# User Manual

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Overview

The Image Viewing Solution (IVS) mobile application (app) allows U.S. Department of Veterans Affairs (VA) clinicians and other medical professionals to search for and view patients’ clinical images. The IVS aggregates images from VA enterprise medical facilities, offering easily accessible diagnostic-grade images, capabilities to work with images (e.g., scrolling, panning, zooming, adjusting window/level) and a tool to collaborate with other VA clinical staff.

The IVS protects Personally Identifiable Information (PII) and Protected Health Information (PHI) as well as the fidelity of the image, ensuring usage is HIPPA compliant and that images cannot be manipulated. **NOTE:** No patient data is moved, copied or downloaded; no data persists on end-user devices; images are “streamed” to the end-user’s device until the IVS session ends.

The IVS is available for iOS, Android and Windows operating systems, and is supported by these Internet browsers:

- Internet Explorer 11 and higher
- Safari 7 and higher
The Basics

Prerequisites
To use the IVS, you must be a VA health care professional with credentials for the Veterans Health Information Systems and Technology Architecture (VistA).

Logging into the IVS
To access the IVS > Click Login > Enter your VistA Username > Enter your VistA Password > Begin typing in a VA Hospital Location > A list of matching facilities will appear in a drop-down menu > Click your VA facility > Click Sign In. NOTE: When using the IVS via a remote connection, a Virtual Private Network (VPN) connection (e.g. AnyConnect, Citrix Access Gateway (CAG)) will need to be enabled in order to connect to the VA network securely.

Getting to know the screen
When you log into the IVS, you will see the Study Search screen, which is where you can search for patients and select images you would like to view. The screen is split into two panes: the Study Search panel where you search for and select patients and the Study List which is a preview area on the right. The icon in the top left corner (a person with an x-ray) takes you to the Image Viewer where you can view and manipulate selected images. You may also double click the entry from Study Search to load the image(s) and make them available for viewing and manipulation.
Learning about the app
Click the Image Viewer icon (person with x-ray) in the top right corner > You will go to the Image Viewer screen > Click the book icon in the top right of your screen > A drop-down menu will appear > Click User Guide, and a built-in user guide will open in another window > The User Guide is divided into two panes: a table of contents on the left and information about the app on the right > Click a category within the table of contents on the left, and the background and instructions for the topic will appear on the right side of the screen.

Keystrokes for the app
Click the book icon in the top right of your screen > A drop-down menu will appear > Click Hotkeys, and a built-in reference guide for keyboard shortcuts will open in another window.

Device and window size
The IVS layout adjusts depending on how large your window is. Key differences include:

- iPads – On iPads the patient’s results will be on a separate tab from the Search tab and Study List will not be available on the same screen as the image.
- Small window – While using a small screen or window size the patient search results will appear under the Search fields and the Study List
- Large – On a large screen the search results will be shown under the Search fields, the Study List will be accessible on the left side of the Image Viewer, and both the Settings icon (gear icon) and the User Manual icon (book icon) will be accessible from the Search screen, and you will not need to go to the Image Viewer to access the User Manual and Settings menu.
**Full Screen**
To view the app on your desktop in full screen, click the gear icon in the top right corner of your screen > A drop-down menu will appear > Click **Toggle Full Screen**. To exit full screen click **Toggle Full Screen** again from the gear icon drop-down menu. **NOTE:** The iPad version of the IVS does not have the option to view in full screen.

**Ambient Light Test**
To perform the ambient light user assessment to ensure appropriate lighting conditions before use, click the gear icon > A drop-down menu will appear > Click **Ambient Light Test** > A pop-up Ambient Lighting User Assessment box will appear > Click **Perform Light Test** to begin (or **Cancel** to exit without performing the test) > Ensure that you can view the test images properly, consult your device’s user manual and adjust your device settings as necessary to view the images properly > A final pop-up box confirming you can see the images properly will appear > Click **Yes** to finish the test and return to the app. If you cannot, click **No**, a pop-up box message informing you to find an environment suitable for viewing will appear > Click **Dismiss** to perform the test again when you have reached a suitable environment.

