



PreCise MRM – ArcGIS GeoEvent Connector

Prerequisites

- ESRI ArcGIS Server 10.2 (or later)
 - More information available at http://resources.arcgis.com/en/help/main/10.2/#/Welcome_to_the_ArcGIS_10_2_for_Server_Windows_Help/0154000002np000000/
- ESRI ArcGIS Server 10.2 (or later) GeoEvent Processor extension (this component is available from ESRI).
 - http://resources.arcgis.com/en/help/main/10.2/index.html#/What_is_the_ArcGIS_Geo_Event_Processor_extension/015400000655000000/
- Supported DBMS for ESRI ArcGIS Server 10.2 (MS SQL Server, PostgreSQL, Oracle, etc)
- PreCise MRM GeoEvent Connector files:
 - PreCiseInboundTransport-1.0.0.jar
 - PreCiseInboundAdapter-1.0.0.jar

Installation

The PreCise MRM GeoEvent Connector consists of two files; ***PreCiseInboundTransport-1.0.0.jar*** and ***PreCiseInboundAdapter-1.0.0.jar***. These files must be placed on the ArcGIS Server in the GeoEventProcessor deploy folder at the following location:

- <ArcGIS Server Install>\GeoEventProcessor\deploy
- By default: C:\Program Files\ArcGIS\Server\GeoEventProcessor\deploy

Once the component files are located in the deploy folder they will be available through the ArcGIS GeoEvent Processor Manager for further configuration.

Ensure that PreCise MRM web services are accessible from your ArcGIS Server by opening a web browser (Firefox, Internet Explorer, Google Chrome, etc.) to the following locations. If either of these locations are unavailable or the web browser cannot display the page, then ensure that your firewall allows HTTP connections from your ArcGIS Server to these locations.

- <http://servicesjson.preciseinfox.com/DataRetrieval.asmx?wsdl>
- <http://servicesjson.preciseinfox.com/DataRetrieval.asmx>



Configuration

The PreCiseInboundTransport and PreCiseInboundAdapter are now available from the ArcGIS GeoEvent Processor Manager. You can access the GeoEvent Processor Manager for your ArcGIS Server at <https://<ArcGIS Server IP>:6143/geoevent/manager>.

1. The PreCiseAssetRecord GeoEvent Definition should now be available in the **GeoEvent Processor** section of the **Site** in ArcGIS GeoEvent Processor Manager.

The screenshot shows the ArcGIS GeoEvent Processor Manager web interface. At the top, there is a navigation bar with "ArcGIS GeoEvent Processor Manager" on the left and "Services", "Site", "Security", and "Logs" on the right. Below this is a sub-navigation bar with "GeoEvent Processor" and "Components". A left-hand sidebar contains a menu with "GeoEvent Definitions" (highlighted), "Tags", "GeoFences", "Connectors", "Configuration Store", and "Data Stores". The main content area is titled "GeoEvent Definitions" and contains two buttons: "New GeoEvent Definition" and "Import GeoEvent Definitions". Below the buttons is a table with two columns: "Name" and "Fields".

Name	Fields	
incident	id, name, type, status, alertType, openCondition, closeCondition, de...	✎ ✕ 📄
PreCiseAssetRecord	assetID, assetName, fleetName, MAC_ID, ICC_ID, recordDate, reco...	✎ ✕ 📄



- Confirm the transport and adapter are available on the server by checking the **Components** section of the **Site** in ArcGIS GeoEvent Processor Manager. The screen shot below shows the Adapters list.

If the PreCiseInboundAdapter and PreCiseInboundTransport do not show in the list, the GeoEvent Processor engine has not yet refreshed. A forced refresh can be done by restarting the ArcGIS GeoEvent Processor service from the operating system services control panel.

