

!CHAOS

A Cloud of Controls

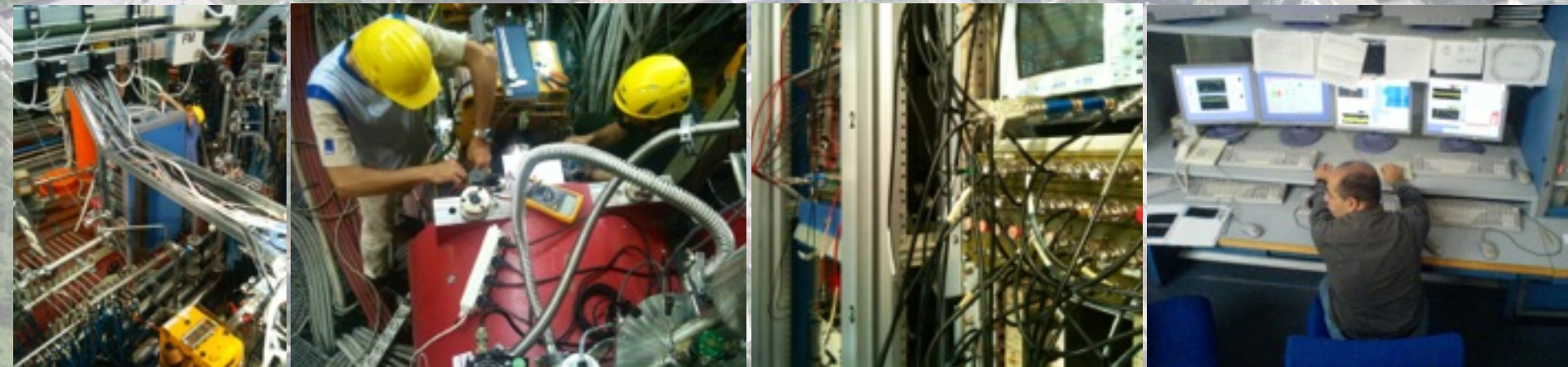
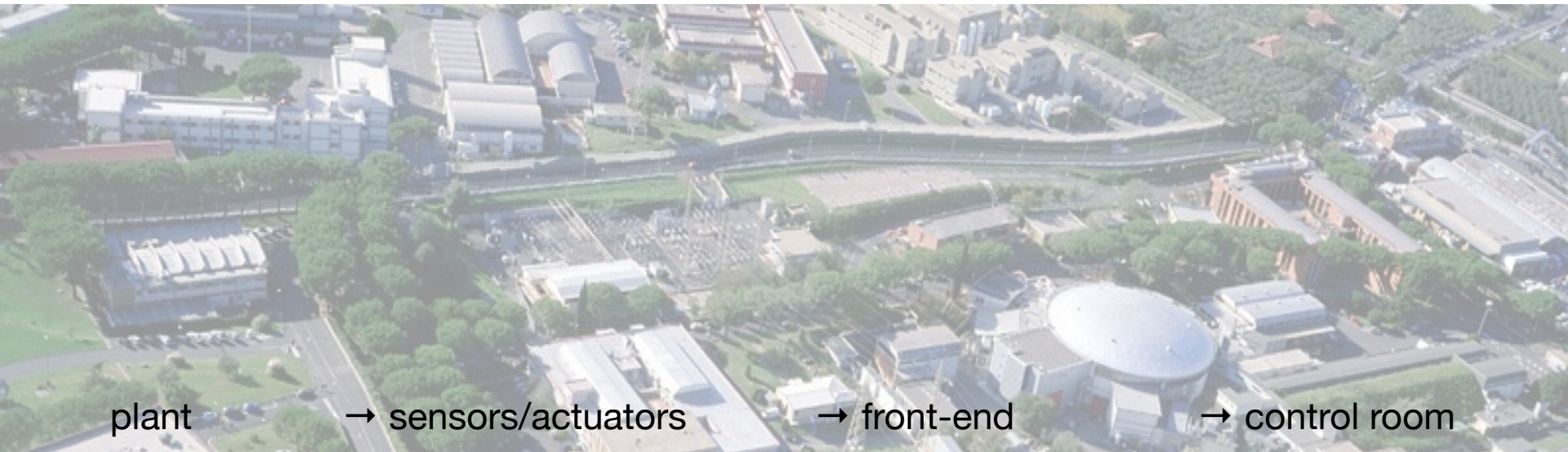
IFAE2015 Conference - Roma
10 Aprile 2015

F.Spagnoli on behalf of !CHAOS project

A Cloud of Controls

Design and implementation of a **prototype** of **Control as a Services**: an infrastructure at **national level** which offers a **cloud of services** and **procedures** distributed and shared over the LAN/WAN, to **monitor** and **control** any hardware device, system or intelligent component and which provides resources to processing services, data logging and archiving.

