How to Use Web Services: Connection and Sharing Guidance for Providers

EPA's ENERGY STAR Portfolio Manager tool helps users measure and track the energy use, water use, and greenhouse gas emissions of their buildings, all in a secure online environment. The tool can be used to identify under-performing buildings, set investment priorities, verify efficiency improvements, and receive EPA recognition for superior energy performance.

In order to exchange data in Portfolio Manager, users must set up a connection with a web services provider account and then share their properties and/or meters with this account. This document outlines how to set up this connection, and share access to properties and meters.

In the first step, the user will add you, the web services provider, as a "contact" in his or her account, and send you a connection request. After you accept the connection, the user shares properties and/or meters with you, and you will then be able to accept those properties and/or meters. The connection and sharing steps, from the user's perspective and your own, are outlined in Parts 1 and 2 below.

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1A   User Adds You as a Contact

The user initiates the sharing process by adding you as a contact using the following steps:

1. The user logs in to Portfolio Manager and clicks on the **Contacts** link in the upper right-hand corner.

2. On the **My Contacts** page, the user selects **Add Contact**.
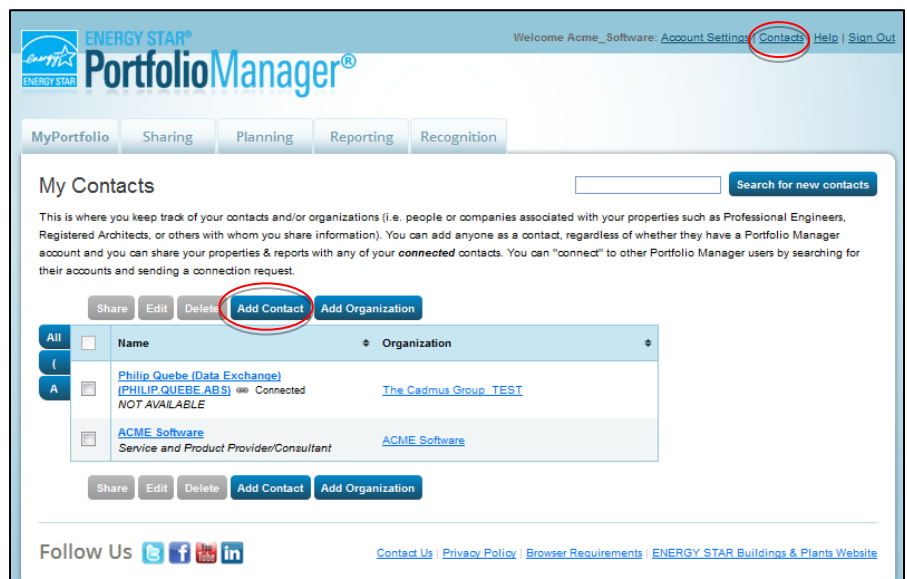
3. On the **Add Contact** page, the user can search for your organization by name, username or email address. The user will have the easiest time finding your account when given the exact username to enter on this page.
   Note: You must specifically allow your account to be searchable in Portfolio Manager. Enable this function on the **Your Preferences** tab under **Account Settings**.

4. The user selects your organization from the search results and clicks on the **Connect** button.

5. After selecting **Connect**, the user will be prompted to accept any terms of use you have specified. They will also be asked to submit any account-level information in the custom fields that you have configured previously via web services (if applicable). The user then selects
   Send Connection Request.

1B   You Accept the Connection

1. You can obtain a list of pending connection requests by running GET /connect/account/pending/list.

2. Accept those requests by running POST /connect/account/(accountId) or by accepting any pending connections in your Portfolio Manager account's notifications section on the MyPortfolio tab of the user interface.

3. The user is notified that you have accepted their connection request via a message in the "Notifications" section of the main screen of Portfolio Manager.

2A   User Shares a Property and/or Meters with You

The user shares properties and meters with you using the steps below:

1. The user will log in to Portfolio Manager, click on the **Sharing** tab and select **Share (or Edit Access to) a Property.**

2. On the **Share (or Edit Access to) Properties** screen, the user selects the property(ies) that he or she wishes to share, and selects your account from the dropdown list of their connected accounts. When sharing properties with you, the user must choose the **Personalized Sharing & Exchange Data (Custom Orders)** setting for permissions.

