



ITX™ SOFTEL™ INSIDE

INTEGRATED iTX™ SUBTITLING SOLUTION

Configuration & User Guide

REVISION 1

v2.9

2016-11-22

www.grassvalley.com

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Table of Contents

1 About iTX Softel Inside Subtitles.....	1
Overview of Softel Inside Features	1
About Subtitle Assets, Locations and Intents	2
About Closed, Open and Live Subtitles	2
Supported Subtitle Formats	3
About Services and Streams	3
About Subtitles Service Rules	3
Functional Overview of Softel Inside Subtitle Integration	4
Installing iTX Softel Inside Subtitles	6
Licensing Requirements	6
2 Configuring iTX to Import Subtitles	7
About Subtitle File Imports	7
Managing Subtitle Intents	8
Refreshing the Subtitle Intent List	8
Adding a Subtitle Intent	9
Deleting a Subtitle Intent	9
Creating Subtitle Endpoint Sub-Folders for Delivery Manager	9
Creating Subtitle Endpoint Sub-Folders for Multi-Language .mcc files	11
Configuring Subtitle Endpoints in Delivery Manager Config	12
Importing Subtitle Files	14
Scenario 1: Importing subtitles of all the same language	14
Scenario 2: Importing open or closed subtitles of the same language	14
Scenario 3: Importing all open or all closed subtitles of different languages	15
Scenario 4: Importing open or closed subtitles of different languages	15
Scenario 5: Importing Multi-language MCC files	16
3 Configuring iTX for Teletext Payout	17
Overview of the Teletext Configuration in Output Server 2	17
Setting the Transmission Mode	18
Configuring the Channel Landing Page	19
Creating and Configuring Streams	20
Creating a Stream	20
Configuring a Stream	21
Creating and Allocating Subtitle Services	22
Creating a Subtitle Service	22
Configuring a Subtitle Service	23
Configuring an Apology Page for Teletext	23
Configuring the iTX Gateway	24
Configuring Teletext and DVB Transcoding Parameters for IP Outputs	25

- Configuring the Teletext parameters25
- Configuring the DVB Subtitles Transcoding Parameters.....25
- 4 Configuring iTX for Closed Caption Playback 27**
 - Overview of the Closed Caption Configuration in Output Server 2.....27
- 5 Exporting and Importing Output Server 2 Configurations 29**
 - Exporting (Backing up) the Output Server 2 Configuration29
 - Importing a Saved Output Server 2 Configuration30
- 6 Setting Subtitle Service Rules 31**
 - Configuring the Subtitle Service Rules.....31
- 7 Configuring Live Subtitles..... 33**
 - About Live Subtitles in iTX33
 - Setting Up the Subtitle Gateway34
 - Locating Your Service IDs.....34
 - Starting SGA and Choosing a Configuration File35
 - Creating Data Flows35
 - Adding a Live Subtitle Feed.....38
 - Deleting a Live Subtitle Feed.....39
- 8 Managing and Verifying Subtitle Assets..... 41**
 - Linking a Subtitle Asset to Another Asset.....41
 - Searching for Linked Subtitle Assets Using PinPoint42
 - Locating an Asset Linked to a Specific Subtitle Asset.....42
 - Verifying that the Subtitle Asset is Linked to the Video Asset.....43
 - Removing the Link Between a Subtitle Asset and Another Asset.....44
 - Changing a Subtitle File's Intent44
 - Adding a Location to a Subtitle Asset45
 - Deleting Subtitle Data45
 - Deleting Subtitle Assets45
 - Deleting Subtitle Asset Locations46
 - Viewing Subtitle Content Information.....46
 - Accessing the Subtitle File Stored on the iTX System.....47
 - Previewing Subtitle Playback Using the Preview as Channel Layout47
 - Previewing Video Assets with Subtitles.....49
 - Resetting or Clearing the Subtitle Services Settings in the Media Player49
- 9 Scheduling & Controlling Subtitle Playback 51**
 - Automatically Adding a Subtitle to a Scheduled Video Event.....51
 - Manually Adding a Subtitle to a Scheduled Video Event52
 - Overriding the Subtitle Source for a Scheduled or On Air Video Asset52

Updating Subtitles for On Air Video Assets53
Disabling the Subtitle Source for a Scheduled or On Air Video Asset.....54

Appendix A Maintaining Softel Inside System..... 55

Configuring Output Server 2 for Legacy Subtitle Playout.....55
Converting Legacy Closed Caption Files.....55
Supported Subtitle Input Formats and Associated Registered Assets59

Contact Us 61



About iTX Softel Inside Subtitles

Softel Inside is an integrated solution for importing, managing and playing out subtitles on an iTX channel. This includes both open and closed subtitles (including closed subtitles from both files and live feeds). This guide explains the concepts behind Softel Inside subtitling, how to configure Softel Inside for your iTX system, how to import and manage subtitle sources, and assets and how to playout Softel Inside subtitles with your videos and live events.

Note: In this document, the word “subtitles” is used as a collective term for open captions, closed captions (including Teletext) and live subtitles.

Summary

<i>Overview of Softel Inside Features</i>	1
<i>About Subtitle Assets, Locations and Intents</i>	2
<i>About Closed, Open and Live Subtitles</i>	2
<i>About Services and Streams</i>	3
<i>About Subtitles Service Rules</i>	3
<i>Functional Overview of Softel Inside Subtitle Integration</i>	4
<i>Installing iTX Softel Inside Subtitles</i>	6
<i>Licensing Requirements</i>	6

Overview of Softel Inside Features

Softel Inside provides the following features and functionality:

- Importing of subtitle files using Delivery Manager.
- Playout of open and closed subtitle files.
- Live subtitle playout.
- Multi-language subtitles associated with a single video asset.
- For Teletext, an apology page can be displayed if the expected subtitles are unavailable.
- Configurable landing page for Teletext, which is displayed when viewers first access Teletext.
- Subtitle asset management using Asset layout in iTX Desktop.
- Time and text metadata definitions, which can be viewed from the Events tab of the subtitle asset.
- Subtitle preview via the Channel Preview layout in iTX Desktop.
- Automatic scheduling of subtitle content when video assets are scheduled.

To use Softel Inside subtitles, your iTX system must meet the following requirements:

- You must have the required Subtitle and Softel Inside licenses.
- Your iTX channel must be running on Output Server 2.

For more information about purchasing software licenses and the Grass Valley license dongle, please contact: itxlicensing@grassvalley.com.

About Subtitle Assets, Locations and Intents

Within iTX, subtitles are a type of asset, which are created using one of the following methods:

- **Subtitle files**, which are imported and registered using a Delivery Manager endpoint with a drop folder. This then becomes a subtitle asset. If you give a subtitle file the same name as a pre-existing video asset, the subtitles and video asset are automatically linked on registration in the database.

As a subtitle file can generally only contain one transcription, to support multiple languages or alternative transcriptions (e.g. for hard of hearing), all of the different subtitle files for a single video must be placed into their own sub-folders within the Delivery Manager drop folder. Once registered in iTX, each of these alternative subtitle files becomes a different location within the same subtitle asset. Each location and file is distinguished by a user-defined tag called an "Intent". The names of your Intents should identify the transcription's language and purpose. For example, a subtitle asset with subtitle files containing transcriptions for English, French and English for hard of hearing could have Intents called `English`, `Francais` and `English_HOH`.

IMPORTANT

A subtitle file can only be transmitted in the format that it was imported (e.g. open subtitle files can only be transmitted as open subtitles).

- **Metadata**, which can also be imported by Delivery Manager or a REST API.

About Closed, Open and Live Subtitles

iTX supports closed, open and live subtitles.

- **Closed** subtitles are transmitted as data alongside the video signal. This means the viewer can turn them on and off from their television or set-top box. There are two types of closed subtitles:

- **Teletext** is a form of closed subtitles that is commonly used in Europe, Asia and Australia. An iTX channel can have more than one Teletext page, each page carrying a different Intent. **Teletext pages are configured as services within iTX.** See [About Services and Streams](#) on page 3.

iTX supports Teletext landing pages (one per channel). This is the default page that is displayed when a viewer turns on Teletext.

iTX also supports Teletext apology pages, which is an information page that is displayed when subtitles are required but not available to inform the viewer of the missing subtitles.

- **Closed Captions** is a form of closed subtitles that is commonly used in North America. An iTX channel can have up to two Closed Captions services each carrying a different intent. See [About Services and Streams](#) on page 3.
- **Open** subtitles are rendered into the visible frame with the video and therefore cannot be turned on/off by the viewer.
- **Live subtitles** are typically used for live broadcasts and come from external feeds via the iTX Subtitle Gateway. The subtitle text is created moment-to-moment by a stenographer or an automatic speech-to-text solution and delivered to the iTX system over IP.

Each feed of a live transcription has its own Location and Intent in the subtitle asset. These Intents can be the same as those used for file-based subtitles.

Supported Subtitle Formats

A reference table of subtitle file formats that can be imported into iTX where they are converted to an internal format is available in [Supported Subtitle Input Formats and Associated Registered Assets](#), on page 59.

About Services and Streams

Each channel transmits its subtitle information via a service. Services are mapped to streams which define the VBI lines for transmission.

In Teletext mode, you must configure streams for both open and closed services. The open services should be configured on a separate stream from the closed services. A stream may have several services allocated to it, but the more services that are allocated the more bandwidth the stream requires to transmit them. A Teletext service is analogous to a single Teletext page (e.g. 888).

For open subtitles, the stream is used to communicate to the render engine that the video includes open subtitles that need to be rendered. No data is transmitted to air on the VBI lines used for an open service.

When using Closed Captions, streams are automatically configured and hidden from the user.

About Subtitles Service Rules

Subtitle service rules are used to define the priority of the subtitle intents, so that if the first intent is not available then the next intent is used, and so on.

When configuring subtitles, you create a page for each set of subtitles you want to make available. For example, you could create a Teletext page for English subtitles and call it 'Page 888', and a page for French subtitles called 'Page 889'. You can also specify alternative languages for each page, in case the preferred subtitles are not available in the subtitle asset when it is scheduled. This is controlled by defining the Subtitle Service Rules for each channel. If the Rules for 'Page 888' state 'English, French' then if the scheduled subtitle asset has both English and French Intents, the English intent will go to air; but if there is no English intent in the asset, then French will go to air instead.

For Teletext, in addition to alternative Intents, the subtitle service rule can also be set to display an apology page if none of the selected Intents are available in the scheduled subtitle asset.

For Closed Captions, the Subtitle Service Rules work in much the same way. The notable differences are that there is no such concept as an Apology page, and there are a maximum of two closed and two open services, each of which have preset names.

Functional Overview of Softel Inside Subtitle Integration

Figure 1-1 provides a functional overview of how the iTX system imports, manages and plays out subtitle content on an iTX channel.

Annotation key:

- 1 Closed and/or open subtitle files are imported into the iTX system using the iTX Delivery Manager application.
- 2 Once imported, the subtitle files are stored as assets within the iTX system. Using the Asset layout in iTX Desktop, you can perform various asset management tasks, such as removing the link between a subtitle and a media asset if they have been incorrectly associated.
- 3 Scheduling and playing out subtitle content using the iTX Desktop and iTX Output Server 2.
- 4 Live subtitle insertion and playout.

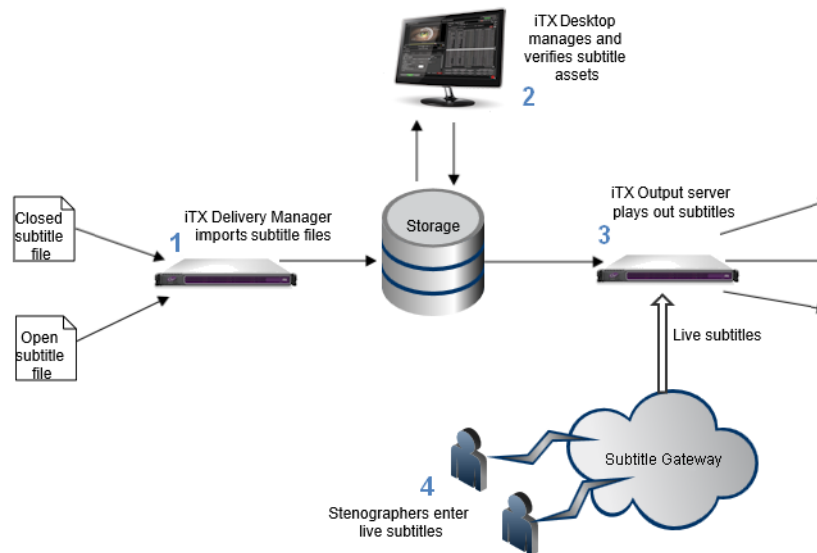


Fig. 1-1: An overview of subtitle import, management and playout.

Figure 1-2 on page 5 illustrates the relationship between a video asset, its subtitle asset and the subtitle sources (which can be both subtitle files or live subtitles). It also shows how subtitle service rules can be used to map specific Intents to the scheduled video event, even if the subtitle asset has additional Intents. This means the same video and subtitle asset pair can be used for different broadcasts.

