleansing and Matching</i></p> <p><i>A few examples of Aster cleansing and matching functions are as follows:</i></p> <p><i>-Identity Matching: The primary role of the identity matching function is to match large sets of information where there is *noise* in the information such as variant spellings, typos, variations in transliteration, abbreviations, and inconsistent punctuation. In the absence of performing identity matching, it is likely that the same entities with, say, different spellings, within a block of text will be assigned different identifiers. This is likely going to inflate counts and misrepresent the nature and the context of the information being presented. This function is also used to match customer data with the user data obtained from external data sources. When matching two users, we can choose several attributes to calculate the similarity scores; then use a formula to compute the final similarity score. Attribute matching can be classified into nominal match and fuzzy matching. For example, If two users have the same email or mobile number, we can say they are the</i></p>
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		<p>same user; but for location and profile attributes, a weighted matching approach is taken. Each organization has its own criteria for what constitutes a good match. While there is no universally defined "best match", Aster's solution of user- selected combinations of fuzzy and nominal match is ideal for increasing data quality.</p> <p>-IpGeo Mapping: This function maps IP address to location information. It can be used to identify visitors' geographical location (i.e. country, region, city, latitude, longitude, ZIP code, time zone, connection speed, ISP, and domain name).</p> <p>-Multicase: This function iterates through the input data set once, and outputs records whenever a match occurs on some specified criteria (e.g., if income>\$100,000 then 'High"). If multiple matches occur for a given input row, one output row will be output for each match.</p> <p>e & f) Profiling and Monitoring</p> <p>Teradata Loom provides data management for the Hadoop data lake. Loom allows users to more easily find, understand, and prepare data in the Hadoop cluster. Loom includes a framework called Activescan which constantly catalogs and profiles data in HDFS and Hive. Activescan automatically discovers new data, registers the new data with Loom, and profiles the data to generate technical metadata about it.</p> <p>g) Enrichment</p> <p>Aster has connectors to easily load data from many different kinds of databases. These connectors make acquiring new data from multiple sources quick and easy. Aster can also execute joins across different databases and data sets kept in Hadoop, to simplify the merging of data from multiple sources. In addition to typical structured sources, Aster can combine semi and unstructured source data into</p>
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			<p><i>the platform for a more dimensional view of what is going on. In a single SQL statement, Aster can draw on data from Hadoop, Oracle, Teradata, or other relational DB; even sensor data, like machine, instrument, or others, like text, social media streams, etc. The ability to combine all of the various kinds of data that may be relevant to an important question or study is a unique advantage with Aster. Aster brings results in a fraction of the time when compared to performing these operations disparately, with multiple tools, requiring many different skill sets. In Aster, the output from one multi-genre analytic query becomes the input of the next, as an analyst iterates through the data.</i></p>
2	Identify platforms for deployment (cloud, Intel, appliance, OSs, database versions etc.) for the tools you have included in this category	n/a	<p><i>All Teradata systems address data quality. All are MPP, Intel/Linux based systems. All of the systems are available as On-Premise or as Cloud based solutions. They are optimized to coexist together or can stand-alone in other homogeneous environments as individual assets.</i></p>
3	Explain licensing options for the tools you have included in this category	n/a	<p><i>The functionality outlined in this response item is imbedded in various Teradata platforms, All Teradata platforms are licensed by node, as opposed to by seat or by concurrent user and are scalable to multiple petabytes. All Teradata platforms are available as On-Premise or Cloud offerings.</i></p>
4	Does your Solution allow for your tool sets to be deployed in order to support shared use among Commonwealth agencies? Explain how.	Yes	<p><i>Teradata appliances are sold as enterprise solutions, not by seat or by users. Our customers are free to distribute access to the systems as they need or desire to, based on their own policy and criteria. The platforms are designed to connect</i></p>

			<i>with any data source, and any COV-agency may use the system for their own requirements. It is a matter of sizing the system for the data sets anticipated and the number of concurrent Agencies intending to use it.</i>
5	Do you provide training on your solution? If yes, please explain the options.	Yes	<i>Teradata offers a variety of training options: web-based, on premise, mentoring and formal knowledge transfer. Please refer to section 2.3.1 question #5 for additional information on training.</i>
6	Do you provide installation (including configuration) services for these tool components above?	Yes	<i>Data quality functionality is inherent in Teradata platforms, so no additional installation is needed. As an enterprise vendor of Big Data solutions, Teradata provides installation on all of its systems to insure customers are satisfied and experience a rapid time to value from Teradata.</i>
7	Do you provide implementation services for the above tool components? (working with an agency to deploy a solution based on these tools to meet a business need)	Yes	<i>The data quality functionality described in this section is inherent in all Teradata systems. There is no additional implementation required.</i>
8	For your Solution, provide examples of how the tools were used by both business and IT users and the level of training and skill required by each. Include what entity used the tools. If possible, use government related examples.	n/a	<i>A major Healthcare Provider and Teradata customer wanted to be able to mine their HL7 data for a variety of useful insights on patient health trends in women, procedures administered by disease, and other common studies believed to be enhanced with the semi-structured HL7 data. The problem was that the process was prohibitively expensive due to the amount of ETL involved just to get the data into a normalized state. Working with Aster and Teradata Professional Services, a script was developed within a week to preprocess and count every instance of a record and then the records were loaded directly into Aster. Once ingested, a SQL-MR function was run to sessionize the data and to create a key. This process now takes minutes to run, with little or no staff or other platform expenses. Now, there is no limit to the data mining that can be performed on HL7 data. The customer can research healthcare worker notes, disease</i>

		<p><i>types, protocols provided, demographics - literally anything they find interesting can be profiled with the Aster Discovery Platform. The customer staff that participated on this project had SQL skills and medical domain knowledge, but with Aster v6.1, the AppCenter component will allow completely non-technical staff to work within Aster to query the data. This project inspired Aster engineers to add an HL7 parser to the analytic portfolio, which is now available to all customers.</i></p>
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2.3.6 Data Governance

6. Data Governance - a quality control discipline for assessing, managing, using, improving, monitoring, maintaining, and protecting information. It is a system of decision rights and accountabilities for information-related processes, executed according to agreed-upon models which describe who can take what actions with what information, and when, under what circumstances, using what methods. This also includes: what, where, who; where is metadata; are we using it correctly; are people being trained, etc.
 a. Metadata management - the end-to-end process and governance framework for creating, controlling, enhancing, attributing, defining and managing a metadata schema, model or other structured aggregation system, either independently or within a repository and the associated supporting processes (often to enable the management of content).

C.	Requirements	A	B
1	Identify the components of your analytics tool set that fit this category	n/a	<p><i>With 36 years of experience covering thousands of analytics implementations, Teradata has led the Advanced Analytics and DW market since inception. Our complete portfolio of consulting services and hardware-software infrastructure offerings for data analytics, data management and data warehousing were built on methodologies and best practices in data governance. Our portfolio includes the services and best practice methodologies needed to combat fraud, waste, and abuse at all levels of government, such as:</i></p> <ul style="list-style-type: none"> <i>-Defining and implementing data management processes, including data governance, data quality, and data stewardship.</i> <i>-Analytical roadmap planning and development, helping clients prioritize and plan analytical solution development based on organizational needs.</i> <i>-Architecting and implementing the analytical environment, including setting up the hardware and software, defining and implementing the ETL processes needed to ingest data from desired sources, and administering the environment after it is in production.</i> <i>-Analytical solution development, including defining and developing the analytical models, setting up interactive analytical environments, and providing effective user interfaces for analysts as well as end users.</i> <p><i>From a warehouse perspective,</i></p>

		<p><i>Teradata houses a Metadata Services (MDS) repository within the Teradata Database. MDS delivers an integrated view of the information in the data warehouse that enables greater self-sufficiency for end users and provides easier data management and reduced costs of the IT staff.</i></p> <p><i>MDS is optimized for the Teradata Database, integrates metadata between Teradata products and provides a means of exchanging metadata with other tools, applications, and repositories. MDS provides the basic framework to build a central metadata repository, and provides an integrated metadata management solution. Teradata metadata from a separate Teradata system can be loaded into a Teradata system that houses the MDS Repository. Capabilities include metadata security, metadata import through XML, client load utility integration, association of business and technical metadata, metadata interchange facilities for external applications, and Application Programming Interfaces (APIs) for customizations.</i></p> <p><i>Teradata is the first in the industry to address data governance in Hadoop.</i> <i>Teradata Loom consists of tools for understanding, tracking, and exploring, cleaning, and transforming data in any Hadoop distribution. As a data scientist, the first thing you need before you can get going is to simply find out what you have --- what data sets exist, and what is contained within them. Loom contains many features that help to answer these questions.</i></p> <p><i>First, Loom tracks the lineage of every dataset from the point it is loaded into HDFS, and throughout its entire lifecycle as it is processed, cleaned, and refined. As data is transformed, whether the transformation happens through Loom's cleaning and wrangling tools, or whether the transformation</i></p>
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		<p><i>happens through several other tools in the Hadoop ecosystem (e.g. Loom has a listener for MapReduce and YARN jobs), these transformations are tracked by Loom's data lineage tool, and stored in its registry. This registry is extensible so that users can also enter customized metadata and descriptions of datasets in the system.</i></p> <p><i>Loom contains "ActiveScan" technology that dynamically profiles datasets and collects statistics about the data stored within. This information is presented to the data scientist in order to give her a general sense of what is stored inside the datasets --- including what attributes exist, what types of values are present within these attributes, and what are the statistical profiles of these values. ActiveScan automatically detects when new data is registered in HDFS or Hive, and performs this profiling without user intervention.</i></p> <p><i>There are two primary interfaces with which the data scientist can access the lineage information in the data registry and the statistical information collected by the ActiveScan technology. First, there is a "RESTful API" over which the data scientist can programmatically access this information. Data accessed via this API is encoded in JSON. Second, there is a Web-based GUI called "Loom Workbench", which presents a graphical representation of this data. Workbench is built using HTML5 and CSS, and communicates with the Loom server using the aforementioned API. Workbench not only presents lineage and statistical information about datasets to the data scientist -- it is also a data exploration tool. Users can see samples of the data stored inside the datasets in order to gain a deeper understanding of the contents of the datasets; beyond what can be gleaned from the high level descriptions and</i></p>
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		<p><i>statistical profile.</i></p> <p><i>The Workbench GUI is also the interface for the Weaver data transformation and cleaning tool. Workbench presents samples of data in tabular format to the data scientist. When browsing through a data set, the data scientist may want to edit the data set by removing certain entities or attributes, cleaning up the text, or merging/splitting attributes. Weaver provides an interface where the data scientist can express these edits via an intuitive, interactive interface.</i></p> <p><i>Although these edits are expressed over a sample of the data, many edits can be generalized over the entire dataset. For example, the data scientist can notice from a sample that whenever a certain attribute is empty, another attribute should be changed accordingly (e.g. whenever “shipdate” is empty, “orderComplete” should be set to false). Therefore, Weaver allows data scientists to express edits generally. As the data scientist generates these general edits through Weaver interface, Weaver records each edit in a script in their own R-like pseudo-language. This script is then translated to a MapReduce job (or series of MapReduce jobs), which is run on the original dataset to generate the newer, cleaner dataset. These modifications are tracked by Loom’s lineage tool mentioned above, so that they can be reverted, redone, or removed if necessary. Weaver thus presents a nice, visual, easy-to-use interface for expressing general transformations and cleaning operations over datasets in Hadoop.</i></p> <p><i>In conclusion, Teradata Loom has several useful tools for working with data in Hadoop --- from data understanding and exploration to data transformation and cleaning. When combined with Teradata’s partnership with Hortonworks and</i></p>
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			<i>Cloudera, Teradata is on the way to building a true end-to-end data processing platform for Hadoop. Loom is yet another example of Teradata's proficiency in Data Governance.</i>
2	Identify platforms for deployment (cloud, Intel, appliance, OSs, database versions etc.) for the tools you have included in this category	n/a	<i>The Teradata delivers all three components of the Gartner-endorsed Unified Data Architecture (UDA): Data Warehouse, Discovery Platform, and Hadoop. All Teradata platforms are MPP, Intel/Linux based systems. All of these systems are available as On-Premise or as Cloud based solutions. They are optimized to coexist together or as stand-alone in other homogeneous environments as individual assets.</i>
3	Explain licensing options for the tools you have included in this category	n/a	<i>Choices are important when it comes to investing in any of the Teradata offerings. All of the Teradata products are available as On-Premise or Cloud offerings. Teradata strives for the right technology at the right entry point and the right configuration for its customers. All Teradata platforms are licensed on a per node basis, as opposed to a per seat or per concurrent user basis, so VITA can deliver the functionality across as many employees, departments or agencies as they see fit.</i>
4	Does your Solution allow for your tool sets to be deployed in order to support shared use among Commonwealth agencies? Explain how.	Yes	<i>Teradata appliances are sold as enterprise solutions, not by seat or by concurrent user. Our customers are free to distribute access to the systems as they need or desire to, based on their own policy and criteria. Our platforms are designed to connect with any data source, and any State Agency may use the</i>