Why, when & where the project started



!CHAOS general objectives



To design a new Control System — using cutting-edge software technologies
— with the following aims:

-
-
-
-
-
-

!CHAOS is a *System that offers Services* rather than a mere *Control System*

!CHAOS general objectives



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- independence from the hardware
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- native integration of a DAQ system
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- compatibility with commercial standards

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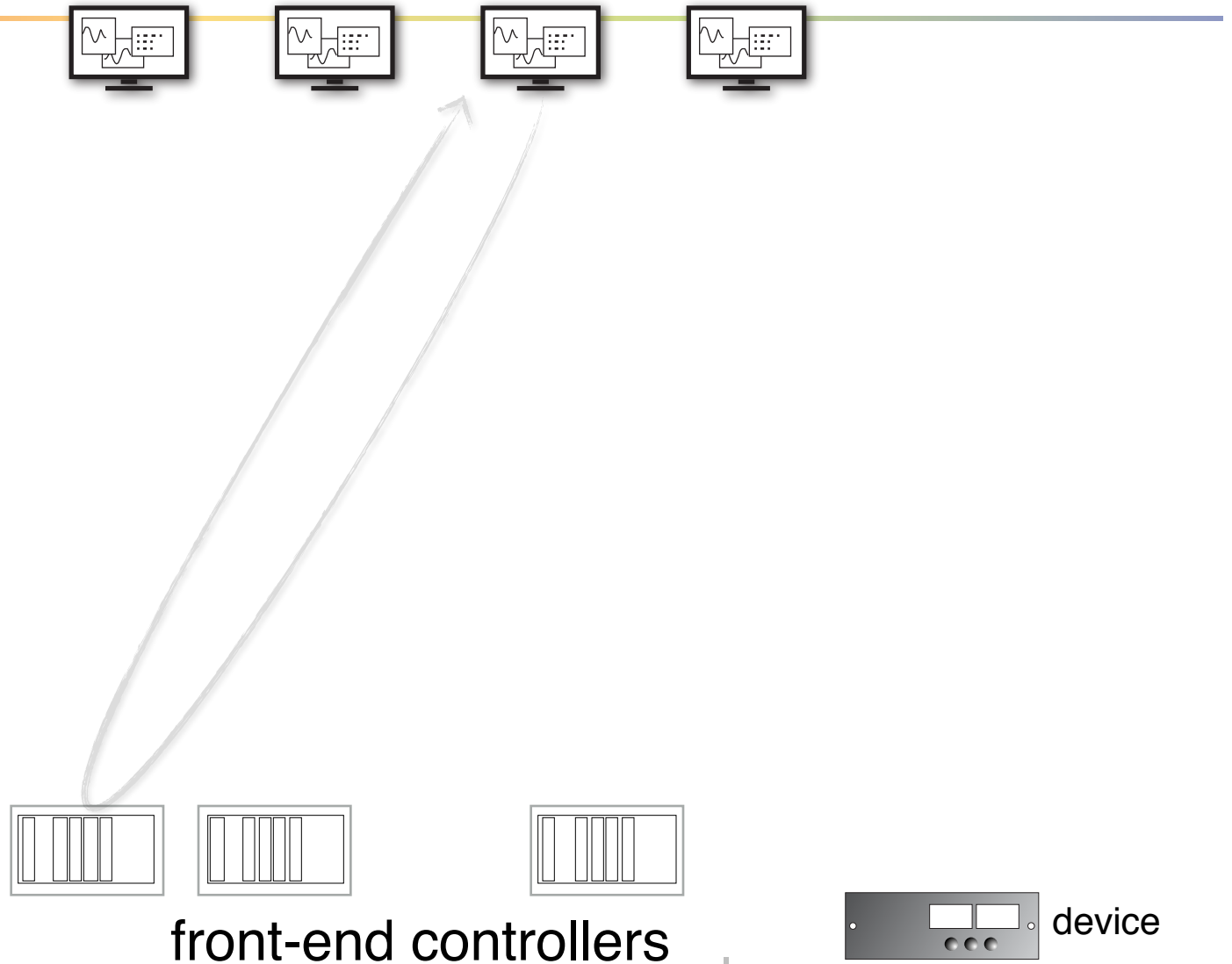


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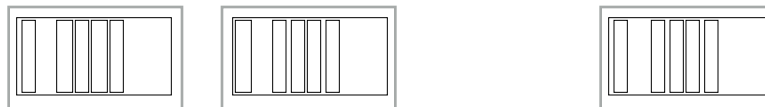
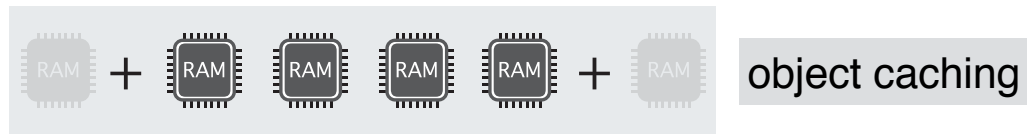
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control room