3. The selected properties will now appear on a permissions selection screen. The user will click the radio button for **Exchange Data.**

4. A dialog box will appear that allows the user to select a level of access for exchanging data for a property and its meters. Options include None, Read Only Access, and Full Access.

   If the user is not able to send meter share requests, it is likely that your system has not been set up to support that specific meter type. If this is the case, the user will receive an alert beneath the dialogue box.

   The user can also enter values for property-level and meter-level custom ID fields on this screen. Examples of such custom ID fields could include "utility account ID," "meter number," or any other custom identifier information that you wish to collect from your customer.

2B   You Accept the Property and Meter Shares

After the user has generated a property-level or meter-level sharing request, you must retrieve the request and accept or reject it. Use the steps below to search for and accept property and meter share requests:

- Search for pending property share requests using GET /share/property/pending/list.
- Accept pending property share requests by running POST /share/property/(propertyId).
- Search for pending meter share requests using GET /share/meter/pending/list.
- Accept pending meter share requests by running POST /share/meter/(meterId).

A user may choose to share a property, but not its corresponding meters. Alternatively, a user may choose to share meters, but not their corresponding property. If a meter has been shared, but the user does not share the property, the permissions screen will automatically mark the property as "read-only." If you accept a meter share, any pending property share associated with that meter will be automatically accepted. Acceptance of a property-level share **does not** cause corresponding meter share requests to be accepted. Meter-level sharing requests must be accepted separately.

You can disconnect from a user at any time using the POST /disconnect/account/(accountId) service. To disconnect from an account and remove all associated properties and meters shares, you must set an optional flag in the account disconnect service that will also remove all property and meter shares. You can also remove an individual property or meter share at any time using POST /unshare/property/(propertyId) and POST /unshare/meter/(meterId).

💬 *Learn More!*

To learn more about Portfolio Manager, visit www.energystar.gov/benchmark.
To get answers to your questions, visit www.energystar.gov/buildingshelp.

Appendix A: Managing "Share Forward" Functionality

Portfolio Manager allows users to "Share Forward," or share a property that was shared with them. For example, a property owner may share a property with a consultant, and in turn the consultant executes a web services share with a utility or energy information services provider. In Portfolio Manager, the account in which the property record was originally created is called the "Property Data Administrator" (PDA). All web service shares, whether originated by the PDA or by a "middleman," will be accessed subsequently by the web service provider by calling the PDA's account ID.

To enable this, Share Audit information is included with each pending share request, and will always list the PDA's account ID in the <accountID> field. The <notificationCreatedBy> and <notificationCreatedByAccountId> fields will identify the account that generated the share, allowing you to determine whether a share request was initiated by the PDA or by a "middleman" account. Middleman accounts can also be identified after the share has been accepted by using the GET /Metrics web service to access the <propertySharedBy> metric.

The way that you receive and process these shares will depend on whether or not you are connected to the PDA's account. Furthermore, the order in which you process pending account-level connections and property or meter shares may be important to your authorization process. We recommend processing the account connection <u>first</u> if your organization requires a valid account-level connection before transmitting meter data. The actions you should take based on your connection status to a user wishing to share properties and meters are summarized below:

A. If you are already connected to the requestor:
   Accept or reject the property and meter share requests as outlined in Part 2 above.

B. If you are not already connected to the requestor:
   You will receive (1) an account connection request from the PDA, and (2) the individual property and meter share requests. You may take the following actions:
   - If you Accept 1 first; you can either Accept or Reject 2
   - If you Reject 1; you automatically Reject 2
   - If you Accept 2 first; you automatically Accept 1
   - If you Reject 2; you can either Accept or Reject 1

Please note that pending property and meter share requests, as shown in a GET /share/meter/pending/list or GET /share/property/pending/list response, contain the account ID of their PDA account, so it is recommended that you use the share requests to obtain the PDA's account ID for your database's records since you will not see the connection request from the PDA if you accept one of their property or meter shares first.

If you are not able to do this during the share, you can access the PDA's account information after accepting the share by running a GET /metrics call and including the metrics propertyDataAdministrator and propertyDataAdministratorAccountId.

