



Delta Media Server

Delta Web Service

User Guide



Delta Web Service : User Guide

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Delta Web Service	4
Introduction	4
Core Modules	6
Status	7
DeltaMonitor: Control	9
DeltaMonitor Summary	9
DeltaMonitor AMD Display	10
DeltaMonitor Server Control	15
Designer	18
Designer Widgets	19
Scheduler	22
PJLink Control	23
Delta Web Service API	23
DWS API Operations	24
Stack Overview (option)	56
Installation	58
Detailed Server Information	59
Stack Backup and Restore (option)	63
Backup	63
Restore	67
Additional Stack Modules	71
Document Information	71
Index	73

Delta Web Service

Delta Web Service (with its 'Stack'-prefixed application modules) is our web browser-based User Interface, running on Apache web server, that allows full interaction with a network of Delta Media Servers and associated resources. It is installed on all Delta servers along with a series of core modules. Additional 'Stack' modules can be added, including StackSignage (digital signage) and StackCaptioning (closed captioning) solutions, as well as dynamic content such as RSS or Twitter Feeds. StackExpress is a rapid show creation tool for basic dynamic control.

The core modules provide functionality to remotely control the day-to-day operation of a typical Delta Media Server installation in a theme park, visitor attraction, museum or advertising setting. An extensible API and SDK is also available for more advanced use by developers to create more complex interactive projects.

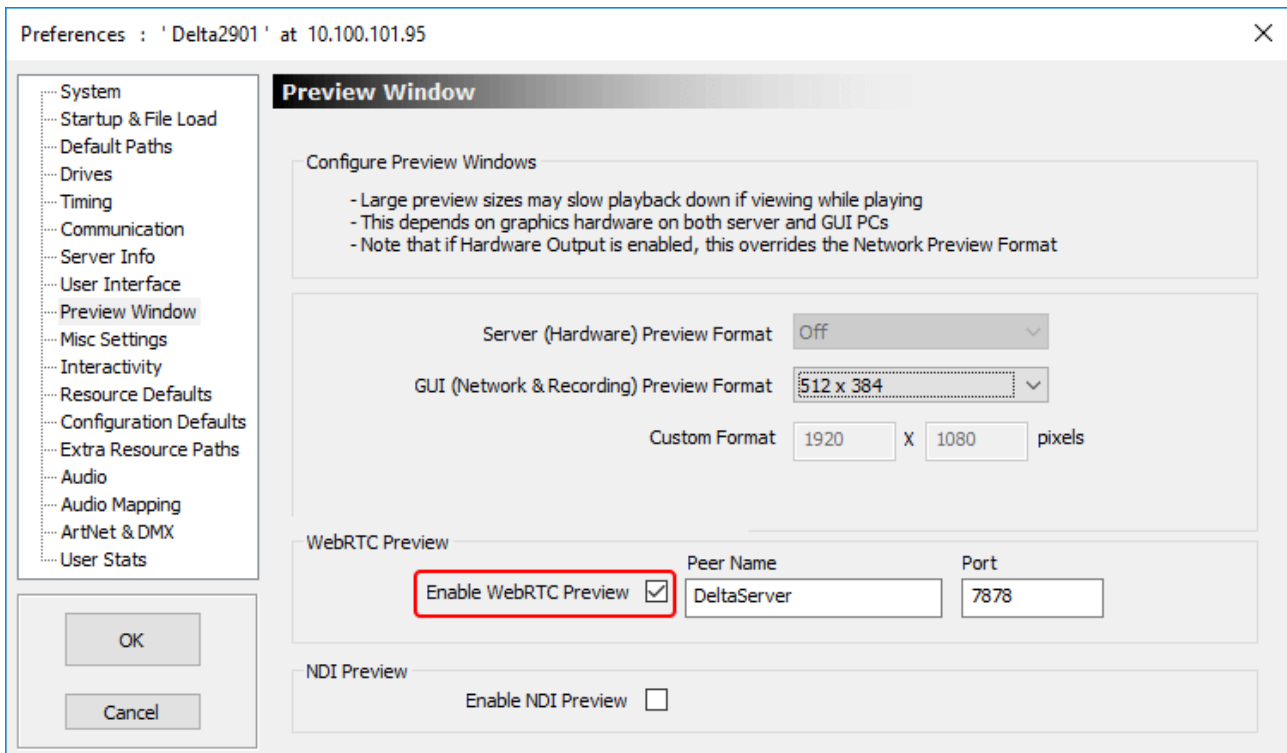
Dynamic content modules enable real-time content to be used within your media shows, whilst the content management modules enable full customisation of your displays.

Introduction

No software other than a web browser is required to access Delta Web Service. Recommended browsers include latest versions of Google Chrome, Mozilla Firefox or Opera. Safari and older versions of Internet Explorer may not work.

WebRTC Connection

Ensure that 'WebRTC Preview' is enabled in DeltaServer by connecting to the target machine with DeltaGUI. Go to *Preferences > Preview* and tick 'WebRTC Enabled'. You may need to restart Delta for this to take effect.



To access **Delta Web Service**, point your web browser to any Delta server IP in your Local Network: it can be accessed from anywhere within the network / subnet. This will resolve to `http://[IP]/ws/#/delta/status`.

Browser Support

The Delta Web Service aims to provide a modern and powerful web-based interface to the Delta Media Server, using a selection of web technologies to allow advanced user interfaces and real-time feedback. Some of these are not implemented in older web browsers. Whilst Delta Web Service may run without major issues in older browser versions, we do not actively test these versions and do not fix bugs or support issues that appear in them. If in doubt, use an up to date browser and version for the most reliable performance.

Log on

Delta Web Service requires a login. The default username and password are both 'admin'. It is recommended that you change these and do not allow the browser to save them. To change the password, click on **Admin** in the main menu of any web service page.

To reset a forgotten password navigate to `http://[IPAddress]/api/auth/reset` which will prompt you to reset to the default user credentials.

Security note



The authentication system is designed as a mechanism to lock-out terminals and control tablets from unauthorised use by a person unfamiliar with the system, such as an attraction guest who may find an unattended console. To ensure the integrity and security of the network and Delta Media Servers, adequate protection methods such as setting wireless keys and VPN authentication/encryption should instead be relied upon to prevent malicious access.

Core Modules

The Delta Media Server web browser interface offers Core and Optional modules.

The core modules include:

- [Designer](#)⁽¹⁸⁾ enables you to create a bespoke browser interface for remote show control
- [Stack Control](#)⁽⁷⁾ enables remote control of any networked Delta server
- [Scheduler](#)⁽²²⁾ allows sequences to be scheduled and repeatedly run in accordance with show requirements
- [API](#)⁽²³⁾ is a fully-documented HTTP API for interacting with networked servers and other web resources

Settings (Web Service pages)

Under the Web Service pages, *Configure* (top menu) > *Settings* (left menu), you can choose your default page. This could be a redirect to the Stack Overview page (example IP, but include port :8000): `http://[serverIP]:8000/overview`, or to a Designer show control page you have created.

Add-ons (Optional Modules)

From the Web Service pages, you can access any add-on optional modules that you have licensed (StackCaptioning, StackExpress or StackSignage), all of which operate vis the Stack web interface.

In addition there are:

- [Stack Overview](#)⁽⁵⁶⁾ (optional install) will reveal all servers available on the network, with installation details
- [Stack Backup and Restore](#)⁽⁶³⁾ (optional install) will enable any linked server to be backed up and restored

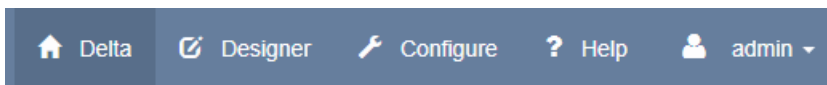
Status

Navigate to other Delta web services via the IP address of the required server, followed by /ws/.

In the example here, we have used `http://192.168.1.182/ws/`

Note: Selecting another networked server does not change the host URL, rather the web service itself routes through to the other server.

The Status page is found under the Delta 'Home' button on the top menu bar:



Here you have access to networked Delta Servers, and to DeltaMonitor on each server. The primary objective is review, but some control is available.

Status (Delta Servers)

The **Status** page looks at individual servers, selectable from the server name/IP drop-down top-right.

Server Status	
Name	DESKTOP-ITLTEIG
IP	192.168.1.182
Group	64
Leader	Leader
Show File	c:\shows\startel_short.xml
Video Level	100
Audio Level	100
Frame Rate	30.000
Licence Expiry	1.3.2022
Graphics	4800 X 1350 60 HZ

Network Status	
Name	Ethernet 7
Status	Connected
Enabled	Enabled
DHCP Enabled	Enabled
IP Address	10.100.150.19
Name	WiFi
Status	Media disconnected
Enabled	Disabled
DHCP Enabled	Enabled
IP Address	
Name	Bluetooth Network Connection
Status	Media disconnected
Enabled	Disabled
DHCP Enabled	Enabled
IP Address	
Name	Ethernet
Status	Connected
Enabled	Enabled
DHCP Enabled	Enabled
IP Address	192.168.1.182

OS Status	
OS	Microsoft Windows 10 Pro 64-bit
Memory Usage	15584 / 32450 MB

Disk Status	
Name	C: [D:]
Drive Type	Local Disk (NTFS)
Usage	587.72 / 935.59 GB

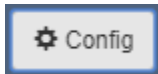
Prior to Delta 2.7, a small Preview window also appears on this page.

Preview

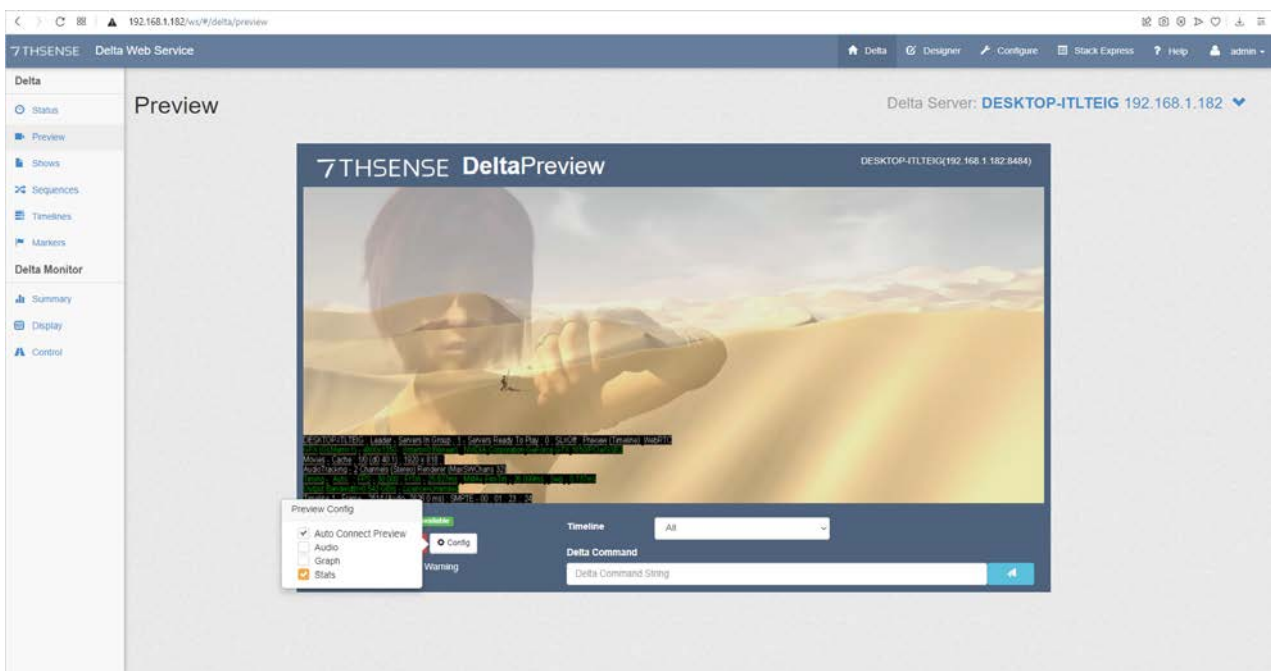
In DeltaWebService, select **Preview** on the left menu for a show Preview. This is more useful if you want to examine the playback graph or stats, or use the Delta Command line. (These features are

fully documented in the Delta User Guide.) This WebRTC feature is enabled in the server's DeltaGUI Preferences, under Preview.

- The URL of the DeltaWebService /Preview page is `http://[server IP]/ws/#/delta/preview`.
- From Delta 2.7, the Preview frame itself is the same content as accessed directly from DeltaGUI > Preview. The URL for this is `https://[server IP]:8484`



Click the Config button to add playback preview options, and click again to close the options dialog. Note that the size of the Stats text is manipulated in the Playback window, not in the browser preview page.



Shows

Select **Shows** from the left menu to see a list of shows available on the currently viewed server. Click the Load Show button for the one you want to play

Loading a show listed as 'Ready' will stop any show displayed as 'Current' and load the selected one. It will not play unless set to AutoPlay in the show's timeline. To play a show, send a PLAY command from the **Preview**, or go to **Timelines** on the left menu, and Play, Stop or Rewind any timeline from there.

Sequences

Select **Sequences** from the left menu to see a list of sequences available on the currently viewed server. Click to start sequences running, or to stop all instances of a sequence, if it is already running.

Timelines

Select **Timelines** from the left menu, to Play, Rewind or Stop a particular timeline of the show currently playing on the server via Delta Web Service.

Markers

Select **Markers** from the left menu to see all Markers in the current show playing on the selected server. Go to a Marker (and stop), or start the show from a marker.

DeltaMonitor: Control

This is a web interface for DeltaMonitor, and can be called directly from DeltaMonitor at: `http://[serverIP]:7790/api/deltamonitor/`

At this address, the navigation tabs are at the top, rather than the left-side menu.

The web interface for DeltaMonitor under Delta Web Service has more status information and functionality. It is designed for users with a varied technical knowledge. The display page should be where users set up first set up their systems, once set up, the display settings should not need to be changed again unless their display set-up changes.

DeltaMonitor Summary

As well as a summary of the selected server and its Ethernet configuration, this page includes an interactive front panel of the server. (Full front panel operation details can be found in the Delta Server Front Panel User Guide.) From version 3.0.34 a toggle has been added for this to be a live display of the front panel rather than updated only on refresh.



The summary tab includes information about the Server and its current state. Information is also included about the Ethernet configuration, which includes a list of all the adapters on the system and ports for external control.

Delta Ethernet Configuration
Host Name : Delta2901
Adapter 1 : 10.100.101.227 (Static)
Adapter 2 : 127.0.0.1 (Static)
Adapter 3 : (Static)
Adapter 4 : (Static)
External Control TCP Port : 23
External Control UDP Recieve Port : 7780
External Control UDP Transmit Port : 7781

DeltaMonitor AMD Display

The AMD Display page is only available for AMD systems, and full functionality is also dependant on driver version and server mode. Full functionality requires AMD 13 driver or later, and a Delta Server Trio specification or higher.

All the graphic settings for the server can be configured here, and the settings saved to a Graphics Profile. As well as enabling quick set-up of systems, DeltaMonitor can also be set to set the Graphic configuration to a default Graphics profile either on boot or to poll continuously whilst the server is running.

