Green Button Alliance

Green Button Customer Journey

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OEB IWG

2022-01-27

Some Green Button Terms

Data Custodian   usually the utility; they collect and transmit the usage data.

Third Party   usually a provider of energy-reduction services but could offer a customer many different things.

EUI   a customer's *energy-usage information*. It is called by many other names too: EUI (in the standard), EUD, CUD, CEUD, and more.

ESPI   the official name-acronym of the Green Button standard (NAESB REQ.21 ESPI).

PII   a common acronym for *personally identifiable information*.

Retail Customer   this is both the mutual customer of the Data Custodian and the Third Party.

CMD or **GBC**   CMD (Connect My Data®) / GBC (Green Button® Connect) acronyms for the same capability—to provide energy data to Third Parties using a machine-to-machine connection.

Two Transport Mechanisms…

Green Button *Connect My Data* (CMD or **GBC)** allows a third-party company to _analyze data_ on behalf of a ***mutual customer*** of the utility and the third-party company **without the customer needing to manually and continually obtain the data**.

With ***Download My Data* (DMD** or **GBD)**, the utility customer must login, download data and then upload (to a third party) or app for analysis. It's for _personal or occasional data acquisition_ **without a need for a formal relationship**.

CMD/GBC Onboarding

A Third Party must "onboard" with a utility's Green Button platform:

- agree to Terms*

- share security-certificate information

- share location (web addresses) of data sharing input points

- demonstrate that they can communicate properly

When?

- This process is completed once.

- It must be done prior to the first customer interaction between the Third Party and the Utility's GB platform.

* optional

The Customer Journey

A Customer must seek-out a Third Party service provider:

- Solar Financiers / Solar Installers

- Battery-Storage Sellers

- Gamification Apps

- Time-of-Use Curtailment

- Carbon Offsetters

- ...niche applications

How?

- They could choose from a list of onboarded Third Parties that is maintained by a Utility*

- It must be done prior to the first customer interaction between that Third Party and the Utility's GB platform.

optional

The Customer Journey

The Green Button workflow starts at the Third Party:

- *"Hello, Customer. Please select your Utility:"*

How?

- This could be a pull-down/pop-up menu.*

- It could determined by the Customer's input (postal code, address, typed-in, etc.).*

* optional

The Customer Journey

The Third Party sends the Customer to the Utility for verification AND requests the sharing parameters:

- *"Utility: Please verify this customer."*

- *"Also, here are the types of data we want...*

  - *Electricity in hourly intervals*

  - *Cost per interval*

  - *Billing data (customer name, service address, meter number)*

How?

- The Third Party sends the Customer to the Utility's verification interface with the requested types of data.*

* optional

The Customer Journey

The Utility verifies (Authenticates) the Customer and allows the Customer to accept/reject the request:

- *"Hello, person. Please verify that you are our Customer with a specific account."*

- *"XYZ would like access to:*

    - *Electricity in hourly intervals*
    - *Cost per interval*
    - *Billing data (customer name, service address, meter number)"*

How?

- This could be a Utility pop-up screen asking for user-verification data:*
    - Username/Password
    - Account Number & postal code
    - Any other methods.

- The Verified Customer manually Accepts or Rejects the sharing request.*

- The Verified Customer has pre-Authorized with the Utility.*

* optional

The Customer Journey

Upon Verification and Acceptance, the Utility shares a _relationship identifier_ ('Token') with the Third Party:

- *"Hello, XYZ. Our mutual Customer is Verified and has Authorized you to receive data. You can use this Token to ask for data in the future.*

How?

- The Token is sent to the Third Party's specific server address for receiving tokens.

- The Token then represents the triangular relationship between Customer, Third Party, and Utility.

- "162846576924850282650142285 = this specific relationship"

* optional

The Customer Journey

The Customer is returned to the Third Party to continue there:

- *"Hello, Customer. This is XYZ again. We will gather your data and analyze it for you in these ways..." ***

How?

- The Third Party will make periodic requests for data, in the background, and the Utility will provide what's requested as long as:

  - The Third Party has not been blacklisted.
  - That relationship has not expired.
  - The request is not beyond the Accepted sharing scope.