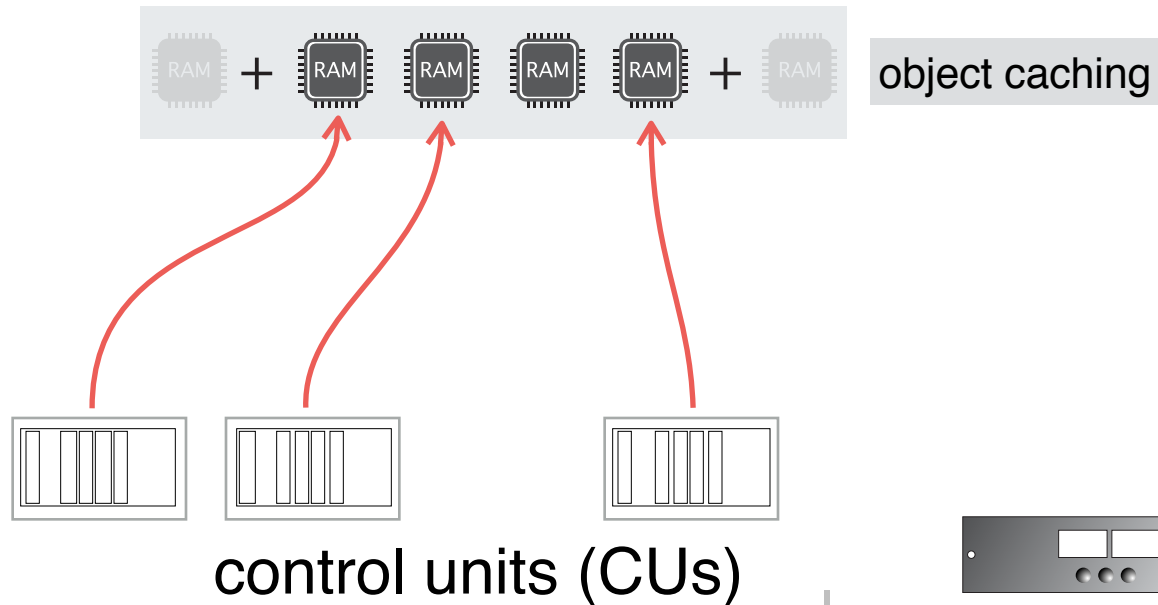
control room



control units (CUs)