The screenshot shows the ArcGIS GeoEvent Processor Manager interface. The 'Components' tab is selected, and the 'Adapters' sub-tab is active. A table lists various adapters with columns for Name, Type, Version, and Description. A red arrow points to the 'PreCiseInboundAdapter' entry at the bottom of the list.

Name	Type	Version	Description
Generic-JSON	inbound	10.2.0	This adapter extracts GeoEvents from a JSON object (or several GeoEvents from an array of JSON objects).
Generic-JSON	outbound	10.2.0	This adapter is capable of writing generic JSON data that represents a complete GeoEvent.
GeoEventCache	outbound	10.2.0	Capable of storing geoevents in a cache.
JSON	inbound	10.2.0	This adapter extracts features from the JSON structure that comes from queries on ArcGIS Server Feature Services.
JSON	outbound	10.2.0	This adapter is capable of writing JSON data compatible with ArcGIS Server feature services.
KML	outbound	10.2.0	Capable of generating kml that contains links for refresh and update.
MessageFormatter	outbound	10.2.0	Adapter that allows administrator to create any formatted text message based on a template. Useful for creating human readable strings to be sent via e-mail or dumped to a log file that will be processed by analysts.
PreCiseInboundAdapter	inbound	1.0.0	PreCise MRM inbound adapter for ArcGIS Server Geoevent Processor



- You will need to create and configure the connector for the PreCise components. Go to the **Connectors** section of the **Site – GeoEvent Processor** in ArcGIS GeoEvent Processor Manager, clicking on the **Create Connector** button.

The screenshot shows the ArcGIS GeoEvent Processor Manager interface. The top navigation bar includes 'Services', 'Site' (selected), 'Security', and 'Logs'. Below this, there are tabs for 'GeoEvent Processor' and 'Components'. A left-hand navigation menu lists 'GeoEvent Definitions', 'Tags', 'GeoFences', 'Connectors' (highlighted), 'Configuration Store', and 'Data Stores'. The main content area is titled 'Connectors' and features a 'Create Connector' button with a red arrow pointing to it. To the right of the button is a 'Show:' dropdown menu set to 'All'. Below the button is a table of connectors.

Label	Type	Description	
Add a feature	outbound	Adds GeoEvents to a Feature Layer as new features.	/ x
Poll an ArcGIS Server for Features	inbound	Poll a Feature Service for Features that are translated to Events.	/ x
Poll an external website for JSON	inbound	Poll a URL for JSON that can be converted to GeoEvents.	/ x
Publish GeoEvents on a REST endpoint	outbound	Creates a REST end point that can be used to query GeoEvents. The URL of the REST endpoint will be <code>http://server:port/geoevent/rest/cache/{output name}?f={text json kml rss}</code> . For example, if you want to retrieve GeoEvents from an output called rest-out in JSON format, the URL would be <code>http://server:port/geoevent/rest/cache/rest-out?f=json</code> . Please refer to the tutorial documentation for the parameters of each format.	/ x
Publish JSON to a Web Socket	outbound	Publish JSON to a WebSocket hosted on the same server as GeoEvent Processor	/ x
Publish text to a TCP Socket	outbound	Sends GeoEvents as text to TCP, so they can be displayed in a client application.	/ x
Publish text to a UDP Socket	outbound	Send Text to a UDP socket.	/ x
Push JSON to an external Web Socket	outbound	Push JSON to an external WebSocket.	/ x



4. Enter the following for each applicable field.
 - a. Name: PreCiseInboundConnector
 - b. Label: PreCise Inbound Connector
 - c. Type: Input
 - d. Adapter: PreCiseInboundAdapter (this should be available via the drop-down)
 - e. Transport: PreCiseInboundTransport (this should be available via the drop-down)
 - f. Default Input Name: PreCise-AVL-Connector

The screenshot shows the 'Editing Connector - PreCiseInboundConnector' form in the ArcGIS GeoEvent Processor Manager. The form includes the following fields and options:

