Quick Guide

Visualizer Server

This guide applies to product version:
9.3.3

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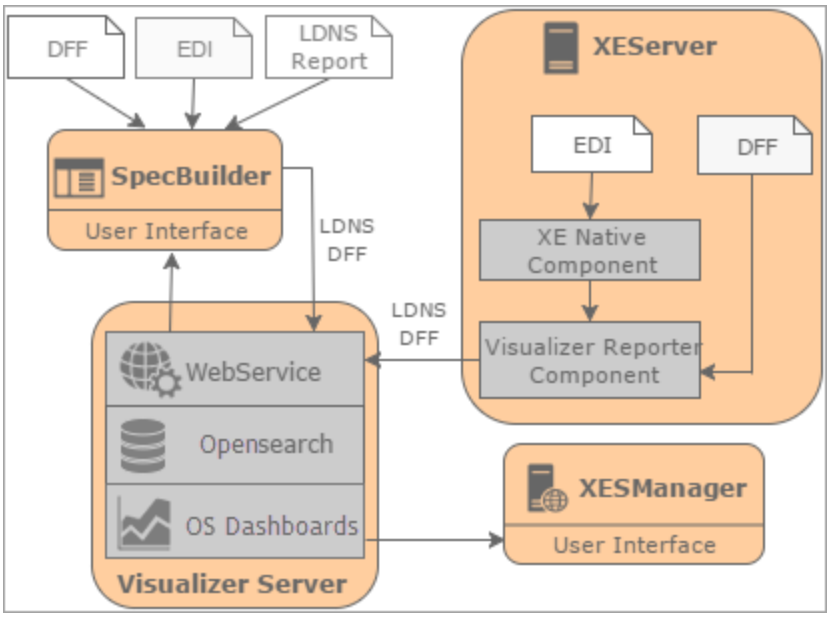
Visualizer Server Overview

Visualizer Server is a server application for storing and visualizing LDNS (Logical Data Node Structure) reports in XML and DFF formats. Visualizer Server provides a visual perspective over large volumes of EDI (X12, HIPAA) and non-EDI (Positional Flat Files, and so on) data without any special ETL tools, expensive database, and reporting infrastructure. When you visualize thousands of related items at once, you can see trends and patterns that would otherwise not be apparent when you look at one item at a time. The Visualizer Server displays full, high-resolution, highly customizable graphical charts with short load times, while the animations and natural transitions provide context and prevent you from being overwhelmed by large quantities of information. As an analyst, there are several business reasons to visualize your data in this way. For example, you can analyze data to detect abnormal activity with claim amounts. To do this, you can gather all the EDI claims (837 Professional, Dental, or Institutional) made on a particular day or coming from a certain provider to confirm the claim amounts are legitimate. You can also analyze trends in the enrollment of partners over a month or more to determine a pattern, if one exists.

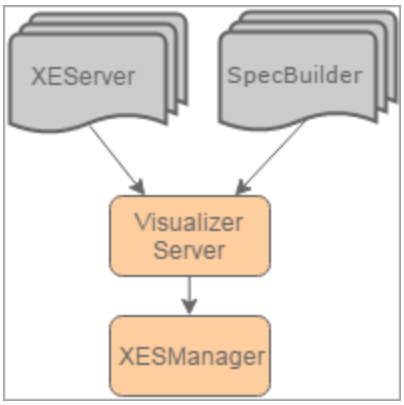
Visualizer Server fully integrates with Edifecs XEngine Server, Edifecs XEngine Server Manager, and Edifecs SpecBuilder. Visualizer Server interacts with XEngine Server through the **Visualizer Reporter** component and service. You can also upload data to Visualizer Server through the SpecBuilder Visualizer Dashboard.

Visualizer Server uses OpenSearch Dashboards to aggregate data and highlight the required information in the form of dashboards. OpenSearch Dashboards is an open source analytics and search dashboard that operates using OpenSearch. With OpenSearch Dashboards, you can combine multiple visualizations on a single page and filter them using your custom criteria. For more information on OpenSearch Dashboards, see OpenSearch Dashboards documentation.

The following diagram illustrates the visualization work flow.



