5 Mandatory Requirements

A. Technical Requirements

This section is NOT scored. (0 points)
The specifications listed in this section are <u>Mandatory</u> requirements of the Contract.

The following Mandatory Specifications are Mandatory for any Proposer who submits a Proposal. Failure to comply with one or more of the Mandatory Requirement may disqualify a Proposer. If the Proposer cannot agree to each item listed, the Proposer must so specify and provide the reason for the disagreement in Tab 3 – Assumptions and Exceptions – of the Proposer's response.

Request for Proposal (RFP) ETG0004 Data Warehouse (DW) and ETG0006 Visual Business Intelligence Solution (VBI): Overview

The Contractor(s) shall provide a complete, outsourced DW solution and/or VBI solution to meet all of Employee Trust Fund's (ETF's) needs regarding DW functionality and VBI capabilities. Upon approval of the Contract by the Group Insurance Board (GIB), the Contractor will assemble its project team in preparation for conducting the project tasks.

In the first quarter of 2017, the DW shall be able to receive a minimum of twenty-two (22) data submission feeds. A list of ETF Data Submitting Entities (DSEs) can be found in Appendix 9. The Contractor DW system shall systematically collect, integrate and make available medical claims, pharmacy claims, dental claims, wellness, eligibility and provider files from health plans, Third Party Administrators (TPAs), ETF's Pharmacy Benefit Manager (PBM), and wellness and dental contractors. Table 1 below summarizes a high-level list of DSEs and file types that will be securely submitted to the Contractor DW system. A key critical component to successful development of an ETF DW/VBI solution is early engagement from the full range of DSEs and other stakeholders that are involved. The DW/VBI solution shall assist ETF to fill critical information gaps and to support healthcare and payment reform initiatives, to address the need for transparency in healthcare to support consumer, purchaser, and other reform efforts. ETF's overarching goal of the project is to enter into a Contract with Contractor(s) who will collaborate with ETF in the development of a robust data warehouse and visual business intelligence tool set; Contractor(s) must have a history of and organizational orientation towards client partnerships in the development of healthcare data systems and products.

As noted in Table 2 below, it is important to articulate that ETF shall only have access to de-identified health plan member data and information, based on an industry standard de-identification algorithm the Contractor shall apply to the data. The Contractor shall create a crosswalk or lookup table to link ETF's actual Member ID with an "Alias" ID, although ETF shall not have access to this crosswalk or lookup table linking identified ETF Member IDs to de-identified "Alias" IDs. This crosswalk will be maintained by the DW Contractor exclusively. As part of the application of the de-identification algorithm, the Contractor shall also restrict ETF's ability to access other member identifying data elements. Upon termination of the Contract, the crosswalk shall be held in escrow by a third party, pending ETF engaging with a new Contractor, whereby this crosswalk shall be securely transferred to the new Contractor along with any other ETF-owned data, models, and algorithms. See the Functional Requirements section for additional de-identification requirements.

The Requirements below include the following primary sections:

1) Project Management (PM);
2) Implementation;
3) Problem Escalation Plan (PEP);
4) Functional;
5) Security;
6) Hosting;
7) Maintenance;
8) Value Added Enhancements;
9) Visual Business Intelligence (VBI);
10) Training; and
11) Escrow.

Table 3 below provides a diagram of ETF's DW/VBI Data Flow: Conceptual architecture reflecting DSEs, data sources, submission, management, and analytic services provided. Detailed Performance Standards and Reporting Requirements can be found in separate Appendices. The Contractor shall be expected to fulfill all Requirements.

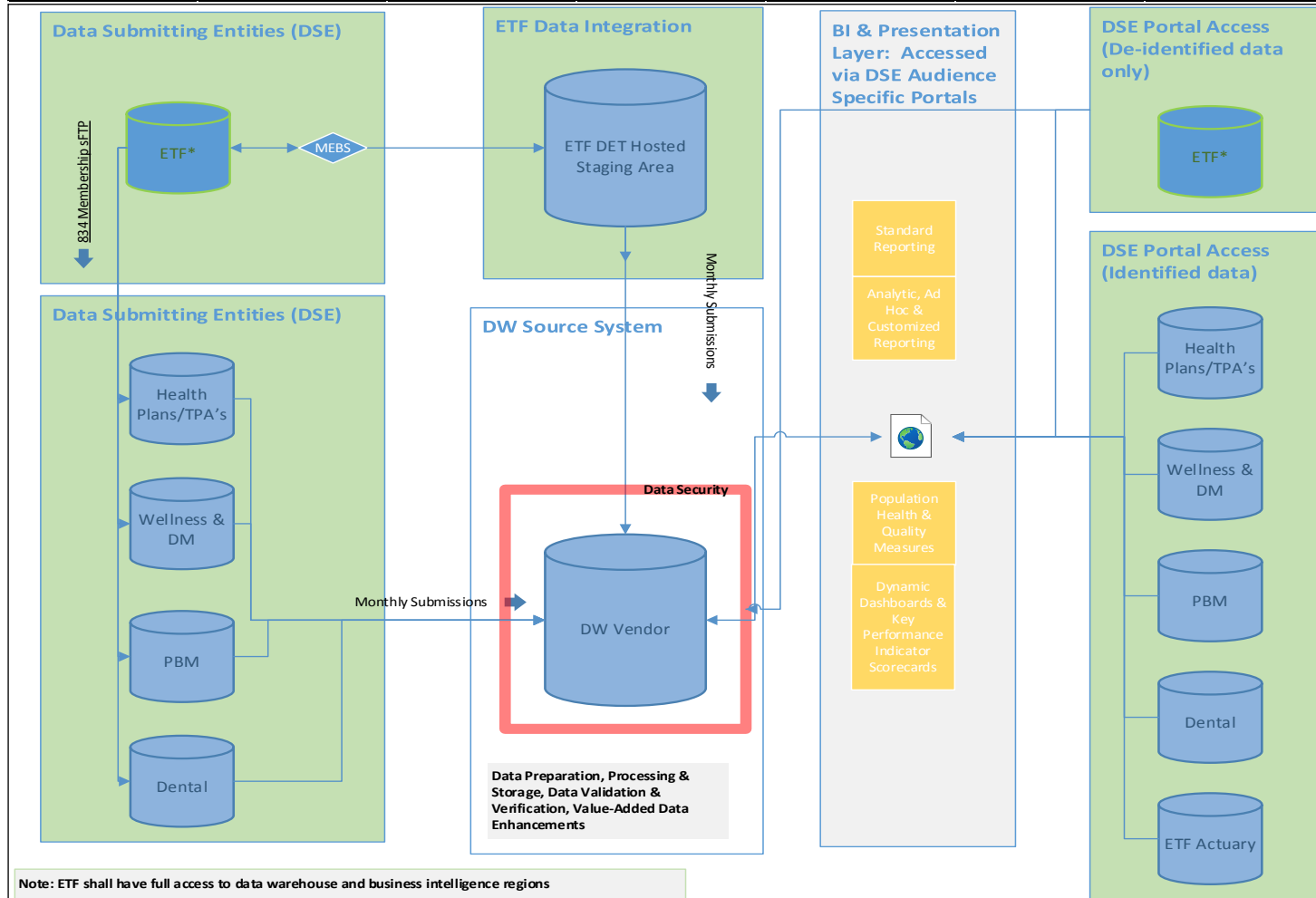| Table 1: Data Submissions by Data Submitting Entity (DSE) Category							
File Type							
Data Submitting Entity (DSE)	**Professional Services (Medical Claims)**	**Pharmacy Services (Rx Claims)**	**Institutional Services (Medical Claims)**	**Provider**	**Eligibility, Membership**	**Dental (Dental Claims)**	**Wellness, HRA, and Disease Management**
Health Plans/TPA's	X		X	X			
ETF					X		
Wellness							X
PBM		X					
Dental						X	

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Table 2: Data Access Requirements: Identified and De-identified Data Access by DSE Category					
	Health Plans/TPA's	**ETF**	**Wellness**	**PBM**	**Dental**
Identified Data	X		X	X	X
De-identified Data		X			

Table 3: ETF Data Warehouse/Business Intelligence Data Flow: Conceptual architecture reflecting data submitting entities, data sources, submission, management, and analytic services provided by the DW & BI Contractors

Data Submitting Entities (DSE)

834 Membership sFTP

ETF*

MEBS

ETF Data Integration

ETF DET Hosted Staging Area

Monthly Submissions

DW Source System

BI & Presentation Layer: Accessed via DSE Audience Specific Portals

Standard Reporting

Analytic, Ad Hoc & Customized Reporting

Population Health & Quality Measures

Dynamic Dashboards & Key Performance Indicator Scorecards

DSE Portal Access (De-identified data only)

ETF*

DSE Portal Access (Identified data)

Health Plans/TPA's

Wellness & DM

PBM

Dental

ETF Actuary

Data Submitting Entities (DSE)

Health Plans/TPA's

Wellness & DM

PBM

Dental

Data Security

DW Vendor

Monthly Submissions

Data Preparation, Processing & Storage, Data Validation & Verification, Value-Added Data Enhancements

Note: ETF shall have full access to data warehouse and business intelligence regions

5.1 Project Management Overview:

Project Management is defined as the communication mechanisms, controls, tasks and procedures that the Contractor will use to manage all the tasks identified in the RFP. It is the discipline that employs the Contractor's knowledge, skills and abilities to achieve project objectives. As noted in the Project Management (PM) requirements below, ETF requires the Contractor to use the Project Management Institute's (PMI) project management methodology. The Contractor shall work closely with the ETF staff to produce project management-related documentation as requested. It is expected that Contractor's Key Personnel (see Section 6 of the RFP) shall be available for in-person and/or virtual meetings with ETF's project team members as needed. The Contractor shall be required to submit a Project Plan that includes a project schedule and work breakdown structure. The project schedule must include a timetable for ETF DW/VBI project implementation. See Reporting Requirements.

5.1 Project Management (PM) Requirements

PM Requirement ID	Requirements Detailed Description	Proposer Bid
PM: 5.1.1	The Contractor shall be responsible for management of the project to ensure successful delivery/completion of the Services.	DW & VBI
PM: 5.1.2	The Contractor shall utilize a project management methodology approved by ETF for this project, and follow best practices established by the Project Management Institute (PMI).	DW & VBI
PM: 5.1.3	The Contractor's approach shall include: use of a project manager; a kick-off meeting and initial working session; formal management of a project plan and Work Breakdown Structure (WBS); and periodic project management meetings, status reporting, and issue and risk management.	DW & VBI
PM: 5.1.4	The Contractor shall develop and implement project management plans addressing quality management; risk management; critical events; document management, change management, issue management, communication management, and responsible parties. See Reporting Requirements.	DW & VBI
PM: 5.1.5	Unless otherwise directed or approved by ETF, the Contractor shall maintain project plans using Microsoft Project, and the following shall also apply: 1) The project plan shall include a relevant and sufficiently detailed WBS; 2) The WBS shall include estimates of effort based on an approved estimation methodology; 3) Task duration shall be manageable and meaningful; 4) The project plan shall be resource loaded and leveled; 5) The project plan shall identify predecessor and successor activities, task dependencies, and critical path; and 6) The project plan shall clearly identify deliverables, milestones, and key milestones.	DW & VBI
PM: 5.1.6	The project plan shall be base-lined, submitted for ETF's review and must be approved by ETF (subject to ETF's review). Any significant changes to the project plan, or any changes to the project plan's baseline, must be submitted for review and approval through this process.	DW & VBI
PM: 5.1.7	The Contractor shall track progress against project plans and report status in a form and format approved by ETF. In addition, a monthly status report shall be submitted to ETF in the format specified by ETF.	DW & VBI
PM: 5.1.8	The Contractor shall document and manage project plan risks, issues, and action items.	DW & VBI
PM: 5.1.9	During the full implementation period and for the first three (3) months of production/permanent solution operations, the Contractor shall provide weekly status briefings to ETF. The weekly status briefings shall include, at a minimum, an assessment of progress against plan, any slipped or slipping deliverables or tasks, risks and issues, mitigation plans, and changes needed to the implementation plan or plan of operations.	DW & VBI
PM: 5.1.10	For the remainder of the Contract term (other than phases noted in 5.1.2.9), the Contractor shall provide bi-weekly status briefings to ETF.	DW & VBI
PM: 5.1.11	The Contractor shall inform DSEs and project team members, management, and stakeholders of potential project risks.	DW & VBI
PM: 5.1.12	The Contractor shall reinforce that all project team members are in a position to identify and bring forth risks that may affect this project.	DW & VBI
PM: 5.1.13	The Contractor shall confer with the ETF project manager (or his/her designee), as necessary to assess the impact and likelihood of the occurrence of identified risks.	DW & VBI

PM: 5.1.14	The Contractor shall develop risk mitigation plans for identified risks based on risk rating, as directed by ETF.	DW & VBI
PM: 5.1.15	The Contractor shall provide ad-hoc progress reports, data, and information as requested by ETF.	DW & VBI
PM: 5.1.16	Upon request, the Contractor shall provide detailed documentation on any and all aspects of the project to ensure complete transparency of the processes used for collection, quality assurance testing, consolidation and release of the data, including results of Contractor's testing of their solution.	DW & VBI
PM: 5.1.17	All user, technical and system documentation, as well as project plans, status reports and correspondence, shall be developed and maintained in file formats and types specified by ETF.	DW & VBI
PM: 5.1.18	The Contractor shall maintain a repository, accessible to ETF staff, of all project documents and artifacts and maintain a version history of all project documents and artifacts.	DW & VBI
PM: 5.1.19	Data, information and reports collected or prepared by the Contractor as part of the project shall be deemed to be owned by ETF.	DW & VBI
PM: 5.1.20	The Contractor shall cooperate with any successor ETF contractor and with ETF staff to provide all required transition services, including to ensure that all existing data are supplied and that any code and documentation needed to provide continuity of the project is supplied to ETF and de-identification and consolidation methods are fully transferred. Transition Services shall include meeting with the successor Contractor and devising work schedules that are agreeable for both ETF and the successor Contractor.	DW & VBI
PM: 5.1.21	The Contractor shall, as directed by ETF at the conclusion of the Contract, supply ETF with copies of all consolidated and unconsolidated data from Data Submitting Entities (DSEs) in a comprehensive and organized manner, including written documentation of the contents of the data files.	DW & VBI
PM: 5.1.22	Contractor shall transmit or supply data as directed by ETF. Any transfer media shall become the property of ETF.	DW & VBI
PM: 5.1.23	At the end of the Contract, and following approval by ETF, the Contractor shall securely destroy all project data held or stored by the Contractor.	DW & VBI
PM: 5.1.24	Should it become necessary to replace key personnel, the Contractor shall provide replacement staff members with equal or superior skills and qualifications (see also Staffing Plan Requirements).	DW & VBI
PM: 5.1.25	Throughout the scope of the project, the Contractor shall perform routine quality assurance measures to ensure that the data and all other supporting processes to accomplish daily operation tasks adhere to a set of quality checks to assist in proactively identifying potential risks associated with the project and any project lags.	DW & VBI
PM: 5.1.26	Any corrections of deficiencies relating to the Contract scope of Services, requirements, or deliverables, and any investigation necessary to determine the source of such deficiencies, shall be completed by the Contractor at no cost to ETF.	DW & VBI
PM: 5.1.27	The Contractor shall provide a detailed implementation plan. The implementation plan shall outline the overall strategy and approach for organizing all required resources, all deliverables, and implementing the Services within the desired timeframe. (See Reporting Requirements.)	DW & VBI
PM: 5.1.28	The Contractor shall engage with and assist ETF (and other DSEs at ETF's discretion) in establishing an ongoing data and information governance model and team, using an industry standard (e.g. DAMA) model as it applies to ETF's business drivers. Data governance planning shall be included in the overall project plan, and shall include, but is not limited to, the following: the specification of decision rights and an accountability framework to encourage desirable behavior in the valuation, creation, storage, use, archiving and deletion of information; including the processes, roles, standards and metrics that ensure the effective and efficient use of information in enabling ETF to achieve its goals.	DW & VBI

5.2 Implementation: Overview

At the start of the project, the Contractor shall begin a collaborative implementation planning process resulting in a timeline tailored to ETF's goals and project plan. In the initial implementation phase, definitions of project success and data governance shall be agreed upon by both ETF and the Contractor, and frequent assessments of progress toward an agreed upon outcome shall be scheduled by the Contractor. ETF recommends an implementation that allows for more frequent milestones that deliver incremental value on a regular basis.

