syngo.via WebViewer

Operator Manual – Web Client

VA20B

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1 Introduction

syngo.via WebViewer provides access to image data with basic manipulation and measurement functions as well as 3D postprocessing tools.

It is mainly intended for use by physicians who need convenient access to images for their patients.

1.1 Intended purpose

1.1.1 Intended use

syngo.via WebViewer is a software-only device indicated for reviewing medical images from *syngo*. via. It supports interpretation and evaluation of examinations within healthcare institutions, for example, in Radiology, Nuclear Medicine and Cardiology environments (supported image types: CT, MR, CR, DR, DX, PET). It is not intended for storage or distribution of medical images.

syngo.via WebViewer is an option for the *syngo*.via system and cannot be run without it. It is client server architecture and the client is intended to run on web clients which are connected to the healthcare institution IT infrastructure where the customer will insure HIPAA compliance.

The communication of *syngo*.via WebViewer with connected medical IT systems will be done via standard interfaces such as but not limited to DICOM.

The system is not intended for the display of digital mammography images for diagnosis.

1.1.2 Indications for use

syngo.via WebViewer is indicated for reviewing medical images from *syngo*.via to support interpretation in the field of radiology, nuclear medicine and cardiology.

The system is **not** intended to be used as stand-alone device. It is intended to be an option for a *syngo*.via system only.

The system is **not** indicated for mammography images for diagnosis.

The system is **not** intended for storage or distribution of medical images from one medical device to another.

The application is **not** to be used as an archiving device for patients' image data.

The application is **not** to be used as a sole basis for clinical decisions.

1.1.3 Patient target group

syngo.via Web Viewer has neither limitations concerning the patient population (e.g. age, weight, health, condition) nor limitations concerning region of body or tissue type.

1.2 Clinical benefits

syngo.via WebViewer facilitates access with Apple mobile devices and WebBrowsers to images on *syngo*.via in diagnostic reading quality, including thin-slices and image reconstructions.

1.3 User profiles

Please note that the following profiles may vary in practice depending on (hospital) organization, qualification, and personal responsibilities, and can only be considered as a general guide.

The following user profiles have been identified for *syngo*.via WebViewer:

- **User**

  Mainly radiologists who review medical images from *syngo*.via and non radiologist physicians inside the hospital / facility of various specialities

- **Administrator**

  Executes updates/upgrades, is the first level in case of troubleshooting (according to call handling and incident management process)

1.4 Legal notes

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1.5 Displaying information about syngo.via WebViewer

You can view information about the software version of *syngo*.via WebViewer and information about installed open source software.

- In the Access Bar, click the **Information** icon.

1 Introduction

2 Safety advisory

Warnings indicate a potential hazard to the health or life of patients or personnel.

Cautions indicate conditions or consequences that you should pay particular attention to when working with *syngo*.via WebViewer, but no direct danger is involved.

If you encounter any serious problems during your work with *syngo*.via WebViewer, please let us know.

In addition, the competent authority of your country where the user and/or the patient is located, must be informed of such serious problems.

2.1 Image processing and viewing

CAUTION

Images with lossy compression have reduced image quality.

The images may contain insufficient information.

- Be aware of image quality loss in lossy compressed images. A compression factor is shown on compressed images.

CAUTION

Algorithms used for calculation of evaluation results and visualization of results depend on display size, round-off errors due to sub-pixel precision, zoom factor, and other factors. Measurements made on 3D, MPR with thick slices or projection images may be inaccurate.

Inaccurate measurement results.

- Be aware of precision limitations when using displayed measurement values. Be aware that displayed measurements made on 3D or projection images may be incorrect. Do not assume that the image calibration is correct.
- Use appropriate windowing values.

CAUTION

Older iOS versions on mobile devices and older browser versions on Web Clients can cause inconsistencies.

Image data may not be accessible or valid.

- Use only supported iOS and browser versions.

CAUTION

Fusion of PET/CT images may hide clinical relevant data.

Relevant image information may be overseen.

- Be aware that relevant image information can be hidden due to masking out with image fusion. Fused images are indicated within the application.

CAUTION

The display of movies is not in real-time.

Wrong diagnosis.

- Do not assume that displays of multiframe images such as angiographic sequences are shown in real-time. They may be slowly or irregularly displayed.

CAUTION

Use of inappropriate devices (displays, printers) to review radiological images.

Incorrect review of images.

- Review of images require an optimum display of images. Only use suitable monitors and printers for review of images. Follow the maintenance and care instructions given in the manufacturer's documentation.

CAUTION

Information is not updated automatically in the *syngo*.via WebViewer Web Client.

Incorrect conclusions due to outdated data

- Manually refresh the *syngo*.via WebViewer Web Client display at regular intervals to ensure the display of the latest information.

2.2 Outside influences

CAUTION

Unauthorized access to system.

Hazards up to and including loss of patient data and inoperable system.

- Use effective passwords of sufficient length containing a mixture of upper and lower-case letters, numerals and special characters. Protect your password and do not write it down.

CAUTION

Use of an anti-virus software that is not provided by Siemens.

Malicious software can cause harms up to and including non-operational system and loss of all patient data.

- The administrator is responsible for the configuration of the anti-virus software. Configure and regularly update the anti-virus software.

2.3 Hardware and software requirements

For installation of *syngo*.via WebViewer, your computer must meet specific requirements.

For integrated and virtual *syngo*.via WebViewer installation, refer to the *Data Sheet* of *syngo*.via, chapter "Hardware Specifications & Virtual Deployments".