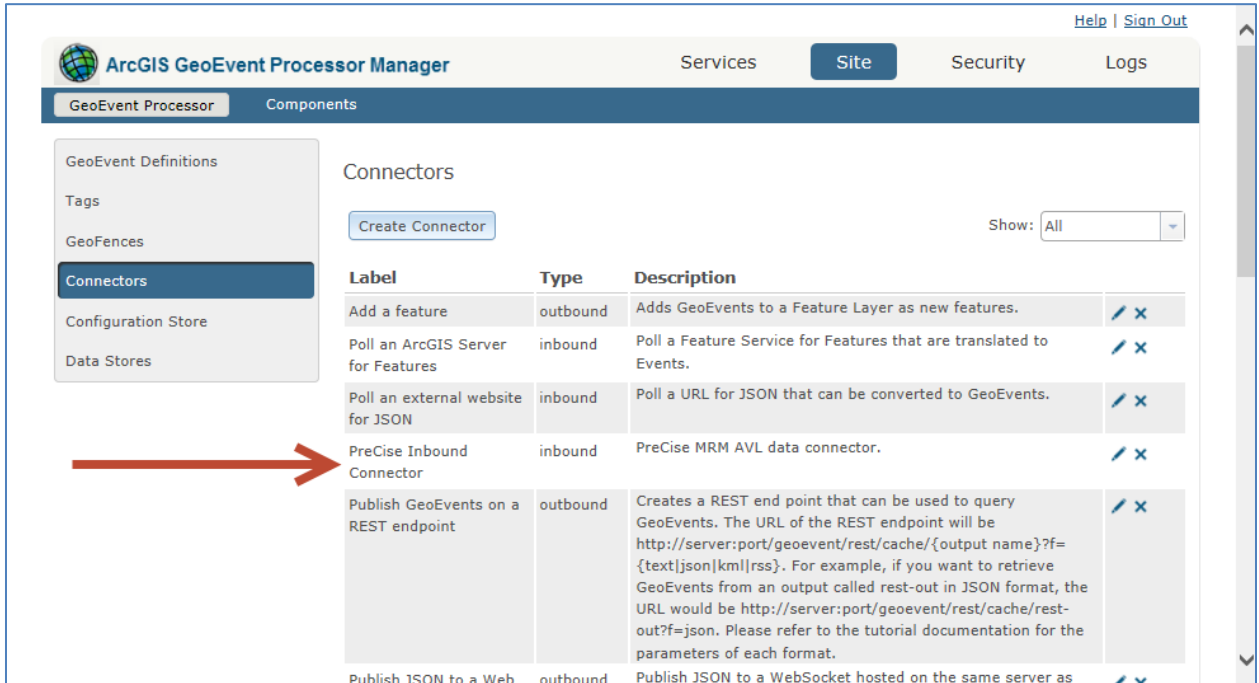
- Name:** PreCiseInboundConnector
- Label:** PreCise Inbound Connector
- Description:** PreCise MRM AVL data connector
- Type:** Input (selected), Output
- Adapter:** PreCiseInboundAdapter
- Transport:** PreCiseInboundTransport
- Default Input Name:** PreCise-AVL-Connector

Below the main form are three sections for configuring properties:

