



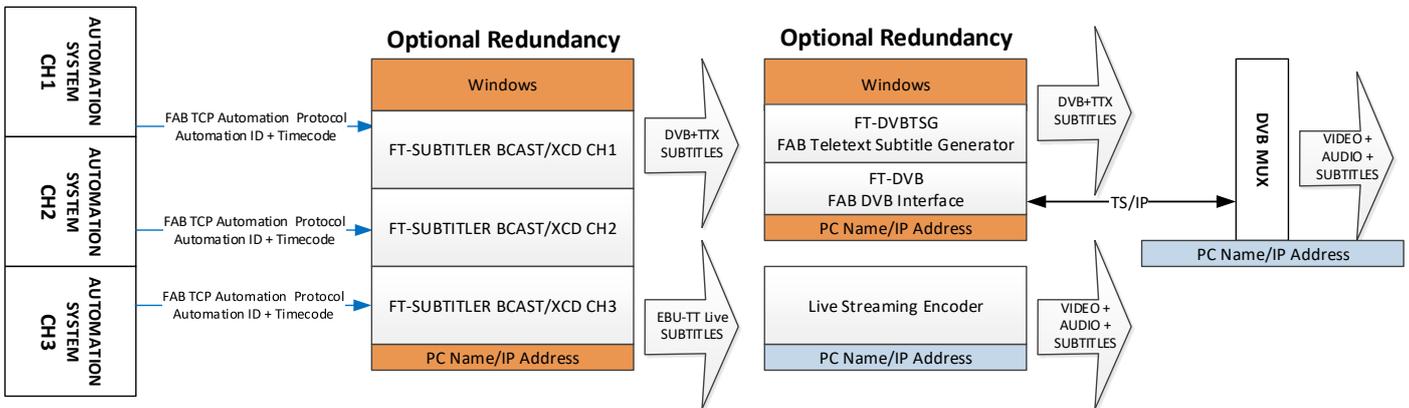
NEW PRODUCTS AND FUNCTIONALITY 2017

- **FAB SUBTITLER BCAST/XCD**
 - EBU-TT Live protocol for subtitling of live streaming over internet
 - IP based live subtitling gateway, Integrated Web Interface
 - Teletext and DVB Subtitle transmission for IP based installations
- **FAB SUBTITLER LIVE**
 - Easy subtitle positioning and alignment for live subtitles
 - Live Subtitling for Youtube Live Events, Teletext control decoder
 - Extraction of teletext subtitles from video files
- **FAB SUBTITLER**
 - Automated Speech to text including timecode for subtitle preparation
 - RESTful API for automation and watchfolder operation
- **FAB DVB INTERFACE**
 - Transmission of teletext subtitles, Integrated Web Interface
- **FAB SUBTITLE DATABASE**
 - Import and export for automatic workflow
- **FAB TELETEXT PCI EXPRESS CARD**
 - PCIe card for insertion into SDI with bypass relay
- **FAB TELETEXT DATA GENERATOR / DATA BRIDGE**
 - Based on Dell Poweredge Server
- **FAB TELETEXT NETWORK API**
 - 64-bit compatibility

FAB SUBTITLER BCAST/XCD

EBU-TT Live protocol for subtitling of live streaming over internet

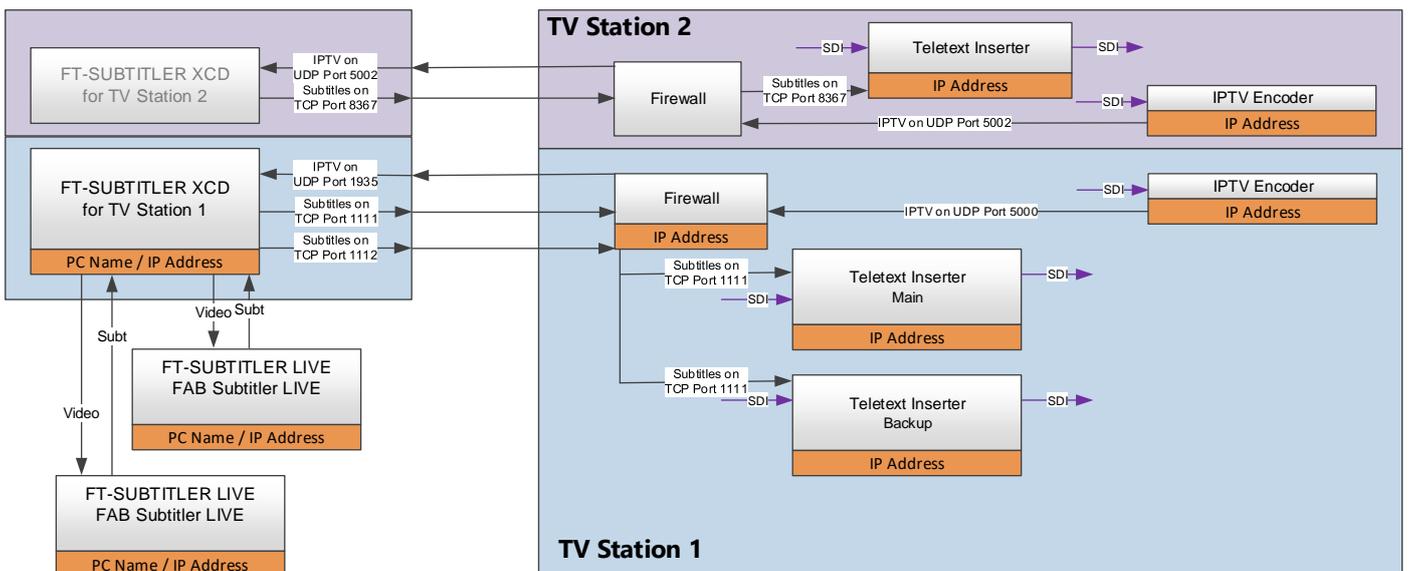
FAB Subtitler BCAST/XCD can transmit subtitles using the EBU-TT Live TCP protocol as any of the supported timed text formats (i.e. EBU-TT) to a live streaming encoder. This is the best way to provide subtitles for live streaming over the internet.