Display Profile
Current Profile: <input type="text" value="Default"/>
<input type="button" value="Load Profile"/>
<input type="button" value="Save Profile"/>

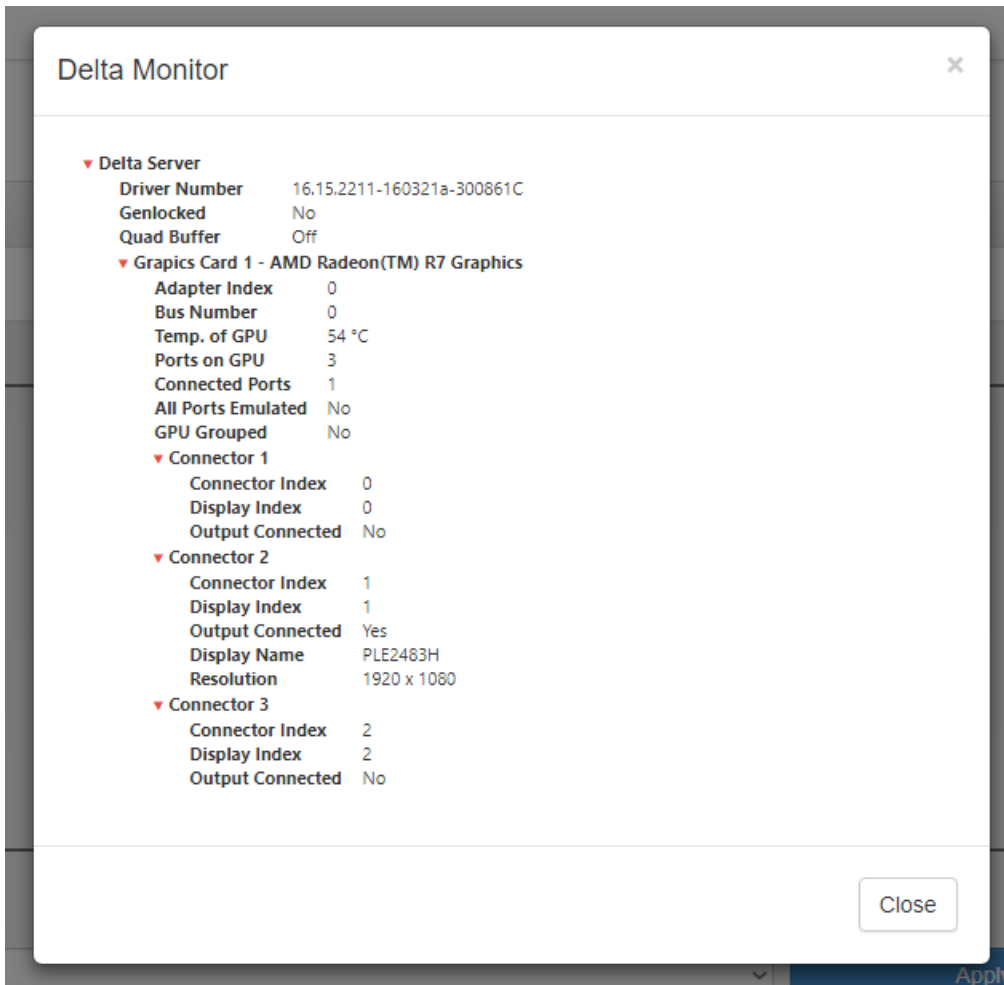
Note: This feature is not available on Delta Nano or Duo.

➤ See also [Display Configuration for Delta Servers](#)

Advanced System Details

This page gives access to **Advanced System Details**, including its display connectors, to assist 7thSense Engineers or technical users who have a greater understanding of the system. Click on the

blue button 'Advanced System Details', and click on on items with a red arrow to collapse or expand them:



The information is presented in a 'tree view' and is broken down by: *System > Graphics Card > Connector (Display)*

The three main sections of the page below the Advanced Details button are in expanding blocks: click the title bars.

The sequence of these sections is also important when configuring the graphics. If the user is going to emulate the EDIDs for specific outputs of the system, then they must do this before grouping the display, or the grouping will be lost.

EDID Management

This section gives the user the functionality to add or remove EDID emulation on specific connectors on the system. Additionally, the user is able to save an EDID from a connected display.

A list of connectors per Graphics Card are displayed each with a selectable switch. Each Connector will show information on its Emulation Status, Display name and its current output.

Note on systems running an AMD driver earlier than v13:

- a system reboot is required after emulation
- emulation status is not available.

To emulate displays the user must select the switches (selected is blue) of the displays they wish to emulate. Then select the desired EDID from the dropdown list and then click 'Apply Emulation'.

Emulation can be removed completely by selecting the 'Remove All Emulations'.

The EDID file library is found on the server at:

C:\Program Files\7thSense\Delta\Utilities\EDID Files

If the user wishes to add additional EDID files they can be copied into this location and will automatically be picked up by DeltaMonitor and put into the list of files.

Note: EDID files must all be in '.bin' format.

AMD Display Grouping

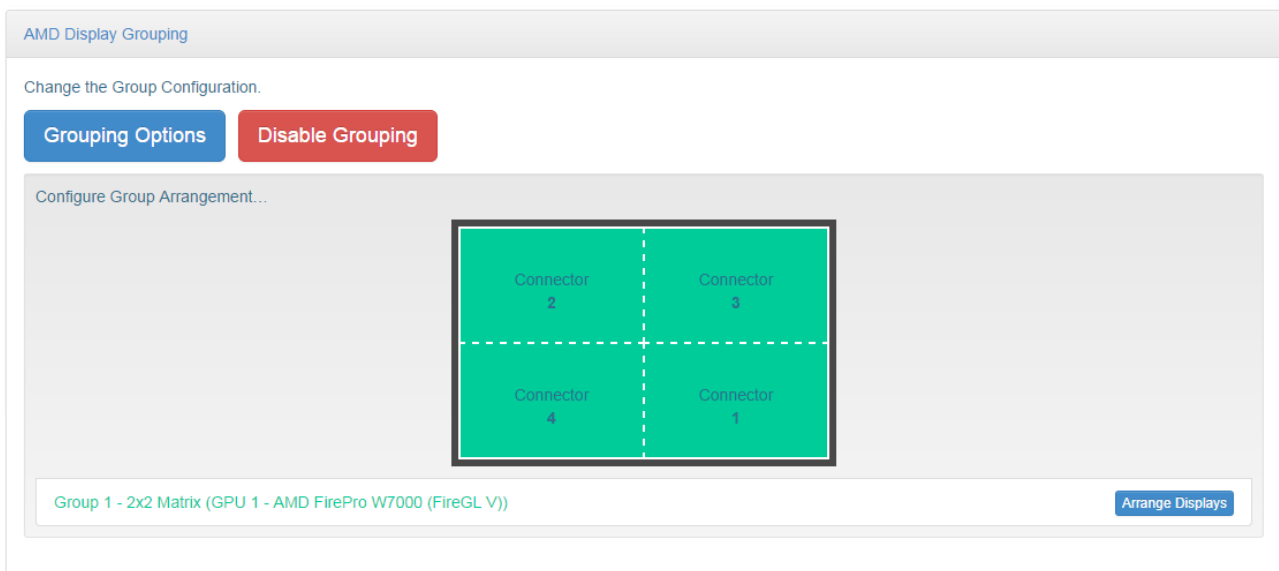
What is a Display Group?

The concept of a display group is that once created, the desktop will be one large canvas rather than multiple canvases linked together (referred to as an extended desktop). On a grouped display, maximizing a window will spread that window across all displays, whereas on an extended desktop, maximizing a window will maximize to the size of the display it's currently on.

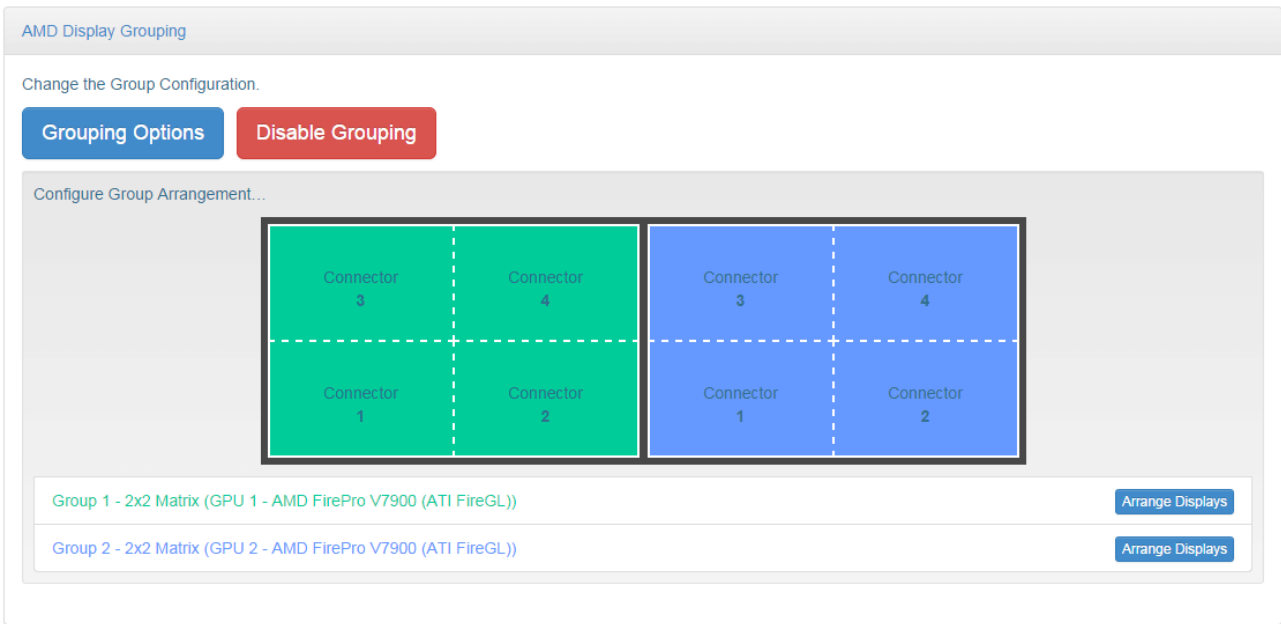
Groups are created on a graphics card basis, so displays can only be grouped with other displays from the same graphics card. To create a group there must be 2 or more displays either connected or emulated on the graphics card. When grouping, all displays must be the same resolution. If they are not, all the displays will default to the lowest resolution display in the group.

Selecting 'Grouping Options' will display a popup with a list of the possible options for each Graphics card, based on how many displays are connected or emulated on the card.

Once grouped, a graphical representation of the displays is drawn. Each group is shown in a unique colour and dashed lines are used to show how the multiple displays make up the larger canvas. Each display within the canvas also shows which connector is driving the segment of the display. (See *Advanced System Details* and *EDID Management*, above.)

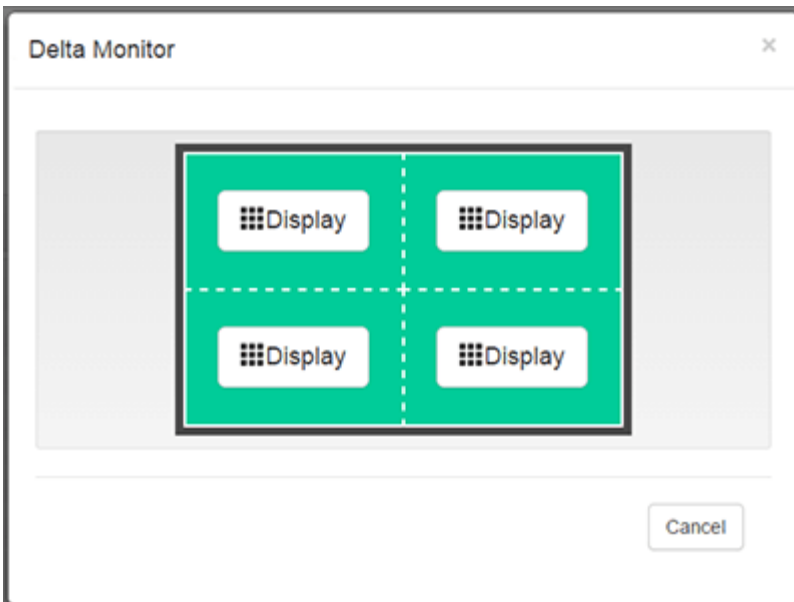


Display Grouping (Single GPU)



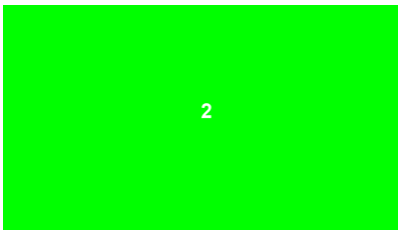
Display Grouping (Multi GPU)

Once the displays have been grouped, the user may have to re-arrange the displays to the physical layout of the outputs. To do this the user must select the 'Arrange Display' button adjacent to the group they wish to arrange. The dialog window will show the layout of the graphics card selected for arrangement:



Arrangement dialog

At the same time, a numbered green graphic overlay will appear over one of the group's displays:



Select the 'Display' button which corresponds to the physical position of the overlay. As a position is selected the overlay will move to the next position.

Note: The final display position is calculated automatically, so the user will only need to select the position of the number of displays in the group minus one.

Genlock and Quad Buffer

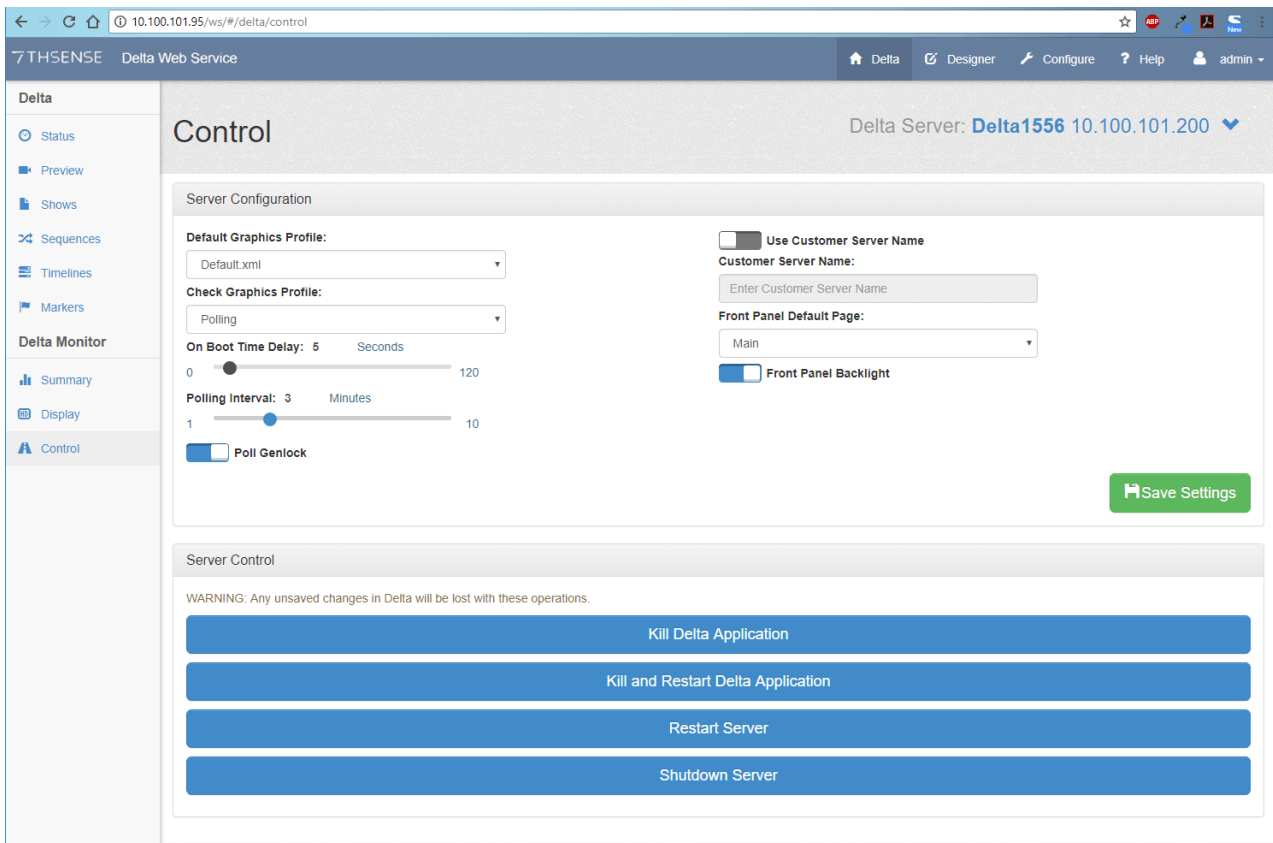
Where relevant to the server, Genlock settings are shown, and Quad Buffer (for stereo 3D), can be turned on or off. To apply Genlock, the system must be first Genlock capable, and also have a Genlock signal present. The button to apply the setting will only appear if these criteria are met.

Note: Quad Buffer changes require a server reboot to take effect.

DeltaMonitor Server Control

Further control of a remote server is given here, enabling DeltaServer to be closed or restarted, the server itself to be restarted or shut down, or (for Windows embedded systems) to place the server in Service Mode. (For full details regarding server control, see the *DeltaMonitor User Guide*.)

Genlock polling can be enabled where an AMD S400 sync card is detected.



Server Configuration

Default Graphic Profile

User can select a default profile to check the graphic settings against, either on boot or to check at regular intervals (Polling).

Check Graphics Profile

The user can select when DeltaMonitor will check the current configuration against the default profile. This has 3 states: **Off**, **On Boot** and **Polling**. A time delay can be specified for **On Boot** and an interval must be specified for **Polling**.

Poll Genlock

Enables polling to be switched on remotely, so that any target server with an AMD sync card searches for a sync signal, according to the graphics profile above.