			<i>system for their own requirements. It is a matter of sizing the system for the data sets anticipated to accommodate the number of agencies intending to use it.</i>
5	Do you provide training on your solution? If yes, please explain the options.	Yes	<i>Teradata offers a variety of training options: web-based, on premise, mentoring and formal knowledge transfer. Please refer to section 2.3.1 question #5 for additional information on training.</i>
6	Do you provide installation (including configuration) services for these tool components above?	Yes	<i>TD invented the original appliance, and has delivered fully functional and integrated solution stacks of both hardware and software since inception. This ensures that your system will be up and running in days, as opposed to weeks or months, and can begin to integrate skill sets and enterprise sources into Teradata. We are a full service solution provider, including hardware, software and services, providing a complete compliment of installation services, training and ongoing support for our customers. Teradata systems are designed to be rapidly deployed and we have the staff that will do it for you.</i>
7	Do you provide implementation services for the above tool components? (working with an agency to deploy a solution based on these tools to meet a business need)	Yes	<i>Teradata has one of the deepest professional services benches in the world focused on data analytics and we continue to expand our value for customers in this area. For example, in 2014, we acquired Think Big, the leading on-shore/near on-shore Open Source Hadoop consulting firm in the country. We have consultants with domain expertise in all facets of government for VITA to access, and can help define requirements with State staff to deliver the right solution.</i>
8	For your Solution, provide examples of how the tools were used by both business and IT users and the level of training and skill required by each. Include what entity used the tools. If possible, use government related examples.	n/a	<i>Many of our customers leverage Teradata Professional Services to assist in the development of governance Centers of Expertise, deliver best practices and provide oversight to data governance initiatives. Governance is critical to long term sustainability and to any data project, and is</i>

			<p><i>typically an ongoing effort as data sharing and departmental needs evolve. Master Data Management is a business driven function and process, while Metadata Management will require IT involvement to clearly define and categorize data-specific criteria. More information about Metadata Management can be referenced in the response to Question #1 of this section.</i></p>
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2.3.7 Hadoop, MapReduce etc.

7. Hadoop, MapReduce etc. - tools that address the analysis of collections of data sets that are so large and/or complex that it is difficult/expensive to process using traditional data management tools or approaches. This includes the ability to address, Volume, Velocity, Variety, Veracity and Value.

a. Unstructured data analysis – the ability to analyze/process information that either does not have a pre-defined data model or is not organized in a pre-defined manner. Unstructured information is typically text-heavy, but may contain data such as dates, numbers, and facts as well. This results in irregularities and ambiguities that make it difficult to understand using traditional computer programs as compared to data stored in fielded form in databases or annotated (semantically tagged) in documents.

C.	Requirements	A	B
1	Identify the components of your analytics tool set that fit this category	n/a	<p><i>Teradata provides multiple tools, often used together, that execute MapReduce: Aster and Hadoop, both of which are part of our VITA response. Aster is highly optimized with Hadoop. Teradata can deliver our Aster appliance in a mixed cluster with Hadoop for smaller projects, or deliver each separately. The Hadoop distribution is expandable to over 25PBs, running on the same BYNET (fabric) used by Aster and our IDW.</i></p> <p><i>Hadoop is typically recommended for requirements such as:</i></p> <ul style="list-style-type: none"> -Fast Data Loading & Availability -Any Data Format -Filtering & Processing -Deep History; Online Archival -Data retention <p><i>Aster is used for:</i></p> <ul style="list-style-type: none"> -Iterative Analytic Discovery -Multi-structure data -Fast-Fail Hypothesis Testing -Path/Pattern, Text, Time-Series, Graph Processing <p><i>Aster minimizes the challenge of the difficulties of working with Hadoop and the difficult programing languages by running all queries and analytic processes from SQL. This means that any user with basic SQL skills can now query Hadoop, and leverage Hadoop data in combination with other source data for advanced analytic insight.</i></p> <p><i>The 150+ SQL-MR and SQL-GR functions in Aster are executable on data stored in Hadoop. Aster</i></p>

		<p><i>delivers the ability to load, query, and analyze data from most relational databases and Hadoop data stores, and does so over the high performance BYNET (40GigB InfiniBand) network and parallelized connectors. The user has the option to either copy data from Teradata or Hadoop into Aster into a permanent table or run a one-time query and pull data into a temporary table using a select clause. Because Aster is an MPP platform, Aster parallelizes data wherever possible, even when importing or exporting, for fastest possible performance.</i></p> <p><i>SQL-H/QueryGrid: Aster SQL-H/Query Grid gives analysts and data scientists a better way to analyze data stored cheaply in Hadoop thereby reducing costs by making data analysts self-sufficient. It allows standard ANSI SQL to query Hadoop data and the ability to leverage existing BI tool investments for use with that data.</i></p> <p><i>With SQL-H/Query Grid, users can:</i></p> <ul style="list-style-type: none"> <i>-Direct access to HCatalog data within Teradata Aster. HCatalog tables available without duplicating DDL commands on the Teradata Aster side.</i> <i>-HCatalog tables are first class objects within Teradata Aster. Full support for all SQL and SQL-MapReduce.</i> <i>-Use the HCatalog interfaces to read HCatalog tuples in parallel on all data nodes.</i> <p><i>a) Unstructured Data Analysis</i></p> <p><i>Aster contains its own file store, called AFS, which can directly ingest any structured or unstructured data without any prior ETL, and perform normalization of that data directly within the Aster system. Aster comes with pre-built parser functions to extract elements out of unstructured data such as web logs, XML files, JSON, CSB, and CSV.</i></p> <p><i>Function names:</i></p>
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			<p>-JSONParser -XMLParser -XMLRelation -Apache_Log_Parser</p>
2	Identify platforms for deployment (cloud, Intel, appliance, OSs, database versions etc.) for the tools you have included in this category	n/a	<p><i>Teradata delivers its Hadoop product and services on MPP, Intel/Linux based systems and with a deep staff of data scientists and analysts. All of these systems are available as On-Premise or as Cloud based solutions. They are optimized to coexist with Teradata or other relational database systems or as stand-alone in other homogeneous environments as individual assets.</i></p>
3	Explain licensing options for the tools you have included in this category	n/a	<p><i>Teradata Hadoop licensing is typically a matter of sizing a customer's Big Data. Available in both Cloud and on-Premise, it is a highly scalable solution (up to 25PBs). The Teradata appliance is licensed by the node, with h/w maintenance. Since the distribution itself is Open Source, HDFS has no associated license fee. Licensing for our Loom product is a flat per node charge. Our customer support and sustainment for HDFS is offered in a variety of customary options from 8x5x5 to 24x7x365.</i></p>
4	Does your Solution allow for your tool sets to be deployed in order to support shared use among Commonwealth agencies? Explain how.	Yes	<p><i>All Teradata appliances are sold as enterprise solutions, not by seat or by concurrent user. Our customers are free to distribute access to the systems as they need or desire to, based on their own policy and criteria. The platform is designed to connect with any data source, and any COV agency may use the system for its own requirements. It is a matter of sizing the system for the data sets anticipated to accommodate the number of concurrent agencies intending to use it.</i></p>
5	Do you provide training on your solution? If yes, please explain the options.	Yes	<p><i>In addition to our traditional training options outlined in Section 2.3.1.5, Teradata acquired Think Big, now a part of our Big Data Practice, in 2014. One of the unique elements</i></p>

			<i>of Think Big is a pure-play Big Data services team of onshore data scientists and engineers; all well practiced and educated in Big Data technologies. They provide on-site consulting and host a classroom education center in Utah expressly dedicated to training our customers and consultants on Hadoop and Open Source technologies.</i>
6	Do you provide installation (including configuration) services for these tool components above?	Yes	<i>As with all other Teradata systems, we include installation on our Hadoop clusters. This ensures that the system will be up and running in days, as opposed to weeks or months. We are a full service solution provider and offer a complete compliment of installation services, training and ongoing support for customers. Teradata systems are designed to be rapidly deployed and we have the staff that will do it for you.</i>
7	Do you provide implementation services for the above tool components? (working with an agency to deploy a solution based on these tools to meet a business need)	Yes	<i>Teradata has one of the deepest professional services benches in the world focused on data analytics and we continue to expand our value for customers in this area. For example, in 2014, we acquired Think Big, the leading on-shore/near on-shore Open Source Hadoop consulting firm in the country. We have consultants with domain expertise in all facets of government for VITA to access, and can help define requirements with State staff to deliver the right solution.</i>
8	For your Solution, provide examples of how the tools were used by both business and IT users and the level of training and skill required by each. Include what entity used the tools. If possible, use government related examples.	n/a	<i>One of the largest wireless carriers in the US is a Teradata UDA customer, and leverages a connected Teradata data warehouse, Aster Discovery platform and large Hadoop cluster. With 100 million customers, Hadoop plays a central role in capturing and storing an enormous volume of data. Much of that data is unstructured voice and text, to which they perform scoring functions as Hive and Pig scripts refine the data on import. Then, with Teradata SQL-H and HCatalog, they build a relational view of the</i>

		<p><i>data and mine the data on the Aster Discovery Platform, which acts as the 'analytic hub". This provides accurate, actionable sentiment from their customer data that they can verify and match to customer profiles in the Teradata Data Warehouse. This process is enhanced by the high performance of the Teradata 40Gb InfiniBand BYNET connectors between systems and the optimized SQL-H connection from Aster and Teradata to HCatalog in Hadoop. I/O is minimized and fast. The sentiment is critical to finding out if new policies, products and/or services are actually aiding customer opinion and loyalty toward their company, or not, and why. This is a very good example of business driven requirements facilitated by IT. Other common use cases for this customer's UDA include business compliance, customer behavior models to predict churn, call center analysis and many others. There is an ongoing life cycle of data capture and analysis across the UDA that is greatly enhanced by their ability to affordably capture ALL of their data in Hadoop and process it through the analytic stream, as appropriate. This environment is operated entirely by the customer's personnel, as a partnership between IT and Marketing. Teradata provides a Data Scientist on Call (DoC) service, which includes a Teradata consultant who can be brought in on particularly new and challenging studies.</i></p>
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2.3.8 Other

8. Other – please include any other next-generation analytics tools sets that you feel should be considered

C.	Requirements	A	B
1	Identify the components of your analytics tool set that fit this category	n/a	<p><i>With our pending release, Teradata will introduce Teradata Aster R, which delivers open source R without limitations through the Teradata Aster Discovery Platform. Teradata Aster R allows programmers to continue to operate within R and remove the data and processing limitations of open source R, making what was previously impossible, a reality. The general customer availability of Aster R is scheduled for Q 2 2015.</i></p> <p><i>Teradata Aster R benefits include:</i></p> <ul style="list-style-type: none"> <i>-Open-source R without limitations: Teradata Aster R removes memory and data limitations by leveraging the Aster database as the high performance computing R engine. Aster’s MPP architecture and massive scalability enables big data analytics across all your data.</i> <i>-Unmatched ease-of-use and productivity for R users: R analysts can now use familiar R client and R language to access a library of parallel functions including the rich and powerful Aster Discovery Portfolio.</i> <i>-Powerful analytics combining Aster and R: Integrating open source R engine into the SNAP Framework delivers a single powerful analytic environment for your analytic community – including R programmers, business analyst and data scientist. By combining over 100 Teradata Aster Discovery Portfolio functions, 5500+ open source R packages and Teradata Aster R parallel constructors, analyst now have the tools to conquer business problems.</i>

2	Identify platforms for deployment (cloud, Intel, appliance, OSs, database versions etc.) for the tools you have included in this category	n/a	<i>Teradata delivers all three components of the Gartner-endorsed Unified Data Architecture (UDA): Data Warehouse, Discovery Platform, and Hadoop. All Teradata platforms are MPP, Intel/Linux based systems, and all of these systems are available as on-premise or as cloud based solutions. They are optimized to coexist together, or as stand-alone, individual systems in other homogeneous environments.</i>
3	Explain licensing options for the tools you have included in this category	n/a	<i>Choices are important when it comes to investing in any of the Teradata offerings. All of the Teradata products are available as On-Premise or Cloud offerings. Teradata strives for the right technology at the right entry point and the right configuration for its customers. All Teradata platforms are licensed on a per node basis, as opposed to a per seat or per concurrent user basis, so VITA can deliver the functionality across as many employees, departments or agencies as they see fit.</i>
4	Does your Solution allow for your tool sets to be deployed in order to support shared use among Commonwealth agencies? Explain how.	Yes	<i>Teradata appliances are sold as enterprise solutions, not by seat or by concurrent user. Our customers are free to distribute access to the systems as they need or desire to, based on their own policy and criteria. Our platforms are designed to connect with any data source, and any State Agency may use the system for their own requirements. It is a matter of sizing the system for the data sets anticipated to accommodate the number of agencies intending to use it.</i>
5	Do you provide training on your solution? If yes, please explain the options.	Yes	<i>Teradata offers a variety of training options: web-based, on premise, mentoring and formal knowledge transfer. Please refer to section 2.3.1 question #5 for additional information on training.</i>
6	Do you provide installation (including configuration) services for these tool components above?	Yes	<i>As the inventor of the enterprise appliance solution, Teradata delivers a fully integrated stack of both hardware and software, including 3rd party software. Installation is included for all of our</i>