The DW implementation shall ensure that data loaded to the system is uniform, accurate, and consistent, and thereby serves as a "single version of truth" for ETF.

The Contractor will be expected to fulfill all ETF DW/VBI Implementation Requirements.

5.2 Implementation Requirements

Implementation Requirement ID	Requirements Detailed Description	Proposer Bid
Implementation: 5.2.1	The Contractor shall perform all necessary activities to implement systems, services and processes required to commence operations and perform DW data collection and VBI processing, analytics and presentation, as required by the Contract.	DW & VBI
Implementation: 5.2.2	The Contractor shall develop an implementation project plan detailing the tasks required to implement the DW and VBI lifecycle and services under the Contract. The plan will be in compliance with the stated completion dates relative to Contract start as stated in this document. Phases of the project shall minimally include discover, design, develop, deploy, day-to-day, defend and continuing operations. During the life of the Contract, ETF may request additional analytics, reports, etc. The process for these ongoing developments is part of the operation phase.	DW & VBI
Implementation: 5.2.3	The project plan shall comply with the ETF's project management methodology, as agreed upon by ETF and the Contractor(s). See also Project Management Requirements.	DW & VBI
Implementation: 5.2.4	The Contractor shall submit the finalized implementation project plan in writing to ETF within twenty (20) Business Days of the Contract start date or, at ETF's discretion, such other date as may agreed upon by ETF and the Contractor.	DW & VBI
Implementation: 5.2.5	The Contractor shall execute the implementation tasks, activities and deliverables as detailed in the implementation project plan as approved by ETF.	DW & VBI
Implementation: 5.2.6	In the event of a conflict in the required completion dates, the terms of the Contract shall prevail and the Contract will be interpreted to require the earliest documented completion date for such activities or milestones, unless otherwise approved in writing by ETF.	DW & VBI
Implementation: 5.2.7	The Contractor shall be responsible for operating systems, services, and processes required to perform DW and VBI applications, data collection, processing, integration and enhancing, as required by the Contract.	DW & VBI
Implementation: 5.2.8	The Contractor shall develop and maintain a plan of operations for the project under the Contract.	DW & VBI
Implementation: 5.2.9	The Contractor shall submit a finalized plan of operations within one (1) month of the Contract start date or, at ETF's discretion, such other date as may agreed upon by ETF and the Contractor, prior to the start of operations.	DW & VBI
Implementation: 5.2.10	The Contractor shall hold strategy meetings with key DSE and other participants as identified by ETF, to solicit feedback on the proposed plan of operations.	DW & VBI
Implementation: 5.2.11	The Contractor shall be responsible for performing ongoing services according to the plan of operations, as approved by ETF.	DW & VBI
Implementation: 5.2.12	The Contractor shall communicate and coordinate with ETF throughout the term of this Contract to facilitate data collection, processing, integration and enhancing.	DW & VBI
Implementation: 5.2.13	The Contractor shall provide clear and consistent communication with ETF throughout the project, including the implementation and operations phases.	DW & VBI

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Implementation: 5.2.14	Each regularly scheduled extract from a DSE and subsequent load into the DW shall be accompanied by a report on data quality and completeness. See also Reporting Requirements.	DW
Implementation: 5.2.15	The Contractor shall provide ETF with any information, data, or technical assistance as might be requested by ETF in order to improve current or future program operation.	DW & VBI
Implementation: 5.2.16	The Contractor shall provide consultation to ETF on proposed changes to rules, processes, or standards in regard to their impact on the DW and/or VBI solutions in design, security, performance, or use.	DW & VBI
Implementation: 5.2.17	The Contractor shall propose solutions to address or resolve issues in the DW and/or VBI applications, data collection, and operations.	DW & VBI
Implementation: 5.2.18	The Contractor shall work with ETF to develop a communication plan and materials to introduce ETF DSEs to the project, and its requirements, and the Contractor's role. Unless otherwise agreed upon by ETF and the Contractor, communication materials shall include: 1) A letter of introduction from ETF on departmental letterhead citing the project and the Contractor's role; 2) A clearly presented copy of the complete project and rules regarding data conversion; 3) A guide to requirements and methods for conversion of the data; 4) Other materials deemed helpful by the Contractor and ETF; 5) The above materials ("information packet") shall be submitted to ETF for review and ETF's approval prior to providing such materials to DSEs; 6) The Contractor shall provide the information packet to existing DSEs within twenty-one (21) Calendar Days of ETF's approval; and 7) The Contractor shall also provide the ETF-approved information packet to all new DSEs within twenty-one (21) Calendar Days of ETF notifying Contractor of the existence such new DSE.	DW & VBI
Implementation: 5.2.19	The Contractor(s) shall produce and keep current on the secure website a data dictionary that conforms with ETF standards containing detailed specifications and documentation for the consolidated data sets, including description of files, tables, data elements, codes, and completeness of elements. This documentation shall be published and made available to ETF, DSEs and other ETF-authorized parties for review. The Contractor(s) shall collaborate with ETF in the creation of said documentation. See also Value Added and Functional sections for additional information regarding this Requirement. The Contractor(s) data dictionary shall minimally also include the following: 1) The Contractor(s) shall maintain a comprehensive data dictionary throughout the term of the Contract; 2) The data dictionary shall include entity relationship data architecture, data models, definitions and diagrams; and 3) The data dictionary shall include version control information to allow for tracking of all changes made over time.	DW & VBI
Implementation: 5.2.20	The Contractor shall develop and maintain user documentation with quarterly updates and provide user training for ETF designated staff. Documentation shall include an interface control document for each DSE. See the Training Requirements section for additional detail regarding end-user training.	DW & VBI
Implementation: 5.2.21	Prior to DSEs submitting data, the Contractor shall hold strategy meetings with key participants and DSEs identified by ETF to solicit feedback on the proposed Implementation Project Plan.	DW & VBI
Implementation: 5.2.22	The Contractor shall provide post-implementation support during the operational phase, and shall track and correct all reported issues and defects to ETF's satisfaction.	DW & VBI
Implementation: 5.2.23	The Contractor shall propose change control processes and procedures for ETF's review and approval. The Contractor is responsible for release management and shall implement changes and releases, as appropriate, according to the change control processes approved by ETF and Contractor.	DW & VBI
Implementation: 5.2.24	The Contractor shall establish a support center and dedicated point(s) of contact to provide communication and technical assistance to ETF, DSEs information management staff, and other key staff as identified by ETF at no charge. Requirements for operation of the support center including hours of staffing for the help desk, response time criteria, etc., shall be agreed upon by both ETF and the Contractor.	DW & VBI
Implementation: 5.2.25	ETF, in its sole discretion, shall determine whether the DW and VBI applications, data collecting, and processing services developed and tested by Contractor are acceptable.	DW & VBI

Implementation: 5.2.26	ETF shall provide written notice of approval of testing to the Contractor, which shall also serve as authorization for the Contractor to begin operations.	DW & VBI
Implementation: 5.2.27	The Contractor shall not commence operations without the written approval of ETF.	DW & VBI

5.3 Problem Escalation Procedure: Overview

Problem Escalation Procedures (PEPs) and protocols shall be communicated with ETF, established as part of an overall Implementation plan, and delivered to ETF as part of the Project Management plan. The PEP shall provide a support structure that elevates problems (routine and emergency) to appropriate levels for root cause investigation and resolution. The Contractor will be expected to fulfill all ETF DW/VBI PEP Requirements.

5.3 Problem Escalation Procedure (PEP) Requirements

PEP Requirement ID	Requirements Detailed Description	Proposer Bid
PEP: 5.3.1	The Contractor shall provide and maintain a PEP for both routine and emergency situations. The PEP shall state how the Contractor will address problem situations as they occur during the term of the Contract, especially problems that are not resolved to the satisfaction of ETF within appropriate timeframes.	DW & VBI
PEP: 5.3.2	The Contractor shall provide contact information to the ETF point of contact, as well as to other ETF personnel as directed, should the ETF point of contact not be available.	DW & VBI
PEP: 5.3.3	The Contractor shall provide the PEP no later than ten (10) Business Days after notice of recommended award. The PEP, including any revisions thereto, must also be provided within ten (10) Business Days after the start of each Contract year, and within ten (10) Business Days after any change in circumstance which changes the PEP. The PEP shall detail how problems with Services under the Contract will be escalated in order to resolve any issues in a timely manner.	DW & VBI
PEP: 5.3.4	The PEP shall minimally include the following: 1) The process for establishing the existence of a problem; 2) The maximum duration that a problem may remain unresolved at each level in the Contractor's organization before automatically escalating the problem to a higher level for resolution; 3) Circumstances in which the escalation will occur in less than the normal timeframe; 4) The nature of feedback on resolution progress, including the frequency of feedback to be provided to ETF and other DSEs; 5) Identification of, and contact information for, progressively higher levels of personnel in the Contractor's organization who would become involved in resolving a problem; 6) Contact information for persons responsible for resolving issues after normal business hours (e.g., evenings, weekends, holidays) and on an emergency basis; and 7) A process for updating and notifying the ETF point of contact of any changes to the PEP.	DW & VBI

5.4 Functional: Overview

The Contractor will use the Functional Requirements as a baseline when developing the detailed requirements as well as the scope and system design documents. These include, but are not limited to, the Requirements listed below. Within the ETF DW/VBI project, the Data Warehouse (DW) solution is defined as the central database, associated ETL mechanisms, and the database administration tasks and procedures that the Contractor will use to design, implement, operate and maintain the database. Critical to the success of the project is the creation of this aggregated, linked database of records from a variety of sources. The Data Warehouse inputs will require processes to extract information from all Data Submitting Entities (DSEs), convert formats, recognize data related to the same person from disparate systems or data submissions, and identify those records or claims with a coded value that can be used as a key for related records without exposing Individual Personal Information. The Contractor shall be responsible for all DW data integration, aggregation, and collection, claims editing and business rules processing, data validation, quality assurance, enhancing the data with value-added components, and data warehousing.

Within the Functional Requirements section below, major features of an acceptable solution are identified as including, but not limited to, the following:

1) Architecture, hardware and software;
2) Access and security;
3) Communication, collaboration, and engagement;
4) Data Submitting Entity (DSE);
5) DSE submissions and data file specifications;
6) Data dictionary, schemas, and user roles;
7) ETL, UAT;
8) Metadata management, de-identification, and common person and provider identifier procedures;
9) Data collection and aggregation; and
10) Operations.

Respondent's solution shall be designed such that it can be expanded to accommodate potential future scope without costly redesign. The Contractor shall be expected to fulfill all Functional Requirements.

5.4 Functional Requirements

Functional Requirement ID	Requirements Detailed Description	Proposer Bid
Architecture, Hardware and Software		
Functional: 5.4.1	The Contractor shall be responsible for identifying and documenting requirements for systems, interfaces and business process flows required to support and administer DW and VBI data collection, processing and capabilities identified in these requirements.	DW & VBI
Functional: 5.4.2	Throughout the term of the Contract, the Contractor shall review documentation and information, including but not limited to pertinant legislation, rules, procedures, file formats and any other relevant material, and provide ETF with such information, and implement changes as appropriate.	DW & VBI
Functional: 5.4.3	The Contractor shall maintain a Requirements Traceability Matrix (RTM) and map each requirement to milestones and deliverables throughout the life of the Contract.	DW & VBI
Functional: 5.4.4	The Contractor shall be responsible for the provisioning and configuration of any systems or services required for launching and operating the DW and VBI applications, data ingestion and processing.	DW & VBI
Functional: 5.4.5	The Contractor shall design and construct systems, interfaces and business processes required to support and administer DW applications, data collection and processing. It is intended that the DW will collect data from separate DSEs.	DW
Functional: 5.4.6	The Contractor is responsible for conversion of any existing program data as required to perform addition of Value Added Data Elements. After the initial data load, ETF intends that the DW will be augmented with data from other DSEs. The addition of new data inputs and extracts of data will be ongoing throughout the operational phase of the project.	DW
Functional: 5.4.7	The Contractor is responsible for the acquisition and operation of all hardware, software and network support related to the services being provided, and shall keep all software current, unless approved by ETF.	DW & VBI
Functional: 5.4.8	The DW and VBI systems shall be able to scale to support changing throughput, and number of active and passive users. The system shall support an industry standard maximum number of concurrent users allowing for pragmatic functionality, and shall support scaling the system (vertical, horizontal, clustering, etc.).	DW & VBI

Access and Security		
Functional: 5.4.9	The Contractor hosted DW shall: 1) Provide a select group of ETF staff with direct query access to all DW de-identified data, including the physical tables and crosswalk (yet not the crosswalk or lookup table containing identified data) or lookup tables located in the DW (not just views); 2) Allow ETF users direct access to the DW; 3) Monitor and track all system usage by users for auditing purposes; 4) Track and store run times for all queries; 5) Allow identified ETF users to run, modify and schedule queries directly against the DW; 6) Allow ETF users to save work; and 7) Allow ETF users to create data views and tables.	DW
Functional: 5.4.10	The system shall provide users the ability to log in once and gain access to all systems or applications that the user has permissions to gain access to, without being prompted to log in again to each.	DW & VBI
Functional: 5.4.11	The Contractor shall be strictly prohibited from releasing or granting access to any data, unless expressly authorized by ETF in writing, for any purposes other than those specifically authorized by the Contract. ETF shall permit Contractors to propose their standard data contribution and use agreements (DCUA's) for ETF review and consideration.	DW & VBI
Functional: 5.4.12	The system method shall accommodate role-based access permissions to different content (e.g. users' logins determine which content and data they have access to).	DW & VBI
Functional: 5.4.13	The system shall enable content-based permissions to be configured in order to control what system features and data that users can access (e.g. Table, Column, and Row Level Security permissions). The system shall be able to restrict user access rights to functionality and data based on end-user profiles.	DW & VBI
Functional: 5.4.14	The system shall enable documents to be locked and checked out ensuring version control and tracking when reports are modified.	DW & VBI
Engagement, Communication and Consultation		
Functional: 5.4.15	If two Contracts are awarded pursuant to this RFP, the DW and VBI Contractors shall closely collaborate and cooperate with one another to get the cleaned, validated and enhanced data in the required format to perform VBI and analytics.	DW & VBI
Functional: 5.4.16	The Contractor shall communicate and coordinate with ETF throughout the term of the Contract to facilitate data collection and processing.	DW & VBI
Functional: 5.4.17	The Contractor shall provide ETF with any information, data or technical assistance as might be requested by ETF in order to improve current or future program operation.	DW & VBI
Functional: 5.4.18	The Contractor shall provide consultation to ETF on proposed changes to rules, processes or standards in regard to their impact on the DW and VBI system in design, performance or use.	DW & VBI
Functional: 5.4.19	The Contractor shall propose solutions to address or resolve issues in the DW and VBI applications, data collection and operation.	DW & VBI
Functional: 5.4.20	The Contractor shall develop a communication plan and materials to introduce ETF and DSEs to the DW and VBI project and its requirements and the Contractor's role. See also the Project Management and Implementation Requirements.	DW & VBI
Functional: 5.4.21	Communication materials and introductory packet to the DSEs shall minimally include, but are not limited to, the following: 1) a letter of introduction from ETF on Departmental letterhead citing the DW and VBI Project and the Contractor's role; 2) a clearly presented copy of the complete DW Project and rules regarding data conversion; 3) a guide to requirements and methods for conversion of the data; and 4) other materials deemed helpful by the Contractor and ETF.	DW & VBI
Functional: 5.4.22	The Contractor shall submit the materials above to ETF for review and ETF's approval prior to providing such materials to the DSEs.	DW & VBI
Functional: 5.4.23	The Contractor shall provide the materials above to existing DSEs within twenty-one (21) Calendar Days of ETF's approval.	DW & VBI
Functional: 5.4.24	The Contractor shall provide the ETF-approved materials listed above to all new DSEs within twenty-one (21) Calendar Days of ETF notifying Contractor of the existence such new DSE.	DW & VBI
Functional: 5.4.25	Data Submitter Engagement: The Contractor shall conduct a minimum of four (4) DSE webinars annually to provide a forum for ETF, other DSEs and the Contractor to share planned changes to policies and activities, and solicit feedback from the DSEs. The Contractor shall develop agendas, presentations, and discussion documents, and shall document any decisions or follow-up items from the meeting.	DW & VBI