Customer Server Name

A customer Server name can be entered for the server by selecting the 'Use Customer Server Name' switch and entering a name into the text box. When selected this name will appear at the top of the main front panel page, and replace the server's 'Computer Name'. This is useful for users with multiple Delta servers to help identify the servers from their physical front panels.

Front Panel Default Page

This sets the default page the front panel will go to when not in use.

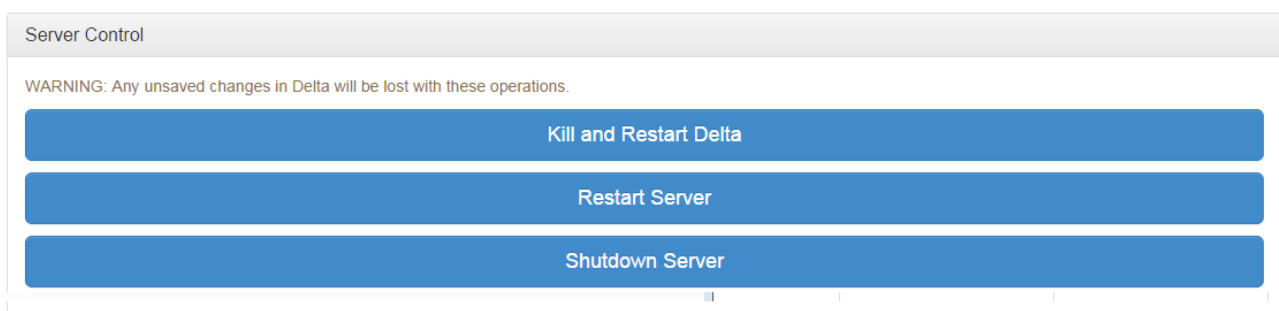
Front Panel Backlight

This allows the user set the front panel backlight to off when not in use.

Once any changes to the server configuration have been made the 'Save Settings' button will become active, to commit those changes simply click the button.

Server Control

The server controls provide the user with the ability to carry out functionality without being logged onto the server or being able to access the physical hardware.



Kill and Restart Delta

will kill and restart the Delta software application on the server.

Restart Server

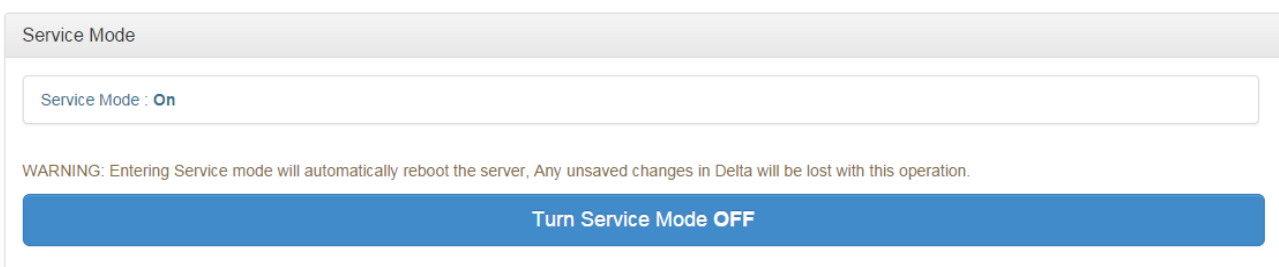
restarts the server hardware.

Shutdown Server

turns off the server hardware, once hardware is off access to DeltaMonitor Web will be lost.

Service Mode

Embedded servers (Nano and Duo) need to be put into service mode when making system level configuration changes. This enables the user to turn it On/Off, when a change to the mode is invoked the server will automatically reboot.



Designer

Designer is used to create a custom interface for external control of shows, for example, from a tablet, PC or laptop. It offers a variety of drag-and-drop widgets, effects and simple text-based coding to allow you to create a bespoke user interface for remote show control from touch-screen devices.

Log in to Delta Web Service on the host server IP, and choose Designer from the main landing page, or if in other web service pages, from the top menu:



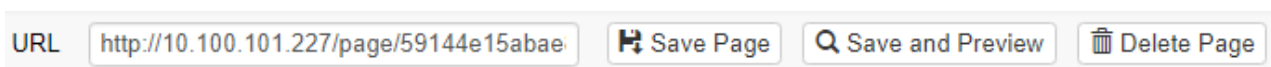
First of all you will create and name a new page, define its width and height, before adding active components. Everything works by drag-and-drop onto the canvas, delete by dragging off, and everything has a simple properties panel.

Any images you want to use must be stored in the required server, in C:\7thsense\Web\User\Images. If you have no images at the time, placeholders can be used, and images added and applied later. For a background, drag an image onto the show canvas, stretch it to fill the area, and send it backwards behind any other elements.

If you want a more professional finish, you can design the complete interface as an image, then layer active area buttons, or design the background and shinier buttons and use these rather than flat colours.

Add text to your canvas spaces or button groups with labels. Drag, or size and position these by entering dimensions, choose type size and colour (in hex code – <http://htmlcolorcodes.com/> is one useful quick source).

Remember to save, or save and preview your control pages before leaving them:



The URL is not one that you can reassign, but is the id for the container file. You will notice that on preview, the displayed page URL (for this example) is `http://10.100.101.227/designer/live.php?id=59144e15abae8`. (In some browser preferences, the last ?variable may not show until the address bar is clicked in.) This can be made the browser's default page, or bookmark it. Alternatively, select your control page name from *Web Services > Configure > Settings*, where you pages names will now be displayed.

Where is my Designer Page?

The URL is where all the page design will be saved (\\[serverIP]\7thSense Data\7thSense (C)\web\user\pages). The page is described in a .json file, but will point to other design elements such as images via relative links, on this server in their usual locations (they are not copied).

It is therefore possible to move or copy a Designer Show Control Page to another server, taking care to copy images locally, and edit server locations as necessary.


Designer Widgets

Widgets are the elements that can be added to the Designer canvas to create an interactive page. If you are designing for a touch-screen tablet, make sure buttons are big enough and text clear enough.

Button widgets offer these actions for a selected server, have default colours, and click-effects:

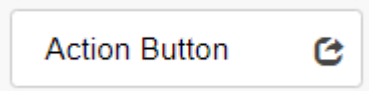
- Command to Play/Stop/Rewind (select)
- Load Show / Start Sequence / GoTo Marker / GoTo Frame / External Control (select)

Sequences, global variables, and markers are inserted into a show in DeltaGUI. Any play feature in a show then becomes available in Designer.



 Dynamic Markers

Show all markers in the current show as equally-sized blue buttons, or using an image (or on-click image-pair, as Image Button) for all markers. Properties apply to all markers in the show.


The space you allocate to the Dynamic Markers object (under Position) will arrange buttons in rows, across, and the button size (under Visual) can be set to accommodate marker names. Too small an area will not hide any markers, but allow enough canvas space for the maximum number of markers in a show. Choose to show marker names (in white text), and whether to GoTo and Play.


 Action Button



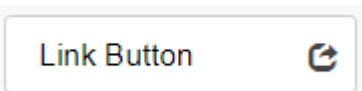
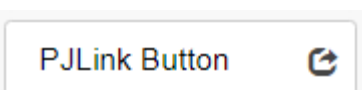
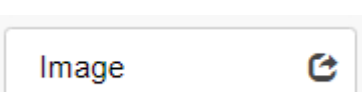
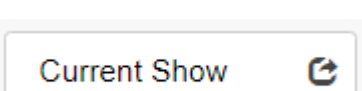

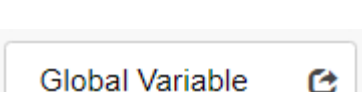
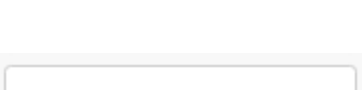
A blue button


 Area Button

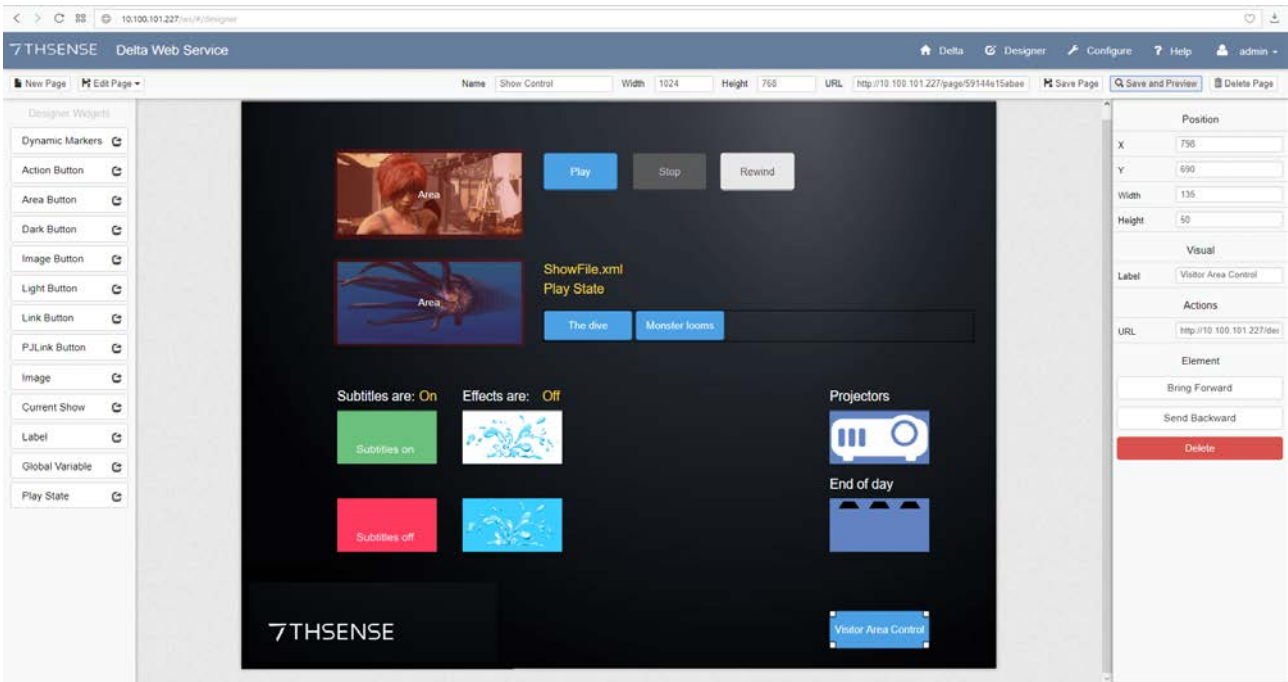
Shows pink in Design, transparent in use. Lay over a image or part of an image to create an active button. Ensure that the Area is in the top layer.


 Dark Button

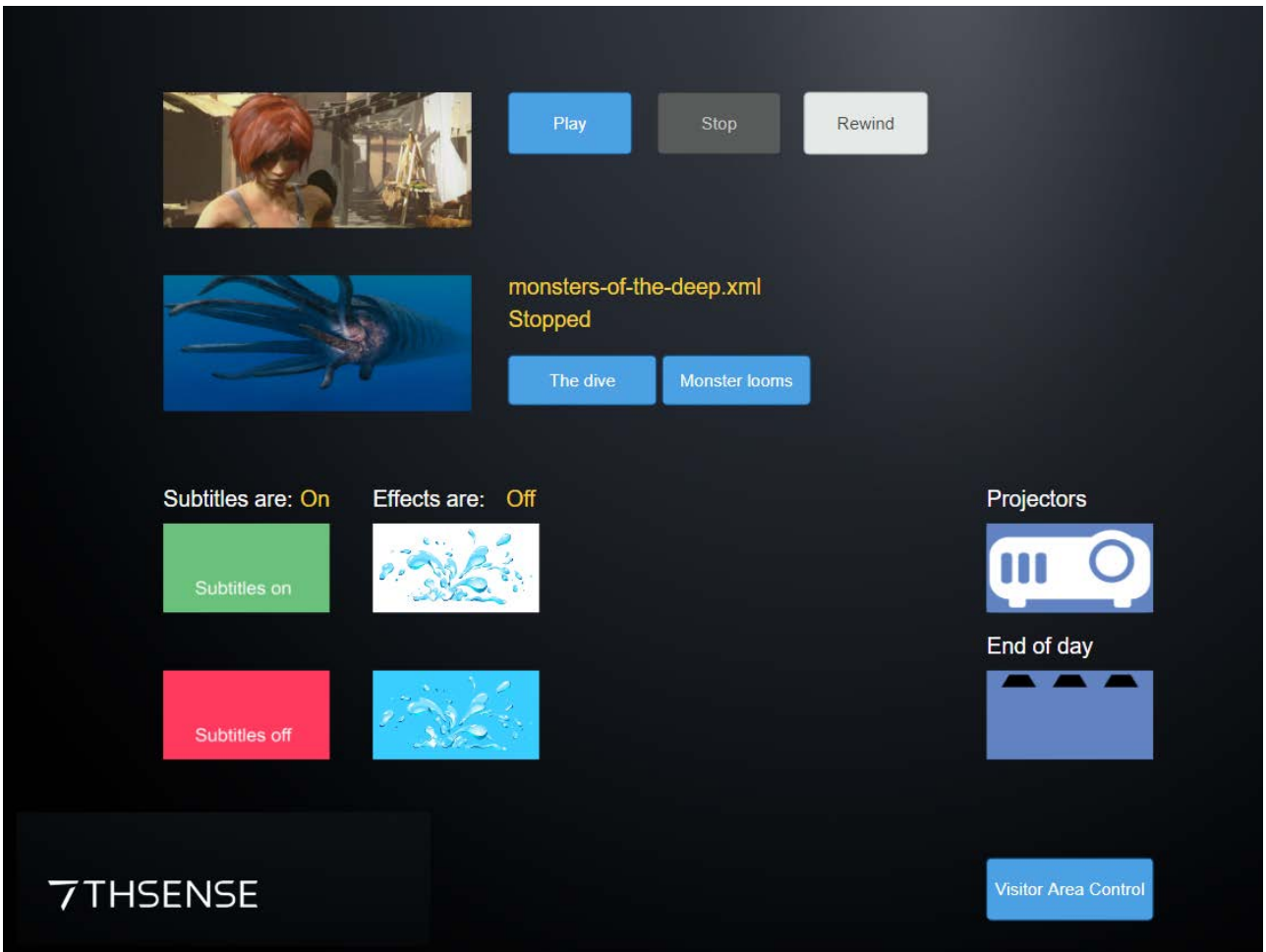
A dark-grey button

	Add an action to an image, or an image pair for normal (image up) and click-on (image down).
	A light grey button
	A blue button that can be assigned a URL (for example another Designer control page for another time, event or area)
	A blue button that can be assigned images as an image button, to operate projectors
	Add an image to the canvas, or if no images yet present, add a placeholder.
	Display the file path and .xml name of the show currently loaded.
	Add descriptive text to the canvas.
	Global sequence variables are defined in DeltaGUI, and are available here. A variable might be used to show a real-time clock, display which timeline is active, set an audio level, etc.
	Display whether the current show is Ready to play, Playing or Stopped.

Here is an example of the different widgets. It includes a background graphic, images made active with overlaid Areas, plain buttons (play button icons are an alternative), Dynamic markers, buttons for sequences to switch subtitles and effects on and off, a PJLink and a Link button to a second control page for a different visitor area.



The finished browser page:



Scheduler

A flexible scheduling capability is provided to allow sequences to be scheduled and run at pre-defined times, dates and intervals, in accordance with show requirements. This can be found under the web service Configure tab:

The screenshot displays the 'Scheduler' configuration page in the Delta Web Service. The page has a navigation bar at the top with 'Delta', 'Designer', 'Configure', 'Help', and 'admin' options. The left sidebar shows 'Configure' with sub-items 'Scheduler', 'Settings', and 'Add-ons'. The main content area is titled 'Scheduler' and contains a 'Create Task' form. The form fields are: Name (Arena Display Alert), Start Date/Time (26/05/2017 12:00:00 am), Trigger (Weekly), every # weeks (1), On days (Sunday, Wednesday, Saturday), Repetition (Enabled), Repeat every (2) Minutes for (15) Minutes, Action Type (Delta Sequence), Server IP (10.100.101.227), and Sequence (Daily-Arena-Invitation). A green 'Create Task' button is located below the form. Below the form, there is a section for 'Scheduled Tasks' which currently shows 'No scheduled tasks'.

Name

Scheduled Task must have unique names.

Start Date/Time

Use the date picker for the starting date and time (AM or PM).

Trigger

One Time: runs the task once only, at the specified Start Date/Time

Daily: runs the task every day (or every # days) at the time specified in the Start Date.