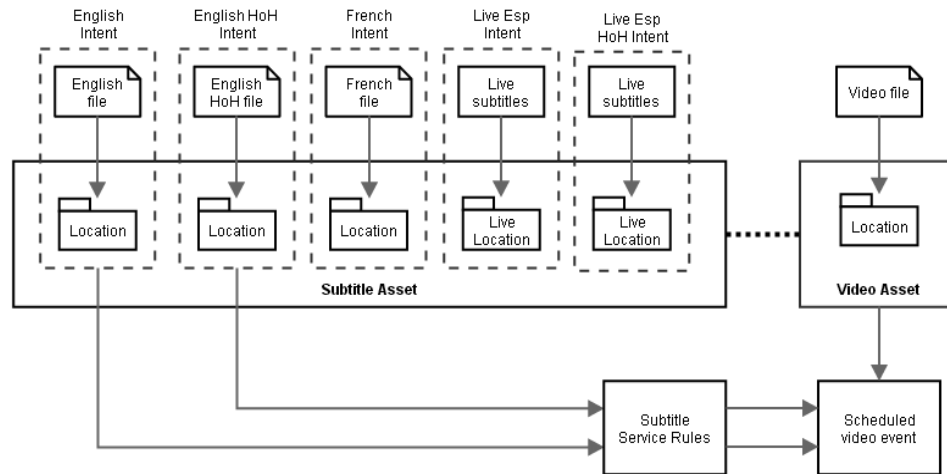


Fig. 1-2: A video asset and its linked subtitle asset, which contains multiple Intents, only two of which are mapped to the schedule video event at layout.

Figure 1-3 illustrates how the streams, services and Intent rules relate to one another. The streams and services are configured in the Output Server 2 service, while rules are mapped to services in iTX Desktop. A single stream can be assigned to multiple services, but you must have separate streams for open and closed subtitles. Each service then has its own rule. In the case of closed services, this would typically include file-based subtitles, live subtitles (as a fall back), then an apology page.

For Closed Captions this is simplified as streams are not configurable, nor is there the concept of an Apology page.

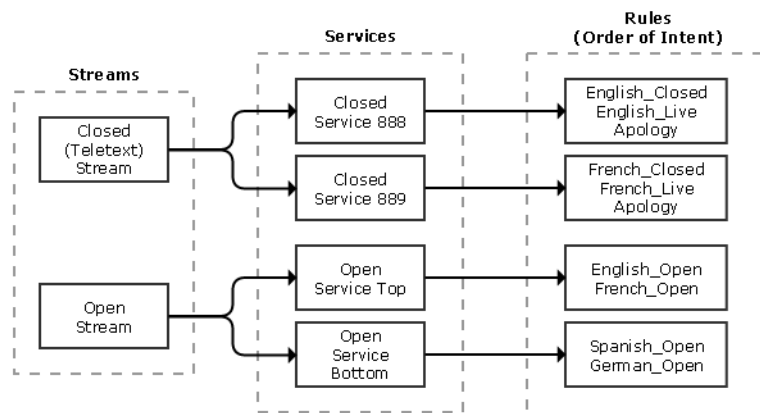


Fig. 1-3: The relationship between streams, services and rules, which provide the order of Intent usage.

Installing iTX Softel Inside Subtitles

iTX Softel Inside is installed and configured as part of Output Server 2 and operated from iTX Desktop.

For more information on installing Output Server 2, see the *iTX Output Server 2 Channel Configuration Guide*.

For more information on installing iTX Desktop, see the *iTX System Administrator Guide*.

Licensing Requirements

Softel Inside subtitles are a licensed feature within iTX. The subtitle configuration on Output Server 2 checks that the features being configured are licensed within the product. If the configured option is not licensed, then the Output Server 2 reports an error and the configuration indicates which option is unlicensed.

Please contact Grass Valley's sales or technical support for assistance with licensing.

IMPORTANT

While Output Server 2 is in an error state, playout is not possible on that channel.



Configuring iTX to Import Subtitles

This chapter explains how iTX imports subtitle files, via Delivery Manager, and how to configure your iTX system to ensure your subtitles are imported as required. This includes how to create the required Intents in your Opus database and how to configure a Delivery Manager CIFS (Common Internet File System) endpoint to import subtitles with different Intents.

Summary

<i>About Subtitle File Imports</i>	7
<i>Managing Subtitle Intents</i>	8
<i>Creating Subtitle Endpoint Sub-Folders for Delivery Manager</i>	9
<i>Configuring Subtitle Endpoints in Delivery Manager Config</i>	12
<i>Importing Subtitle Files</i>	14

About Subtitle File Imports

Subtitle files are imported into iTX by putting them into a drop box folder, monitored by iTX Delivery Manager, from where they are automatically imported and assigned properties, including their Intent. To ensure that the subtitles are imported with the correct properties and stored in the right location configuration needs to be carried out on the iTX Output Server and iTX channel using the iTX Desktop.

The iTX configuration needed to import subtitle files must be carried out in the following order:

- 1 Create the required subtitle Intents using the iTX Desktop.
- 2 Create the CIFS endpoint folders.
- 3 Configure a new Delivery Manager CIFS endpoint.

When a subtitle file is imported, Delivery Manager uses a Subtitle File Converter module to do the following:

- 1 Convert the subtitle file from its native format to an iTX internal format.
 - All closed Teletext subtitle files are converted to `.stl` files
 - All Closed Caption files are converted to `.mcc` files
 - All open subtitle files are converted to `.xif` files

Note: A reference table of subtitle file formats that can be imported into iTX where they are converted to an internal format is available in [Supported Subtitle Input Formats and Associated Registered Assets](#), on page 59

2 Extract time and text information to associate with the asset.

Notes

- Version 2.8 also registered a proxy dfxp location. From v2.9 these are not registered, but any existing dfxp files remain.
- For subtitle files which contain Font information, that font must be installed on the machine where the subtitles are being imported to prevent the subtitle file converter from using an unsuitable fall back font. This is particularly important where a subtitle contains Chinese characters and the import occurs on a server with a Latin character set which would not have the Chinese font installed as a default.

IMPORTANT

A subtitle file can only be transmitted in the format that it was imported (e.g. open subtitle files can only be transmitted as open subtitles). There is no means of converting open subtitles to closed, or vice versa.

Managing Subtitle Intents

A subtitle Intent is a user-defined profile, used to group subtitles by type and language. Intents are needed for both live subtitles and subtitle files and are used in rules and subtitle assets. Open and closed subtitles of the same language must have separate Intents (for example, `English_Closed` and `English_Open`). However, Live locations can share Intents with file locations.

When playing out subtitles, rules are used to specify the order in which the subtitles should be used, through the ordering of Intents.

These Intents are defined in the Opus Admin layout of iTX Desktop and are accessible to all other iTX channels within the same iTX domain.

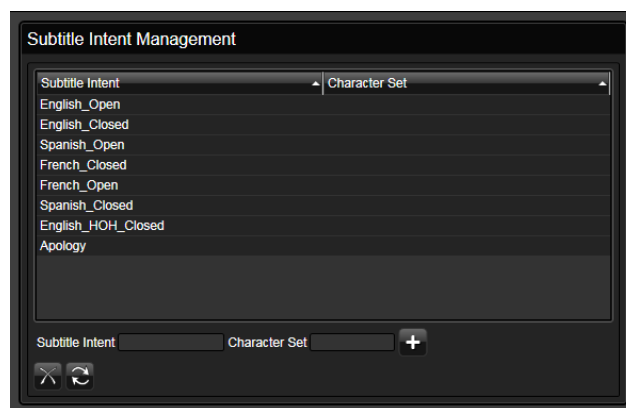



Fig. 2-1: The Subtitle Intent Management panel in Opus Admin showing existing Intents.

Refreshing the Subtitle Intent List

Before adding or removing an Intent, it is worth refreshing your local list to ensure you have the latest list of Intents on your iTX domain.

To refresh the list of subtitle Intents

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Opus Admin**.
- 4 In the **Subtitle Intent Management** panel, click **Refresh** .

The updated list shows the latest Intents stored by any user in the same iTX domain.

Adding a Subtitle Intent

Intents can be added to iTX as required. When you add a subtitle Intent it becomes available to all other channels in the same iTX domain.

To add a subtitle Intent

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Opus Admin**.
- 4 In the **Subtitle Intent Management** panel, specify a **Subtitle Intent** name that identifies its purpose and type. For example, `ENGLISH_HOH_CLOSED` for English closed subtitles with additional text for the deaf and hard-of-hearing. Subtitle Intents are case sensitive and must have unique names.

Note: The **Character Set** field is a placeholder for future functionality. We recommend that this field be left blank at this time.


- 5 Click **Add** .

The Intent is displayed appended to the list and the Subtitle Intent field is cleared.

Deleting a Subtitle Intent

Intents can be deleted from iTX as required. When you delete a subtitle Intent it is removed across the entire iTX domain.

To delete a subtitle Intent

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Opus Admin**.
- 4 In the **Subtitle Intent Management** panel, select the Intent to be deleted.
- 5 Click **Delete** .

Creating Subtitle Endpoint Sub-Folders for Delivery Manager

Delivery Manager is able to import subtitle files and automatically assign an Intent and location to the resulting asset, by matching the endpoint sub-folder the subtitle file was dropped into with an Intent in the Opus database. However, this is reliant on you creating a specific folder structure for your endpoint. As such, you must add a new endpoint to your Delivery Manager specifically for importing subtitle files. This must be a CIFS endpoint set

to drop box mode. See [Configuring Subtitle Endpoints in Delivery Manager Config](#) on page 12.

Where and how the physical sub-folder structure is created depends on your file storage system, so it cannot be covered in this documentation. iTX needs to know the location of the drop box folder and this is specified in [step 11](#) of [Configuring Subtitle Endpoints in Delivery Manager Config](#).

The folder structure within the CIFS inbox has the following requirements:

- To keep subtitle files separate from other media, it is recommended that you create a `Subtitles` sub-folder within the `Inbox` folder (e.g. `CIFS_Inbox`).
- Within the `Subtitles` folder, create two sub-folders, one called `Closed` and one called `Open`.
- Within the `Closed` and `Open` folders, create sub-folders that correspond to the `Intents` that you have already configured.

Figure 2-2 shows the base folder structure required. Intent sub-folders are required at the level below `Closed` and `Open` in order to import subtitle files.

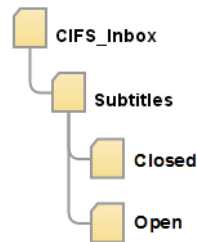


Fig. 2-2: The base folder structure required. Subtitles are not imported at this level.

Figure 2-3 provides an example of a drop box folder, called `CIFS_Inbox`, and its sub-folder structure.

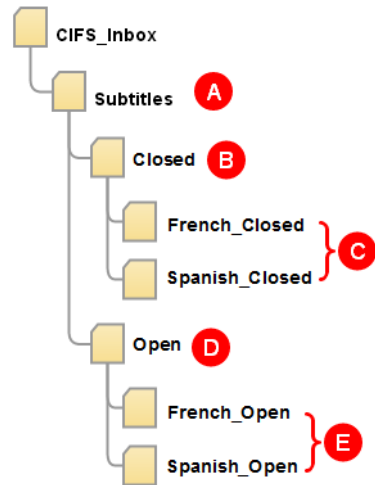


Fig. 2-3: Example CIFS drop box folder structure for open and closed subtitles and subtitles with Intents. The annotation is explained in the table below.

Folder	Use this folder to register...
A	Do not use. Subtitles placed at this level will fail the import.
B	Do not use. Subtitles placed at this level will fail the import.
C	A closed subtitle file with an Intent of <code>French_Closed</code> or <code>Spanish_Closed</code> .
D	Do not use. Subtitles placed at this level will fail the import.
E	An open subtitle file with an Intent of <code>French_Open</code> or <code>Spanish_Open</code> .

Creating Subtitle Endpoint Sub-Folders for Multi-Language .mcc files

For closed captions, .mcc files may contain subtitles for multiple languages, which are held as CC1 and CC3 within a single file. This is the only file type for which multi-language input is supported within iTX.

In order to import these files, a special symbol must be included in the drop box sub-folder's name to separate the languages. The symbol used is '^'.

Figure 2-4 provides an example of a drop box folder, called CIFS_Inbox, and its sub-folder structure.

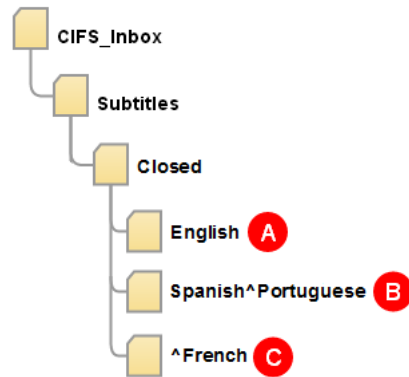


Fig. 2-4: Example CIFS drop box folder structure for importing closed multi-language .mcc subtitle files. The annotation is explained in the table below.

Folder	Use this folder to register...
A	<ul style="list-style-type: none"> • CC1 subtitles with an Intent of English. • CC3 subtitles are not registered.
B	<ul style="list-style-type: none"> • CC1 subtitles with an Intent of Spanish and • CC3 subtitles with an Intent of Portuguese. These are both registered as Intents in a single subtitle Asset.
C	<ul style="list-style-type: none"> • CC1 subtitles are not registered. • CC3 subtitles with an Intent of French.

Configuring Subtitle Endpoints in Delivery Manager Config

So that subtitles are automatically imported, a CIFS endpoint set to drop box mode needs to be configured in the iTX Delivery Manager Config. The steps below explain how to create a CIFS drop box specifically for subtitles.

To create and configure a CIFS endpoint in Delivery Manager

- 1 Open **Delivery Manager Config**.
- 2 From the **Select Configuration** dialog, click **Default** and click **OK**.
The **Delivery Manager Configuration** dialog appears.
- 3 Click **Add New End Point**.
A new, blank endpoint configuration tab appears.
- 4 Click the **Select** button next to the **End Point Driver** field.
The **Select Delivery Manager Driver** dialog appears.
- 5 Select **CIFS** and click **OK**.
- 6 In the **End Point Name** field, enter the name to be used as a reference in the iTX database. For example, "Subs Drop Box".
- 7 Click the browse button for the **Content Changed Workflow** field.
The **Select 'Content Changed' Workflow...** dialog appears.
- 8 Select the required workflow for performing drop box actions. For example, `DefaultContentChanged_RegisterAndImport`.

