Exacq

exacqVision Web Service Configuration

www.exacq.com

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Contents

New in version 24.12

This release includes the following updates for exacqVision Web Service Configuration:

• General improvements and bug fixes

Overview and requirements

The exacqVision web service provides an interface for Exacq Mobile, and the bundled web client, to retrieve video and other server data from exacqVision servers. The web service connects to the exacqVision server in a similar way to the desktop client, and provides additional connections for web and mobile devices.

ⓘ **Note:** Do not install the web service on exacqVision EL Series systems. The exacqVision web service is pre-installed on all exacqVision A Series and Z Series systems. You can also install it on exacqVision ELX Series systems.

The exacqVision web service works with browsers as shown in Figure 1.

Figure 1: Browsers for the exacqVision web service
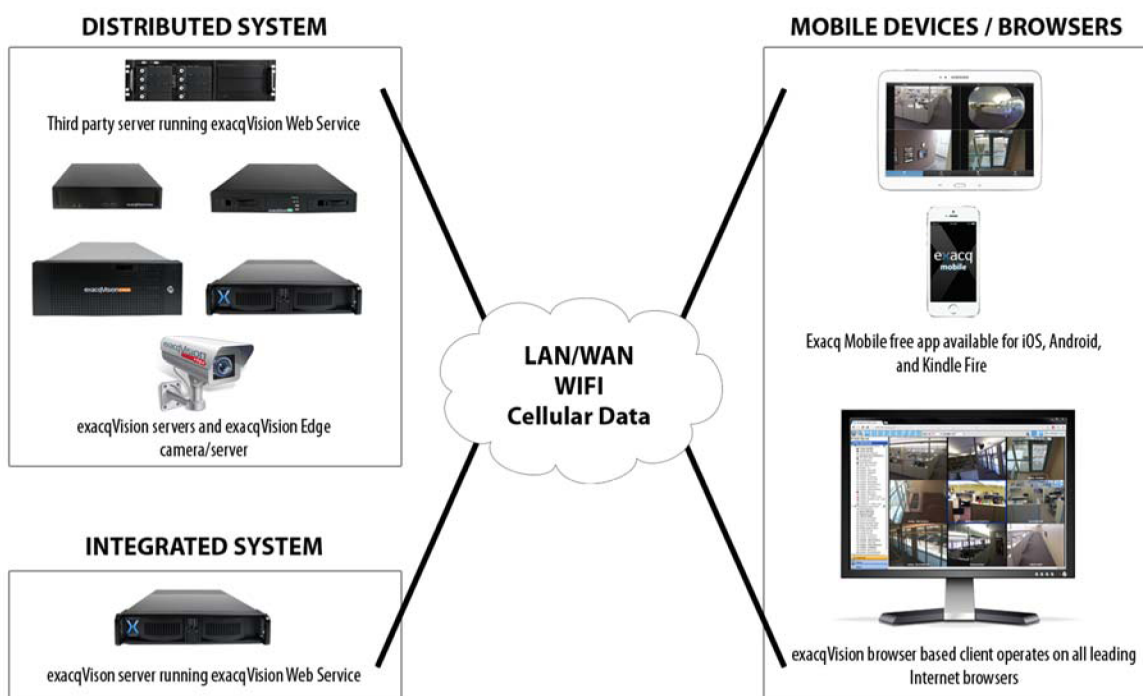
You can configure the web service as an integrated system that directly runs on an exacqVision server, or as a distributed system on a standalone third-party server that connects to one or more exacqVision servers.

ⓘ **Note:** For higher capacity systems or to connect to exacqVision Edge camera servers, configure the web service as a distributed system.

You can also view video on the local network by using a web browser, over the Internet using a web browser, or on a mobile device using a mobile browser or exacqVision application.

Client requirements

The web client supports the following browsers:

- Google Chrome
- Mozilla Firefox
- Internet Explorer 11 or later, Microsoft Edge
- Opera
- Safari

The mobile client supports the following browsers:

- Google Chrome mobile for Android and iOS
- Mozilla Firefox
- Internet Explorer 11 or later, Microsoft Edge
- Opera
- Safari Mobile

Client bandwidth usage

The following table is an estimate of client bandwidth usage when you stream video to web browsers and mobile devices. The bandwidth can vary based on the composition of the camera scene and whether the native h.264 streaming is enabled in both the web client and web service.