For dedicated *syngo*.via WebViewer refer to the *Data Sheet* of *syngo*.via WebViewer.

3 Getting started

This section describes how you can quickly start working with your *syngo*.via WebViewer software:

- See (➔ Page 15 *Starting syngo.via WebViewer and logging on*).
- See (➔ Page 16 *Accessing the Online Help*).
- See (➔ Page 16 *Closing syngo.via WebViewer*).
- See (➔ Page 16 *Main work environments*).

3.1 Supported Modalities

The *syngo*.via WebViewer supports different modalities. Each modality comes with a number of presets. In the settings you can adjust the presets.

The following table shows all available modalities and presets:

Modality	Preset	Description
CT	MPR/2D VRT MIP	Computed tomography images are presented in 2D multiplanar reconstruction, vector rendering technique, or maximum intensity projection.
MR	MPR/2D VRT MIP	Magnetic resonance images presented in 2D multiplanar reconstruction, vector rendering technique, or maximum intensity projection.

Modality	Preset	Description
PET	MPR/2D T/B Window MPR/2D Color Table MIP T/B Window MIP Color Table	Positron emission tomography images are presented in 2D multiplanar reconstruction, vector rendering technique, or maximum intensity projection.
AX/XA	MPR/2D VRT MIP	Angiography images presented in 2D multiplanar reconstruction, vector rendering technique, or maximum intensity projection.
X-Ray	MPR/2D	X-ray images are presented in 2D multiplanar reconstruction.
Merged PET/CT data with CT presets	MPR/2D VRT MIP	Merged computed tomography and positron emission tomography images are presented in 2D multiplanar reconstruction, vector rendering technique, or maximum intensity projection by using CT presets.
Merged PET/CT data with PET presets	MPR/2D Color Table MIP Color Table	Merged positron emission and computed tomography tomography images are presented in 2D multiplanar reconstruction, vector rendering technique, or maximum intensity projection by using PET presets.

3.2 Starting syngo.via WebViewer and logging on

CAUTION

Unauthorized access to system.

Hazards up to and including loss of patient data and inoperable system.

- Use effective passwords of sufficient length containing a mixture of upper and lower-case letters, numerals and special characters. Protect your password and do not write it down.

1 Navigate to the *syngo*.via WebViewer server address in your Browser.

Bookmark the server address in your Browser to easily call the *syngo*.via WebViewer.

2 Enter your **User Name** and **Password**.

3 If desired, select the **Remember user name** check box to retain your user name for future logon.

4 Click the **Login** button.

If you saved the last session, you will be asked if you want to continue with this session.

5 Click **Yes** to work on with the saved session.

The Viewer opens displaying the images last edited.

Click **No** to start a new session.

The saved session is no longer retained and the **Advanced Search** opens.

3.3 Accessing the Online Help

- In the Access Bar, click the **Question Mark** icon.

  The Online Help opens.

3.4 Closing syngo.via WebViewer

1. In the Access Bar, click the **Logout** icon.

   A message is displayed.

2. In the message box, click one of the following buttons:

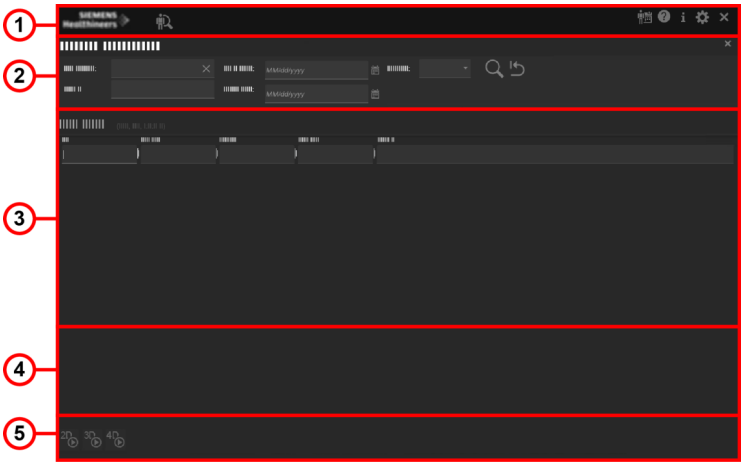
   - **Logout** (This button is only displayed if no data was loaded into the Viewer.)
   - **Logout Only** (This button is only displayed if any data was loaded in the Viewer.) All changes will be lost.
   - **Save and Logout** to work on later. Opened data and measurements of the current session are retained. This button is only displayed if any data was loaded into the Viewer.
   - **Cancel Logout**

If you do not log off, *syngo*.via WebViewer logs out automatically after a certain period of time. When an auto-logoff is performed, all current WebViewer settings and image changes are saved. To change the period, contact your administrator.

3.5 Main work environments

syngo.via WebViewer features the following work environments:

Advanced Search



(1) Access Bar

The Access Bar enables you to switch between the **Advanced Search** and the Patient tabs. Additionally, the Access Bar displays your user name and provides access to the **WebViewer Settings**, the Online Help, the **Conferencing** tool, and other services.

(2) Search area

The Search area enables you to change the current search criteria.

(3) Result list

The result list shows the data that matches the current search and filter criteria.

(4) Series list

The series list shows the series corresponding to the study selected in the result list.

(5) Loading toolbar

The loading toolbar provides different modes for loading studies or series.