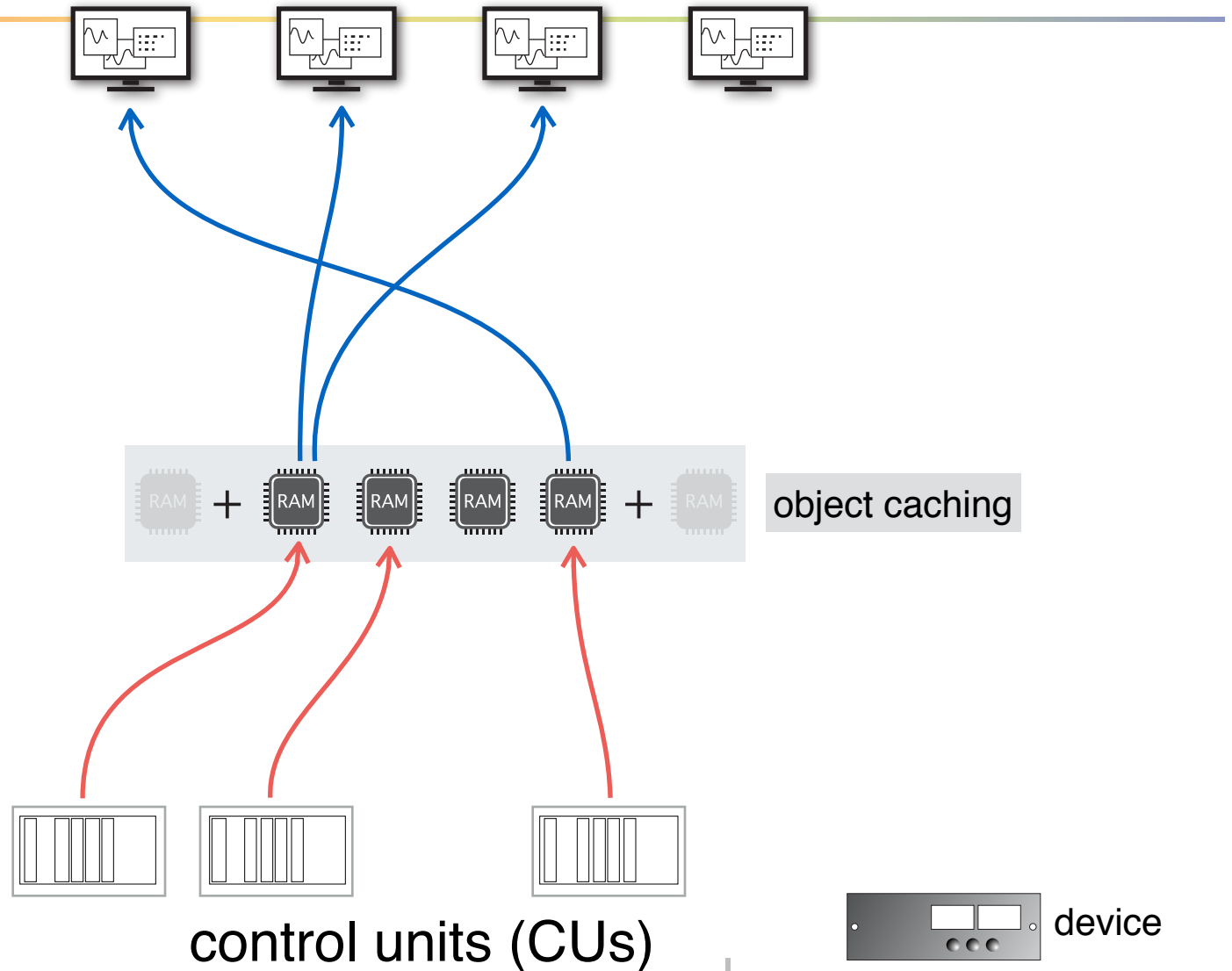


control room

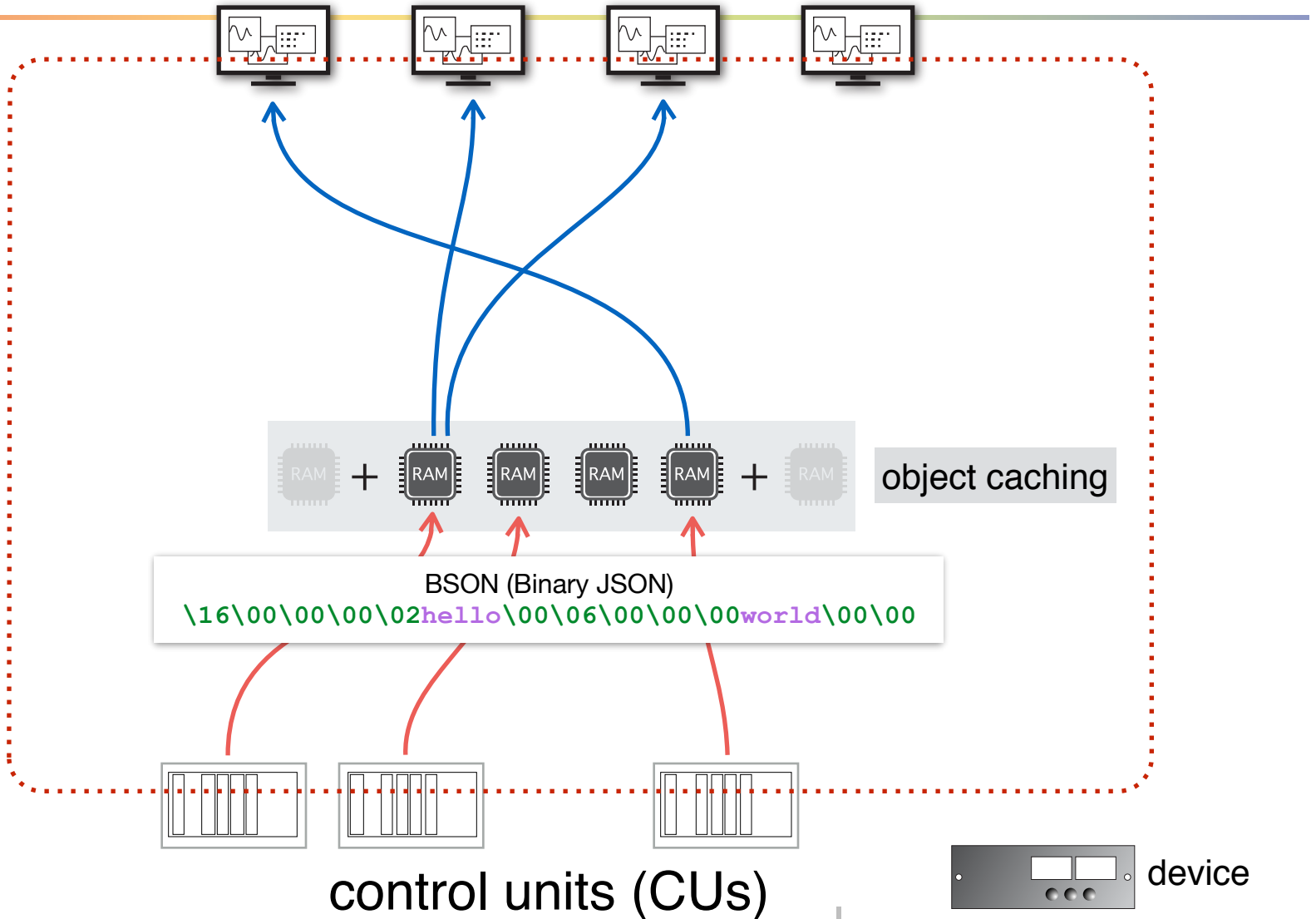


device