Table 1: Client bandwidth usage

Device	Resolution (device)	# cams in layout	Quality	FPS	Frame size in KB (each cam)	Bandwidth (Mb/s)
Smartphone	960x540	1	1	5	9	0.4
Smartphone	960x540	1	3	5	15	0.6
Smartphone	960x540	1	5	5	21	0.8
Smartphone	960x540	1	7	5	31	1.2
Smartphone	960x540	1	9	5	63	2.5
iPad	1024x768	1	1	5	16	0.6
iPad	1024x768	1	3	5	27	1.1
iPad	1024x768	1	5	5	39	1.5
iPad	1024x768	1	7	5	54	2.1
iPad	1024x768	1	9	5	110	4.3
PC browser	1920x1080	1	1	5	48	1.9
PC browser	1920x1080	1	3	5	80	3.1
PC browser	1920x1080	1	5	5	103	4.0
PC browser	1920x1080	1	7	5	133	5.2
PC browser	1920x1080	1	9	5	241	9.4
PC browser	1920x1080	1	10	5	720	28.1
PC browser	1920x1080	4	1	5	15	2.3
PC browser	1920x1080	4	3	5	26	4.1
PC browser	1920x1080	4	5	5	33	5.2
PC browser	1920x1080	4	7	5	45	7.0

Table 1: Client bandwidth usage

Device	Resolution (device)	# cams in layout	Quality	FPS	Frame size in KB (each cam)	Bandwidth (Mb/s)
PC browser	1920x1080	4	9	5	78	12.2
PC browser	1920x1080	4	10	5	216	33.8

ⓘ **Note:**
- The resolution of the camera is not relevant to the bandwidth. The web service resizes the image to fit the client device resolution.
- The resolution of the device has a bigger impact on bandwidth than the number of cameras. For example, a four-camera layout that fills all pixels requires an estimate of 20 percent more bandwidth than a one-camera layout.

Hardware recommendations

The exacqVision web service uses a significant amount of computer resources to transcode video. Required resources increase in proportion to the number of simultaneous connections and the data rate of incoming video. Hardware upgrades are necessary to support heavy web service workloads.

Table 2: Hardware recommendations

Performance	Processor	RAM	Example exacqVision NVR
Minimum	Intel Celeron	2GB	exacqVision LC
Recommended	Intel i3	4GB	exacqVision A-Series
High performance	Intel i7	8GB	exacqVision Z-Series

Installing and configuring the exacqVision web service

Installing the web service

The web service is preinstalled on all A Series, Z Series, LC Series, ELP Series and M Series machines.

To install the exacqVision web service on a third party machine, complete the following steps:

1. Download the exacqVision web service from www.exacq.com/support/downloads.html.
2. Run the setup file.
3. Choose one of the following options:
   - For a GUI installation in a Windows or Linux installer wizard, enter, and confirm the new password on the suggested page.
   - For a command line installation on a Linux system, enter, and confirm the new password following text prompts.

     ⓘ **Note:** The password must contain at least 20 characters, or 8 or more characters containing at least one of each of the following conditions:
     - An uppercase letter
     - A lowercase letter
     - A number

- A special character
- You can change the administrator user name and password when configuring the web service. For more information on changing the user name and password, see Modifying a user's access credentials.

4. Follow the Install Software wizard to install the web service. To start the web service, complete the following steps:

   a. Click the **Start** > **Programs** , then select **exacqVision Web Service**.
   b. Click **Start exacqVision Web Service**.

   ⓘ **Note:** To ensure that the web service always starts after a reboot, select **Set exacqVision Web Service to start automatically** from the **Start** menu.

Configuring the web service

1. Open the web service browser and enter the system address in the address bar.
2. Click **Web Service Configuration** in the lower-right corner of the page

Web service administration

Service status

The **Service Status** pane displays updates and automates actions that help to improve the serviceability of the web service.

The service status shows the status of all outbound and inbound connections. The internet address status, shows the external URLs and internal IP address that are configured. If a relay URL is configured, the status shows the URL that is used to access the relay.

Retesting the connectivity

To ensure suitable connectivity, networking changes are required outside of the web service configuration. To verify these changes, you can retest the connectivity.

To reset the connectivity, complete the following step:

- Click the **RETEST CONNECTIVITY** button in the lower right of the **Service Status** pane.

Server connections

The server connections pane displays a list of the connected and discovered servers. You can manually define the exacqVision servers that users can connect to, or set the system to automatically find the servers for you.

Synchronizing with exacqVision Enterprise Manager

The web service has the ability to synchronize with exacqVision Enterprise Manager, which facilitates access to servers based on individual user groups. Users can use exacqVision Enterprise Manager synchronizing to log on to the web client and Exacq Mobile to gain visibility and access to the servers in their assigned group.