Viewer

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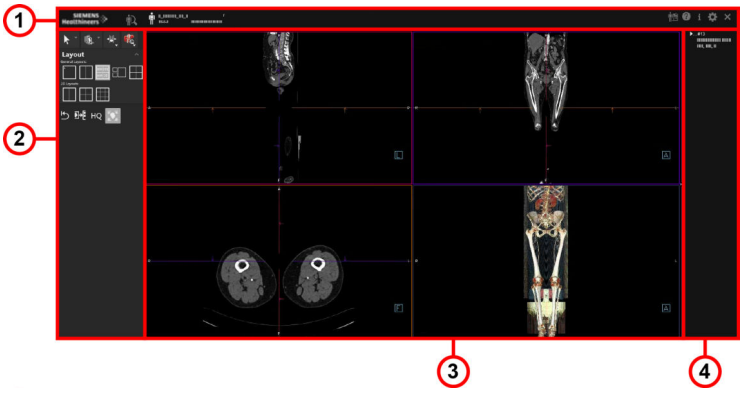


(1) Access Bar

The Access Bar enables you to switch between the **Advanced Search** and the Patient tabs. Additionally, the Access Bar displays your user name and provides access to the **WebViewer Settings**, the Online Help, the **Conferencing** tool, and other services.

(2) Control area

The Control area contains all functions available for the currently displayed images.

(3) Image area

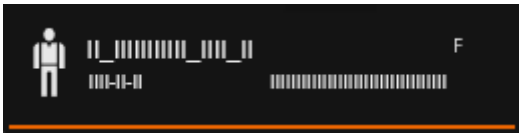
The image area displays images and series in segments. Context menus are available in the segments.

(4) Series Navigator

The Series Navigator lists all currently loaded data within a study.

Patient tab

The Patient tab represents the currently loaded study. Additionally, the Patient tab displays the patient name, the patient ID, the patient sex, and the date of birth of the patient.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4 Advanced Search

After you have logged on with a new session, the **Advanced Search** is displayed.

See (➔ Page 16 *Main work environments*).

The **Advanced Search** allows you to search and filter for specific patient data:

- See (➔ Page 21 *Searching for studies*).
- See (➔ Page 22 *Filtering the result list*).

The search results are displayed in the result list. From the result list, you can load studies or series into the Viewer:

See (➔ Page 23 *Loading data*).

4.1 Searching for studies

4.1.1 Starting a search

✓ The **Advanced Search** is open.

1 In the Search area, enter the desired criteria in the attribute fields. You can use "*" as a wildcard character.

– or –

Select a **Modality** from the list.

– or –

Click the **Date Picker** icon to define a time range or a single date.

See (➔ Page 22 *Setting a date or time range*).

2 Click the **Start Searching** icon.

The search results are displayed in the result list.

In addition to the search operation, you can filter the result list. See (→ Page 22 *Filtering the result list*).

You can click the **Start Searching** icon to refresh the result list.

4.2 Setting a date or time range

In the Search area, you can enter a date or use the calendar tool for the **Date of Birth** and **Study Date** fields.

Ensure you adhere to the date formats shown in the fields.

1 Click the **Date Picker** icon.

The **Study Date Selection/Date of Birth** dialog box opens.

2 Select a date range from the desired **Start Date** to the desired **End Date**.

– or –

Select the **Single Date** check box and choose a specific day.

4.3 Filtering the result list

You can narrow down the data displayed in a result list by using filters. This makes it easier to find the required study.

✓ A search operation was performed.

◆ Below a column header, enter the desired filter criteria.

As soon as you enter the first characters in a filter column, the result list is updated immediately. Type part or all of the entry, or type a word or phrase that is in the entry.

4.4 Resetting search attributes and filter criteria

You can reset search attributes and filter criteria with just one click.

- In the Search area, click the **Clear all filter criteria** icon.

4.5 Loading data

From the **Advanced Search**, you can load studies or series for viewing. You can simultaneously load data for three different data sets that represent three different Patient tabs.

You can configure the default loading behavior. See (➔ Page 49 *Configuring the syngo.via WebViewer*).

4.5.1 Loading a study

- In the result list, double-click the desired study.

  The corresponding Patient tab opens in the Access Bar. The images are opened in the Viewer.

4.5.2 Loading a series

1. In the result list, select the desired study.

   The corresponding series are displayed in the series list.

2. In the series list, double-click the desired series.

   The corresponding Patient tab opens in the Access Bar. The images are opened in the Viewer.

4.5.3 Loading data in a specific mode

1 In the **Advanced Search**, select the desired study/series from the result list/series list.

In the loading toolbar, the available loading options are active.

2 Click the **Load as 2D** icon.

– or –

Click the **Load as 3D** icon.

– or –

Click the **Load as 4D** icon. (Only available for appropriate studies/series that can be displayed as 3D+t.)

The corresponding **Patient tab** opens in the **Access Bar**.

The images are opened in the Viewer.

Please note, that a loading mode, for example 3D or 4D, is not always be available for a selected study/series, even though it may be offered when selecting a study/series. In these cases a message is shown or the images are displayed in an available mode.

5 Viewer

In the Viewer, images included in a study or series are displayed. You can optimize the display of images, create measurements and perform 3D postprocessing. You can play 3D movies for appropriate data sets:

- See (➔ Page 25 *Image and display optimization*).
- See (➔ Page 32 *Evaluation of images*).
- See (➔ Page 37 *3D postprocessing*).

A special functionality is the **Conferencing** tool. If you need a second opinion during the evaluation of images, you can use the **Conferencing** tool to look at the displayed images together.