Visualizer Server supports the upload of data from multiple instances of SpecBuilder and XEServer.



Prepare for the First Use

The Visualizer Server installer installs the components of Visualizer Server as Windows or Linux services. The installer starts services automatically after the installation is complete. Visualizer Server runs four Windows services:

- Edifecs Visualizer Server Web
- Edifecs Visualizer Server Storage
- Edifecs Visualizer Server Representation
- Edifecs Visualizer Server Tracking And Audit Storage

These services are started on your system startup and you can start and stop them manually to control separate Visualizer Server components execution.

After the installation of Visualizer Server, you should import the connection settings of Visualizer Server to XESManager. The connection settings include a certificate and a security token generated during the installation. If you want to re-generate a security token, click here.

After you install Visualizer Server, you can use the *${VisualizerServerRoot}/bin/start.bat* on Windows or *${VisualizerServerRoot}/bin/start.sh* on Linux to start all Visualizer Server services. To stop all Visualizer Server services, run the *${VisualizerServerRoot}/bin/stop.bat* on Windows or *${VisualizerServerRoot}/bin/stop.sh* on Linux.

Note You need root permissions to start and stop Visualizer Server on Linux.

Before you connect your Edifecs applications to Visualizer Server, you should authorize the connection. Visualizer Server requires all connections (including those with XEServer, XESManager, and SpecBuilder) to be authorized for security reasons. Authorization is performed by using security tokens. The tokens are generated by Visualizer Server and by default, Visualizer Server uses the token pair generated during Visualizer Server installation. However, you can generate new tokens at any time by using Visualizer Server token generator. For more information on generating new tokens, see Generate Security Token.

After you import corresponding security token, Visualizer Server is ready for use. You can upload your data to Visualizer Server by using SpecBuilder **Visualizer Dashboards** and XEServer **Visualizer Reporter** route component. To view visualized data, you can use SpecBuilder **Visualizer Dashboards** and XESManager **Visualizer Server** page. For more information on uploading data to Visualizer Server and detailed information on working with Visualizer Server, see **Visualizer Dashboards** section in SpecBuilder Help and **Visualizer Reporter Component** section in XEServer Help.

Security Token Generation

A security token is a unique character string required to authorize the access to Visualizer Server. There are two types of security tokens:

- **For full access**: Allows you to upload data to Visualizer Server, configure, and view dashboards.
- **For read-only access**: Allows you to view existing dashboards.

You can find security tokens in the token archive that includes a *.pem* certificate and a *connection.properties* file that contains a hostname, a port number, and an actual security token. The archive for full access also contains an additional security token for the read-only access.

A default token archive is generated during the installation of Visualizer Server, however you can overwrite the default token by generating a new one. The directory with default security tokens is specified during the installation process (see the step 9 of the installation procedure in the installation guide). By default, this directory location is the following:

On Windows:

```
C:\Users\<YourUserName>\Documents\Edifecs\VisualizerServer\tokens
```

On Linux:

```
/home/<YourUserName>/Documents/Edifecs/VisualizerServer/tokens
```

The directory contains two archives with tokens - for full and read-only access.

To generate a new security token:

1. Go to *${VisualizerServerRoot}/bin/tokens-generator*.
2. Run *generation.bat* on Windows or *generation.sh* on Linux and pass the destination folder name as an argument.

   Example

   ```
   C:\Edifecs\VisualizerServer\bin\tokens-generator>generation.bat ResultFolder
   ```

3. Go to the destination folder (ResultFolder) that contains two archives with tokens - for the full and read-only access.
4. To make the changes take effect, run *restart-vs-web-service.bat* on Windows or *restart-vs-web-service.sh* on Linux to restart the Tomcat service.

Note A newly generated token overrides the previously used tokens.

If you want to implicitly specify the hostname in the Visualizer Server security token (for example, when the hostname changes after the infrastructure's reboot), you can re-generate the token using the following command:

Example

```
generation.bat ./ -hostname MYDESKTOP123
```

After you have re-generated security tokens, you should re-import connection settings of Visualizer Server to XESManager and XEServer profile configurations.

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