**Display Settings**
To adjust the image quality and metadata that is visible, click the gear icon in the top right corner > A drop-down menu will appear > Click **Display Settings**, and a pop-up Display Settings box will appear:

- **Metadata Display** – Click the icon that represents how much metadata you wish to display.

- **Image Quality** – Use the sliders to adjust the JPEG quality for Interactive Quality (while images are moving) and Final Quality (still image).

- The Multi-monitor Display options are available on the desktop version but not on the iPad version.
Logging Off
Click the Image Viewer icon (person with x-ray) in the top right corner > You will go to the Image Viewer screen > Click the gear icon in the top right corner of your screen > A drop-down menu will appear > Click Logout.

Patient Search
Find patients, filter by date and modality as well as search specific archives or all of VA's archives.

Using Study Search
When you log into the IVS, the search will default to several Search options. Fill out any or all of the criteria:

- Patient Name – Type the patient’s full social security number (SSN) with hyphens or SSN without hyphens or FirstName,LastName (no spaces) or, LastName (may return too many results and will not display) or the first letter of his or her last name and the last four numbers of SSN (no Spaces).
- Patient ID – This field should not be used in the IVS. Using this field in conjunction with the Patient Name field will cause the patient search to fail.
- Accession Number – This field should not be used in the IVS. Using this field in conjunction with the Patient Name field will cause the patient search to fail.
- Modality – Click Any or a specific modality.
- Within – Click the radio button next to Within heading > Click either Any, One Day, Three Days, One Week, One Month or Six Months.
- Date Range – Click the radio button next to Date Range > The Within time options will change to date fields and calendar icons > Either:
  1. Type in the start and end dates in format YYYY-MM-DD.
  2. Click each calendar icon > A pop-up calendar will appear > Click days on the calendar to choose start and end dates of the time frame you wish to view.

NOTE: If you use the Date Range search option, you cannot use the Within Last search option.
• Select Repositories – Click **Select Repositories**, and a new screen will appear > Check which repositories you would like to search, or click **Deselect All** to uncheck everything or **Reset Defaults** to return to the default selections > Tap **Done** to save your selection and return to Patient Search with the options to choose to search your local location or the entire VA.

![Select Repositories](image)

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Modality</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>Computed or Computerized Tomography</td>
</tr>
<tr>
<td>MR</td>
<td>Magnetic Resonance</td>
</tr>
<tr>
<td>US</td>
<td>Ultrasound</td>
</tr>
<tr>
<td>XA</td>
<td>X-Ray Angiography</td>
</tr>
<tr>
<td>NM</td>
<td>Nuclear Medicine</td>
</tr>
<tr>
<td>SC</td>
<td>Secondary Capture</td>
</tr>
<tr>
<td>CR</td>
<td>Computed Radiography</td>
</tr>
<tr>
<td>DX</td>
<td>Digital Radiography</td>
</tr>
<tr>
<td>OT</td>
<td>Other</td>
</tr>
<tr>
<td>PT</td>
<td>Positron Emission Tomography (PET)</td>
</tr>
<tr>
<td>KO</td>
<td>Key Object</td>
</tr>
<tr>
<td>MG</td>
<td>Mammography</td>
</tr>
<tr>
<td>ES</td>
<td>Endoscopy</td>
</tr>
<tr>
<td>OP</td>
<td>Ophthalmic Photography</td>
</tr>
<tr>
<td>RF</td>
<td>Radio Fluoroscopy</td>
</tr>
<tr>
<td>SR</td>
<td>SR Document</td>
</tr>
<tr>
<td>IO</td>
<td>Intra-oral Radiography</td>
</tr>
<tr>
<td>XC</td>
<td>External-camera Photography</td>
</tr>
<tr>
<td>RTIMAGE</td>
<td>Radiotherapy Image</td>
</tr>
<tr>
<td>OPT</td>
<td>Ophthalmic Tomography</td>
</tr>
</tbody>
</table>

Click **Search** to go to the Results tab showing all patient entries that match your search. You can also tap **Reset** to clear all the forms.
Image Viewing

You can view a patient’s images from different perspectives (2D, MIP/MPR or 3D) as well as work with images in a variety of ways, such as zooming, mirroring, measuring and making notes on an image.

