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## **DE 19-197 Utility Back-end Scope and Pricing Estimates**

This document reflects scope and functionality considerations that were taken into account by Eversource and Unitil for purposes of developing order-of-magnitude cost estimates for conducting the “back-end” integration work in the utility enterprise systems to make the data available and compatible for export to the Platform, as well as the API functionality that will interface with the Platform Hub to provide data to Platform users. These estimates also include the cost for ongoing work that is required for the utilities to ensure continued access of utility data by the Platform. In regards to Liberty’s participation in the development of this exhibit: Liberty expects to move to SAP Utilities billing system (“SAP”) from its current billing system, Cogsdale, in the next twelve to eighteen months. By moving to SAP, Liberty currently expects it will have capabilities to send the necessary data to the platform with few additional costs. The possibility remains that any changes to the configuration of SAP prior to it being rolled out to Granite State Electric and EnergyNorth Natural Gas may change Liberty’s cost estimate.

The Eversource and Unitil estimates were developed at a high-level to advance settlement discussions by providing a broad cost paradigm for constructing the Platform, and should only be considered as the broadest guidance regarding Platform cost. Truly informative and sufficiently granular estimates can only be developed through an RFP process for a novel and complex project such as this, which is why the Settling Parties have proposed the Commission keep Docket No. DE 19-197 open for a second phase where all issues relating to cost may be addressed for further Commission consideration.

### **Platform Components**

The main components of the Platform are categorized into two general scopes of work:

- **Utility Backend Integration and API**
  - This includes the following high-level Platform components:
    - Data mapping from legacy backend systems to the Logical Data Model
    - Implementation of the **Green Button Connect My Data** workflow(s)
    - Implementation of Utility API layer which includes:
      - All Utility specific customer authorization and authentication
      - Individual customer data retrieval and presentment in Green Button format
      - Multi customer data for aggregation purposes
        - Additional industry standard file formats such as XML, CSV, or JSON will also be considered based on implementation cost.
        - Support for community data aggregation
    - Technical support for authentication and authorization-related issues
- **Platform Hub**
  - The Platform hub includes the following high-level components:
    - Central web **portal** for the Platform user’s registration and access

- Implementation of the **API of APIs** which will allow for a single access point allowing authorized Platform users to programmatically request multi-utility customer data.
  - These requests to the API of API are then “delegated” to the Utility APIs described in the section above for the retrieval of individual customer or aggregated customer data.
  - The API of APIs is responsible for combining individual utility data sets into a single combined NH data set for delivery to the hub consumer.
- The hub will also serve as the central repository (“**Landing Page**”) for hosted content and links to:
  - Documentation
  - Problem reporting
  - Ease of use tools such as stylesheets for rendering Green Button data files to a user-friendly output
  - Terms and conditions
  - Technical support
  - Platform status information, and other misc. supporting materials.
  - Third party Platform users that wish to be listed provided that there is a disclaimer that the listing does not imply endorsement
  - Customer authorization portal

Note: the above list is not meant to represent an exhaustive list of functionalities supported by the Platform, but rather a representation of the high-level functional items for the purposes of developing an initial range estimate.

More detailed functional requirements and granular estimates will be developed in the second phase of this docket process should the Commission approve the currently proposed settlement agreement.

### Scope of Costs

Costs include any of the work necessary for implementation of the “**Platform Hub**”, “**Utility Backend Integration and API**”, as well as ongoing support, licensing and maintenance.

It is important to understand that each utility will have its own individual and unique challenges and constraints when implementing the work described in the “Utility Backend Integration and API” section above. Each utility has different environmental and architectural challenges to deal with and this is reflected in the estimation range.

In order to properly contextualize the backend integration estimates, it is important to understand the types of project activities that were included and considered for estimation. The list below outlines the items that have been considered as the “cost components” for the Platform.