Functional: 5.4.26	The Contractor shall provide consultation and assistance to ETF in the use of data sets.	DW & VBI
Functional: 5.4.27	The Contractor shall provide data tables to allow for labeling of coded data elements.	DW & VBI
Functional: 5.4.28	The Contractor shall provide updated specific definitions and logic of all Value Added Data Elements, and include them in the file specifications.	DW
Functional: 5.4.29	The Contractor shall provide ad hoc assistance in the interpretation of all tables and data elements supplied within 3-6 business days of request.	DW & VBI
Functional: 5.4.30	The Contractor shall provide the above materials, definitions and/or requested assistance when releases or updates are made to the relevant coding systems by the publisher or standards body.	DW & VBI
Data Submitting Entity (DSE)		
Functional: 5.4.31	The Contractor shall communicate and coordinate with DSE-identified staff. DSEs are listed in Appendix 9 - Data Submitting Entities.	DW & VBI
Functional: 5.4.32	The Contractor shall provide routine education to DSE staff about the role of the Contractor with the approval and, as needed, participation of ETF.	DW & VBI
Functional: 5.4.33	The Contractor shall hold an annual meeting with and as directed by ETF, the first of which is to be held within eight (8) weeks of the Contract start date or, at ETF's discretion, such other date as may agreed upon by ETF and the Contractor.	DW & VBI
Functional: 5.4.34	The Contractor(s) shall assist ETF, as necessary, with communicating to DSEs staff and ETF-authorized end-users regarding the requirements of data conversion(s) and data-set interpretations.	DW & VBI
Functional: 5.4.35	The Contractor shall work with DSE information management and other staff to ensure timely compliance and extract of data.	DW & VBI
Functional: 5.4.36	The Contractor shall provide data content and ETL training and support to ETF and DSE information management and other key staff.	DW & VBI
Functional: 5.4.37	The Contractor shall provide notification to ETF and all DSEs of all changes/updates, including the scope of these changes.	DW & VBI
Functional: 5.4.38	The Contractor shall provide a system, method and software for providing persistent entity identification (from all DSEs to the DW) and linking entity information in an integrated data repository (see also Data Consolidation and related requirements).	DW
Functional: 5.4.39	The changes and updates shall be reflected in the data maintained on the secure website, which will act as a reference throughout the term of Contract.	DW & VBI
Functional: 5.4.40	The Contractor shall identify problems related to extracts, data conversions, formatting, etc. and work with DSEs information management and other staff to develop remedies. See also the Problem Escalation Procedure (PEP) and related requirements.	DW & VBI
DSE Submissions and File Specifications		
Functional: 5.4.41	Should ETF contract with multiple Contractors, the DW Contractor shall provide data in the format required by the VBI Contractor.	DW
Functional: 5.4.42	The following Claims data specifications shall be followed: Claims data shall be submitted to the DW in the ANSI ASC X12 837 Post Adjudicated Claims Data Reporting (PACDR) format: 1) Post-Adjudicated Claims Data Reporting: Professional (837P); 2) Post-Adjudicated Claims Data Reporting: Institutional (837I); and 3) Post-Adjudicated Claims Data Reporting: Dental (837D). (See Appendix 4 - Data Specifications - Medical and Appendix 5 - Data Specifications - Dental.)	DW
Functional: 5.4.43	The attached Provider File Submission data specifications in Appendix 6 – Data Specifications – Provider (Proposed) and file format is proposed by ETF, and ETF and the Contractor shall collaborate on and agree upon the creation of said Provider file specifications for submission to the DW by select DSEs. ETF reserves the right to add custom fields to the file format requirements.	DW

Functional: 5.4.44	The following Pharmacy (PBM) data specifications shall be followed: 1) ETF Pharmacy Benefit Manager (PBM) data file specifications in Appendix 2 – Data Specifications – Pharmacy shall closely mirror the NCPDP Post Adjudicated Standard (version 4.2). See the Proposed NCPDP Standard Format Data Fields (Appendix 2 – Data Specifications – Pharmacy, pages 31-34) for a list of additional NCPDP data elements not currently contained on the existing PBM data elements and layout for Contractor, PBM and ETF consideration to potentially add to the existing data fields and file layout for enhancement purposes. The Contractor, ETF, and PBM shall collaborate and agree upon the final data elements, file layout, and format for submission to the DW.	DW
Functional: 5.4.45	The attached Wellness File Submission data specifications and file format is proposed by ETF in Appendix 3 – Data Specifications – Wellness (Proposed), and ETF and the Wellness Contractor shall collaborate in and agree upon the creation of said Wellness file specifications for submission to the DW. The following are additional considerations regarding the Wellness and Disease Management data file specifications: 1) The file format will be determined after a contract between ETF and a wellness and disease management contractor is signed. 2) The Request For Proposal (RFP) for wellness and disease management services was issued in April 2016, with an estimated contract start date of August 2016. ETF reserves the right to add custom fields to the file format requirements.	DW
Functional: 5.4.46	The following Member/eligibility data specifications shall be followed: 1) ANSI ASC 834 Benefit Enrollment and Maintenance format (See Appendix 1 - 834 Companion Guide). ETF reserves the right to add custom fields to the file format requirements.	DW
Functional: 5.4.47	Claims Records. The submission of the medical, dental and pharmacy claims is based upon the paid (or posted dates) dates and not upon the dates of service associated with the claims.	DW
Functional: 5.4.48	Coordination of Benefits (COB) Claims. Claims where multiple parties have financial responsibility shall be included with all medical, dental and pharmacy claims file submissions. See also Value Added Enhancement Requirements section for COB claims.	DW
Functional: 5.4.49	Denied Claims. Denied claims shall be included with all medical, dental and pharmacy claims file submissions. Denied Reason Code data fields shall be a required field and accurately populated in all denied claims.	DW
Functional: 5.4.50	Each file submission shall be a uniform and national file format. For planning and implementation purposes, the Contractor shall review all data file formats and specifications with ETF and the DSEs.	DW
Data Standards and Data Validation		
Functional: 5.4.51	The Contractor shall minimally perform the following data validation functions: 1) Manage the inventory of rejected files and records and communicate with DSE information management staff regarding data validation issues; 2) For each such identified data validation issue, the Contractor shall provide a copy of the validation report to ETF; 3) The Contractor shall meet with each DSEs information management staff to discuss data collection and data validation issues; 4) The Contractor shall work with the DSEs information management staff to remediate data deficiencies or gaps when they are found; and 5) The Contractor shall accept data re-extractions from the DSEs as necessary to address potential data quality issues. See also the Reporting Requirements for additional information regarding data validation requirements and related reporting.	DW & VBI
Functional: 5.4.52	The Contractor shall aggregate and consolidate data as required. Following validation, the Contractor shall load and aggregate all accepted files and records into the DW Data Warehouse.	DW
Functional: 5.4.53	The Contractor shall develop and execute a data consolidation process to identify, modify or generate, if necessary, a single record or claim that accurately reflects the patient, provider, diagnoses, services, service dates and other related information and designates the latest disposition and costs associated with rendered services.	DW
Functional: 5.4.54	Consolidation shall be performed in accordance with the industry standard data consolidation methods, or methods specific to each DSE.	DW
Functional: 5.4.55	The Contractor shall adjust the consolidation process and reconsolidate data extracted from DSEs to address concerns of the Contractor or ETF.	DW

Functional: 5.4.56	The Contractor shall provide ETF, or its designee, data extract files on an ad hoc basis and related support throughout the term of this contract.	DW & VBI
Functional: 5.4.57	Data extract files shall be supplied in the format specified by ETF, securely encrypted in a method approved by ETF, and transmitted via an ETF approved method. ETF and the Contractor shall discuss and agree upon the file format, encryption method, and/or method of transmittal of the files and datasets.	DW & VBI
Functional: 5.4.58	Data extracts shall be accompanied by the load script necessary for import into the intended ETF database environment.	DW & VBI
Functional: 5.4.59	Along with data extracts, the Contractor shall supply, in addition to the data dictionary, the necessary technical documentation to allow for ETF staff or designees to successfully load and use the data. See also the Value Added Enhancements for more information regarding the data dictionary.	DW & VBI
Functional: 5.4.60	Each data extract shall be accompanied by a transmittal report that specifies the content of the data, and the record counts of each data table.	DW & VBI
Functional: 5.4.61	For all data extracts, the Contractor shall have in place a written Quality Assurance (QA) process to verify that the data extracted conforms to the extract specifications, and the written QA process shall be made available to ETF upon request.	DW & VBI
Functional: 5.4.62	Any issues with the quality of data extracts discovered by extract recipients that the Contractor or ETF is made aware of shall be addressed in updates to the QA process documentation.	DW & VBI
Functional: 5.4.63	If ETF identifies errors that have not been identified by the Contractor that are within the scope of the required QA testing, the files shall be rejected and shall be corrected by the Contractor according the Performance Standards.	DW & VBI
Functional: 5.4.64	If errors are discovered outside the bounds of the required QA testing, the Contractor shall promptly make a reasonable effort to work with DSEs to address and correct identified errors promptly. The Contractor shall also incorporate additional QA testing into the required procedures to account for any new type of error discovered.	DW & VBI
Functional: 5.4.65	Upon request in writing, the Contractor shall supply files to ETF covering custom periods and contents.	DW & VBI
Functional: 5.4.66	The Contractor(s) shall provide the ability to track data lineage throughout the entire solution, for both the DW and VBI solutions. This shall include ETL (data importing and quality cleansing, and relational transformations), data warehouse (query access and dimensional modeling), and reporting (report data access per application and data source users; see also the Reporting Requirements).	DW & VBI
Functional: 5.4.67	The Contractor shall receive, validate and consolidate data files from all DSEs required to submit data. In consultation with ETF, the Contractor and ETF shall develop rules that outline submission requirements including timeframes, data files, data elements, element types and values.	DW
Functional: 5.4.68	The Contractor shall extract, validate and consolidate data as appropriate for each DSE specified.	DW
Functional: 5.4.69	The implementation project plan shall require a thorough review and assessment of the rules and established formats and standards for submission of data. The resulting rules and formats will be maintained on a secure website or other easily accessible method, available at no charge to the DSEs, ETF and others, as approved by ETF.	DW
Functional: 5.4.70	The Contractor shall amend its collection and consolidation system to keep current with any changes made to the statutes or rules and any changes made to industry standard coding systems for the life of the Contract. These coding system changes and data adjustments associated with them are to be published on the secure website or other easily accessible method, available to the DSEs at no charge, ETF and others, as approved by ETF.	DW & VBI
Functional: 5.4.71	Production change(s) shall be made in coordination with any changes required by the statute or rule change in a DSEs data submission. All changes will be processed through the Change Management System.	DW
Functional: 5.4.72	Changes to industry standard coding systems must be accommodated for in accordance with their required implementation date. The Contractor shall extensively test any such changes with the current DSEs' data prior to implementation.	DW
Data De-Identification		
Functional: 5.4.73	The Contractor shall perform data element de-identification. De-identification field(s) will be added to the DW data elements or fields based on DSE submissions.	DW
Functional: 5.4.74	Analytic engine(s) processes shall be restricted to only de-identified data, while "back-end" processes (e.g., record linking during data load) can still use original content to accurately track and link records from multiple DSE systems.	DW

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Functional: 5.4.75	The Contractor shall supply data element-level de-identification software or other methodology as required by ETF. The process shall result in the creation of a "common person identifier" unique to each person, as well as making available certain masked values to be used where original record values (e.g., date of birth) would expose Individual Personal Information.	DW
Functional: 5.4.76	De-identification software or method shall be reviewed and approved for use by ETF prior to implementation.	DW
Functional: 5.4.77	The Contractor shall work with ETF to ensure that the de-identification method is compatible with previously collected data. Records identified as relating to a record for which a "common person identifier" has already been created will be tagged appropriately in the aggregated data.	DW
Functional: 5.4.78	Linking records identified as pertaining to the same member shall include, at a minimum, the comparison of identifying fields such as Member ID, member name, Social Security Number, date of birth, gender and other unique identifiers to properly identify the record as belonging to a specific person.	DW
Functional: 5.4.79	The Contractor shall make recommendations for improving the linking of de-identified data, including proposals for changes to data collection.	DW
Functional: 5.4.80	The Contractor shall ensure proper use of the de-identification method by the ETL processes and shall test data file de-identification prior to production use on actual submissions containing protected data elements. Each additional DSE added to the system shall be tested, with review by ETF, in the same manner.	DW
Functional: 5.4.81	The Contractor shall monitor ETL processes to assure that the de-identification method is applied correctly to the data. Reports on the status of the ETL process shall be provided to ETF, minimally each week.	DW
Functional: 5.4.82	The Contractor shall notify ETF of any issues related to de-identification and matching of individual DSEs records within one (1) Business Day.	DW
Functional: 5.4.83	If at some time ETF requires a change to the system of de-identification and linkage between related health care data sets, the system must permit the Contractor to make the necessary software and system modifications to allow for the change and to reprocess the DW data to adhere to the new requirement.	DW
Functional: 5.4.84	Data de-identification changes shall be made through a change control request issued by ETF, and the Contractor shall extensively test any such changes prior to implementation.	DW
Portal and Portal Security		
Functional: 5.4.85	The Contractor shall manage and host a secure portal, or other secure method agreed upon by ETF and Contractor, for access by ETF, ETF designated users, all DSEs and their designated users, and the Contractor. The Contractor shall facilitate access to the portal. The highest industry standard authentication protocols shall be used by the Contractor.	DW & VBI
Functional: 5.4.86	The portal, or other ETF agreed upon method, shall encrypt all data in accordance with the HIPAA and the HITECH Act, including but not limited to the following: 1) Contractor shall have a secured FTP (sFTP) site that DSEs can use to transmit (post) data; 2) The Portal shall meet best practice industry security encryption standards for data in motion; 3) The Portal shall meet best practice industry security encryption standards for data at rest; 4) A process shall be created by which DSEs can contact and receive technical assistance from the Contractor (at no charge to the DSEs) to resolve data encryption or other issues; and 5) The Contractor shall periodically assess and, in consultation with ETF, update encryption methods to ensure that they meet the highest industry standards (see also the Security Requirements section for additional security details).	DW
Functional: 5.4.87	The portal, or other ETF agreed upon method, shall be a web-based mechanism by which DSEs securely transmit data to the DW. The portal will be used by ETF and the Contractor to track the progress of DSE data submissions. The portal or other agreed upon method shall allow DSEs to minimally perform the following: 1) Practice the data submission process in a "test environment," and receive approval from ETF to ensure that the change is tested and working correctly, prior to promotion to production; 2) Upload properly formatted data files, encrypt files in motion for transfer, and transmit those files securely to the DW; 3) View all data quality and validation reports (e.g. see also "DW Value Added" section); 4) Apply for, and check the status of, waiver, format, or extension requests received from DSEs; 5) Access supporting documentation and training materials (e.g. data dictionary, data submission information and methods, and data submission training and related video materials) shall be made available to DSEs via the portal; 6) View their data submission progress; 7) Resubmit data as necessary; and 8) Manage DSE-specific user access to the Portal.	DW

