

Viewing LTTng traces with GTKWave

ivan.djelic@parrot.com

Sept 2013

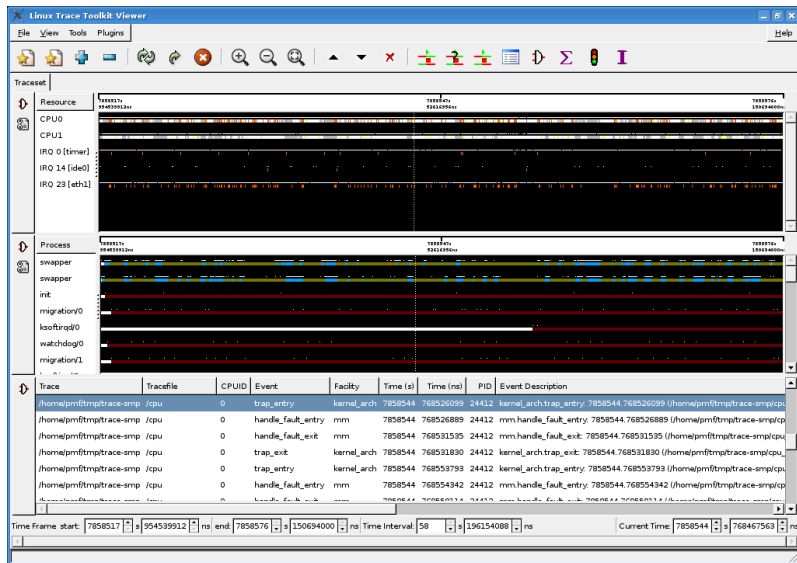
What is LTT ?

- ▶ Linux Trace Toolkit, appeared circa 1999 (<http://www.opersys.com>)
- ▶ Kernel patch + kernel module + userland daemon + tools
- ▶ Collects kernel event-data: interrupts, context switches, page faults, syscalls, etc
- ▶ Userspace events also supported
- ▶ Traces can be post-processed and viewed with LTTV
- ▶ LTT now superseded by LTTng (<http://lttng.org>)

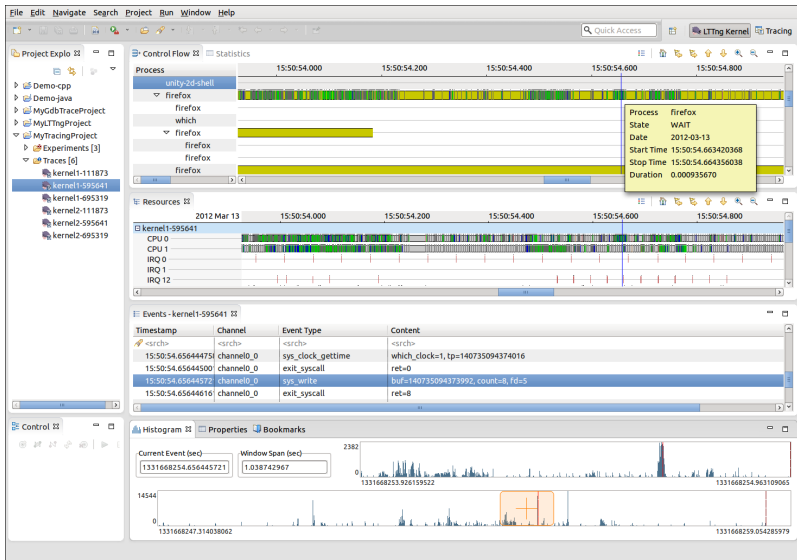
LTTng 2.x

- ▶ Released in 2011
- ▶ Advanced low-overhead architecture
- ▶ Kernel patch no longer needed !
- ▶ Uses new trace format (CTF, Common Trace Format)
- ▶ LTTV support WIP
- ▶ Eclipse plugin:
<http://www.eclipse.org/linuxtools/projectPages/lttng>
- ▶ LTTng 2.x/0.x events are different: no compatibility with old LTTng tools