- See (➔ Page 42 *Viewing images together with colleagues using the Conferencing tool*)

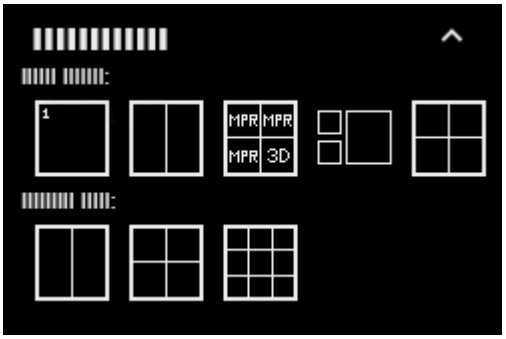
5.1 Image and display optimization

In the Viewer, you can optimize the display of images with the help of several functions:

- See (➔ Page 26 *Applying a layout*).
- See (➔ Page 26 *Windowing images*).
- See (➔ Page 28 *Scrolling images*).
- See (➔ Page 29 *Zooming and panning images*).
- See (➔ Page 30 *Expanding and collapsing images (Blow up)*).
- See (➔ Page 31 *Rotating images and volumes*).
- See (➔ Page 31 *Resetting the display*).
- See (➔ Page 32 *Switching the image display quality*).

5.1.1 Applying a layout

In the **Layout** section of the Control area, predefined **General Layouts** and **2D Layouts** are available:



When you load images as 2D, the **2D** section is displayed in the Control area, providing additional functions for 2D layouts.

- In the **Layout** section of the Control area, click the desired layout.

  The layout is applied immediately. The display type of the images may change depending on the selected layout.

5.1.2 Windowing images

You can modify the brightness and contrast of an image. Windowing often helps you to recognize suspicious anatomical structures on images.

Windowing images

For interactive windowing:

- In a segment, press the middle mouse button or the scroll wheel and drag the mouse:
  - Move up to decrease the brightness.
  - Move down to increase the brightness.
  - Move to the left to increase the contrast.
  - Move to the right to decrease the contrast.

You can also switch on the windowing mode and click and drag the mouse accordingly:

- In the Control area, click the **Windowing** icon.
- In a segment, right-click and choose **Windowing** from the top left menu.

Applying windowing presets

✓ Any display type except VRT is applied.

◆ In a segment, right-click and choose a preset from the bottom right menu.

The preset is applied accordingly.

Applying presets from the Presets Browser

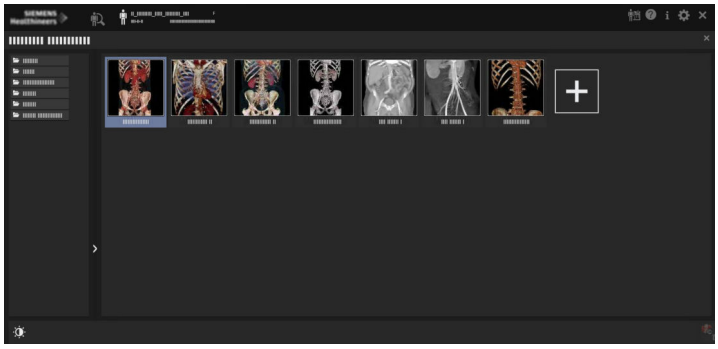
Using the **Preset Browser**, you can apply predefined presets, for example VRT presets or windowing presets on the selected segment.

1 In a segment displaying a VRT, right-click and choose **Preset Browser** from the bottom right menu.

– or –

Click the **Preset Browser** icon in the Control area.

The **Preset Browser** opens.



2 Select the desired category on the left and then the desired preset on the right.

3 Double-click the desired preset.

– or –

In the bottom left of the screen, click the **Apply Selected Preset** icon.

The preset is applied accordingly.

5.1.3 Scrolling images

Scrolling image stacks

✓ MPR or 2D display type is applied.

◆ In a segment, use the scroll wheel:

Note that using the scroll wheel does not work properly, if autoscrolling is activated for the Firefox Web Browser. To deactivate the autoscrolling function in your Firefox Web Browser, choose **Tools/Options** from the menu. In the **Advanced** tab, deselect the **Use autoscrolling** check box.

Scrolling image stacks continuously

✓ MPR or 2D display type is applied.

✓ Auto-Scrolling is enabled for MPR.

◆ In a segment, click and drag the mouse up or down, keep the mouse button pressed to scroll continuously through the stack.

Scrolling volumes interactively

Dynamic examinations like MR Mammography or CT Cardiac examinations include 4D data sets. Several volumes of image data are acquired over time. Such data sets can be displayed as a 3D movie, scrolling through time.

✓ A study/series that comprises a 4D data set is available.

✓ The study/series is loaded as 4D and the **4D** section is available in the Control area.

CAUTION

The display of movies is not in real-time.

Wrong diagnosis.

- Do not assume that displays of multiframe images such as angiographic sequences are shown in real-time. They may be slowly or irregularly displayed.

In the **4D** section of the Control area, use one of the following functions to control the 3D movie:

1 Click the **Play Forwards** icon or the **Play Backwards** icon to start the movie.

– or –

Adjust the speed by clicking the **Speed Up** icon or the **Speed Down** icon. With each click on the corresponding icon the speed increases or decreases.