Functional: 5.4.88	The portal, or other ETF agreed upon method, shall allow ETF staff, and other authorized users to and DSEs to also minimally perform the following: 1) Monitor data submission progress, including the history of re-submissions; 2) Monitor data validation and processing progress; 3) Review and approve waiver, format, or extension requests received from data submitters; 4) Review key data metrics and data quality/summary reports; and 5) Communicate with DSEs and the DW Contractor.	DW
Functional: 5.4.89	Access supporting documentation and training materials (e.g. data dictionary, data validation scripts, data mapping methodologies and logic, data architecture, data submission information and methods, and training and related video materials) shall be made available to ETF, and approved authorized users, via the portal or other ETF agreed upon method.	DW & VBI
Functional: 5.4.90	Should a web portal be implemented, the portal shall include the following minimal capabilities: 1) Shall be available via the popular browsers available in the market, which include Internet Explorer, Mozilla Firefox, Chrome, and Safari; 2) Shall be able to render effectively on any form factor for mobile devices, which include smartphones, tablets: a) http://www.section508.gov/general; and b) http://www.w3.org/tr/wai-webcontent; 3) Shall be able to render effectively on any form factor for mobile devices which include smartphones, tablets; 4) Shall be simple, intuitive, easy to use and navigate; 5) Shall allow users to customize the content; 6) Shall ensure report or query response time to process efficiently and to the satisfaction of ETF and DSE requirements; 7) Shall have a tablet/smartphone app available on the popular mobile platforms including but not limited to iOS, Android, Windows Phone; 8) Shall be able to render effectively on any form factor for mobile devices, which include smartphones, tablets; and 9) Shall allow end-users to customize the alerts and notifications they receive from the portal.	DW & VBI
Extract, Transform and Load (ETL) and Testing		
Functional: 5.4.91	The automated ETL process shall accept, process and transfer data from DSEs to the DW on a monthly basis. The ETL shall meet the following requirements: 1) Interfaces with the portal or other agreed upon method, accepting data and returning status and report information; 2) Intakes all DSE submissions; 3) Performs all data validation checks noted in the Reporting Requirements section; 4) Receives and processes corrected and resubmitted data submission feeds from previous periods, replacing or deleting records as needed (Note: there may be several resubmission attempts for a single data feed, and version controls will be needed); and 5) Documents or communicates all corrections and modifications to submitted/resubmitted data to ETF and the DSE, via the portal.	DW
Functional: 5.4.92	Loads all fully-processed data (including all value-added components) into the DW within forty-five (45) days of receiving data from the DSEs.	DW
Functional: 5.4.93	The Contractor shall ensure acceptance and processing of data files from DSEs that may be extracted and transferred by the Contractor to the DW utilizing sFTP or alternative methods should new industry standards become available, if approved in advance by ETF. A solution that combines the de-identification process mentioned in the Requirements above, in conjunction with data file ETL processing, is preferred.	DW
Functional: 5.4.94	The Contractor shall provide a consistent file encryption methodology to all DSEs supplying data to the DW to ensure that all files are encrypted with the highest industry standard methods.	DW
Functional: 5.4.95	The Contractor's system shall be capable of extracting and distinguishing data from multiple, distinct DSEs.	DW
Functional: 5.4.96	Test files shall be subjected to the same validation process as production files except that the report(s) shall be posted in a test region within the secure portal, or other agreed secure location.	DW
Functional: 5.4.97	The Contractor shall review and validate initial data extractions from each new DSE before approving a DSE for production operations.	DW
Functional: 5.4.98	The Contractor shall accept iterative rounds of testing until extractions conform to the intended format and content.	DW
Functional: 5.4.99	The Contractor shall perform an extensive data testing process during the initial rounds of data submissions, utilizing an ETF agreed upon method.	DW
Functional: 5.4.100	Testing and implementation shall be performed in a manner agreed upon by ETF and the Contractor(s). ETF may elect to engage the services of an independent service provider/third party to assist ETF in auditing, reviewing and evaluating test procedures and results. In the event that ETF engages an independent service provider/third party for these services, the Contractor(s) shall effectively engage and work collaboratively with the independent service provider/third party. In the event that independent DW and VBI Contractors successfully bid for this Contract, the VBI Contractor shall perform this auditing and testing function.	DW & VBI

Functional: 5.4.101	The Contractor shall perform regression systems testing, application development systems (SDKs), development/test/production environments, re-usable objects or components, etc.	DW & VBI
Functional: 5.4.102	The Contractor shall be responsible for implementing and testing data collection and processing prior to launch of operations (production).	DW & VBI
Functional: 5.4.103	Unless otherwise approved by ETF, the Contractor shall define, develop, document and submit test plans and test cases.	DW & VBI
Functional: 5.4.104	The test plans and test cases shall minimally conform to the following: 1) Shall be submitted and maintained in a form, format and location proposed by the Contractor and approved by ETF; 2) Shall document and maintain test cases in a form, format and location that allows for traceability from requirements to test cases, to test case execution and test case results; and 3) Shall document test cases, manage and track test execution in a manner that supports detailed reporting of testing status.	DW & VBI
Functional: 5.4.105	The Contractor shall successfully execute testing prior to implementation, demonstrating that applications, data collection and processing will operate as expected. Features and functions added during the operational phase may also require the same testing process, including regression testing, as determined by ETF.	DW & VBI
Functional: 5.4.106	The Contractor is responsible for supporting ETF staff in User Acceptance Testing (UAT), and review of test results.	DW & VBI
Functional: 5.4.107	ETF, in its sole discretion, shall determine whether the applications, data collecting and processing services developed and tested by Contractor are acceptable.	DW & VBI
Functional: 5.4.108	The Contractor shall not commence testing operations without the written approval of ETF.	DW & VBI
Operations		
Functional: 5.4.109	The Contractor shall propose change control processes and procedures for ETF's review and approval. The Contractor is responsible for release management and shall implement changes and releases, as appropriate, according to approved change control processes. The Change management processes shall detail maintainability of overall data flow architecture, logical data model and data dependencies, and analytical data models.	DW & VBI
Functional: 5.4.110	The Contractor shall develop and maintain user documentation with quarterly updates. Documentation shall include an interface control document for each DSE.	DW & VBI
Functional: 5.4.111	The Contractor shall be responsible for operating systems, services and processes required to perform applications, data collection and processing as required by the Contract.	DW & VBI
Functional: 5.4.112	As part of the project plan noted in the Project Management and Implementation Requirements, the Contractor shall develop and maintain a plan of operations for data collection and processing services under the Contract. The plan of operations shall minimally include the following: 1) The Contractor shall submit a finalized plan of operations within one (1) month of the Contract start date (or, at ETF's discretion, such other date as may agreed upon by ETF and Contractor) prior to the start of operations; 2) The Contractor shall hold strategy meetings with key participants as identified by ETF, to solicit feedback on the proposed plan of operations; and 3) The Contractor shall be responsible for performing ongoing services according to the plan of operations, as approved by ETF.	DW & VBI
Functional: 5.4.113	The Contractor shall coordinate with each DSEs information management staff to define appropriate methods to identify and process re-submitted or replacement records contained in the DSE data file extractions.	DW
Functional: 5.4.114	The Contractor shall provide for high availability (uptime) through means such as redundant backup servers, cloud nodes, or other methods. See Performance Standards.	DW & VBI
Functional: 5.4.115	The Contractor shall establish a support center and dedicated point(s) of contact to provide communication and technical assistance to ETF, DSEs' information management and other key staff. Requirements for operation of the support center including hours of staffing for the help desk, response time criteria, etc. shall be agreed upon by the Contractor and ETF.	DW & VBI

5.5 Privacy and Security: Overview

Within the ETF DW/VBI solution, there will be protected health information and Individual Personal Information that is highly sensitive. This places a significant responsibility on the Contractor to incorporate security and privacy requirements at the most fundamental levels. Only with a direct and purposeful approach can ETF be assured the data being collected and processed is treated with sufficient care and concern for privacy and safety. The security of ETF's data is of the highest priority and must be protected at all times. All related hardware, software, firmware, protocols, methods, policies, procedures, standards and guidelines that govern, store or transport the data must be implemented in manners consistent with current industry standards, such as, but not limited to HIPAA, NIST 800-53 and CIS Critical Security Controls to ensure the protection of all ETF data.

Within the Privacy and Security Requirements section below, major features of an acceptable solution are identified as including, but not limited to, the following:

1) Privacy and security objectives and access management;
2) Security risk assessment;
3) Data transmission & monitoring;
4) Encryption, privacy and security;
5) System maintenance;
6) System vulnerability and penetration testing; and
7) Unauthorized release/access/use/disclosure.

The Privacy and Security Requirements are designed to address features of data protection. The data shall be properly kept confidential, shall be protected from alteration or degradation and shall be made available on a timely basis. The Contractor shall be expected to fulfill all Privacy and Security Requirements.

5.5 Privacy and Security Requirements

Security Requirement ID	Requirements Detailed Description	Proposer Bid
Access Management		
Security: 5.5.1	The Contractor shall maintain user accounts for authorized Users and ETF staff.	DW & VBI
Security: 5.5.2	The Contractor shall implement authentication, authorization and access control mechanisms to manage access to the secure website as well as to the DW and VBI program(s) and data. This requirement shall apply to all end-users of the website, the employees of the Contractor, any Contractor subcontractors, and all infrastructure and application components of the website.	DW & VBI
Security: 5.5.3	The Contractor shall employ least-privilege, role-based access to ensure that users have access to only the functions and data required and authorized, and shall apply to all users of the website, the employees of the Contractor, and all subcontractors, and shall be applied at all layers of the system (e.g. web, application, database and network).	DW & VBI
Security: 5.5.4	The Contractor shall limit the number of staff that can grant or modify access.	DW & VBI
Security: 5.5.5	All systems and applications shall verify the identity of all users before allowing access.	DW & VBI

Security: 5.5.6	The Contractor shall have a password policy with a complex password scheme, which minimally includes the following: I) All passwords shall, at minimum, meet these criteria: 1) A minimum of eight (8) characters; 2) Does not use the user's name or user ID in the password; and 3) Does not repeat any of the last twenty-four (24) passwords used. II) The password shall contain at least three (3) of these four (4) data types: 1) Upper case; 2) Lower case; 3) Numeric; and 4) Special. III) The valid characters that can be used are: 1) Upper case alphabetic letters (A - Z); 2) Lower case alphabetic letters (a - z); 3) Numeric (0 - 9); and 4) Special characters (all special characters available on the keyboard).	DW & VBI
Annual Security Risk Assessment		
Security: 5.5.7	The Contractor shall conduct an annual security risk assessment, performed by an independent third-party security firm, to verify that the Contractor's environment(s) containing the program data is secure and systems meet HIPAA requirements, and FedRAMP if applicable. The Contractor shall provide ETF with a copy of its most recent existing security risk assessment (on its system environment) performed by an independent third-party security firm.	DW & VBI
Security: 5.5.8	The Contractor shall provide a certified copy of the security risk assessment to ETF within thirty (30) days of completion. Issues identified in the risk assessment shall be addressed by Contractor with a plan for resolution and all issues shall be resolved within ninety (90) days of the risk assessment. The Contractor shall provide copies of any assessments completed for the Contractor within the past three (3) years, and likewise for the subcontractors the Contractor will be using to provide services to ETF.	DW & VBI
Data Transmission & Monitoring		
Security: 5.5.9	The Contractor shall review the log information collected on a regular basis, as defined by systems security best practices and regulations (e.g. HITECH and HIPAA) to identify unauthorized or inappropriate access to any device or service within the network, suspicious network scans or other anomalies. See Reporting Requirements.	DW & VBI
Security: 5.5.10	The Contractor shall audit all attempted accesses that fail or succeed identification, authentication and authorization requirements.	DW & VBI
Security: 5.5.11	In addition to the data captured in the reports specified in Reporting Requirements, the Contractor's system shall retain additional detailed information suitable for forensics and provided to ETF upon request. Retention shall be for a minimum of six (6) years. This shall include any logs from any systems that will assist in the identification of any security incident pertaining to ETF data.	DW & VBI
Encryption, Privacy and Security		
Security: 5.5.12	The Contractor's system shall provide the highest industry standard encryption capabilities to secure data at rest, on file storage, database storage, or on back-up media, and in-transit, in accordance with FIPS 140-2, HIPPA, HITECH Act, and NIST Special Publication 800-52 compliant cryptographic controls.	DW & VBI
Security: 5.5.13	The Contractor's system shall provide the ability to encrypt data at rest for all user devices in accordance with FIPS 140-2 compliant cryptographic controls.	DW & VBI

Security: 5.5.14	The Contractor shall manage and monitor privacy and security in conformance with the RFP Requirements, procedures and controls. ETF shall provide the Contractor with policy and procedures documentation. The Contractor shall provide ETF with copies of Contractor's information security policies and procedures, compliance reports, and assessments, as updated by the Contractor.	DW & VBI
Security: 5.5.15	The Contractor shall be responsible for privacy and security management, monitoring and testing through the term of this Contract.	DW & VBI
Security: 5.5.16	The Contractor shall ensure consistent de-identification and encryption of protected health information and Individual Personal Information by using ETF approved de-identification software or appliance and methodology.	DW & VBI
Security: 5.5.17	The Contractor shall implement policies, procedures and controls to meet key privacy and security objectives including, but not limited to, the following: 1) The Contractor shall prevent and detect unauthorized physical access and use; 2) The Contractor shall monitor, report to ETF immediately, and resolve critical data security issues within the timelines established in Performance Standards; 3) Following resolution of a data security issue, the Contractor shall inform ETF of the root cause and method(s) of resolution of the security issue; 4) Safeguards, controls, procedures and logs shall be reviewed monthly. Security concerns and issues shall be promptly reported for resolution; and 5) The Contractor shall review and test technical, administrative, and physical security controls to ensure confidentiality, integrity and availability in accordance with all specified Mandatory requirements.	DW & VBI
Security: 5.5.18	The Contractor shall review and confirm, at least quarterly, that all active users are still authorized and associated with ETF, DSEs or other ETF authorized organization(s).	DW & VBI
Security: 5.5.19	Access to DW and VBI application(s) for terminated, unauthorized or inactive users shall be terminated immediately, and shall include all systems.	DW & VBI
Security: 5.5.20	The Contractor(s) shall collaborate and create an ETF agreed upon hosting architecture for all secure websites/portals for use by the Contractor(s), DSEs and ETF.	DW & VBI
Security: 5.5.21	The Website shall contain all relevant informational materials regarding DW and VBI requirements, submission and validation, and quality of data, transformation of data, data dictionary and other information as required by ETF.	DW & VBI
Security: 5.5.22	The Contractor(s) shall provide a secure website landing page that clearly indicates the DW and VBI system(s) are ETF programs, and shall display ETF approved logos, title, text and a banner regarding unauthorized use. The Contractor shall provide a "draft" of the landing page to ETF for ETF's review and approval prior to launching the landing page.	DW & VBI
Security: 5.5.23	The Website content shall only be accessible to users authorized by ETF.	DW & VBI
Security: 5.5.24	The Contractor shall provide user accounts and manage access in accordance with the requirements of the Contract.	DW & VBI
Security: 5.5.25	User authentication shall be through the use of ETF approved credentials and services.	DW & VBI
Security: 5.5.26	The Contractor shall only allow access to the data and systems to its authorized Contractor personnel on secure, Contractor-authorized data devices.	DW & VBI
Security: 5.5.27	The Website shall be updated as warranted by changes or developments in GHIP/WPE programs and upon request by ETF.	DW & VBI
Security: 5.5.28	The Contractor shall disable all SSL/TLS negotiations, which are using non-secure protocols and weak ciphers to ensure that connections cannot be negotiated to a lower, non-secure protocol or cipher.	DW & VBI
Security: 5.5.29	Using the Qualys SSL Labs scan tool (https://www.ssllabs.com/ssltest/), the website shall have no less than a grade of A. If the grade should fall below the grade of A, the Contractor shall take the appropriate measures to remediate any deficiencies to return the grade back to the grade of A.	DW & VBI
Security: 5.5.30	The Contractor application shall adhere to Open Web Application Security Project (OWASP) (http://www.owasp.org) application security principles.	DW & VBI

