

DAQ / Online

- Lots and lots of bigger and smaller problems ... but:
- **Most data are lost due to the triggerable**
 - In most stores initially <20% livetime, 30% after manual prescale adjustments
 - Much too long to get a new triggerable
- **Second most important:**
 - Flying wires
 - Trigger Inhibits
- **Some DAQ problems that caused data losses (not to mention pilot errors):**
 - **Level2 decision:** Alpha hangs, crate left in bad state by experts, ...
 - In one (short) run, L2 was rejecting although it shouldn't
 - New CPR noise handling code caused crashes → fixed
 - **Few TDC problems.** One TDC broke (COT) and was replaced, occasional errors from CMX TDC's, replaced/added TDC's in scintillator crate
 - SVT crates coldstart failures
 - Occasional (< 1/day) heap corruption/crashes of L1 Global crate → code fixed (?)
 - Many runs with 0 events in Stream A: wait until Stream A resembles "real" express stream
 - **RTServer (SmartSockets) problems** over the weekend
 - * No more nightly development rebuilds on b0dau30
 - * Reduce interactive use of b0dau30/b0dap30
 - Slow recovery if this happens, need more robust RC clients
 - * **CSL deadlock** due to multi-stream running (no free disk available, add more soon)

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- **Level3 and Event Builder**
 - Some causes of state transition failures fixed
 - 4 subfarms taken out because of low memory, one of which has also ATM problems
 - More low-level problems under study, improved diagnostics
 - **Serious problem of "crate hangs" since Saturday is under investigation**
 - Mostly calorimeter crates, readout times out during the run
 - Deadlock involving VxWorks shell and readout
 - **Prescaling confusion** - missing clear instructions about how and when to prescale manually → Fixed
- Some crates (observed in most trigger crates) get in a state where the readout performance is severely reduced (<100Hz with reasonable deadtime). Not understood, reboot cures the symptom
- Still observe run control out-of-memory crashes, despite all heroic attempts
- Smooth integration of additional Silicon, and read out XTRP Track Trigger board
- Nothing fundamental preventing us from taking quality data, but:
 - Should have (and use) a triggerable that is closer to "real" operating conditions
 - * ~ 10-50kHz L1 accept rate
 - * ~ 100-300Hz L2 accept rate (prescaling, maybe some filtering)
 - * ~ 50-100Hz L3 accept rate (real filters)
 - Suggest to run such a triggerable once per store. We may (will) find problems!