2 Click the **Stop** icon to pause the movie:

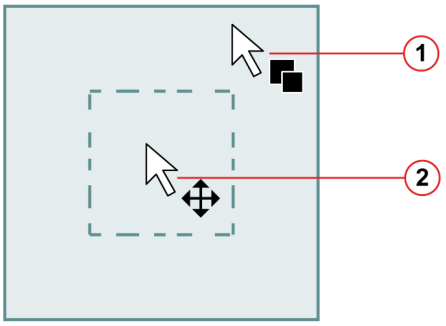
5.1.4 Zooming and panning images

1 Select a segment, right-click and choose **Zoom/Pan** from the top left menu.

– or –

In the Control area, click the **Zoom/Pan** icon.

The mouse pointer changes its shape depending on its position on the image:



(1) Zoom

(2) Pan

2 To zoom, drag the mouse pointer in the outer area of the image:

- Dragging up zooms in.
- Dragging down zooms out.

3 To move the image within the segment, drag the mouse pointer in the inner area of the image until the desired selection is displayed.

5.1.5 Expanding and collapsing images (Blow up)

Expanding images

◆ To enlarge the display size of a selected image to the whole image area, double-click the image.

In an enlarged image you can work as in a **1x1** layout. For example, you can window the image, measure lengths, or evaluate a ROI. You can also enlarge a running 3D movie to see more details.

Collapsing images

◆ To reduce the image to the previous size, double-click the image again.

5.1.6 Rotating images and volumes

Changing the orientation

✓ The VRT, MIP, or the MPR display type is applied.

- In a segment, right-click the orientation cube and choose the desired orientation.

– or –

In the Control area, click the **Orientation Presets** icon and choose the desired orientation.

Rotating volumes

✓ The VRT or the MIP display type is applied.

- Click into a segment and drag the mouse to rotate the volume.

– or –

In a segment, right-click and choose **Rotate** from the top left menu and drag the mouse to rotate the volume.

– or –

In the Control area, select the **Rotate** icon from the **Manipulate** menu icon and drag the mouse to rotate the volume.

5.1.7 Flipping 2D images

You can flip 2D X-ray images horizontally and vertically.

To flip 2D X-ray images horizontally or vertically, accomplish the following steps:

1. Open the image you want to flip.
2. In the **2D** section click **Flip the image horizontally**.

– or –

In the **2D** section click **Flip the image vertically**.

5.1.8 Resetting the display

You can reset windowing values, presets, scrolling positions, zooming/panning, and rotation actions.

- In the Control area, click the **Reset to Defaults** icon.

  The images are displayed as they were initially loaded.

5.1.9 Switching the image display quality

You can reduce the image display quality to improve the performance during interactions.

- In the Control area, click the **High Quality On/Off** icon.

	High quality mode is on. The high quality settings are applied.
	High quality mode is off. The standard quality settings are applied.

You can adjust the image quality settings in the **WebViewer Settings** dialog box. See (→ Page 49 *Configuring the syngo.via WebViewer*).

5.2 Evaluation of images

CAUTION

Algorithms used for calculation of evaluation results and visualization of results depend on display size, round-off errors due to sub-pixel precision, zoom factor, and other factors. Measurements made on 3D, MPR with thick slices or projection images may be inaccurate.

Inaccurate measurement results.

- Be aware of precision limitations when using displayed measurement values. Be aware that displayed measurements made on 3D or projection images may be incorrect. Do not assume that the image calibration is correct.
- Use appropriate windowing values.

To evaluate images, you can do the following:

- Measure lengths, angles and grayscale values:
  - See (➔ Page 33 *Measuring lengths (Distance Line)*).
  - See (➔ Page 33 *Measuring angles*).
  - See (➔ Page 34 *Measuring grayscale values (Pixel Lens)*).
- For 2D images: Calculate the size and other statistical values for ellipse, polygon, and freehand ROIs:

  See (➔ Page 35 *Drawing ROIs*).
- You can delete the measurements created in *syngo*.via WebViewer:

  See (➔ Page 36 *Deleting measurements*).

Measurements created in *syngo*.via WebViewer are only available as long as the session is available in which they were created.

5.2.1 Measuring lengths (Distance Line)

1 In a segment, right-click and choose **Distance Line** from the top right menu.

– or –

In the **Measurements** section of the Control area, click the **Distance Line** icon.

The mouse pointer changes its shape.

2 Click the start point and drag the mouse to the desired end point.

The evaluation result is displayed next to the distance line and continually updated during line drawing.

5.2.2 Measuring angles

You can measure angles of 180° as a maximum. The two lines that define the angle do not have to intersect.

1 In a segment, right-click and choose **Angle** from the top right menu.

– or –

In the **Measurements** section of the Control area, click the **Angle** icon.

The mouse pointer changes its shape.

2 Draw the lines to create the angle, beginning at the vertex of the angle. The tips of the lines are indicated by an identification tag and by an arrow.

3 If desired, you can edit the angle:

- To edit the angle, drag the endpoint-handles of either line to the new position.
- To move a single line, drag the middle of the line to the new position.
- To move the whole object, drag a line between the middle point and the endpoint to the new position.

The evaluation result is displayed, preceded by the graphic identification tag.

5.2.3 Measuring grayscale values (Pixel Lens)

1 In a segment, right-click and choose **Pixel Lens** from the top right menu.

– or –

In the **Measurements** section of the Control area, click the **Pixel Lens** icon.

The mouse pointer changes its shape.

2 Click the desired position.

The grayscale value is shown beside the crosshair, preceded by the identification tag **P**. The crosshair is always in the center of the area from which the average value is calculated.