Security: 5.5.31	The website shall be protected against web application vulnerabilities, such as, but not limited to, cross-site scripting (XSS), SQL injection, CSRF (cross-site request forgery), and remote code execution.	DW & VBI
Security: 5.5.32	The website shall implement web security at the client-side scripts as well as on the server-side to provide full protection as client-side scripts can be bypassed easily.	DW & VBI
Security: 5.5.33	The Contractor shall use SSL/TLS for end-to-end encryption for all connections between the user devices and the portal with the use of browsers or smartphone apps.	DW & VBI
Security: 5.5.34	The portal shall be secured with a minimum of SHA2-256 bit EV certificates to provide the latest in encryption and cryptography.	DW & VBI
Security: 5.5.35	The secure Website and DW and VBI application(s) shall enforce session timeouts during periods of user inactivity, not to exceed timing guidance as defined by system security best practices such as, but not limited, to NIST, ARRA/HITECH and HIPAA.	DW & VBI
Security: 5.5.36	The secure Website and DW and VBI application(s) shall allow a user to explicitly and completely terminate a session.	DW & VBI
System Maintenance		
Security: 5.5.37	The Contractors shall ensure that authorized system maintenance activities do not unintentionally disrupt service or degrade established security mechanisms and are conducted in accordance with the specifications in the Hosting Solution Requirements section.	DW & VBI
Security: 5.5.38	The Contractor shall establish secure coding patterns and perform code review to ensure compliance with patterns and industry best practices. Exceptions may be made for solutions beyond the Contractor's control (e.g. COTS and SaaS), as approved by ETF.	DW & VBI
Security: 5.5.39	All software and firmware used by Contractor shall be free of any known malicious code or vulnerabilities. The Contractor shall have a process to confirm malicious code or vulnerabilities, and shall include static and runtime code analysis on the software/firmware.	DW & VBI
Security: 5.5.40	The application shall not store authentication credentials or sensitive data in its source code.	DW & VBI
System Vulnerability and Penetration Testing		
Security: 5.5.41	The Contractor shall review and conduct system vulnerability tests of the infrastructure to ensure they protect program systems and data.	DW & VBI
Security: 5.5.42	System vulnerability tests shall focus on the technical, administrative and physical security controls that have been implemented in order to provide confidentiality, integrity and availability.	DW & VBI
Security: 5.5.43	The Contractor shall ensure all applications used by the Contractor have been thoroughly tested and hardened to prevent critical application security flaws by conducting periodic application vulnerability testing. The Contractor shall have an established and operational vulnerability management program, which scans all systems and applications at a minimum of once per month. This program shall also have a process in place to consistently review and take action on the results of the scans.	DW & VBI
Security: 5.5.44	Prior to production implementation, the Contractor shall arrange for the performance of security and vulnerability testing of each new application by a third party qualified to perform such tests, including penetration tests. This shall include not only applications, but all infrastructure systems used to operate the application and its data (e.g. web, application and database servers, and any network or security devices). It shall also include any systems or networks that may not be directly part of the application infrastructure, but that has administrative access to the application infrastructure, and shall be conducted on a periodic basis, at a minimum of once every three (3) years by an independent third party hired by the Contractor.	DW & VBI
Security: 5.5.45	The Contractor shall submit, for review and approval by ETF, the proposed scope of the security and vulnerability testing as well as the name and qualifications of the party performing the security and vulnerability tests. The Contractor is responsible for the costs of this testing. ETF may elect to perform independent testing.	DW & VBI

Security: 5.5.46	The security and vulnerability testing shall confirm that systems and applications are free of defects such as, but not limited to, buffer overflow, cross-site scripting, SQL injection and limited to authorized access. If vulnerabilities are detected, these shall be remediated promptly by the Contractor. Common Vulnerabilities and Exposures (CVE) scores of "high" must be remediated within five (5) days of initial discovery, scores of "medium" must be remediated within thirty (30) days of initial discovery, and scores of "low" must be remediated within sixty (60) days of initial discovery.	DW & VBI
Security: 5.5.47	The security and vulnerability testing shall also confirm that intrusion prevention and detection measures, including but not limited to network or application firewalls, are properly implemented and configured, and perform as expected, detecting and prohibiting unauthorized access.	DW & VBI
Security: 5.5.48	The Contractor shall address and resolve any significant, identified vulnerability and must arrange for repeat testing to confirm resolution.	DW & VBI
Security: 5.5.49	The Contractor shall resolve all identified vulnerabilities in accordance with the ETF security requirements stated in this RFP. If vulnerabilities are detected, they shall be remediated by Contractor within a reasonable amount of time. Common Vulnerabilities and Exposures (CVE) scores of "high" must be remediated within five (5) days of initial discovery, scores of "medium" must be remediated within thirty (30) days of initial discovery, and scores of "low" must be remediated within sixty (60) days of initial discovery. This shall apply to all application and infrastructure tests or scans performed by the Contractor or Contractor's subcontractor.	DW & VBI
Unauthorized Release/Access/Use/Disclosure		
Security: 5.5.50	The Contractor shall be strictly prohibited from releasing or using data or information for any purposes other than those purposes specifically authorized by ETF.	DW & VBI
Security: 5.5.51	The system shall secure automated transfer of data from ETF DSEs to the DW whether via the internet or private communications path.	DW
Security: 5.5.52	The system shall provide standards and role-based security implemented throughout the architecture to restrict access to the data at the system, database, application and web interface. Contractor must apply security at the data element level to protect sensitive information such as social security or medical record numbers.	DW & VBI
Security: 5.5.53	The implemented system and all related Contractor operations shall be fully HIPAA compliant, and shall provide HIPAA compliant audit trails for all designated users that access PII/PHI. Audit trails shall resolve to, but are not limited to, an audit or user account who accessed the system/data, IP addresses, date/time stamps, search patterns and specific records reviewed, and any adds, deletes, or edits to the system/data.	DW & VBI
Security: 5.5.54	Aggregated and consolidated data shall not be accessible through the secure Website or application(s) unless specifically intended and approved by ETF.	DW & VBI
Security: 5.5.55	The Contractor shall provide written notification to ETF by e-mail of any malware, ransomware, suspected breach, actual breach, security incident or vulnerability within the system immediately upon discovery. See Performance Requirements.	DW & VBI
Security: 5.5.56	The Contractor shall fully cooperate with ETF in the investigation of any ransomware, suspected breach, actual breach, security incident or vulnerability within the system.	DW & VBI
5.6 Hosting: Overview		

The ETF DW/VBI Hosting Requirements below are intended to address the software, hardware and physical data center(s) that form the platform on which the ETF DW/VBI solution software applications and databases are implemented. The data center(s) must be reliable and secure. The Contractor is solely responsible for ensuring that the hosting solution requirements are met. The Contractor or its subcontractor(s) shall provide the hardware, software, applications, communications and other infrastructure necessary to meet the requirements specified in this RFP, including any and all licenses that must be purchased/maintained throughout the term of the Contract.

Within the Hosting Requirements section below, major features of an acceptable hosting solution are identified as including, but not limited to, the following:

1) Hosting environment(s);
2) Network, server and security;
3) Environmental systems;
4) Physical security;
5) System management, monitoring, and maintenance;
6) Business continuity and disaster recovery; and
7) Backups, snapshots and data restoration.

The Contractor shall be expected to fulfill all Hosting Requirements.

5.6 Hosting Requirements		
Hosting Requirement ID	**Requirements Detailed Description**	**Proposer Bid**
Hosting Environment		
Hosting: 5.6.1	The Contractor shall maintain a secure hosting environment to provide the Services required under this RFP, provided by the Contractor or its subcontractors.	DW & VBI
Hosting: 5.6.2	The Contractor shall provide a secure, Tier 3 data center to house equipment that will provide/deliver the Services with 24/7 system monitoring, managed firewall services, and managed backup services, and an Anti-Malware and Intrusion Prevention System (IPS) provided by the Contractor or its Subcontractors.	DW & VBI
Hosting: 5.6.3	The Contractor data center shall demonstrate meeting Tier 3 data center guidelines via current Contractor certification that is provided to ETF within thirty (30) Calendar Days of the Contract start date, based on the Contractor's site-specific detailed report.	DW & VBI
Hosting: 5.6.4	The Contractor or its Subcontractor(s) shall have an alternate secure hosting site for ETF's data available in the event that it is not possible to restore operations in the primary site within the Recovery Point Objective (RPO) of seventy-two (72) hours.	DW & VBI
Hosting: 5.6.5	The data center shall have fault tolerant, redundant environmental systems, including power, temperature, humidity control, and fire suppression, as specified for Tier 3 data center classifications.	DW & VBI
Network and Security		
Hosting: 5.6.6	The data center shall have a redundant, fault-tolerant network and connections to the Internet and to the ETF data center(s) for connection to DSEs.	DW & VBI
Hosting: 5.6.7	The Contractor shall benchmark speed and performance of data upload based on expected file sizes, as provided by all DSEs. The Contractor shall meet performance benchmarks for data uploads, as defined and agreed upon by the Contractor(s) and ETF. The database shall be updated monthly, and the update shall be delivered to production within forty-five (45) Calendar Days of receipt of complete data from all DSEs. See also the Functional Requirements.	DW & VBI
Hosting: 5.6.8	The Contractor shall maintain sufficient network bandwidth to support concurrent multiple users, maintaining acceptable performance against benchmarks, as agreed upon by ETF and the Contractor(s).	DW & VBI
Hosting: 5.6.9	The data center network shall incorporate enterprise network standard security devices, such as, firewalls, intrusion prevention systems (IPS) and intrusion detection systems (IDS) to prevent and detect unauthorized access.	DW & VBI

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Hosting: 5.6.10	The Contractor datacenter shall employ encryption at all layers of the networking and application technology stack to prevent any exposure of data, should the data packets be captured while in-transit from system-to-system within the Contractor's infrastructure.	DW & VBI
Hosting: 5.6.11	The Contractor shall approve and be able to confirm any configuration changes on any network or server devices used for the solution to ensure the integrity of the device's configuration to protect the security of ETF data.	DW & VBI
Hosting: 5.6.12	The Contractor's infrastructure shall have network access controls in place to only allow authorized personnel to reach systems via administrative services, such as, but not limited to, Secure Shell (SSH) and Remote Desktop Protocol (RDP).	DW & VBI
Hosting: 5.6.13	All Contractor systems that provide the Services or house or process/transmit ETF data shall have currently-supported and hardened operating systems and security patches applied, and up-to-date, on a routine basis.	DW & VBI
Hosting: 5.6.14	All Contractor servers and devices that provide the Services or house or process/transmit ETF data shall have up-to-date anti-virus, anti-spam, anti-spyware and anti-malware software installed and actively running.	DW & VBI
Hosting: 5.6.15	All Contractor servers and devices that provide the Services or house or process/transmit ETF data shall have host-based firewalls installed and actively running.	DW & VBI
Hosting: 5.6.16	The Contractor must have a regular patch management process defined for all components of the infrastructure that provides Services or house or process/transmit ETF data, including applications, servers and network.	DW & VBI
Hosting: 5.6.17	The data center shall be physically secured as specified for industry standard Tier 3 data center classifications.	DW & VBI
Hosting: 5.6.18	Access to the data center shall be restricted to authorized personnel using multi-layered controls and procedures.	DW & VBI
Hosting: 5.6.19	Contractor shall submit policies for granting access to the solution for ETF's review and approval. Such policies shall be in place by the date specified in the project plan.	DW & VBI
Hosting: 5.6.20	Contractor shall grant access to the data center only to those Contractor employees and Subcontractors with a need to perform tasks in the data center. Contractor shall review access rights periodically and revoke access as necessary to those persons no longer working on the ETF project, or no longer employed by Contractor or Subcontractor(s); access reports shall be supplied to ETF.	DW & VBI
System Maintenance, Management and Monitoring		
Hosting: 5.6.21	The Contractor shall ensure that all servers and applications that provide the Services or house or process/transmit ETF data are continually monitored for uptime, service interruption, and security.	DW & VBI
Hosting: 5.6.22	The Contractor shall perform all required system maintenance of hardware and software components in compliance with Maintenance and Support Requirements. The Contractor shall apply security patches in a timely fashion, based on risk and mitigating technologies or controls.	DW & VBI
Business Continuity and Disaster Recovery (DR)		
Hosting: 5.6.23	The Contractor shall define, implement and exercise adequate business continuity and Disaster Recovery (DR) procedures for Contractor's system. Contractor will provide ETF with these procedures for ETF's review and approval by the date specified in the project plan. The Contractor shall also conduct a DR test on Contractor's system prior to system promotion to production. Contractor's system shall be configured with a level of redundancy so that typical component failures do not disrupt service.	DW & VBI
Hosting: 5.6.24	The Contractor shall create and provide to ETF documented DR plans that address the recovery of Contractor's system hardware, software and data.	DW & VBI
Hosting: 5.6.25	The Contractor's DR plan must be designed to maintain role-based access security rights.	DW & VBI

Hosting: 5.6.26	The Contractor shall maintain or cause to be maintained disaster avoidance procedures designed to safeguard ETF data and confidential information, Contractor's processing capability, and the availability of hosted services.	DW & VBI
Hosting: 5.6.27	The Contractor's DR plan shall specify: 1) Number of hours of loss of data before system restoration is initiated; and 2) Number of hours before system shall come back online after failure.	DW & VBI
Hosting: 5.6.28	The Contractor's DR plan shall be tested, and updated at least annually, with reports certifying the success of the DR exercise sent to ETF; failed DR tests shall also be reported to ETF.	DW & VBI
Hosting: 5.6.29	The Contractor shall perform backups of the DW and the database servers. This shall include monthly backups of all volumes of servers.	DW & VBI
Hosting: 5.6.30	The Contractor shall retain the monthly backups for the duration of the Contract.	DW & VBI
Hosting: 5.6.31	The Contractor shall store a copy of each backup in an off-site, secure location, approved by ETF. Tape backups shall also be encrypted.	DW & VBI
Architecture, Administration and Deployment		
Hosting: 5.6.32	Contractor's system shall enable directory services (e.g. LDAP or NT) to administer access and policy controls over data/report access through named security groups.	DW & VBI
Hosting: 5.6.33	Contractor's system shall provide tools at no additional charge to aid in creating routine data backups and point-in-time snapshots to protect against data loss. Backups shall be stored at a remote location, and shall be encrypted at rest using the highest industry standard encryption methods.	DW & VBI
Hosting: 5.6.34	Contractor's system shall provide tools at no additional charge to aid in restoring system data from a backup or snapshot to facilitate recovery.	DW & VBI

5.7 Maintenance & Support: Overview

Software, hardware, and infrastructure maintenance is defined as the modification of a product after initial delivery to correct faults, improve performance or other attributes, or adapt the product to a modified environment. Maintenance is needed to ensure that the product continues to satisfy user requirements, and address system changes due to corrective and non-corrective actions.