			<p>systems. This ensures that the system will be up and running in days, as opposed to weeks or months. Teradata systems are designed to be rapidly deployed and we have the staff that will do it for you.</p>
7	<p>Do you provide implementation services for the above tool components? (working with an agency to deploy a solution based on these tools to meet a business need)</p>	Yes	<p>Teradata has one of the deepest professional services benches in the world focused on data analytics and we continue to expand our value for customers in this area. For example, in 2014, we acquired Think Big, the leading on-shore/near on-shore Open Source Hadoop consulting firm in the country. We have consultants with domain expertise in all facets of government for VITA to access, and can help define requirements with State staff to deliver the right solution.</p>
8	<p>For your Solution, provide examples of how the tools were used by both business and IT users and the level of training and skill required by each. Include what entity used the tools. If possible, use government related examples.</p>	n/a	<p>Use Case: Transportation: Freight Delays</p> <p>One of Teradata's largest freight carrier customers wanted to better understand the end to end transit of priority packages through their system. The customer has a team of very competent SQL analysts, but was not able to gain deeper insights into their data in a short time. Their projects were all at least months in length and were often abandoned prior to completion, preventing them from achieving their goals. They came to Teradata to explore:</p> <ul style="list-style-type: none"> -Distribution Center performance based on the routes automatically generated by their systems -Identify and understand misrouted packages based on planned route trips -Rank the Distribution Centers, nationwide, by performance based on on-time and misrouted packages <p>Many of the data sources, including all package scan data, were stored in the Teradata IDW. Several outside sources included Geo codes, metropolitan traffic flow data and 3rd party carrier information,</p>

		<p><i>which were all structured data types. All of these sources were fused into the Aster platform and the data was sessionized. Using nPath in the first phase of the study, the company was able to:</i></p> <ul style="list-style-type: none"> <i>-Visualize links between dispatch points, packages and the truck; by trip.</i> <i>-Identify misrouted packages based on scan data across multiple geo locations.</i> <i>-Which trips executed according to planned route and which did not.</i> <i>-Measure divergence from pre-defined plans.</i> <i>-Measure performance along the whole route by dispatch point.</i> <p><i>These attributes were all performed by SQL, Aster SQL-MR functions nPath and Cfilter and gave the company a granular view of performance across hundreds of dispatch points, which they could not previously aggregate and view. The last step was to provide heat map visualizations of these outputs, which we used R functions to produce. All of the R visualizations were performed in Aster. The output of the nPath queries became the input of the R query. They produced visual outputs for views like:</i></p> <ul style="list-style-type: none"> <i>-Late departures by destination and volume of packages</i> <i>-Dispatch points with the least numbers of departure delays by volume</i> <i>-Point to point with highest volumes and highest delays</i> <p><i>Some of these delays could be explained by regional conditions like traffic, known road construction or inclement weather. In some cases, we found scanner failures or inaccuracies, evidenced by the successful departure and arrival scans on packages transiting through a scanner that produced misinformation. The customer staff and Teradata engineers conducted this study. All have SQL backgrounds and some have open</i></p>
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		<i>source R experience. Without Aster, these insights would have taken months to uncover.</i>
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EXHIBIT B PRICING
CONTRACT NUMBER VA-150915-TERA
BETWEEN
VIRGINIA INFORMATION TECHNOLOGIES AGENCY
AND
TERADATA GOVERNMENT SYSTEMS LLC

Exhibit B is hereby incorporated into and made an integral part of Contract Number VA-150915-TERA (“Contract”) between the Virginia Information Technologies Agency (“VITA” or “Commonwealth” or “State”) and Teradata Government Systems LLC (“Supplier”).

In the event of any discrepancy between this Exhibit B and the Contract, the provisions of the Contract shall control.

Teradata pricing for this contract can be viewed in the attached Excel spreadsheet. Please note that there are six tabs in the worksheet: HW/SW, Cloud/3PP/Term Licenses, Installation Services, Implementation Services, Maintenance of Equipment, and Maintenance as a Service.



100615-pricing with
Cloud note -VITA Nex

NOTES:

- **Cloud or "off premise" items may not be ordered until the Contract has been modified by VITA to incorporate the applicable terms and conditions**
- **All HW / SW purchases must include Hardware and Software Maintenance and Subscription on the initial order.**
- **Teradata will provide support for 2.5" Solid State Disks or SSD upgrades for the longer of five years from installation or when the Solid State Disks reach their endurance threshold limit*. When the endurance thresholds are reached the customer is responsible for purchasing a replacement solution for continued support. Endurance threshold limit is reached when the SSD unit drops to 0% endurance remaining or 20% spare blocks remaining.**



EXHIBIT C ESCROW
CONTRACT NUMBER VA-150915-TERA
BETWEEN
VIRGINIA INFORMATION TECHNOLOGIES AGENCY
AND
TERADATA GOVERNMENT SYSTEMS LLC

Exhibit C is hereby incorporated into and made an integral part of Contract Number VA-150915-TERA (“Contract”) between the Virginia Information Technologies Agency (“VITA” or “Commonwealth” or “State”) and Teradata Government Systems LLC (“Supplier”).

In the event of any discrepancy between this Exhibit C and the Contract, the provisions of the Contract shall control.



Teradata-NCC
Registration Form.doc



NCC Escrow
Agreement (Shared 2



**EXHIBIT D SOW TEMPLATE
CONTRACT NUMBER VA-150915-TERA
BETWEEN
VIRGINIA INFORMATION TECHNOLOGIES AGENCY
AND
TERADATA GOVERNMENT SYSTEMS LLC**

Exhibit D is hereby incorporated into and made an integral part of Contract Number VA-150915-TERA (“Contract”) between the Virginia Information Technologies Agency (“VITA” or “Commonwealth” or “State”) and Teradata Government Systems LLC (“Supplier”).

In the event of any discrepancy between this Exhibit D and the Contract, the provisions of the Contract shall control.

**EXHIBIT D-~~X~~ STATEMENT OF WORK (SOW) TEMPLATE
BETWEEN (NAME OF AUTHORIZED USER) AND TERADATA GOVERNMENT SYSTEMS LLC**

ISSUED UNDER

**CONTRACT NUMBER VA-150915-TERA
BETWEEN
VIRGINIA INFORMATION TECHNOLOGIES AGENCY
AND
TERADATA GOVERNMENT SYSTEMS LLC**

Exhibit D-~~X~~, between (Name of Agency/Institution) and Teradata Government Systems LLC (“Supplier”) is hereby incorporated into and made an integral part of Contract Number VA-150915-TERA (“Contract”) between the Virginia Information Technologies Agency (“VITA”) on behalf of the Commonwealth of Virginia and Supplier.

In the event of any discrepancy between this Exhibit D-~~X~~ and the Contract, the provisions of the Contract shall control.

Any Service, Licensed Services, Solution or Software provided under this SOW must comply with all COVA Security and Enterprise Architecture ITRM policies, standards and guidelines located at: <http://www.vita.virginia.gov/library/default.aspx?id=537> and all COVA Enterprise Architecture Data Standards and requirements located at: <http://www.vita.virginia.gov/oversight/default.aspx?id=10344>.

If Authorized User is a State Agency and determines any area of non-compliance with the ITRM PSGs at the above links in the Service, Licensed Services, Solution or Software to be provided by Supplier under this SOW, such Authorized User’s Project Manager must obtain written waiver from VITA in accordance

with the waiver process prior to placing any related order or authorizing Supplier to commence any work. Agency should collaborate with their designated Customer Account Manager to obtain such waiver.

*[Note to Template Users: Instructions for using this template to draft a Statement of Work are in gray highlight and **italics**. These instructions should be deleted after the appropriate text has been added to the Statement of Work. Contractual language is **not italicized** and should remain in the document. Text that is highlighted in **blue** is variable based on the nature of the project.]*

STATEMENT OF WORK

This Statement of Work (SOW) is issued by the **(Name of Agency/Institution)**, hereinafter referred to as "Authorized User" under the provisions of the Contract. The objective of the project described in this SOW is for the Supplier to provide the Authorized User with **a Solution ("Solution") or Services ("Services") or Software ("Software") or Hardware and Maintenance or Licensed Application Services** for **Authorized User Project Name**. *(Customize the last sentence to state what you are getting from the Supplier, based on the VITA Contract language, and with your project name.)*

1. PERIOD OF PERFORMANCE

The work authorized in this SOW will occur within **XX (XX) months** of execution of this Statement of Work. This includes **delivery, installation, implementation, integration, testing and acceptance all of products and services** necessary to implement the Authorized User's **Solution, training, and any support, other than on-going maintenance services**. The period of performance for **maintenance services shall be one (1) year after implementation or end of Warranty Period and may be extended for additional one (1) year periods**, pursuant to and unless otherwise specified in the Contract. *(Customize this section to match what you are getting from the Supplier, based on the allowable scope of the VITA Contract and your project's specific needs within that allowable scope.)*

2. PLACE OF PERFORMANCE

(Assign performance locations to major milestones or any other project granularity, depending on your transparency and governance needs, if needed.)

Tasks associated with this project will be performed at **the Authorized User's location(s) in City/State, at Supplier's location(s) in City/State**, or other locations as required by the effort.

3. PROJECT DEFINITIONS

Provide project unique definitions so that all stakeholders have the same understanding. Ensure these do not conflict with the Contract definition.)

All definitions of the Contract shall apply to and take precedence over this SOW. Authorized User's specific project definitions are listed below:

4. PROJECT SCOPE

(Provide a description of the scope of your project and carve out what is NOT in the scope of your project. Remember that it must fit within the VITA Contract scope.)

A. General Description of the Project Scope

B. Project Boundaries

5. AUTHORIZED USER'S SPECIFIC REQUIREMENTS

(Provide information about your project's and your agency's specific requirements for this particular project including, but not limited to the following subsections):

- A. Authorized User-Specific Requirements
- B. Special Considerations for Implementing Technology at Authorized User's Location(s)
- C. Other Project Characteristics to Insure Success

6. CURRENT SITUATION

(Provide enough background information to clearly state the current situation to Supplier so that Supplier cannot come back during performance claiming any unknowns or surprises. Some example subsections are provided below. You may collapse/expand as you feel is necessary to provide adequate information and detail.)

- A. Background of Authorized User's Business Situation
- B. Current Architecture and Operating System
- C. Current Work Flow/Business Flow and Processes
- D. Current Legacy Systems
- E. Current System Dependencies
- F. Current Infrastructure (Limitations, Restrictions)
- G. Usage/Audience Information

7. PRODUCTS AND SERVICES TO SUPPORT THE PROJECT REQUIREMENTS (AND/OR SOLUTION)

A. Required Products (or Solution Components)

(List the products, or if your project is for a Solution, the Solution components, (hardware, software, etc.) provided by Supplier that will be used to support your project requirements. Identify any special configuration requirements, and describe the system infrastructure to be provided by the Authorized User. Provide an overview that reflects how the system will be deployed within the Authorized User's environment. You are urged to refer to the VITA Contract for allowable scope and other guidance in drafting language for this section.)

B. Required Services

(List the services (e.g., requirements development, Solution design, configuration, interface design, data conversion, installation, implementation, testing, training, risk assessment, performance assessment, support and maintenance) that will be provided by Supplier in the performance of your project. You are urged to refer to the VITA Contract for the definition of Services and for the allowable scope in drafting language for this section. You will notice subsections "C" and "D" below offer areas for expanded detail on training, support and maintenance services. You may add other subsections in which you wish to expand the information/details/requirements for other service areas as well. It is likely some of this detail will be a combination of your known needs and the Supplier's proposal. In all cases the provisions should include all negotiated commitments by both parties, even if you reference by incorporation the Supplier's proposal in any subsection.)

C. Training Requirements and/or Authorized User Self-Sufficiency/Knowledge Transfer

(Provide an overview and details of training services to be provided for your project and any special requirements for specific knowledge transfer to support successful implementation of the Solution. If the intent is for the Authorized User to become self-sufficient in operating or maintaining the Solution, determine the type of training necessary, and develop a training plan, for such user self-sufficiency. Describe how the Supplier will complete knowledge transfer in the event this Statement of Work is not completed due to actions of Supplier or the non-appropriation of funds for completion affecting the Authorized User. You may refer to the VITA Contract for guidance on the allowable scope for this.

D. Support and Maintenance Requirements

(Document the level of support, as available under the Contract, required by your project to operate and maintain the Solution. This may include conversion support, legacy system integration, transition

assistance, Solution maintenance (including maintenance level), or other specialized consulting to facilitate delivery or use of the Solution.

E. Personnel Requirements

(Provide any supplier personnel qualifications, requirements, licenses, certifications or restrictions including project manager, key personnel, subcontractors, etc., but ensure they do not conflict with the VITA Contract terms.)