Weekly: runs the task on specific days of the week. Setting every # weeks can be used to specify alternate weeks (e.g. to run on alternate weekends).

Repetition

e.g. run the task every 2 minutes, for 15 minutes

Action Type

Choose Delta Sequence, call URL, or PJ Link command

Server IP

IP address of a Delta Media Server.

Sequence

A sequence on the server to be run at the trigger points.

PJLink Control

PJLink control is a specific standard communications protocol used by many projector brands and models. Its protocol is different from Telnet, and since it involves a short handshake, can be difficult to implement just using UDP to TCP. The strings that are sent look like this power instruction example:

"%1POWR 1" (note the space between POWR and 1).

There are options available through the Delta Web Service interface to tackle this. You can place a PJLink button on a control page (see Designer) or use the built-in Task Scheduler to schedule (for example) projector power on/off at certain times.

Alternatively, since you can send HTTP from Delta you could hook into the PJLink backend in the DWS interface directly.

These calls look like the following:

```
http://127.0.0.1/api/pjlink/instruction?  
ip=10.100.101.105&port=10000&command=POWR&variable=0&password=JBMIAPjectorLink
```

(Replace 10.100.101.105 with the required projector IP and port with the projector port.)

- PJLink combines a command with a variable, so for power it is command=POWR and variable=0/1.
- Password is optional, if you aren't using authentication you can leave it off.
- For more general information about PJLink protocol, please see the JMBIA website: [About PJLink](#)

Delta Web Service API

The Delta Web Service web interface includes a fully-documented HTTP API for discovering and interacting with Delta Media Servers over a local network. It contains a PHP SDK library to integrate control of Delta Media Server directly into PHP applications with hosting capabilities on the server, and provides an add-on framework for developing fully customisable web extensions including user interfaces and interactive web resources.

Access the API add-on from any web service page under *Help > API Specification > Delta RPC*. The interface is fully interactive.

DWS API Operations

In this document: Sample Return for True/False responses

Where no Sample Response is given it should be assumed that the command returns only a true/false value in the following format:

```
{
  "status": 0,
  "msg": "Function: [commandName] called OK",
  "data": true
}
```

Interactive examples of all operations is also available embedded within the API:

GET [/delta/rpc/gotoFrame](#) Set the playhead location of a timeline by frame

GET [/delta/rpc/gotoTime](#) Set the playhead location of a timeline by time

GET [/delta/rpc/gotoMarker](#) Set the playhead location of a timeline to a set marker

Parameters

Parameter	Value	Description	Parameter Type	Data Type
marker	<input type="text" value="(required)"/>	Marker Name	query	string
andPlay	<input type="button" value="v"/>	Play from marker (Default: false)	query	boolean
t1	<input type="text"/>	Timeline ID	query	integer

GET [/delta/rpc/mediaClearAutoDeletes](#) Clear all auto delete movies on a timeline

GET [/delta/rpc/mediaInsert](#) Dynamically insert a media resource

GET [/delta/rpc/insertMovie](#) Insert a Movie resource onto the timeline

Parameters

Parameter	Value	Description	Parameter Type	Data Type
resourceName	<input type="text" value="(required)"/>	Pool resource name	query	string
newName	<input type="text"/>	New timeline resource name	query	string
ctrlName	<input type="text"/>	New external control name	query	integer
frame	<input type="text"/>	Frame number	query	integer
layer	<input type="text"/>	Layer, 1-255 or "background"	query	string
length	<input type="text"/>	Length in frames	query	integer
inpoint	<input type="text"/>	Inpoint is the frame of the movie it will start on	query	integer
outpoint	<input type="text"/>	Outpoint is the frame of the	query	integer

Network Discovery

Route	/network/deltas
Summary	Find all Delta Servers on the local network
Sample URL	http://192.168.0.1/api/network/deltas
Sample Response	<pre>{ "status": 0, "msg": "Network discovery OK", "data": [{ "version": "2.0:5", "ip": "10.100.101.101", "tcpport": "23", "name": "Delta1", "udpporttx": "7780", "udpportrx": "7781", "group": "9", "leader": "1", "multicastport": "7776" }, { "version": "2.0:5", "ip": "10.100.101.102", "tcpport": "23", "name": "Delta2", "udpporttx": "7780", "udpportrx": "7781", "group": "9", "leader": "0", "multicastport": "7776" }] }</pre>

externalControl

Route	/delta/rpc/externalControl			
Summary	Sends raw external control strings to the Delta Server			
Sample URL	http://192.168.0.1/api/delta/rpc/externalControl?msg=[string]			
Parameters	Name	Description	Required	Data Type
	msg	External Control Command	Required	string
Sample Response	<pre>{ "status": 0, "msg": "Function: externalControl called OK", "data": true }</pre>			

getHelloData

Route	/delta/rpc/getHelloData			
Summary	Returns the data used when the Delta Server was discovered			
Sample URL	http://192.168.0.1/api/delta/rpc/getHelloData			
Sample Response	<pre>{ "status": 0, "msg": "Function: getHelloData called OK", "data": { "version": "2.0:5", "ip": "10.100.101.114", "tcpport": "23", "name": "Delta1", "udpporttx": "7780", "udpportrx": "7781", "group": "9", "leader": "1", "multicastport": "7776" } }</pre>			

getName

Route	/delta/rpc/getName
Summary	Returns the Delta Server's name
Sample URL	http://192.168.0.1/api/delta/rpc/getName
Sample Response	<pre>{ "status": 0, "msg": "Function: getName called OK", "data": "Delta1" }</pre>

getIP

Route	/delta/rpc/getIP
Summary	Returns the Delta Server's IP address
Sample URL	http://192.168.0.1/api/delta/rpc/getIP
Sample Response	<pre>{ "status": 0, "msg": "Function: getIP called OK", "data": "10.100.101.114" }</pre>

getGroup

Route	/delta/rpc/getGroup
Summary	Returns the Delta Server's group
Sample URL	http://192.168.0.1/api/delta/rpc/getGroup
Sample Response	<pre>{ "status": 0, "msg": "Function: getGroup called OK", "data": "9" }</pre>

setGroup

Route	/delta/rpc/setGroup			
Summary	Set a Delta Server's group			
Sample URL	http://192.168.0.1/api/delta/rpc/setGroup?group=[integer]			
Parameters	Name	Description	Required	Data Type
	Group	New group number	Required	integer

isLeader

Route	/delta/rpc/isLeader			
Summary	Check if Delta Server is a Leader server			
Sample URL	http://192.168.0.1/api/delta/rpc/isLeader			

isMaster (legacy)

Please note: From 2020 7thSense deprecated the terms master and slave for the dependencies between devices. We now refer throughout to 'Leader' and 'Follower' in our products.

To maintain functionality, both terminologies continue to work internally, but our documentation no longer uses the former terms. Users of pre-2020 products will need to observe the equivalence and continue to use the previous legacy terms.

Route	/delta/rpc/isMaster			
Summary	Check if Delta Server is a master server			
Sample URL	http://192.168.0.1/api/delta/rpc/isMaster			

setLeader

Route	/delta/rpc/setLeader			
Summary	Set the Delta Server to be a Leader server			
Sample URL	http://192.168.0.1/api/delta/rpc/setLeader			

setMaster (legacy)

Route	/delta/rpc/setMaster
Summary	Set the Delta Server to be a master server
Sample URL	http://192.168.0.1/api/delta/rpc/setMaster

setFollower

Route	/delta/rpc/setFollower
Summary	Set the Delta Server to be a Follower server
Sample URL	http://192.168.0.1/api/delta/rpc/setFollower

setSlave (legacy)

Please note: From 2020 7thSense deprecated the terms master and slave for the dependencies between devices. We now refer throughout to 'Leader' and 'Follower' in our products.

To maintain functionality, both terminologies continue to work internally, but our documentation no longer uses the former terms. Users of pre-2020 products will need to observe the equivalence and continue to use the previous legacy terms.

Route	/delta/rpc/setSlave
Summary	Set the Delta Server to be a slave server
Sample URL	http://192.168.0.1/api/delta/rpc/setSlave

getStatus

Route	/delta/rpc/getStatus
Summary	Returns status information
Sample URL	http://192.168.0.1/api/delta/rpc/getStatus

getShortStatus

Route	/delta/rpc/getShortStatus			
Summary	Returns short status information			
Sample URL	http://192.168.0.1/api/delta/rpc/getShortStatus?tl=[integer]&smpte=[boolean]			
Parameters	Name	Description	Required	Data Type
	TI	Timeline ID		integer
	SMPTE	True: Return time as SMPTE, False: Return time in frames		boolean
Sample response	<pre>{ "status": 0, "msg": "Function: getShortStatus called OK", "data": { "time": "273", "mode": "Stopped" } }</pre>			

getAudioLevel

Route	/delta/rpc/getAudioLevel			
Summary	Returns the global audio level			
Sample URL	http://192.168.0.1/api/delta/rpc/getAudioLevel			
Sample response	<pre>{ "status": 0, "msg": "Function: getAudioLevel called OK", "data": "100" }</pre>			

getVideoLevel

Route	/delta/rpc/getVideoLevel			
Summary	Returns the global video level			
Sample URL	http://192.168.0.1/api/delta/rpc/getVideoLevel			
Sample response	<pre>{ "status": 0, "msg": "Function: getVideoLevel called OK", "data": "100" }</pre>			

setAudioLevel

Route	/delta/rpc/setAudioLevel			
Summary	Set the global audio level			
Sample URL	http://192.168.0.1/api/delta/rpc/setAudioLevel?value=[integer]			
Parameters	Name	Description	Required	Data Type
	Value	Percentage	Required	integer

setVideoLevel

Route	/delta/rpc/setVideoLevel			
Summary	Set the global video level			
Sample URL	http://192.168.0.1/api/delta/rpc/setVideoLevel?value=[integer]			
Parameters	Name	Description	Required	Data Type
	Value	Percentage	Required	integer

getFrameRate

Route	/delta/rpc/getFrameRate			
Summary	Returns the timeline framerate			
Sample URL	http://192.168.0.1/api/delta/rpc/getFrameRate			
Sample response	<pre>{ "status": 0, "msg": "Function: getFrameRate called OK", "data": "30.0" }</pre>			

getResourceXML

Route	/delta/rpc/getResourceXML			
Summary	Returns current server resources in XML format			
Sample URL	http://192.168.0.1/api/delta/rpc/getResourceXML			

enableReserve

Route	/delta/rpc/enableReserve
Summary	Enable the reserve timeline
Sample URL	http://192.168.0.1/api/delta/rpc/enableReserve

disableReserve

Route	/delta/rpc/disableReserve
Summary	Disable the reserve timeline
Sample URL	http://192.168.0.1/api/delta/rpc/disableReserve

getShowList

Route	/delta/rpc/getShowList
Summary	Returns a list of available show files
Sample URL	http://192.168.0.1/api/delta/rpc/getShowList
Sample response	<pre>{ "status": 0, "msg": "Function: getShowList called OK", "data": ["blank.xml", "demo show.xml", "test show.xml"] }</pre>

loadShow

Route	/delta/rpc/loadShow			
Summary	Load a show file			
Sample URL	http://192.168.0.1/api/delta/rpc/loadShow?show=[string]			
Parameters	Name	Description	Required	Data Type
	Show	Show file name	Required	string

getGlobalVarList

Route	/delta/rpc/getGlobalVarList
Summary	Returns all global variables
Sample URL	http://192.168.0.1/api/delta/rpc/getGlobalVarList
Sample response	<pre>{ "status": 0, "msg": "Function: getGlobalVarList called OK", "data": [{ "key": "\$var1", "value": "test", "type": "STRING" }] }</pre>

getGlobalVar

Route	/delta/rpc/getGlobalVar			
Summary	Returns a specified global variable			
Sample URL	http://192.168.0.1/api/delta/rpc/getGlobalVar?key=[string]			
Parameters	Name	Description	Required	Data Type
	Key	Global variable key	Required	string
Sample response	<pre>{ "status": 0, "msg": "Function: getGlobalVar called OK", "data": "test" }</pre>			

setGlobalVar

Route	/delta/rpc/setGlobalVar			
Summary	Set the value of a global variable			
Sample URL	http://192.168.0.1/api/delta/rpc/setGlobalVar?key=[string]&value=[string]			
Parameters	Name	Description	Required	Data Type
	Key	Global variable key	Required	string
	Value	Global variable value	Required	string

deleteGlobalVar

Route	/delta/rpc/deleteGlobalVar			
Summary	Delete a global variable			
Sample URL	http://192.168.0.1/api/delta/rpc/deleteGlobalVar?key=[string]			
Parameters	Name	Description	Required	Data Type
	key	Global variable key	Required	string

getMarkers

Route	/delta/rpc/getMarkers
Summary	Lists all markers
Sample URL	http://192.168.0.1/api/delta/rpc/getMarkers
Sample response	<pre>{ "status": 0, "msg": "Function: getMarkers called OK", "data": [{ "name": "Start Marker", "frame": "68", "t1": "1" }, { "name": "Stop Marker", "frame": "119", "t1": "1" }] }</pre>

getAvailableSequences

Route	/delta/rpc/getAvailableSequences
Summary	Returns available sequences
Sample URL	http://192.168.0.1/api/delta/rpc/getAvailableSequences
Sample response	<pre>{ "status": 0, "msg": "Function: getAvailableSequences called OK", "data": ["start of day", "end of day", "show start", "house lights up"] }</pre>

getActiveSequences

Route	/delta/rpc/getActiveSequences
Summary	Returns currently running sequences
Sample URL	http://192.168.0.1/api/delta/rpc/getActiveSequences
Sample response	<pre>{ "status": 0, "msg": "Function: getActiveSequences called OK", "data": ["start of day"] }</pre>

startSequence

Route	/delta/rpc/startSequence			
Summary	Start a new instance of a sequence			
Sample URL	http://192.168.0.1/api/delta/rpc/startSequence?sequenceName=[string]			
Parameters	Name	Description	Required	Data Type
	sequenceName	Sequence name	Required	string

pauseSequence

Route	/delta/rpc/pauseSequence			
Summary	Pause a currently running sequence instance			
Sample URL	http://192.168.0.1/api/delta/rpc/pauseSequence?sequenceName=[string]			
Parameters	Name	Description	Required	Data Type
	sequenceName	Sequence name	Required	string

resumeSequence

Route	/delta/rpc/resumeSequence			
Summary	Resume a paused sequence instance			
Sample URL	http://192.168.0.1/api/delta/rpc/resumeSequence?sequenceName=[string]			
Parameters	Name	Description	Required	Data Type
	sequenceName	Sequence name	Required	string

cancelSequence

Route	/delta/rpc/cancelSequence			
Summary	Cancel a currently running sequence instance			
Sample URL	http://192.168.0.1/api/delta/rpc/cancelSequence?sequenceName=[string]			
Parameters	Name	Description	Required	Data Type
	sequenceName	Sequence name	Required	string

cancelAllSequences

Route	/delta/rpc/cancelAllSequences			
Summary	Cancel all currently running sequence instances			
Sample URL	http://192.168.0.1/api/delta/rpc/cancelAllSequences			

getPoolResources

Route	/delta/rpc/getPoolResources			
Summary	Returns pool resources by a specified type			
Sample URL	http://192.168.0.1/api/delta/rpc/getPoolResources?pool=[string]			
Parameters	Name	Description	Required	Data Type
	Pool	Resource Type (movies, images, audio)	Required	string
Sample response	<pre>{ "status": 0, "msg": "Function: getPoolResources called OK", "data": ["4kJenga_", "Line-Animation_"] }</pre>			

refreshResources

Route	/delta/rpc/refreshResources
Summary	Refreshes the resource pool
Sample URL	http://192.168.0.1/api/delta/rpc/refreshResources

reloadImages

Route	/delta/rpc/reloadImages
Summary	Forces reloading of all images on the timeline
Sample URL	http://192.168.0.1/api/delta/rpc/reloadImages

reloadImage

Route	/delta/rpc/reloadImage			
Summary	Forces reloading of a single image on the timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/reloadImage?ctrlName=[string]			
Parameters	Name	Description	Required	Data Type
	ctrlName	Image resource name	Required	string

play

Route	/delta/rpc/play			
Summary	Play a timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/play?tl=[integer]			
Parameters	Name	Description	Required	Data Type
	Tl	Timeline ID		integer

stop

Route	/delta/rpc/stop			
Summary	Stop a timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/stop?tl=[integer]			
Parameters	Name	Description	Required	Data Type
	Tl	Timeline ID		integer

rewind

Route	/delta/rpc/rewind			
Summary	Rewind a timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/rewind?tl=[integer]			
Parameters	Name	Description	Required	Data Type
	Tl	Timeline ID		integer