Choosing images to view

After you have searched for a patient on the Search tab, a list of patients whose information matches your search criteria will appear on the Results tab and will show:

- Patient Name
- Patient ID / Accession
- Modality
- Study Description
- Date and Time of Images
- Date of Birth / Sex
- Archive

Select the image search results you would like to view and work with, and click Add to Study List > The image(s) will appear in the Study List (right side of the screen) > Double click the image under the Study List you would like to view in the Image Viewer, or from the Image Viewer, click and drag the image you would like to view to the Image Viewer (or to the desired location if in a multiple image layout).
Viewing a patient’s images

After you have loaded images into the Image Viewer, the patient’s data can be divided into two vertical, two horizontal or four separate panes. By clicking on the buttons on the bottom left of the screen, you can change the way the images are presented:

- **Link Views (chain icon)** – In 2D mode, you can scroll through images by moving the wheel of your mouse, and you may view up to four images at one time. If you are viewing two or more images at one time, you can link your views together so that when you scroll through one image, the other images scroll simultaneously. Or you can unlink your views so that if you scroll through one image, the others remain fixed.
- **1x1 Layout (box icon)** – One image.
- **1x2 Layout (vertical rectangles icon)** – Two images side by side.
- **2x1 Layout (horizontal rectangles icon)** – Two images stacked top and bottom.
- **2x2 Layout (four squares icon)** – Four images in a square.

Related Studies

If your patient has had multiple sets of images taken of the same type (e.g., cranial, spine, etc.) the Related Studies button will provide you with all of your patient’s available images in the database, regardless of the initial search criteria used to view the current study. To access Related Studies, click the three line icon in the Study List > Click the three dots with arrows icon to bring up all of your patient’s related studies.
Reading and changing orientations
Throughout the IVS there are various ways of viewing an image, there will be markings and directions to signify the orientation of the image:

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Anterior (front)</td>
</tr>
<tr>
<td>P</td>
<td>Posterior (back)</td>
</tr>
<tr>
<td>R</td>
<td>Right lateral</td>
</tr>
<tr>
<td>L</td>
<td>Left lateral</td>
</tr>
<tr>
<td>S</td>
<td>Superior (above)</td>
</tr>
<tr>
<td>I</td>
<td>Inferior (below)</td>
</tr>
</tbody>
</table>

These markings will generally be along the sides of the image or next to a 3D compass in the bottom left of an image. If you would like to change the orientation of the image, click on the ends of the compass and swivel it, which will consequently rotate the image.

Navigation
You can navigate images in the image viewing with the navigation tools. In the top left corner of the image under Navigate, click one of the following, and your cursor will change to that icon and you can manipulate the image:

- **Scroll** (several lines with an up and down arrows icon) – When selected, click and drag up and down to scroll through the images in a series. This view is available for 2D and MIP/MPR view modes only.
- **Pan** (two multidirectional arrows in a cross icon) – When selected, click and drag in any direction to pan (move an image one direction or another) the image.
- **Zoom** (magnifying glass with a + icon) – When selected, click and drag up and down to zoom in and out of the image.
- **Window/Level** (half shaded sun icon) – When selected, click and drag left and right or up and down to adjust window level.

Measuring Tools
The measuring tools in the app allow you to measure linear distances, areas (regions of interest), the signal density of a point and an angle. To begin a measurement click the icon of the type of measurement you would like to do:

- **Linear** – (ruler) – When selected measures the distance between two points in the view. Click the ruler icon > Your cursor will change to a + > Click on the image where you would like to start drawing a line > Hold down and drag your cursor to where you would like to end your line > Release your mouse, and the distance between the two points will be calculated both next to the line and in the measurement box. You can adjust the line by clicking on an end point and dragging it to a new location.
• ROI (Region of Interest) – (ellipse with plus at lower right corner) Click the ellipse-plus icon > Your cursor will change to a + > Click on the image near the region you would like to measure > Hold down and drag your cursor, and a box with an oval inside will appear > Release your cursor when the box and circle has covered the region you would like to measure > The measurements for Mean, Std Dev (standard deviation) and Area will be calculated both next to your drawn box and in the measurement box. You can adjust the box by clicking on the corners and dragging it to a new location.