Maintenance must be performed in order to minimally perform, but not limited to, the following:

1) General support services;
2) System maintenance and support updates and management;
3) Correct faults, implement enhancements, and improve design;
4) Maintenance and support services; and
5) Incident management.

The Contractor shall provide overall help desk and technical support, including developing a help desk strategy and protocols across the entire solution, subject to ETF approval. The Contractor(s) shall fulfill all ETF DW/VBI Maintenance and Support Requirements.

5.7 Maintenance and Support Requirements

Maintenance Requirement ID	Requirements Detailed Description	Proposer Bid
General Support Services		
Maintenance: 5.7.1	The Contractor shall provide the hardware, software, communications and other infrastructure necessary to meet the requirements of the Contract at no additional cost to ETF, including any licenses that must be maintained.	DW & VBI
Maintenance: 5.7.2	The Contractor(s) shall oversee and maintain the DW and VBI solutions so that all software, hardware and applications are running on current and supported technology, as deemed appropriate for ETF business functions.	DW & VBI

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Maintenance: 5.7.3	The Contractor shall provide support services via Contractor's call center, e-mail support and web-based support extended business hours between 7:00 a.m.-7:00 p.m CDT during the term of the Contract to DSEs, and other ETF-authorized users, unless otherwise agreed upon by ETF and the Contractor.	DW & VBI
Maintenance: 5.7.4	All Contractor(s) personnel providing the support services shall have expertise and be fully trained in issue (incident and problem) identification and resolution, and in escalation relating to the DW and VBI systems.	DW & VBI
Maintenance: 5.7.5	All incidents and problems shall be logged via ETF and Contractor agreed upon support management software. The reported incidents and problems shall be viewable online in detail and summary formats by ETF designated staff.	DW & VBI
Maintenance: 5.7.6	General Responsibilities. The following are general support services for which the Contractor shall be responsible: 1) Security. Comply with ETF security policies, regulations and standards applicable for information, information systems, personnel and physical and logical security; 2) Data upon Contract termination. Upon termination of the Contract the Contractor will provide or make available to ETF an encrypted copy of the ETF data. Upon acknowledgement of receipt of the data by ETF, the Contractor shall completely and irreversibly remove or erase all ETF data from its systems, using tools or methods approved by ETF. See the Escrow Requirements for additional details; and 3) Policies, procedures and standards. The Contractor shall be responsible for conforming to the policies and procedures of ETF, including ETF governance standards, as they apply to and are within the scope of the Contract. The Contractor employees using ETF resources on-site or off-site shall adhere to all ETF policies and procedures.	DW & VBI
System Maintenance and Support Updates and Management		
Maintenance: 5.7.7	Subject to the terms and conditions of the Contract, the Contractor(s) shall provide maintenance services for the DW and VBI systems.	DW & VBI
Maintenance: 5.7.8	Except in cases of emergency or with ETF approval, the Contractor shall notify ETF at least thirty (30) Calendar Days prior to activating each update. Notification shall include the following, at a minimum: date of update activation; notes describing the update content; date, time and duration of time required to deploy the update; and, the results of satisfactory test runs of the update in the pre-production environments of the DW and/or VBI systems.	DW & VBI
Maintenance: 5.7.9	The Contractor shall apply continuous efforts and resources to resolve any defects in the DW and/or VBI systems identified by ETF, or otherwise brought to the Contractor's attention, or a defect of which the Contractor should reasonably be aware.	DW & VBI
Maintenance: 5.7.10	The Contractor shall perform routine maintenance on a regular basis. The maintenance shall be within industry standard service levels. The maintenance shall be performed outside of extended business hours (7:00 a.m.-7:00 p.m CDT). The Contractor shall provide ETF and other DSEs with advanced notice of maintenance.	DW & VBI
Maintenance: 5.7.11	Under certain circumstances, the Contractor may need to perform emergency maintenance such as security patch installation or hardware or software replacements. The Contractor shall provide ETF and other DSEs with notice of such emergency maintenance.	DW & VBI
Maintenance: 5.7.12	Update management activities shall include services required to appropriately manage and document updates/changes to the system application(s) and/or any of the DW or VBI hardware, components, software, hosting, etc., (excluding services related to implementation). Update management also includes services required to appropriately manage and document changes to the underlying system components, and includes the following: 1) Version control. The maintenance, tracking and auditing of modifications to an application's components over time, facilitating the restoration of an application to prior development stages; 2) Turnover management. The promotion of software changes across different phases of the life cycle (e.g. development, unit test, systems test and production), including management of the approval process, production turnover and migration control; 3) Platform change. Contractor shall coordinate activities with ETF prior to any requested or required changes to the DW or VBI hosting platform that may affect the service-level performance of any environments. Any changes to the baseline project plan must be managed consistently with the work breakdown structure, scope of work developed by ETF and the Contractor(s) and documented change management procedures defined during implementation; and 4) Change management. The Contractor shall provide change management services to manage changes to the DW and/or VBI systems that alter the existing state of the systems, including software, hardware, networks and facilities. The Contractor shall use a standard process to communicate and implement changes in accordance with industry standard change management service levels.	DW & VBI
Maintenance and Support Services		

Maintenance: 5.7.13	The Contractor shall provide support services as described herein for all components of the DW and VBI systems, including hardware and third-party supplied system software chosen by the Contractor.	DW & VBI
Maintenance: 5.7.14	Support services are required to provide continued proper and effective use of the DW and VBI systems by users throughout the term of the Contract. The primary mechanism for delivering support services is the Contractor's support center.	DW & VBI
Maintenance: 5.7.15	The Contractor(s) shall provide support for the DW and the VBI systems. Support center staff may be contacted by DW and VBI end-users for support via toll-free telephone number provided by Contractor.	DW & VBI
Maintenance: 5.7.16	Contractor(s) support centers staff shall provide assistance in the following areas: 1) Assistance related to use of the DW and VBI systems (e.g. access, role/permission changes, etc.); 2) Advice on workarounds for verified defects; 3) Information on verified defects previously identified by ETF and reported to the Contractor; and 4) Advice on completion and authorization for submission of a Contractor modification/change request/issue identification form to report identified defects in the DW and VBI systems.	DW & VBI
Maintenance: 5.7.17	The Contractor shall create and add appropriate documentation to system searchable help files or other mutually agreed upon tools to address ETF issues.	DW & VBI
Maintenance: 5.7.18	E-mail support: Contractor shall have a system in place whereby ETF-authorized end-users may contact the Contractor support center staff for complex issue support via a specified e-mail address.	DW & VBI
Maintenance: 5.7.19	Web-based support: Contractor shall have a system in place whereby DSEs and ETF-authorized end-users may contact Contractor Support Center staff for complex issue support by filling in a web-based form.	DW & VBI
Maintenance: 5.7.20	Designated ETF staff and authorized end-users may escalate incidents to the Contractor via the support center, e-mail support, and/or web-based support.	DW & VBI
Maintenance: 5.7.21	The Contractor shall record all incidents in the Contractor's support system with a Help Desk ticket number and specified severity level as assigned by the Contractor.	DW & VBI
Maintenance: 5.7.22	Contractor staff shall respond to those persons who report incidents based on the Contractor-assigned severity level. Contractor staff shall resolve incidents as expeditiously as possible consistent with industry best practices and standards.	DW & VBI
Maintenance: 5.7.23	Complaints. Contractor shall designate a Contractor supervisor/manager that ETF may contact to escalate any complaints/unsatisfactory results for any serious reported incidents or problems. See also Problem Escalation Procedure (PEP).	DW & VBI
Incident Management		
Maintenance: 5.7.24	The scope of Incident Management includes any event that disrupts, or could disrupt, a service. This includes events that are communicated by users, as well as incidents detected and reported by technical staff or monitoring tools. See also Problem Escalation Procedure (PEP) and Reporting Requirements.	DW & VBI

5.8 Value-Added Requirements: Overview
The Contractor shall employ industry standard tools and methodologies to enhance the data loaded into the DW by implementing the following additional value-added component Requirements. These components must be integrated into the DW in such a way as to allow ETF staff to access them and include them in data queries and analysis. These components shall also be made available to the VBI Contractor in a format required for data visualizations, dashboards and analytics. ETF may, at its sole discretion, purchase any of the enhancement items in this section, on a line-item basis. These Value-Added Enhancements may also be implemented on a phased-in approach as necessitated by ETF business needs. See the Price Proposal Workbook for details. The Contractor shall fulfill all ETF DW/VBI Value-Added Requirements.
Value-Added Requirements

TECHNICAL REQUIREMENTS

Value Added Requirement ID	Requirements Detailed Description	Proposer Bid
Value Added: 5.8.1	Master Data Management (MDM): The Contractor shall standardize and normalize data to ensure it is uniform in the DW regardless of data submitter (e.g. for ICD-9/10 codes ensure decimal point occurs or are removed from all diagnosis codes).	DW
Value Added: 5.8.2	Compliance with State and Federal requirements as it relates to data contained in the DW: Where State or Federal requirements are germane to the type of data contained in the DW, the Contractor shall adhere to the requirement per the specification and timeframe documented in said regulation.	DW
Value Added: 5.8.3	Partial and duplicate claims are replaced with final claim: Contractor's DW system shall identify and omit any duplicate, interim and partial claims submitted by DSEs. Unless otherwise agreed upon by the Contractor and ETF, only final and complete claims shall be contained in the production DW. Contractor shall identify claims that may be adjudicated multiple times, and ensure the DW can identify the final adjudication for all submitted claims. The Contractor shall provide status summary reports, by DSE, to ETF monthly, as noted in the Reporting Requirements.	DW
Value Added: 5.8.4	Refresh cycle: The Contractor shall load all fully-processed data (including all value-added components) into the DW within forty-five (45) Calendar Days of receiving claims data from DSEs.	DW
Value Added: 5.8.5	Unique Physician Identifier: Creation, insertion, attributes file: The Contractor shall attribute patients to primary care providers and maintain a master provider directory. This involves creating unique healthcare provider and healthcare facility identifiers that will enable accurate member and claims record links to unduplicated healthcare organizations and practitioners across Payors. Contractor shall classify healthcare providers by taxonomy code using the National Plan and Provider Enumeration System (NPPES). Specifications include, but are not limited to, the following: 1) Create/adopt unique physician identifier to denote a given physician throughout the DW. 2) Create new fields in the dataset with physician name/ID (e.g. NPI) on claim with unique physician identifier. 3) Develop an attributes file that records: a) unique physician identifier, b) name, c) specialty, d) other attributes provided to Contractor by ETF and/or health plan. Unique physician identifier shall be capable of being crosswalked to other attribute files. The Contractor shall unify the physicians history and determine the most current information, including unifying physicians with name changes, variants and differences in spelling, where possible. The process for creating a unique physician identifier shall be approved by ETF prior to final implementation.	DW
Value Added: 5.8.6	Unique Person Identifier: Creation, de-identification, insertion, attributes file: Specifications shall include: 1) Create unique encrypted person identifier to denote a given person throughout the DW. 2) Create a new field in dataset with person name/ID (e.g. SSN) on claim with unique person identifier. 3) Develop an attributes file that records: a) unique person identifier, b) name, c) other attributes provided to the Contractor by State and/or health plan. The unique person identifier shall be capable of being crosswalked to other attribute files. The person identifier crosswalk shall take into account prior identities at DSEs, and membership in multiple data systems to allow the Contractor and ETF to unify claims. The Contractor shall unify the ETF member history and determine the most current information, including unifying persons with name changes, variants and differences in spelling, where possible. The process for creating a unique person identifier shall be approved by ETF prior to production implementation.	DW
Value Added: 5.8.7	Unique Entity Identifier: Creation, insertion, attributes file: Contractor's system shall include: 1) Create / adopt unique entity identifier to denote a given entity throughout the DW. 2) Create a new field in the dataset with other entity name/ID (e.g. TIN) on claim with unique entity identifier. 3) Develop an attributes file that records: a) unique entity identifier, b) name, c) other attributes provided to Contractor by ETF and/or health plan. The unique entity identifier shall be capable of being crosswalked to other attribute files. The Contractor shall unify the entity history and determine the most current information, including unifying entities with name changes, variants and differences in spelling, where possible. The process for creating a unique entity identifier shall be approved by ETF prior to final implementation.	DW
Value Added: 5.8.8	Attribute health practioners practicing under a physician's license to the physician: Where a claim is void of physician name due to services being rendered by a health practitioner practicing under the physician's license, the Contractor shall accurately denote the unique physician identifier on the claim.	DW

Value Added: 5.8.9	MS-DRG and Major Diagnostic Category (MDC) Crosswalk Grouping: Inpatient claims shall contain the most accurate MS-DRG and MDC assignment for an admission. The MS-DRG version, MDC, and DRG Type (medical, surgical) deployed reflects the current version in effect at the time of the admission, and the most recent version of the CMS maintained MS-DRG crosswalk shall be used to create, populate and enhance the dataset with the MDC and DRG Types (website: https://www.cms.gov/Medicare/Coding/ICD10/ICD-10-MS-DRG-Conversion-Project.html).	DW
Value Added: 5.8.10	Link professional and technical claims related to an admission: Contractor's system shall apply a method or algorithm to identify and link all professional claims associated with the technical/facility claim of a given hospital admission.	DW
Value Added: 5.8.11	Synthetic data for PHI-related to data de-identification shall be created by the Contractor: 1) Regarding DOB: Create a synthetic DOB or age and insert on claim; and 2) Regarding zip code: assign and store a three-digit zip code for potential insertion on claims. See Functional Requirements for data de-identification.	DW
Value Added: 5.8.12	General Equivalence Mappings (GEMs): ICD-9 to ICD-10 Crosswalk: The Contractor shall use (CMS and the CDC created) GEMs as a tool for the conversion of data from ICD-9-CM to ICD-10-CM and ICD-10-PCS and vice versa (website: https://www.cms.gov/Medicare/Coding/ICD10/ICD-10-MS-DRG-Conversion-Project.html), or a Contractor equivalent mapping that is agreed upon and approved by ETF.	DW
Value Added: 5.8.13	Contractor's system shall have a method to identify linkages between a health plan member/patient to a given health plan and physician(s) for a given time period.	DW
Value Added: 5.8.14	Contractor's system shall have a method to handle health plan non-standard codes. The Contractor shall assess where/when health plans have created non-standard codes specific to their health plan (e.g. modifier codes, revenue codes), document the codes and their definitions, and map to national standard codes whenever possible.	DW
Value Added: 5.8.15	Contractor shall document all methodologies noted in this requirement. Such documentation must: 1) Be fully transparent as to the methodology used by the Contractor; 2) Allow for reproduction of the method; 3) Support DW users (e.g. data dictionaries with plain English and technical definitions of each element); and 4) Be updated as revisions are deployed.	DW
Value Added: 5.8.16	AHRQ's HCUP CCS: Contractor's system shall support the use of Agency for Healthcare Research and Quality (AHRQ's) free HCUP Clinical Classification Software (CCS) single level grouper (website: http://www.hcup-us.ahrq.gov/tools_software.jsp), and shall create and populate CCS grouper fields based on its application to the data warehouse claims data.	DW
Value Added: 5.8.17	AHRQ's HCUP CCI: Contractor's system shall support the use of Agency for Healthcare Research and Quality (AHRQ's) free HCUP Chronic Condition Indicator (CCI) (website: http://www.hcup-us.ahrq.gov/tools_software.jsp), and shall create and populate CCI indicator fields based on its application to the data warehouse claims data.	DW
Value Added: 5.8.18	AHRQ's HCUP CCS-Services and Procedures: Contractor's system shall support the use of Agency for Healthcare Research and Quality (AHRQ's) free HCUP Clinical Classification Software (CCS) for Services and Procedures (website: https://www.hcup-us.ahrq.gov/toolssoftware/ccs_svcsproc/ccssvcproc.jsp), and shall create and populate CCS-Service and Procedures grouper fields based on its application to the DW claims data.	DW
Value Added: 5.8.19	Primary Payor and COB Claim Sum: The Contractor shall identify Coordination of Benefit (COB) claims, and combine these with claims from the primary payor in order to reflect a "total paid" category.	DW