advance

Route	/delta/rpc/advance			
Summary	Advance a timeline by number of frames			
Sample URL	http://192.168.0.1/api/delta/rpc/advance?tl=[integer]&noFrames=[integer]			
Parameters	Name	Description	Required	Data Type
	Tl	Timeline ID		integer
	noFrames	Number of frames	Required	integer

stepback

Route	/delta/rpc/stepback			
Summary	Stepback a timeline by number of frames			
Sample URL	http://192.168.0.1/api/delta/rpc/stepback?tl=[integer]&noFrames=[integer]			
Parameters	Name	Description	Required	Data Type
	tl	Timeline ID		integer
	noFrames	Number of frames	Required	integer

gotoFrame

Route	/delta/rpc/gotoFrame			
Summary	Set the playhead location of a timeline by frame			
Sample URL	http://192.168.0.1/api/delta/rpc/gotoFrame?frameNo=[string]&tl=[integer]&andPlay=[boolean]			
Parameters	Name	Description	Required	Data Type
	frameNo	Frame number	Required	string
	tl	Timeline ID		integer
	andPlay	Play from frame (Default: false)		boolean

gotoTime

Route	/delta/rpc/gotoTime			
Summary	Set the playhead location of a timeline by time			
Sample URL	http://192.168.0.1/api/delta/rpc/gotoTime?time=[string]&frameRate=[integer]&andPlay=[boolean]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	Time	Time (in format HH:MM:SS:FF)	Required	string
	framerate	Frame Rate of the time value given	Required	integer
	andPlay	Play from time (Default: false)		Boolean
	tl	Timeline ID		integer

gotoMarker

Route	/delta/rpc/gotoMarker			
Summary	Set the playhead location of a timeline to a set marker			
Sample URL	http://192.168.0.1/api/delta/rpc/gotoMarker?marker=[string]&andPlay=[boolean]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	marker	Marker Name	Required	string
	andPlay	Play from marker (Default: false)		Boolean
	tl	Timeline ID		integer

mediaClearAutoDeletes

Route	/delta/rpc/mediaClearAutoDeletes			
Summary	Clear all auto delete movies on a timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/mediaClearAutoDeletes			

mediaInsert

Route	/delta/rpc/mediaInsert			
Summary	Dynamically insert a media resource			
Sample URL	http://192.168.0.1/api/delta/rpc/mediaInsert?resourceType=[string]&resourceName=[string]&frame=[integer]&layer=[integer]&x=[integer]&y=[integer]&w=[integer]&h=[integer]&ctrlName=[string]&length=[integer]&mapping=[string]&channel=[integer]&cropping=[string]&fullscreen=[boolean]&autoDelete=[boolean]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	resourceType	Resource type	Required	string
	resourceName	Resource name	Required	string
	frame	Frame Number		integer
	layer	Layer Number		integer
	x	X Position		integer
	y	Y Position		integer
	w	Width		integer
	h	Height		integer
	ctrlName	External Control Name		string
	length	Length in Frames of new timeline resource		integer
	mapping	“channel” or “flat”		string
	channel	Channel number if channel mapped		integer
	cropping	L% R% T% B%		string
	fullscreen	Fullscreen (true, false)		Boolean
	autodelete	Autodelete (true, false)		Boolean
	tl	Timeline ID		integer

insertMovie

Route	/delta/rpc/insertMovie			
Summary	Insert a Movie resource onto the timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/insertMovie?resourceName=[string]&newName=[string]&ctrlName=[integer]&frame=[integer]&layer=[string]&length=[integer]&mapping=[string]&x=[integer]&y=[integer]&w=[integer]&h=[integer]&channel=[integer]&cropping=[string]&feather=[integer]&autoDelete=[boolean]&autoPlay=[boolean]&parentCtrlName=[string]&itemEnabled=[boolean]&containerOverrides=[string]&duration=[float]&fadeUp=[float]&fadeDown=[float]&crossFade=[boolean]&playMode=[string]&noLoop=[boolean]&repeatCount=[integer]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	resourceName	Pool resource name	Required	string
	newname	New timeline resource name		string

ctrlName	New external control name	integer
frame	Frame number	integer
layer	Layer, 1-255 or "background"	string
length	Length in frames	integer
mapping	"channel", "flat" or "fullscreen"	string
x	X Position	integer
y	Y Position	integer
w	Width	integer
h	Height	integer
channel	Channel number if channel mapped	integer
cropping	Percentage crop "L% R% T% B%"	string
feather	Percentage edge feather	integer
autodelete	Set autodelete	Boolean
autoPlay	Set autoplay	Boolean
parentCtrlName	External control name of the parent container (container items only)	string
itemEnabled	Set container item enabled state (container items only)	Boolean
containerOverrides	Comma separated list of property keys. Options: duration, general, features, location, animation, keying, colour, mesh, fade, playmode (containers and container items only)	string
duration	Set the item duration in seconds (requires duration override) (containers and container items only)	float
fadeUp	Set fade up time in seconds (requires fade override) (containers and container items only)	float
fadeDown	Set fade down time in seconds (requires fade override) (containers and container items only)	float
crossFade	Set crossfade (requires fade override) (containers and container items only)	Boolean
playMode	Set the item play mode. Options: playntimes or trigger (requires playmode override) (containers and container items only)	string
noLoop	Set item to not loop (requires playmode override) (containers and container items only)	Boolean
repeatCount	Set item repeat count (requires playmode override) (containers and container items only)	integer
tl	Timeline ID	integer

insertImage

Route	/delta/rpc/insertImage			
Summary	Insert an Image resource onto the timeline			
Sample URL	<pre>http://192.168.0.1/api/delta/rpc/insertImage?resourceName=[string]&newName=[string]&ctrlName=[integer] &frame=[integer]&layer=[string]&length=[integer]&mapping=[string]&x=[integer]&y=[integer]&w=[integer] &h=[integer]&channel=[integer]&cropping=[string]&feather=[integer]&autoDelete=[boolean]&autoPlay=[boolean] &parentCtrlName=[string]&itemEnabled=[boolean]&containerOverrides=[string]&duration=[float]&fadeUp=[float] &fadeDown=[float]&crossFade=[boolean]&playMode=[string]&noLoop=[boolean]&repeatCount=[integer] &tl=[integer]</pre>			
Parameters	Name	Description	Required	Data Type
	ResourceName	Pool resource name	Required	string
	newname	New timeline resource name		string
	ctrlName	New external control name		integer
	frame	Frame number		integer
	layer	Layer, 1-255 or "background"		string
	length	Length in frames		integer
	mapping	"channel", "flat" or "fullscreen"		string
	x	X Position		integer
	y	Y Position		integer
	w	Width		integer
	h	Height		integer
	channel	Channel number if channel mapped		integer
	cropping	Percentage crop "L% R% T% B%"		string
	feather	Percentage edge feather		integer
	autodelete	Set autodelete		Boolean
	autoPlay	Set autoplay		Boolean
	parentCtrlName	External control name of the parent container (container items only)		string
	itemEnabled	Set container item enabled state (container items only)		Boolean
	containerOverrides	Comma separated list of property keys. Options: duration, general, features, location, animation, keying, colour, mesh, fade, playmode (containers and container items only)		string
	duration	Set the item duration in seconds (requires duration override) (containers and container items only)		float
	fadeUp	Set fade up time in seconds (requires fade override) (containers and container items only)		float

fadeDown	Set fade down time in seconds (requires fade override) (containers and container items only)	float
crossFade	Set crossfade (requires fade override) (containers and container items only)	Boolean
playMode	Set the item play mode. Options: playntimes or trigger (requires playmode override) (containers and container items only)	string
noLoop	Set item to not loop (requires playmode override) (containers and container items only)	Boolean
repeatCount	Set item repeat count (requires playmode override) (containers and container items only)	integer
tl	Timeline ID	integer

insertCapture

Route	/delta/rpc/insertCapture			
Summary	Insert a Capture resource onto the timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/insertCapture?resourceName=[string]&newName=[string]&ctrlName=[integer]&frame=[integer]&layer=[string]&length=[integer]&mapping=[string]&x=[integer]&y=[integer]&w=[integer]&h=[integer]&channel=[integer]&cropping=[string]&feather=[integer]&autoDelete=[boolean]&autoPlay=[boolean]&parentCtrlName=[string]&itemEnabled=[boolean]&containerOverrides=[string]&duration=[float]&fadeUp=[float]&fadeDown=[float]&crossFade=[boolean]&playMode=[string]&noLoop=[boolean]&repeatCount=[integer]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	resourceName	Pool resource name	Required	string
	newname	New timeline resource name		string
	ctrlName	New external control name		integer
	frame	Frame number		integer
	layer	Layer, 1-255 or "background"		string
	length	Length in frames		integer
	mapping	"channel", "flat" or "fullscreen"		string
	x	X Position		integer
	y	Y Position		integer
	w	Width		integer
	h	Height		integer
	channel	Channel number if channel mapped		integer
	cropping	Percentage crop "L% R% T% B%"		string
	feather	Percentage edge feather		integer

autodelete	Set autodelete	Boolean
autoPlay	Set autoplay	Boolean
parentCtrlName	External control name of the parent container (container items only)	string
itemEnabled	Set container item enabled state (container items only)	Boolean
containerOverrides	Comma separated list of property keys. Options: duration, general, features, location, animation, keying, colour, mesh, fade, playmode (containers and container items only)	string
duration	Set the item duration in seconds (requires duration override) (containers and container items only)	float
fadeUp	Set fade up time in seconds (requires fade override) (containers and container items only)	float
fadeDown	Set fade down time in seconds (requires fade override) (containers and container items only)	float
crossFade	Set crossfade (requires fade override) (containers and container items only)	Boolean
playMode	Set the item play mode. Options: playntimes or trigger (requires playmode override) (containers and container items only)	string
noLoop	Set item to not loop (requires playmode override) (containers and container items only)	Boolean
repeatCount	Set item repeat count (requires playmode override) (containers and container items only)	integer
tl	Timeline ID	integer

insertContainer

Route	/delta/rpc/insertContainer			
Summary	Insert a Container resource onto the timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/insertContainer?resourceName=[string]&newName=[string]&ctrlName=[integer]&frame=[integer]&layer=[string]&length=[integer]&mapping=[string]&x=[integer]&y=[integer]&w=[integer]&h=[integer]&cropping=[string]&feather=[integer]&channel=[integer]&parentCtrlName=[string]&itemEnabled=[boolean]&startFromLastItem=[boolean]&containerOverrides=[string]&duration=[float]&fadeUp=[float]&fadeDown=[float]&crossFade=[boolean]&playMode=[string]&noLoop=[boolean]&repeatCount=[integer]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	ResourceName	Pool resource name	Required	string
	newname	New timeline resource name		string

ctrlName	New external control name	integer
frame	Frame number	integer
layer	Layer, 1-255 or "background"	string
length	Length in frames	integer
mapping	"channel", "flat" or "fullscreen"	string
x	X Position	integer
y	Y Position	integer
w	Width	integer
h	Height	integer
cropping	Percentage crop "L% R% T% B%"	string
feather	Percentage edge feather	integer
channel	Channel number if channel mapped	integer
parentCtrlName	External control name of the parent container (container items only)	string
itemEnabled	Set container item enabled state (container items only)	Boolean
startFromLastItem	Set container start from the last played item (containers only)	Boolean
containerOverrides	Comma separated list of property keys. Options: duration, general, features, location, animation, keying, colour, mesh, fade, playmode (containers and container items only)	string
duration	Set the item duration in seconds (requires duration override) (containers and container items only)	float
fadeUp	Set fade up time in seconds (requires fade override) (containers and container items only)	float
fadeDown	Set fade down time in seconds (requires fade override) (containers and container items only)	float
crossFade	Set crossfade (requires fade override) (containers and container items only)	Boolean
playMode	Set the item play mode. Options: playtimes or trigger (requires playmode override) (containers and container items only)	string
noLoop	Set item to not loop (requires playmode override) (containers and container items only)	Boolean
repeatCount	Set item repeat count (requires playmode override) (containers and container items only)	integer
tl	Timeline ID	integer

insertAudio

Route	/delta/rpc/insertAudio			
Summary	Insert an Audio resource onto the timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/insertAudio?resourceName=[string]&newName=[string]&ctrlName=[integer]&frame=[integer]&layer=[string]&length=[integer]&audioChannels=[string]&audioLevels=[string]&autoDelete=[boolean]&autoplay=[boolean]&parentCtrlName=[string]&itemEnabled=[boolean]&containerOverrides=[string]&duration=[float]&fadeUp=[float]&fadeDown=[float]&crossFade=[boolean]&playMode=[string]&noLoop=[boolean]&repeatCount=[integer]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	ResourceName	Pool resource name	Required	string
	newname	New timeline resource name		string
	ctrlName	New external control name		integer
	frame	Frame number		integer
	layer	Layer, 1-255 or "background"		string
	length	Length in frames		integer
	audioChannels	Comma separated list of audio channel numbers, all if not specified, e.g: "1,2,3"		string
	audioLevels	Comma separated list of audio levels (percent), corresponds with audioChannels or all channels if only one value is given. eg: "25,50,75"		string
	autodelete	Set autodelete		Boolean
	autoplay	Set autoplay		Boolean
	parentCtrlName	External control name of the parent container (container items only)		string
	itemEnabled	Set container item enabled state (container items only)		Boolean
	containerOverrides	Comma separated list of property keys. Options: duration, general, features, location, animation, keying, colour, mesh, fade, playmode (containers and container items only)		string
	duration	Set the item duration in seconds (requires duration override) (containers and container items only)		float
	fadeUp	Set fade up time in seconds (requires fade override) (containers and container items only)		float
	fadeDown	Set fade down time in seconds (requires fade override) (containers and container items only)		float
	crossFade	Set crossfade (requires fade override) (containers and container items only)		Boolean
	playMode	Set the item play mode. Options: playntimes or trigger (requires		string

		playmode override) (containers and container items only)	
	noLoop	Set item to not loop (requires playmode override) (containers and container items only)	Boolean
	repeatCount	Set item repeat count (requires playmode override) (containers and container items only)	integer
	tl	Timeline ID	integer

insertControl

Route	/delta/rpc/insertControl			
Summary	Insert a Control resource onto the timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/insertControl?resourceName=[string]&newName=[string]&ctrlName=[integer]&frame=[integer]&layer=[string]&gotoFrame=[integer]&gotoAction=[string]&markerAction=[string]&markerName=[string]&markerHotkey=[string]&autoDelete=[boolean]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	resourceName	Pool resource name	Required	string
	newname	New timeline resource name	string	
	ctrlName	New external control name		integer
	frame	Frame number		integer
	layer	Layer, 1-255 or "background"		string
	gotoFrame	Frame number to go to (goto only)		integer
	gotoAction	Action to take after going to new position, "play" or "stop" (default) (goto only)		string
	markerAction	Action to take on playing into marker, "play" (default) or "stop" (marker only)		string
	markerName	Unique name for marker (marker only)		string
	markerHotkey	Hotkey to link with this marker using keys ctrl, shift, f1-12 or 0-9, format example: "f1", "shift2", "ctrlshiftf3" (marker only)		string
	autodelete	Set autodelete		Boolean
	tl	Timeline ID		integer

insertEffect

Route	/delta/rpc/insertEffect			
Summary	Insert an Effect resource onto the timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/insertEffect?resourceName=[string]&newName=[string]&ctrlName=[integer]&frame=[integer]&layer=[string]&length=[integer]&direction=[string]&autoDelete=[boolean]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	resourceName	Pool resource name	Required	string
	newname	New timeline resource name	string	
	ctrlName	New external control name		integer
	frame	Frame number		integer
	layer	Layer, 1-255 or "background"		string
	length	Length in frames		integer
	direction	Transition direction for fade or transparency effects, "up" or "down"		string
	autodelete	Set autodelete		Boolean
	tl	Timeline ID		integer

insertGeometry

Route	/delta/rpc/insertGeometry			
Summary	Insert a Geometry resource onto the timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/insertGeometry?resourceName=[string]&newName=[string]&ctrlName=[integer]&frame=[integer]&layer=[string]&channel=[integer]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	resourceName	Pool resource name	Required	string
	newname	New timeline resource name		string
	ctrlName	New external control name		integer
	frame	Frame number		integer
	layer	Layer, 1-255 or "background"		string
	channel	Channel number if channel mapped		integer
	tl	Timeline ID		integer