To turn on ESM synchronizing, complete the following steps:

1. Click the **Sync with exacqVision enterprise** button.

   ⓘ **Note:** The default option is **Off**.

2. In the **Web Service Administration** page, enter the Enterprise Manager URL in the **Enterprise Manager URL** field.

3. Enter a username and password in the **Admin Username** and **Admin Password** fields.
4. Click **Apply**.

ⓘ **Note:** If you turn on exacqVision enterprise synchronizing, when you access the web client, the web client prompts you to log on to the Enterprise Manager system.

Discovered servers

Use the **DISCOVERED** button in the upper-right corner of the **Standard Servers** list to display a list of discovered servers.

ⓘ **Note:** You can view the number of discovered servers next to the **DISCOVERED** button in the upper-right corner of the **Standard Servers** list.

Adding a discovered server

To add a discovered server, complete the following steps:

- In the upper-right of the **Standard Servers** list, click the **DISCOVERED** button to view the discovered servers.
- From the **Standard Servers** list, select a server, and then click **Add.**

Adding a server

1. In the **Server Connections** pane, click **ADD SERVER**.
2. In the **Add Server** window, enter the IP address of the server you want to add into the **Address** field.
3. In the **Port** field, enter the port number that you want the server to connect to. The default port is 22609.
4. In the **Timeout** field, enter the number of minutes that you want to allocate to the server before a timeout occurs. The default number is 0.
5. **Optional:** To configure either a Passthrough account, Power User account, or both, select one or both of the following options:
   - Passthrough
     i. Select the **Passthrough** check box.
     ii. In the **Passthrough Username** and **Passthrough Password** fields, enter a username and password.

     ⓘ **Note:**

       A passthrough account is accessible at all times to all the systems users. If you configure a passthrough account, clients are automatically logged on as a user.

   - Power User
     i. Select the **Power User Process** check box.
     ii. In the **Power User Username** and **Power User Password** fields, enter a user name and password for the server account.

     ⓘ **Note:** The power user process account aids features that require a constant connection with the server, such as push notifications. This account is not for public users. The web service uses it internally to monitor events and data.
6. Click **APPLY**.

Editing a server

To edit a server, complete the following steps:

1. Select the server you want to edit.
2. Click **EDIT SELECTED**.
3. In the **Edit Server** window, edit the appropriate fields.
4. Click **APPLY**.
   To remove a server, select the server, click **REMOVE SELECTED** and then click **DELETE**.

XDV file management

You can import and export an XDV file that contains a list of servers exported from the **Add Systems** page in exacqVision client, and then add a large number of servers simultaneously. For more information about exporting an XDV file that contains a list of servers, see the *exacqVision Client User Manual.*

Importing and exporting an XDV file

To import an XDV file, complete the following steps:

1. To import an XDV file, hover over the **MORE** button and select **Import SDV**.
2. Click **FILE** and browse to the XDV file you want to import, and then click **Open**.
3. Click **IMPORT**.

To export an XDV file, complete the following step:

- To export an XDV file, hover over the **MORE** button and select **Export XDV**

Configuration options

To open a list of configuration options, in the navigation tree select **Configuration**.

Editing the basic service configuration

The basic service configuration is a group of options that relate to the overall behavior of the web service.

1. From the navigation tree, select **Basic**.
2. In the **Basic Configuration** pane, edit the appropriate fields:
   - To configure and reference the web service for a known URL, in the **External URL** field, enter the URL.
   - In the **Stored Login Expiration** field, enter the number of days that a user can remain logged in to a server, after they select the **Always use these credentials** check box.
   - In the **Name** field, enter a new name.
   - In the **Inactivity Timeout** field, enter the default number of minutes before a video timeouts and stops playing because of user inactivity.

     ⓘ   **Note:** Zero indicates that timeouts are disabled. You can override the default value in the web client.

   - To prevent Cross-Site Request Forgery attacks, select the **Enable CSRF Protection** check box.
   - To use a relay connection to access the web service, select the **Relay Connections** check box.

ⓘ   **Note:** You must ensure that the following requirements are met before you enable relay access:

- All servers that connect to the service must have a valid license. If a server license expires, this limits the image size and video speed over the relay connection.
- All servers that connect to the service must have a valid Passthrough or Power User accounts.
- A server can only connect to a single web service.