## High Level Cost Components

- Design and Architecture
- Software Development
- QA Testing and Remediation
- Project Management, Oversight and Coordination
- Licensing and Purchases
- Development of Documentation and Support Materials
- Platform Certification
- Infrastructure Costs
  - Hardware and Storage
  - Networking
  - Cloud and Data Sharing
  - Provisioning and Maintenance of Test and Production Environments
  - Deployment
  - Performance and Load Testing
  - Platform Metrics
- Customer Consent and Authorization
  - Including Tracking, Auditing and Reporting
- Platform User Registration / Certification
- Cybersecurity and Compliance
  - Including periodic vulnerability and penetration review
- Utility Marketing and Communications
- Ongoing Support, services and licensing

## Customer Consent and Authorization

The Green Button Connect standard requires the use of an OAuth 2.0 workflow<sup>1</sup> to enable the customer and Platform user to electronically negotiate the permissions and authorizations necessary to perform secure data sharing. Every attempt will be made to simplify the customer experience for consent and authorization of data sharing with as few “clicks” or “data entry screens” as possible.

The following high-level information must be presented and collected by this form:

- [WHO] What third party is requesting the customers data?
  - Example: “Acme Solar is requesting access to your Energy data”
- [WHAT] What is the scope of the data the customer us being asked to share?
  - What specific fields are being requested?
  - How much history is being requested?

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<sup>1</sup> OAuth is an open standard for access delegation, commonly used as a way for Internet users to grant websites or applications access to their information on other websites but without giving them the passwords.

- For which of the customer’s utility accounts?
- [WHY] For what purpose is this data being requested?
  - Example: “Acme Solar will perform a know your neighbor audit on your usage details”
- [ACTION] Does the customer consent, yes or no?

### Scope of Aggregation Functionality

As mentioned previously, in addition to individualized customer data (available with consent), the Platform will also provide the ability for an authorized user to retrieve aggregated data sets containing multiple utility customers.

This core capability is a combined function of both the **Utility Backend Integration and API** as well as the **Platform Hub**.

- The Utility APIs will be responsible for providing a multi-customer data set upon request in a to-be-determined file.
  - The Utilities and /or vendor will work with the Green Button Alliance to seek a compatible Green Button standard for file sharing.
  - All participating utilities will agree to a standard format for this data and implement it within the individual Utility API.
- The Platform Hub will be responsible for combining the multi-customer data sets provided by the Utility APIs into a single multi-utility output.

### Aggregation Assumptions

- Usage data aggregation granularity will be at the town, state, or customer class level.
- Aggregated data files will contain *anonymized* usage data only
  - No information that can tie usage back to a specific customer (Account numbers, names, locations)
- The Platform will support two levels of aggregation thresholds:
  - A minimum of 100 or more customers per data set without a contractual relationship
  - OR a 4/50 rule wherein there are a minimum of 4 customers and none which account for > 50% of the overall aggregated data.

### Utility Cost Estimates

The NH Utilities have been asked to provide a range estimate for the **Utility Backend Integration and API** portions of the platform. Eversource was also asked to provide a range estimate for the Platform Hub.

These estimates are meant as “order of magnitude” planning estimate only, based on the high-level scope defined in this document. These implementation costs will vary as scope is added or removed and there is more clarity surrounding the full functional requirements and vendor and consulting costs.

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Also, as this is a novel project for the New Hampshire utilities, the RFP process will be instrumental in providing more certain and granular estimates. These numbers are intended only to provide a broad cost paradigm to consider the magnitude of this project, and not to be taken as either a cost floor or ceiling for projected budgets. Once the above-mentioned variables are ascertained, more definite and precise numbers can be provided.

Each of the participating utilities will have their own range of costs based on a variety of factors, including but not limited to:

- Data availability to utility IT
- Labor sourcing model
- Current technical and architectural differences between utilities

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| [REDACTED] | [REDACTED] | [REDACTED] |
| [REDACTED] | [REDACTED] | [REDACTED] |

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