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A Safety Critical Linux System Reference with enabling preempt-rt feature

Linux is playing very well in the case of embedded system, and could be good candidate to IoT. But talking about IoT, especially IIoT, Industrial IoT, we run those essential systems across critical infrastructures so we need to deliver responsive capabilities in real time. Meantime, the software needs to be certified by different standards or certifications.

So in this talk, I hope we can review together if-how we provide a safety critical Linux system reference with enabling preempt-rt features, and any tips and guidance, etc. On my side, I'd like to see something goes as follows,

which safety level could be contributed by preempt-rt features? And why? how to further improve this.

Every system and user service are containerized in safety critical environment, but how can we enable preempt-rt into container? How to configure/tune this. Even new ideas on this.

It might be having real time system audit with hypervisor.

What is our plan or step after this discussion?

I agree to abide by the anti-harassment policy

Yes

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