InspectionWorks Connect
Global and local + control
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Global and local + control

Waygate Technologies Inspection Works Connect is a live streaming software platform that supports live collaborations, connecting the inspector to a remote subject matter expert for immediate assistance anywhere in the world through real-time video and advanced collaboration tools.
IW Connect – Global vs. Local + Control

Global - MVIQ live streaming from Product to PC (inspectionworks.com required)
Local + Control - MVIQ streamed and controlled by an IOS device (IOS Inspection Works-Connect app required)

Grey Handset – Only Global (Connect) Available
- Live Stream Video and Live Chat from Product to PC

Flame Handset – Both Global and Local + Control Available
- Live Stream Video and Live Chat from Product to PC
- Live Stream Video and Control the System from an IOS Device
IW – Connect, global & local

Waygate Technologies
Grey Handset
Inspection Works Connect
Use SW rev. 3.18 or higher

Inspection Works Connect is only supported when using the Chrome Browser

Waygate Technologies
Flame Handset
Inspection Works
Global & Local + Control
Use SW rev. 3.50 or higher
IW – Checklist for Success

1. Software updated?
2. Verify license
3. Wi-fi connectivity
4. Perform a network test
5. Browser/website
6. Start a session
Verify Grey Handset Software Revision is Updated: **3.18 or Higher** See Appendix B

Verify Flame Handset Software Revision is Updated: **3.50 or Higher** See Appendix C

Software Version 3.18/3.50 or Higher is Required for a Connect Session, Update Software now if Necessary.
MViQ Handset – IW Connect, Global & Local+Control

Verify the license is activated and not expired.

On product check please note:
1. Current unexpired license - continue
2. Expired license - double check by serial number

An active license is required to continue. Proceed when license is active.

The license expiration date will not be updated until the user successfully establishes a session.
MViq Handset – IW Connect, Global & Local+Control

Please Note:
1. Wi-Fi or Ethernet Connection Required
2. Public Guest Network or Hotspot Required

Connectivity – Wi-Fi ON, Network FOUND
MViQ Handset – IW Connect, Global & Local+Control

Network Test – On Product

![Network Test Interface]

- **Ping**: Received 100%, avg 11 ms
- **Download**: 18.84 Mbps
- **Upload**: 10.23 Mbps
- **HTTPS**: Passed
- **STUN**: Passed
- **Network Name**: spot
- **Security Type**: WPA2PSK
- **Encryption Type**: AES
- **Hidden**: False
- **IP**: 10.172.6.109
- **SN**: 255.255.255.0
- **MAC**: 80:19:34:85:34:96
IW Connect – Local + Control

Local + Control – Flame Handsets Only

Requirements
- IOS Device (iPhone or iPad)
- InspectionWorks-Connect App (Install from App Store on IOS Device)
- iTunes Installation (Software Update Screen on Flame Handset)

Functionality
- Live Video Streaming
- MVIQ Menu Control
- Use Wi-Fi, Internal Hot Spot (On Product) or Tethered
IW Connect – Local + Control (Flame Handset Only)

Local + Control – Start a Session

1. Go to Global Menu and Select Connect
2. Select Start Local + Control
**IW Connect – Local + Control**

**Local + Control – Start a Session**

3. If using Wi-Fi or Hotspot a QR Code will be Displayed on Product  
4. Open InspectionWorks – Connect App on IOS Device (Accept Agreement)  
5. Select Camera Icon in App and Scan the QR Code  
6. You are Now Connected, Live Stream and Control are Active

When using a Tethered Connection, the user will only be required to open the App and Accept Agreement on the IOS device, it will be an instant connection. Please verify Touchscreen on the Handset is ON (If Off, expect delays, or restart App.) SW rev. 3.51 fixes a tethered connection bug (no connection). Please see Appendix C for details.
IW Connect – Global

Global – Start a Session

1. Go to Global Menu and Select Connect
2. Select Start Session & Agree to Terms of Use (Grey Handset)

Select Start Global & Agree to Terms of Use (Flame Handset)
3. Make Record of Session Details:
   ID and Password

Please Note: Invite Soft Key for Email Invitation (Optional)
4. Invite remote experts (PC side) by Email via Invite Softkey or Send Session ID and Session Password via text or chat message for collaboration.
IW Global – Start a Session

5. Go to [www.inspectionworks.com](http://www.inspectionworks.com) (Chrome Browser Required)
Perform Network Test – On PC
IW Global – Start a Session

6. Enter Name
7. Enter Session ID (no spaces)
8. Enter Session Password (no spaces)
9. Accept Terms of Use and Press Join Session

---

Join a Live Session

- **IW CONNECT TEST**
- 519031
- **Session Password**
- I accept the Terms of Use

Join Session

---

InspectionWorks Connect allows you to participate in live inspections anywhere in the world through real-time video and advanced collaboration tools.