- 9 The **Asset Template Name** field can be left blank.
- 10 Under **CIFS End Point Details**, select **Drop Box**.
- 11 Select **Media Path** and find the required root drop box folder.
- 12 Check **Search Sub Folders** so any Intent or open/closed folders below the root drop box are searched.
- 13 Click **Save** to store the configuration.
- 14 Restart the Delivery Manager service.

Importing Subtitle Files

Subtitle files are automatically imported when they are placed into a sub-folder of the CIFS drop box folder. If an Open subtitle file is placed in a Closed folder (or vice versa), an error is generated.

A small number of subtitle files can be imported into either folder type. See [Supported Subtitle Input Formats and Associated Registered Assets](#), on page 59 for details about the input subtitle file extensions which are supported; whether they are treated as Open or Closed; and the file type which is registered dependent on the Time Service Source Format.

Note: If the subtitle file has the same name as an existing video asset and the subtitle asset did not previously exist in the system, the subtitle will be linked to the video asset automatically.

A subtitle file can be manually linked from within iTX Desktop. See [Linking a Subtitle Asset to Another Asset](#) on page 41.

The following example scenarios cover the configuration that is needed to import different types of subtitles.

Scenario 1: Importing subtitles of all the same language

In this example scenario, all the subtitles to be imported are closed French subtitles.

Create the following

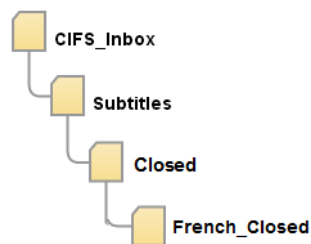
- 1 An Intent with a name that clearly describes its language and type, for example `French_Closed`.

See [Managing Subtitle Intents](#), on page 8.

- 2 The CIFS endpoint folder structure as

`CIFS_Inbox\Subtitles\Closed\[Intent name]`.

For Example:



See [Creating Subtitle Endpoint Sub-Folders for Delivery Manager](#), on page 9.

Scenario 2: Importing open or closed subtitles of the same language

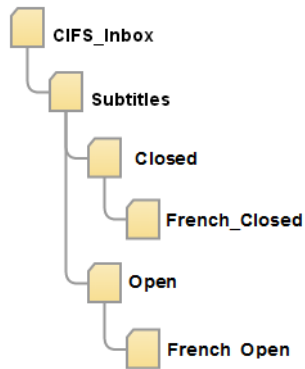
In this example scenario, all the subtitles to be imported are French, but there is a mix of open and closed files.

Create the following

- 1 Two Intents with names that clearly describe their language and type, for example `French_Closed` and `French_Open`.

See [Managing Subtitle Intents](#), on page 8.

- 2 The CIFS endpoint folder structure containing the following folders, as shown below.



See [Creating Subtitle Endpoint Sub-Folders for Delivery Manager](#), on page 9.

Scenario 3: Importing all open or all closed subtitles of different languages

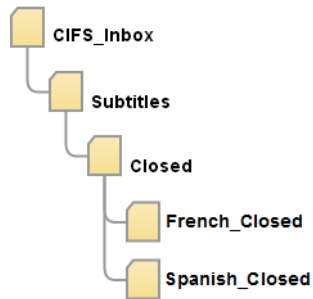
In this example scenario, all the subtitles to be imported are closed files but they are either French or Spanish.

Create the following

- 1 Two Intents with names that clearly describe their language and type, for example `French_Closed` and `Spanish_Closed`.

See [Managing Subtitle Intents](#), on page 8.

- 2 The CIFS endpoint folder structure containing the following folders, as shown below.



See [Creating Subtitle Endpoint Sub-Folders for Delivery Manager](#), on page 9.

Scenario 4: Importing open or closed subtitles of different languages

In this example scenario, the subtitles to be imported are either French or Spanish and can be open or closed.

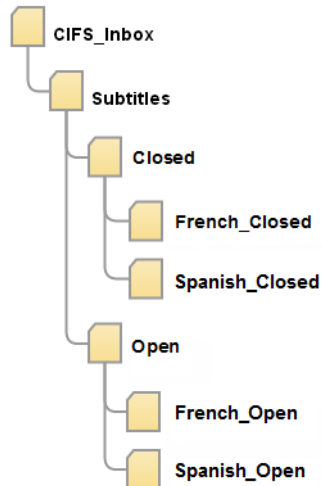
Create the following

- 1 Four Intents with names that clearly describe their language and type, for example:
 - `French_Closed`
 - `French_Open`
 - `Spanish_Closed`

- Spanish_Open

See [Managing Subtitle Intents](#), on page 8.

- 2 The CIFS endpoint folder structure containing the following folders, as shown below.



See [Creating Subtitle Endpoint Sub-Folders for Delivery Manager](#), on page 9.

Scenario 5: Importing Multi-language MCC files

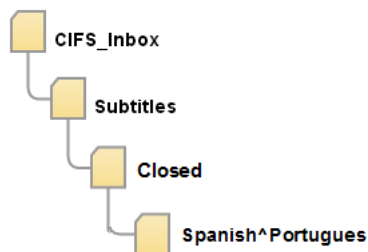
In this example scenario, all subtitles to be imported are closed .mcc files containing both Spanish and Portuguese.

Create the following

- 1 One Intent with a name that clearly describes the two languages, together with the special separator, for example, Spanish^Portuguese.

See [Managing Subtitle Intents](#), on page 8.

- 2 The CIFS endpoint folder structure containing the following folders:



See [Creating Subtitle Endpoint Sub-Folders for Delivery Manager](#), on page 9.

3

Configuring iTX for Teletext Payout

Softel Inside subtitles, including Teletext and Closed Captions, can only be played out on a channel operating on Output Server 2.

This chapter explains how to configure the Teletext transmission mode, a landing page, the streams, services and apology pages within the Output Server 2 user interface.

Please refer to [Configuring iTX for Closed Caption Payout](#), on page 27 for information and instructions to configure Output Server 2 to payout Closed Captions.

For general information on Output Server 2, see the *iTX Output Server 2 Channel Configuration Guide*.

Summary

<i>Overview of the Teletext Configuration in Output Server 2</i>	17
<i>Setting the Transmission Mode</i>	18
<i>Configuring the Channel Landing Page</i>	19
<i>Creating and Configuring Streams</i>	20
<i>Creating and Allocating Subtitle Services</i>	22
<i>Configuring the iTX Gateway</i>	24
<i>Configuring Teletext and DVB Transcoding Parameters for IP Outputs</i>	25

Overview of the Teletext Configuration in Output Server 2


Before configuring Output Server 2 for Softel Inside subtitles, you must ensure that the **Frame Rate** is set to 50.00 Hz on the Output Server 2 Configuration page. If the Frame Rate is not 50.00 Hz, open the I/O Device Controller's Configuration page and set the **Frame Rate Family** setting on the **SDI** tab to 50.00 Hz.

IMPORTANT

When the Frame Rate is set to 50.00 Hz, the Output Server 2 Configuration page displays a Subtitles tab. If however the Frame Rate is set to 59.94 Hz, the Closed Captions tab appears instead of the Subtitles tab. For any other Frame Rate, no configuration tab is displayed.

The following must be configured in the Output Server 2 Configuration user interface:

- A transmission mode for Teletext
- A channel landing page with its required VBI lines
- Streams with their required VBI lines
- Services allocated to streams
- An apology page
- Teletext and DVB Subtitles Transcoding settings for IP output channel targets

Note: Within the Output Server 2 user interface, the Subtitle configuration panel will display a red cross  against features that have been configured without the required license.

To clear these errors, you must either update your license or remove the configuration for the unlicensed feature.

Any misconfiguration will cause the Output Server 2 service to be in error, which will prevent playout on the channel.

Note: The Export button allows you to export the Teletext Subtitles configuration and the Import button allows you to import the configuration from another channel. See [Exporting \(Backing up\) the Output Server 2 Configuration](#), on page 29 and [Importing a Saved Output Server 2 Configuration](#), on page 30 for more information.

Outside of Output Server 2, once you have created and configured your subtitle service, you must define the order of priority for your subtitle Intents. This is known as a service rule and is performed within iTX Desktop. Please refer to [Configuring the Subtitle Service Rules](#), on page 31 for more information and instructions for configuring Service Rules.

Setting the Transmission Mode

To set the Transmission mode

- 1 Open the Output Server 2 user interface:
 - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).
The Output Server 2 user interface appears.
 - b Click **Configuration**, then click **Subtitles**.
The Subtitles configuration panel appears.
- 2 Expand the **Transmission** section.
- 3 From the **Transmission Mode** drop-down list, select either **OP47Split** (default) or **SMPTE2031Split**.
- 4 You should now configure the Channel Landing Page, see [Configuring the Channel Landing Page](#), on page 19.

If you are not configuring a landing page at this point, click **Save**. Output Server 2 automatically shuts down and restarts to apply your changes.

Configuring the Channel Landing Page

A landing page is the default page displayed when Teletext is accessed by the viewer. The landing page is generated from an EP1 file and may contain text stating which Teletext page the subtitles are available on.

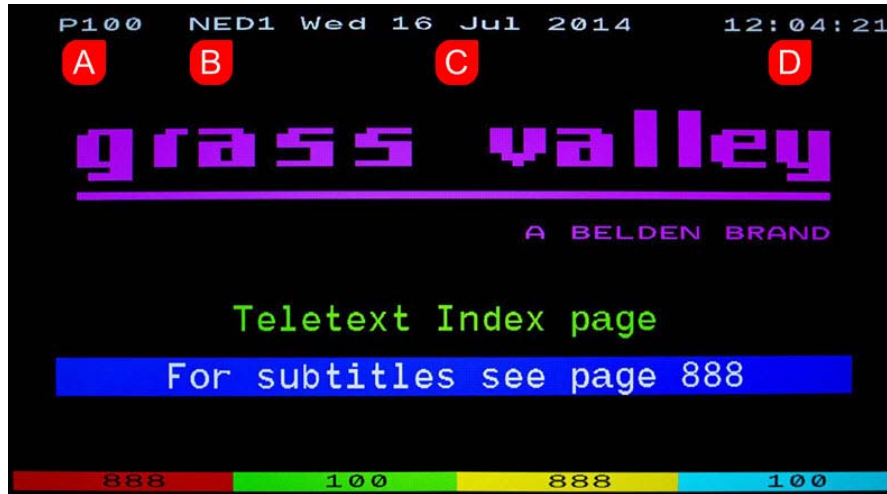


Fig. 3-1: An EP1 landing page, showing the Landing Page Number (A), channel name (B), channel date (C) and channel time (D). If an Offset Time is configured, the channel time displayed on the landing page will be updated accordingly.

To configure the channel landing page

- 1 Open the Output Server 2 user interface:
 - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).
The Output Server 2 user interface appears.
 - b Click **Configuration**, then click **Subtitles**.
The Subtitles configuration panel appears.
- 2 Expand the **Landing Page** section and complete the following fields.

Field	Description
Row Zero	<p>Row Zero defines what text should be displayed across the top of the screen when viewing the Landing Page. This user definable text is always suffixed with the channel time.</p> <p>Enter the trip codes to be used to specify the contents of Row Zero. This can include the date, page number and magazine number, in a range of colors.</p> <p>Valid entries are displayed within the Landing Page section of the Subtitles tab. All codes are case sensitive.</p> <p>The default trip codes display the following in white:</p> <ul style="list-style-type: none"> • Three letter day of the week abbreviation • Day of the month • Three letter month abbreviation • '20' followed by a two-digit abbreviation for the year.

Field	Description
Row Zero Language	Use the drop-down list to select the language for the landing page.
Time Offset	Time added to/subtracted from the system time so the landing page displays the local time.
Landing Page Number	This read-only field displays the landing page number.
Landing Page File	The pathname to an EP1 file displayed when the landing page number is accessed.
VBI Lines (expand the subsection)	Used to specify on which Field 1 and Field 2 VBI lines the landing page information is to be sent.

- 3 You should now create your streams. See [Creating a Stream](#) on page 20.
If you are not creating a stream at this point, click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

Creating and Configuring Streams

Streams are used to carry one or more subtitle services within the video.

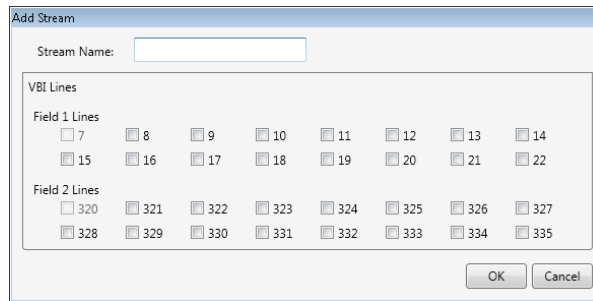
It is recommended that a single stream is configured to carry all closed services and a separate stream is configured to carry all open services.

It is also recommended that you allocate all VBI lines not in use by the closed services to the stream carrying open services.

Creating a Stream

To create a stream

- 1 Open the Output Server 2 user interface:
 - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).
The Output Server 2 user interface appears.
 - b Click **Configuration**, then click **Subtitles**.
The Subtitles configuration panel appears.
- 2 Expand the **Streams** section.
- 3 Click **Add**. The **Add Stream** dialog appears.



