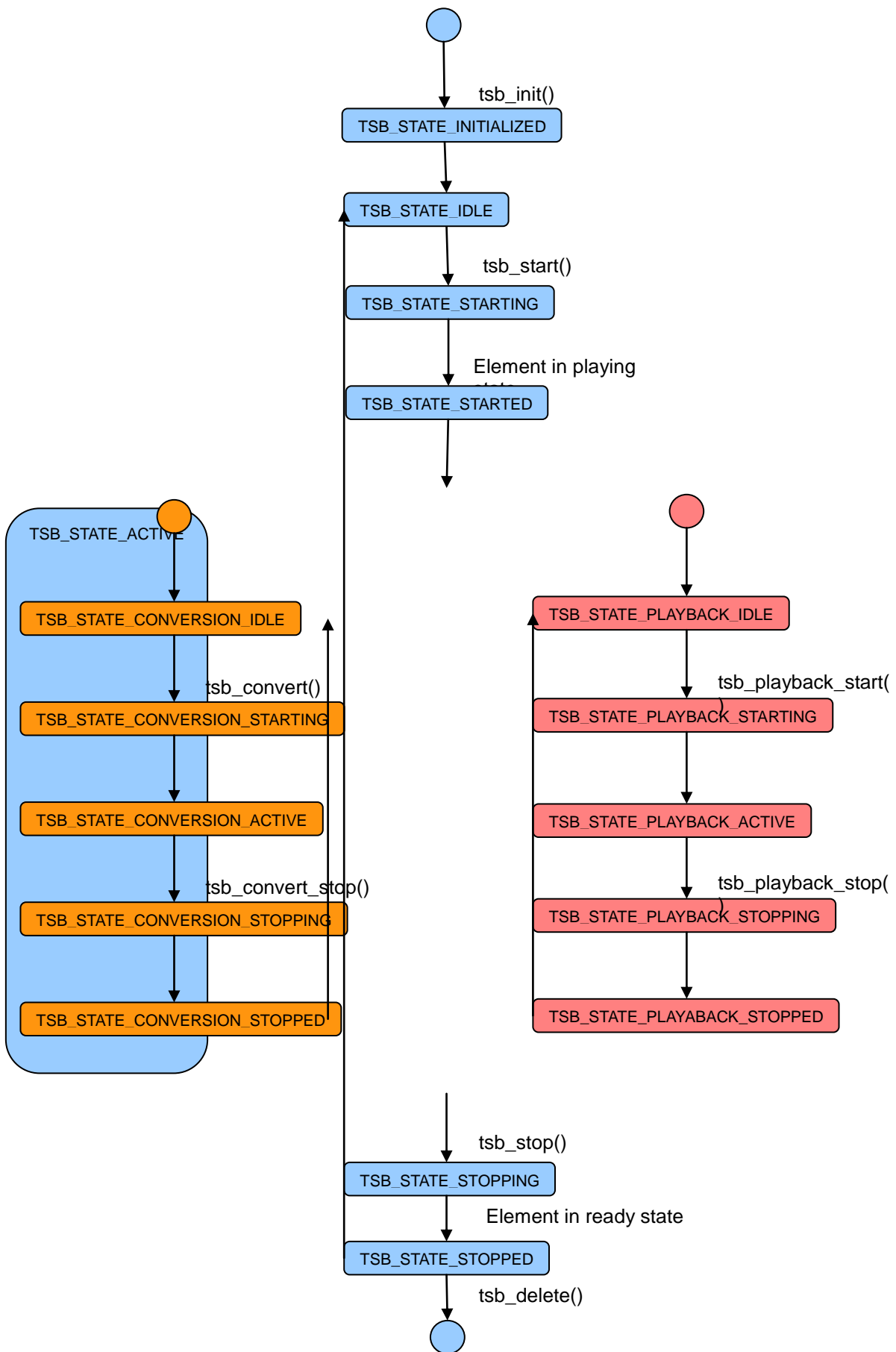


Time Shift Buffer state description

The intention of this document is to describe the states of the Time Shift Buffer (TSB) thread, as well as the transitions between those states. The goal is to make it very clear how this thread functions so that all parties involved in implementing the TSB functionality have a common understanding of what should happen when.

As currently implemented, the various states and stimuli are distributed in across multiple functions, as well as the tsb thread itself. Please make any comments/corrections as may be necessary.

Following is a proposed state diagram of the TSB thread and the relevant transitions. The various states, stimuli, and their related actions are captured in the tables that follow the diagram.



TSB State Descriptions

TSB States	Stimuli
	tsb_init() Save path and duration properties Instantiate TSB thread
TSB_STATE_INITIALIZED * Set indexinfilesink (IFS) state to 'NULL' * Set path and duration properties on IFS	
TSB_STATE_IDLE * Do nothing	
	tsb_start() * Set PID properties on IFS * Set IFS state to 'READY'
TSB_STATE_STARTING * Wait for transition to 'READY' state * If the IFS handle hasn't been saved, Save IFS handle * set IFS state to 'PLAYING'	
	IFS transitions to 'PLAYING' state
TSB_STATE_STARTED Send stack RI_DVR_EVENT_TSB_START	
TSB_STATE_ACTIVE Send stack RI_DVR_EVENT_TSB_STATUS	
	tsb_stop()
TSB_STATE_STOPPING * set IFS state to 'READY'	
	IFS transitions to 'READY' state
TSB_STATE_STOPPED * Send stack RI_DVR_EVENT_TSB_STOPPED	

TSB Conversion State Descriptions

TSB Conversion States	Stimuli
TSB_STATE_CONVERSION_IDLE	
	tsb_convert() Collect start time, duration, size parameters
TSB_STATE_CONVERSION_STARTING * Command IFS to begin conversion process	
TSB_STATE_CONVERSION_ACTIVE * Send stack RI_DVR_EVENT_CONVERSION_STATUS * Test for conversion complete?	
	tsb_convert_stop()
	Conversion complete (from active state)?
TSB_STATE_CONVERSION_STOPPING * Command IFS to stop conversion process	
	IFS indicates conversion stopped?
TSB_STATE_CONVERSION_STOPPED * Send stack RI_DVR_EVENT_CONVERSION_COMPLETE	

TSB Playback State Descriptions

TSB Playback State Descriptions	Stimuli
TSB_STATE_PLAYBACK_IDLE	
	tsb_playback+start() Collect start time, duration, size parameters
TSB_STATE_PLAYBACK_STARTING * Command IFS to begin conversion process	
TSB_STATE_PLAYBACK_ACTIVE * Send stack RI_DVR_EVENT_PLAYBACK_STATUS * Test for conversion complete?	
	tsb_playback_stop()
	Conversion complete (from active state)?
TSB_STATE_PLAYBACK_STOPPING * Command IFS to stop conversion process	
	IFS indicates conversion stopped?
TSB_STATE_PLAYBACK_STOPPED * Send stack RI_DVR_EVENT_PLAYBACK_STOPPED	