LTTV for LTTng

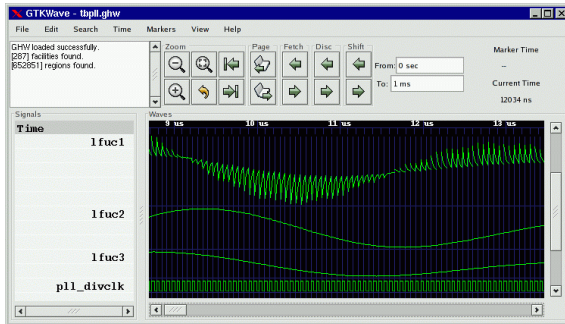


Eclipse LTTng perspective

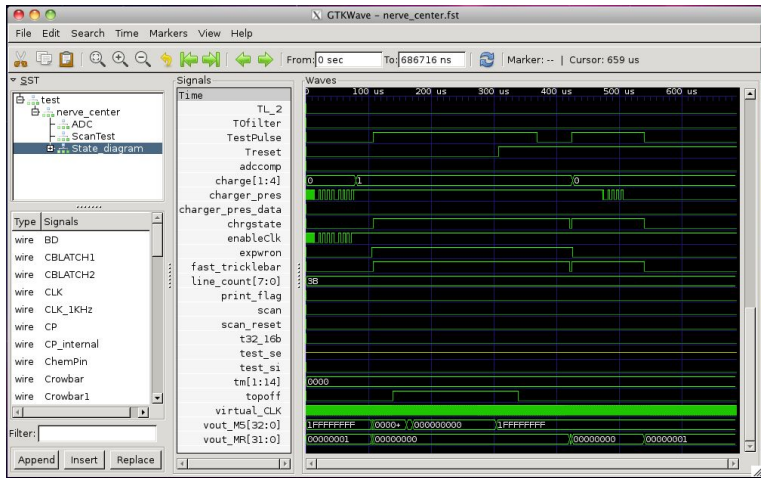


What is GTKWave ?

- ▶ GTK+ based waveform viewer
- ▶ Supports several file formats: FST, Verilog VCD, GHW, etc
- ▶ Handles large trace files and many trace signals at once
- ▶ Provides C library for creating traces in its native LXT file format



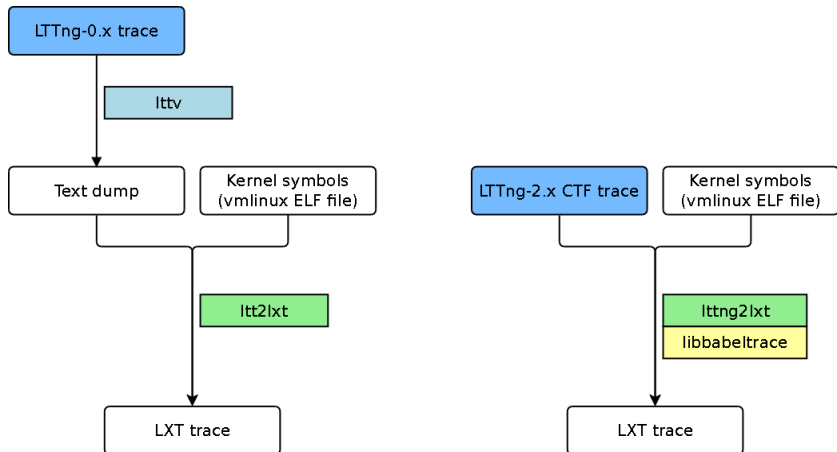
GTKWave in action



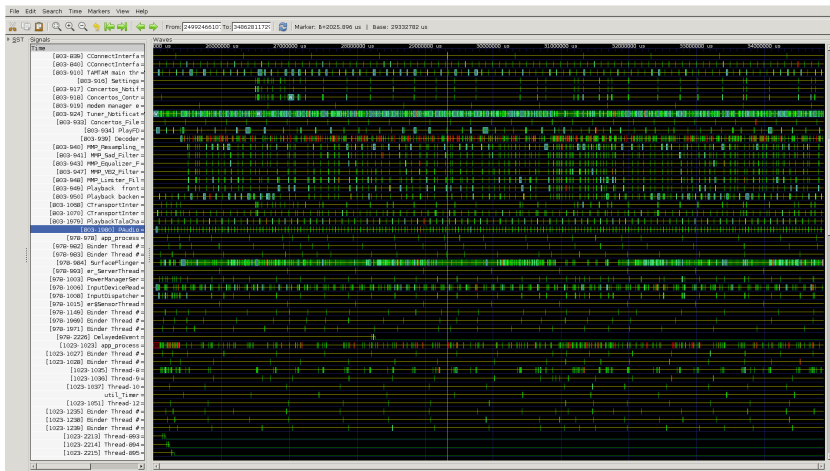
LTTng+GTKWave

- ▶ A tool called `ltt2lxt` parses an LTT trace and generates two files:
 - ▶ a `.lxt` file (an LXT trace)
 - ▶ a `.sav` file (a layout of the signals)
- ▶ Supports LTTng-0.x (legacy) traces, support for LTTng-2.x trace is alpha
- ▶ Kernel symbols optionally used to convert addresses into `function():line` strings
- ▶ Makes use of GTKWave nice zooming features
- ▶ Does not replace but complements LTTV and other tools

Conversion tools: ltt2lxt and lttng2lxt



An LTTng trace in GTKwave



To contribute...

- ▶ <https://github.com/idjelic/lttng2lxt>