• Point – (cross with open circle in center) Click the cross icon > Your cursor will change to a + > Click on the image at the point you would like to measure > The X axis, Y axis and Value (in Hounsfield Units) will calculate both next to the point and in the measurement box. You can move the point by clicking on it and dragging it to a new location.

• Angle – (angle with degree symbol in center) Click the angle icon > Your cursor will change to a + > Click on the image where you would like to measure the angle > Click on the points at the vertex and the arms of the angle, and drag until the angle faces and covers the region you would like to measure > The degrees will be calculated both next to the angle’s vertex and in the measurement box.

Annotations/Markup

The Markup tool allows you to create text boxes to type or write freehand NOTE: Freehand is not available in 3D view. To delete a markup or annotation, click on the item you would like to delete, and press the Delete key, or press the trash can icon at the bottom left of the image. (NOTE: Measurements and Annotations are not stored and do not persist on the image).

• Text – (capital “A”) - To annotate, click the A icon > A pop-up Measurement/Markup box will appear with two options: Annotate and Freehand. By clicking Annotate, a cursor will appear that you can place in the desired location on the image and type your note. By clicking Freehand, a pencil will appear that allows you to draw or write.

• Toggle GS5PS Data – (square with overlapping circle and horizontal line from circle) – This functionality is not supported in the IVS.

• Reset All Views – (counterclockwise circle arrow) – You can reset the image to the default view at any time.

With IVS you can either reset a single view or all views:

• Reset Single View – To reset a single view, click the three line icon at the bottom left of the image you would like to reset > Under Manipulation tap Reset (the counterclockwise circle arrow icon).
2D Images

The 2D view allows you to see and interact with up to four images at one time.

Working with 2D images

There are a few ways you can work with a 2D image:

- Scrolling through slices – Either use the wheel on your mouse or use the scroll icon.
- Zooming in – Either (1) press the = key, (2) hold the Alt key, and scroll up with your mouse wheel or (3) hold Ctrl-Shift while clicking and holding down the left side of your mouse, then drag your cursor up. (On a Mac, hold Cmd instead of Ctrl).
- Zooming out – Either (1) press the – key, (2) hold the Alt key, and scroll down with your mouse wheel or (3) hold Ctrl-Shift while clicking and holding down the left side of your mouse, then drag your cursor up. (On a Mac, hold Cmd instead of Ctrl).

Manipulate the image

To manipulate the image, including rotating, mirroring and preset views, tap the three line icon at the bottom left of the image > The Tools menu will appear > Under Manipulate tap one of the following to manipulate the image as desired:

- Mirror Vertical – The image will flip vertically.
- Mirror Horizontal – The image will flip horizontally.
- Rotate CW (rotate clockwise) – The image will rotate 90 degrees to the right.
- Rotate CCW (rotate counter clockwise) – The image will rotate 90 degrees to the left.
- Window/Level Presets – Several preset views will appear. These presets are to view certain elements or materials within an image, such as soft tissue or blood. For 2D images > Click the preset you would like to use > The width and level will adjust accordingly. (NOTE: For 3D images, more preset options are available. See the 3D Image section for detailed instructions.)
- Invert – The intensity of the image will invert.
- Lens – A magnifying glass tool will appear > Click and drag to move the magnifying glass across the image.
- Reset – Only the image you are accessing the Tools menu from will reset.

NOTE: Not all menu options are available for every image.
Cine
Use the Cine mode to view the images as a movie, automatically scrolling through or “playing” a reel of images. To view the images in Cine mode, click the three line icon at the bottom left of the image > The Tools menu will appear > Under Tools click Cine (movie reel image) > The image slider bar will fill with color indicating data buffering progress > Click the Play button to begin automatically going through the images > Click the Pause button to stop the play back > To adjust the framerate, click \text{fps} \text{ and a pop-up box will appear}, adjust as desired > Click \text{fps} \text{ and click the checkbox next to Playback Reversed to reverse the play direction} > Click the Cine icon again to exit the Cine mode.