Value Added: 5.8.20	Risk Score Assignment: Contractor's system shall be able to assign at least one industry standard individual member risk score based on the individual's demographic, diagnosis, and other information. This requirement assumes Contractor's system shall also be able to create a risk adjustment model. Risk scores shall be assigned based on both prospective and retrospective forecasting methods.	DW
Value Added: 5.8.21	Preventable Analytics: Contractor's system shall create claims indicators, code and description fields, and clinical segmentations/groupings for the following: 1) potentially preventable admissions (e.g. ACSC's or PPIA's); 2) all-cause and potentially preventable readmissions; 3) potentially preventable emergency department visits; and 4) potentially preventable complications.	DW
Value Added: 5.8.22	Ambulatory Patient Grouper: Contractor's system shall assign Ambulatory Patient Group logic to claims (e.g. 3M's EAPG's).	DW
Value Added: 5.8.23	Episode of Care Grouper: Contractor's system shall provide a condition classification methodology that combines related services into medically relevant and distinct units describing complete and severity adjusted Episodes of Care (EOC) and associated costs.	DW
Value Added: 5.8.24	Health Care Performance Metrics: Contractor's system shall support the user ability to generate the list of quality of care and related measures noted in the Reporting Requirements. Numerator and denominator detail data for each measure shall be available at the following segmentations: member level, with member demographic details such as age and gender, hospital/facility, health plan, product, line of business, provider medical group/clinic, and individual provider and provider specialty). The list of measures, rates, numerators and denominator results (including detail data for each measure) shall be run and refreshed quarterly.	DW
Value Added: 5.8.25	Health Care Performance Metrics Provider Ranking: Contractor's system shall support the user ability to rank individual providers (and by provider segmentations) based on Appendix 8 – Sample Health Care Performance Metrics and actual/observed rate, expected rate, difference, variance rates, and standard deviations above and below the expected rate.	DW
Value Added: 5.8.26	Fee Schedule: Contractor's system shall support the use of physician and provider fee schedule costs for distinct service procedures, and the fee schedule shall be made available for analysis within the VBI system.	DW
Value Added: 5.8.27	Cost Performance Measures: Contractors system shall support the user ability to reconcile health plan and provider contracted/allowed claim payments with contracted fee schedule payments at the service procedure and provider levels on a risk adjusted basis.	DW

5.9 Visual Business Intelligence (VBI): Overview

The Contractor's system shall generate highly reliable data and enable integration of that data into health care reports, analysis and dashboards that improve the ability to interpret patterns and improve insight into outcomes when conducting advanced analysis. The Contractor's system shall provide a robust, easy to use VBI toolset to meet end-users' reporting, ad hoc query and analysis needs, including the ability to create new reports, self-service dashboards, and modify existing reports.

Analytic and visual agility is the ability for business intelligence and analytics to be fast, responsive, flexible and adaptable. Time to value is critical for fact-based evidence that supports ETF's decision-making and business processes. Improved analytic agility supports a more flexible model. As such, and in collaboration with ETF, the Contractor shall take steps to increase the agility of the VBI and analytics processes to develop a system of health care insight.

The Contractor and ETF key VBI analytic process steps shall minimally include the following:

1) Identify and understand ETF business objectives, and key questions;
2) Acquire data, including identifying and obtaining access to all required and Value Added Requrements and elements;
3) Store and transform the data into data model(s) for analysis;
4) Process the data and apply analytic methods, algorithms and business rules and develop business insights;
5) Investigate developed insights, and presented as data visualizations;
6) Review and interpret the data-driven insights; and
7) Execute based on actionable insights while aligning with ETF business objectives.

As outlined in the sample VBI model below in Table 1, the development of analytic agility shall be developed and embedded across a minimum of four complementary analytics capabilities: 1) Architecture; 2) Analytics and Reporting; 3) Integration; and 4) Advanced Analytics. This approach for a VBI and analytics capability will assist to serve ETF's various analytic and business needs. The suggested design elements are all complementary, yet with each needing to be considered distinctly. However, to achieve agility within VBI analytics, all design aspects shall be addressed, and do not operate in isolation. Interoperability and compatibility between design elements is critical. VBI content and analytic artifacts shall be promotable and easily interchangeable between the design aspects, making them reusable.

The Contractor shall fulfill all VBI Requirements.

VBI Table 1: Four Complementary Analytic Capabilities

5.9 Visual Business Intelligence (VBI) Requirements		
VBI Requirement ID	**Requirements Detailed Description**	**Proposer Bid**
Architecture		
VBI: 5.9.1	Data Quality Tools: Contractor's system shall have data quality and assurance systems (profiling, cleansing, etc.) and methodologies to support the preparation of data for business intelligence applications and reporting.	VBI
VBI: 5.9.2	Master Data Management Tools: Contractor's system shall have master data management systems and methodologies to support the preparation of a system of record for business intelligence applications and reporting.	VBI
VBI: 5.9.3	Metadata Management: Contractor's system shall enable the creation, consolidation, ongoing auditing and reporting on enterprise-wide metadata.	VBI
VBI: 5.9.4	Metadata Layer: Contractor's system platform shall contain an abstraction layer that hides the complexity of the underlying data from end-users via a metadata and business logic layer for the entire suite. This capability provides a robust way to search, capture, store, reuse, and publish metadata objects such as dimensions, hierarchies, measures, performance metrics and report layout objects.	VBI
VBI: 5.9.5	Report flexibility: Contractor's system shall support a comprehensive analytical system that provides significant flexibility to design reports from start to finish using any data element in the database. This enables developers to build BI applications without coding by using wizard-like components for a graphical assembly process. The development environment shall support web services in performing common tasks such as scheduling, delivering, administering, and managing.	VBI
VBI: 5.9.6	Supporting Documentation: Contractor shall document all methodologies noted in the the VBI Requirements. Such documentation must: a) Be fully transparent regarding the methodology; b) Allow for reproduction of the method; c) Support BI users (e.g. data dictionaries with plain English and technical definitions of each element); d) Be updated within thirty (30) days after BI system updates are deployed; and e) Provide all purchased programming code for any pre-programmed (e.g. Appendix 8 -- Sample Health Care Performance Metrics) or Contractor-required programming efforts.	VBI
Analytics, Reporting, and Advanced Analytics		
VBI: 5.9.7	Pre-defined reports and self-service dashboards: Contractor's system shall provide the reports described in Appendix 10 - Mandatory Requirements - Tab B - Reporting Requirements that are available to the ETF-authorized users from the BI system. See the Reporting Requirements. DSEs shall have role-based access to these reports, as defined and approved by ETF.	VBI
VBI: 5.9.8	User-defined self-service reports: Contractor's system shall enable the user to create their own reports based on their defined set of criteria from within the BI system. See Data Query Requirements regarding integration of Reporting Requirements capabilities.	VBI
VBI: 5.9.9	Report Formats: Contractor's system shall provide for multiple display and/or export options for generated reports (e.g. PDF, Excel, Web Report, self-service dashboard, etc.).	VBI
VBI: 5.9.10	Dashboard/Scorecards for Reusable Key Performance Indicators: Contractor's system shall include a set of reports that provide "at-a-glance" summaries (e.g. provider, provider clinic, or Line of Business (LOB) performance (e.g. commercial, self-funded, Medicare). Contractor's system shall support customizable and dynamic dashboards that are automatically refreshed, depending on the frequency of claims and other data submissions, and shall allow end-users to define their own KPIs.	VBI
VBI: 5.9.11	Interactive/Parameterized Report Capabilities: Contractor's system shall include the ability to analyze data from (a lower and higher) level of the hierarchy (drill down/ roll-up), filter, sort, find, outline view of data, etc. Contractor's system shall include the ability to create formatted and interactive reports (parameterized) with highly scalable distribution and scheduling capabilities. See Data Query Requirements regarding integration of Reporting Requirements capabilities.	VBI
VBI: 5.9.12	Slicing, dicing, and drill-down and drill-through: Contractor's system shall enable end-users to analyze data in a self-service manner with dynamic query and calculation performance, enabling styles of analysis known as "slicing and dicing", "drill down", and "drill through." Contractor's system shall provide these capabilities via OLAP (Online Analytic Processing) (relational, multi-dimensional, or hybrid) cubes and viewers that are intuitive for end-users in terms of drill and pivot functions, or another Contractor tool or method or mechanism. Charts must be drillable and dynamic. Contractor's system must support user-defined hierarchies and/or end-user defined calculations.	VBI
VBI: 5.9.13	Spreadsheet View: Contractor's system shall support the export of data into CVS or Microsoft Excel (at least MS-Excel version 2013 or later) formats and enable data updating/refresh of standard reports within Excel. Formatting shall be retained when data is viewed in these views or formats.	VBI

VBI: 5.9.14	Exception Reporting: Contractor's system shall have the ability to generate reporting alerts to end-users as a result of critical business events, as custom defined by business end-users.	VBI
VBI: 5.9.15	Web-based Authoring: Contractor's system shall include a secure web-based tool that can build reports using Hypertext Transfer Protocol (HTTP) enabling web sharing and display.	VBI
VBI: 5.9.16	Document Layout and Cosmetic Control: Report formats within Contractor's system shall allow for multiple objects to be viewed in a single document and have columnar, cross-tabular, and banded displays with multiple report tabs and pivot capability. This includes the ability to "drag and drop" data fields to modify report layouts, data field content, fonts and colors for design team and/or ad hoc users.	VBI
VBI: 5.9.17	Graphical Capabilities: Contractor's system shall support a variety of graphical displays (e.g. 2D, 3D, multiple scales, split scales, maps, custom, etc.) and chart types (e.g. pie, bar, stacked bar, line, histogram, bubble, radar, etc.).	VBI
VBI: 5.9.18	Report linking: Contractor's system shall have the ability to link reports to one another to create a unified story.	VBI
VBI: 5.9.19	Report Prompting: Contractor's system shall be able to create reports that prompt end-users for content and constraints. Prompt types shall include: column prompts, filter prompts, hierarchical prompts. Prompt features allow prompts to be saved, drop down lists, etc.	VBI
VBI: 5.9.20	Report Development/Ease of Use: Contractor's system shall allow end-users to build reports using WYSIWYG (e.g. what you see is what you get; a screen display that shows text exactly as it will appear in printed output, including underlining, various typefaces, as italics, line spacing, end-of-line breaks, and paragraph indentations) interface and report design wizards for common report types.	VBI
VBI: 5.9.21	Multiple Data Source Reporting and Analysis: Contractor's system shall support the ability to report and visually present from multiple types of data sources (e.g. Relational, XML, CSV, OLAP, Web Services, etc.) and multiple data structures (e.g. multiple schemas, aggregated data) in a single business view.	VBI
VBI: 5.9.22	Complex Reporting and Analysis: Contractor's system shall support the ability to enable calculated conditions in reports and analysis, apply filters, subfilter and/or use of set operators (e.g. Union, Intersection) to define functions and operations to support key business objectives.	VBI
VBI: 5.9.23	Scheduled Reports: Contractor's system shall support the ability to run reports at scheduled times/intervals and/or relevant business events (e.g. for compliance and other Key Performance Indicator (KPI) reporting).	VBI
VBI: 5.9.24	Modifiable Reporting: Reports shall be modifiable by ETF and other end-users to facilitate greater control, as noted in Appendix 10 - Mandatory Requirements - Tab B - Reporting Requirements.	VBI
VBI: 5.9.25	Ad-hoc Reporting: Contractor's system shall provide an interface that enables the end-user to create and store their own reports and analysis with their defined criteria. Contractor's system shall provide a mechanism for end-users to access published or saved data or reports. Tools shall ensure report running is performant.	VBI
VBI: 5.9.26	Core Statistical/Mathematical Functions: Contractor's system shall have the ability to perform descriptive and inferential statistics, calculations and functions.	VBI
VBI: 5.9.27	Planning, Budgeting and Financial Functions: Contractor's system shall enable standard planning and budgeting operations, and have the ability to calculate standard financial functions (e.g. net present value – NPV, Member Months, Per Member Per Month (PMPM), Utilization/1,000, etc.). Contractor's system shall also allow ETF to create custom financial and other (e.g. rate) calculations.	VBI
VBI: 5.9.28	Data Exploration and Discovery: Contractor's system shall facilitate the discovery of relevant information.	VBI
VBI: 5.9.29	Geolocation Analysis and Visualizations: Contractor's system shall provide the ability to handle maps, drill down to information based on a specific region, county, zip code, or use data that is automatically refreshed according to a specific location (e.g. location intelligence). Contractor's system shall also have the capability to associate geographical coordinates (latitude and longitude) with address information to be referenced on a map and to obtain derivative geographic data relationships including, but not limited to proximity calculations, standard and custom boundary-based analysis, and historical review.	VBI
VBI: 5.9.30	Predictive Analytics: Contractor's system shall assist users in utilizing a variety of sources to analyze current and past information in order to predict future events.	VBI
VBI: 5.9.31	Interactive Visual Business Intelligence and Analysis: Contractor's system shall allow users to custom create reports and draw insights from the data. The ability to display numerous aspects of the data more efficiently by using interactive and animated tables and charts that can be customized in a dynamic dashboard presentation layer.	VBI