F. Transition Phase-In/Phase-Out Requirements

(Describe any specific requirements for orientation or phasing in and/or phasing out of the project with the Supplier. Be specific on what the project needs and expected results are, the duration and other pertinent detail, but ensure they do not conflict with the VITA Contract provision(s) regarding Transition of Services or with any other training requirements in the SOW.)

8. TOTAL PROJECT PRICE

The total Fixed Price for this Project shall not exceed \$US XXX.

Supplier's invoices shall show retainage of [redacted]. Following completion of Solution implementation, Supplier shall submit a final invoice to the Authorized User, for the final milestone payment amount shown in the table in section 9 below, plus the total amount retained by the Authorized User. If travel expenses are not included in the fixed price of the Solution, such expenses shall be reimbursed in accordance with Commonwealth of Virginia travel policies as published by the Virginia Department of Accounts (<http://www.doa.virginia.gov>). In order to be reimbursed for travel expenses, Supplier must submit an estimate of such expenses to Authorized User for approval prior to incurring such expenses.

(Sections 9 through 11 should be used or deleted depending on the project's complexity, risk and need for governance. For a simple project you may only need the section 10 table, but for a more complex project, or a major IT project, you may need a combination of or all of the tables for check and balance and redundancy.)

9. PROJECT DELIVERABLES

(Provide a list of Supplier's deliverable expectations. The table is to be customized for the Authorized User's project. You may want to categorize deliverables for each phase or major milestone of the project and then categorize other interim deliverables and/or performance and status reports under one of them or under an Administrative or Project Management section.)

The following deliverables are to be provided by Supplier under this SOW. Subsequent sections may include further detail on the content requirements for some deliverables.

No.	Title	Due Date	Format Required (i.e., electronic/hard copy/CD/DVD)	Distribution Recipients	Review Complete Due Date	Final Due Date
	Project Plan					
	Design Plan					
	Implementation Plan					
	Data Conversion Plan					
	Risk Assessment Plan					
	Test Plan					

Training Plan					
Performance Plan					
Contingency Plan					
Disaster Recovery Plan					
Cutover Plan					
Change Management Plan					
Transition Plan					
Monthly Status Reports					
Quarterly Performance /SLA Reports					
Training Manual					
Final Solution Submission Letter					
Final Acceptance Letter					

10. MILESTONES, DELIVERABLES, PAYMENT SCHEDULE, AND HOLDBACKS

(This table should include the project’s milestone events, associated deliverables, when due, milestone payments, any retainage amount to be held until final acceptance and the net payment you promise to pay for each completed and accepted milestone event. This table includes sample data only and must be customized for your project needs.)

The following table identifies milestone events and deliverables, the associated schedule, any associated payments, any retainage amounts, and net payments.

Milestone Event	Associated Milestone Deliverable(s)	Schedule	Payment	Retainage	Net Payment
Project kick-off meeting	---	-----	---	---	---
-----	-----	-----	---	---	---
-----	-----	-----	-----	-----	-----
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-----	-----	-----	-----	--	-----
Final Acceptance		-----	--	--	-----

11. EVENTS AND TASKS FOR EACH MILESTONE

(If needed, provide a table of detailed project events and tasks to be accomplished to deliver the required milestones and deliverables for the complete Solution. Reference each with the relevant milestone. A Work Breakdown Structure can be used as shown in the table below or at the very least a Project Plan should have this granularity. The Supplier's proposal should be tailored to the level of detail desired by the Authorized User's business owner/project manager for project governance.)

The following table identifies project milestone events and deliverables in a Work Breakdown Structure format.

WBS No.	Milestone	Milestone Event	Milestone Task	Interim Task Deliverables	Duration
1.0					
1.1					
1.1.1					
1.1.2					
1.2					

12. ACCEPTANCE CRITERIA

(This section should reflect the mutually agreed upon UAT and Acceptance Criteria specific to this engagement. Please read the VITA contract definitions for the definitions or Requirements and Acceptance. Ensure the language in this section does not conflict with the VITA Contract language.)

Acceptance Criteria for this Solution will be based on a User Acceptance Test (UAT) designed by Supplier and accepted by the Authorized User. The UAT will ensure that all of the requirements and functionality required for the Solution have been successfully delivered. Supplier will provide the Authorized User with a detailed test plan and acceptance check list based on the mutually agreed upon UAT Plan. This UAT Plan check-list is incorporated into this SOW in Exhibit B-X.

Each deliverable created under this Statement of Work will be delivered to the Authorized User with a Deliverable Acceptance Receipt. This receipt will describe the deliverable and provide the Authorized User's Project Manager with space to indicate if the deliverable is accepted, rejected, or conditionally accepted. Conditionally Accepted deliverables will contain a list of deficiencies that need to be corrected in order for the deliverable to be accepted by the Project Manager. The Project Manager will have ten (10) days from receipt of the deliverable to provide Supplier with the signed Acceptance Receipt unless an alternative schedule is mutually agreed to between Supplier and the Authorized User in advance.

13. PROJECT ASSUMPTIONS AND PROJECT ROLES AND RESPONSIBILITIES

(This section contains areas to address project assumptions by both the Supplier and the Authorized User and to assign project-specific roles and responsibilities between the parties. Make sure that all assumptions are included to alleviate surprises during the project. Ensure that all primary and secondary (as needed) roles and responsibilities are included. You will tailor the Responsibility Matrix table below to fit your project's needs.)

A. Project Assumptions

The following assumptions are specific to this project:

B. Project Roles and Responsibilities

The following roles and responsibilities have been defined for this project:

(Sample Responsibility Matrix)

Responsibility Matrix	Supplier	Authorized User
Infrastructure – Preparing the system infrastructure that meets the		√

recommended configuration defined in Section 2B herein		
Server Hardware		√
Server Operating		√
Server Network Connectivity		√
Relational Database Management Software (Installation and Implementation)		√
Server Modules – Installation and Implementation	√	
PC Workstations – Hardware, Operating System, Network Connectivity		√
PC Workstations – Client Software		√
Application Installation on PC Workstations	√	
Wireless Network Access Points	√	
Cabling, Electric and User Network Connectivity from Access Points		√
Wireless Mobile Computing Products – Scanners, printers	√	
Project Planning and Management	√	√
Requirements Analysis	√	√
Application Design and Implementation	√	
Product Installation, Implementation and Testing	√	
Conversion Support	√	
Conversion Support -- Subject Matter Expertise		√
Documentation	√	
Training	√	
Product Maintenance and Support	√	
Problem Tracking	√	√
Troubleshooting – IT Infrastructure		√
Troubleshooting – Solution	√	

14. COMMONWEALTH AND SUPPLIER-FURNISHED MATERIALS, EQUIPMENT, FACILITIES AND PROPERTY

(In this section, provide details of any materials, equipment, facilities and property to be provided by your Agency or the Supplier in performance of this project. If none, so state so that the requirements are clear. If delivery of any of these is critical to the schedule, you may want to identify such delivery with hard due dates tied to “business days after project start” or “days after [event/milestone](#).” Be sure to specify the delivery and point of contact information.)

A. PROVIDED BY THE COMMONWEALTH

B. PROVIDED BY THE SUPPLIER

15. SECURITY REQUIREMENTS

(Provide (or reference as an Attachment) Authorized User’s security requirements.)

For any individual Authorized User location, security procedures may include but not be limited to: background checks, records verification, photographing, and fingerprinting of Supplier’s employees or agents. Supplier may, at any time, be required to execute and complete, for each individual Supplier employee or agent, additional forms which may include non-disclosure agreements to be signed by Supplier’s employees or agents acknowledging that all Authorized User information with which such employees and agents come into contact while at the Authorized User site is confidential and proprietary. Any unauthorized release of proprietary information by the Supplier or an employee or agent of Supplier shall constitute a breach of the Contract.

Supplier shall comply with all requirements in the Security Compliance section of the Contract

16. REQUIRED STANDARDS, CERTIFICATIONS AND SPECIFICATIONS

In addition to any standards and specifications included in the Contract, Supplier shall follow the standards and specifications listed below during performance of this effort.

(List any specific Commonwealth, VITA, Federal, engineering, trade/industry or professional standards, certifications and specifications that Supplier is required to follow or possess in performing this work. The first bullet includes a link to COVA-required standards for all Commonwealth technology projects. The rest are examples only and highlighted to reflect this. If you need an exception of any COVA-required standard, please follow the process located at this link: <http://www.vita.virginia.gov/oversight/default.aspx?id=10344> and select the Data Standards Guidance bulleted link. Your AITR can assist you.

- COV ITRM Policies and Standards: <http://www.vita.virginia.gov/library/default.aspx?id=537>
- IEEE 802®
- HIPAA
- SAS 70 Type II

17. U.S. ENVIRONMENTAL PROTECTION AGENCY’S AND DEPARTMENT OF ENERGY’S ENERGY STAR GUIDELINES RISK MANAGEMENT

(Risk is a function of the probability of an event occurring and the impact of the negative effects if it does occur. Negative effects include schedule delay, increased costs, failure of dependent legacy system interoperability, other project dependencies that don’t align with this project’s schedule, and poor quality of deliverables. Depending on the level of risk of this project, as assessed by your Project Manager and/or Steering Committee, this section may contain any or all of the following components, at a level of detail commensurate with the level of risk. Remember to add them to the Deliverables table.)

C. Initial Risk Assessment

Authorized User and Supplier shall each provide an initial assessment from their point of view.

D. Risk Management Strategy

(The list below is taken from VITA PMD template discussing what should go into a Risk Management Strategy. Don’t forget to consider and plan for any budget contingencies to accommodate potential risks that are identified.)

- 1. Risk Identification Process:** The processes for risk identification.
- 2. Risk Evaluation and Prioritization:** How risks are evaluated and prioritized.
- 3. Risk Mitigation Options:** Describe the risk mitigation options. They must be realistic and available to the project team.
- 4. Risk Plan Maintenance:** Describe how the risk plan is maintained during the project lifecycle.
- 5. Risk Management Responsibilities:** Identify all project team members with specific risk management responsibilities. (e.g., an individual responsible for updating the plan or an individual assigned as a manager).

E. Risk Management Plan

(Include a description of frequency and form of reviews, project team responsibilities, steering and oversight committee responsibilities and documentation. Be sure to add all deliverables associated with risk strategizing and planning to the list of Deliverables.)

18. DISASTER RECOVERY

Planning for disaster recovery for your project is paramount to ensure continuity of service. The criticalness and complexity of your project, including its workflow into other dependent systems of the Commonwealth or federal systems, will help you determine if you require a simple contingency plan or a full-blow contingency plan that follows the Commonwealth’s ITRM Guideline SEC508-00 found at this link:

http://www.vita.virginia.gov/uploadedFiles/Library/ContingencyPlanningGuideline04_18_2007.pdf

It is advisable that you visit the link before making your decision on how you need to address contingency planning and related deliverables in this SOW; as well as, how this will impact your planned budget. A likely deliverable for this section would be a Continuity of Operations Plan. You may choose to include the above link in your final SOW to describe what the Plan will entail. The same link includes the following processes, which you may choose to list in your final requirements for this section, to be performed by your team, the Supplier or both and/or a steering committee if your project warrants such oversight and approval:

- Development of the IT components of the Continuity of Operations Plan (COOP)
- Development and exercise of the IT Disaster Recovery Plan (IT DRP) within the COOP
- Development and exercise of the IT System Backup and Restoration Plan

19. PERFORMANCE BOND

(If your project is sizeable, complex and/or critical, and the VITA Contract does not already provide for a performance bond, you may want the Supplier to provide one. The VITA Contract may include an Errors and Omissions insurance requirement, which would cover the Supplier’s liability for any breach of the Contract or this SOW. Be sure to read the Contract for this information. However, if you feel that this project warrants further performance incentive due to the project or the Supplier’s viability, you may include the following language in this section.)

[Redacted]

20. OTHER TECHNICAL/FUNCTIONAL REQUIREMENTS

(Provide any other unique project technical and functional requirements and expectations in sufficient detail in this section. Ensure they do not conflict with existing requirements in the VITA Contract. Several examples are listed.)

F. [Redacted]

G. [Redacted]

H. [Redacted]

I. [Redacted]

21. REPORTING

(The following are examples of reporting requirements which may be included in your SOW depending on the project’s need for governance. In an effort to help VITA monitor Supplier performance, it is strongly recommended that the SOW include “Supplier Performance Assessments”. These assessments may be performed at the Project Manager’s discretion and are not mandated by VITA.)

A. Weekly/Bi-weekly Status Update.

The weekly/bi-weekly status report, to be submitted by Supplier to the Authorized User, should include: accomplishments to date as compared to the project plan; any changes in tasks, resources or schedule with new target dates, if necessary; all open issues or questions regarding the project; action plan for addressing open issues or questions and potential impacts on the project; risk management reporting.

B. Supplier Performance Self-Assessment.

Within thirty (30) days of execution of the project start, the Supplier and the Authorized User will agree on Supplier performance self-assessment criteria. Supplier shall prepare a monthly self-assessment to report on such criteria. Supplier shall submit its self-assessment to the Authorized User who will have five (5) days to respond to Supplier with any comments. If the Authorized User agrees with Supplier's self-assessment, such Authorized User will sign the self-assessment and submit a copy to the VITA Supplier Relationship Manager.

