TSDeveloper 1.00
A development tool for the creation and play out of MHP and MHEG transport streams.

TSDeveloper is a package of client and server software that allows a team of MHP or MHEG developers to view and test applications on real set top boxes and IDTVs in a representative broadcast environment. This provides authors with immediate feedback on how applications will behave when transmitted by broadcasters. Applications may be developed with consideration for all target platforms and therefore with consideration for real end-user experience, something that simply cannot be accomplished using desktop emulators alone.

The system outputs a DVB Transport Stream configured for use by developers and partitioned into multiple services. The transport stream contains logical spaces into which interactive applications and audio / video content may be inserted. TSDeveloper Server presents these logical spaces to application authors allowing each to take ownership of one or more television ‘channels’. S&T’s TSBuilder tool is included to enable an administrator to reconfigure the ‘broadcast’ environment.

User-defined Audio and video components can be included in a project allowing authors to choose which A/V service they want to include on their owned television channels. This feature allows the author to see exactly how applications look when running alongside real television content. This can be very useful for simple tasks such as organising loading procedures and layout of on-screen assets. It can also become a fundamental requirement when testing applications that relate directly to specific A/V content.

The TSDeveloper Client user interface allows the author to insert applications into the current transport stream and, for testing dynamic applications, allows continuous dynamic updates to data. The author can also alter parameters allowing specification of exactly how an application will be broadcast:

- Multi user local broadcast environment for application developers
- Simple user interface allows authors to optimise broadcast file system during the development cycle
- Fine control of:
  - file grouping
  - group repetition rate
  - group compression
- User defined audio and video insertion
- Supports DVB systems including:
  - DVB MHP
  - UK MHEG
- MHP Object Carousel
- MHP AIT (DVB-J and DVB-HTML)
- Multi-program transport streams. Allows each developer to take ownership of a group of TV channels.
- Multiple shared or private object carousels.
- ‘Pack-and-go’ function allows the developer to pass their application plus DSMCC and AIT information onto broadcasters for simple insertion into a real broadcast multiplex.

Files that may be required in the set top box at the same time may be grouped together thus making use of common set top box caching models.
• File-groups may be assigned relative priorities. For example the main class and initial on-screen assets could be placed into a small, high priority group ensuring a very fast booting application.

• Groups may be selected for compression prior to broadcast. Module compression can make more efficient use of available bandwidth.

Once the development cycle is complete the project can be ‘packed’ for simple insertion into a real broadcast environment. S&T’s broadcast tools easily import projects in this way. Integration of TSScheduler with automation systems can ensure timely application play out and lifecycle control.

**System Requirements**

TSDeveloper requires Sun Solaris 8 and is normally delivered on a SunBlade 100 workstation with ASI output already incorporated.

TSDeveloper clients will run on virtually any Java2 platform under JRE1.3.+

Platforms supported are:-

Sun Solaris

Microsoft Windows NT/2000

Other platforms are available on request.

**Related products**

**SoftOC** – Creation of transport streams including Object Carousels from XML coded description. Includes full Stream Event support and other functions.

**TSMux** - A real time audio / video / data multiplexor that can take several transport stream files and sockets as input, outputting a single MPEG2 transport stream at a nominated data rate.

**TSBuilder** – Administration and design of complete or partial transport streams containing one or more DVB MHP or MHEG-5 application or spaces into which applications and AV may be dropped using TSDeveloper.

**TSPlayer** – Play out of transport streams over ASI to TSM / TSP, to Tandberg EDC/EDI or standard Ethernet into a broadcast multiplex.

**TSScheduler** – Automate the creation and update periods of data services on a user-defined basis or through triggers from an existing automation system.

**MHPExpress** – a package including TSDeveloper and the GEAR MHP development tools supplied by SNAP2 Corporation

Note: Developer versions of software are licensed for populations of 25 or fewer receivers.

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