Using keyboard controls for 2D images
There are keystrokes you can use that allow you to interact with a 2D image:

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Reset pan</td>
</tr>
<tr>
<td>S</td>
<td>Reset view to its default slice</td>
</tr>
<tr>
<td>1 - 0</td>
<td>Window/level presets</td>
</tr>
<tr>
<td>\text{Alt + click + drag}</td>
<td>Autoscroll through slices</td>
</tr>
<tr>
<td>I</td>
<td>Invert intensities (change light to dark and dark to light)</td>
</tr>
<tr>
<td>O</td>
<td>Turn magnifying glass on or off</td>
</tr>
</tbody>
</table>
MIP/MPR Images

The MIP/MPR (maximum-intensity projection/multiplanar reconstruction) view allows you to see and interact with cross sections of 2D images.

Changing to MIP/MPR view
When you load images into the Image Viewer, the view will default to 2D. To change the view, click on the three line icon at the bottom of the image > The Tools menu will appear > Click MIP/MPR.
Getting to know the MIP/MPR view
The MIP/MPR screen is divided into four images: three small images in a vertical strip on the left, and one large image on the right. The small images on the left show three perspectives and are color coded:

- Green - Slices taken from left to right (sagittal).
- Blue - Slices taken from front to back (coronal).
- Red - Slices taken from top to bottom (axial).

The larger image will be a close-up of one of the smaller images. Double-clicking on a small image will change the image in the big window for viewing. To emphasize from which perspective the larger image is being viewed, the larger image outline will match the color (green, blue or red) of the small image it duplicates. Any changes or mark-ups made to one image will be reflected in the other images of the series being viewed.

Working with MIP/MPR images
There are a few ways you can work with a MIP/MPR image:

- Scrolling through slices – Use the wheel on your mouse.
- Zooming in – Press the = key.
- Zooming out – Press the – key.

Manipulating planes
In each of the small images on the left, there are two perpendicular positional lines that represent the cross sections or slices you are viewing. You can move lines to view the image from different perspectives. To change the view, you can:

- Move a plane perpendicularly or in parallel orthogonally – Click on any solid part of the perpendicular positional lines over the image > Hold down and drag up, down, right or left to reposition.
- Freely move positional lines – Click on the center of the cross hair at the bottom left of the large image and drag.
- Re-center the positional lines – Click on the intersection of the perpendicular positional lines > Hold down and drag to reposition
- Triangulate a point – Hold down the Ctrl (or Cmd on a Mac), and click anywhere on any of the three smaller images in the strip view > The point will be reflected in the other two smaller images, and the large image on the right will adjust accordingly. **NOTE**: It is not possible to triangulate a point on an iPad or other iOS device.
Using curved MPR

While the MIP/MPR view is generally used to show images at right angles to each other, you can create a curved MPR (CMPR), which is a series of 2D images that follow the curvature of a specified part of anatomy. When viewed together, they present a continuous (elongated) depiction of the entire anatomical structure in a single plane. To enable CMPR click on the three line icon at the bottom left of the image > The Tools menu will display > Under Manipulate click CMPR (curved line icon). By default, the bottom left pane becomes the curved MPR. Then you can:

• Draw to define a centerline – Left click your mouse and hold down > Draw a line on any of the images to designate your centerline > Points will appear on the line you have drawn, and the line will be reflected in the other three images.
• Adjust the centerline – Click any of the points on the centerline you have drawn > Hold down and drag to reposition.
• Reset the MPR – Press the D key to reset the MPR, and to undo changes to the centerline press the Z key.

Using keyboard controls for MIP/MPR images

There are keystrokes you can use that allow you to interact with a MIP/MPR image:

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>Turn extents/measurements ruler on or off on the Orthogonal Images on the left of the main view window</td>
</tr>
<tr>
<td>I</td>
<td>Invert intensities (change light to dark and dark to light).</td>
</tr>
<tr>
<td>S</td>
<td>Turn slabbing on or off (Slabbing allows you to adjust the thickness of the slices or cross sections. Note that the thicker the slab, the less detail you will be able to see.)</td>
</tr>
</tbody>
</table>
3D Images

The 3D view allows you to see and interact with images as they would seem in real life.