* optional

The Customer Journey

The Customer can always ask the utility to Revoke Authorization or it can be automatic:

- *"Hello, Utility. This is Customer. I no-longer wish to share my data with XYZ; please revoke Authorization." **

- *"Hello, Utility. This is Customer. I'm moving to a new home." **

- *"Hello, Customer. This is Utility. Your two-year relationship Authorization with XYZ has expired." **
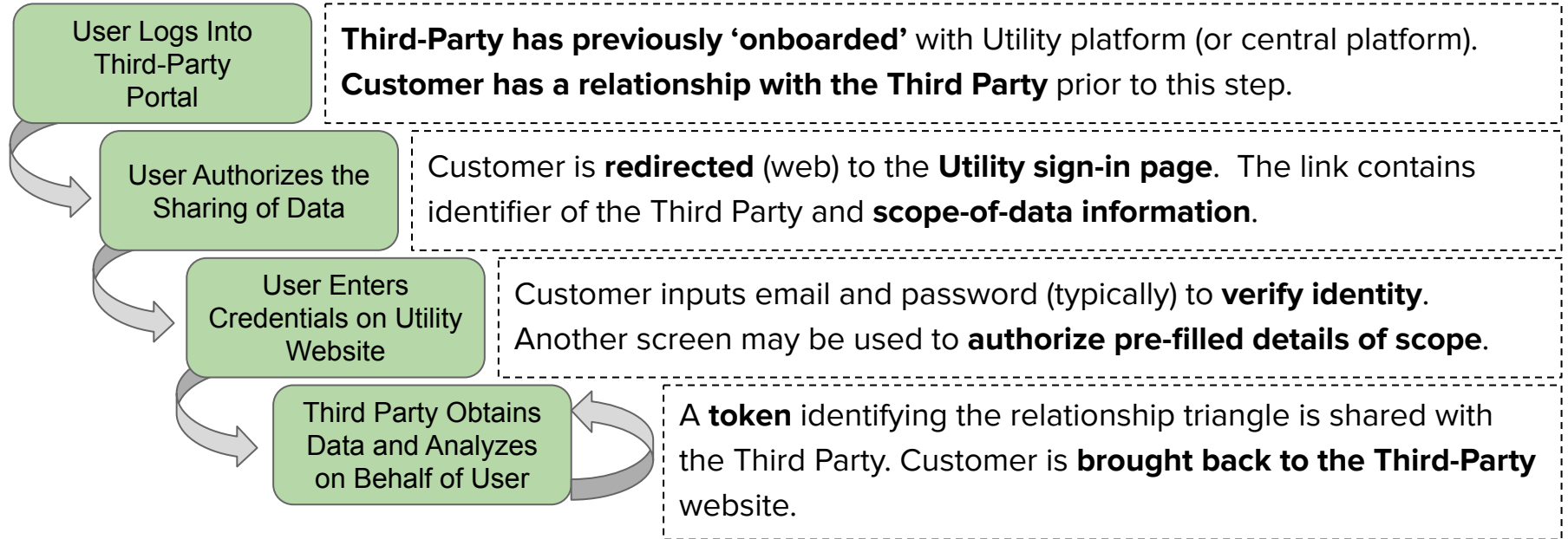
How?

- The Customer can revoke access from within the Utility's Customer portal.

- The Utility disables access when a Customer moves, cancels, or service is terminated.

- The Utility disables access when the Third Party's Authorization expires.

* optional

CMD/GBC Workflow: detail

GB CMD (GBC)

| User Logs Into Third-Party Portal | **Third-Party has previously 'onboarded'** with Utility platform (or central platform). **Customer has a relationship with the Third Party** prior to this step. |

| User Authorizes the Sharing of Data | Customer is **redirected** (web) to the **Utility sign-in page**. The link contains identifier of the Third Party and **scope-of-data information**. |

| User Enters Credentials on Utility Website | Customer inputs email and password (typically) to **verify identity**. Another screen may be used to **authorize pre-filled details of scope**. |

| Third Party Obtains Data and Analyzes on Behalf of User | A **token** identifying the relationship triangle is shared with the Third Party. Customer is **brought back to the Third-Party** website. |

Two Transport Mechanisms…

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The Customer Journey

The Green Button workflow starts at the Utility:

- *"Hello, Utility. It's me: your Customer."*

How?

- This could be the Utility's web portal.*

- It could be a phone application.*

* optional

The Customer Journey

The Utility verifies the Customer:

- *"Customer: Please verify some information for us:"*

How?

- This could be a login page or a pop-up screen asking for user data:*
  - Username/Password
  - Account Number & postal code
  - Any other methods.

* optional

The Customer Journey

The Customer navigates to the data:

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- *"Hello, Utility. I want all of my electricity data in hourly intervals for the past year, with cost information."*

How?

- This could be a selection of checkboxes or radio-style buttons to allow the Customer to select what they want.

- The Customer hits the Submit button.

The Customer Journey

The Customer downloads the data:

- Customer saves it as a file with a .xml extension.

How?

- This is accomplished through the normal saving mechanism of the browser and operating system of the Customer.

The Customer Journey

The Customer shares or analyses the data in the file:

- *"Hello, Third Party. Please take this file and analyze it for me." **

- *"Hello, application on my PC or phone. Here's the file to analyze." **

How?

- There's no limit to the way the file could be used.*

* optional

Ontario Energy Board
Green Button IWG
2022-01-27

Thank You

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