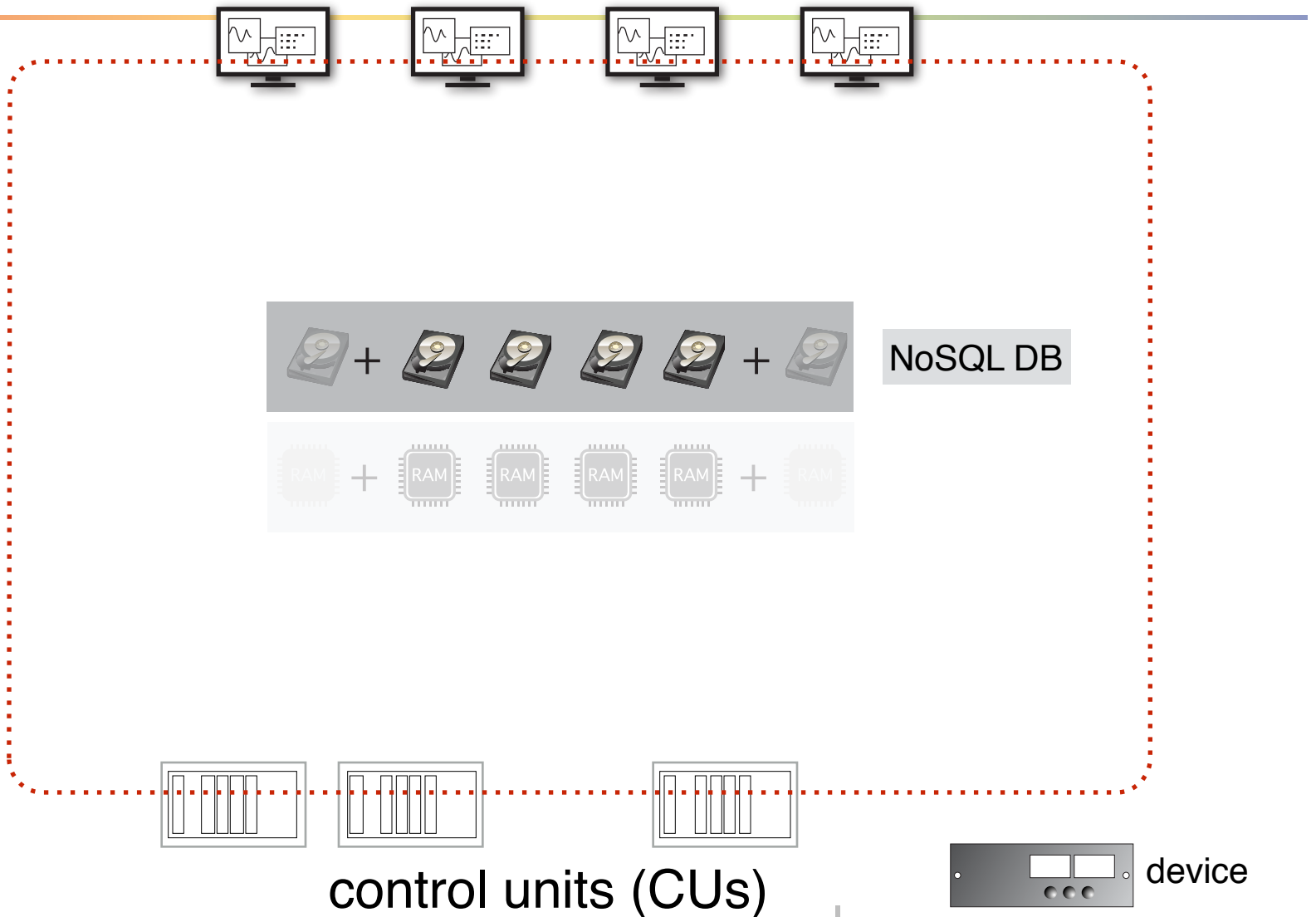
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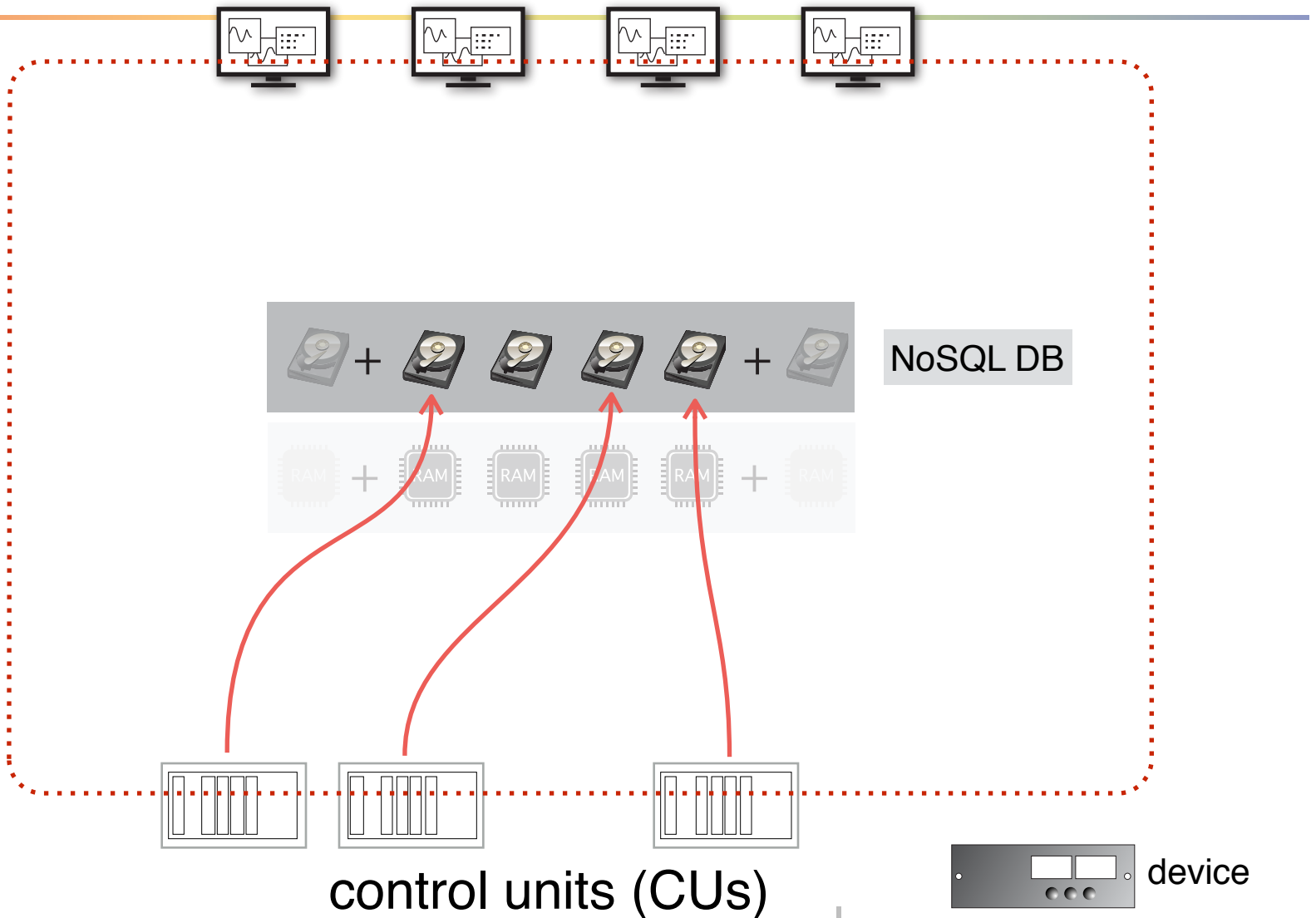
