Subtitle
Review & QC

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Providing subtitles or captions as part of a broadcast service or as part of VOD and Catch-up services is a requirement in many territories, either for hard of hearing access services or for language translation of foreign language content.

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For the subtitle and caption components a range of automatic and assisted manual approaches may be considered. Fully automated subtitle file QC is suitable for checking technical conformity and timing and this area is covered in detail in the Automated subtitle QC White Paper. For information on monitoring subtitles and captions in a real-time broadcast service see the Subtitle Monitoring in Broadcast Whitepaper.

Where a manual review of all video and audio media is part of the workflow it is possible to add subtitle review, even where multiple subtitle languages are required, to the process.

In a single language workflow this is a fairly simple process where the subtitles can be added to the video during review and any discrepancies noted and fed back for correction. In most cases the subtitles or captions will be for access services and so in the same language as the original audio and so understood by the operators.

In a multi-language workflow the challenges include displaying multiple languages in parallel, allowing visualisation of the subtitle positioning on the screen and working in conjunction with existing review workstation.
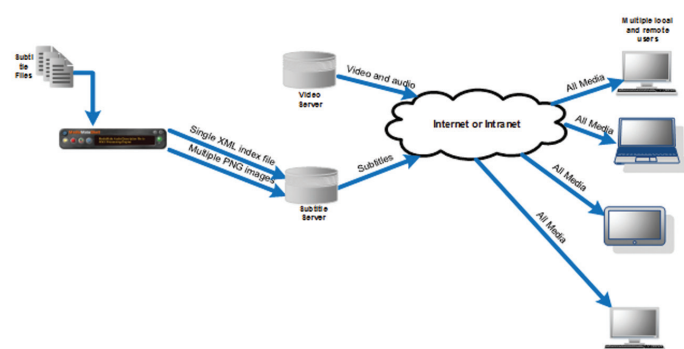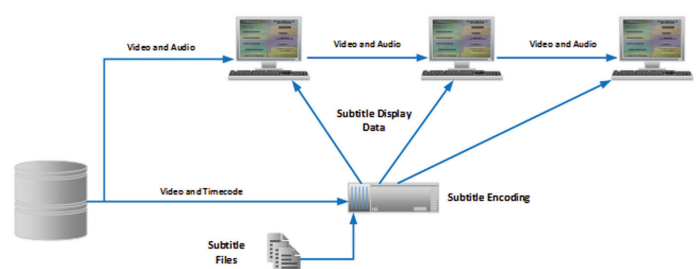
Ideally a review should be carried out using the final versions of all the media assets and using the same automation system that will be used for final playout. This will provide an exact simulation of the final output.

Because most subtitles are encoded and inserted at the time of playout the only subtitle or caption media available is a subtitle file so to provide a true representation of the output the subtitles need to be encoded in the same way as they will be on playout. This requires a duplication of the subtitle encoding chain.

A full duplication of a broadcast chain may be uneconomic but by packaging all the components required into a Review Workstation this can be simplified and the cost reduced. Also by supporting multiple review workstation based on desktop PCs the cost and flexibility of the system can be optimised.

The review operator needs to see all the languages on a single screen to give a top level check that all required languages are present and that the timing looks correct. Inevitably the operator won't understand all the languages required but by displaying all languages concurrently it will very quickly show if any language is missing or incorrectly timed.

Incorrectly timed subtitles are a common problem caused by errors in the file, mismatch between the subtitle file start time and the video master timecode or the wrong subtitle being selected for the media. By viewing all languages simultaneously these errors will be spotted quickly.

With the move to distributed working practices and IP delivered content there is a need to provide matching subtitle support. Where video and audio can be delivered over IP to any workstation in a broadcast facility, or even externally, then multiple language subtitle preview must also be available on the workstations.

In a more conventional broadcast preview scenario video and audio signals are provided at a workstation and displayed on monitor quality equipment. Multi-language subtitle review can be provided either over the main video monitor or on a secondary subtitle monitor with or without video. This has the advantage that multiple subtitle languages can be displayed on a secondary monitor without obscuring the video on the main monitor. By combining video, audio and subtitle review into a single workstation and as one operation considerable savings can be made.