IP based live subtitling gateway

The following functionality is available in FAB Subtitler BCAST/XCD which allows external companies to provide live subtitles for remote TV stations:

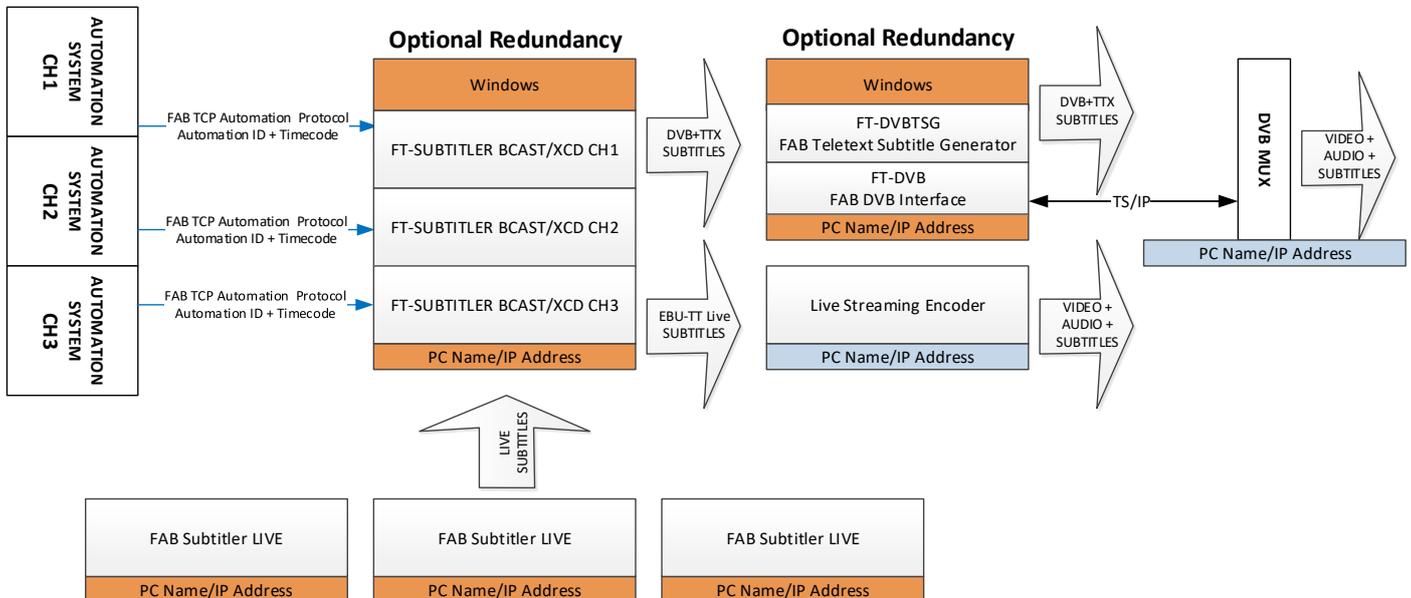
- Receives live IPTV over UDP from the TV station and provides live IPTV to multiple FAB Subtitler LIVE workstations without the need to use the multicast.
- Receives live subtitles over TCP from multiple FAB Subtitler LIVE workstations and sends them over TCP to the TV station to teletext inserters, DVB transmission systems and live streaming encoders.
- Saves STL and XML Timed Text subtitle file for every transmitted program with subtitles.



FAB SUBTITLER BCAST/XCD

Teletext and DVB Subtitle transmission for IP based installations

FAB Subtitler BCAST/XCD can be used with FAB DVB Interface as a transmission system for DVB subtitles and teletext subtitles for IP based installations. All connections are IP only.



- Every FAB Subtitler BCAST/XCD receives the automation ID and timecode from the automation system and transmits subtitles from subtitle files for one channel. It also receives live subtitles received over network from FAB Subtitler LIVE workstations.
- FT-DVBTSG creates a teletext stream which is transmitted over TS/IP (UDP/RTP) by FT-DVB to one or more DVB multiplexers. A separate PID is used for every teletext stream for every channel.
- FT-DVB receives DVB subtitles from FAB Subtitler BCAST/XCD and transmits them over TS/IP (UDP/RTP) to one or more DVB multiplexers. A separate DVB Subtitle PID is used for every channel and language.

Integrated Web Interface

The internal status of FAB Subtitler BCAST/XCD can be obtained via the web interface on the following URL:
<http://ipaddress:port/status>

Windows Cluster Compatibility

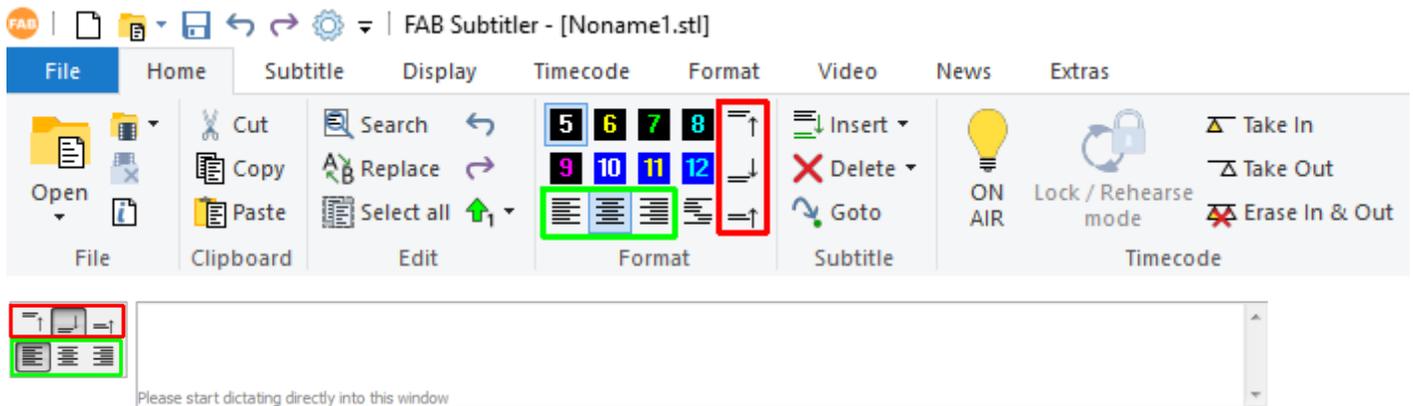
FAB Subtitler BCAST/XCD can be operated in a Windows Cluster configuration. Two servers are used in such configuration and FAB Subtitler BCAST/XCD will only be running on one server. When one server fails, FAB Subtitler BCAST/XCD will be started automatically on the other server using the same IP address. 0