Changing to 3D view

When you load images into the Image Viewer, the view will default to 2D. To change the view, click on the three line icon in the bottom left of the image to display Tools > Click 3D.

Magnifying part of an image

The lens feature allows you to magnify a section of a 3D image while keeping the entire volume in the main view. Press the O key and click on the area you would like to magnify > The magnified area will appear in a circular lens.

You can then:

- Move the lens over the volume – Left click on the magnified area in the lens and hold down > Drag the lens to reposition.
- Move the lens through the volume – Click on the magnified part of the lens > Scroll the wheel of your mouse up or down to push the lens deeper into the volume and back out.
- Adjusting the level of the lens’s magnification – Click on the magnified part of the image in the circular lens > Scroll the wheel of your mouse up to increase magnification, or scroll the wheel of your mouse down to decrease magnification.
Clipping Planes in 3D view

If you would like to view certain areas of an image, but other parts of the image are in your way, you can remove the material that is obscuring your view. Click the three line icon in the bottom left of your screen > The Tools menu will appear > Under Manipulate click Clipping Planes (box icon) > A box will appear around the image with floating dots or “handles” in the middle of the box > Click on either an edge or a corner of the box, and drag to readjust the size > Click on one of the floating dots or “handles” in the middle of the box and drag to slice away or remove planes of material. To rotate the image, click outside the box, and drag. To reset the clipping planes and image orientation, press G.
Scalpel Tool
The scalpel tool manually cuts away obscuring anatomy, allowing for a greater degree of precision than clipping planes. Press the X key > Left click, hold and drag the scalpel around the part of the image you would like to cut away > Release your mouse > Hover your mouse over the outlined area so that it is highlighted > Press the Delete key > The shaded section will disappear. To undo the cuts, press Z while the scalpel tool is enabled.

Using window/level presets
While the basic presets offered in 2D and MIP/MPR views are also available in 3D view, 3D view offers additional options. To go to the presets tool, click the three line icon at the bottom left of the image > The Tools menu will appear > Under Manipulate click Windows/Level Presets > The menu of presets will appear > Click the preset you would like to use > The image will adjust accordingly.

Using keyboard controls for 3D images
There are keystrokes you can use that allow you to interact with a 3D image:

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>View image from right</td>
</tr>
<tr>
<td>L</td>
<td>View image from left</td>
</tr>
<tr>
<td>S</td>
<td>View image from superior</td>
</tr>
<tr>
<td>I</td>
<td>View image from inferior</td>
</tr>
<tr>
<td>A</td>
<td>View image from anterior</td>
</tr>
<tr>
<td>P</td>
<td>View image from posterior</td>
</tr>
<tr>
<td>G</td>
<td>Reset clipping planes</td>
</tr>
<tr>
<td>O</td>
<td>Turn lens tool on or off</td>
</tr>
<tr>
<td>C</td>
<td>Turn clipping planes on or off</td>
</tr>
<tr>
<td>Z</td>
<td>Undo scalpel</td>
</tr>
</tbody>
</table>
Collaboration

Collaboration allows multiple physicians to view a patient’s images simultaneously and offer feedback. NOTE: When collaborating, only the host’s images will be of diagnostic quality.

Hosting sessions
To host a collaboration session, click the Collaboration Panel button (the person with a + icon in the bottom right corner) > A pop-up Collaboration box will appear > Click Start Session. As a host, you can:

- Send invites for a session – Click Email > The email account associated with your device will open with a link to the collaboration session in the body of the message > Type the email address(es) into the To field > Type your message > Click Send. You can invite anyone to a collaboration session, regardless if he or she is a VA provider, but note that users must be actively connected to the VA network to open the collaboration session. NOTE: Once you start a Collaboration, PHI or PII is automatically hidden. To show this information, check the box next to Show confidential patient information. There is no audio component to collaboration, but conference call setup instructions can be included in the email if you want to discuss the session.

- Copy collaboration session invite link – Click Copy Link > The link to the collaboration session will be saved on your device > Paste the link to share it with additional participants.