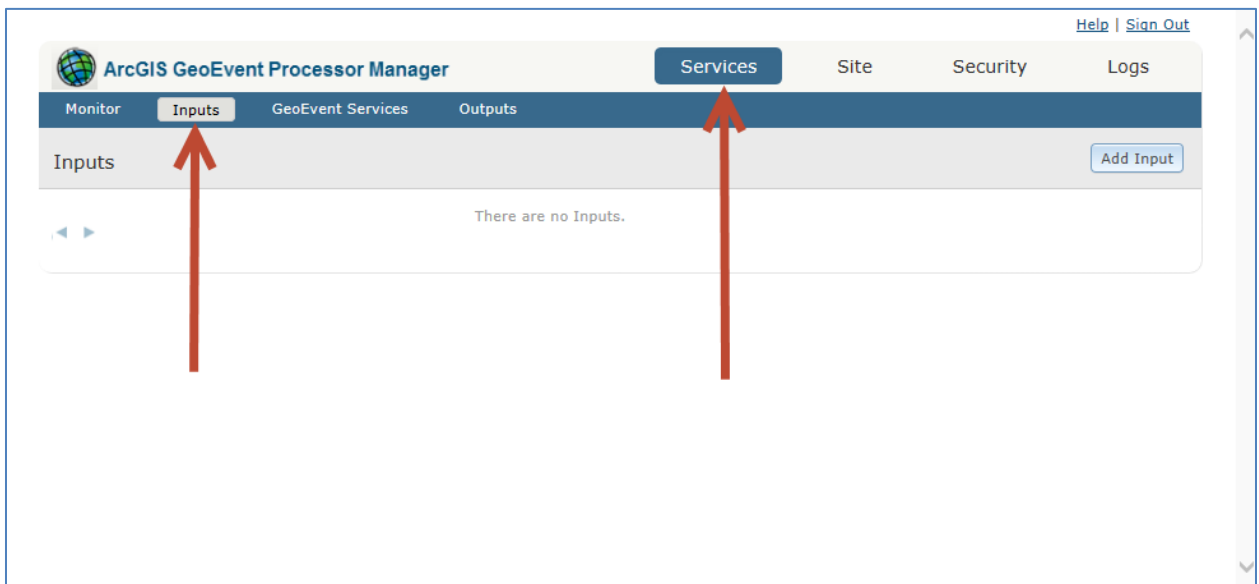
- Shown Properties:** User Name, Password
- Advanced Properties:** Connection Timeout, Polling Frequency, Enable Past Data Download, Data Start Date, Data End Date
- Hidden Properties:** Service Address, Service port

Navigation buttons (Save, Cancel) are located at the top right of the form area.

- g. When finished, click on the **Create** button.
5. You should now have the PreCise Inbound Connector in the list of Connectors