Delivering expertise where and whenever you need it.

Learn More ➔
Wait for Connection – Verify Live Streaming

Troubleshooting Tips

Issue:
Black Screen on PC Indicative of problem with Customer’s Network – Network Security or Firewall Issue

Solutions:
1. Clear Customer’s Chrome History Cache and Verify any AD Blockers are Turned Off in Chrome Settings.
2. Please Reference the Troubleshooting Guide See Appendix A
3. Start a Session with customer using Product and Technical Support using Baker Hughes PC

Poor Network Connection Speed will Cause Video Streaming Lag.
Wait for Connection – Verify Live Streaming

For more assistance, please contact technical support.
A remote service case can be opened by:
Phone – +1 866-243-2638
Email – remoteservice@bakerhughes.com

For more assistance, please see the appendices.
Appendix A – Updating Software 3.18 or Higher (Grey)
Appendix B – Updating Software 3.50 or Higher (Flame)
Appendix C – IW Troubleshooting Guide
Grey Handset Software Update

An Over The Air (OTA) Incremental update is **no longer** supported on the system handset (grey) due to security updates on the Baker Hughes server. The system software must be updated utilizing the best practice recommendations on the next slide. Software revision 3.19 will support OTA Updates.
Appendix A

Best practice recommendation
Download full software update

Go to InspectionWorks.com for full software package and instructions
Best practice recommendation
Download full software update

Go to InspectionWorks.com for full software package and instructions

Appendix A
Appendix A

Best practice recommendation
Download full software update

Go to InspectionWorks.com for full software package and instructions
Appendix A

Best practice recommendation
Download full software update

Go to InspectionWorks.com for full software package and instructions
Mentor Visual iQ software update instructions
Install this software update to get the latest features and functionality.

1. Ensure that the handset to be updated has a full battery charge or is plugged into AC power.
2. Plug the USB drive into the handset and power on the device.
3. Press the Menu button and select Settings.
4. Select the About screen and verify your current software version is not later than the version to which you would like to update.
5. On the Software Update screen select Install to begin the software update. If you wish to not start the software update then press the large Exit arrow (on/off button) to exit without upgrading.
   Note—if Shut Down is selected, the upgrade can be attempted again at a later time.
6. Once the update completes, the Reboot button appears. At that point, it’s safe to remove any USB drives and press Reboot.
7. The system will now reboot multiple times to finish the update process.
   Note—The update has completed when the initial language selection or Live video screen is shown.

Special cases:
1. Update software indicates that a failure occurred during the update.
   a. Verify that no errors occurred when copying the update file to the USB drive and press “Retry” to attempt the update again.
   b. If the update fails multiple times, contact customer support.
2. Update is interrupted (due to e.g. power loss or removal of USB during update)
   a. Attempt to perform the update again; the update software will attempt to resume the update.
   b. An in-progress update must be completed before an update to a different version can be started.
   c. Contact customer support if the handset does not boot or the update software indicates that the system is corrupted.
Please Note the Following Files from Software Download will need to be Copied to the Top Level of a Clean USB Drive.

- EFI
  - MViQ_Update_3.18.20252.1.pkg.000
    - 000 File: 4,118,691 KB, No
    - 001 File: 3,076,532 KB, No
  - server_version_info.txt
    - Text Document: 1 KB, No

4,194,304 KB
3,077,126 KB
Flame Handset Software Update

An Over The Air (OTA) Incremental Update can be performed.
- System must be connected by Wi-Fi or Hot Spot (Flame only)
- Update is recognized and available for download.

