

Standardisation of Series Recording on DTT

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The BBC, ITV, Channel 4, Channel Five together with Sony have developed a technique for introducing series-recording feature on DTT in advance of any future TV-Anytime deployment.

The technology proposed supports four key pieces of functionality: -

- Series Recording
- One for one recommendations
- Alternate instance recording
- One touch record for split events

(See appendix 1 for further details).

The proposal requires the addition of some extra information into the current EIT schedule and EIT p/f tables through the use of the content_identifier_descriptor as defined by DVB as part of the Carriage of TV-Anytime over DVB specifications¹.

Using a copy of the backup central collator system the BBC has assembled example test streams. Sony have developed a prototype DTT receiver with recording capabilities which decodes the enhanced signalling and enables series recording from within an EPG application.

The BBC has assessed the required capacity to add this signalling into the cross-carried EIT schedule service within each multiplex at approximately 13kbit/s². The extra signalling passes successfully through the key elements of the existing SI infrastructure including the SIPSI.

Where possible the BBC has tested the signalling against existing and legacy set top boxes and found no issues. Further testing against the ITV Technical Centre receiver "zoo" has also shown there to be no compatibility issues.

It is not possible with the current central collator system to generate the new signalling, however it is possible with the backup system at Broadcasting House and will become possible when Siemens replaces the main Television Centre system during summer 2006.

The update of the central collator will require the re-engineering of the various schedule interfaces so effectively this feature can be implemented on DTT with very little additional cost within the shared SI infrastructure.

¹ See Section 12 of ETSI TS 102 323 for further details

² This is based upon extrapolating the BBC use of series and CRIDs to all other DTT services.

The key tasks fall to the individual broadcasters (or their metadata providers) to produce the relevant metadata to support the features. This is likely to require some enhancements to existing metadata generation systems (e.g. BBC SID system, ITV Genesys system) and also the Arqiva distribution systems for D34.

The individual broadcasters have all indicated their support for the features and are now ready to initiate projects to implement the changes required in their metadata systems. Many broadcasters are already generating much of the metadata required for use on other platforms.

The technology is limited to the functionality already outlined. There are many reasons why a full deployment of TV-Anytime would offer further enhanced service propositions. This proposal should not be seen as a barrier to TV-Anytime but rather as a first step for DTT. It is an enabler, which starts to get broadcasters to look seriously at managing unique programme numbers within their infrastructure.

TDN Executive has given its support to the proposal and wish to see the standardisation of the proposal.

Freeview have been made aware of the proposal and are supportive.

As part of the rollout of this technology it is hoped that improvements will also be made to the timing accuracy of EIT p/f by the broadcasters. This should enable the provision of better PVRs on DTT.

Risks

The technical risks for this are considered minimal. The main risk is one of forward compatibility with any future TV Anytime service. With suitable design this is minimal.

By enhancing the EIT schedule the need to maintain some form of EIT schedule service in the future after a TV Anytime launch is strengthened.

The main risk comes from broadcasters supplying poor quality metadata, which would result in a poor user experience, as there is no centralised quality control of the metadata on DTT.

Next Steps

We request that the DTG Technical Council creates a work stream to take the existing proposals, review and amend accordingly then incorporate into the D – Book. We suggest the best forum for this is the existing DTG SI sub-group.

We also request that the same group consider the issues of appropriate signalling and expected receiver behaviour to enable the design of better PVRs.

We also wish to work with DTG Testing Limited to develop a suitable set of test streams to enable receiver compliance testing. This will require that DTG Testing develop a set of EIT p/f display accuracy and EIT schedule tests in readiness.

We also request that in readiness for any launch DTG Testing test for legacy issues in the current receiver zoo. Suitable test streams are available now from the BBC.

The work needs to be done to enable a potential service launch for autumn 2006.

Appendix 1 Feature Set Explanation

The key features are outlined below. Not all features need to be implemented and there are different metadata requirements for each feature. Since many broadcasters already support series recording on Sky+ then this is felt to be the easiest feature to introduce.

Series Recording

This feature allows the broadcasters to group events into series – much as the current Sky+ offering. However the individual events can be separated in time by up to 1 year. Events within a series do not need to be on the same channel. This feature is available for any form of service i.e. TV, Radio.

One for one recommendation

This feature allows a broadcaster to recommend via the EPG an event from another event. So for example the BBC may use it to promote a BBC Radio 3 event from a BBC 2 TV event. The recommendation can be TV to TV, Radio to TV, Radio to Radio, or TV to Radio. The only restriction is that the recommended event must be within 8 days (or the EPG scope) of the event which is recommending it. There can be no explanation as to why the event is being recommended – that needs a full TV Anytime service.

Alternate instance recording

With suitable programme unique identifiers from the broadcaster it is possible for a PVR to identify if the same programme is available at a different time or different channel. Hence if the PVR is unable to fulfil all the requests made of it, it can re-schedule automatically the acquisition of the desired content. It can also use this information to ignore repeats of content it may already have recorded. For example the BBC may use this functionality to indicate that the Eastenders episodes on BBC 3 are a repeat of those on BBC 1.

One touch record for split events

If an event such as a film is split by a short news event the consumer must remember to record each element of the content. This feature enables the broadcaster to signal all the constituent elements of a piece of content. When the consumer selects any element via the EPG the whole event can be booked for recording automatically.