insertBlend

Route	/delta/rpc/insertBlend			
Summary	Insert a Blend resource onto the timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/insertBlend?resourceName=[string]&newName=[string]&ctrlName=[integer]&frame=[integer]&channel=[integer]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	resourceName	Pool resource name	Required	string
	newname	New timeline resource name		string
	ctrlName	New external control name		integer
	frame	Frame number		integer
	channel	Channel number if channel mapped		integer
	tl	Timeline ID		integer

insertSerialEvent

Route	/delta/rpc/insertSerialEvent			
Summary	Insert a Serial Event resource onto the timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/insertSerialEvent?resourceName=[string]&newName=[string]&ctrlName=[integer]&frame=[integer]&layer=[string]&ipAddress=[string]&port=[integer]&repeatEnable=[boolean]&repeatCount=[integer]&repeatFrames=[integer]&command=[string]&addFrame=[boolean]&autoDelete=[boolean]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	resourceName	Pool resource name	Required	string
	newname	New timeline resource name		string
	ctrlName	New external control name		integer
	frame	Frame number		integer
	layer	Layer, 1-255 or "background"		string
	ipAddress	Set ip address		string
	port	Set port		integer
	repeatEnable	Enable repetitions		Boolean
	repeatCount	Set number of repetitions		integer
	repeatFrames	Set repetition interval in frames		integer
	command	Set the command string to be sent by event		string
	addFrame	Append the current frame no. to the command string		Boolean
	autodelete	Set autodelete		Boolean
	tl	Timeline ID		integer

mediaEnable

Route	/delta/rpc/mediaEnable			
Summary	Enable a media resource			
Sample URL	http://192.168.0.1/api/delta/rpc/mediaEnable?ctrlName=[string]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	ctrlName	External Control name	Required	string
	tl	Timeline ID		integer

mediaMove

Route	/delta/rpc/mediaMove			
Summary	Move a media resource			
Sample URL	http://192.168.0.1/api/delta/rpc/mediaMove?ctrlName=[string]&x=[integer]&y=[integer]&w=[integer]&h=[integer]&r=[integer]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	ctrlName	External Control name	Required	string
	x	X Position	Required	integer
	y	Y Position	Required	integer
	w	Width	Required	integer
	h	Height	Required	integer
	r	Roll		integer
	tl	Timeline ID		integer

mediaDisable

Route	/delta/rpc/mediaDisable			
Summary	Disable a media resource			
Sample URL	http://192.168.0.1/api/delta/rpc/mediaDisable?ctrlName=[string]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	ctrlName	External Control name	Required	string
	tl	Timeline ID		integer

mediaRemove

Route	/delta/rpc/mediaRemove			
Summary	Remove a media resource from a timeline			
Sample URL	http://192.168.0.1/api/delta/rpc/mediaRemove?ctrlName=[string]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	ctrlName	External Control name	Required	string
	tl	Timeline ID		integer

setTextParams

Route	/delta/rpc/setTextParams			
Summary	Set Parameters of a text resource			
Sample URL	http://192.168.0.1/api/delta/rpc/setTextParams?resourceName=[string]&newText=[string]&fontSize=[string]&r=[integer]&g=[integer]&b=[integer]&tl=[integer]			
Parameters	Name	Description	Required	Data Type
	resourceName	Resource Name	Required	string
	newText	New Text Value	Required	string
	fontSize	Font Size	Required	string
	r Red	(0-255)		integer
	g Green	(0-255)		integer
	b Blue	(0-255)		integer
	tl	Timeline ID		integer

globalFadeUp

Route	/delta/rpc/globalFadeUp			
Summary	Timed global video fade up			
Sample URL	http://192.168.0.1/api/delta/rpc/globalFadeUp?duration=[string]			
Parameters	Name	Description	Required	Data Type
	Duration	Duration of fade	Required	string

globalFadeDown

Route	/delta/rpc/globalFadeDown			
Summary	Timed global video fade down			
Sample URL	http://192.168.0.1/api/delta/rpc/globalFadeDown?duration=[string]			
Parameters	Name	Description	Required	Data Type
	Duration	Duration of fade	Required	string

layerFade

Route	/delta/rpc/layerFade			
Summary	Set the opacity of a timeline layer			
Sample URL	http://192.168.0.1/api/delta/rpc/layerFade?tl=[integer]&layer=[integer]&opacity=[integer]			
Parameters	Name	Description	Required	Data Type
	Tl	Timeline ID		integer
	Layer	Layer ID	Required	integer
	Opacity	Opacity %	Required	integer

layerFadeTimed

Route	/delta/rpc/layerFadeTimed			
Summary	Start a timed fade of opacity of a timeline layer			
Sample URL	http://192.168.0.1/api/delta/rpc/layerFadeTimed?tl=[integer]&layer=[integer]&direction=[string]&duration=[string]			
Parameters	Name	Description	Required	Data Type
	Tl	Timeline ID		integer
	Layer	Layer ID	Required	integer
	Direction	Direction of fade (up, down)	Required	string
	Duration	Duration of fade	Required	string

layerFadeTimedAll

Route	/delta/rpc/layerFadeTimedAll			
Summary	Start a timed fade of opacity of a timeline layer on all group servers			
Sample URL	http://192.168.0.1/api/delta/rpc/layerFadeTimedAll?tl=[integer]&layer=[integer]&direction=[string]&duration=[string]			
Parameters	Name	Description	Required	Data Type
	Tl	Timeline ID		integer
	Layer	Layer ID	Required	integer
	Direction	Direction of fade (up, down)	Required	string
	Duration	Duration of fade	Required	string

layerEnable

Route	/delta/rpc/layerEnable			
Summary	Enable a timeline layer			
Sample URL	http://192.168.0.1/api/delta/rpc/layerEnable?tl=[integer]&layer=[integer]			
Parameters	Name	Description	Required	Data Type
	TI	Timeline ID		integer
	Layer	Layer ID	Required	integer

layerDisable

Route	/delta/rpc/layerDisable			
Summary	Disable a timeline layer			
Sample URL	http://192.168.0.1/api/delta/rpc/layerDisable?tl=[integer]&layer=[integer]			
Parameters	Name	Description	Required	Data Type
	TI	Timeline ID		integer
	Layer	Layer ID	Required	integer

layerEnableAll

Route	/delta/rpc/layerEnableAll			
Summary	Enable a timeline layer on all servers in a group			
Sample URL	http://192.168.0.1/api/delta/rpc/layerEnableAll?tl=[integer]&layer=[integer]			
Parameters	Name	Description	Required	Data Type
	TI	Timeline ID		integer
	Layer	Layer ID	Required	integer

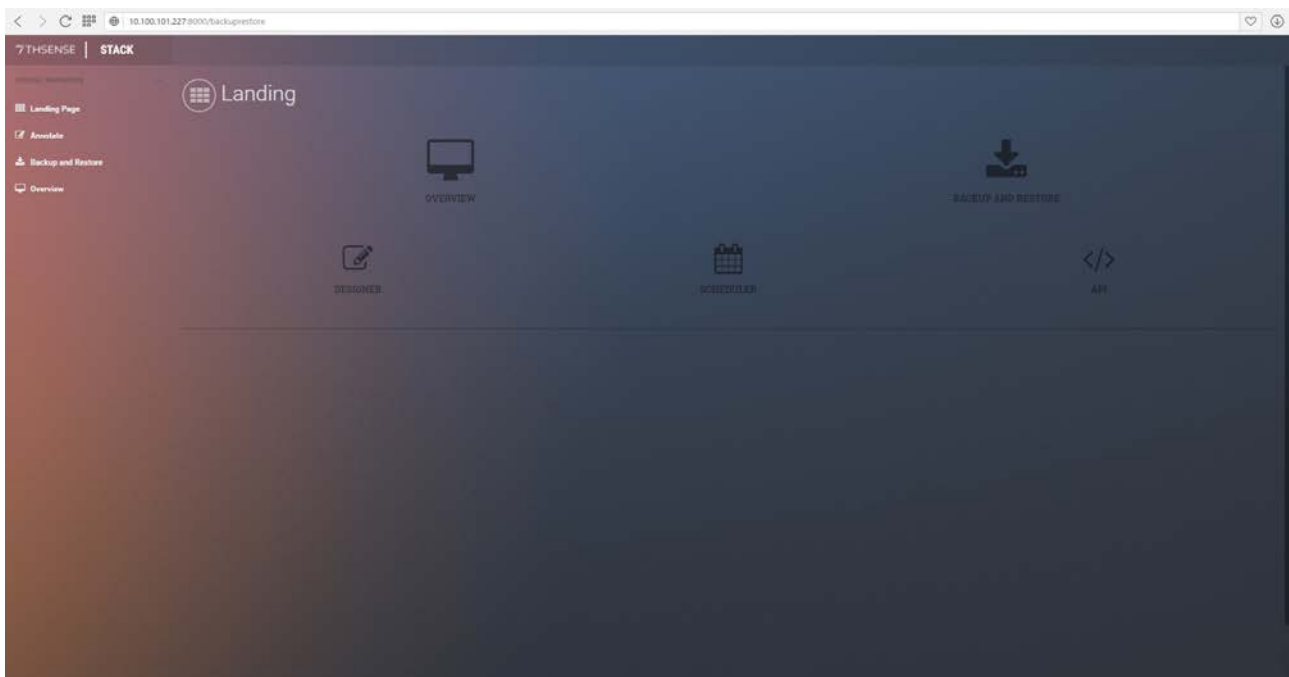
layerDisableAll

Route	/delta/rpc/layerDisableAll			
Summary	Disable a timeline layer on all servers in a group			
Sample URL	http://192.168.0.1/api/delta/rpc/layerDisableAll?tl=[integer]&layer=[integer]			
Parameters	Name	Description	Required	Data Type
	Tl	Timeline ID		integer
	Layer	Layer ID	Required	integer

Stack Overview (option)

Landing Page

Browsing to a Delta Server on [http://\[IP\]:8000](http://[IP]:8000), you will land on that specific Server's 'Stack' landing page. Note that Stack will not work on 127.0.0.1 (localhost). The top two system-wide options provide overall means to see a System Overview and to be able to Backup and/or Restore any machine on the network. The bottom three options will take you back to the server's Designer, Scheduler and API pages respectively under the Delta Web Service.



The Overview is where you'll find list of all servers on the network with additional top-level information designed to enable a quick glance over your system and determine immediately if anything's wrong. Each entry supplies the Server's Name, IP Address, Grouping, whether the server's a Leader or Follower, the Health of the machine, the State and Genlock status.

Colour is important. Green denotes additional information or successes, red denotes an immediate problem, yellow provides a warning that may or may not be of importance, and blue denotes extra information.

Health is generally the most important piece to the summary page. It displays all immediate issues to you in red. So a quick glance over the page should give you a net idea of what, if any, issues your system(s) are having.

Note: Information on this page is not real-time. The maximum update rate for each server entry is once every 2 seconds.

Columns

Table columns can be ordered by pressing the respective headers in the table until a desired ordering is achieved. The following presents extra information about each column:

Column Name	Orderable	Description
Control		If a down arrow shows, click this to expand the server profile.
Server Name	Yes	If Delta is not running this will reflect the machine's hostname, otherwise it will display the Delta name.
IP Address	Yes	The active IP address of the machine is shown in white and is a live link to that server. Other NICs per server are shown, where available, in grey.
Group	Yes	The group ID of Delta.
Leader	Yes	Displays 'Leader' if the server's a Leader server or 'Follower' if it's a Follower.
Health		Displays all immediate issues with the machine side by side: In red: 'Delta Server not running'; 'Stack not running', in blue: 'Read Only'. Will only indicate 'Healthy' in green if everything's OK.
State		Reflects the front panel LED states. Tooltips in theses read 'Graphics', 'Movies' and 'Audio'.
Genlock		Displays 'Non AMD System' in blue, or 'DM not available' in red if an unsupported DeltaMonitor version is running on the machine. Displays 'Not Available' if Genlock's not available or if Genlock is available but not enabled, it will display 'Available' in yellow. If Genlock on this machine is available <i>and</i> turned on, then this value will state 'Enabled' in green.

Please note: From 2020 7thSense deprecated the terms master and slave for the dependencies

between devices. We now refer throughout to 'Leader' and 'Follower' in our products.

To maintain functionality, both terminologies continue to work internally, but our documentation no longer uses the former terms. Users of pre-2020 products will need to observe the equivalence and continue to use the previous legacy terms.

Installation

If Stack Overview is not installed on your system and you want to make use of it, please request the installer from 7thSense. It does incur an additional overhead on bandwidth, so is not installed as default.

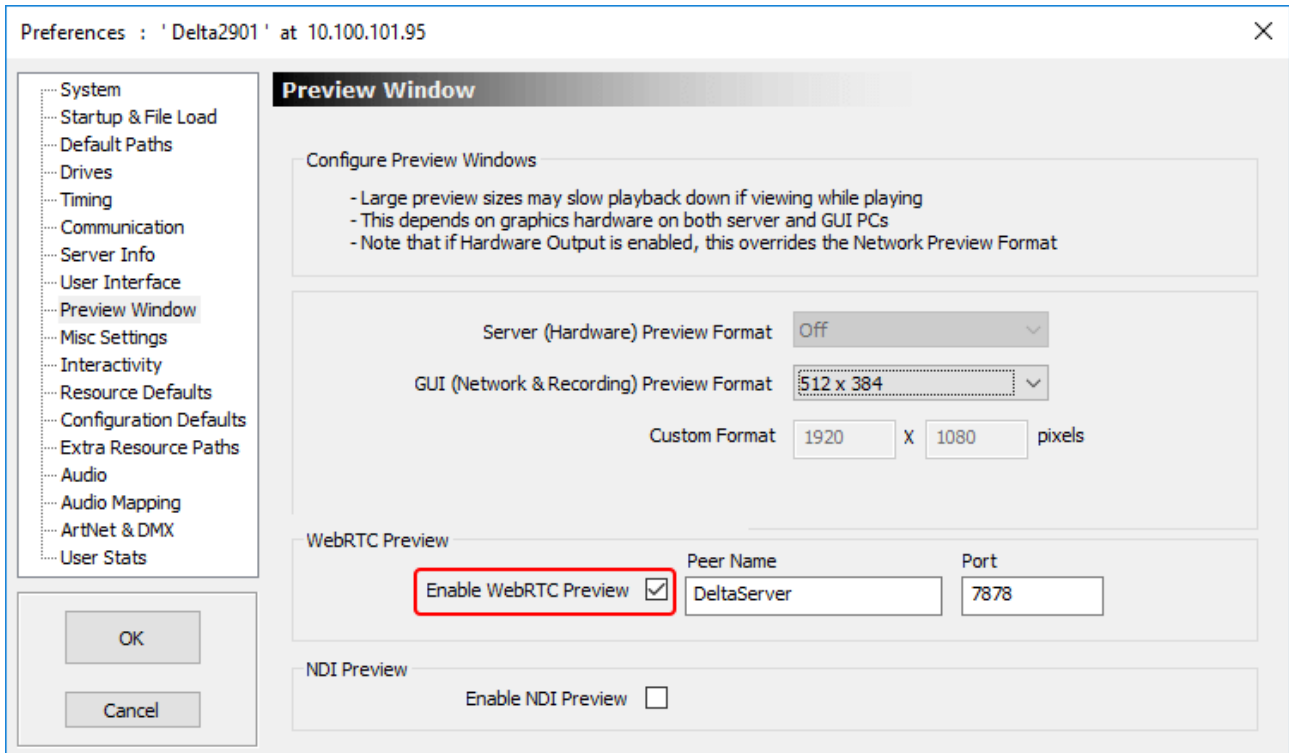
Ensure the installer is run as Admin on the required server. Double-click on the Stack installer and then 'Install'.

Once installed, enter the required server's IP into a web browser. This will resolve to `http://[IP]/ws/#/delta/status`.

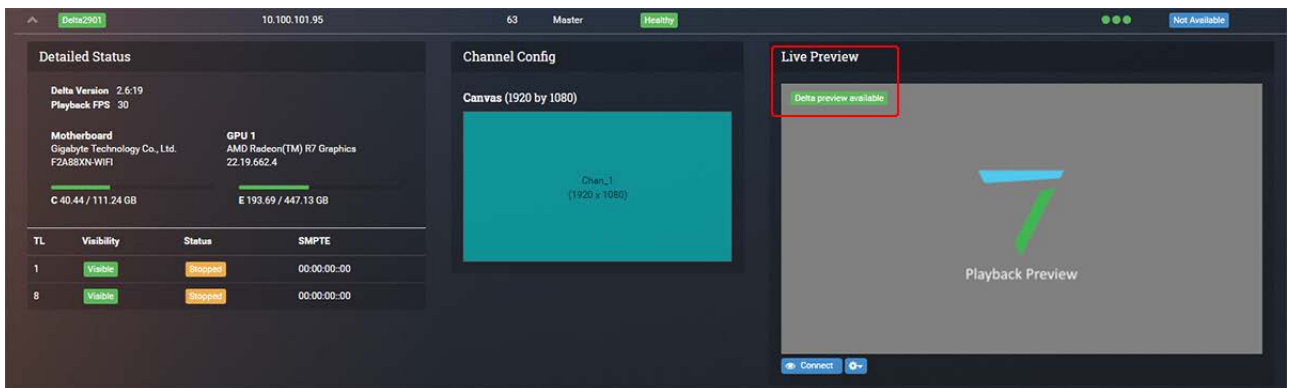
You should be presented with the landing page. If not, Stack has not installed successfully.

