

# EBU-TT Production: Challenges & Opportunities

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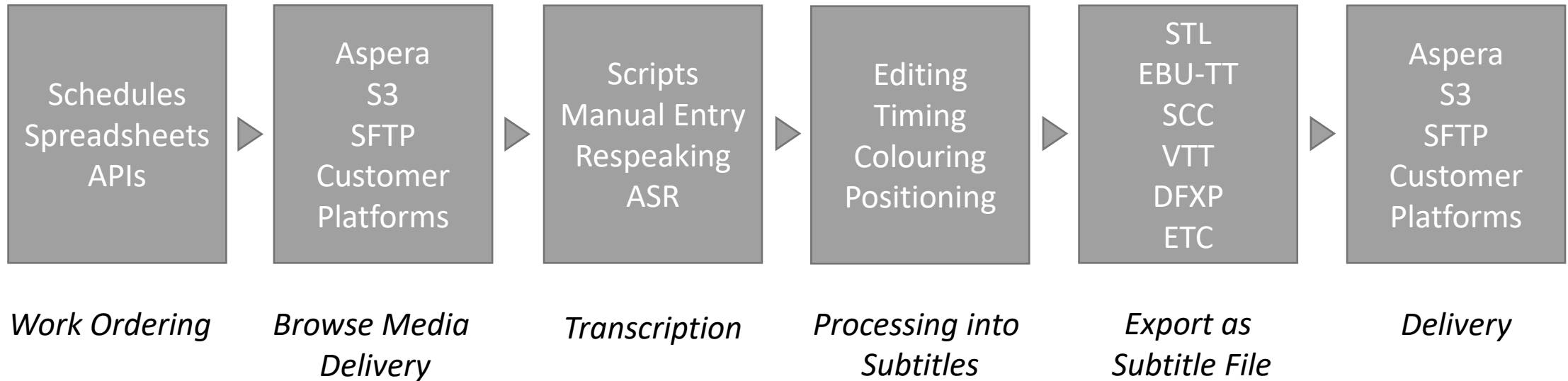
WOW. AND NEXT.

# EBU Production

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# TYPICAL WORKFLOW

## File Subtitle Production



# SUBTITLE EDITORS

## WinCAPS Q4



The screenshot displays the WinCAPS Q4 subtitle editor interface. On the left, a video player shows a scene of a tropical beach with palm trees and the subtitle "Diving to the ocean bed on a single breath of air". Below the video player is a playback control bar with a timecode of 00:00:50:00. To the right of the video player is a subtitle list with 13 entries. The 9th entry, "Diving to the ocean bed on a single breath of air", is highlighted in blue in the list. Below the subtitle list is a configuration panel with various settings for file properties, subtitle defaults, timecode modification, media, and file operations. At the bottom right, a status bar shows "Default Default English Open XY: 192.464 Size: 335.80 9 of 89 PAL INS".

WinCAPS Q4ntum - Demo.w32

EDIT FIX REPI

Timeline AK+2 Compact AK+3

Line	Text	Start	End	Duration
5	I am entirely blessed to be able to test myself in that environment.	00:00:23:21	03:18	00:00:27:14
6	Tanya uses this ability to dive to great depths without any equipment	00:00:30:02	03:21	00:00:33:23
7	Using only the air in her lungs	00:00:34:02	02:14	00:00:36:16
8	It's called "Freediving"	00:00:36:22	02:00	00:00:38:22
9	Diving to the ocean bed on a single breath of air	00:00:40:06	02:15	00:00:42:21
10	is an ancient skill among pearl and sponge fishermen.	22:00:00:00	00:00	22:00:00:00
11	She's in the Caribbean to regain a lost world record	22:00:00:00	00:00	22:00:00:00
12	One of her rivals recently hit 136 meters	22:00:00:00	00:00	22:00:00:00
13	Now Tanya needs to go deeper	22:00:00:00	00:00	22:00:00:00

00:00:50:00

Messages | Speaker List | Checks | Find

File Properties: Timing rules, Personality, Language, Font, Background, Safe Area

Subtitle defaults & preferences: Colour, Position, Punctuation & Size, Splicing

Timecode modification: Offset & Status, Clear, Re-Sync, Compress, PAL/NTSC Conversion

Media: Wizard, Files, Video Sync, Chapter Breaks, Import Breaks, Clear Breaks

File: Locking, Audit Trail, Line21 Conversion

The section start is highlighted in blue, in the subtitle list

Default Default English Open XY: 192.464 Size: 335.80 9 of 89 PAL INS



## Challenges

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- We first adopted EBU-TT with the BBC
- EBU-TT not initially natively supported by subtitle editors
  - Convertors incorporated into delivery workflows
- **Playout equipment do not natively support EBU-TT**
  - EBU-TT Pt 2 used, with STL included in the header.
- **Having multiple deliverables for production staff is challenging**
  - We have people produce files as STL and then convert
  - Additional metadata is inserted in EBU-TT from associated files
    - Production scripts (Character names, etc)
    - Shot change information
    - Production information



## Current challenges

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### ■ Archive conversion is hard

- EBU-STL is ambiguous when converting to a richer format, particularly on positioning
- A lot of trial and error over many, many months to successfully convert archive material

### ■ Improved Conversion

- Learnings from above have allowed us to convert an internally developed converter
  - Serverless deployment for highly scalable and cost effective processing
  - Extremely high accuracy with any ambiguous positioning
  - Pulls metadata from many locations in the production chain
  - Deploying this solution for our largest customers



- EBU-TT Pt 3 is available for live subtitling
- Based on transmission of a single document per subtitle
- Websockets generally used for transmission
- We have developed a solution and demoed with the BBC
- Only actively using with one customer currently for a web endpoint. No broadcast inserters currently support it.