3. Click **Apply**.

Configuring ports

You can change the default port values for the exacqVision web service. In addition, you can configure the Hypertext Transfer Protocol (HTTP) policy. This policy governs how the web service handles a HTTP request when the default configuration is Secure Hypertext Transfer Protocol (HTTPS).

Before you begin:
You must first configure the web service for HTTPS to have all HTTP policies available.

ⓘ   **Note:** If you change the web service port configuration, you must retest the connectivity.

To configure the ports, complete the following steps:

1. In the **Navigation** panel, expand **Configuration** > **Ports**.
2. In the **HTTP (http://)** field, enter the web service port number. The default number is 80.
3. In the **Secure HTTP (https://)** field, enter the HTTPS port number. The default number is 443.
4. From the **HTTP Policy** list, select one of the following options:
   - To accept HTTP connections while HTTPS is configured, select **Allow**.
   - To redirect HTTP connections to HTTPS, select **Redirect to HTTPS**.
   - To disable HTTP connections, select **Disable**.

   ⓘ   **Note:** If you are using the Let's Encrypt service and Automatic Certificate Management Environment (ACME) protocol, you must set the **HTTP Policy** value to **Allow** or **Redirect to HTTPS**.

5. Click **APPLY**. The system automatically requests a restart.

Setting a logging option

To help customer support in diagnosing issues, the web service logs many of its operations. You can control the amount of information that the system logs and saves by setting a logging option.

To set a logging option, complete the following steps:

1. From the navigation tree, select **Logging**.
2. In the **Logging Level** field, select one of the following level options:
   - **Error (Level 1):** Logs catastrophic issues, such as a system crash.
   - **Warning (Level 2):** Logs warnings, such as a server logon failure.
   - **Info (Level 3):** Logs every action that occurs in the web service.
   - **Debug (Level 4):** Logs additional information that is useful for the Exacq Technical Support team.

   ⓘ   **Note:** All messages equal or higher than the level you select are logged.

3. In the **Single Log File Duration** area, enter a unit of time and select an interval option. For example, two hours.

   ⓘ **Note:** The system deletes any log files older than the duration date you select.

4. In the **Number of Log Files to Retain** area, enter the number of log files you want to retain.
5. Click **Apply**.

   ⓘ **Note:** You can download the log by clicking **DOWNLOAD LOG**.

Installing an update

To install an update, complete the following steps:

1. From the navigation tree, select **Updates**.
2. In the **Updates** pane, click **CHECK FOR UPDATES**.
3. From the **Select an update** list, select an update to install and then click **OK**.
4. Click **Apply**.

Administration

On the **Administration** page, you can modify a user's access credentials, restore the web service to its default settings, and restrict the access to the web service configuration to the localhost.

Modifying a user's access credentials

To modify a user's access credentials, complete the following steps:

1. From the navigation tree, select **Admin**.
2. On the **Administration** page, enter a username.
3. In the **Change Password** field, enter a new password and verify that password by entering it again in the **Verify Password** field.
4. **Optional:** To specify the level of restriction when accessing the **Web Service Configuration** page, select one of the following options:
   - **Allow all**: any user with local or remote access to the web service, can access the **Web Service Configuration** page.
   - **No relay access**: any user that uses a relay connection to access the web service, cannot access the **Web Service Configuration** page.
   - **Local host only**: only the localhost or IP address 127.0.0.1, can access the **Web Service Configuration** page.
5. Click **Apply**.

Restoring the web service to its default settings

Use **Restore Defaults** to restore all web settings, with the exception of the web administration username and password, to their default values.

To restore the web service to its default settings, complete the following steps:

1. From the navigation tree, select **Admin**.
2. On the Administration page, click **Restore Defaults**.
3. Click **Confirm** to restore the default settings.

Configuring the web service for https

In the **Current HTTPS Configuration** page, you can configure the web service to support https. To configure the web service for https, complete the following steps:

1. From the navigation tree, select **HTTPS**.

2. In the **HTTPS** page, select **CONFIGURE**.

3. Select one of the following configuration types:

   - **External:** This option uploads external SSL certificates and keys.
   - **Let's Encrypt/ACME:** This option integrates with an ACME-based server to provide a certificate.

   ⓘ **Note:** To use the **Let's Encrypt/ACME** option, your web service must have a domain name, use port 80, and be externally reachable on port 80. You cannot change these requirements. If you need to use a different configuration, select the **External** configuration option.

4. Enter the applicable information.

5. Click **Apply**.

Service Info

The **Service Info** page provides information about the server and the operating system.

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