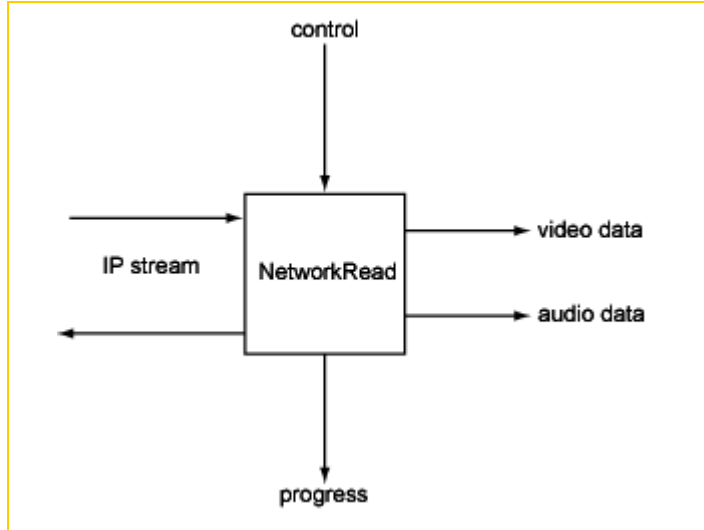


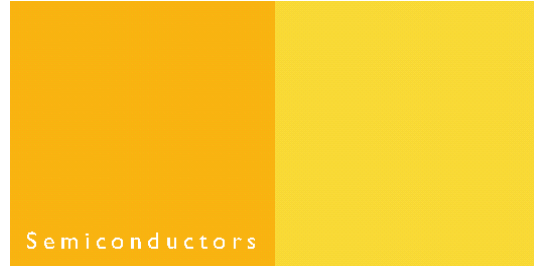
Introduction

NetworkRead is a TSSA compliant software library that sets up and maintains a video-on-demand session over an IP network for streaming MPEG-4 content.



Key features

- This component is DVP-compatible.
- The NetworkRead component is ISMA level 1 profile 0 and 1 compliant.
- The NetworkRead component demultiplexes MPEG-4 video (ISO/IEC 14496-2) and MPEG-4 (ISO/IEC 14496-3) CELP and AAC audio.
- The NetworkRead component supports session control using RTSP (RFC2326).
- The NetworkRead component support audio/video reception over RTP (RFC1880).
- The NetworkRead component supports jump, pause and resume functionality.
- The Networkread component offers audio/video streaming over TCP & UDP.



General Information

Description

The NetworkRead component takes in an IP stream on one or several socket connections. In case audio and video data are interleaved with the session control data, all are transferred over one TCP connection. Otherwise session control data is exchanged over a TCP connection, while audio and video data are streamed over separate UDP connections (two UDP connections per media; one for RTP data and one for RTCP data).

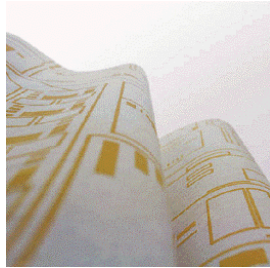
Audio and video data are demultiplexed by NetworkRead and redirected to TSSA queues, for delivery to the respective decoders.

Documentation

The software requirements specification document of the NetworkRead component is available.

NetworkRead

MPEG-4 Network Reader



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Technical Information

Memory Usage (excluding TCP/UDP stack)

Static Memory	7742 bytes
Text Memory	423314 bytes
Task Stack Memory	53248 bytes

Dynamic Memory (bit rate dependent)	
Object instantiation & internal buffers	+/- 250000 bytes
RTP video buffer	$\text{bufferSize} * \text{bitrate} / 8 * 1.5$ (bufferSize in seconds, bit rate in bit/sec)
RTP audio buffer	$\text{bufferSize} * \text{bitrate} / 8 * 1.5$
Socket reception buffers	983040 bytes

Example: 4.570 Mbit/sec MPEG-4 stream over UDP, 5 seconds buffer.

The dynamic memory budget equals:

Object instantiation	239245 bytes
RTP buffers	4284375 bytes (bit rate = 4570 kbps)
Totals:	4523620 bytes

Processor Load (including RPC TCP/IP stack)

CPU:DDR is 270:166

Stream	Load (in MCycles)
4.570 Mbit/sec A/V stream	10.678 MC (UDP) 17.226 MC (TCP)

Operating System Usage

Tasks (NDMX, NBUF,NRCV)	3
Semaphores	5
Queues	0
Mutex	5

Other Information

Supported Processors	TM1500
Build with Compiler Version	V7.0.1 of TCS V4.51(0168_Windows)

Related TriMedia TSSA Software Components

VdecMpeg4, AdecAac4, AdecCelp4

Example Programs

This library is shipped with an example program, exoIMpeg4, that demonstrates the use of the component

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