Appendix B: Ongoing Share Management

Edits to Your Access Levels by the PDA and Other Users
Once established, sharing permissions can be revised by the PDA or any other user with full access to the property and/or meter at any time. When a user makes edits to your access, such as editing your permissions to individual meters, or editing your permissions to a property, you will receive a notification for each edit made. These notifications can be obtained by running GET /notification/list; an example notification is provided below:

```
<notificationList>
<notification>
<notificationTypeCode>SHAREUPDATE</notificationTypeCode>
<notificationId>129681</notificationId>
<description>
Electric Grid Meter - Access level revised to Read Only by Customer John.
</description>
<accountId>88338</accountId>

<propertyId>5234642</propertyId>
<meterId>541018</meterId>
<notificationCreatedDate>2015-01-12T14:23:50-05:00</notificationCreatedDate>

<notificationCreatedBy> John_User_123</notificationCreatedBy>
<notificationCreatedByAccountId>88340</notificationCreatedByAccountId>
</notification>
</notificationList>
```

Please note that if your account is not connected with the account that edited your access, you will need to establish an account level connection with them in order to pull additional information on their account. You can submit a connection request to their account via web services using the account ID in the access edit notification.

Permissions edits automatically take effect; you do not need to accept them. The same process occurs when a user deletes a meter from a property they've shared with you.

Shares that a user does not edit will remain unchanged. When a user shares a new meter with you on a property with additional meters that have already been shared with you, those already established property and meter shares will not be affected; you will only need to accept the new meter share. As a best practice, EPA recommends that all providers exchanging data with users check their pending connection requests, property and meter share requests, as well as share edit notifications at the beginning of each session when using Portfolio Manager's web services.

🗨 *Appendix C: Transfer of Ownership*

Portfolio Manager also allows the transfer of a property record from one account to another account (i.e. make someone else the PDA). Typically, an ownership transfer happens in one of two cases:

- **An actual change in ownership (deed/title).** In this case, the physical property is bought/sold and the old owner gives the Portfolio Manager record to the new owner.
- **Staffing change within a company.** In this case, Company XYZ may own the property and it is managed in Jane Doe's account. When Jane leaves Company XYZ, she transfers ownership of the Portfolio Manager record to Mike Smith, who will take over as PDA.

When a user attempts to transfer a property from one account to another, the receiving account has the option to either accept or reject the transfer. If a transferred property was previously shared with a web services provider with whom the receiving account is not yet connected, the receiving account is prompted by Portfolio Manager with three options:

1) **Accept the transfer and issue a connection request** to the web services provider account in order to maintain provider access to the property. In this case, the recipient must accept the provider's terms and conditions and provide data for any custom fields required by the provider.
2) **Postpone the transfer.** In this case, the transfer will remain "pending" (unaccepted) until the connection request is submitted and accepted. The original share between the account attempting to transfer and the provider remains unaffected.
3) **Accept the transfer, but remove the provider's access to the property.** This removes the web service provider's access to the property.

Accept Transfers for Properties Managed by Web Services

You have selected to accept the property transfer request for the property(ies) listed in the table below. Each property listed currently has data managed by a Web Services Provider. In order for the service to continue, you must be connected to them as the new Property Data Administrator. Alternatively, you can choose to un-share the property with the Web Services Provider, but please note they will not longer be able to update this property.

Web Services Provider Name	Connect Now with Provider (Property will be transferred)	Connect Later with Provider (Property will NOT be transfered)	Remove Provider's Access (Property will be transferred)
▼ John Smith	○	○	○
FEDERAL TEST OFFICE			

Accept Transfer Cancel

🟠 Don't Have This Information?

If you don't have this information available to you at the moment, you can simple click the cancel link on this page or the Keep Transfer Pending and Connect Later option. The transfer property requests will remain pending in your account until you have this information ready. You can view the notifications on the my My Protfolio tab.

When a property transfer takes place, and the recipient issues a connection request to your account to maintain your access, you receive both a connection request from the recipient through GET connect/account/pending/list and a web services notification through GET /notification/list telling you that the property has been transferred. The notification includes the ID of the property that was transferred and the account ID and username of the new PDA. You will be able to continue servicing the existing property and meter even before processing the new account connection request, but you will not be able to access the account information of the new PDA until you accept the new account connection.

If the recipient account chooses to accept the transfer but remove your access, you will receive a transfer notification and unshare notifications for the property and its meters through GET /notification/list.

If you do not know the new PDA or why the property was transferred, it is up to you to decide whether you want to accept the PDA's connection request and continue to exchange data.