- 4 In the **Stream Name** field, enter a name to identify the new stream. For example `ClosedStream` or `OpenStream`.
- 5 In the **VBI Lines** section, check the VBI lines required for transmitting the subtitles. As a rough guideline, for timely delivery of a single subtitle service, 4 VBI lines will be needed.
Lines that have been assigned to the landing page or another stream appear grayed out.
Although VBI lines must be assigned to both open and closed subtitles, no data is transmitted to air on the VBI lines used for an open service.
- 6 Click **OK** to exit the **Add Stream** dialog.
- 7 You should now configure your streams. See [Configuring a Stream](#) on page 21.
- 8 If you are not configuring a stream at this point, click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

Configuring a Stream

To configure a stream

- 1 In the Output Service 2 user interface, go to the **Subtitles** tab and expand the **Streams** section.
- 2 From the **Stream** drop-down list, select a stream (as created in [Creating a Stream](#), on page 20).
- 3 If you want to keep the VBI lines active, check **Dummies**. This tells iTX to send empty Teletext data on the selected VBI lines.

When this option is checked, three more fields become active:

- a In the **Magazine** field enter the magazine number on which the dummy data is to be transmitted.
 - b In the **Dummy Page** field, enter the page on which the dummy data is to be transmitted. It is recommended that this is left as the default value.
 - c From the **Language** drop-down list, select the language character set to use for this page. It is recommended that this be left as the default value.
- 4 To override the VBI lines that were specified when the stream was created, expand the **VBI Lines** section and change the current selection.
 - 5 You should now create your subtitle services. See [Creating and Allocating Subtitle Services](#) on page 22.

If you are not creating a service at this point, click **Save**. Output Server 2 automatically shuts down and restarts to apply your changes.

Creating and Allocating Subtitle Services

Services can be for an open or closed subtitle. Each closed subtitle page requires its own service e.g. Page 888.

When allocating a subtitle service, you must define the Magazine and Header page. Together these form the Teletext page on which the subtitles will be viewed. For example, if Magazine is set to 8 and Header Page is set to 88, this would transmit the subtitles on page 888.

Each closed service can also have an apology page associated with it. The apology page is only displayed if it has been added to the service rules. See [Setting Subtitle Service Rules](#), on page 31.

Open subtitle services can be configured to display the text on either the top of the screen or the bottom. If you create two open subtitle services, it is possible to have one intent displayed using a bottom service and a different intent displayed using a top service. The assignment of intents to a service is done using Subtitle Service Rules.

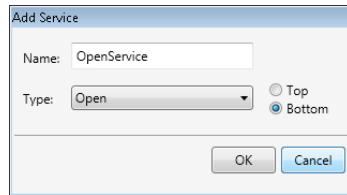
Note: The intent referred to as 'bottom' on the configuration interface does not display all subtitles at the bottom of the screen, but rather the subtitles retain their position 'as authored' relative to the bottom of the screen. The 'top' intent displays all subtitles on the top row(s) of the screen irrespective of how the file was authored.

Creating a Subtitle Service

Note: There is a system maximum of twenty Teletext and two Open Services.

To create a service

- 1 Open the Output Server 2 user interface:
 - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).
The Output Server 2 user interface appears.
 - b Click **Configuration**, then click **Subtitles**.
The Subtitles configuration panel appears.
- 2 Expand the **Services** section.
- 3 Click **Add**. The **Add Service** dialog appears.
- 4 In the **Name** field, enter the name to identify the service. For example, `Closed888` or `OpenService`.
- 5 From the **Type** drop-down list, select a service type from the following options:
 - Teletext (closed)
 - Open
- 6 If you select a **Type** of `Open`, you must also select whether you want it to be a `Top` or `Bottom` service.



This dictates where on the screen the open subtitles will appear.

- 7 Click **OK**. The **Add Service** dialog closes.

On the Subtitles configuration user interface, the **Service Name** and **Service Type** fields are populated with your selection.

- 8 You should now configure your subtitle services. See [Configuring a Subtitle Service](#) on page 23.

If you are not configuring subtitle services at this point, click **Save**. Output Server 2 automatically shuts down and restarts to apply your changes.

Configuring a Subtitle Service

Note: It is recommended that all Teletext Services are allocated to one Stream and all Open Services to a different one.


To configure a service

- 1 In the Output Service 2 user interface, go to the **Subtitles** tab and expand the **Services** section.
- 2 From the **Service** drop-down list, select a service (as configured in [Creating a Subtitle Service](#), on page 22).
The read-only fields **Service Name** and **Service Type** are updated.
- 3 From the **Stream** drop-down list, select a stream (as configured in [Creating a Stream](#), on page 20) to allocate the service to.
- 4 If you created a Teletext service, complete the following fields:
 - a From the **Language** drop-down list, select the language character set to use for previewing in iTX Desktop and also for packet 28 data in the transmission signal. This will inform compatible set top boxes and televisions which character set to use for displaying the subtitles.
 - b Enter the following values for the page where the subtitles are to be displayed:
 - **Magazine**
 - **Header Page** (the Magazine and Header Page together form the Teletext page on which the Subtitles will be viewed)
 - **Stopper Page** (we recommended maintaining the default value)
- 5 You should now configure your apology page. See [Configuring an Apology Page for Teletext](#) on page 23.

Configuring an Apology Page for Teletext

Apology pages can only be configured for Teletext services.

To configure an apology page

- 1 In the Output Service 2 user interface, go to the **Subtitles** tab and expand the **Services** section.
- 2 From the **Service** drop-down list, select a service (as configured in [Creating a Subtitle Service](#), on page 22).
- 3 Click the **Apology Page** browse button . A Windows browse window appears.
- 4 Navigate to an EP1 file and click **Open**. The Apology Page field now contains the full path and filename of the EP1 file.
- 5 Click **Save**. Output Server 2 automatically shuts down and restarts to apply your changes.

Configuring the iTX Gateway

iTX can send subtitles to an external Teletext inserter rather than embedding the subtitle in SDI video output. Typically this is used when a full Teletext service is being generated and iTX subtitles need to be multiplexed into this service. How the full Teletext service is embedded into video is outside the scope of iTX.

Note: Enabling a gateway service IP address will result in all subtitles being stripped from the video, because they are being sent to an external Teletext system.

To configure a gateway

- 1 Open the Output Server 2 user interface:
 - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. `ITX1 Output Server 2`).
The Output Server 2 user interface appears.
 - b Click **Configuration**, then click **Subtitles**.
The Subtitles configuration panel appears.
- 2 Expand the **Subtitle Gateway Outputs** section and any existing destination hosts and ports are displayed.
- 3 Click **Add**. The **Add URL** screen appears.
- 4 In the **Host** field, enter the destination IP address or host name
- 5 In the **Port** field, enter the port number to connect to the host.
- 6 Click **OK**.
- 7 Repeat [step 3](#) to [step 6](#) for each Gateway you require.
- 8 Click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

Configuring Teletext and DVB Transcoding Parameters for IP Outputs

If the channel has been configured to have one or two IP 2022-2 output targets, then the **Output 1 (IP 2022-2)** and/or **Output 2 (2022-2)** tabs appear at the bottom of the Output Server 2 user interface's **Configuration > Subtitle** page.

These tabs feature Teletext and DVB Subtitles Transcoding parameters that allow you to configure the related descriptor and packet identifier of each elementary stream item.

Configuring the Teletext parameters

To configure the Teletext parameters

- 1 Open the Output Server 2 user interface:
 - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).
The Output Server 2 user interface appears.
 - b Click **Configuration**, then click **Subtitles**.
The Subtitles configuration panel appears.
- 2 Select the **Output 1 (IP 2022-2)** or **Output 2 (IP 2022-2)** tab.
- 3 Expand the **Teletext** section.
- 4 Select the **Enabled** check box.
- 5 In the **PID** field, specify or select the packet identifier for the Teletext elementary stream.
- 6 Perform the following tasks for each Teletext page row in the table:
 - a In the **Language Code** column, specify the three letter ISO639-2 language code for the Teletext elementary stream.
 - b Click in the **Teletext Type** column and select one of the options from the drop-down list. This setting informs downstream decoders of the Teletext subtitles type.
- 7 You should now configure the DVB Subtitle Transcoding parameters, See [Configuring Teletext and DVB Transcoding Parameters for IP Outputs](#), on page 25.
If you are not configuring the DVB Subtitle Transcoding parameters at this point, click **Save**. Output Server 2 automatically shuts down and restarts to apply your changes.

Configuring the DVB Subtitles Transcoding Parameters

To configure the DVB Subtitles Transcoding parameters

- 1 Open the Output Server 2 user interface:
 - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).
The Output Server 2 user interface appears.
 - b Click **Configuration**, then click **Subtitles**.
The Subtitles configuration panel appears.
- 2 Select the **Output 1 (IP 2022-2)** or **Output 2 (IP 2022-2)** tab.

- 3 Expand the **DVB Subtitles Transcoding** section.
- 4 Perform the following tasks for each Teletext page that you want to transcode:
 - a In the **PID** column, specify or select the packet identifier for this transcoding entry to enable transcoding for this Teletext page. Leave the PID column empty to disable DVB subtitle transcoding for this Teletext page.
 - b In the **Heartbeat (ms)** column, specify or select the maximum amount of time between two DVB Subtitle packets. Some downstream equipment may require a constant stream of packets. Use zero to disable this functionality.
 - c In the **Subtitling Descriptor** column, click **Edit** to open the **DVB Subtitling Descriptor** dialog.
 - d In the **ISO639-2 Language Code** field, enter the three letter language code for this DVB subtitles stream.
 - e Select one of the options from the drop-down list in the **Subtitling Type** field. This sets the subtitle format for the downstream decoders.
- 5 In the **Composition Page ID** field, enter or select the composition ID that identifies your DVB Subtitles stream payload. Generally broadcasters use a value of 1 or 2.
- 6 If ancillary page data is provided in the stream use the **Ancillary Page ID** field to enter or select the Ancillary page ID.
- 7 Click **OK** to close the **DVB Subtitling Descriptor** dialog.
- 8 Click **Save**. Output Server 2 automatically shuts down and restarts to apply your changes.

Note: The Import and Export buttons on the main part of the Subtitles screen do not include the configuration for the IP Outputs.

4

Configuring iTX for Closed Caption Payout

Softel Inside subtitles, including Teletext and Closed Captions, can only be played out on a channel operating on Output Server 2.

This chapter explains how to configure the services for a closed caption channel within the Output Server 2 user interface on the playout server.

Please refer to [Configuring iTX for Teletext Payout](#), on page 17 for information and instructions to configure Output Server 2 to payout Teletext.

For general information on Output Server 2, see the *iTX Output Server 2 Channel Configuration Guide*.

Note: For Closed Captions all Service names are preset.

Summary

Overview of the Closed Caption Configuration in Output Server 2 27

Overview of the Closed Caption Configuration in Output Server 2

Before configuring Output Server 2 for Closed Caption payout, you must ensure that the Frame Rate is set to 59.94Hz on the Output Server 2 Configuration page. If the Frame Rate is not 59.94Hz, open the I/O Device Controller's Configuration page and set the Frame Rate Family setting on the SDI tab to 59.94Hz.

IMPORTANT

When the Frame Rate is set to 59.94 Hz, the Output Server 2 Configuration page displays a Closed Captions tab. If however the Frame Rate is set to 50.00 Hz, the Subtitles tab appears instead of the Closed Captions tab. For any other Frame Rate, no configuration tab is displayed.

To configure the Closed Captions parameters

- 1 Open the Output Server 2 user interface:
 - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).
The Output Server 2 user interface appears.
 - b Click **Configuration**, then click **Closed Captions**.
The Closed Captions configuration panel appears.
- 2 In the **Channel** section, consider setting the following parameters:
 - **Caption Passthrough**: If you are playing media that contains embedded captions, checking this option (default) causes those captions to be sent to air if there are no

scheduled captions. When unchecked, the embedded captions will not go to air irrespective of whether there are scheduled captions.

- **Regenerate 708:** This option can only be selected if Caption Passthrough is checked.

If you are playing media containing embedded captions and there are no scheduled captions, checking this option causes 708 data embedded in the media to be regenerated from the embedded 608 data. When unchecked (default), 708 data is not regenerated and remains unchanged.

- 3 In the **Services** section, use the **Closed Captions Services** table to enable the transmission of the CC1 and/or CC3 Service. Enabling these services allows you to map subtitle Intents on the iTX Desktop, where the service names will be CC1 and CC3 (see , on page 26).
 - a In the **CC1** row, check the **Enabled** box.
 - b Select a 708 service (S1, S2, S3... etc.) from the **708 Service** column's drop-down list.
 - c In the **CC3** row, check the **Enabled** box.
 - d Select a 708 service (S1, S2, S3... etc.) from the **708 Service** column's drop-down list.
- 4 In the **Services** section, use the **Open Services** table to enable the Open service and specify where on the screen open captions will appear.
 - **OpenTop:** Check the **Enabled** box to enable the Open service, which display the open captions in the upper portion of the screen.
 - **OpenBottom:** Check the **Enabled** box to enable the Open service, which display the open captions tethered to the lower part of the screen.

Note: When using the **OpenTop** option, the vertical positioning of the authored captions is ignored and all captions are moved to the top of the screen. When using **OpenBottom**, the vertical positioning of the authored captions is respected.

- 5 Click **Save**. Output Server 2 automatically shuts down and restarts to apply your changes.

Note: The Export button allows you to export the Closed Captions configuration to another location and the Import button allows to import from another channel. See [Configuring Output Server 2 for Legacy Subtitle Playout](#), on page 55 and [Importing a Saved Output Server 2 Configuration](#), on page 30 for more information.

- 6 Proceed to the iTX Desktop and create subtitle service rules (see , on page 26).

5

Exporting and Importing Output Server 2 Configurations

There are some functions of the Output Server 2 configuration which are generic to both Teletext and Closed Caption systems.

This chapter explains how to export and import an Output Server 2 configuration.