C. Performance Auditing

(If you have included service level requirements in the above section entitled, Other Technical/Functional Requirements, you will want to include a requirement here for your ability to audit the results of the Supplier's fulfillment of all requirements, Likewise, you may want to include your validation audit of the Supplier's performance reporting under this Reporting section. It is important, however, that you read the VITA contract prior to developing this section's content so that conflicts are avoided. Suggested language is provided below, but must be customized for your project.)

_____ (If none, you may add your escalation procedure in this section.)

D. Supplier Performance Assessments

(You may want to develop assessments of the Supplier's performance and disseminate such assessments to other Authorized Users of the VITA Contract. Prior to dissemination of such assessments, Supplier will have an opportunity to respond to the assessments, and independent verification of the assessment may be utilized in the case of disagreement.)

22. CHANGE MANAGEMENT

(Changes to the baseline SOW must be documented for proper project oversight. Depending on your project, you may need to manage and capture changes to configuration, incidents, deliverables, schedule, price or other factors your team designates as critical. Any price changes must be done in compliance with the Code of Virginia, § 2.2-4309. Modification of the contract, found at this link: <http://leg1.state.va.us/cgi-bin/legp504.exe?000+coh+2.2-4309+500825>. Changes to the scope of this SOW must stay within the boundaries of the scope of the VITA Contract.

For complex and/or major projects, it is recommended that you use the VITA PMD processes and templates located at: <http://www.vita.virginia.gov/oversight/projects/default.aspx?id=567>. Administrative or non-technical/functional changes (deliverables, schedule, point of contact, reporting, etc.) should extrapolate the affected sections of this SOW in a "from/to" format and be placed in a numbered modification letter referencing this SOW and date, with a new effective date. The VITA Contract may include a template for your use or you may obtain one from the VITA Contract's Point of Contact. It is very important that changes do not conflict with, but do comply with, the VITA Contract, which takes precedence. The following language may be included in this section, but additional language is needed to list any technical/functional change management areas specific to this SOW; i.e., configuration, incident, work flow, or any others of a technical/functional nature.)

All changes to this SOW must comply with the Contract. Price changes must comply with the Code of Virginia, § 2.2-4309. Modification of the contract, found at this link: <http://leg1.state.va.us/cgi-bin/legp504.exe?000+coh+2.2-4309+500825>

All changes to this SOW shall be in written form and fully executed between the Authorized User's and the Supplier's authorized representatives. For administrative changes, the parties agree to use the change template, attached to this SOW. For technical/functional change management requirements, listed below, the parties agree to follow the processes and use the templates provided at this link: <http://www.vita.virginia.gov/oversight/projects/default.aspx?id=567>

23. POINT OF CONTACT

For the duration of this project, the following project managers shall serve as the points of contact for day-to-day communication:

Authorized User: _____

Supplier: _____

By signing below, both parties agree to the terms of this Exhibit.

Supplier:

Authorized User:

(Name of Supplier)

(Name of Agency/Institution)

By: _____

By: _____

(Signature)

(Signature)

Name: _____

Name: _____

(Print)

(Print)

Title: _____

Title: _____

Date: _____

Date: _____



**EXHIBIT E CHANGE ORDER TEMPLATE
CONTRACT NUMBER VA-150915-TERA
BETWEEN
VIRGINIA INFORMATION TECHNOLOGIES AGENCY
AND
TERADATA GOVERNMENT SYSTEMS LLC**

Exhibit E is hereby incorporated into and made an integral part of Contract Number VA-150915-TERA (“Contract”) between the Virginia Information Technologies Agency (“VITA” or “Commonwealth” or “State”) and Teradata Government Systems LLC (“Supplier”).

In the event of any discrepancy between this Exhibit E and the Contract, the provisions of the Contract shall control.

This Change Order No. **XXX** hereby modifies and is made an integral part of Statement of Work **D-X** (“SOW”), between **NAME OF AGENCY/INSTITUTION** (“Authorized User”) and Teradata Government Systems LLC (“Supplier”), which was issued under Contract Number VA-150915-TERA (“Contract”) between the Virginia Information Technologies Agency (“VITA”) and Supplier, on behalf of the Commonwealth of Virginia and its Authorized Users.

[Note: Instructions for using this template to draft a Change Order are in gray. These instructions should be deleted after the appropriate text has been added to the Change Order. Contractual language is not in gray and should remain in the document. Text that is highlighted in blue is contractual language that is variable based on the nature of the project and in final form should not be highlighted. Agency/Institution should remove the first two lines of the heading, which pertain to this template as an Exhibit to the VITA Contract and remove the Exhibit reference from the header.]

CHANGE ORDER

This is Change Order No. **XXX** to a SOW issued by **Authorized User** to Supplier under which Supplier is to provide the Authorized User with a **Authorized User Project Name Solution (“Solution”)**.

The following item(s) is/are hereby modified as follows: *[Note: Include only the sections of the SOW that are being changed. Do not include sections not being modified. Changes should be clearly identified as “From” (copy/paste from current SOW section) and “To” (fully describe the change(s) to the referenced section). Here is an example, using SOW section 1.]*

1. PERIOD OF PERFORMANCE

[REDACTED]

This Change Order No. **XXX** is issued pursuant to and, upon execution, shall become incorporated in the SOW, which is incorporated in the Contract. In the event of conflict, the following order of precedence shall apply:

- i). The Contract
- ii). Statement of Work E-X, as amended by this and previous Change Orders, with the more current Change Orders superseding older Change Orders.

The foregoing is the complete and final expression of the agreement between the parties to modify the SOW and cannot be modified, except by a writing signed by duly authorized representatives of both parties hereto.

ALL OTHER TERMS AND CONDITIONS OF THE REFERENCED SOW REMAIN UNCHANGED.

By signing below, the authorized parties agree to the terms of this Change Order No. XXX, effective (INSERT EFFECTIVE DATE).

Supplier

Authorized User

By: _____

By: _____

(Signature)

(Signature)

Name: _____

Name: _____

(Print)

(Print)

Title: _____

Title: _____

Date: _____

Date: _____



**EXHIBIT F END USER LICENSE AGREEMENT
CONTRACT NUMBER VA-150915-TERA
BETWEEN
VIRGINIA INFORMATION TECHNOLOGIES AGENCY
AND
TERADATA GOVERNMENT SYSTEMS LLC**



Protegrity Perpetual
EULA March 2015.pdf

LICENSE AGREEMENT ADDENDUM

The Virginia Information Technologies Agency (hereinafter referred to as "VITA"), pursuant to §2.2-2012 of the Code of Virginia and on behalf of the Commonwealth of Virginia, and Protegrity USA, Inc. ("Supplier"), a business incorporated in Delaware, F.E.I.N. 200747698, having its principal place of business at 5 High Ridge Park, Stamford, CT 06905, are this day entering into a contract and, for their mutual convenience, the parties are using the standard form contract The End User License Agreement ("EULA") provided by Supplier. This addendum, duly executed by the parties, is attached to and hereby made a part of Supplier's standard form contract and together shall govern the use of any and all Supplier's Software licensed by the Commonwealth under this agreement whether or not specifically referenced in the order document.

Supplier represents and warrants that it is a corporation authorized to do in Virginia the business provided for in this contract. If Supplier is not a U.S.-based entity, Supplier maintains a registered agent and a certification of authority to do business in Virginia.

This contract is executed by VITA on behalf of all public bodies, including VITA, as defined by §2.2-4301 and referenced by §2.2-4304 of the Code of Virginia, and private institutions of higher education which are listed at: <http://www.cicv.org/Our-Colleges/Profiles.aspx>, and hereinafter referred to as "Authorized Users."

If Authorized User is a state agency, board, commission, or other quasi-political entity of the Commonwealth of Virginia or other body referenced in Title 2.2 of the Code of Virginia, any license granted by Supplier shall be held by the Commonwealth. If Authorized User is a locality, municipality, school, school system, college, university, local board, local commission, or local quasi-political entity, such license shall be held by that public body. If Authorized User is a private institution of higher education listed at: <http://www.cicv.org/Our-Colleges/Profiles.aspx>, the license shall be held by that private institution.

As used herein, the term "contract" shall mean the Supplier's standard form contract and any and all exhibits and attachments thereto. The term(s) "Customer," "You," and/or "you," as used in the contract, shall mean, as applicable, VITA, the Commonwealth, any Authorized User, or any of their officers, directors, agents or employees.

Supplier's standard form contract is, with the exceptions noted herein, acceptable to VITA. Nonetheless, because certain standard clauses that may appear in, or be incorporated by reference into, Supplier's standard form contract cannot be accepted by VITA, and in consideration of the convenience of using that form, and this form, without the necessity of specifically negotiating a separate contract document, the parties hereto specifically agree that, notwithstanding any provisions appearing in the attached Supplier's standard form contract, none of the following shall have any effect or be enforceable against VITA, the Commonwealth, any Authorized User, or any of their officers, directors, employees or agents:

1. Requiring the application of the law of any state other than the Commonwealth of Virginia in interpreting or enforcing the contract or requiring or permitting that any dispute under the contract be resolved in any court other than a circuit court of the Commonwealth of Virginia;
2. Requiring any total or partial compensation or payment for lost profit or liquidated damages by VITA, the Commonwealth, any Authorized User, or their officers, directors, employees or agents if the contract is terminated before its ordinary period;
3. Imposing any interest charge(s) contrary to that specified by §2.2-4347 et seq. of the Code of Virginia;
4. Requiring the Commonwealth, VITA, or any Authorized User to maintain any type of insurance either for the benefit of the Commonwealth, VITA, or such Authorized User or for Supplier's benefit;
5. Granting Supplier a security interest in property of the Commonwealth, any Authorized User, or any of their officers, directors, employees or agents;

6. Requiring the Commonwealth, VITA, any Authorized User, or any of their officers, directors, employees or agents to indemnify or to hold harmless Supplier for any act or omission;
7. Limiting or adding to the time period within which claims can be made or actions can be brought (Reference *Code of Virginia* §8.01 et seq.);
8. Limiting selection and approval of counsel and approval of any settlement in any claim arising under the contract and in which the Commonwealth, VITA, any Authorized User, or any of their officers, directors, employees or agents is a named party;
9. Binding the Commonwealth, VITA, any Authorized User, or any of their officers, directors, employees or agents to any arbitration or to the decision of any arbitration board, commission, panel or other entity;
10. Obligating the Commonwealth, VITA, any Authorized User, or any of their officers, directors, employees or agents to pay costs of collection or attorney's fees;
11. Requiring any dispute resolution procedure(s) other than those in accordance with §2.2-4363 et seq. of the Code of Virginia;
12. Permitting Supplier to access any Commonwealth or Authorized User records or data, except pursuant to court order;
13. Permitting Supplier to use any information provided by the Commonwealth or any Authorized User except for Supplier's own internal administrative purposes;
14. Requiring the Commonwealth, VITA, or any Authorized User to limit its rights or waive its remedies at law or in equity, including the right to a trial by jury; and
15. Bestowing any right or incurring any obligation that is beyond the duly granted authority of the undersigned representative of VITA to bestow or incur on behalf of the Commonwealth of Virginia..
16. Establishing a presumption of severe or irreparable harm to Supplier by the actions or inactions of VITA or any Authorized User;
17. Limiting the liability of Supplier for property damage or personal injury;
18. Permitting Supplier to assign, subcontract, delegate or otherwise convey the contract, or any of its rights and obligations thereunder, to any entity without the prior written consent of VITA except as follows: Supplier may assign all or any of its rights and obligations to a third party as a result of a merger or acquisition or sale of all or substantially all of its assets to such third party provided assignee agrees in writing to be bound by the terms and conditions set forth in the contract and provided such third party is a U.S.-based entity or maintains a registered agent and a certification of authority to do business in Virginia, or to an affiliate of Supplier, provided Supplier remains liable for affiliate's compliance with the terms and conditions set forth in this Contract;
19. Not complying with the contractual provisions at the following URL, which are mandatory provisions, required by law or by VITA, that are hereby incorporated by reference:
<http://www.vita.virginia.gov/uploadedFiles/SCM/StatutorilyMandatedTsandCs.pdf>
 The terms and conditions in documents posted to the aforementioned URL are subject to change pursuant to action by the legislature of the Commonwealth of Virginia or a change in VITA policy. If a change is made to the terms and conditions, a new effective date will be noted in the document title. Supplier is advised to check the URL periodically;
20. Not complying with the contractual claims provision §2.2-4363 of the Code of Virginia which is also incorporated by reference;
21. Enforcing the United Nations Convention on Contracts for the International Sale of Goods and all other laws and international treaties or conventions relating to the sale of goods. They are expressly disclaimed. UCITA shall apply to this contract only to the extent required by §59.1-501.15 of the Code of Virginia;
22. Not complying with all applicable federal, state, and local laws, regulations, and ordinances;
23. Requiring that the Commonwealth waive its sovereign immunity or its immunity under the Eleventh Amendment;
24. Requiring that the Commonwealth, which is tax exempt, be responsible for payment of any taxes, duties, or penalties;