FAB SUBTITLER LIVE

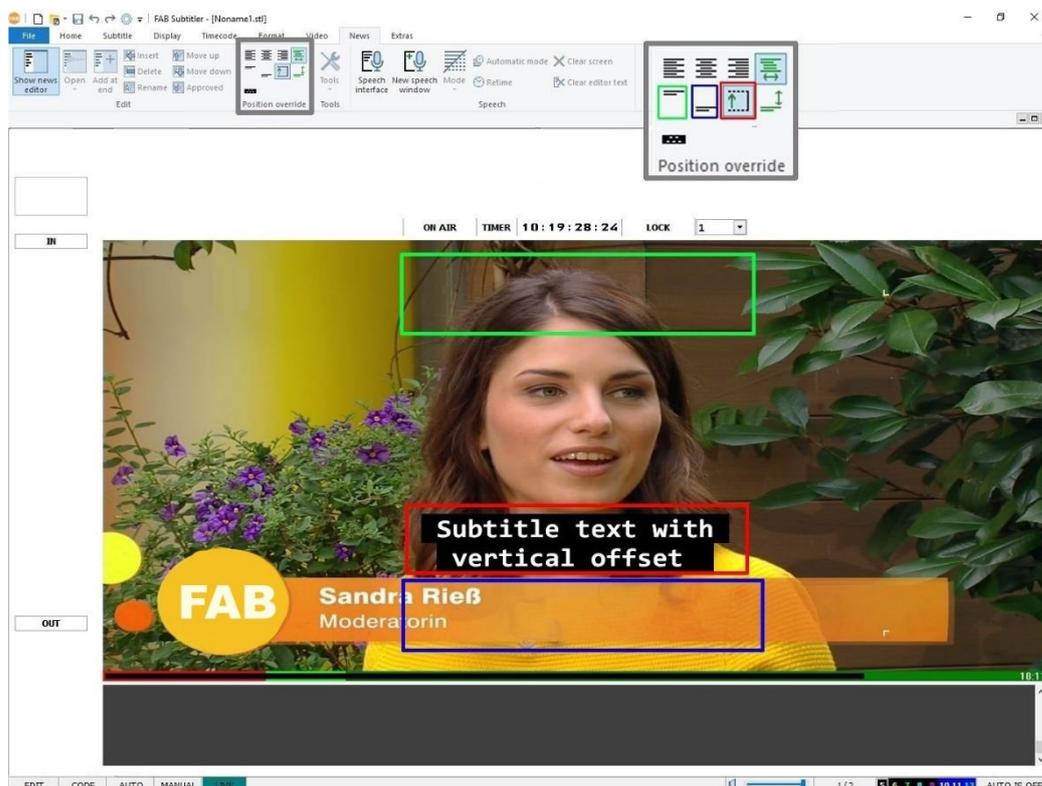
Easy subtitle positioning and alignment for live subtitles

FAB Subtitler LIVE now includes two different functions for positioning of live subtitles.

1. It is now possible to define the horizontal and vertical positioning of the subtitles for the texts from the speech recognition. The buttons left to the speech interface editor are equivalent to the horizontal/vertical alignment buttons in the ribbon in “Home / Format”. This positioning does not affect subtitles that are sent from the subtitle list by using the Insert and Delete key.