VBI: 5.9.32	Storyboarding: Contractor's system shall lay out all the major actions that occur when analysis is being performed by the end-users in the application.	VBI
VBI: 5.9.33	Standard and Custom Calculations: Contractor's system shall calculate member months based on the ETF membership data file based on the member enrollment effective and expiration dates and spans, service procedure frequency/utilization per 1,000, and Per Member Per Month (PMPM; see Analytic Requirements, Planning, Budgeting and Financial Functions), and these calculations shall be available for use in standard static reports, and custom or ad hoc reports and/or analysis.	VBI
Integration		
VBI: 5.9.34	Open Application Programming Interfaces (APIs): Contractor's system shall have compatible APIs that enable the integration of reporting services with other applications. The APIs shall support both authentication and authorization.	VBI
VBI: 5.9.35	Data Integration: Contractor's system shall have data integration systems available that enable batch integration (e.g. ETL) and/or data federation, minimally, but not limited to, between the DW and VBI systems and/or products.	VBI
VBI: 5.9.36	Integration with MS Office Tools: Data federation shall allows users to create files within the MS Office suite of products (version 2013 or later) and import/export them to/from the solution, or integrates seamlessly with the products themselves (e.g. MS Excel, MS Power BI).	VBI
VBI: 5.9.37	Integration with free and open-source software (FOSS) and/or integrated development environment (IDE) programming: Contractor's system shall allow key end-users to integrate FOSS with the VBI tool where there are gaps in the out-of-the-box Contractor VBI tool capabilities that can be enhanced via the FOSS and/or IDE (e.g. R-Studio, Apache, Hadoop, Apache Spark, Python, KNIME, RapidMiner). This capability shall allow for a more flexible environment and for lower cost outlays for core software, and avoid complex and costly customizations and workarounds required to meet key ETF business objectives.	VBI
VBI: 5.9.38	External Integration: Pending agreement by both ETF and the Contractor and in the context of other cost effective Contractor-proposed solutions to achieve similar goals, the Contractor solution shall allow for external data source integration that include flat files, or other, non-warehouse databases, to assist in supporting ad hoc analytics.	VBI
VBI: 5.9.39	Contractor's system shall provide all Value-Added Enhancement data elements are made available from the DW solution as a units of analysis (e.g. MS-DRG, APC, health plan, Provider) or data elements for inclusion in the VBI system/solution, to meet key business objectives and for data and visual analysis and dynamic self-service dashboard presentations.	VBI
VBI: 5.9.40	Data submissions or data access from the DW Contractor that are overdue result in missing data available in the BI layer. The VBI Contractor shall report overdue data submissions to ETF when detected by means of status reports. See also Reporting Requirements for more information regarding these status reports.	VBI
Information Delivery		
VBI: 5.9.41	Report Bursting: Contractor's system shall have the ability to send or post single reports to the portal and other locations at the same time.	VBI
VBI: 5.9.42	Time-Based Scheduled Reporting: Contractor's system shall have the ability to send out reports to multiple locations at defined time intervals.	VBI
VBI: 5.9.43	Event-Based Scheduled Reporting: Contractor's system shall have the ability to send key reports to multiple locations after critical business events (e.g. month end reports, quarterly reports, etc.).	VBI
VBI: 5.9.44	Alert/Alarm Capabilities: Contractor's system shall include an automatic notification system that can be triggered to alert a user when a defined event occurs (e.g. Key Performance Indicator (KPI) drop of more than 15%). Trend and issue indicators are additional examples and extensions of such capability.	VBI
VBI: 5.9.45	Versioning and/or Report Archiving: Contractor's system shall have the ability to keep report versions and archive older reports.	VBI
VBI: 5.9.46	BI Search: Contractor's system shall have the ability to search databases to find reports.	VBI
VBI: 5.9.47	Dedicated BI Portal: Contractor's system shall provide end-users with secure, dedicated and personalized access to organizational data through a single portal interface, where they can collaborate and share data. The portal shall enable remote access.	VBI
VBI: 5.9.48	Integration with 3rd Party Portals: Contractor's system shall be able to publish reports and data to third party systems (e.g. MS SharePoint).	VBI
VBI: 5.9.49	Mobile Device Secure Support: Contractor's system shall provide a secure mobile platform access for iOS, Android, or other mobile devices. Contractor's system shall allow alerts/notifications to be sent to handheld devices.	VBI

5.10 Training: Overview

The ETF DW/VBI solution will be a critical system that will be used on a daily basis by ETF staff and external stakeholders. ETF considers the training of these users to be critical for buy-in and the daily use of DW/VBI solution. ETF must review and approve all Contractor-provided training materials, including training plans and role-based training materials. Training shall initially focus on end-users internal to ETF. Training for end-users external to ETF (e.g. key DSEs at ETF's discretion) will be addressed and agreed upon by Contractor and ETF. Expected time frames for the completion of training include delivery of training as indicated in the Requirements listed below, and shall be identified within the Project Management plan. Contractor shall provide updates to training materials on an ongoing basis as needed.

5.10 Training Requirements

Training Requirement ID	Requirements Detailed Description	Proposer Bid
Training: 5.10.1	The Contractor shall provide initial training of Contractor's system capabilities at ETF's office by an experienced trainer. ETF shall not be responsible for any training or travel costs. Training must be provided for ETF-designated personnel. Within thirty (30) Calendar Days of the Contract start date, the Contractor shall submit an initial training schedule for ETF's approval.	DW & VBI
Training: 5.10.2	The Contractor shall provide training on enhanced functionality and service delivery used to perform analyses and produce reports for each major revision or upgrade of Contractor's system.	DW & VBI
Training: 5.10.3	The Contractor shall meet with ETF and stakeholders of the GHIP/WPE programs at least quarterly to collaborate on health risk factors, measure results, and population trends identified in the ETF population, and to evaluate current program design and offerings.	DW & VBI
Training: 5.10.4	The Contractor shall provide the initial training and annual training for ETF authorized-users, and other DSE users, as agreed upon by ETF and Contractor. Contractor training shall be multi-modal and minimally include the following: 1) Onsite and in-person instructor-led classroom; 2) Interactive multimedia or video; and 3) E-learning or web-based or online-based.	DW & VBI
Training: 5.10.5	In consultation and agreement with ETF, the Contractor shall provide training in multiple environments that shall include, but are not limited to, User Acceptance Testing (UAT), Development and Production.	DW & VBI
Training: 5.10.6	The Contractor shall develop training materials based on ETF's needs and input.	DW & VBI
Training: 5.10.7	The Contractor shall perform a training needs analysis that identifies critical training focus areas, role-based training modules, and role-based training media.	DW & VBI
Training: 5.10.8	The Contractor shall plan, organize, staff, direct and control the activities of its training team to meet ETF's training goals.	DW & VBI
Training: 5.10.9	The Contractor shall refine its initial training plan and deliver a revised training plan identifying the schedule for all role-based training sessions, the scope of which will be at ETF's discretion.	DW & VBI
Training: 5.10.10	The Contractor shall develop customized role-based training materials for each role. Role-based training materials may include: participant guidebooks (printed and electronic), including exercises, instructor guidebooks (printed and electronic), including exercises and answers, PowerPoint presentations, user manuals, video training (to include video files that use voice-overs to guide users through key tasks), and/or frequently asked questions (FAQs).	DW & VBI
Training: 5.10.11	The Contractor shall plan and perform training with a sufficient number of sessions to support all end-users at all levels and/or roles, as agreed upon by ETF.	DW & VBI
Training: 5.10.12	The Contractor shall plan and provide UAT training to ETF, prior to UAT.	DW & VBI
Training: 5.10.13	The Contractor shall develop help desk diagnostic scripts to aid Contractor help desk and ETF IT personnel in diagnosing problems.	DW & VBI
Training: 5.10.14	The Contractor shall update impacted training material whenever software changes, including customizations, affect the operation of Contractor's system.	DW & VBI

TECHNICAL REQUIREMENTS

5.11 Escrow and Transition: Overview		
5.11 Escrow and Transition Requirements		
Escrow Requirement ID	**Requirements Detailed Description**	**Proposer Bid**
Ownership		
Escrow: 5.11.1	All software and applications purchased and/or developed for ETF that stand outside of the DW and VBI system tool(s), and include business logic that was developed solely for ETF, are ETF property and must be transferred to ETF upon termination of the Contract.	DW & VBI
Escrow: 5.11.2	ETF shall solely own any custom software, including, but not limited to applications developed to integrate with commercial off-the-shelf (COTS) products, custom source-code, documentation, and configuration files, when furnished by ETF or when developed for ETF under the Contract.	DW & VBI
Escrow: 5.11.3	ETF shall own final deliverables, and any portion thereof, customized and developed exclusively for ETF as part of the Services, exclusive of Contractor's Proprietary Information, based on appropriate ETF and ETF statutes and regulations.	DW & VBI
Escrow: 5.11.4	Contractor licensed and/or Contractor copyrighted materials shall be governed by the terms and conditions identified in the Contract or the license.	DW & VBI
Escrow: 5.11.5	Data, databases and derived data products created, collected, manipulated, or directly purchased to perform the Services shall become the property of ETF. ETF is considered the custodian of the data and shall determine the use, access, distribution of the data, and other conditions of the data based on ETF policies, State statutes, federal regulations, and other applicable rules/regulations. In the case where an industry-specific data model is preferred to be incorporated in Contractor's system, the industry-specific model shall be licensed by ETF, rather than owned by ETF.	DW & VBI
Escrow: 5.11.6	Contractor licensed and/or Contractor copyrighted materials shall be governed by the terms and conditions identified in the Contract or the license.	DW & VBI
Escrow		
Escrow: 5.11.7	All software and applications (source code and all necessary documentation) shall be placed in escrow, and shall include anything necessary to replicate the full database environment (including scripts, stored procedures, ETL, etc.). A quarterly full backup of Contractor's system shall be included, in an escrow account, meeting or exceeding all ETF security standards and/or those included in this RFP.	DW & VBI
Escrow: 5.11.8	Escrow terms and conditions shall survive the termination of the Contract. Application source code and object code and documentation shall be written in English to allow a competent programmer to use and test the source code or object code and documentation. The Contractor shall deposit and store application source code and object codes and documentation with a Third Party Escrow Agent, selected by ETF. ETF shall pay all costs of providing and maintaining the escrow agreement, including the fees of the escrow agent.	DW & VBI
Escrow: 5.11.9	ETF shall be designated as a user in the escrow agreement.	DW & VBI
Escrow: 5.11.10	ETF shall have the right to receive, use and modify the source code and object code and documentation when an escrow Release Event occurs. Contractor grants to ETF the right to access and use the source code or application object code if ETF exercises its escrow rights, or in the event of an escrow Release Event.	DW & VBI
Escrow: 5.11.11	The Contractor hereby grants to ETF a royalty-free, perpetual, irrevocable license permitting disclosure to a third party support contractor of a complete and accurate copy of the then-current source code or object code and documentation for the Application when an escrow Release Event occurs.	DW & VBI
Escrow: 5.11.12	The Contractor shall place and maintain at all times the most current version of the source and object codes and documentation for the Application in escrow with the third party escrow agent selected by ETF. The Contractor shall deposit such current versions into the escrow account within thirty (30) days of any change to the source code and/or object code and documentation for the Application. The Contractor shall warrant to ETF after the initial Acceptance Test has been completed and approved and then on an annual basis that the source code and object code and documentation held by the third party escrow agent is current. ETF shall have the right to test the source code and object code and documentation in escrow at ETF's discretion to verify the current Application containing all updates, upgrades, improvements and enhancements have been added to the escrow. The third party escrow agent fees, if any, for any such test shall be the responsibility of ETF.	DW & VBI

Transition, Release Events and Conditions		
Escrow: 5.11.13	ETF shall have the right to obtain the source code and object code and documentation in accordance with and subject to the terms and conditions of the escrow agreement when all of the following three conditions are met ("Release Event"): 1) The Contractor begins winding down its business or liquidating its business under a Chapter 7 Bankruptcy proceeding; 2) No entity has succeeded to the Contractor's obligations to provide maintenance and support of the Application while the Contract is in effect; and 3) ETF is not in breach of its obligations under this Contract.	DW & VBI
Escrow: 5.11.14	ETF and ETF-authorized users shall have the right to use the source code. ETF and ETF-authorized users are specifically prohibited from using the source code to reverse engineer, develop derivative works or to sublicense the right to use the source code to any other individual or entity for any purpose. ETF and ETF-authorized users shall treat the source code as Confidential Information of the Contractor or successor to the Contractor.	DW & VBI
Escrow: 5.11.15	Prior to Contract termination, the Contractor shall provide a comprehensive transition plan that provides a timeline of major tasks, activities, and information that will be provided to the succeeding Contractor when relinquishing responsibilities at termination of the Contract. In the event that the Contractor terminates the Contract, an updated transition plan must accompany the notice of termination. In the event the Board terminates the Contract, the Contractor shall send an updated transition plan to ETF within thirty (30) Calendar Days of the written notice of termination to the Contractor. The transition plan must be approved by ETF prior to the transition begin date and must include the Contractor's cooperation and participation in planning calls or meetings with the succeeding Contractor.	DW & VBI
Escrow: 5.11.16	The Contractor must administer a run-out period of the program at no cost to ETF. The run-out period begins on the Contract termination date and will be no longer than one hundred and eighty (180) Calendar Days. The Contractor must provide all reports for program close out and transmit program data to the new Contractor.	DW & VBI
Escrow: 5.11.17	The Contractor and ETF shall develop a transition plan (Transition Plan) detailing each party's respective tasks in connection with the orderly transition and migration of the following: Pursuant to ETF's request, all data in a format specified by ETF, stored by Contractor, shall be migrated to ETF's archive and/or to a system or application maintained by ETF or a third party provider, at no cost to ETF.	DW & VBI
Escrow: 5.11.18	In the event of a Release Event, the migration of the Application to ETF or a third party provider.	DW & VBI
Escrow: 5.11.19	Upon termination, cancellation or non-renewal of the Contract, Contractor shall provide, at ETF's expense and at Contractor's current contract rates, reasonable cooperation, assistance and services to ETF or ETF's designated contractor in order to facilitate the orderly transition and migration of the data to ETF or ETF's designated contractor.	DW & VBI
Escrow: 5.11.20	The obligations set forth in this section and in the Transition Plan may extend beyond cancellation, termination or expiration of the Contract for a period not to exceed twenty-four (24) months (Transition Period) in order to facilitate migration of the data to ETF or a third party provider, and Contractor shall provide such reasonable assistance as may be requested by ETF to effectuate such data migration at a reasonable hourly rate or a charge agreed upon by the Contractor and ETF.	DW & VBI
Escrow: 5.11.21	In the event of a Release Event, Contractor shall provide, at ETF's expense and at Contractor's current contract rates, reasonable cooperation, assistance and services to ETF or ETF's designated contractor in order to facilitate the orderly transition and migration of the data, software and/or applications to ETF or ETF's designated Contractor.	DW & VBI
Escrow: 5.11.22	Upon cancellation or termination of the Contract for any reason, the Contractor shall provide such reasonable cooperation, assistance and services, and shall assist ETF in the migration of ETF's production operations/migration of the data to ETF's control or to the control of an alternative ETF contractor, subject to the terms and conditions set forth herein.	DW & VBI

Termination of Contract		
Escrow: 5.11.23	If the Contract is terminated for any reason, the rights to use the source code shall remain intact even if a Release Event occurs prior to the termination of the Contract.	DW & VBI
Escrow: 5.11.24	The Contractor shall continue to operate the system regardless of a dispute related to any claims by the Contractor that ETF has breached its obligations under the Contract.	DW & VBI
Escrow: 5.11.25	Transition assistance shall be provided by Contractor upon termination, cancellation or expiration of this Contract or in the event of a Source Code Release Event.	DW & VBI
Escrow: 5.11.26	The Contractor shall assign to ETF all third party licenses required to operate the system.	DW & VBI
Escrow: 5.11.27	The Contractor shall provide ETF applicable requirements, standards, policies, operating procedures and other Documentation relating to the Application and Licensed Services.	DW & VBI
Escrow: 5.11.28	At no cost to ETF, the Contractor shall provide ETF with a final export of ETF's data in a format specified by ETF within 15 Business Days of Contract termination or expiration. At no cost to ETF, the Contractor shall provide certification of the destruction of any of ETF's data within the possession of the Contractor within 15 Business Days of Contract termiantion or expiration.	DW & VBI
Escrow: 5.11.29	Any ETF prepaid licenses, support, and/or hosting fees shall be refunded (from the date of termination) by the Contractor to ETF within sixty (60) Business Days of the Contract termination.	DW & VBI