25. Requiring or construing that any provision in this contract conveys any rights or interest in Commonwealth or Authorized User data to Supplier;
26. Requiring the use of foreign currency. The currency which shall be used for this contract is United States Dollars. Any claim which may arise hereunder shall be settled in United States Dollars;
27. Obligating the Commonwealth beyond approved and appropriated funding. All payment obligations from public bodies under this contract are subject to the availability of federal, state, and/or local appropriations for this purpose. In the event of non-appropriation of funds for the items under this contract, VITA may terminate, in whole or in part, this contract or any order, for those goods or services for which funds have not been appropriated. This may extend to the renewal of maintenance services for only some of the licenses granted by Supplier. Written notice will be provided to the Supplier as soon as possible after legislative action is completed. There shall be no time limit for termination due to termination for lack of appropriations;
28. Permitting unilateral modification of the contract by Supplier;
29. Permitting termination by Supplier of the contract or the licenses granted thereunder, or permitting suspension of services by Supplier, except pursuant to an order from a court of competent jurisdiction;
30. Requiring or stating that the terms of the Supplier's standard form contract shall prevail over the terms of this addendum in the event of conflict;
31. Renewing or extending the contract beyond the initial term or automatically continuing the contract period from term to term;
32. Requiring that the contract be "accepted" or endorsed by the home office or by any other officer subsequent to execution by an official of VITA before the contract is considered in effect;
33. Delaying the acceptance of the contract or its effective date beyond the date of execution;
34. Defining "perpetual" license rights to have any meaning other than license rights that exist in perpetuity unless otherwise terminated in accordance with the applicable provisions of the contract;
35. Permitting modification or replacement of the contract pursuant to any new release, update or upgrade of Software or subsequent renewal of maintenance. If Supplier provides to any Authorized User an update or upgrade subject to additional payment, such Authorized User shall have the right to reject such update or upgrade;
36. Requiring purchase of a new release, update, or upgrade of Software or subsequent renewal of maintenance in order for the Commonwealth, VITA, or any Authorized User to receive or maintain the benefits of Supplier's indemnification of the Commonwealth, VITA, or such Authorized User against any claims of infringement on any third-party intellectual property rights;
37. Prohibiting the Commonwealth, VITA, or any Authorized User from transferring or assigning to any entity the contract or any license to Software pursuant to the contract;
38. Granting Supplier or an agent of Supplier the right to audit or examine the books, records, or accounts of VITA or any Authorized User;

The parties further agree as follows:

39. Supplier warrants that it is the owner of the Software or otherwise has the right to grant to all Authorized Users the license to use the Software granted hereunder without violating or infringing any law, rule, regulation, copyright, patent, trade secret or other proprietary right of any third party.
40. Supplier agrees to indemnify, defend and hold harmless the Commonwealth, VITA, any Authorized User, their officers, directors, agents and employees ("Commonwealth's Indemnified Parties") from and against any and all third party claims, demands, proceedings, suits and actions, including any related liabilities, obligations, losses, damages, fines, judgments, settlements, expenses (including attorneys' and accountants' fees and disbursements) and costs (each, a "Claim" and collectively, "Claims"), incurred by, borne by or asserted against any of Commonwealth's Indemnified Parties to the extent such Claims in any way relate to, arise out of or result from: (i) any intentional or willful conduct or negligence of any employee or subcontractor of Supplier, (ii) any act or omission of any employee or subcontractor of Supplier, (iii) breach of any representation, warranty or covenant of

Supplier contained herein, (iv) any defect in the Software, or (v) any actual or alleged infringement or misappropriation of any third party's intellectual property rights by any of the Software. Selection and approval of counsel and approval of any settlement shall be accomplished in accordance with all applicable laws, rules and regulations. For state agencies the applicable laws include §§ 2.2-510 and 2.2-514 of the Code of Virginia. In all cases the selection and approval of counsel and approval of any settlement shall be satisfactory to VITA or the Authorized User against whom the claim has been asserted.

- 41. Any Authorized User may rely on independent contractors, acting on behalf of such Authorized User, to perform functions requiring the use of and access to the Supplier's Software. Nothing in the Supplier's standard form contract shall limit such third parties' from using or accessing the Software in order to perform such functions. If any invention, work of authorship, or confidential information is developed exclusively by an employee, consultant, contractor, or subcontractor of an Authorized User during the performance of Services by Supplier, Supplier shall have no ownership claim to such invention, work of authorship, or confidential information.
- 42. Any travel expenses incurred by Supplier in the course of performing the services must be pre-approved by the appropriate Authorized User and shall be reimbursed at the then-current per diem rates published by the Virginia Department of Accounts.
- 43. An Authorized User may require that Supplier personnel submit to a criminal background check prior to performance of any services under this contract.

This contract, consisting of this VITA addendum and the Supplier's standard form contract, constitute the entire agreement between the parties and may not be waived or modified except by written agreement between the parties.

This contract has been reviewed by staff of VITA. Its substantive terms are appropriate to the needs of VITA.

IN WITNESS WHEREOF, the parties have caused this contract to be duly executed as of the last date set forth below by the undersigned authorized representatives of the parties, intending thereby to be legally bound.

VITA

By: _____	By: _____
(Signature)	(Signature)

Name: _____	Name: _____
(Print)	(Print)

Title: _____	Title: _____
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Date: _____	Date: _____
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**EXHIBIT G LOBBYING CERTIFICATION
CONTRACT NUMBER VA-150915-TERA
BETWEEN
VIRGINIA INFORMATION TECHNOLOGIES AGENCY
AND
TERADATA GOVERNMENT SYSTEMS LLC**

Exhibit G is hereby incorporated into and made an integral part of Contract Number VA-150915-TERA (“Contract”) between the Virginia Information Technologies Agency (“VITA” or “Commonwealth” or “State”) and Teradata Government Systems LLC (“Supplier”).

In the event of any discrepancy between this Exhibit G and the Contract, the provisions of the Contract shall control.

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief, that:

No Federal appropriated funds have been paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee or an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal Contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal Contract, grant, loan, or cooperative agreement.

If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal Contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers (including subcontracts, sub grants, and Contracts under grants, loans and cooperative agreements) and that all sub recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Signature: _____

Printed Name: _____

Organization: _____

Date: _____



EXHIBIT X PREMIER SUPPORT ADDENDUM
CONTRACT NUMBER VA-150915-TERA
BETWEEN
VIRGINIA INFORMATION TECHNOLOGIES AGENCY
AND
TERADATA GOVERNMENT SYSTEMS, LLC

Exhibit H is hereby incorporated into and made an integral part of Contract Number VA-150915-TERA (“Contract”) between the Virginia Information Technologies Agency (“VITA” or “Commonwealth” or “State”) and Teradata Government Systems, LLC. (“Supplier”).

In the event of any discrepancy between this Exhibit H and the Contract, the provisions of the Contract shall control.

TERADATA PREMIER SUPPORT ADDENDUM

This Addendum details Support Services for Teradata's enterprise data warehouse and data warehouse appliance solutions (including Teradata Aster and Hadoop solutions) and for Premier Software Only Support for certain Software as set out in an Order.

1. INTRODUCTION AND SCOPE

- 1.1. This Addendum describes the terms and conditions applicable to Teradata's Premier Warehouse Support, Premier Appliance Support, and Premier Software Only Support as defined below. The specific Services Teradata provides as part of each Support offer are listed in this Addendum along with optional Services that Authorized User may choose to receive on a particular Order. For certain data warehouse appliance Products (Equipment and Software) with customer-replaceable parts, Teradata offers the Premier Appliance Support as set out in Section 2.2 and as noted in other areas of this Addendum.
- 1.2. An Order for Support must specify the Products, the applicable service level, the elected Optional Service Enhancements (if any) and the rates. For the initial Order, the ordered Support shall commence upon Delivery of the Products that are subject to such Services unless such commencement date is otherwise specified within the Order.
- 1.3. An Order may cover Backup/Archive/Restore ("BAR") Products, such as servers, backup or tape management software, disk or tape libraries, disk cabinets and other related products ("BAR Products"). However, as described in this Addendum, certain Support may not be available for all BAR Products. BAR Software may be licensed from a third party ("Third Party BAR Software") or bear the copyright or logo of Teradata ("Teradata BAR Software").

2. SUPPORT

2.1. Premier Warehouse Support

When an Order includes Premier Warehouse Support, Teradata will provide the following Services:

2.1.1. Incident Requesting Service.

- a) Teradata will provide Authorized User with User access to Teradata's service portal, *Teradata @ Your Service* and where applicable, telephone information, for requesting Support if Authorized User is experiencing a Problem with supported Products and will activate its Automatic Incident Creation Diagnostic Tool. A "Problem" is a failure of a Product to conform to its manufacturer's then-current, customer-level documentation.
- b) When requesting Support, Authorized User must assign a priority for each Problem incident or Support request based on the criteria set out below. A single contact event for Support may be made up of multiple incidents or requests. A priority level will be assigned for each incident or request reported.

Priority 1: Critical - A Problem that prohibits use of the Product or renders the Product inoperable.

Priority 2: Significant - A Problem that causes a significant impact to the business; however, operations can continue in a degraded fashion.

Priority 3: Minor - A Problem that negligibly impacts the ability to do business.

When an incident is designated Priority 1, Authorized User understands it will be necessary to provide Teradata with immediate, secure remote access to the affected Product. Authorized User understands that if access is delayed or not provided as requested by Teradata, problem resolution efforts will be impaired and may delay resolution of the Problem.

Authorized Users with Internet access agree to report all Priority 2 and 3 incidents through *Teradata @ Your Service*. Authorized User further agrees that Support requests classified as a “question” will be only be assigned a Priority 3. Authorized User will receive an electronic confirmation of all incidents created via *Teradata @ Your Service*. Teradata will activate its Auto Incident Create diagnostic tool to create incidents based on certain alerts and thresholds. Implementing an FRO (see Section 2.1.5(b) of this Addendum), a resolution to a reported Problem, or other remedial maintenance will not alter the Problem Priority.

2.1.2. Hours of Coverage.

- a) Authorized User may report Problems and request Support 24 hours a day, 7 days per week, however, Teradata will provide Support during the Hours of Coverage specified on the Order. If Support cannot be completed within the Hours of Coverage on the day that Support is requested, Support will resume during the next occurring Hours of Coverage period. Hours of Coverage must be the same for all Equipment and Software Products specified on an Order.
- b) In the event Authorized User requests Support outside of the Hours of Coverage, Teradata will use commercially reasonable efforts to provide such Support on an out of scope basis subject to Section 4 of this Addendum.

2.1.3. Remote and On-Site Support. “Remote Support” is provided by Teradata via the telephone or remote connectivity that does not require a visit to Authorized User’s facility or Product location. “On-Site Support” is the provision of remedial Equipment Support that may require one or more visits to Authorized User’s facility or Product location, and may also include On-Site Software Support. Remedial Equipment Support consists of those functions required to repair a malfunctioning piece of Equipment and return it to a ready-to-run state. In the event that Teradata determines that On-Site Support is required, then Teradata will dispatch On-Site Support during Hours of Coverage according to the Priority level assigned.

2.1.4. Response Times/Options. For Remote Support, “Response Time” is measured by the interval between Authorized User’s initial contact (via electronic receipt of incident or phone call) to Teradata and the first contact (via electronic receipt or phone call) with a Teradata representative. For On-Site Support, Response Time is the interval between the time when Teradata reasonably determines a service representative is required on-site and his/her arrival at Authorized User’s site or Product location. Response Time intervals are measured during Hours of Coverage only.

Hours of Coverage and Response Time Options:

Option	Remote and On-Site Support Coverage	Response Times
24x7	24 hours a day , 7 days per week, for Priority 1 incidents; 9 standard	Remote Response: 2 hours for Priority 1 incidents;

	business hours, 5 business days per week., (Authorized User’s local time) excluding Teradata holidays for Priority 2 and 3 incidents	Next Business Day for Priority 2 and 3 incidents On-Site Response: 4 hours for Priority 1 incidents ; Next Business Day for Priority 2 and 3 incidents
9x5	9 standard business hours, 5 business days per week., (Authorized User’s local time), excluding Teradata holidays for all incident Priorities	Remote Response: 9 hours for Priority 1 incidents; Next Business Day for Priority 2 and 3 incidents On-Site Response: Next Business Day for all Priority incidents
24x7 Priority	7 days per week, 24 hours a day for Priority 1 and 2 incidents; 9 standard business hours, 5 business days per week., (Authorized User’s local time), excluding Teradata holidays for Priority 3 incidents	Remote Response: 30 minutes for all incidents On-Site Response: 2 hours for Priority 1 incidents; 4 hours for Priority 2 and 3 incidents <i>Not available on Data Domain BAR products.</i>

2.1.5. Equipment Support.

- a) Support. Teradata will first attempt to provide Remote Support for Problem resolution for Equipment covered by an Order for Support. Teradata will reasonably determine whether the Problem requires On-Site Support for repair, and if so determine, will then dispatch a service representative to provide such On-Site Support. Teradata provides and installs replacement parts for all failed hardware components as part of Authorized User’s Premier Warehouse Support. Parts are replaced on an exchange basis and failed parts become immediate property of Teradata and replacement parts become Authorized User’s property.
- b) Field Retrofit Order. Teradata may release a field retrofit order (“FRO”) for Equipment specifying changes that will improve safety, regulatory compliance or reliability of the Equipment. Teradata will install the modifications required by the FRO at no charge if Authorized User allows such installation to occur within 6 months after Teradata releases the FRO. Teradata will install the FRO Monday through Friday, local standard business hours (Authorized User’s local time), excluding Teradata holidays. Teradata will proactively inform Authorized User of any safety-related FRO, and Authorized User agrees to allow Teradata to install such safety FRO as soon as practical. If Authorized User has elected 24x7 Priority, Teradata will install FROs as described in this Section at a mutually agreeable time on a 7 day per week 24 hours per day basis.

