New in version 9.2

- Restoring the web service to its default settings
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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.

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**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:

- Chrome
- Firefox
- Internet Explorer 10 or later
- Opera
- Safari

The mobile client supports the following browsers:

- Chrome mobile for Android and iOS
- Firefox
- Internet Explorer 10 or later
- Opera
- Safari Mobile

Client bandwidth usage

Table 1 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

<table>
<thead>
<tr>
<th>Device</th>
<th>Resolution (device)</th>
<th># cams in layout</th>
<th>Quality</th>
<th>FPS</th>
<th>Frame size in KB (each cam)</th>
<th>Bandwidth (Mb/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smartphone</td>
<td>960x540</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>9</td>
<td>0.4</td>
</tr>
<tr>
<td>Smartphone</td>
<td>960x540</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>0.6</td>
</tr>
<tr>
<td>Smartphone</td>
<td>960x540</td>
<td>1</td>
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<td>960x540</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>31</td>
<td>1.2</td>
</tr>
<tr>
<td>Smartphone</td>
<td>960x540</td>
<td>1</td>
<td>9</td>
<td>5</td>
<td>63</td>
<td>2.5</td>
</tr>
<tr>
<td>iPad</td>
<td>1024x768</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>16</td>
<td>0.6</td>
</tr>
<tr>
<td>iPad</td>
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<td>3</td>
<td>5</td>
<td>27</td>
<td>1.1</td>
</tr>
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<td>1024x768</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>39</td>
<td>1.5</td>
</tr>
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<td>iPad</td>
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<td>1</td>
<td>7</td>
<td>5</td>
<td>54</td>
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<td>iPad</td>
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<td>1</td>
<td>9</td>
<td>5</td>
<td>110</td>
<td>4.3</td>
</tr>
<tr>
<td>PC browser</td>
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<td>1</td>
<td>5</td>
<td>48</td>
<td>1.9</td>
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<tr>
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<td>3</td>
<td>5</td>
<td>80</td>
<td>3.1</td>
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<td>5</td>
<td>103</td>
<td>4.0</td>
</tr>
<tr>
<td>PC browser</td>
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<td>1</td>
<td>7</td>
<td>5</td>
<td>133</td>
<td>5.2</td>
</tr>
<tr>
<td>PC browser</td>
<td>1920x1080</td>
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<td>5</td>
<td>241</td>
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<tr>
<td>PC browser</td>
<td>1920x1080</td>
<td>1</td>
<td>10</td>
<td>5</td>
<td>720</td>
<td>28.1</td>
</tr>
<tr>
<td>PC browser</td>
<td>1920x1080</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>15</td>
<td>2.3</td>
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<td>4</td>
<td>3</td>
<td>5</td>
<td>26</td>
<td>4.1</td>
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<td>4</td>
<td>5</td>
<td>5</td>
<td>33</td>
<td>5.2</td>
</tr>
<tr>
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<td>5</td>
<td>45</td>
<td>7.0</td>
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<tr>
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<td>4</td>
<td>9</td>
<td>5</td>
<td>78</td>
<td>12.2</td>
</tr>
<tr>
<td>PC browser</td>
<td>1920x1080</td>
<td>4</td>
<td>10</td>
<td>5</td>
<td>216</td>
<td>33.8</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Performance</th>
<th>Processor</th>
<th>RAM</th>
<th>Example exacqVision NVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>Intel Celeron</td>
<td>2GB</td>
<td>exacqVision LC</td>
</tr>
<tr>
<td>Recommended</td>
<td>Intel i3</td>
<td>4GB</td>
<td>exacqVision A-Series</td>
</tr>
<tr>
<td>High performance</td>
<td>Intel i7</td>
<td>8GB</td>
<td>exacqVision Z-Series</td>
</tr>
</tbody>
</table>
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:
2. Run the setup file.
3. Follow the Install Software wizard to install the web service.

To start the web service, complete the following steps:

- Click the Start icon, select Programs, and then select exacqVision Web Service
- 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
To configure the web service, complete the following steps:

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

Note: The default username is admin and the default password is admin256. To prevent unauthorized access or modifications to the system, change the default username and password. For more information on changing the username and password, see Administration on page 12.
Web service administration

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

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. In the Server Connections pane, 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 ESM
The web service has the ability to synchronize with ESM, which facilitates access to servers based on individual user groups. Users can use ESM 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 esm button.
   
   **Note:** The default option is Off.

2. In the ESM window, enter the ESM URL in the ESM URL field.

3. Enter a username and password in the Admin Username and Admin Password fields.

4. Click Apply.
   
   **Note:** If you turn on ESM synchronizing, when you access the web client, the web client prompts you to log on to the ESM 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, editing and removing servers

To add a server, complete the following steps:

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. Configure one, both or none of the following options:
   - Passthrough
   - Power User Process
   a) To configure a passthrough account, complete the following steps:
      - Select the Passthrough check box.
      - 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.
   
   b) To configure a power user process account, complete the following steps:
      - Select the Power User Process check box.
      - In the Power User Username and Power User Password fields, enter a username 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 for internally to monitor events and data.

6. Click APPLY.

To remove a server, complete the following steps:

- Select the servers you want to remove.
- Click REMOVE SELECTED, and then click DELETE.

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.
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 Import 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 behaviour of the web service.

To edit the basic configuration of a service, complete the following steps:

1. From the navigation tree, select Basic.
2. In the Basic Configuration pane, edit the appropriate fields:
   - In the Name field, enter a new name.
   - 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 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.
3. Click Apply.
Configuring the ports
By default, the web service is configured to use the industry standard ports for web applications. However, if you encounter network restraints, you can change the default port values.

Note: If you change the web service port configuration, retest the connectivity. For more information on retesting the connectivity, see Retesting the connectivity on page 8.

To configure a port, complete the following steps:

1. From the navigation tree, select Ports.
2. In the HTTP field, enter the web service port number. The default number is 80.
3. In the Secure HTTP field, enter the HTTP number. The default number is 443.
4. In the Web Sockets field, enter the web socket number. The default number is 8082.
   Note: Enable the web socket port for native h.264 streaming. Ensure that port 8082 is open on any firewall that runs on the computer.
5. In the Secure Web Sockets field, enter the secure web socket number. The default number is 8083.
6. Click Apply.

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 restrict the access to the web service configuration to the localhost, select the Enable Localhost Restriction check box.
   
   Note: If you select Enable Localhost Restriction, only the localhost or 127.0.0.1 can access the web service configuration. If you do not select Enable Localhost Restriction, any user with local or remote access to the web service can access the web service configuration.
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 with.

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.