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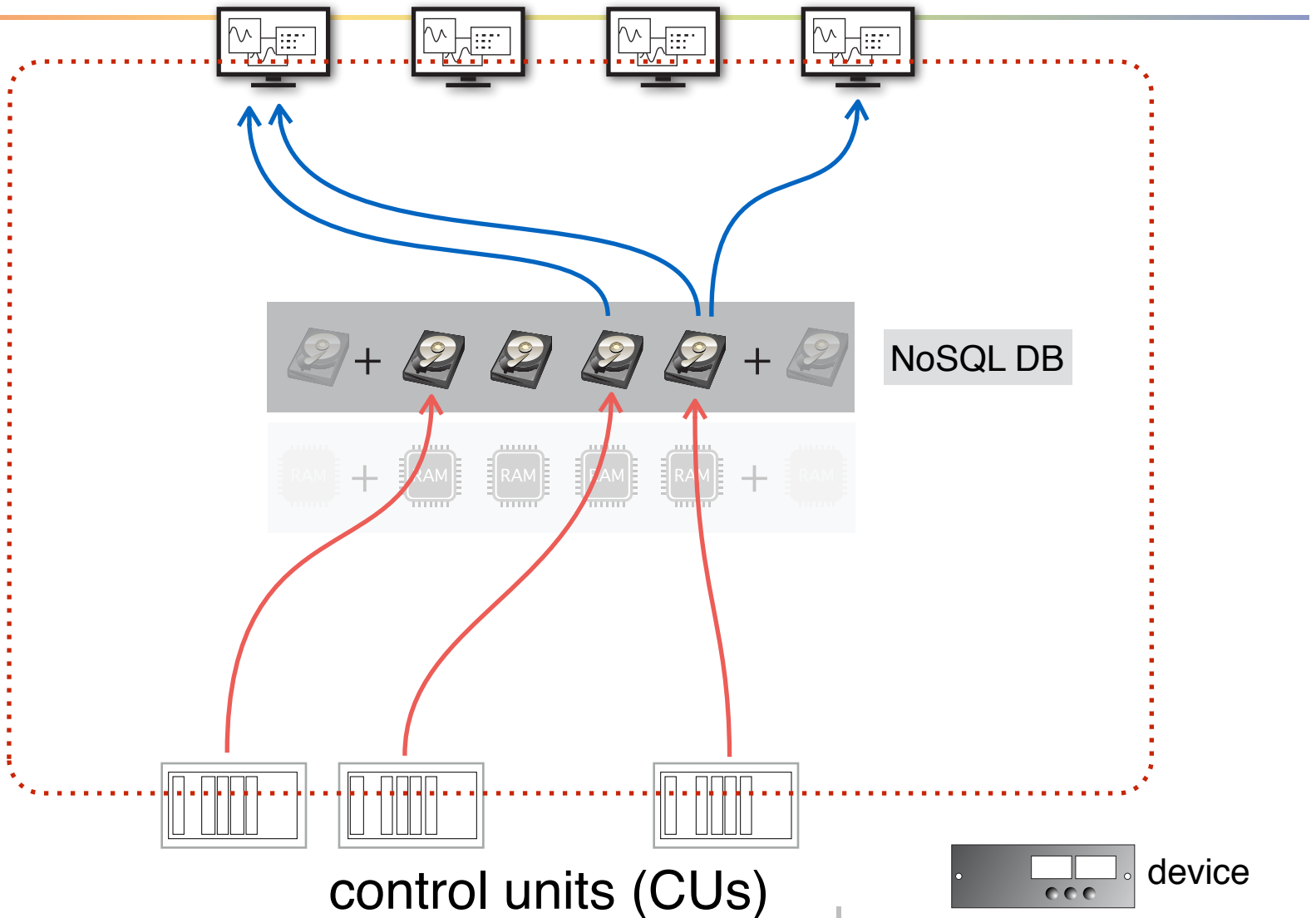