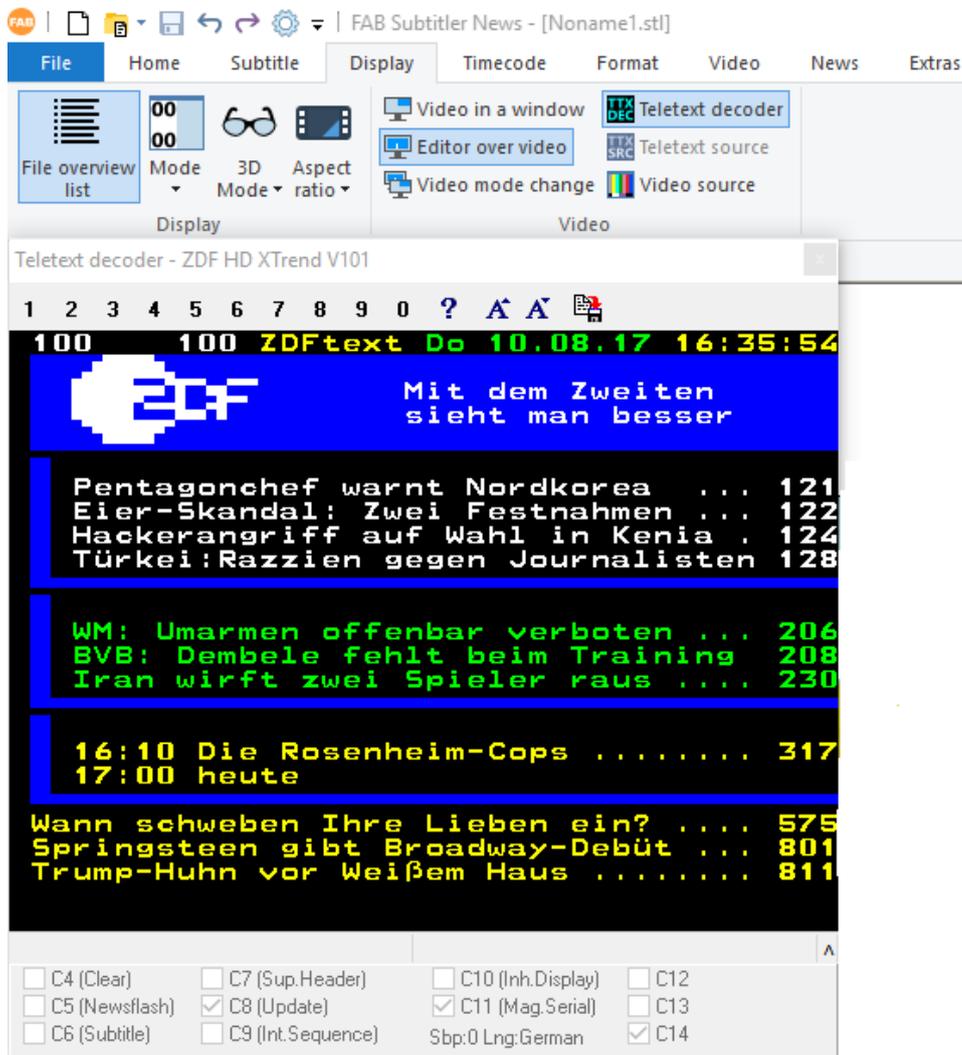
2. The functions available in the Ribbon in “News / Position override” change the position of all transmitted subtitles, even of those which were transmitted and are still visible on the receiver. These functions are provided so that the position of a certain subtitle can be moved quickly, e.g. if there is already text in the video which shall not be covered by the subtitle. This new functionality makes it extremely easy to move a subtitle away from the text in the video.



FAB SUBTITLER LIVE

Teletext Control Decoder

The teletext decoder window within FAB Subtitler can be used to display decoded teletext pages. Teletext can be received from HD/SD-SDI and from TS/IP received over UDP or HTTP. Teletext header bits are displayed and occasional reception errors can be logged by saving every change of a teletext page.



Live Subtitling for Youtube Live Events

Transmission of live subtitles over HTTP for Youtube live events is implemented. Live subtitles can therefore be provided for any Youtube live stream.

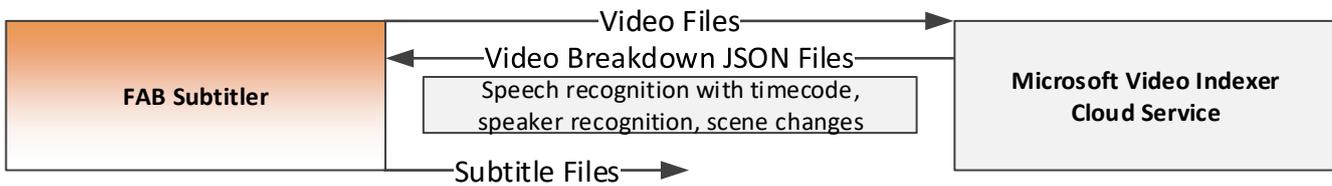
Extraction of teletext subtitles from video files

FAB Subtitler PRO/LIVE/MPEG can extract teletext subtitles from TS video files. FAB Subtitler MPEG Edition can also extract teletext subtitles from MXF files. While extracting, a dialog displays which teletext pages and languages were detected, and how many subtitles were decoded. After the subtitles are extracted, they are opened in the editor and can be exported in any subtitle format supported by FAB Subtitler.

Visit www.fab-online.com for more information

FAB SUBTITLER

Automated Speech to text including timecode for subtitle preparation



FAB Subtitler PRO/LIVE/MPEG now supports the use of Microsoft Video Indexer cloud service for automated speech recognition from video files. FAB Subtitler transfers video files to the cloud and the progress of the transfer and the analysis can be monitored. FAB Subtitler supports:

- Automatic conversion of transcript of spoken audio with timecode to subtitles.
- Optional automatic assignment of colors to recognized speakers.
- Navigation to recognized scene changes.
- Microsoft Video Indexer currently supports the following languages: English, German, French, Italian, Spanish, Portuguese, Russian, Japanese, Chinese, Arabic and Filipino.

The quality of the recognized text is not perfect and it requires some manual corrections in FAB Subtitler. Subtitle preparation may require much less time because timecodes are generally already correct.

Details are available here: <https://www.fab-online.com/kb/sup/fabsubtitler/videoanalyzer.html>

RESTful API for automation and watchfolder operation

FAB Subtitler PRO/LIVE/MPEG supports a REST interface for controlling and monitoring the automation of subtitle insertion into video files, extraction from video files and conversion to different subtitle formats.

The following automation modes are available:

- XML command files containing the instructions to perform any of the above tasks can be provided to FAB Subtitler. This can be done by saving the files into the XML command file folder monitored by FAB Subtitler. Alternatively the XML can be provided by using the HTTP POST method of the RESTful Webservice API offered by FAB Subtitler which also allows using HTTP GET to read the status of automatic operation.
- Simple watchfolder operation. FAB Subtitler can monitor multiple watchfolders. Every watchfolder can be configured to perform a different action on the files which are copied to the watchfolder. One watchfolder could be used to extract subtitles from MXF files. Another watchfolder could be used to export a subtitle file to a different format and again a different watchfolder could be used to insert subtitles into an MXF file. The watchfolder operation mode allows automating tasks easily without the need for programming because the configured task is performed automatically when a file is copied to the watchfolder.