2.1.6. Software Support.

- a) Support. Teradata shall provide remote Problem resolution Support for certified and supported Software covered by an Order for Support. Such Support consists of: 1) guidance in locating (via *Teradata @ Your Service*) solutions to known Problems, information to resolve procedural Problems and answers to frequently asked questions, 2) recommendations to upgrade if solution is available in a later Software release, 3) providing a temporary workaround procedure to circumvent a Problem until an e-fix/code-level change is provided, or 4) providing an e-fix/code-level change that resolves the reported Problem.
- b) Teradata @ Your Service. Users will have access to *Teradata @ Your Service* to report Problems and obtain Software patches, fixes, and maintenance release updates for some customer-installable Software, or (at Authorized User's request) Teradata will provide a single media copy at no additional charge. For Software patches and maintenance release updates that cannot be directly obtained, the necessary order information will be provided on *Teradata @ Your Service*. Authorized User may replicate and/or apply the patches or maintenance release updates for each copy of the Software to which it pertains and for which Authorized User has paid the applicable fees and licenses.
- c) Software Release Naming Convention. In general, Teradata utilizes the following naming convention for Software database releases. The types of releases are differentiated via the release/update number, X.Y.Z.n.
- X- number refers to a major Software release upgrade
- Y- number refers to a minor Software release upgrade
- Z - number refers to a maintenance release update
- n - number refers to fixes or patches
- “Service Pack” and “Hotfix” are the third party names for software fixes. Following Teradata standards, a “Service Pack” is a maintenance release (Z) and a “Hotfix” is a patch (n).
- d) Software Release Support. Teradata will provide Software Problem resolution Support for a major or minor Database Platform Software release and Aster Database Platform Software release for no less than 36 months from General Customer Availability (“GCA”). GCA is the initial date that a release of the product is available to general users. Teradata may, at its discretion, support additional prior releases, but will not provide fixes or patches for such versions and support terms for such prior releases may vary from the terms of this Addendum as documented in the applicable Order. Teradata will inform Authorized User via *Teradata @ Your Service* at least 6 months prior to discontinuing Support or changing the level of Support available for a particular Teradata Software Product. For Third Party BAR Software, Teradata will provide Software Problem resolution Support for the then-current maintenance release and the most recent prior maintenance release of the then-current major/minor software release (example: if the then-current Third Party BAR Software release is numbered 6.3.2, then Teradata would provide Software Problem resolution Services for version 6.3.2 and 6.3.1). For non-database Aster Software, Problem Resolution Services will only be

provided for the current major or minor release and prior minor release regardless of GCA.

- e) Authorized User Installable Software. For authorized user-installable Software covered by an Order for Support, Teradata will provide remote installation assistance consisting of (i) guidance in locating (via *Teradata @ Your Service*) solutions to known Problems, (ii) information to resolve procedural Problems, (iii) answers to frequently asked questions, or (iv) providing a solution that resolves the reported Problem. Without limitation, such Support does not include the following (which are considered out of scope and subject to Section 4 of this Addendum): (1) remote installation, (2) step-by-step installation consultation, (3) testing of Authorized User installed patches and maintenance releases, or (4) recovery of the Product or system after a failed installation performed by Authorized User.

- 2.1.7. Authorized User Support Card. Teradata will provide a Support Card upon start of Support that includes details of how to contact Teradata, certain support processes and basic customer responsibilities for obtaining Support. The Support Card may be modified at any time.

2.2. Premier Appliance Support

The terms for Premier Appliance Support are the same as Premier Warehouse Support (Section 2.1) except as modified in this Section:

- 2.2.1. Modification to Section 2.1.5 (a): The Products covered by Premier Appliance Support have Authorized User replaceable parts subject to the following additional terms: If Teradata determines that Authorized User replaceable/repairable Equipment requires remedial maintenance, Authorized User agrees that it will perform such maintenance and that it will use only Teradata-provided parts, instructions, processes and documentation to return the Teradata system to a ready-to-run state. Teradata has designated or will designate from time to time certain parts (such as disk drives and power supplies) as Authorized User replaceable/repairable. In the event that Teradata chooses to install parts that are currently or subsequently designated as Authorized User replaceable/repairable, Authorized User acknowledges and agrees that such service shall not constitute a waiver of any requirement hereunder that Authorized User perform such remedial maintenance. Teradata will provide the process and procedure documentation for any Authorized User-performed replacements or repairs. For parts that fail that are not designated Authorized User replaceable/repairable, Teradata will provide and install replacement parts for such failed components as part of Premier Appliance Support. If a Authorized User replaceable/repairable part fails, Teradata will ship such a part to Authorized User using overnight shipping with business day delivery in exchange for the failed part. 3 business days after the replacement part shipment, Teradata will dispatch its designated freight carrier to the Authorized User site to pick up the failed part. If the part is not returned to Teradata due to Authorized User neglect or refusal, Authorized User will be charged Teradata's then-current list price for the part.

2.3. Premier Software Only Support

The terms for Premier Software Only Support are the same as Premier Warehouse Support (Section 2.1) except as modified in this Section.

- 2.3.1. Equipment Support. Only Problems originating from Teradata Software, Aster, or Hortonworks (HDP) SW installed on Teradata or appropriate 3rd party Hadoop vendor-

certified Equipment are covered under Premier Software Only Support. Problems originating from any Equipment or coordination of vendors due to Equipment failures are specifically excluded.

2.3.2. Remote Support. All Premier Software Only Support is “Remote Support.”

2.3.3. Premier Software Only Support Hours of Coverage and Response Times.

Option	Remote Support Coverage	Response Times
24x7	24 hours a day, 7 days per week, for Priority 1 incidents; 9 standard business hours, 5 business days per week., (Authorized User’s local time), excluding Teradata holidays for Priority 2 and 3 incidents	Remote Response: 2 hours for Priority 1 incidents; Next Business Day for Priority 2 incidents and Priority 3 incidents
9x5 Not available for Hortonworks HDP SW	9 standard business hours, 5 business days per week., (Authorized User’s local time), excluding Teradata holidays for all incident Priorities	Remote Response: Next Business Day for all Priority incidents
24x7 Priority Not available for Hortonworks HDP SW	7 days per week, 24 hours a day for Priority 1 and 2 incidents; 9 standard business hours, 5 business days per week., (Authorized User’s local time), excluding Teradata holidays for Priority 3 incidents	Remote Response: 30 minutes for all incidents

3. OPTIONAL SERVICE ENHANCEMENTS

3.1. Teradata Full Parts Replacement Service Option

When an Order for Premier Appliance Support includes this option, Teradata will be responsible for also performing required remedial maintenance on all parts deemed Authorized User replaceable and replacing any necessary parts to return the Equipment to a ready to run state. This Service is performed according to the Priority 2 on-site response times as purchased with Premier Appliance Support.

3.2. Disk Drive Retention Option

When an Order includes this option and specifies the exact disk drive to be covered, Authorized User will retain possession of the disk drives that Teradata (or Authorized User under Premier Appliance Support if not subject to the optional Teradata Full Parts Replacement Service in Section 3.1) removes from the hardware during Support. Title to the removed disk drives will remain with Authorized User. Once removed from the hardware, Authorized User shall be responsible for the retention and disposal of the disk drive, as well as compliance with all applicable laws or regulations that relate to the disk drive and/or the data contained on it.

3.3. On-Site Parts Option

When an Order includes this option, Teradata will store a set of critical spare parts for the Equipment at Authorized User's site. These parts will be in addition to Teradata's centralized stock of replacement parts. Authorized User agrees to store the on-site parts in a secure area to which Teradata personnel have unrestricted access. Teradata will periodically review the list of specific parts being stored at Authorized User's site. At Teradata's sole discretion, Teradata will determine whether to add or remove parts based on their criticality and need.

3.4. Dedicated On-Site Resource Option

When an Order includes this option, Teradata will provide a dedicated person who will work at Authorized User's site Monday through Friday from 8 a.m. to 5 p.m. (Authorized User's local time) excluding Teradata holidays. This on-site resource will perform specific duties to deliver the Support included in the Order.

3.5. Technical Expert Service Option

When an Order includes this option, Teradata will provide personnel who will work for a specified time frame during Teradata's normal business hours to provide Services related to the operation and support of the Equipment and Software but that are outside the scope of the other Services described in this Addendum. The specific Services will be described in such Order.

3.6. Software Implementation (SWI) Annuity Option

When an Order includes this option, Teradata will provide personnel who will provide remote implementation of Database Platform and/or BAR Software releases covered by the relevant Order and for which Authorized User has a valid license. SWI does not include identifying a specific target Software release to be implemented, and Authorized User is responsible for identifying the specific Software release to be implemented. The installation shall take place

during the Remote and On-Site “Hours of Coverage” selected that apply to Priority 1 incidents. All such implementations shall follow Teradata’s then-current change control management and implementation process and are subject to the remote connectivity requirements in Sec 5.1(e). The specific releases included in the “Software Implementation Annuity Service” will be identified in the Order. Authorized User must provide Teradata at least 28 days advance notice of a change for Teradata to develop and approve the change control plan. Change control plans that are requested with fewer than 28 day notice are out of scope and subject to Section 4 of this Addendum.

3.6.1. Teradata Database Platforms. Teradata will provide remote implementation of Teradata database and/or Aster Software covered by an Order for Support. Authorized User must have obtained a valid license for such Software and must have purchased a license upgrade or Subscription for such Software. All such implementations shall follow Teradata’s then-current change control management and implementation processes. Such processes will address any operating system or firmware updates or upgrades required to enable the implementation of the database and will note the party who will perform such updates or upgrades as part of the database software implementation. The specific Software implementation annuity options are identified below. The SWI annuity option selected will be specified in the Order.

SWI Complete	All Teradata or Aster database major (X) and minor (Y) upgrades, and all maintenance (Z)/patch (n) releases and all necessary fixes (Efix)
SWI Maintenance	All Teradata or Aster database maintenance (Z)/patch (n) releases and all necessary fixes (Efix) only

3.6.2. BAR Software Implementation Option. When an Order includes this option, Teradata will also provide the same installation Services on supported BAR Products for the identified new releases of BAR Software as Authorized User has ordered for the Teradata Database Platform Software. However, there shall be no limitation on the number of major or minor upgrades for Teradata BAR Software installed. Operating System (OS) changes are covered under Support.

3.7. Critical System Management Option

When an Order includes this option, Teradata will provide the Services set out in Attachment 1 to this Addendum.

4. OUT OF SCOPE (SEPARATELY CHARGEABLE) SERVICES; EXCLUSIONS

4.1. Out of Scope

Services not defined in Section 2, Section 3, or an Order for Support are out of scope. Out of scope services include, but are not limited to: (i) systems integration, (ii) services related to installation, de-installation, and movement of Product, (iii) electrical work external to Product, (iv) database implementation, population, and administration, (v) execution of data loading procedures, (vi) data archiving, (vii) data recovery, (viii) BAR system implementation, (ix) modifying the Software to meet security requirements and (x) for Premier Appliance Support, Equipment maintenance Authorized User has agreed to perform.

4.2. Exclusions

Teradata will not be obligated to provide Services for:

- a) Equipment that has not been subject to Teradata warranty or that has not been maintained by Teradata under the terms of this Addendum for more than 90 days. If Authorized User wishes to order Support for such Equipment, Teradata will, at Authorized User's expense, perform an inspection and make any necessary repairs; and
- b) Problems resulting from the following causes: Authorized User's or any third party's negligence, misuse, or abuse, including the failure to adhere to Teradata or Third Party BAR Product supplier's site preparation standards; failure to operate Products in accordance with Teradata's power, environmental, and other specifications or limitations agreed to by the Parties; failure to perform regular preventive maintenance activities (e.g., tape head cleaning); replaceable data media (such as tapes or solid state drives) being used in excess of its expected life; movement of Product by anyone other than Teradata or its representatives; improper use of or failure to use supplies meeting Teradata's or the manufacturer's specifications; software or modifications to Software (including security patches) that have not been approved or provided by Teradata; acts of third parties; third party products not under a maintenance agreement with Teradata; failure to comply with Third Party Product software licensing terms; fire, smoke or other hazards originating outside of Teradata-furnished Equipment; water; acts of God; power distribution failures (including use of hard-power down condition or emergency power off switch) that cause the specifications for Products not to be followed; damage ordinarily covered by insurance; alteration of Product and attachments not provided/approved by Teradata in writing or compatible with Teradata's standard interfaces; improper installations, implementation or operation of Product; or failure to perform those actions prescribed by Teradata; Problems originating from non-Teradata supported products and configurations; Product conversions and migrations; Product updates and upgrades unless specifically indicated in this Addendum.