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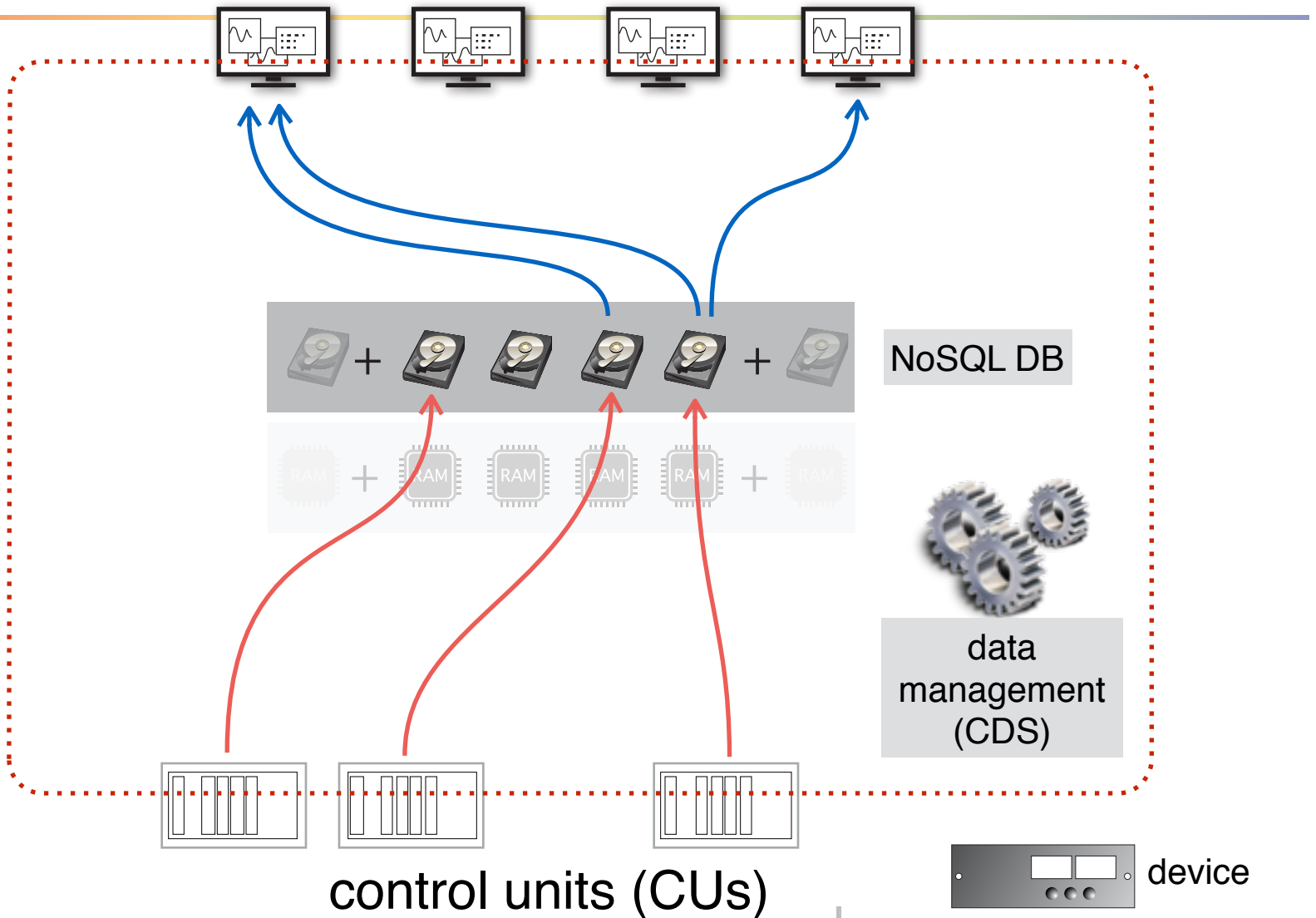
control room