FAB SUBTITLE DATABASE

Import and export for automatic workflow

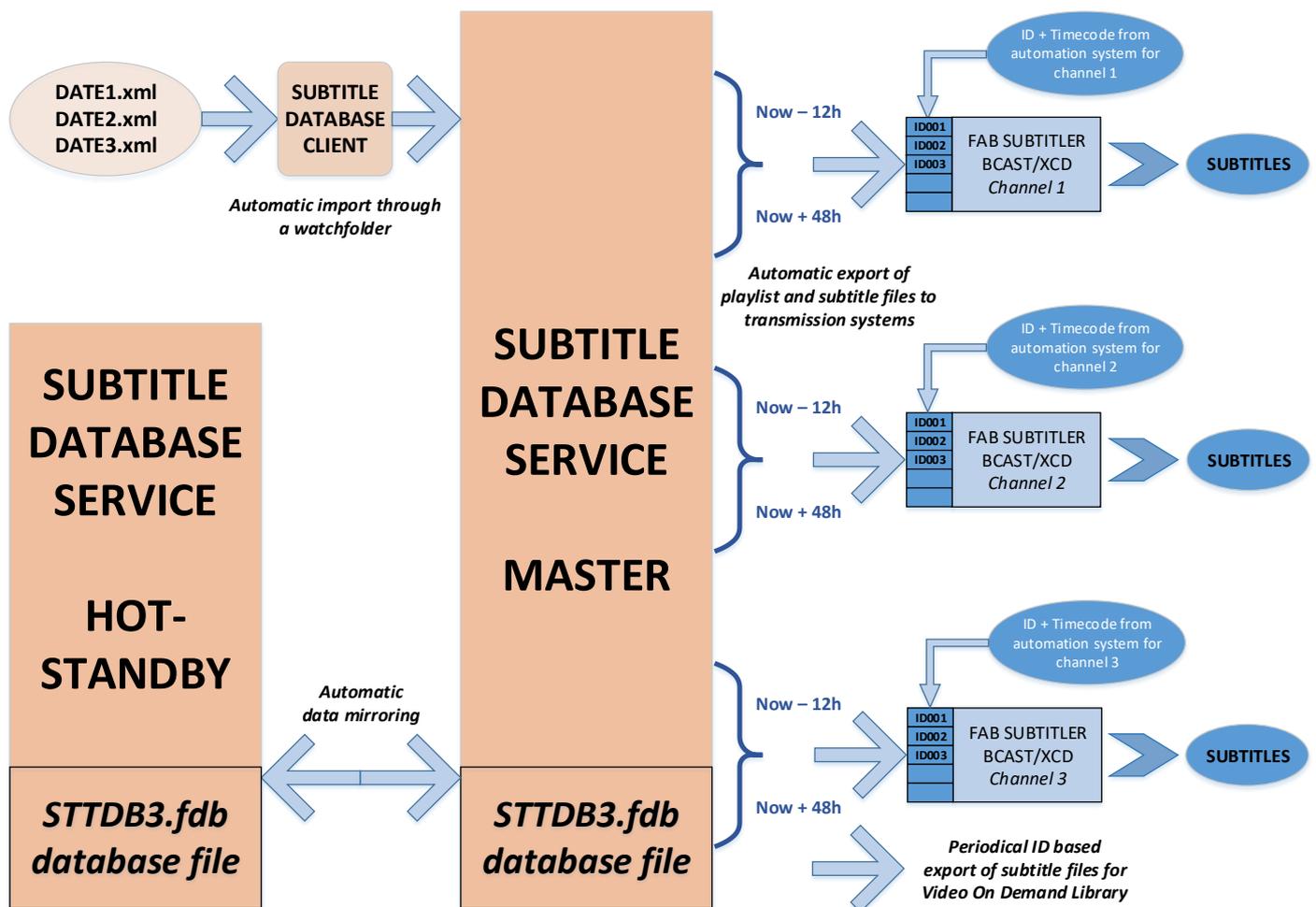
The following import and export functionality is available:

- Import of playlist for synchronization with the TV planning/scheduling/traffic system
- Export of subtitle files to FAB Subtitle BCAST/XCD for transmission of subtitles
- Export of subtitle files to internet video on demand library

FAB Subtitle Database supports watchfolder based import of playlist files. By using unique IDs the playlist for the same date can be imported many times and therefore the database will always contain a mirror of the TV schedule for all subtitled programs.

The workflow used with FAB Subtitle Database makes sure that subtitle files for all subtitled programs are always present in the database because otherwise subtitle files will not be transmitted.

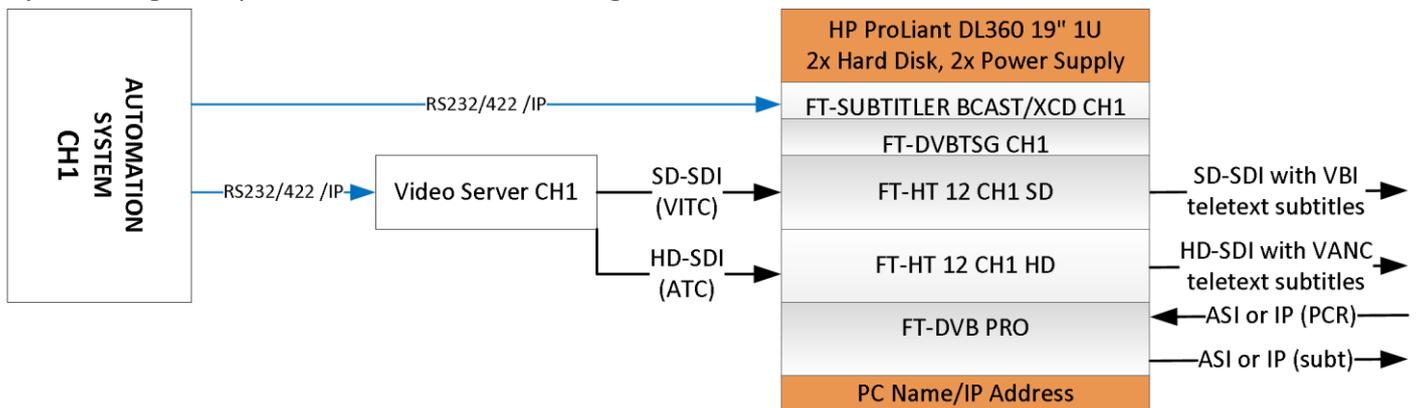
A new periodic subtitle file export functionality is available which allows exporting subtitle files using the content of a specified database field (generally a program ID) in the subtitle filename. These subtitle files can be used for the internet video on demand library.