WebRTC Connection

Ensure that 'WebRTC Preview' is enabled in DeltaServer by connecting to the target machine with DeltaGUI. Go to *Preferences > Preview* and tick 'WebRTC Enabled'. You may need to restart Delta for this to take effect.



In the Stack Overview page, select the required server and 'Delta preview available' green status should be showing in the top left of the WebRTC playback preview window:



Press 'Connect' and WebRTC should connect successfully and preview the current show on the server.

Detailed Server Information

The detailed server information dropdown for each entry supplies you with an option to view more detailed information about that specific Server. This option will only appear if both Delta and Stack are currently running on the machine. Clicking on the dropdown if available will display Detailed Status, Channel Configuration and Live Preview panels.

Detailed Status

Delta Version

Displays the version of Delta that's currently running on the machine.

Playback FPS

Playback speed of Delta in frames per second.

Motherboard

Manufacturer

The manufacturer of the Motherboard.

Model

The model number of the Motherboard, set by the manufacturer.

GPU 1: Graphics card in slot 1

Manufacturer

Manufacturer of the GPU.

Model

Model number of the GPU set by the manufacturer.

Driver version

The driver information this GPU is using.

GPU 2 (if applicable)**Manufacturer****Model****Driver version****Drive information: an exhaustive list of all drives installed on the machine****Usage Bar**

Displays the drive's usage in a bar format. When usage crosses the threshold this bar will turn red.

[Drive letter] Usage / Total Available

The drive's letter, usage and total Windows reported space available on this drive.

Timeline Table**TL**

Timeline ID.

Visibility

Whether the timeline is visible or not.

Status

Playing / Stopped.

SMPTE

The current time the playhead is currently on.

Channel Config

The Channel Config reflects a scaled ratio display of Delta's canvas. Canvas resolution is displayed above the canvas display. Each channel is represented by a semi-transparent rectangle along with their information about its name and resolution in the centre of each channel. This display will reflect any changes made to Delta's Channel Config in near real-time (2 second refresh rate). Any overlaps of channels will result in a visual overlapping of their respective channels in the display.

Live Preview

The Live Preview panel shows a live WebRTC playback preview of Delta. To connect the preview, simply press 'Connect'. WebRTC Preview must be enabled in Delta for the Preview to work. The

preview can show extra statistics along with the performance graph if required by selecting the relevant options in the Options dropdown at the bottom of the panel.

Detailed information about the preview's connection is displayed in the upper left portion of the preview display.

The screenshot displays the 7thSense web interface. At the top, there's a navigation bar with '7THSENSE' and 'STACK'. The main area is titled 'Overview' and shows a table of servers. The table has columns for 'SERVER NAME', 'IP ADDRESS', 'GROUP', 'LEADER', 'HEALTH', 'STATE', and 'GENLOCK'. Below the table, there are three panels: 'Detailed Status' showing system information like 'Delta Version 2.424', 'Motherboard', and 'GPU 1'; 'Channel Config' showing a grid of channels (Chan_1 to Chan_8) with their respective resolutions; and 'Live Preview' showing a video feed of a space scene. A dropdown menu is open over the 'Live Preview' panel, showing options for 'Auto connect', 'Graph', 'Stats', and 'Audio'. The 'Auto connect' option is checked.

Options available

Auto Connect

toggles the automatic connection of the preview when opening the Detailed Server Information section of the server entry

Graph

toggles the display of the performance graph overlay*

Stats

toggles the display of the detailed stats information overlay*

Audio

enables / disables audio output in the preview

* These overlays are not displayed in Delta's output, they are only shown in the preview output.

Stack Backup and Restore (option)

The optional Stack Backup and Restore page is a system-wide page, and is designed to make backing up and restoring those backups easier and simpler. It has a tab for configuring Backup, and one for Restore. Servers can be backed up individually, or multiple servers set to back up simultaneously. Single servers can be restored in full or in part, from backup, and multiple servers can be set to restore in full or in part, from a single backup file.

➤ [Backup](#) ⁶³

➤ [Restore](#) ⁶⁷

Backup

Windows Connections Limit

If using a central NAS, ensure that the operating system can handle as many TCP connections as required. Windows 7 or 10, for example, can only handle 20 at a time.

Enter the name by which you wish to call the backup, in the 'Enter Backup Name' text box. If left blank, a standard backup name will be used.* Next, select the type of backup you want to create. Selecting 'All Configuration' will select the basic configuration of your server(s). 'All Data' will back up everything. If choosing 'Custom', then consult the table below for explanations for each custom option.

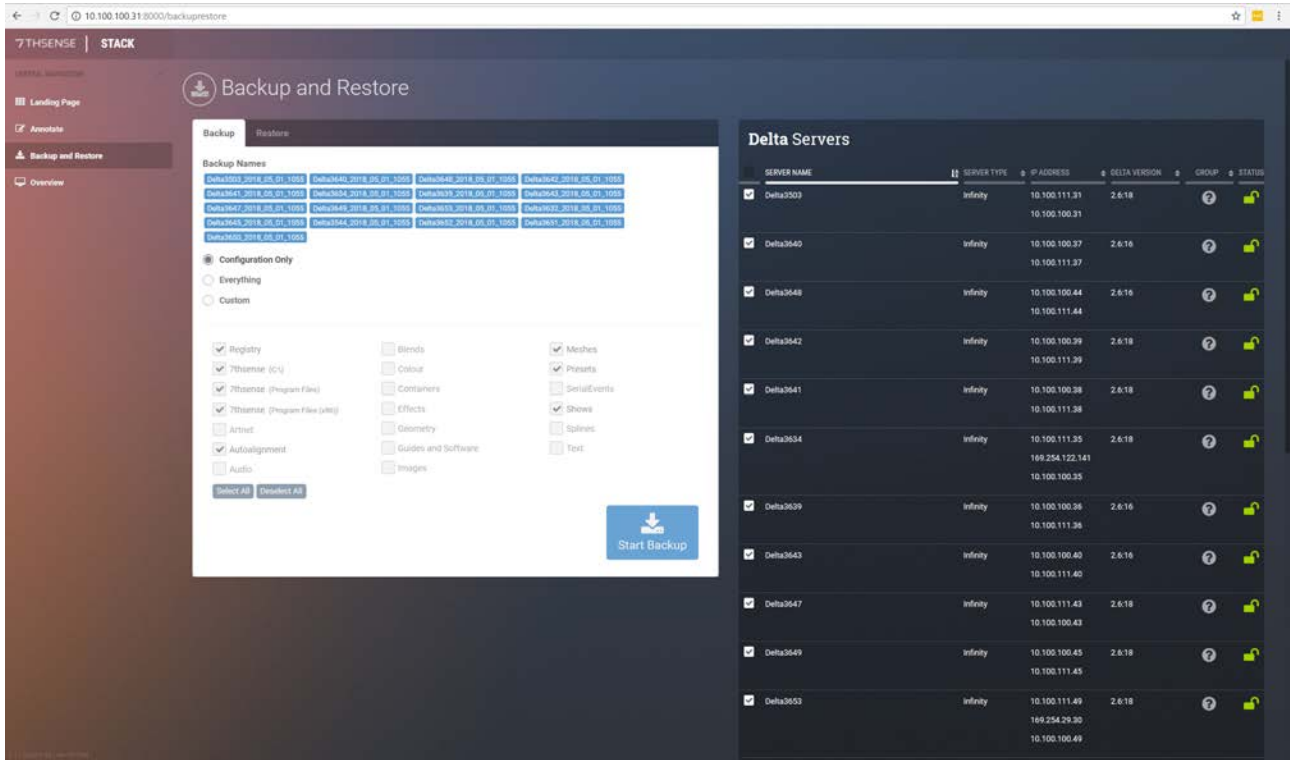
* Standardized backup names are formatted by [Server Name]_[Year]_[Month]_[Day]_[Time].zip (for example: Delta1234_2018_05_08_1217.zip). This can be reconfigured: see the Delta Server Configuration section for more information.

Selected file sizes affect backup times

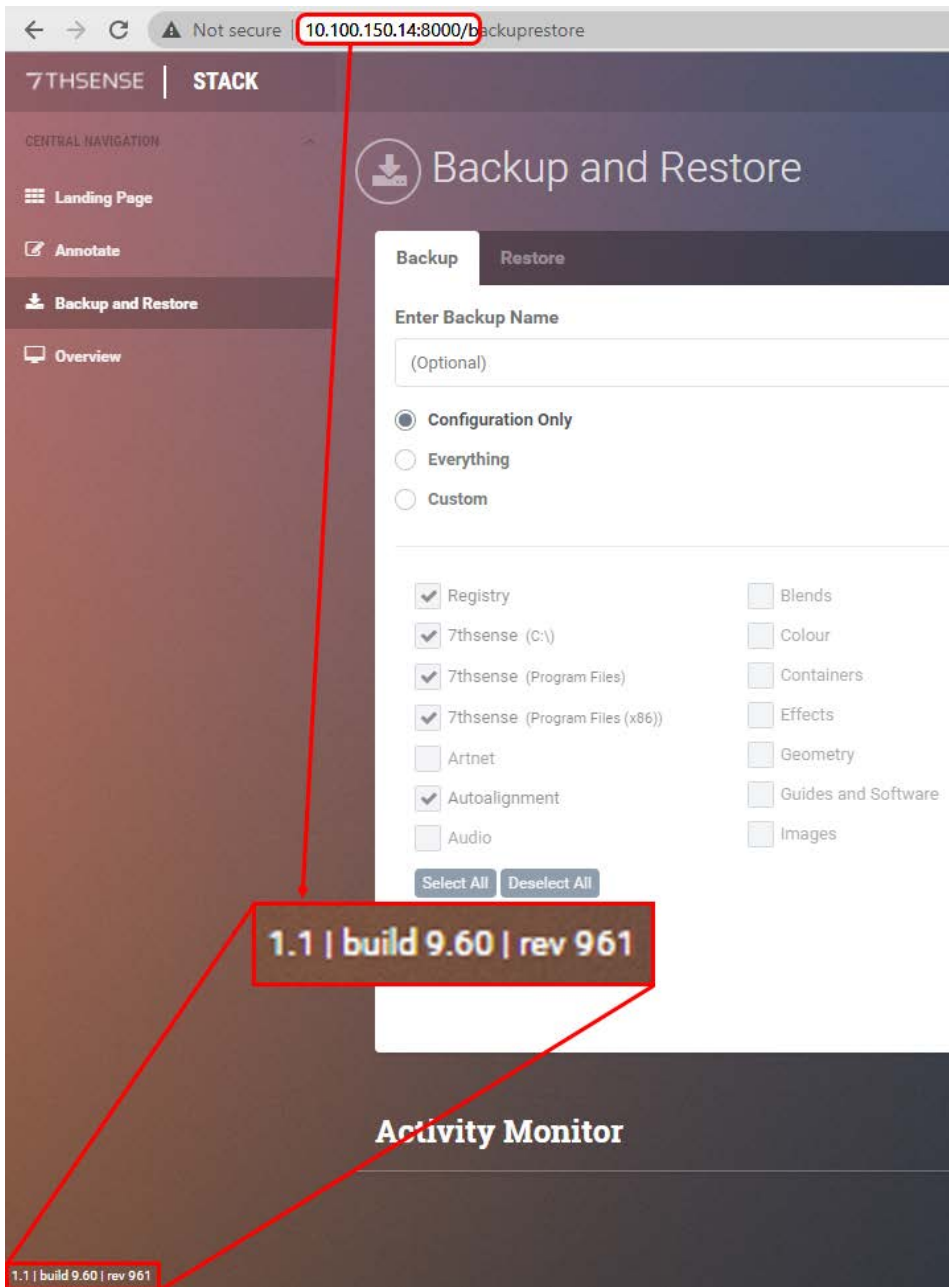
Selecting **7thSense** items (C:\) may be 5 GB or more. Program Files add about another 1 GB. Movies are not included in the backup options. These are very large volumes and copies should be already be held separately.

In the panel on the right side select the server(s) you wish to backup using the checkboxes.

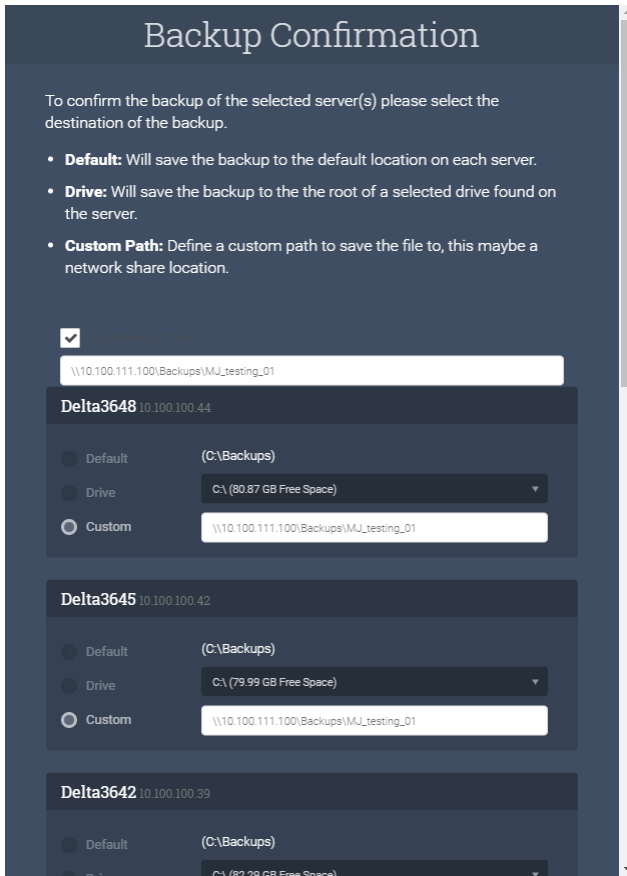
If selecting multiple servers, the backup name will become disabled and will show a list of all standard backup names in the list (in blue):



Only servers of the same major version of the software will be shown here for backup and restore. If a known server is present on the network but does not appear in the list, it is worth checking the version of the Stack installation. The software version of the server in the browser address bar can be seen in the bottom left of the browser page: mouse-over the text to highlight:



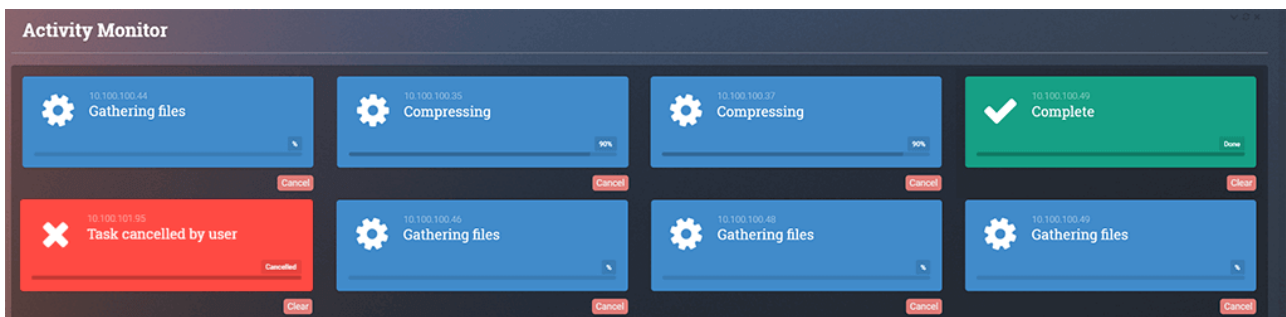
After selecting your backup options and server(s) to backup, press 'Start Backup'. Here you can confirm the destination(s):



You can backup each server to its default location, to a named drive per server, or back up all to a NAS, for example. To do this, check the 'Use Network Share' box and enter the IP and path at the top. This will become the default destination as 'Custom' in all listed server destinations.