5.2.4 Drawing ROIs

Drawing an elliptical ROI

1 In a segment, right-click and choose **Ellipse ROI** from the top right menu.

– or –

In the **Measurements** section of the Control area, click the **Ellipse ROI** icon.

The mouse pointer changes its shape.

2 Keep the mouse button pressed and drag the mouse until the ellipse has the desired size.

3 If desired, click the ROI measurement and move the handles to resize the figure.

The evaluation results are displayed, preceded by the graphic identification tag.

Drawing a polygon ROI

1 In a segment, right-click and choose **Polygon ROI** from the top right menu.

– or –

In the **Measurements** section of the Control area, click the **Polygon ROI** icon.

The mouse pointer changes its shape.

2 Click the desired points to define the polygon. Double-click to close the polygon.

3 If desired, click the ROI measurement and move the handles to resize the figure.

The evaluation results are displayed, preceded by the graphic identification tag.

Drawing a freehand ROI

1 In a segment, right-click and choose **Freehand ROI** from the top right menu.

– or –

In the **Measurements** section of the Control area, click the **Freehand ROI** icon.

The mouse pointer changes its shape.

2 Draw the desired shape with the mouse button pressed continuously.

3 If desired, click the ROI measurement and move the handles to resize the figure.

The evaluation results are displayed, preceded by the graphic identification tag.

5.2.5 Deleting measurements

You can delete the measurements which you created in *syngo*.via WebViewer.

1 To delete a single measurement, click the measurement and press the **Del** key.

2 To delete all measurements in the study, click the **Delete All Measurements** icon in the **Measurements** section of the Control area.

A warning message is displayed.

3 Confirm the warning.

5.3 3D postprocessing

When loading images in 3D or 4D, the images are displayed in a standard reference mode layout. It consists of three reference segments, which are positioned orthogonally to each other, and a volume segment. You can change the orientation of the other reference images by moving the reference lines. The reference line and the related segment borders are displayed in the same color.

See (➔ Page 37 *Working with reference lines*).

syngo.via WebViewer provides different calculation methods for the reconstruction of 2D or 3D images. You can apply different display types:

See (➔ Page 38 *Switching display types*).

You can restrict the reconstructed volume of 3D images to reduce rendering time and to cut off high density structures which might hide more important structures:

See (➔ Page 39 *Applying a clip plane or slab planes*).

5.3.1 Working with reference lines

Using the reference lines

✓ A standard reference mode layout is applied.

- To move a reference line, click the line between the arrows that indicate the viewing direction and drag it to the desired position.

  – or –

  To rotate a reference line, click on the line outside of the arrows and drag it to the desired orientation.

The images displayed in the other segments are updated according to the new position of the reference lines.

Positioning the reference lines

✓ A standard reference mode layout is applied.

- Click in the intersection point of the reference lines and move it across the segment to the new position.

  The images displayed in the other segments are updated according to the new position of the reference lines.

5.3.2 Switching display types

syngo.via WebViewer supports viewing of data in 2D, MIP, MPR, and VRT display types. Depending on the display type, the sections in the Control area are changing.

Switching display types

✓ Data is loaded as 3D or as 4D.

- Select a segment, right-click and choose the desired display type from the bottom left menu.

  – or –

  In the Control area, click the desired display type icon.

  The display of the images changes accordingly:

	**2D** Displays 2D original images.
	**MPR** The Multiplanar Reconstruction function (MPR) combines the loaded images in a volume used for calculating cuts in any orientation.
	**MIP** The Maximum Intensity Projection (MIP) creates a parallel projection of the volume. The volume is evaluated voxel-by-voxel in the selected orientation. The voxels with the maximum intensity are recorded in a 2D image.
	**VRT** The Volume Rendering Technique (VRT) renders and displays different tissue types (for example, bone and blood vessels) from CT and MR images in a semi-transparent 3D view.

5.3.3 Setting the MPR slice thickness

MPR slice thickness

✓ The MPR display type is applied.

◆ In the **MPR** section of the Control area, select the **Thick MPR** check box and enter the slice thickness in mm.

5.3.4 Applying a clip plane or slab planes

Enabling and disabling a clip plane

A clip plane hides the volume in front of a cutting plane. By doing so, only the displayed area of the volume is used for reconstruction.

✓ The VRT or MIP display type is applied.

1 In a segment, right-click and choose **Toggle Clip Plane On/Off** from the top left menu.

– or –

In the **Clip/Slab** section of the Control area, click the **Toggle Clip Plane On/Off** icon.

The clip plane is applied.

2 To disable the clip plane, click the corresponding icon again.

Enabling and disabling slab planes

Slab planes allow you to hide the volume outside of a slab defined by two planes.

✓ The VRT or MIP display type is applied.

1 In the **Clip/Slab** section of the Control area, click the **Toggle Slab Planes On/Off** icon.

The slab planes are applied.

2 To disable the slab planes, click the corresponding icon again.

Adjusting the slab thickness

✓ The **Clip/Slab** section is displayed in the Control area.

◆ In the **Clip/Slab** section of the Control area, enter the **Slab Thickness** in mm.

Shifting planes

You can shift/move the planes through the volume.

✓ The **Clip/Slab** section is displayed in the Control area.

✓ A clip plane or slab planes are applied.

1 In the segment, right-click and choose **Shift Clip Plane** from the top left menu.

– or –

In the **Clip/Slab** section of the Control area, click the **Shift Clip Plane** icon.