FAB DVB INTERFACE

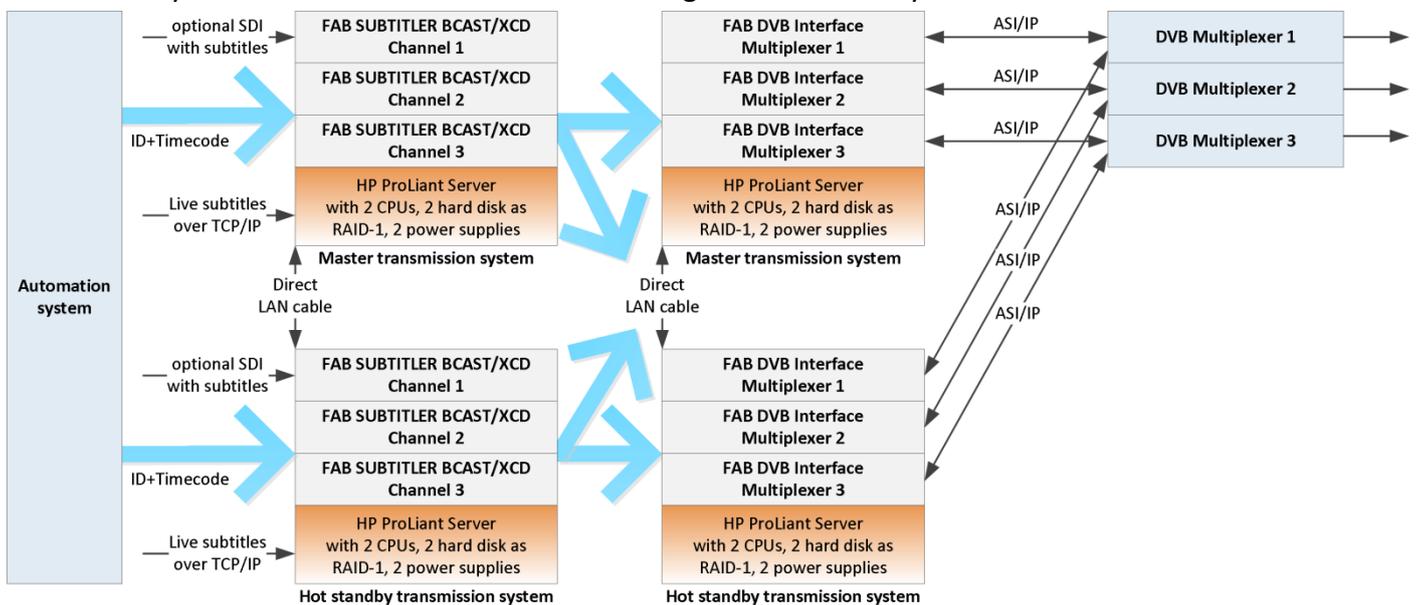
Transmission of a teletext stream with subtitles

FAB DVB Interface can transmit multiple teletext cycles with static teletext pages and multiple teletext subtitle pages over TS/ASI or TS/IP directly to the DVB Multiplexer. Teletext data can also be inserted into HD/SD-SDI by using the FAB PCIe Card. Up to 8 different teletext IP output streams can be generated by a single HPE ProLiant DL360 server. The same teletext stream can be inserted into multiple SD/HD-SDI signals by installing multiple FAB PCIe Cards into a single server.



Master / Hot-Standby operation mode

Two computers with FAB DVB Interface can be running in a Master / Hot-Standby operation mode. The Hot-Standby system is connected to the Master system by a direct network cable and activates its output automatically when FAB DVB Interface is not running on the master system.