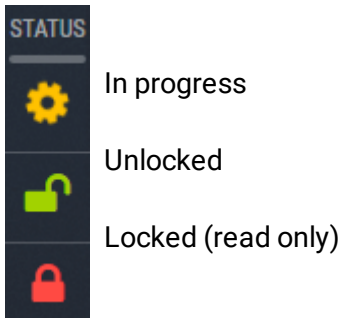
Below the server list you can Cancel, or Confirm to start the backup.

The Activity Monitor area will now populate with an activity card for each server to show status and progress. Any server's backup can be cancelled. Status will be Gathering Files, Compressing or Complete. The progress bar is per file, not overall backup stage.



When a server backup is complete, the 'Cancel' button becomes 'Clear', but any refresh of this page will clear the Complete and cancelled cards.

The activity status per server is also shown in the server list, to the right:



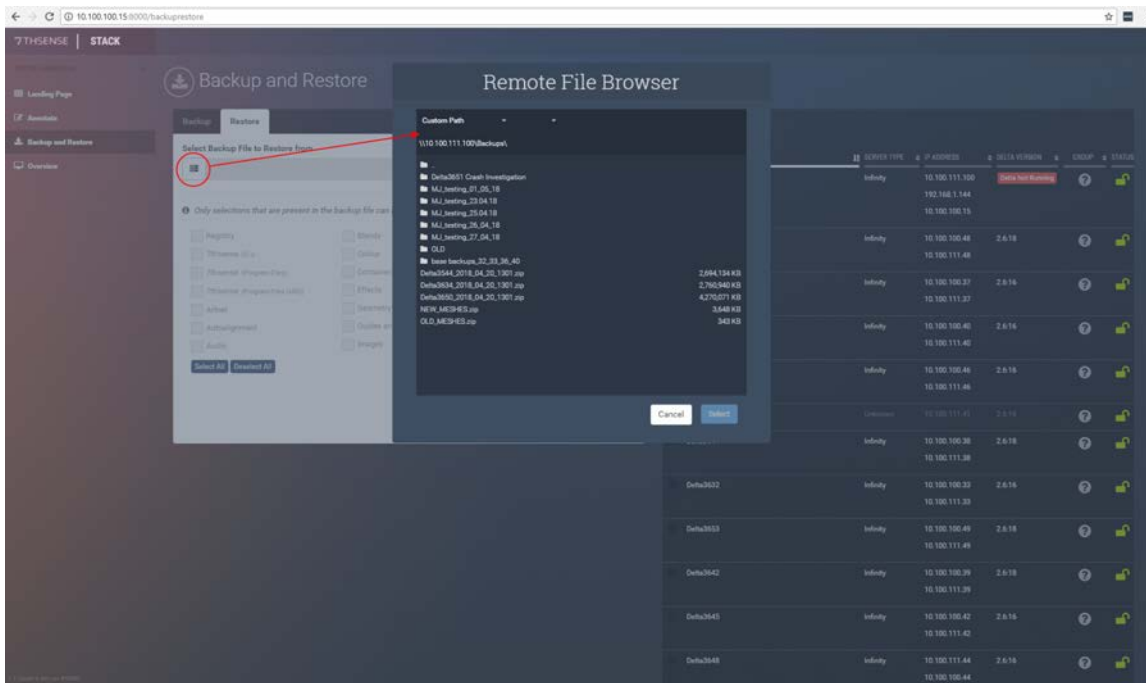
Restore

The Restore Process

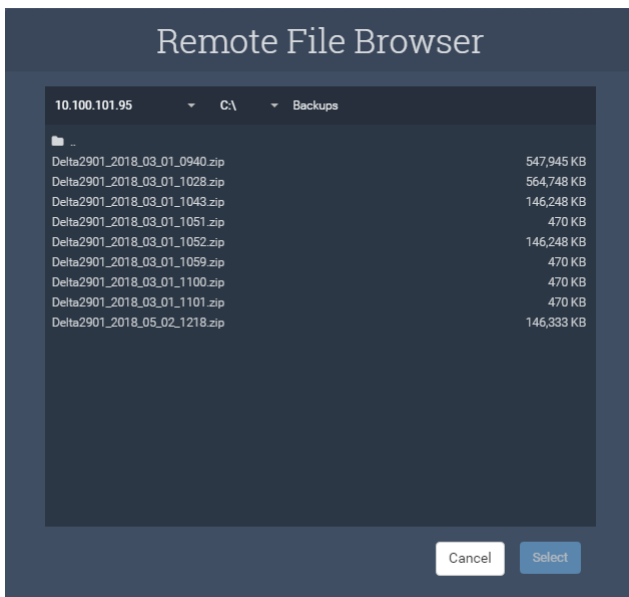
- A **source** is selected.
- From the source, a **backup** file is selected.
- From the backup file, backed up **items** are accepted or deselected.
- A server or servers to which to restore the backup (**destinations**), are selected.
- On 'Start Backup' backup files are restored to the destination(s) into **temporary** locations.
- When complete, the items to be replaced are deleted and the temporary (restore) files **renamed**.
- If any **7thSense~** items were selected, Stack and then the server will **restart**, ending in a 'Complete' activity card.

Restore Source

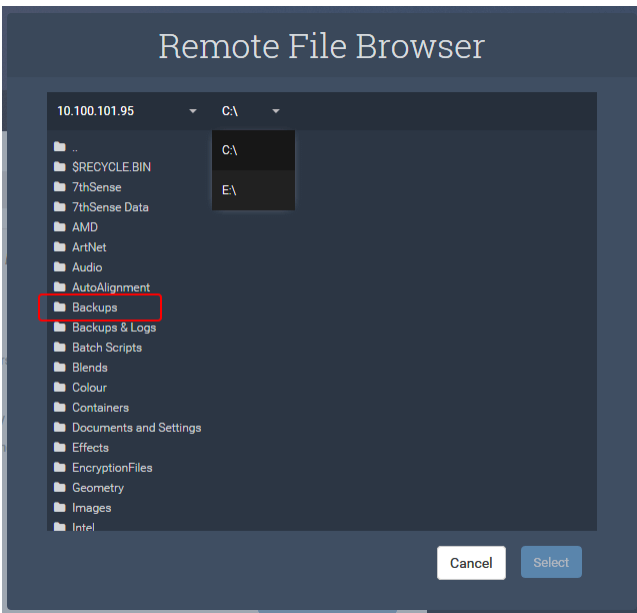
Select the server source backup file to use. This could be a server under the list of IPs, or select Custom Path (for example if you use a NAS for backups):



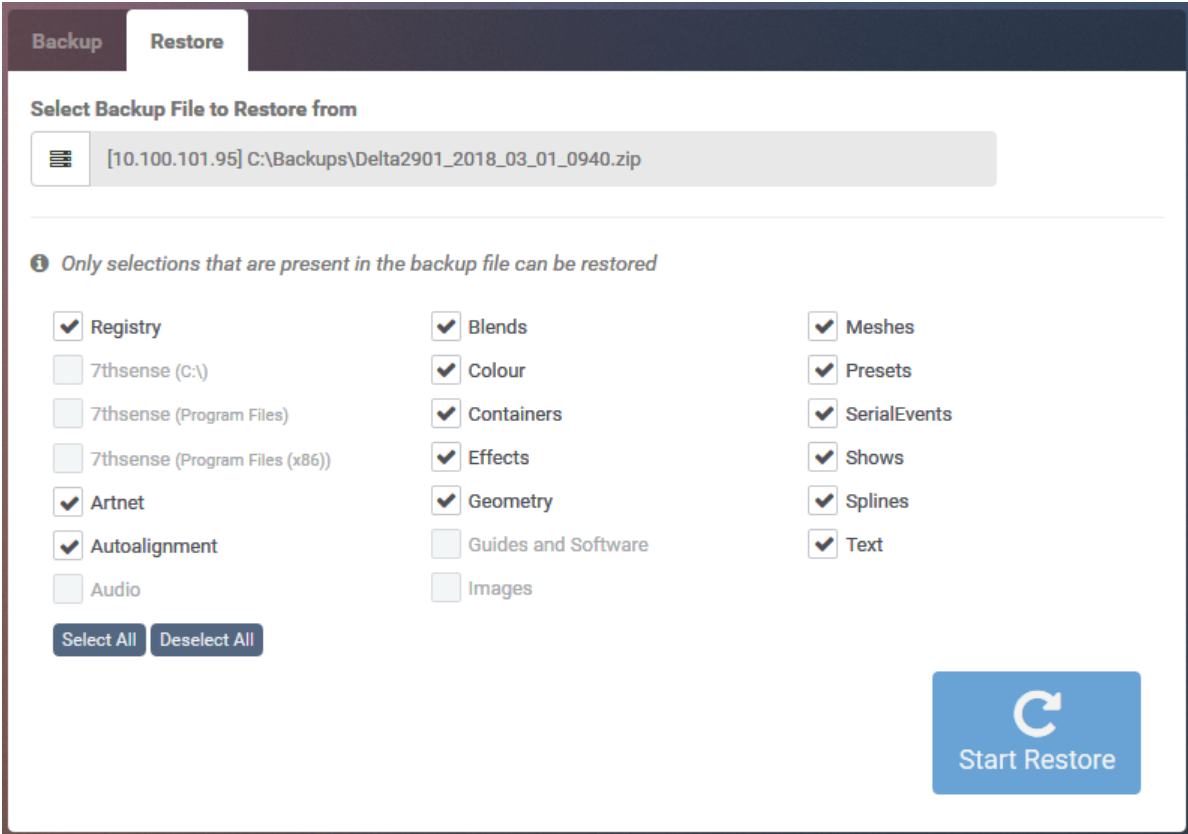
For a server IP, the default C:\Backup folder and contents are displayed:



For alternative locations, the selected server's folder structure can be expanded from the folder icon, to locate your backup folder:



Select the required folder and file, and then choose whether you want to restore everything as backed up, or deselect any items available but not needed:



Restore Destination

From the list on the right, select the Delta server or servers to which you want to restore, using the checkboxes.

Click 'Start Restore'. As with Backup, the Activity Monitor shows progress in the form of activity cards. As with backup, progress in an activity card relates to the item being restored, not the stage of restoration.

Items to restore

Backup Option	Description
Registry	Windows registry settings relating to Delta
7thsense (C:\)	C:\7thSense
7thsense (Program Files)	C:\Program Files\7thsense (Includes Sequences)
7thsense (Program Files (x86))	C:\Program Files (x86)\7thsense (Includes Sequences)
Art-Net	C:\Artnet
Autoalignment	C:\Autoalignment
Audio	C:\Audio*
Blends	C:\Blends
Colour	C:\Colour
Containers	C:\Containers (Playlists and AV Assemblies)
Effects	C:\Effects
Geometry	Warp data in C:\Geometry
Guides and Software	
Images	C:\Images*
Meshes	C:\Meshes*
Presets	C:\Presets
Serial Events	C:\SerialEvents
Shows	C:\Shows
Splines	C:\Splines
Text	C:\Text

* These entries occupy a lot of space and take much longer to restore.

Additional Stack Modules

Other applications are available that use the Delta Web Service interface. These are all additional licensed applications, and include:

StackCaptioning

This provides automatic audio and/or visual captioning for rides and attractions, on Android devices: tablets, smart glasses, or similar mobile devices

StackExpress

Designed primarily for the NanoSDI server range, the StackExpress interface may also be used with any Delta Media Server, allowing the user to quickly and efficiently build, store and play pre-set media playlists, or administer real-time media playback.

StackSignage

StackSignage comprises several software apps, that allow a set of Delta Media Servers to interact with a Scheduler server's database, to provide continuous playback of scheduled media for multiple large-format digital displays, live events and paid display installations. These individually licensed modules include:

- **Scheduler:** app for primary and backup scheduling servers
- **Player:** app for accessing the user interface on Delta servers
- **Mediasync:** to sync media from NAS to Delta servers
- **Snapshot:** uses cameras to take snapshots of the output displays at intervals for proof-of-play

➤ For all web interface modules, see the [Online User Guides](#).

Document Information

Date	Document edition	Software version	Revision Details	Author/Editor
June 2015	1	Delta Web Services 2.1	New release	Andy Briggs
June 2017	2	Stack 1.1 Build 8	New edition	Andie Davidson
May 2018	3	Stack 1.1 Build 9	Revised Backup and Restore	Andie Davidson
December 2019	4	Stack 1.1 Build 9.54 DeltaMonitor 3.0.34	DeltaMonitor revisions	Andie Davidson

Date	Document edition	Software version	Revision Details	Author/Editor
July 2020	5	Stack 1.1 Build 9.54 DeltaMonitor 3.0.34	Revised server terminology	Andie Davidson
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April 2022	8	DeltaWebService 2.4.16 DeltaWebPlatform 2.1.3 StackPreview 1.0.0 Stack 1.1 Build 9.57 DeltaMonitor 3.0.34	Stack Overview and Backup/Restore made optional	Andie Davidson

Windows Registry Settings

This document is supplied for informational purposes only. Any modification to Windows Registry values that are not exposed via the DeltaServer or DeltaGUI application interfaces – or otherwise advised by 7thSense personnel – may result in performance degradation and/or complete instability of the products. Any attempt to engage 7thSense for support in troubleshooting may result in the reversal of all Registry settings to the factory default or last known good 7thSense-approved configuration. **The customer assumes all risk when manually editing any Windows Registry values on any 7thSense product.**

A

- activity monitor, Stack 63
- add-ons 6
- AMD display grouping 10
- API command
 - advance 38
 - cancelAllSequences 36
 - cancelSequence 36
 - deleteGlobalVar 34
 - disableReserve 32
 - enableReserve 32
 - externalControl 26
 - getActiveSequences 35
 - getAudioLevel 30
 - getAvailableSequences 35
 - getFrameRate 31
 - getGlobalVar 33
 - getGlobalVarList 33
 - getGroup 27
 - getHelloData 26
 - getIP 27
 - getMarkers 34
 - getName 27
 - getPoolResources 37
 - getResourceXML 31
 - getShortStatus 30
 - getShowList 32
 - getStatus 29
 - getVideoLevel 30
 - globalFadeDown 53
 - globalFadeUp 53
 - gotoFrame 39
 - gotoMarker 40
 - gotoTime 39
 - insertAudio 47
 - insertBlend 50
 - insertCapture 44
 - insertContainer 45
 - insertControl 48
 - insertEffect 49
 - insertGeometry 49
 - insertImage 43
 - insertMovie 41
 - insertSerialEvent 51
 - isLeader 28
 - isMaster 28
 - layerDisable 55
 - layerDisableAll 56
 - layerEnable 55
 - layerEnableAll 55
 - layerFade 54
 - layerFadeTimed 54
 - layerFadeTimedAll 54
 - loadShow 32
 - mediaClearAutoDeletes 40
 - mediaDisable 52
 - mediaEnable 51
 - mediaInsert 41
 - mediaMove 52
 - mediaRemove 52
 - Network Discovery 25
 - pauseSequence 36
 - play 38
 - refreshResources 37
 - reloadImage 37
 - reloadImages 37
 - resumeSequence 36
 - rewind 38
 - setAudioLevel 31
 - setFollower 29
 - setGlobalVar 33
 - setGroup 28
 - setLeader 28
 - setMaster 29
 - setSlave 29
 - setTextParams 53
 - setVideoLevel 31
 - startSequence 35
 - stepback 39
 - stop 38

C

- channel configuration 59
- core modules 6

D

- Delta Monitor web view
 - display setup 7
 - summary 7
- Delta Web Service 4
 - browser support 4
- Delta Web Service API operations 24
- DeltaMonitor control via web 15
- DeltaMonitor front panel, web view 9
- Designer, page location 18
- DWS additional modules 71
- DWS Designer 18
- DWS Designer widgets 19
- DWS home page 6
- DWS security 4

DWS URL 4

E

EDID management 10

G

genlock polling (AMD) 15
genlock, Quad buffer settings 10

I

installing DWS 58
interactive show control page design 19

L

live preview 59
log on to Delta Web Service 4

M

markers in web view 7

N

NAS: use for server backups 63
network server overview 56

O

Overview 59

P

password for DWS 4
PJLink control 23
projector control 23

R

Restore server using Stack 67
restore to server 67

S

Scheduler 22
scheduling tasks 22
sequences in web view 7
server backup file location 63, 67
server information 59

server status 59
server status in web view 7
show control custom pages 18
shows in web view 7
Stack Backup 63
Stack Overview 56
StackCaptioning 71
StackExpress 71
StackSignage 71
Status page 7

T

timelines in web view 7

W

web control of servers 9
web service API SDK 23
web show preview 7
WebRTC, enable 58

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