Note: Please refer to [Configuring iTX for Teletext Payout](#), on page 17 and [Configuring iTX for Closed Caption Payout](#), on page 27 for information and instructions on data needed to configure Output Server 2 Softel Inside subtitle payout.

Summary

<i>Exporting (Backing up) the Output Server 2 Configuration</i>	29
<i>Importing a Saved Output Server 2 Configuration</i>	30

Exporting (Backing up) the Output Server 2 Configuration

The Subtitle configuration in the Output Server 2 Configuration user interface can be exported to another location to be used as a backup or for importing to another channel. This means that common settings across a multi-channel system do not need to be individually configured for each channel.

Note: A configuration can be exported at any time during editing, as long as the configuration is not in an error state.
The Export button does not include the configuration for IP outputs.

To backup/export the configuration

- 1 Open the Output Server 2 user interface:
 - a On the Payout Server, expand the instance of Output Server 2 for the channel to be configured (e.g. ITX1 Output Server 2).
 - b Click the **Configuration > Subtitles** or **Closed Captions** tab (depending on the system's frame rate setting).
The Subtitles/Closed Captions configuration panel appears.
- 2 Click **Export...**
- 3 Navigate to the location where the configuration file is to be saved.
- 4 Enter the name of the configuration file to be saved.
The configuration is saved to a .json file.

Importing a Saved Output Server 2 Configuration

Subtitle configuration settings which have been exported from the Output Server2 (see [Exporting \(Backing up\) the Output Server 2 Configuration](#), on page 29) can be imported to another channel, which saves time when setting up multiple channels.

Note: A configuration can be imported at any time, even if the current configuration has not been saved. The Imported configuration overrides any settings which currently exist in the configuration.
The Import button does not include the configuration for IP outputs.

To import a saved Output Server 2 configuration

- 1 Open the Output Server 2 user interface:
 - a On the Payout Server, expand the instance of Output Server 2 for the channel to be configured (e.g. ITX1 Output Server 2).
 - b Click the **Configuration > Subtitles** or **Closed Captions** tab (depending on the system's frame rate setting).

The Subtitles/Closed Captions configuration panel appears.
- 2 Click **Import**.
- 3 Navigate to the location where the configuration file has been stored.
- 4 Select the configuration file (.json) and click **Open**.
- 5 Confirm that you want to import the file.
- 6 Click **Save** to store the imported configuration and automatically reboot Output Server. Clicking **Cancel** during an import reverts the settings to the last saved configuration.

6

Setting Subtitle Service Rules

A subtitle service rule is a list of subtitle Intents, in the order the service should use them. This provides an optional fall back if a subtitle file is missing, or if nothing is specified in the subtitle event for this service. Subtitle rules ensure that text is displayed whenever subtitles are expected. In the case of Teletext, this may be an apology page added to the end of the Rules as a fall back option in case none of the configured Subtitle Intents are available. See [About Subtitles Service Rules](#) on page 3 for more information.

This chapter explains how to configure Subtitle Service Rules.

Summary

Configuring the Subtitle Service Rules 31

Configuring the Subtitle Service Rules

Before attempting to configure Subtitle Service Rules, please consider the following prerequisites:

- The Intents required for the Subtitle Service Rules must first be created when you configure iTX for subtitle import. See [Managing Subtitle Intents](#) on page 8.
- In the case of Teletext, the services named in the Subtitle Service Rules are created whilst configuring Output Server 2. See [Creating and Allocating Subtitle Services](#) on page 22.
- For Closed Captions, the service names are predefined within the system.

To configure a Subtitle Service Rule


- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Channel Config**.
- 4 From the **View** menu, select the channel to be configured.
- 5 Select the **Channel Config 4** tab.
- 6 Scroll down to the **Subtitle Service Rules** section.

The **Service Name** column is populated with the names of the services you configured in the Output Server 2 user interface.


- 7 Click the **Rule** cell adjacent to the service for which you want to configure a rule.
The **Rule Configuration** dialog is displayed.



Fig. 6-1: Example Service Rule configuration


- 8 To append an Intent to the service rule:
 - a From the **Language Intent** column, select an Intent to add.
 - b Click the right arrow .
 - c The Intent is added to the bottom of the **Rule** column.

To remove an Intent from the service rule:

- a From the **Rule** column, select an Intent to remove.
- b Click the left arrow .
- c The Intent is removed from the rule.

Alternatively, double-click on an Intent to move it between the two columns.

Note: The Apology page should only be used for Teletext channels.

- 9 To re-order Intents within the rule, select an Intent and use the up/down arrows .
- 10 Click **OK** to save the changes.

The Subtitle Services and their configured Service Rules are shown on the Channel Config 4 tab.

Subtitle Service Rules	
Service Name	Rule
Closed889	Spanish_Closed,English_Closed,Apology
Closed888	English_Closed,English_HOH_Closed,Apology
OpenService	English_Open,Apology

Fig. 6-2: Example of Subtitle Service Rules on Channel Config 4

7

Configuring Live Subtitles

This chapter explains the purpose of live subtitles, how to configure the Softel Subtitle Gateway with the sources and destinations for your live subtitles and how to assign Intents to sources.

Note: This chapter is only applicable to Teletext channels.

Summary

<i>About Live Subtitles in iTX</i>	33
<i>Setting Up the Subtitle Gateway</i>	34
<i>Adding a Live Subtitle Feed</i>	38
<i>Deleting a Live Subtitle Feed</i>	39

About Live Subtitles in iTX

Live subtitles are used for:

- Live television programs.
This is achieved via a dedicated subtitle asset that only contains live locations.
- A fall back for recorded programs, when the expected subtitle file is unavailable.
This is achieved via a subtitle asset that has both file and live locations.

In both cases, a live subtitle location can only be used if its Intent has been set in the Subtitle Service Rules section of Channel Config 4.

A live subtitle location shows there is a need for live subtitles, but not from where they are being sourced. The live source (or feed) is defined in the **XAP Configuration** section of **Channel Config 4**, where you map Intents to live subtitle sources.

Each channel can have multiple live subtitle sources, each with their own Intent (e.g. for different languages).

If the same video clip or live asset is scheduled on multiple channels (e.g. for simulcast or a +1 channel), each channel must have the same Intents and sources configured in the XAP Configuration.

Live subtitles require the Subtitle Gateway service to route the subtitle sources to iTX.

Setting Up the Subtitle Gateway

Live subtitle sources connect to a subtitle gateway, which needs to be configured to specify how the live subtitle sources are routed to the playout servers. Only one gateway is required for all languages and channels.

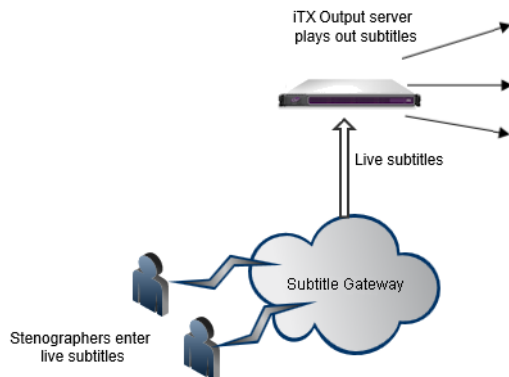


Fig. 7-1: Live subtitle portion of the subtitle functional overview.

This configuration is done using the Subtitle Gateway Administrator (SGA), which is typically installed on an iTX framework server. The SGA uses a graphical user interface comprising of linked nodes to represent the live sources and destinations. These linked nodes are known as data flows.

Locating Your Service IDs

As part of the configuration of the SGA, you must provide the IDs for the services that will carry live subtitles. These IDs are one or two digits long and can be found within exported Output Server 2 subtitle configuration files.

To locate your service IDs

- 1 On your playout server, export the Output Server 2 subtitle configuration to a JSON file. See [Configuring Output Server 2 for Legacy Subtitle Playout](#) on page 55.
- 2 Open the JSON file using a text editor, such as Notepad.exe.
- 3 Open your text editor's search function. For example, in Notepad go to **Edit>Find**.
- 4 In the search field, enter the name of the service, as it appears in the Output Server 2 configuration and click **Search**.

The service name is highlighted by the text editor.

- 5 The service ID appears before the service name with a string of "Service": [{"ID": "1", as highlighted in the image below:

```

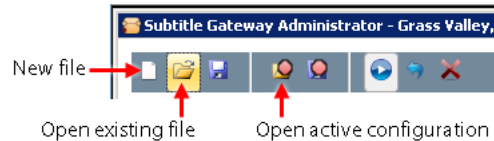
Test.json [x]
1  202020202020}], "Service": [{"ID": "1", "ServiceName": "Closed888Service", "Stream": "1", "ActiveMod
    
```

- 6 Make a note of the service ID number.
- 7 Repeat [step 4](#) to [step 6](#) for each service that will be carrying live subtitles.

Starting SGA and Choosing a Configuration File

To start SGA double-click on the SGA shortcut on the Framework server desktop.

As well as creating new configuration files and opening existing ones, the SGA toolbar allows you to open the active configuration. For example, you can open and edit an existing pre-saved configuration file without making it the active file. Once you have edited a separate configuration file you can revert to the active configuration by clicking Open active configuration.



Creating Data Flows

A data flow is made up of a subtitle source configuration, a subtitle destination configuration and a connector linking them together. There are three types of source configuration node available:

- XAP
- Cyclone IP
- Newfor IP

All three source types need to be connected to a XAP destination node. You need to create a data flow for each service you have configured in Output Server 2 that will carry live subtitles. You can link multiple source nodes to a single destination node.

Figure 7-2 below provides an overview of the SGA interface and shows source configuration nodes connected to destination configuration nodes.

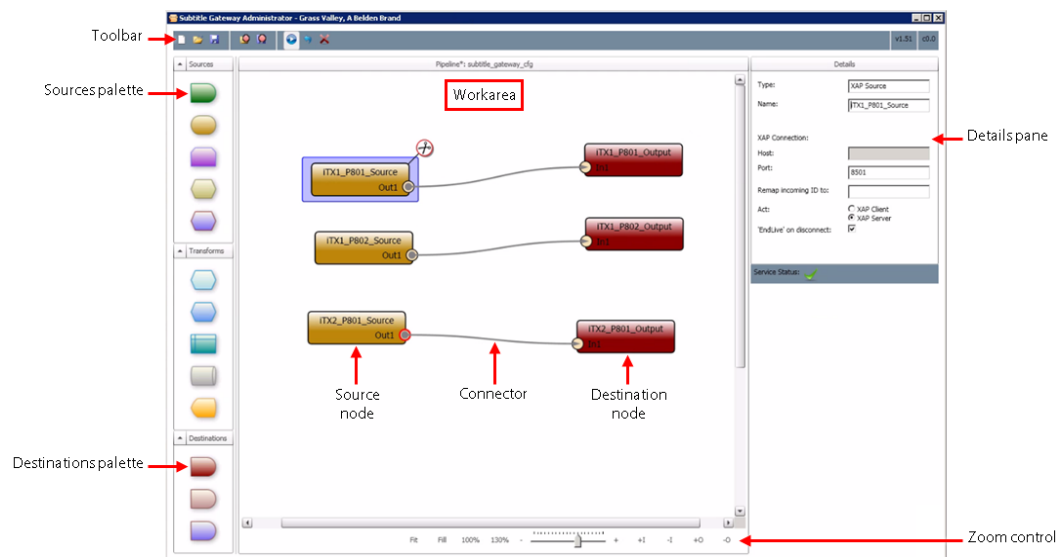



Fig. 7-2: Overview of the SGA interface. The Details pane shows the configuration for the currently selected node.


Creating and configuring a XAP source node

In SGA, XAP source nodes are represented in the Sources palette by a yellow oval symbol .

To create and configure a XAP source node

- 1 Drag and drop a **XAP source node** from the **Sources** palette on the left to the work area in the middle.
- 2 Click the **XAP source node** to highlight it. The **Details** pane on the right updates to display the configuration options.
- 3 Complete the fields in the **Details** pane as follows:
 - Select the **XAP Server** radio button.
 - **Name:** Each node must have a unique name, for example this could be based on channel, page name and source type.
 - **Port:** Set the port to correspond to the live stream port on the external subtitling source (e.g. 8500).
 - **Remap incoming ID to:** Leave this blank
 - **'Endlive' on disconnect:** Check this check box. This sends a signal when the live subtitle source disconnects, so an apology page can be displayed (if configured).
- 4 Create a XAP destination and link it to the new source node. See [Creating and Connecting a XAP Destination Node](#) on page 37.


Creating and configuring a Cyclone IP source node

In SGA, XAP source nodes are represented in the Sources palette by a green half-oval symbol .

To create and configure a Cyclone IP source node

- 1 Drag and drop a **Cyclone IP source node** from **Sources** palette on the left to the work area in the middle.
- 2 Click the **Cyclone IP source node** to highlight it. The **Details** pane on the right updates to display the configuration options.
- 3 Complete the fields in the **Details** pane as follows:
 - **Name:** Each node must have a unique name, for example this could be based on channel, page name and source type.
 - **Server Port:** Set the port to correspond to the live stream port on the external subtitling source (e.g. 8500).
 - **Assign a service ID:** Enter 1 for all services.
- 4 Create a XAP destination and link it to the new source node. See [Creating and Connecting a XAP Destination Node](#) on page 37.

Creating and configuring a Newfor IP source node


In SGA, XAP source nodes are represented in the Sources palette by a purple symbol .

To create and configure a New for IP source node

- 1 Drag and drop a **Newfor IP source node** from the **Sources** palette on the left to the work area in the middle.