Note: If current update is not identified please continue to best practice recommendations.
Appendix B

Best practice recommendation
Download full software update

Go to InspectionWorks.com for full software package and instructions

Update Flame Handset Software Instructions:
Appendix B

Best practice recommendation
Download full software update

Go to InspectionWorks.com for full software package and instructions

Update Flame Handset Software Instructions:

[Image of software update instructions]

Waygate Technologies
Appendix B

Best practice recommendation
Download full software update

Go to [InspectionWorks.com](https://InspectionWorks.com) for full software package and instructions

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### Mentor Visual IQ – Flame Handset

**3.50.20310.3**  Latest Version

- **Release Date:** 01/02/2020
- **Updated Date:** 01/02/2020
- **Package Type:** Incremental (With Dependencies)
- **Dependent On:** 3.42.20386.13

---

#### Available Versions (5)

<table>
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<th>Software Version</th>
<th>Release Date</th>
<th>Package Type</th>
<th>Dependent On</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.50.20310.3</td>
<td>01/02/2020</td>
<td>Incremental (With Dependencies)</td>
<td>3.42.20386.13</td>
<td><img src="download.png" alt="Download" /></td>
</tr>
<tr>
<td>3.6.020310.3</td>
<td>02/02/2020</td>
<td>Full (No Dependencies)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.42.20386.13</td>
<td>11/01/2020</td>
<td>Full (No Dependencies)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.42.20386.1</td>
<td>06/10/2020</td>
<td>Incremental (With Dependencies)</td>
<td>3.38</td>
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<tr>
<td>3.38</td>
<td>02/02/2020</td>
<td>Full (No Dependencies)</td>
<td></td>
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Appendix B

Best practice recommendation
Download full software update

Go to InspectionWorks.com for full software package and instructions
Follow MViQ Software Update Instructions

For the **full** version upgrade, use this section. For incremental upgrade, use the next section.

1. Ensure that the handset to be upgraded has a full battery charge and is plugged into AC power.

2. Download the full upgrade version from InspectionWorks.com to a Windows PC.

3. Use Windows to unzip the full update file. There should be a folder called “EFI” and two files related to the version. These files should be copied to a 16GB or larger thumb drive. It’s best to have no other files on the thumb drive.

4. Plug the USB drive into a handset and power on the device while holding both trigger buttons on the underside of the Handset handle.
   a. The trigger buttons can be released once the Baker Hughes or Waygate logo appears on the screen. Note—if the trigger buttons aren’t held firmly, the upgrade will not proceed. Please repeat Step 4.

5. The upgrade software will automatically search for upgrade files once it starts up. If no upgrade files found, select “Search Again,” in combination with removing/inserting the upgrade drive or using a different USB upgrade device.

6. The upgrade SW will not display the current system version. It will, however, display the upgrade SW version in the upper right. Press “Upgrade System” to begin the upgrade. Press “Shutdown” to exit without upgrading. Note—if “Shutdown” is selected the upgrade can be attempted again at a later time.

7. Once the upgrade completes, the “Reboot” button appears.
   a. At that point, it’s safe to remove any USB drives.
   b. Press “Reboot.”

8. The system will now reboot multiple times to finish the upgrade process.
   Note—The upgrade has completed when the initial language selection or Live video screen is shown.
For the incremental upgrade use this section

1. Ensure that the handset to be upgraded has a full battery charge and is plugged into AC power.
2. Download the incremental upgrade version from InspectionWorks.com to a Windows PC.
3. Use Windows to unzip the incremental update file. There should be a “ivp” file related to the version. This file should be copied to an 8GB or larger thumb drive. It's best to have no other files on the thumb drive.
4. Plug the USB drive into a handset and power on the device. A message will be shown onscreen indicating an upgrade is available. Open the Main Menu and then select the Software Update screen.
5. On the Software Update screen select install to begin the software update. If you wish to not start the software update then press the large Exit arrow (on/off button) to exit without upgrading.
6. Once the update completes, the Reboot button appears. At that point, it's safe to remove any USB drives and press Reboot.
7. The system will now reboot multiple times to finish the update process.

Appendix B

Please Note the Following Files from Software Download will need to be Copied to the Top Level of a Clean USB Drive.

File download
Troubleshooting IW Connect Expert Portal

There are a number of factors that can contribute to a users’ inability to use the InspectionWorks Expert Portal. This troubleshooting guide will attempt to walk through the various scenarios with the intent of determining a root cause and ultimately a solution.