Integrated Web Interface

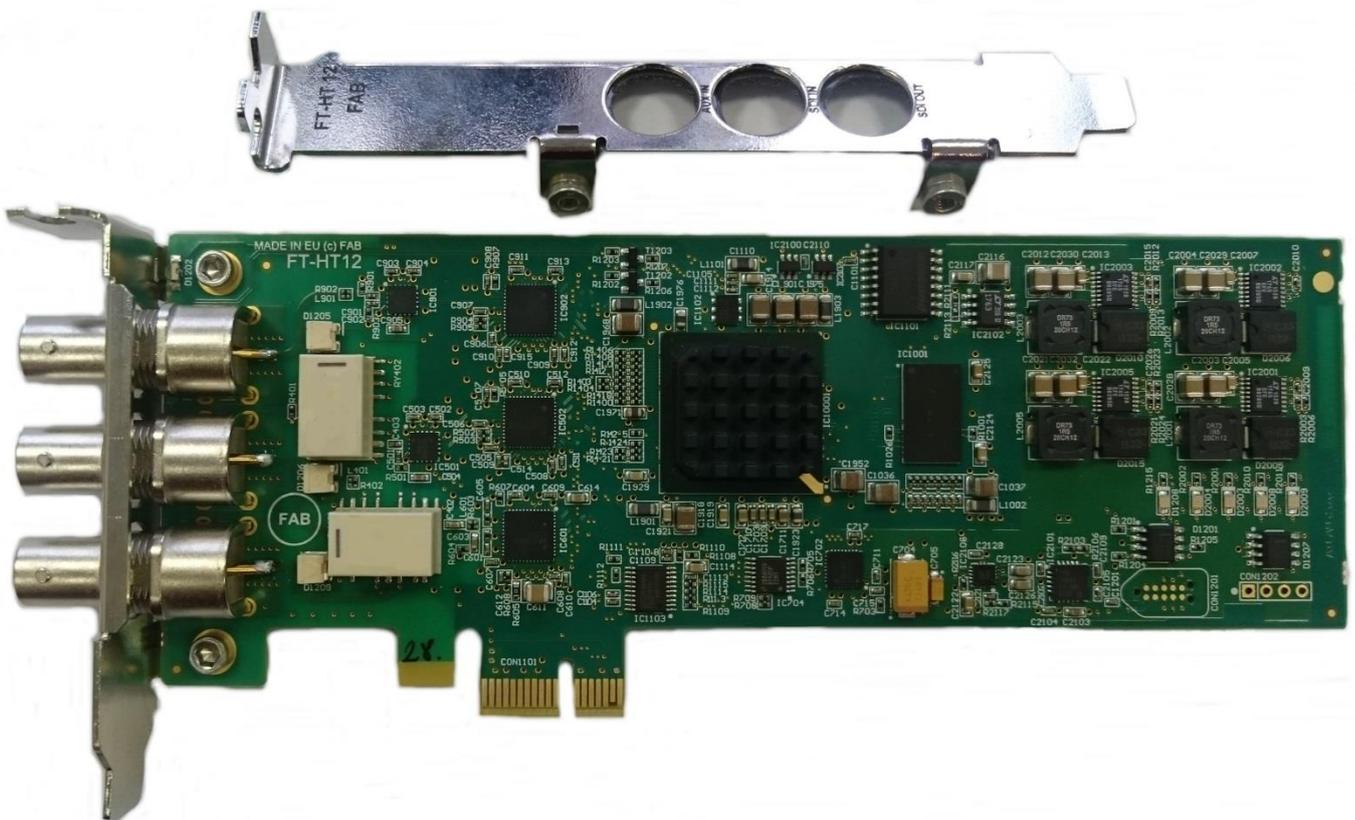
The internal status of the system can be obtained via the web interface. The provided information includes all PIDs, bitrates, SDI signal status and more by using: <http://ipaddress:port/status>

FAB PCI EXPRESS CARD

A new PCI-Express card has been developed by FAB with support for 3G SDI.
A bypass relay is integrated on the card.

- Insertion of open subtitles into SD/HD/3G-SDI
- Insertion of teletext subtitles into SD/HD/3G-SDI
- Insertion of closed captions CEA-608 & CEA-708 into SD/HD/3G-SDI
- Decoding of teletext subtitles from SD/HD/3G-SDI (VBI / OP47 / SMPTE2031)
- Display of video on the PC monitor
- 2 SDI Video inputs and 1 SDI video output with bypass relay
- Low profile design. Up to 3 cards can be installed in HPE Proliant DL360 Gen9 and up to 6 cards can be installed in HPE Proliant DL380 Gen9

Multiple cards can be installed in a single server so that subtitles for multiple channels can be transmitted from a single server.



FAB TELETEXT DATA GENERATOR / DATA BRIDGE

The highly popular and reliable teletext transmission system for 24/7 operation is now delivered with a Dell Poweredge R330 server.



Due to compatibility issues with HPE Proliant Gen9 servers the FT-DGS 5 / FT-DBR 5 systems are delivered with a Dell Poweredge R330 server with SSD Disk and two power supplies as of September 2016.

Migration of data from an old FAB Teletext Data Generator to a new FT-DGS 5 / FT-DBR 5 has been extremely simplified.

FAB TELETEXT NETWORK API

64-bit compatibility

FAB Teletext Network API now provides DLLs for 64-bit. FABNETAPI64.DLL and ETTWAC64.DLL are provided for 64-bit applications running on Windows 64-bit.

Visit www.fab-online.com for more information

FAB TECHNICAL KNOWLEDGE BASE

The FAB Technical Knowledge Base page is available on FAB's website. This enables easier and faster self-service support. The content of the knowledgebase is updated continuously and recently a search facility has been integrated as well:

<http://www.fab-online.com/kb/sup/start.html>

FAB - TELETEXT & SUBTITLING SYSTEMS



TELETEXT & SUBTITLING SYSTEMS

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- [FAB DVB Interface](#)
- [FAB Media Encoder](#)
- [FAB Activity Manager](#)

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- [FAB Teletext Data Generator & Data Bridge](#)
- [FAB Teletext Network Controller](#)
- [FAB Teletext Archive Server](#)
- [FAB Teletext Network API](#)
- [FAB TV Guide Editor](#)

Table of Contents

- ♦ [Support Pages for FAB Products](#)
 - ♦ [Subtitling Products](#)
 - ♦ [Teletext Products](#)