- Allow a participant to interact with images – To allow a participant to use all of the interaction tools available in the app, click the mouse icon to the right of the participant’s name.

- Show or hide a participant’s cursor – To allow participants to point to an image without interacting with it, click the arrow to the right of the participant’s name.

- Remove a participant from a session – Click the “X” to the right of the participant’s name in the Collaboration box.

- Show or hide confidential patient information – Click the checkbox next to Show confidential patient information.

- End a session – Click End Session.

NOTE: Each session has its own link, so once you end a session, you cannot use the same link again to host or enter a collaboration session. You must send a new invite to begin every session.

Joining sessions
In order to join a session, you must have received an emailed invite for the session and be actively connected to the VA network. Open the emailed invite > Click the link to the session provided in the email > A pop-up Participant Info box will appear > Type your name and email address > Click Join > You will enter the meeting and be able to see the host’s screen.
Help and Additional Information

Additional training materials for the Image Viewing Solution App
The IVS offers a built-in User Guide. To access the built-in User Guide, click the Image Viewer icon (person with x-ray) in the top left corner to go to the Image Viewer screen. Click the book icon in the top right of your screen, and a User Guide will open in another window. In addition to the User Guide built into the app, more resources, such as a Quick Start Guide, Slideshow and FAQs, can be found on mobile.va.gov/appstore, and search for the app to access the resources.

Help Desk Information
If you need assistance with the Image Viewing Solution App, dial 1-844-482-6624 to speak with a VA representative. The Help Desk is open weekdays from 7 a.m. to 7 p.m. CT. For TTY assistance, dial 711.

Emergencies
If you feel that your information may have been compromised, contact your local VA facility to obtain the contact information for your Privacy Officer. To locate your local VA facility, visit VA's Facility Locator: http://www.va.gov/directory/guide/home.asp?isflash=1. Note that you should never use this app in an emergency situation. If you encounter an emergency, call your local medical center or dial 911.

Appendices

Appendix #1: Project References
The Image Viewing Solution (IVS) was integrated by Accenture Federal Services in collaboration with Calgary Scientific Inc. [calgaryscientific.com] according to an approved concept paper. The IVS and Integrated ResolutionMD Commercial Off the Shelf (COTS) App was tested in a VA test environment to ensure optimal functionality. ResolutionMD subject matter experts who served in the solution’s creation may be reached at support@calgaryscientific.com.

Appendix #2: Glossary

**App** – an application, or software program, that can be accessed through a website or mobile device and is designed to fulfill a particular purpose

**Axial** – from top or bottom

**CPRS (Computerized Patient Record System)** – electronic medical record applications and databases that provide a complete overview of patient’s medical records

**Coronal** – from back or front

**Curved MPR (CMPR)** – a series of 2D images that follow the curvature of a specified part of anatomy. When viewed together, they present a continuous (albeit elongated) depiction of the entire anatomical structure in a single plane

**Histogram** – a graph that represents the distribution of data (For the IVS App, this histogram’s horizontal axis represents the tonal variations, and the vertical axis represents the number of pixels in that particular tone.)

**Hounsfield units** – the numeric information contained in each pixel of a CT (computerized tomography) scan related to the composition and nature of tissue and used to represent the density of tissue
**Modality** – type of image captured

**MIP/MPR** – maximum-intensity projection/multiplanar reconstruction

**Orthogonal** – intersecting or lying at right angles

**Pixel** – the most basic unit of an image, generally arranged in rows and columns, with its own brightness and color

**Sagittal** – from left or right

**Standard Deviation** – a measure of the difference or dispersion in Hounsfield Units among the pixels contained within an image. A low standard deviation indicates that the data points tend to be very close to the mean; a high standard deviation indicates that the data points are spread out over a large range of values

**VA** – Department of Veterans Affairs

**VA Mobile Health** – an initiative that aims to improve Veterans’ health by providing technologies to expand care beyond the traditional office visit and that includes the creation of secure mobile apps to leverage the popularity of wireless technologies to support Veterans, Caregivers and VA care teams [More at: mobile.va.gov]

**VistA (Veterans Health Information Systems and Technology Architecture)** – VA’s computerized patient record system.