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<tr>
<th>Devices</th>
<th>Operating Systems</th>
<th>Browsers</th>
<th>Minimum network bandwidth (download/upload)</th>
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<tbody>
<tr>
<td>MViQ – Gray</td>
<td>Windows 10 Pro (1809)</td>
<td>Chrome (80.0.3987.149.80.0 3987.95)</td>
<td>Device – 2.4 Mbps/346 kbps, machine (browser) – 1/3 Mbps</td>
</tr>
<tr>
<td>MUT (3.4.0300.005)</td>
<td>Windows 10 (1909)</td>
<td>Firefox (68.6.0)</td>
<td></td>
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<tr>
<td>Older versions not supported for both of the above devices.</td>
<td>MacOS – High Sierra (10.13.1)</td>
<td>Safari (12.1)</td>
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<td>MacOS – Mojave (10.14.5)</td>
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<tr>
<td></td>
<td>Android (10.0)</td>
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<td></td>
<td>IOS (iPhone) (13.3.1)</td>
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<td></td>
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<tr>
<td></td>
<td>IOS (iPad) (12.4.5)</td>
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</table>

Refer below links for detailed specification list: MViQ List – [Click here] | Mentor UT List – [Click here]
Suspect network connectivity

InspectionWorks Connect requires that the Expert be on a system that has Internet access and IP port 433 to be open through the firewall. There are a couple quick tests that can be performed to make sure the Experts system is properly connected to the Internet.

**Connectivity test #1**
Have the Expert open a browser on their computer and browse to “https://www.inspectionworks.com.” This should display InspectionWorks home page. If this does not work, try test #2. If this does work, try test #3.

**Connectivity test #2**
Have the Expert open a DOS command window on this computer and enter the command “ping 8.8.8.8” or “ping 8.8.4.4.” These are Google’s DNS servers and are generally known to be available and reliable. If both test #1 and test #2 fail, chances are the computer is either not properly connected to the Internet, the connectivity is sporadic, or the network is behind a highly restrictive firewall. There is also a chance the system is behind a captive portal. If the ping succeeds, chances are there is a DNS issue which could be either unreachable DNS servers configured on the system, or DNS servers which have not cached the inspectionworks.com domain name.
Suspect network connectivity

Connectivity Test #3
To test network connectivity, there is a utility built into the Expert portal which will validate access to the InspectionWorks services. To run this test do the following:

1. Open an approved browser and go to www.inspectionworks.com
2. On the main page, click on the “Join Session” button
3. On Live Session login page, in the upper right-hand corner, click on the “Run Network Test” button. This will start a test suite which will perform a variety of tests against the InspectionWorks servers. The detailed output will look similar to:

If the “Run Network Test” fails, output will be:

If any of these tests fail, then it is likely the Expert will not be able to use InspectionWorks Connect. The customer should work with their local IT support to determine whether there are firewall or connectivity issues.
Detecting a captive portal
A captive portal is a firewall system that restricts the user from accessing Internet services until they have performed some type of access process. Commonly these are seen at hotels and coffee shops where public wifi access is provided. The system is allowed to connect to the local area network (LAN) but is unable to access Internet services until they open a browser and request access through a captive portal page.

If the Expert’s system is behind a captive portal, they may or may not have detected this scenario. “If network connectivity seems to be functioning, then the quickest way to detect a captive portal restriction is to ask the expert to open a browser and try to connect to the internet. If the Expert is behind a captive portal, the access page should appear fairly quickly. If the Expert is shown the Waygate website without having to log into a captive portal, then other troubleshooting steps should be taken. If a captive portal is detected, ask the Expert to log into the portal and then perform Connectivity Test #3 (see above).

Accessing a closed or full session
InspectionWorks currently provides the ability for one Expert to be in a session with an Inspector. If there is already an Expert in the session and another Expert tries to login, they will get a message stating the session is full and not accepting additional participants.

If the session has been closed, the Expert, upon entering in their login information, will get a message stating the login information is invalid. In this case the Expert should first validate the login information and retry the login, then contact the Inspector should the login fail again.

Incorrect session connection information
In the case where an Expert has provided incorrect login information, they will see a message stating that the login information is invalid. The Expert should then validate the login information, or if sent an email session invitation, click on the session link in the email which will auto populate the login information. The Expert can then check Terms of Use box and retry the login. If the Expert still cannot join the session, they should contact the Inspector who initiated the session.
If the tethered connection is not working perform the following actions:

1. Update OS Software to version 3.541 using **ONLY** a full software update. A full version 3.51 software update can be obtained from the InspectionWorks website.

2. Note: An incremental software update via wifi or from the InspectionWorks website will not fix the tethered connection. Note: If you connect wifi first and then connect your cable, it should be noted that the wifi will be delivering the video stream and not the tethered (cable) connection.

3. Best practice
   a. Turn off wifi
   b. Connect cable
   c. Verify working or not. If not working load version 3.51 full software version
Waygate Technologies

a Baker Hughes business