- 2 Click the **Newfor IP source node** to highlight it. The **Details** pane on the right updates to display the configuration options.
- 3 Complete the fields in the **Details** pane as follows:
 - Select the **XAP Server** radio button.
 - **Name:** Each node must have a unique name, for example this could be based on channel, page name and source type.
 - **Port:** Set the port to correspond to the live stream port on the external subtitling source (e.g. 8500).
 - **Remap incoming ID to:** Leave this blank
 - **'Endlive' on disconnect:** Check this checkbox. This sends a signal when the live subtitle source disconnects, so an apology page can be displayed (if configured).
- 4 Create a XAP destination and link it to the new source node. See [Creating and Connecting a XAP Destination Node](#) on page 37.

Creating and Connecting a XAP Destination Node

In SGA, XAP destination nodes are represented in the Destinations palette by a red half-oval symbol .

To create a destination node and link to a source node

- 1 Drag and drop a **XAP destination node** from the **Destination** palette on the left to the work area in the middle.
- 2 Click the **XAP destination node** to highlight it. The **Details** pane on the right updates to display the configuration options.
- 3 Complete the fields in the **Details** pane as follows:
 - Select the **XAP Server** radio button.
 - **Name:** Each node must have a unique name, for example this could be based on channel and page name.
 - **Port:** Set the Port on this gateway (e.g. 5557) to match the one specified in XAP Configuration (see [Adding a Live Subtitle Feed](#), on page 38).
 - **Remap outgoing ID to:** Enter the service ID located in the exported JSON file. See [Locating Your Service IDs](#) on page 34.
- 4 Click on the circle on the source node to drag a connector to the corresponding circle on the destination node. This creates a connection between a source and destination.

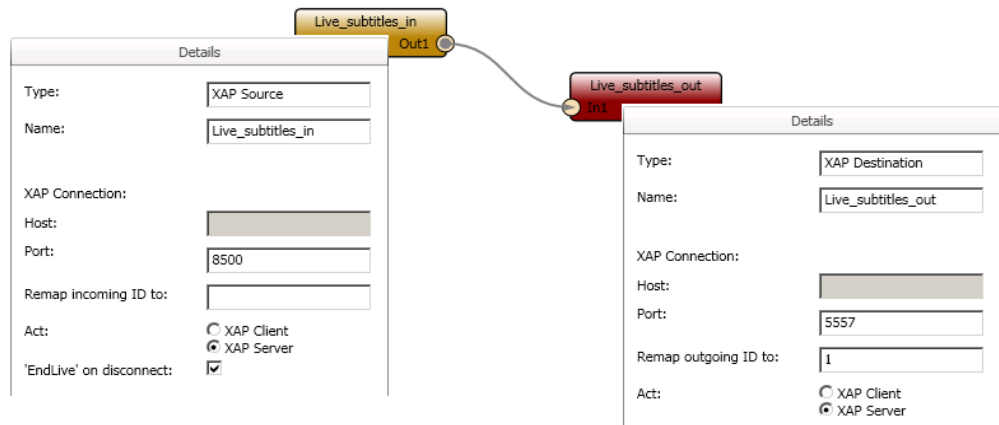


Fig. 7-3: XAP Source and Destination showing their respective settings.

As illustrated below, multiple source nodes can be connected to a single destination node, as illustrated below.

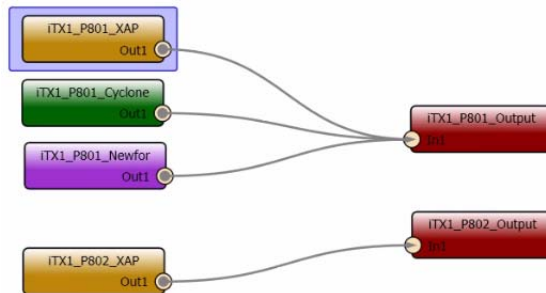




Fig. 7-4: SGA configuration showing one destination with a single source and another with multiple sources, each of a different type.

- 5 To save the configuration, on the toolbar click **Save**.
To save and apply the current configuration as the active one:
 - a On the toolbar, click **Save As Active Configuration** .
 - Using this option to store the configuration file removes the need to enter a pathname, as the configuration file is automatically saved to the location needed for the active file.
 - b To enable the saved changes to take effect, click **Restart Subtitle Gateway Service** .

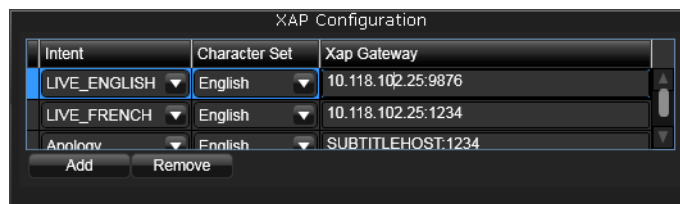
Adding a Live Subtitle Feed

Each channel can have one or more live subtitle feeds; these can be a scheduled live feed or a fall back, used if a scheduled subtitle file fails whilst on air.

To add a live subtitle feed

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Channel Config**.
- 4 From the **View** menu, select the channel to be configured.

- 5 Click **Channel Config 4**.
- 6 Scroll down to the **XAP Configuration** section.
- 7 Click **Add**.
- 8 Select a XAP Intent (see [Adding a Subtitle Intent](#), on page 9), from the **Intent** drop-down list.
- 9 Select the language from the **Character Set** drop-down list.
- 10 In the **Xap Gateway** field, type in the IP address/hostname and port, from where the live feed will be received.
The IP address and port should be in the format `xx.xxx.xxx.xxx:nnnn` where `nnnn` is the port id. Alternatively, you can enter the hostname and port in the format `hostname:nnnn`.



Deleting a Live Subtitle Feed

When a live subtitle feed is no longer required it can be removed.

To delete a live subtitle feed

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Channel Config**.
- 4 From the **View** drop-down list, select the view containing the channel to be configured.
- 5 Select the required channel.
- 6 Click **Channel Config 4** tab.
- 7 Scroll down to the **XAP configuration** panel in the **Subtitles** section.
- 8 Click on the live subtitle feed to be deleted.
- 9 Click **Remove**.
The live subtitle feed is removed from the list.
- 10 Click **Save** and then **Close**.

8

Managing and Verifying Subtitle Assets

This chapter explains how to use the Asset layout within iTX Desktop to manage subtitles before they go to air. This includes linking subtitle assets to video and live assets, unlinking subtitle assets from other assets, how to change a subtitle file's Intent, viewing subtitle content and deleting subtitle data.

This chapter also discusses the Preview as Channel layout in iTX Desktop, which can be used to verify the quality and accuracy of the subtitle content by viewing them alongside their associated video asset. From this layout you can preview configured services and how the subtitle service rules have been applied. Two services can be previewed simultaneously.

Summary

<i>Linking a Subtitle Asset to Another Asset</i>	41
<i>Searching for Linked Subtitle Assets Using PinPoint</i>	42
<i>Removing the Link Between a Subtitle Asset and Another Asset</i>	44
<i>Changing a Subtitle File's Intent</i>	44
<i>Deleting Subtitle Data</i>	45
<i>Viewing Subtitle Content Information</i>	46
<i>Accessing the Subtitle File Stored on the iTX System</i>	47
<i>Previewing Subtitle Playout Using the Preview as Channel Layout</i>	47

Linking a Subtitle Asset to Another Asset

A subtitle asset can be associated with (linked to) another asset type; so if the other asset is scheduled the subtitle asset is automatically scheduled too. The asset can be one of:



- **Video media** - a video asset.
- **Live Event** - usually a live subtitle asset would be linked to a live event.

A subtitle asset can only be linked to one video media or set identifier; however the subtitle asset can be linked to multiple live events.

There are two ways of linking subtitle assets to video media. If a subtitle asset has the exact same name as a video asset which already exists in the iTX system, then when the subtitle asset is imported into iTX, it will automatically be linked to its matching video asset. Alternatively, the link can be created manually.

Subtitle assets can only be linked to Live Events manually.

To manually link a subtitle asset to a video or live asset

- 1 Open the iTX Desktop.
- 2 Click **Asset** in the layout selection bar and the PinPoint Search tool is displayed.
- 3 Click the **Search Subtitles** button  to limit your searches to subtitle assets.
- 4 Click Search 

- 5 Select the required subtitle asset from the search results.
- 6 In the property editor (lower-right corner), click the **Used by** tab.
Any existing links are displayed.
- 7 Click **Add New Linkage**.
The **Modify Subtitle Linkage** dialog appears.
- 8 Select a **Link Type** from the drop-down list. The options are **Video Media** or **Live Event**.
- 9 Click **Search**.
A pop-up **Pinpoint** dialog appears.
- 10 Search for the video asset you want the current subtitle asset to be linked to.
- 11 Click **OK**.



Note: There is a known bug in the system whereby for subtitle linkage all subtitle assets are reporting a frame rate of 25.00 Hz, so if you are linking a subtitle asset to a 29.97 Hz video asset a warning will pop up. This warning does not prevent the linkage from being made, nor does it have any impact on subsequent playout.

- 12 Click **Save** to store the linkage to the subtitle asset.

Searching for Linked Subtitle Assets Using PinPoint

Using PinPoint, you can search for linked subtitle assets stored in iTX.

To search for a linked subtitle asset using PinPoint

- 1 Open the iTX Desktop.
- 2 Click **Asset** in the layout selection bar and the PinPoint search tool is displayed.
- 3 Click  to limit the search to subtitles.
- 4 Choose **Subtitle Linked** in the first filter drop-down list and **Yes** in the second filter drop-down list.
- 5 Click  to start the search.

A list of all subtitle assets which are linked to other assets is displayed in the search results pane. Select **No** in the second drop-down list to search for all subtitle assets which are not linked to any other assets.

Selecting one of the subtitle assets displays information about it in the property editor (lower-right corner).

Locating an Asset Linked to a Specific Subtitle Asset

A video or live asset which is linked to a subtitle asset can be accessed and loaded by searching for the subtitle asset which it is linked to.

To locate the asset linked to a subtitle asset

- 1 Open the iTX Desktop.
- 2 Click **Asset** in the layout selection bar and the PinPoint search tool is displayed.
- 3 Search for your subtitle asset.



- 4 From the results pane, select the required subtitle asset.
- 5 In the **Property Editor**, click the **Used by** tab.
A list of all media assets that the subtitle is linked to, is displayed.
- 6 Double-click on the linked asset to load it. Confirm that the video or live asset is to be loaded.

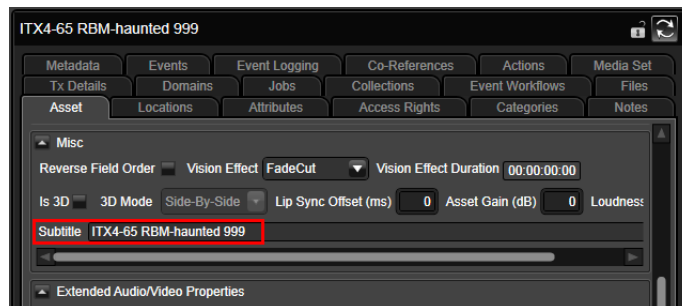
Note: Double-clicking the subtitle name in either the video or live asset reloads the original subtitle asset.

Verifying that the Subtitle Asset is Linked to the Video Asset

iTX can automatically link subtitle files to a video asset when the subtitle is being imported, so it is useful to be able to verify that the subtitle file has been linked to the video asset.

How to verify the video subtitle link

- 1 Open the iTX Desktop.
- 2 Click **Asset** in the layout selection bar and the PinPoint search tool is displayed.
- 3 Search for a video asset.
 - a Click  to limit your searches to video clips.
 - b Using drop-down lists at the top of PinPoint, create your search criteria to locate the required video asset.
 - c Click **Search** 
- 4 From the results pane, select the required video asset.
- 5 Click **Asset** in the property editor.
- 6 Scroll down to the **Misc** section. This should contain a **Subtitle** field, as pictured below:



This is the subtitle asset associated with the selected video asset.


Double-clicking the subtitle shown in the Video Asset's tab allows you to load the Subtitle asset.

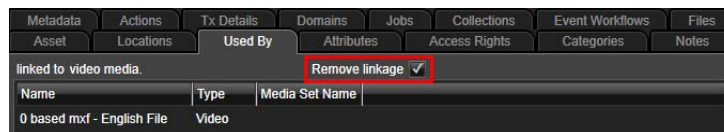
Note: Live Events which have subtitles linked to them can also be searched for in a similar way and the linked subtitle asset loaded from the Live event. See [Viewing Subtitle Content Information](#), on page 46 for information on viewing the actual subtitles within the subtitle asset and linked video assets.

Removing the Link Between a Subtitle Asset and Another Asset

If a subtitle asset has been associated with the wrong media asset, the link between them can be removed.

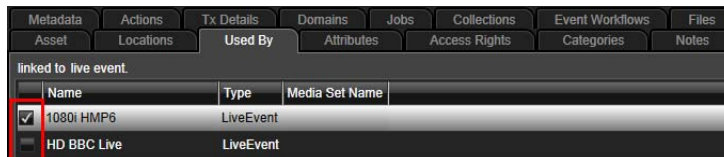
To delete the link from a subtitle asset

- 1 Open the iTX Desktop.
- 2 Click **Asset** in the layout selection bar and the PinPoint search tool is displayed.
- 3 Click  to limit the search to subtitles.
- 4 Search for the required subtitle asset.
- 5 In the **Property Editor**, click the **Used by** tab.
Any existing links are displayed.
- 6 If the linked asset is of the type **Video media**, check **Remove Linkage**, as pictured below:



If the linked asset is of the type **Live Event**:

- a Check the check box next to each of the assets to be removed, as pictured below:



- b Select **Remove Selected Linkages**.
- 7 Click **Save**.