– or –

In the Control area, select the **Shift Clip Plane** icon from the **Manipulate** menu icon.

The **Shift Clip Plane** icon is highlighted.

2 Move the mouse to shift the planes to the desired position.

3 To disable shifting, click the icon again.

Rotating planes

You can rotate the planes along one of the center axes of the volume.

✓ The **Clip/Slab** section is displayed in the Control area.

✓ A clip plane or slab planes are applied.

1 In a segment, right-click and choose **Rotate Clip Plane** from the top left menu.

– or –

In the **Clip/Slab** section of the Control area, click the **Rotate Clip Plane** icon.

– or –

In the Control area, select the **Rotate Clip Plane** icon from the **Manipulate** menu icon.

2 Move the mouse to shift the planes to the desired position.

The **Rotate Clip Plane** icon is highlighted.

3 To disable rotating, click the icon again.

Changing the orientation of planes

You can apply a predefined orientation for a clip plane or slab planes.

✓ The **Clip/Slab** section is displayed in the Control area.

- In the **Clip/Slab** section of the Control area, click the **Clip Plane Presets** icon and select an orientation.

  A clip plane is positioned to show one half of the volume. Slab planes are positioned in the middle of the volume.

5.4 Series Navigator

From the Series Navigator, you can load the available series into the image area. For each series a thumbnail and the series description are displayed. When you move the mouse over a series, the study date and time is displayed.

See (➔ Page 41 *Opening and closing the Series Navigator*).

See (➔ Page 41 *Loading data from the Series Navigator*).

The Series Navigator is not updated if new image data is received. Check the available data in the series list of the **Advanced Search** and reload the data, if necessary.

5.4.1 Opening and closing the Series Navigator

- In the Viewer, click the small arrowhead icon on the right of the screen.

5.4.2 Loading data from the Series Navigator

✓ The Series Navigator is open.

- In the Series Navigator, drag a series onto a segment.

The series is shown in the image area.

5.5 Printing images

✓ A suitable printer is installed and connected.

CAUTION

Use of inappropriate devices (displays, printers) to review radiological images.

Incorrect review of images.

- Review of images require an optimum display of images. Only use suitable monitors and printers for review of images. Follow the maintenance and care instructions given in the manufacturer's documentation.

1 In the Control area, click the **Print the Image** icon.

The **Print** dialog opens.

2 Adjust the printing settings and click the **Print** button.

5.6 Viewing images together with colleagues using the Conferencing tool

In some cases you might need a second opinion or assistance when evaluating images with *syngo*.via WebViewer.

Therefore, *syngo*.via WebViewer provides a **Conferencing** tool. This tool allows you to invite other colleagues to collaborative sessions to view the images together.

With the **Conferencing** tool, you can issue invitations to other *syngo*.via WebViewer users to join you in a session and also accept invitations from other users.

Once the conference has started, the current viewing environment of the inviting person is shared with all participants. Everyone can now interact on the displayed images.

To highlight and show specific areas, you can use the **Pointer** functionality of the **Conferencing** tool.

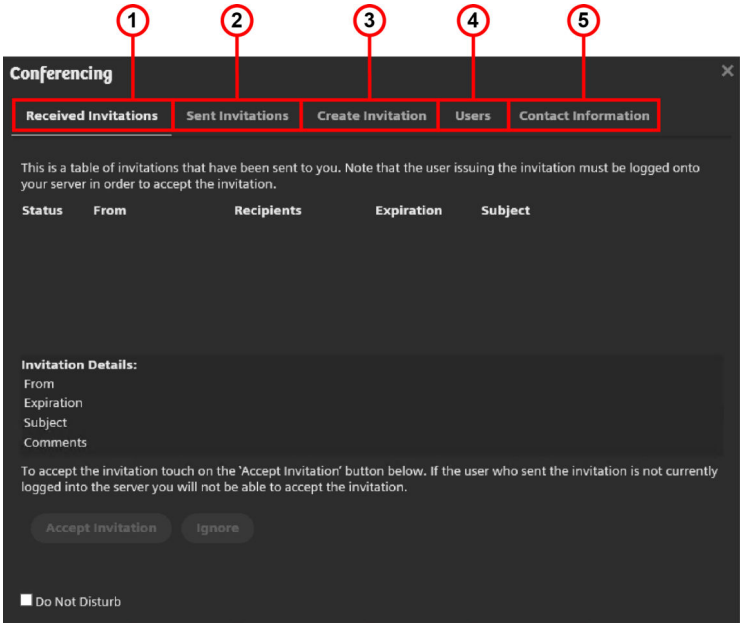
To communicate and discuss displayed images, you must call the other conference participants.

The maximum number of conference participants depends on the maximum number of concurrent users specified in the license.

To use the **Conferencing** tool, all *syngo*.via WebViewer users must be logged on to the same *syngo*.via WebViewer server.

5.6.1 The Conferencing tool dialog box

An overview of the functional range of the **Conferencing** tool is provided below.



(1) List of **Received Invitations**

(2) List of **Sent Invitations**

You can see to whom you have sent a conference invitation.

(3) **Create Invitation**

On this tab, you create the invitation to a conference.

Here, you can schedule the date and time, select participants, determine the conference subject, and write a short notification about the issue.

You must at least enter a subject to send an invitation. Otherwise you cannot schedule the conference.

Once the inviting person starts the conference, the **Conferencing** panel is displayed in the control area, and the viewing area of the inviting person is shared with all other participants.