DETAILED LIST OF NEW AND IMPROVED FUNCTIONALITY OF FAB PRODUCTS

FAB Subtitler

- Added support for extracting subtitles from video files. Subtitles can be extracted from video files in automatic mode or manually (Extras / Tools / Extracts teletext subtitles from video file). Supported file sources are TS (PRO/LIVE/MPEG editions) and MXF (MPEG Edition).
- Live video over IP: Low latency (less than 200ms end to end delay) and deinterlacing are supported.
- Live video received over IP can be recorded to a TS file and used later for preparation of subtitles.
- UDP to HTTP gateway allows providing live IPTV streams to multiple FAB Subtitler LIVE workstations without the need for multicast.
- The "Insert musical note" command is available in the ribbon in the Format tab. A keyboard shortcut can be defined to easily insert the musical note character.
- Position override in LIVE mode and in speech interface is available for easy positioning of live subtitles.
- The Dektec DTA-2152 card is supported by FAB Subtitler BCAST/XCD for transmission of open subtitles with Fill&Key ASI output.
- A new export format for STL files for Harmonic Spectrum X system is available.
- Subtitle preview is available in the standard Windows File Open window when opening a subtitle file.
- A tab bar is visible in the application and it displays open documents.
- Improved visibility of the currently selected color by pressed state of the buttons in status bar. This is also available in the speech interface.
- Added text alignment buttons on the left of the speech editor within the speech interface that affects only the text that is transmitted from the speech editor.
- Dropframe and non-dropframe timecode modes are working correctly.
- Framerates 47,95 fps and 48 fps are supported.
- Import from iNews news system allows defining flags for stories that shall not be imported or only the text shall not be imported (i.e. float, hold that can be used in iNews).
- Reading of timecode with Adrienne PCIe-TC and USB-TC is supported.
- SMPTE 428-7 Digital Cinema XML files can be imported.
- A timecode calculator for adding, subtracting of timecodes and conversion to a different framerate is available under Extras/Tools. Timecode values (xx:xx:xx:xx) or number of frames (x) can be used in timecode calculator.
- A timecode value can be specified which will be subtracted from all IN/OUT timecodes after opening the subtitle file which are higher or equal than the specified value (allowing to subtract 10:00:00:00 from all timecodes that are higher or equal than 10:00:00:00). This may be useful if some files were prepared with starting timecode 00:00:00:00 and others with 10:00:00:00.

- Teletext decoder window allows saving a teletext pages or all changes of the received teletext page so that it can be used to detect errors. Teletext header bits are displayed so that this can be used as a teletext control decoder. Available sources are: HD/SD-SDI, TS/IP over UDP or HTTP.
- Teletext decoder window displays header bits, subpage number and character set.
- Conversion of framerate when opening a subtitle file with a different framerate is much more flexible because it allows selecting the framerate of the source file. If the conversion of framerate does not produce a subtitle file with correct timecodes then the function Timecode / Stretch can be used which produces correct timecode for 99% of subtitle files.
- Subtitles are copied to clipboard also in DIF format for easy pasting of subtitles as a table into Excel. Timecode analysis graphs can be displayed in Excel that way.
- The function Timecode / Stretch is available. It allows correcting all timecode values in the file in a single step when a conversion from a different framerate results in non-matching timecodes.
- Added support for opening MXF AFN100 files.
- Some MXF video files with invalid indexes are handled correctly and the error is logged.
- Languages are displayed in Options / Active devices for multilingual operation of FAB Subtitler BCAST/XCD. Languages for every output device have to be configured under Active devices and not anymore in language settings.

FAB Subtitle Database

- Subtitle files can be exported periodically with content of a database field used in the filename.
- Added column with first five IN timecodes in the subtitle file.
- Language tag of attached subtitle files is stored in the database.
- Language tag of attached subtitle files is exported in the XML export.

FAB Teletext Editor

- When a caret is positioned in a command line, FASTEXT line, or a header line, Alt-Up arrow and Alt-Down arrow commands will only clear margins, not set them. Alt-Left arrow and Alt-Right arrow will clear and set margins.
- Alt-Home (toggle top-left margin) and Alt-End (toggle bottom-right margin) commands are disabled when caret is not positioned in the main page area.
- Improved user interface for teletext editor windows with less visual overhead and better window placement.

FAB Teletext Data Generator / FAB Teletext Data Bridge

- Input signal (SD/HD-SDI) is detected automatically
- Dell R330 Server is supported.

FAB DVB Interface

- Static apology teletext pages can be configured on a FAB FT-HT output.
- List of active PIDs can be included in saved configuration. When loading configuration with included active PIDs, configurator will ask whether to apply those PIDs to the current configuration. Configuration files that contain only active PIDs and no real configuration are supported.
- Teletext transport stream output can be synchronized to the internal PCR clock by entering 8191 in the PCR PID field.
- *Teletext_type* field in teletext descriptor for subtitling pages is set to 'Teletext subtitle page for hearing impaired'.
- FAB FT-DVB PRO functionality was moved into FT-DVB software. FT-DVB PRO does not exist anymore.
- Service names in Service Description Table are now generated as 'FAB DVB <pid>'.
- Missing PCR PIDs are reported for teletext and restamping.
- 'Normal' and 'hearing impaired' subtitle page numbers and languages are configured separately in the teletext output PMT.
- Modified PCR_PID generation in the PMT table. PCR_PID is set to internal PCR PID when stream is locked to that PID and to 8191 in all other cases.
- All PIDs referenced by an external PCR can optionally be put into one PMT.
- Internal PCR stream is only transmitted if referenced from at least one PMT.
- Repetition rate can be configured for each AIT.
- When subtitle is dropped due to a bitrate limitation, a detailed timing information for previous three subtitles is logged.
- State of receiving PCR PIDs is logged on every change.
- State of incoming signal is logged whenever input bitrate drops to zero or is restored.
- FAB DVB Monitor
 - PCR status is displayed for teletext and restamped streams.
 - Scrollbar is shown under the information grid when form is too narrow to display all columns.
 - Full column header text is shown as a hint if column is too narrow to display full text.
 - Full cell text is shown as a hint if cell is too narrow to display full text.
 - PTS/PCR difference is displayed for restamped and teletext streams.
 - Received bitrate is displayed for teletext streams.
 - PTS/PCR diff statistics is displayed for teletext outputs.

FAB PCIe Card

- Apology teletext pages are transmitted correctly when HD-SDI is used.
- Stability is improved when live video is displayed on the PC monitor

Note: Customers with software under warranty or with a valid support contract can download the latest version of FAB Software from:

<http://www.fab-online.com/fwa>

Visit www.fab-online.com for more information