Changing a Subtitle File's Intent

You can change a subtitle's Intent through the iTX Desktop.

IMPORTANT

Care should be taken to ensure that the chosen intent is relevant to the location type (i.e. Open, Closed or Live). See [Configuring the Subtitle Service Rules](#), on page 31 for further details on setting and changing Service Rules.

To change the subtitle Intent

- 1 In iTX Desktop, search for and select your subtitle asset.
- 2 In the **Property Editor**, click the **Locations** tab.
- 3 For one of the locations, select the required Intent from the drop-down list.
Changing the Intent automatically changes the **Character Set** to the one paired with the new Intent. Other parameters for the location are left unchanged.

Adding a Location to a Subtitle Asset

Adding a placeholder location for a missing subtitle file to a subtitle asset, allows the subtitle file to be imported later. So if only the placeholder location exists when the item is scheduled, then the system will report that there is a missing subtitle.

Locations can also be added for live subtitles.

To add a location to the subtitle asset

- 1 In iTX Desktop, search for and select your subtitle asset.
- 2 In the **Property Editor**, click the **Locations** tab.
- 3 If you are using subtitle files, create a missing location by setting the Intent and character set properties.
 - a Click **Add Missing location** and an **Add Subtitle Location** dialog is displayed, which includes options for selecting whether the location is open or closed:
 - b Select the required Intent from the drop-down list and the **Character Set** is automatically updated to the one paired with the Intent.
 - c Select a radio button to pick whether the subtitle file will be **open** or **closed**.
 - d Click **OK** to complete adding the missing location.

Note: You can only have one File Location for an Intent (irrespective of whether this is a physical or a missing location); however, you can have both a File and a Live Location for the same Intent.

- 4 If you are using live subtitles, create a live location by setting the Intent and character set properties:
 - a Click **Add Live location** and an **Add Subtitle Location** dialog is displayed.
 - b Select the required Intent from the drop-down list and the **Character Set** is automatically updated to the one paired with the Intent.
 - c Click **OK** to complete adding the live location.

Note: You can only have one Live Location for an Intent; however, you can have both a File and a Live Location for the same Intent.

- 5 Select **Save** to store the changes.

Deleting Subtitle Data

Deleting Subtitle Assets

Subtitle assets, including the subtitle files located in the asset, can be deleted from iTX.

To delete a subtitle asset

- 1 In iTX Desktop, search for and select your subtitle asset.
- 2 In the **Property Editor**, click **Delete**.

A dialog appears asking you to confirm this action.
- 3 Click **Delete** to confirm the deletion.

Deleting Subtitle Asset Locations

A subtitle asset can contain one or more subtitle locations. Individual subtitle locations can be removed from a subtitle asset using this method. The subtitle location and, where applicable, the physical subtitle will be removed. The subtitle asset still exists, even if it no longer contains any locations.

To delete a subtitle asset location

- 1 In iTX Desktop, search for and select your subtitle asset.
- 2 In the **Property Editor**, click the **Locations** tab.
- 3 Check the check box next to each subtitle location to be removed.
- 4 Click **Delete Selected Locations**.
- 5 Click **Save**.




Viewing Subtitle Content Information

Subtitle information, consisting of the subtitle text, time the subtitle is displayed and its duration, can be viewed using the **Events** tab in the Property Editor of either a subtitle asset or a video asset that is linked to a subtitle asset.

If a subtitle asset contains multiple subtitle files, information for each subtitle file is displayed chronologically as separate entries in the Events tab.

Note: Subtitle event information cannot be edited or deleted using the Events tab.

To view subtitle content

- 1 Open the iTX Desktop.
- 2 Click **Asset** in the layout selection bar. The PinPoint search tool is displayed.
- 3 Search for one of the following assets:
 - For a subtitle asset click  to limit your searches to subtitles.
 - For a video asset, click  to limit your searches to videos.
- 4 Using drop-down lists at the top of PinPoint, create search criteria to locate the required asset.
- 5 Click  to start the search.
- 6 Click **Events** in the Property Editor.

The Events tab is displayed, containing the following columns:

Column	Description
Name	The subtitle Intent
In Point	The time the subtitle is displayed
Duration	The length of time the subtitle is displayed
Summary	The subtitle text, for each subtitle file


Note: For video assets the Events tab has an additional column to the left of the 'Name'. This denotes the event type - e.g. for Subtitles this is an 'S'.

Accessing the Subtitle File Stored on the iTX System

The subtitle information includes the folder where the subtitle file is stored, enabling the subtitle file to be accessed.

Note: This option gives you direct access to the transmittable subtitle file. We advise you not to delete, edit or replace the subtitle file directly, but to use iTX to make any changes, as you may cause errors on transmission.

To navigate to the subtitle folder

- 1 In iTX Desktop, search for and select your subtitle asset.
- 2 Click **Locations** in the Property Editor.
- 3 Scroll to the right of the **Locations** tab.
- 4 Click the browse button  next to the required subtitle file.

The folder where the subtitle file is stored is displayed.

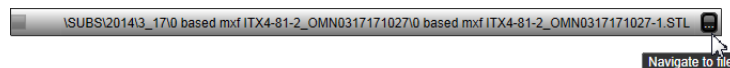


Fig. 8-1: The Locations tab showing how to navigate to the subtitle storage folder.

Previewing Subtitle Playout Using the Preview as Channel Layout

The **Preview As Channel** layout has similar functionality to the Asset layout, but includes a media player that previews video clips in the context of a selected channel, rather than using an external monitor. If the video clip being previewed is linked to a subtitle asset, you can configure the media player to preview up to two streams of subtitles.



Fig. 8-2: The Preview as Channel media player, showing the playout of two subtitle streams.

Note:

- When an AJA Corvid card and drivers are installed on the host workstation, the Preview as Channel's media player can be configured to control the preview playout on an SDI video monitor. This functionality is useful for verifying video, subtitle and audio playback quality. See the *iTX Desktop Operator's Guide* for more information on SDI monitoring.
 - As Softel Inside is only supported by Output Server 2, the Preview as Channel layout can only display subtitles for Output Server 2 channels.
 - The Preview as Channel layout is only available in the 1920 x 1080 Global Layout Templates.
-



Before you can preview the subtitles in the Preview as Channel's media player, the following conditions must be satisfied:

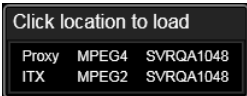
- The subtitle Services must be properly configured on the Output Server 2 Subtitle configuration page. See [Creating a Subtitle Service](#), on page 22.
- The video asset being previewed must already have a subtitle asset linked to it. See [Linking a Subtitle Asset to Another Asset](#), on page 41.
- The video asset must be the same resolution as the playout channel. If the resolutions do not match, the following error message appears in the media player:
Frame rate mismatch: Please select a clip with compatible frame rate to the channel.



Once the media player's subtitle services properties are set, you can use the media player's controls (Play/Pause button or seek slider) to play or scrub the video and the subtitles appear in the media player window along with the video.

Previewing Video Assets with Subtitles

To preview the playout of subtitles in the Preview as Channel media player

- 1 Open the iTX Desktop.
- 2 Click **Preview as Channel** in the layout selection bar.
- 3 In the **Channel Selection** section on the right side of the layout, select a channel to view:
 - a Click **View**. The **Select Item** dialog appears.
 - b Select the view with the required channel.
 - c Click **OK**.
 - d Click **Channel**. The **Select Item** dialog appears.
 - e Select the view with the required channel.
 - f Click **OK**.
 - g Click **Enabled**.
- 4 Search for a video asset.
 - a Click  to limit your searches to video clips.
 - b Using drop-down lists at the top of PinPoint, create your search criteria to locate the required video asset.
 - c Click **Search** .
 - d Click the required video asset.
- 5 The video automatically loads in the media player. If you have generated proxies of your media, you must select which location (the proxy or iTX) from which to load the video:




Click location to load		
Proxy	MPEG4	SVRQA1048
iTX	MPEG2	SVRQA1048
- 6 To have the subtitles playout at the top of the screen:
 - a In the Media Player controls, click **Asset Properties** .
 - b From the **Subtitle Top Service** drop-down list, select a subtitle service.
Select **None** if you do not want the subtitles to be displayed at the top of the screen.
- 7 To have the subtitles playout at the bottom of the screen:
 - a In the Media Player controls, click **Asset Properties** .
 - b From the **Subtitle Bottom Service** drop-down list, select a subtitle service.
Select **None** if you do not want the subtitles to be displayed at the top of the screen.
- 8 Use the media player's controls (Play/Pause button or seek slider) to play or scrub. Subtitles appear along with the video in the media player window.

Resetting or Clearing the Subtitle Services Settings in the Media Player

To avoid having to set the media player's **Subtitle Top Service** and **Subtitle Bottom Service** settings each time you switch between channels or close the iTX Desktop, the Subtitle

Service settings are automatically retained with the channel. This option can be displayed, if required.

To quickly reset or disable both of the current Subtitle Service settings:

- 1 Search for a video clip and load it into the media player, as described in [Previewing Video Assets with Subtitles](#), on page 49.
- 2 In the media player, click **Asset Properties** .
- 3 Click **Reset Subtitles**.
- 4 Click **OK** to confirm that you want to reset these settings.

Both the **Subtitle Top Service** and **Subtitle Bottom Service** settings are set to **None** and disappear from the preview.

9

Scheduling & Controlling Subtitle Playout

Typically subtitles are scheduled for playout as part of a traffic system. Once a schedule containing subtitles has been loaded into iTX, various operations can be applied to subtitles. For example, you may need to change or remove a subtitle from a video asset which has been scheduled or is being played out. This chapter explains how to make these changes.

Summary

<i>Automatically Adding a Subtitle to a Scheduled Video Event</i>	51
<i>Manually Adding a Subtitle to a Scheduled Video Event</i>	52
<i>Overriding the Subtitle Source for a Scheduled or On Air Video Asset</i>	52
<i>Updating Subtitles for On Air Video Assets</i>	53
<i>Disabling the Subtitle Source for a Scheduled or On Air Video Asset</i>	54

Automatically Adding a Subtitle to a Scheduled Video Event

The iTX channel can be configured to automatically schedule associated subtitle assets with video events. If a video event is added to a schedule, then two checks are made:

- is the **Automatically Create Subtitle Secondary** option enabled in the Channel Config?
- is there a subtitle asset linked to the video asset?

If both of these conditions are true, then a new subtitle event is added to the schedule as a secondary event.

If the video asset has already been scheduled, when the secondary subtitle event is linked to it, then the subtitle event is generated at the time when the link is made (as long as the event has not yet reached a state of cueing).

To automatically add a subtitle to a scheduled video event

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Channel Config**.
- 4 From the **View** drop-down list, select the view containing the channel to be configured.
- 5 Select the required channel.
- 6 Click **Channel Config 4**.
- 7 Click **Automatically Create Subtitle Secondary** and it changes to a green check mark.



- 8 Click **Save** and then **Close**.

In the schedule any video asset with an associated subtitle file, or other secondary event such as a logo, will be marked with a +. Selecting + expands the event to display the secondary subtitle as shown below.

	Start Time	Type	Global ID	C	Tr	N	W	Item Name	Item Title	Duration	Status	Source
+	14:08:57:21	Video Clip		+	N		-	0 based mxf 2	0 based mxf 2	00:02:00:00	Commit	X:\Cache\d1c444b8-96a1-4b3d-b
-	14:08:57:21	Video Clip		+	N		-	0 based mxf 3	0 based mxf 3	00:02:00:00	Ready	\\SVRQA9010\CACHE\6d08a1f0-
	14:08:57:21	Subtitle		+	-		-	0 based mxf 3	0 based mxf 3	00:02:00:00	Ready	\\SVRQA9010\CACHE\2dc85130

Subtitle secondary events are co-timed with the primary video event.

Manually Adding a Subtitle to a Scheduled Video Event

If a scheduled video does not have subtitles linked to it, a separate subtitle asset can be added to the schedule as a secondary item on the video event. A secondary subtitle event can be added to a video event even if the video event has been cued, but not once the video event is on air.

Note: Manually adding a subtitle asset does not permanently link the subtitle asset to the video asset - it is only linked for this one time schedule.

To manually add a subtitle to a scheduled video event

- 1 Open the iTX Desktop.
- 2 Click **Channel Control** in the layout selection bar.
- 3 From the Content Selector, select the **Subtitle** plugin.

Note: If the **Subtitle** tab is not displayed, select **Configure** and add **Subtitle** to the Displayed panels list.

- 4 Click **Search** to display PinPoint.
- 5 Use PinPoint to locate the required subtitle and select it.
- 6 Select **OK**.
On the **Content Selector** only the subtitle which was found is listed in the File field.
- 7 Click **Drag from Here** then drag and drop the subtitle over the relevant video event.
This subtitle becomes a secondary item on the video event, so they are played out together.

Overriding the Subtitle Source for a Scheduled or On Air Video Asset

If a service has more than one matching subtitle Intent then the highest ordered one is used. This default behavior can be overridden and another subtitle Intent played out instead. Either a scheduled or an on air subtitle source can be edited.

For example, the subtitle has assets for the Intents `French_Closed`, `German_Closed` and `English_Closed` but the subtitle service rule for service `Closed889`, specifies `English_Closed`, `German_Closed` and `Apology`.

As `French_Closed` is not specified in the rule it cannot be used to over-ride the scheduled subtitle Intent, even though it exists. The subtitle with the `English_Closed` Intent will be used as it has higher priority than `German_Closed`.

If you have an Apology with a Source of `No_Selection`, the Apology page will be displayed, but `No_Selection` without an Apology displays nothing.