(4) List of available **Users**

These users can be invited to a conference

The headset icon in the **Status** column indicates that the required person is available.

(5) **Contact Information**

Here, you can enter necessary personal information such as email address or phone number.

This information is then available to other users who want to invite you to a conference.

5.6.2 Scheduling a conference in *syngo*.via WebViewer

✓ A study has been opened in the Viewer.

1 Click the **Conferencing** icon on the access bar of the Viewer.

The **Conferencing** window opens.

Before starting a conference, it is recommended to provide your **Contact Information** in the **Conferencing** window.

2 Click the **Create Invitation** tab and type the name of the participants who you want to invite.

As soon as you start typing, names of registered users are displayed in a list. You can select the required user name.

The status of all potential participants is shown in the **Status** column.

If the headphone icon is displayed, this means that the required person is logged on to the *syngo*.via WebViewer and can be invited to a conference.

3 Enter the subject of the conference and, if required, give a notification with further information on this subject.

You must at least enter a subject to send the invitation.

After you have sent the invitation, the invited person will be informed about an available conference. You must wait for the required person to accept the invitation.

Afterward, you can **Start** the conference.

Once the conference has started, the **Conferencing** panel is displayed in the control area.

The current study that you opened for evaluation is shared with the invited person.

Every conference participant can now view and interact on the same set of images.

To discuss the displayed images, you additionally have to phone each other.

4 To show and discuss special aspects, click the **Pointer** button in the **Conferencing** panel.

A **Pointer** is displayed in the segment that is currently focused.

All participants can move this **Pointer** and highlight their observations.

The **Pointer** cannot be used across segments. If you want to show something in another segment, you first have to deactivate the **Pointer**, select another segment and enable the **Pointer** again.

All participants can also add, for example, measurements or annotations.

All measurements will be discarded once the study is closed.

5 To close the conference, click the **Leave Conference** button.

Some additional hints:

- During a conference, you share your entire viewing environment with the other conference participants. For example, if you have more than one study open, everyone is able to switch between the different studies.
- The conference participants have no access to the **Patient Browser**. Studies can only be opened and closed by the person who issued the invitation to the conference.

5 Viewer

6 Configuring the syngo.via WebViewer

In the **WebViewer Settings** dialog box, you can perform the following settings:

- Initial display of search results after logon
- Default loading type
- Default presets and render modes
- MPR auto-scrolling
- Image display quality

6.1 Opening the WebViewer Settings dialog box

- In the Access Bar, click the **Settings** icon.

  The **WebViewer Settings** dialog box opens.

6.2 Setting the initial display of search results

- In the **General** tab of the **WebViewer Settings** dialog box, select one of the following options to display search results after logon:
  - Select **Always Auto-search the Database** to display all available studies.
  - Select **Auto-search only if search fields present** to display available studies matching the last entered search criteria.
  - Select **Never Auto-search the Database** to display no search results.

  The changes take effect after your next logon.

6.3 Setting the default loading type

The default loading type determines the display of the images after loading a study or a series by double-clicking it.

- In the **Loading** tab of the **WebViewer Settings** dialog box, select a **Default Loading Type** from the list:
  - **2D**: Images are loaded in the 2D display type in a 2x2 layout.
  - **3D/4D**: Volumes are loaded in a standard reference mode layout. Appropriate studies are loaded as 3D+t.

  The changes take effect immediately.

6.4 Setting a preset

In the **WebViewer Settings** you can change the default presets and render modes for each supported modality.

For additional information about supported modalities, see (→ Page 13 *Supported Modalities*)

For each supported modality, one or more imaging modes are provided by data presets. For example, CT data can be imaged using MPR, 2D, VRT, and MIP. In the **Preset Browser**, sample images represent default data presets.

To change a data preset, accomplish the following steps:

1. Open the **WebViewer Settings**.
2. Click the **Presets** tab.

   A list with data presets is shown.
3. Expand the **Data Presets** section, which you want to change.
4. In the list of the preset, click “Choose...”.

   The **Preset Browser** opens. The available data presets are displayed.

   Presets which available for different body regions are shown in several folders.
5. Double-click the preset, which you want to apply.

6 Click the **Close** icon of the **WebViewer Settings**.

The selected **Data Preset** is applied.

6.5 Enabling/disabling auto-scrolling in the MPR display type

You can configure automatic scrolling through volumes.

- In the **Slice** tab of the **WebViewer Settings** dialog box, select the **Auto-Scrolling?** check box to enable auto-scrolling.

  – or –

  Deselect the **Auto-Scrolling?** check box to disable auto-scrolling.

  The changes take effect immediately.

  See (➔ Page 28 *Scrolling images*).

6.6 Setting the image display quality

You can set the image display quality for standard and high quality display mode.

CAUTION

Images with lossy compression have reduced image quality.

The images may contain insufficient information.

- Be aware of image quality loss in lossy compressed images. A compression factor is shown on compressed images.

1 In the **Quality** tab of the **WebViewer Settings** dialog box, set the compression ratio in the **Standard Quality Settings** section or in the **High Quality Settings** section.

2 Select the **Lossless?** check box to display the images in the original quality.

3 Enter a **JPEG Compression** quality factor. Note that the compressed image is not displayed with the same image quality as the original image. The quality factor that was entered determines the degree of compression and therefore affects the image quality. A larger quality factor means less compression but better image quality.

The changes take effect immediately.

See (→ Page 32 *Switching the image display quality*).

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6 Configuring the syngo.via WebViewer

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