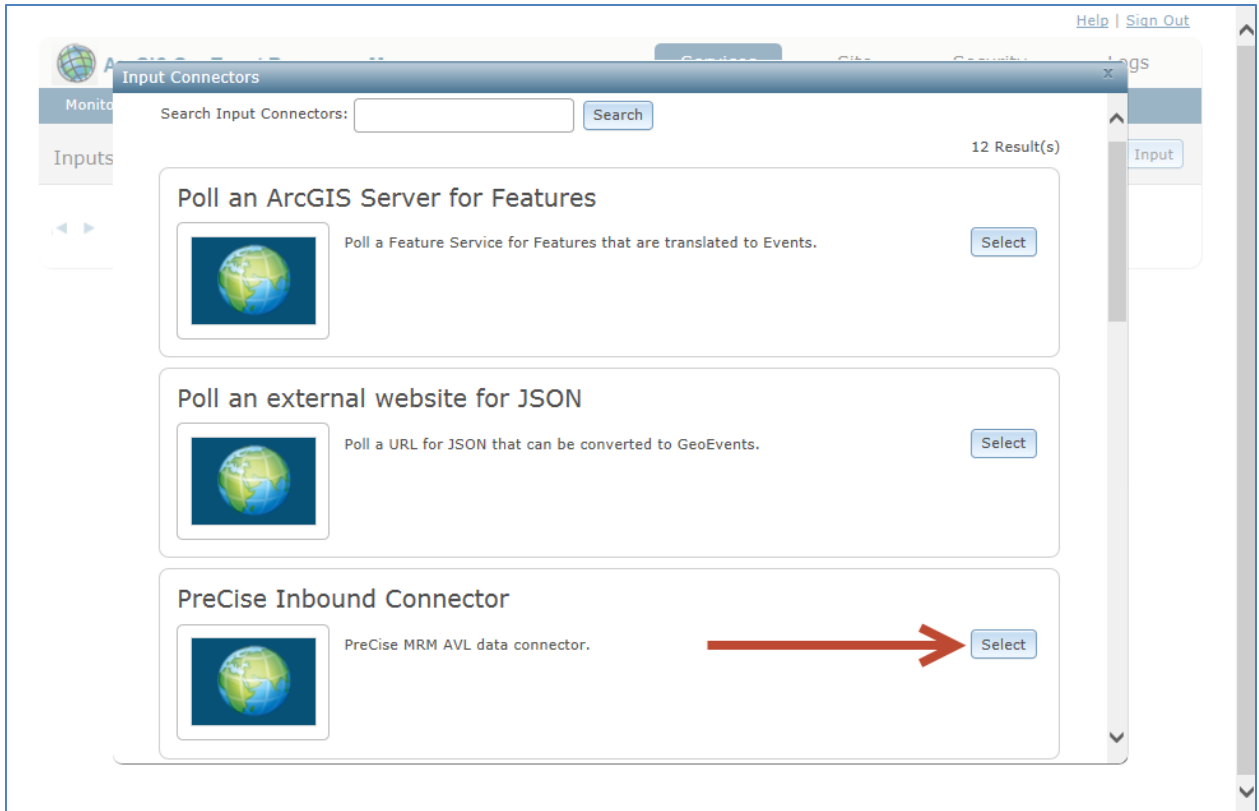


6. You will now need to create the service for the connector. Go to the **Inputs** section of **Services** in ArcGIS GeoEvent Processor Manager, clicking on the **Add Input** button.





7. Select the **PreCise Inbound Connector**, clicking on the **Select** button.



8. You will now have access to the various parameters required for the PreCise Inbound Connector. At a minimum you will need to provide the following.
 - a. **User Name** – The user name associated with your PreCise MRM web services account.
 - b. **Password** – The password associated with your PreCise MRM web services account.
9. You also change some of the advanced settings such as:
 - a. **Connection Timeout** – The timeout period for requests to PreCise web services.
 - b. **Polling Frequency** – How often (in minutes) the PreCise Inbound Connector checks for new data.
 - c. **Enable Past Data Collection** – true/false – This feature can be enabled (true) if you wish to download non-current data. The timeframe will be defined by the Data Start Date and Data End Date. This feature is currently limited to a 24 hour time period.
 - d. **Data Start Date** – Date at which to start past data collection (Format: yyyy-mm-dd)
 - e. **Data End Date** – Date at which to end past data collection (Format: yyyy-mm-dd)

A screenshot of the ArcGIS GeoEvent Processor Manager web interface. The page title is "ArcGIS GeoEvent Processor Manager" and the current view is "Services". The "Inputs" tab is selected. The main heading is "Creating Input - PreCise Inbound Connector". There are "Save" and "Cancel" buttons in the top right. The form contains several fields: "Name*" with the value "PreCise-AVL-Connector", "User Name*", "Password*", and an "Advanced" section with "Connection Timeout*" (180), "Polling Frequency*" (10), "Enable Past Data Download*" (false), "Data Start Date*" (2014-10-13), and "Data End Date*" (2014-10-14). Each field has a help icon (question mark in a circle).

10. You will now have a running instance of the PreCise Inbound Connector name "PreCise-AVL-Connector". You can always stop, start and re-configure the instance from the **Inputs** section of **Services** in ArcGIS GeoEvent Processor Manager.

A screenshot of the ArcGIS GeoEvent Processor Manager web interface showing the "Inputs" section. The "Services" tab is selected. The "Inputs" section has an "Add Input" button. A single input instance is shown: "PreCise-AVL-Connector" with a status of "Started". The instance details include "Connector: PreCise Inbound Connector" and a "Status: Started" label. There are control icons (play, stop, refresh, close) and a pagination indicator showing "1" of 1 items.