# OPPORTUNITIES

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## Enriched Captions

```

<tt:p xml:id="C98" region="R4" begin="01:04:33:15" end="01:04:37:07" style="S3"><tt:span style="S7">Everything</tt:span><tt:span ttm:agent="sp7" style="S7"> from the home-
<tt:p xml:id="C99" region="R4" begin="01:04:37:07" end="01:04:39:16" style="S3"><tt:span ttm:agent="sp7" style="S7">You're, like, the easiest person</tt:span><tt:br /><tt:
<tt:p xml:id="C100" region="R5" begin="01:04:39:16" end="01:04:41:21" style="S3"><tt:span ttm:agent="sp7" style="S9">Louise!</tt:span><tt:span ttm:agent="sp7" style="S4"> .
<tt:p xml:id="C101" region="R4" begin="01:04:41:21" end="01:04:43:15" style="S3"><tt:span style="S9">I have to say,</tt:span><tt:br /><tt:span style="S9">whatever you're d
<tt:p xml:id="C102" region="R4" begin="01:04:43:15" end="01:04:45:18" style="S3"><tt:span style="S9">it's lovely to see Louise</tt:span><tt:br /><tt:span style="S9">lookin
<tt:p xml:id="C103" region="R5" begin="01:04:45:18" end="01:04:46:24" style="S3"><tt:span style="S9">It is!</tt:span></tt:p>
<tt:p xml:id="C104" region="R4" begin="01:04:46:24" end="01:04:50:03" style="S3" ttm:role="mood=feelgood"><tt:span ttm:agent="sp55" style="S5">We are very happy.</tt:span>
<tt:p xml:id="C105" region="R4" begin="01:04:50:03" end="01:04:52:13" style="S3" ttm:role="product=champagne, www.waitrosecellar.com/all-wines/wine-type/champagne"><tt:spa
<tt:p xml:id="C106" region="R5" begin="01:04:52:13" end="01:04:53:24" style="S3"><tt:span ttm:agent="sp7" style="S4">and her beautiful mother, and...</tt:span></tt:p>
<tt:p xml:id="C107" region="R4" begin="01:04:53:24" end="01:04:56:16" style="S3"><tt:span ttm:agent="sp7" style="S12">Thank you!</tt:span><tt:span ttm:agent="sp7" style="S
<tt:p xml:id="C108" region="R5" begin="01:04:56:16" end="01:04:58:00" style="S3"><tt:span ttm:agent="sp7" style="S4">It's really nice.</tt:span></tt:p>
<tt:p xml:id="C109" region="R4" begin="01:04:58:00" end="01:05:01:06" style="S3"><tt:span ttm:agent="sp7" style="S9">Well, it's lovely to welcome you</tt:span><tt:br /><tt:
</chapter>
<chapter xml:id="chapter3">
<tt:p xml:id="C110" region="R4" begin="01:05:01:06" end="01:05:05:01" style="S10" ttm:role="music=youre the one for me, great good fine ok"><tt:span>MUSIC: You're The One
<tt:p xml:id="C111" region="R5" begin="01:05:06:08" end="01:05:09:01" style="S3"><tt:span style="S9"># Show me where the love has gone</tt:span></tt:p>
<tt:p xml:id="C112" region="R5" begin="01:05:09:01" end="01:05:12:10" style="S3"><tt:span style="S9"># You're the one for me... #</tt:span></tt:p>
<tt:p xml:id="C113" region="R4" begin="01:05:12:10" end="01:05:14:21" style="S2" ttm:role="product=dog, www.battersea.org.uk"><tt:span ttm:agent="sp78">Look, trust...</tt:
<tt:p xml:id="C114" region="R4" begin="01:05:14:21" end="01:05:18:19" style="S2"><tt:span ttm:agent="sp78" style="S8">I think he likes me now, though.</tt:span><tt:br /><t
<tt:p xml:id="C115" region="R5" begin="01:05:18:19" end="01:05:20:18" style="S3"><tt:span ttm:agent="sp78" style="S9"># You're the one for me... #</tt:span></tt:p>
<tt:p xml:id="C116" region="R4" begin="01:05:20:18" end="01:05:24:06" style="S2"><tt:span ttm:agent="sp78">Oh! His little paws.</tt:span><tt:span ttm:agent="sp95" style="S
<tt:p xml:id="C117" region="R4" begin="01:05:24:06" end="01:05:26:07" style="S3"><tt:span ttm:agent="sp95" style="S6">but I think</tt:span><tt:br /><tt:span ttm:agent="sp9

```



## Other Opportunities

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- **Conversion for other end points is easy**
  - Being used to drive OTT for all sorts of end points. Vastly superior to STL, VTT or other formats for unambiguous description of presentation intent
- **Enhanced metadata allows more presentation options**
  - Do you want speaker tags, or colour changes, or dashes for a new speaker – you decide!

A hand holding a lit torch against a dark blue background. Sparks are falling from the flame. A flag is visible on the right side of the frame.

Thank you

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