To override the subtitle source

- 1 Open the iTX Desktop.
- 2 Click **Channel Control** in the layout selection bar.
- 3 In the **Schedule Grid**, expand the video asset, by clicking on the +, to list the subtitle.
- 4 Click on the subtitle asset to display it in the **Event Editor**, as shown above.
The radio button shows which subtitle location is currently being used.
- 5 Check the radio button next to the alternative subtitle location, to select it instead.
- 6 Click **Store Changes**.

Note: If the video asset being changed is currently on air, a warning pops up about the changes you are making.

Updating Subtitles for On Air Video Assets

You can import a new version of a subtitle file into the system and replace the one which is already on air or if you want to playout a different intent on air. This allows you to:

- Update to a new version of the on air subtitle file
- Update to a higher priority intent that has arrived whilst the event is on air

To replace an on air subtitle:

- 1 Open **Delivery Manager**.
- 2 Locate the subtitle file to replace the one currently being played out.
- 3 Drop the subtitle file into the drop box for the required intent.
- 4 Open the iTX Desktop.
- 5 Click **Channel Control** in the layout selection bar.

If the subtitle is a new version of the one that is currently being aired the following warning is displayed:

An updated file for currently on air subtitles has arrived.

If the subtitle is a higher priority than the currently on air subtitle, the following warning is displayed:

Subtitle file with a higher priority than the on air subtitle has arrived.

- 6 Click **Fix All**, for either case, to replace the currently on air subtitle file with the newly imported one.

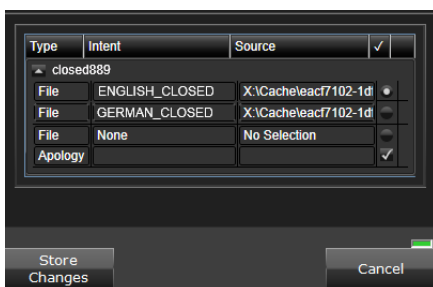
Disabling the Subtitle Source for a Scheduled or On Air Video Asset

You can disable the subtitle source going to a service, for example, if the service had the wrong subtitle file or if it is a corrupted live feed. Disabling the service leaves other services unaffected. Either an on air or scheduled subtitle source can be edited.

To disable the subtitle source:

- 1 Open the iTX Desktop.
- 2 Click **Channel Control** in the layout selection bar.
- 3 In the **Schedule Grid**, expand the video asset, by clicking on the +, to list the subtitle.
- 4 Click on the subtitle asset to display it in the **Event Editor**, as shown below.

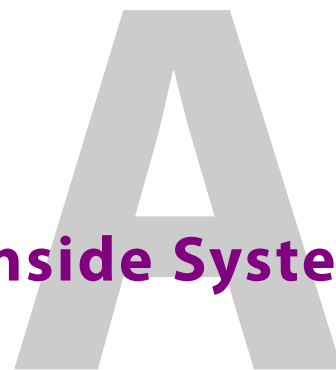
The radio button shows which subtitle location is currently being used.



- 5 Check the radio button next to **None** to disable the current subtitle.
- 6 Click **Store Changes**.

Note: If the video asset being changed is currently on air, a warning pops up about the changes you are making. You need to confirm that you want to change the video asset currently on air.

Maintaining Softel Inside System



This appendix covers some of the common maintenance tasks required for a Softel Inside system, including configuration for playing out legacy subtitle files, upgrading a closed caption system from a non-Softel Inside version, and the supported subtitle file types.

Summary

<i>Configuring Output Server 2 for Legacy Subtitle Payout</i>	55
<i>Converting Legacy Closed Caption Files</i>	55
<i>Supported Subtitle Input Formats and Associated Registered Assets</i>	59

Configuring Output Server 2 for Legacy Subtitle Payout

If you had been playing out basic non-Softel inside subtitles or closed captions on a previous installation of Output Server 2, you would have had to configure one stream and one service. As of iTX v2.8 or later, legacy subtitles and closed captions no longer require this baseline configuration and therefore it must be removed from the Output Server 2 user interface.

To remove the previous baseline subtitle configuration for legacy subtitles:

- 1 On the payout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).
The Output Server 2 user interface appears.
- 2 Go to **Configuration > Subtitles** tab.
- 3 Expand the **Services** tab.
- 4 From the Service drop-down list, select each service you have configured and click **Remove**.
- 5 Expand the **Streams** tab.
- 6 From the **Streams** drop-down list, select each stream you have configured and click **Remove**.
- 7 Click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

Converting Legacy Closed Caption Files

Softel Inside does not support payout of legacy Closed Caption files. To use pre-existing subtitles on a closed caption system without the need to reimport them, the Asset Fixer tool has a plugin which can be used to convert these closed caption files. This must be done as part of the upgrade process for any closed caption system changing from pre-v2.9 to a v2.9 build. The older subtitle assets are held in the system in their original .scc format, and

need to be converted to .mcc and registered correctly in order for them to be used by Softel Inside.

Note: This is not required for Teletext systems where legacy subtitle payout is supported within Softel Inside.

The original location for the asset is retained in the system post-conversion, but because there is no Intent this will not be used in an Output Server 2 system. This location has been retained to cater for Output Server 1/Output Server 2 mixed mode setups.

The Asset Fixer plugin has been designed to be run once. When an asset is converted, a flag is set against that asset to prevent future unnecessary re-runs.

Before running the Asset Fixer plugin the subtitle intent(s) need to be configured in Opus Admin (see [Managing Subtitle Intents](#), on page 8).

Note: There is an outstanding defect against the Asset Fixer in that the Events are not currently being registered – this prevents the subtitle information from being displayed in the Subtitle Asset Events tab. It does not impact the payout of the subtitles nor the ability to view them in the Preview as Channel layout.

To configure the Asset Fixer

- 1 On the Framework Server from the **Start** menu select **All Programs > iTX 2.0 > Job Service Manager Config**.

The **Select Job Service Configuration...** selection window appears.

- 2 Select **AssetFixer** and click **OK**.

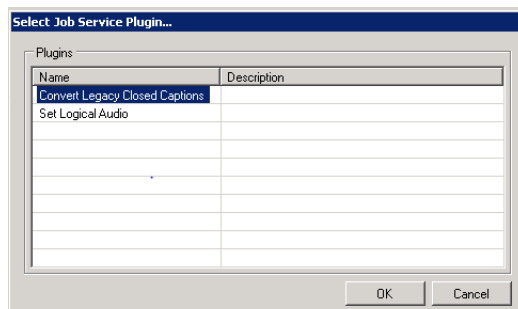
The **Job Service Manager Configuration: AssetFixer** configuration window appears

- 3 Click **Add Job Service**.

Enter a meaningful Name – e.g. Convert Captions.

- 4 Click **Select** next to the **Plugin** field.

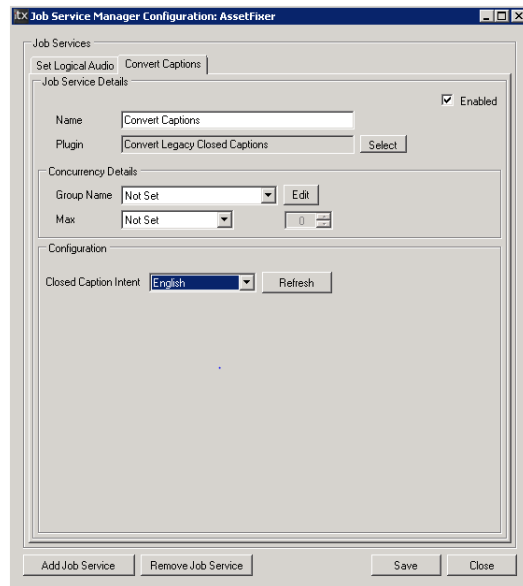
A list of available Plugins appears.



- 5 Select **Convert Legacy Closed Captions** and click **OK**.

- 6 The **Concurrency Details** should be left with their default values.

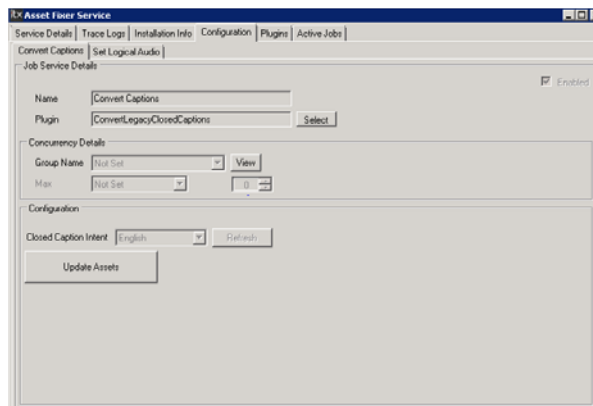
- 7 The **Closed Caption Intent** drop-down list contains all configured Intents on the system. Choose the one to be used for all subtitles currently registered in the system (e.g. English).



8 Click Save to save the configuration.

To convert legacy closed captions

- 1 Having configured the Asset Fixer with the required Intent, this is ready to be used to convert all pre-existing closed caption assets. The Asset Fixer is a Controlled Service accessible from the Server Controller.
- 2 Launch the Asset Fixer Service – select the Configuration tab and select the sub tab which has been configured to convert the legacy closed captions.



- 3 Click Update Assets – this converts all legacy .scc assets to the mezzanine .mcc format and registers the subtitles in the system with the chosen intent.
- 4 Use the Job Monitoring layout on the iTX Desktop to monitor the progress of this job – the Type is Convert Legacy Closed Captions. Once complete, this job shows the number of assets which have been converted and also the number of assets not converted on this run due to already having been converted

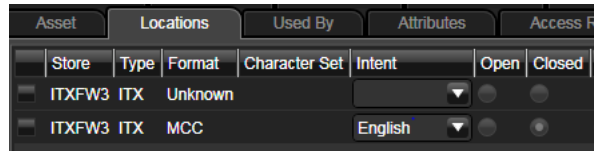
To search for all subtitle assets which have been converted

- 1 On the iTX Desktop, select the Asset layout.
- 2 Use the Subtitle icon to restrict PinPoint searches to just Subtitle assets

3 Search for assets with a category of Subtitle Asset Converted.



4 Select one of these Subtitle Assets. The Locations tab now shows the original location, with no Intent, together with the new converted location, showing the selected Intent



Asset	Store	Type	Format	Character Set	Intent	Open	Closed
ITXFW3	ITX	Unknown				<input type="radio"/>	<input type="radio"/>
ITXFW3	ITX	MCC			English	<input type="radio"/>	<input checked="" type="radio"/>

Supported Subtitle Input Formats and Associated Registered Assets

iTX supports a number of subtitle formats which are registered using Delivery Manager.

The type of the registered asset in iTX is dependent on a number of factors, such as system frame rate and whether the file is dropped into an Open or a Closed Intent folder.

The table below shows the inputs and the expected outputs. Any subtitle file type not shown in the table is not supported by iTX.

Grey cells in the Input Subtitle File Frame Rate column indicate that these input file types do not contain frame rate information. Similarly, Grey cells in the Registered Asset side of the table indicate that this combination of input file type and system frame rate is unsupported.

Import Subtitle File				Drop Folder Type	Registered Asset		
Broadcast Type	Subtitle File Type	Subtitle File Extension	Subtitle File Frame Rate	Closed / Open	25	30Drop	30Non-Drop
Teletext	STL closed	stl	25	Closed	25 STL	25 STL	25 STL
	EBU-TT closed	xml	25	Closed	25 STL		
	PAC closed	pac		Closed	25 STL	25 STL	25 STL
	890 closed	890		Closed	25 STL	25 STL	25 STL
Open	STL open	stl	25	Open	25 XIF	25 XIF	25 XIF
	EBU-TT open	xml	25	Open	25 XIF	25 XIF	25 XIF
	PAC open	pac		Open	25 XIF	30drop XIF	30non-drop XIF
	890 open	890		Open	25 XIF	25 XIF	25 XIF
	XIF	xif	25	Open	25 XIF	25 XIF	25 XIF
			30drop	Open	30drop XIF	30drop XIF	30drop XIF
			30non-drop	Open	30non-drop XIF	30non-drop XIF	30non-drop XIF
	SRT	srt		Open	25 XIF	30drop XIF	30non-drop XIF
	CAPT	capt		Open		30drop XIF	30non-drop XIF
				Closed		30drop MCC (708-only)	30non-drop MCC (708-only)

Maintaining Softel Inside System
Supported Subtitle Input Formats and Associated Registered Assets

Import Subtitle File				Drop Folder Type	Registered Asset		
Broadcast Type	Subtitle File Type	Subtitle File Extension	Subtitle File Frame Rate	Closed / Open	25	30Drop	30Non-Drop
Closed Captions	SCC	scc	30drop	Closed	30drop MCC	30drop MCC	30drop MCC
			30non-drop	Closed	30non-drop MCC	30non-drop MCC	30non-drop MCC
	SC2	sc2	30drop	Closed	30drop MCC	30drop MCC	30drop MCC
			30non-drop	Closed	30non-drop MCC	30non-drop MCC	30non-drop MCC
	Cheetah CAP	cap		Closed		30drop MCC	30non-drop MCC
	NCI CAP	cap		Closed		30drop MCC	30drop MCC
	SMPTE-TT	xml	30drop	Closed		30drop MCC	30drop MCC
			30non-drop	Closed		30non-drop MCC	30non-drop MCC
	MCC	mcc	30drop	Closed	30drop MCC	30drop MCC	30drop MCC
			30non-drop	Closed	30non-drop MCC	30non-drop MCC	30non-drop MCC



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For technical assistance, contact our international support center, at 1-800-547-8949 (US and Canada) or +1 530 478 4148.

To obtain a local phone number for the support center nearest you, please consult the Contact Us section of Grass Valley's web site (www.grassvalley.com).

An online form for e-mail contact is also available from the web site.

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