4.3. Teradata will only perform out of scope Services ("Additional Services") at the applicable out of scope services rate. Teradata will inform Authorized User if a Service is out of scope prior to commencing work. However, Teradata will not perform Services on Products when it reasonably believes that doing so represents a safety hazard.

5. AUTHORIZED USER'S RESPONSIBILITIES

5.1. Authorized User will meet the following obligations to assist Teradata in performing Services:

- a) Environment. Authorized User is responsible for preparing, prior to the delivery of Products to be used or serviced hereunder, and maintaining or updating as necessary thereafter, the site of the Products in accordance with the manufacturer's specifications and for providing safe and adequate working conditions for Teradata's maintenance personnel including appropriate utility service, local telephone extensions and modems, and connectivity for Diagnostic Tools.
- b) System Operations. Authorized User is responsible for all operations related to the Products including (i) obtaining appropriate training on the operation of the Products, (ii) assuring that all installations of Products, upgrades, and corrections to a Problem have been performed in conformance to Teradata's specifications, (iii) providing back-up and restore systems, processes and services for restoration of the system upon a failure of the Products, (iv) restoring data, data connections and application software after Teradata performs Services, (v) safeguarding all software data and removable storage at regularly scheduled intervals and prior to Teradata performing any Services on the Products; (vi) testing related to the Products, (vii) promptly installing Teradata-supplied corrections to reported

Problems, and (viii) addressing any system performance problems. Authorized User shall operate the Products in accordance with its documentation. Authorized User shall not make, or have made, any corrections, repairs, or alterations to, or perform or have performed any maintenance on, the Products except as performed or approved by Teradata. Authorized Users must 1) assign a reasonable number of trained personnel to act as support contacts to interface with Teradata's Authorized User Services group, 2) check Teradata @ Your Service for support and Product discontinuation notices and, 3) identify any target software and/or firmware patches and releases (other than those recommended by Teradata as part of a Problem resolution) to be installed. Authorized User is responsible for accessing Teradata @ Your Service to check the status of change controls and incidents and service performance reports.

- c) Teradata @ Your Service Administration. Authorized User must identify in writing and always make available 2 employees to be its *Teradata @ Your Service* primary and alternate administrators. Administrators are responsible for approving the addition and removal of *Teradata @ Your Service* Users associated with their company and for all *Teradata @ Your Service* functions and viewing permissions associated with each of their company's *Teradata @ Your Service* Users.
- d) Problem Resolution. Authorized User agrees to attempt to isolate and document Problems and agrees to use Teradata's service portal, or similar facility, where available, to check for known corrections to a Problem, track incident statuses, submit and update all Service incidents and to determine the availability of corrections to a Problem and new Software releases. Authorized User shall provide Teradata's technical support staff with commercially reasonable cooperation, assistance, and complete and accurate information relevant to the Problem to Teradata until problem resolution. Such Authorized User assistance may include logging into Authorized User's systems for diagnosis of problems, downloading and installation of software patches, retrieval and transfer of system logs/files, re-installation of existing product and participation in tests for fixes.
- e) Remote Connectivity Requirements for all Systems. For Premier Warehouse and Appliance Support, Authorized User must allow Teradata ServiceConnect™ remote connectivity between Authorized User and Teradata to enable remote proactive Support and other remote Services. For Premier Software Only Support, Authorized User must allow Teradata ServiceLink™ remote connectivity. If Authorized User does not allow Teradata ServiceConnect™ or Teradata ServiceLink™ Authorized User will be subject to an annual fee of 2% of Authorized Users total net Product purchase price, including any subsequent Product purchases which are maintained under this Addendum, or \$50,000 USD (whichever is greater) in addition to their annual Support fees. Authorized User must provide any login and passwords required to access the system remotely upon request from Teradata Authorized User Services. For Hortonworks SW Only Support, Teradata ServiceConnect™ and Teradata ServiceLink™ remote connectivity are not required. However, Teradata ServiceLink™ is the preferred remote connectivity solution. At a minimum, Authorized User must allow Webex or Secure Shell (SSH) type connections as requested by Teradata.
- f) Diagnostic Tools Allow Teradata to install and run Diagnostic Tools on the Products (other than BAR Products) covered by an Order for Support. These tools are designed to collect and store detailed support related system data to aid in problem resolution and change control and to detect faults and notify Teradata.
- g) Authorized User Replaceable Equipment. For Equipment covered under Premier Appliance Support, Authorized User is responsible for performing certain remedial

maintenance on Equipment including replacing parts as set out under Section 2.2.1 unless the Teradata Parts Replacement Service option (Section 3.1) is ordered. Authorized User must identify in writing and always make available at least 2 employees who are familiar with the processes and procedures of Authorized User-performed remedial maintenance for Equipment and parts replacement as instructed by Teradata. Authorized User agrees to follow Teradata-provided procedures for performing remedial maintenance and parts replacement; including any Teradata provided processes for returning failed parts to Teradata.

- h) Change Controls. Authorized User must provide Teradata at least 28 days advance notice of a change for Teradata to develop and approve the change control plan.
- i) Teradata Vital Infrastructure (“TVI”). TVI is Teradata’s fault monitoring feature, including the outbound alerting functionality, used to automatically detect a range of system faults. TVI passes these detected faults electronically to Teradata’s Support Center through the remote connectivity link described in 6.1 (e) above. Teradata recommends that Authorized User enable TVI; however, if TVI is not fully enabled, Authorized User is responsible for notifying Teradata of all faults and alerts within 24 hours using *Teradata @ Your Service* and providing all event log information.
- j) Authorized Contacts Required for Hortonworks Support. Authorized User shall designate contacts who will serve as primary contact between Authorized User and Teradata and who shall be the only persons authorized to interact with Teradata Authorized User Services for Support for Teradata’s Open Distribution of Hadoop Equipment and Software (“TDH”) and Hortonworks Hadoop Software (HDP) products. The number of authorized contacts shall be set forth below based on the total number of nodes with TDH or HDP Software installed and covered in a Support Order. Additional authorized contacts may be purchased as necessary.

Number of Nodes	Number of Authorized Contacts
1 – 40	3
41 - 200	5
201 – 500	7
501 and over	10

5.2. Authorized User’s failure to meet any of the obligations described in Section 5.1 may result (but only to the extent caused by such failure) in Teradata: (i) charging Authorized User for Additional Services, (ii) reclassifying the reported Problem Priority, and/or (iii) being relieved of the obligation to perform Services.

6. ELIGIBILITY FOR SERVICES

6.1. Product Adds If Authorized User intends to install additional Products to the same system, Authorized User will place a separate Order for the same Support for such Products. For Products previously covered under an Order for Support to be reinstated under a new Order, regardless of

service level or options selected, all lapsed maintenance fees, applicable re-certification fees must be paid in full prior to Products being reinstated for coverage under this Addendum.

- 6.2. Product Moves.** Authorized User will notify Teradata in writing at least 30 days before Product is moved, added, or removed from Support, or if Authorized User changes the Hours of Coverage. This information will include the new location (with complete street address, city, state and zip/postal code, and new location number) and the effective date of the change. If Authorized User does not provide the required notice, Teradata retains the right to invoice Authorized User for Additional Services resulting from any delays caused by such (including, for example, Teradata's technician being dispatched to a wrong location).

ATTACHMENT 1 TO PREMIER SUPPORT ADDENDUM
TERADATA CRITICAL SYSTEM MANAGEMENT OPTION

When an Order includes Teradata Critical System Management Services, Teradata will deliver the following Services:

- A 1. State of Health Reporting. On a bi-weekly basis, Teradata will remotely run and review a “System Health Check” to identify potential errors. On a monthly basis, Teradata will send a summary of the findings to Authorized User. “System Health Check” findings and recommendations will also be reviewed during “Operational” reviews described in Section A.6. This Service does not apply to BAR or Aster Software Products.
- A 2. Software Release Management.
- a) For supported Software covered by an Order for Support, Teradata will review new maintenance release updates (Z) and fixes and patches (n) and recommend patches and releases that should be applied proactively to avoid possible failures on a quarterly basis.
 - b) For supported non-Teradata branded Software covered by an Order for Support, Teradata will review applicable security patches on a quarterly basis. Teradata will not make recommendations to customers for Microsoft Hotfixes or Service Packs until certified by Teradata Engineering.
- A 3. Critical Patch Review. On a weekly basis, for each release of a Teradata database and/or Teradata Aster Software critical technical alert, Teradata will review the technical alert and any corresponding patch information to determine its applicability to Authorized User’s environment. If Teradata determines that the patch should be applied to Authorized User’s system, Teradata will notify Authorized User that the patch is available and provide a recommendation as to when it should be installed.
- A 4. Support Performance Reporting. Teradata will make available to Authorized User, on a monthly basis via *Teradata @ Your Service*, a service performance report that identifies the response and resolution time for each incident submitted to a Teradata Service Center. The reports will provide statistics for all incidents opened and closed during the reporting period, including the number of incidents open at the start of the reporting period, the number opened during the reporting period, the number closed during the reporting period, and the number still open at the end of the reporting period. Additionally, a summary disposition will be provided for each incident closed during the reporting period, including the priority status of the call, average Problem resolution times, and the percentage of incident calls closed within the guidelines. Additional statistics will be included at Teradata’s discretion. If Authorized User does not have access to *Teradata @ Your Service*, a service performance report will be provided quarterly.
- A 5. Authorized User Support Plan. Teradata will document the detailed support processes through which on-going Support will be delivered to Authorized User including both Authorized User’s and Teradata’s roles and responsibilities in those processes. The support plan will be reviewed with Authorized User annually and updated as necessary by Teradata.
- A 6. Support Reviews. For each contract year, Teradata will provide Authorized User the following Support Reviews: one “Operational” review per quarter and one “Executive” review per year. “Operational” reviews will, at a minimum, cover current Support performance, review summary results from any “System Health Checks”, review critical technical alerts, and discuss potential future changes to Authorized Users environment. The “Executive” review will, at a minimum, include a review of service performance statistics. The specific agenda, discussion points and the identity of participants from both Teradata and Authorized User will be as mutually agreed upon.

These reviews will be conducted remotely, via telephone unless an On-Site meeting is mutually agreeable.

- A 7. Availability Management Reporting. Teradata will make available to Authorized User, on a monthly basis, via *Teradata @ Your Service*, a system availability report that documents the database system's planned and unplanned availability and includes statistics for system maintenance, change control, customer induced activities, and unplanned down time affecting availability. If Authorized User does not have access to *Teradata @ Your Service*, an availability management report will be provided quarterly. Downtime, for the purposes of availability reporting, will commence when Teradata is informed by Authorized User either verbally or through automated tools that their System is down and will continue until the Teradata login is restored so that the Authorized User may begin the necessary steps to again use the system. The system availability report does not include time for data restoration and/or validation. Availability reporting is not included when Authorized User elects Monday through Friday, 8 a.m. to 5 p.m. on-site support Hours of Coverage. This report excludes BAR Product(s).
- A 8. Assigned Authorized User Support Representative. Teradata will identify technical resources that will be specifically assigned to provide Critical System Management Services to Authorized User ("Services Support Manager"). The Authorized User Support Plan will identify the individual by name, identify the specific roles and accountability in delivering Critical System Management Services, and provide direct contact information. For each Priority 1 Problem, a Authorized User Support Representative will conduct a "post mortem" analysis that includes a closed loop corrective action plan. Teradata will also proactively inform Authorized User of any changes in Product support policy permitted by and in accordance with this Addendum, any Order or the Agreement.
- A 9. Change Control Management. With Authorized User's assistance, Teradata will develop and document a written change control plan, following Teradata's then-current implementation management and processes outlining the implementation plan, test plan, back-out and recovery plan, and the responsibilities of both Authorized User and Teradata in implementing FROs and Teradata-installed Database, Aster and Operating System Software releases consisting of fixes and patches (n), maintenance release updates (Z), and minor release updates (Y). During such implementations, Teradata will provide Remote Support (or On-Site Support, at Teradata's discretion) throughout the implementation of the change control plan. This Service does not apply to BAR Software Products. Change Control development is subject to the 28 day notification requirement.

Installation of Software. Remote installation will be provided by Teradata for all supported releases of Database Platform Software during the Remote and On-Site Support "Hours of Coverage" that apply to Priority 1 incidents. Teradata may, at its sole discretion, perform such installations On-Site. On-Site installation of all releases by Teradata outside Authorized User's Priority 1 Remote or On-Site Support Hours of Coverage, or when installed On-Site at Authorized User's request when the change is remotely installable, is out of scope and subject to Section 4 of this Teradata Premier Support Addendum. This Service does not apply to BAR Software Products.