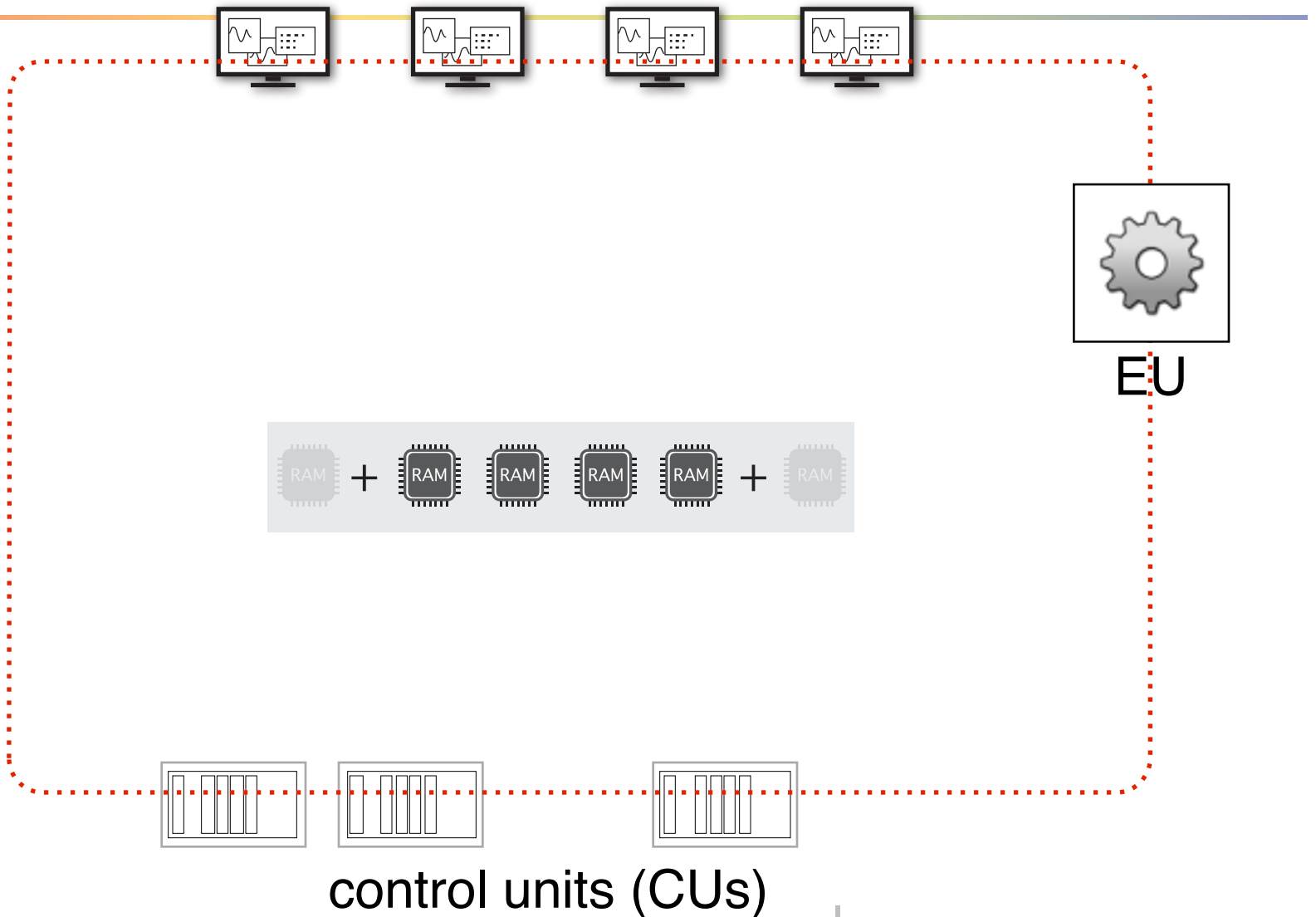
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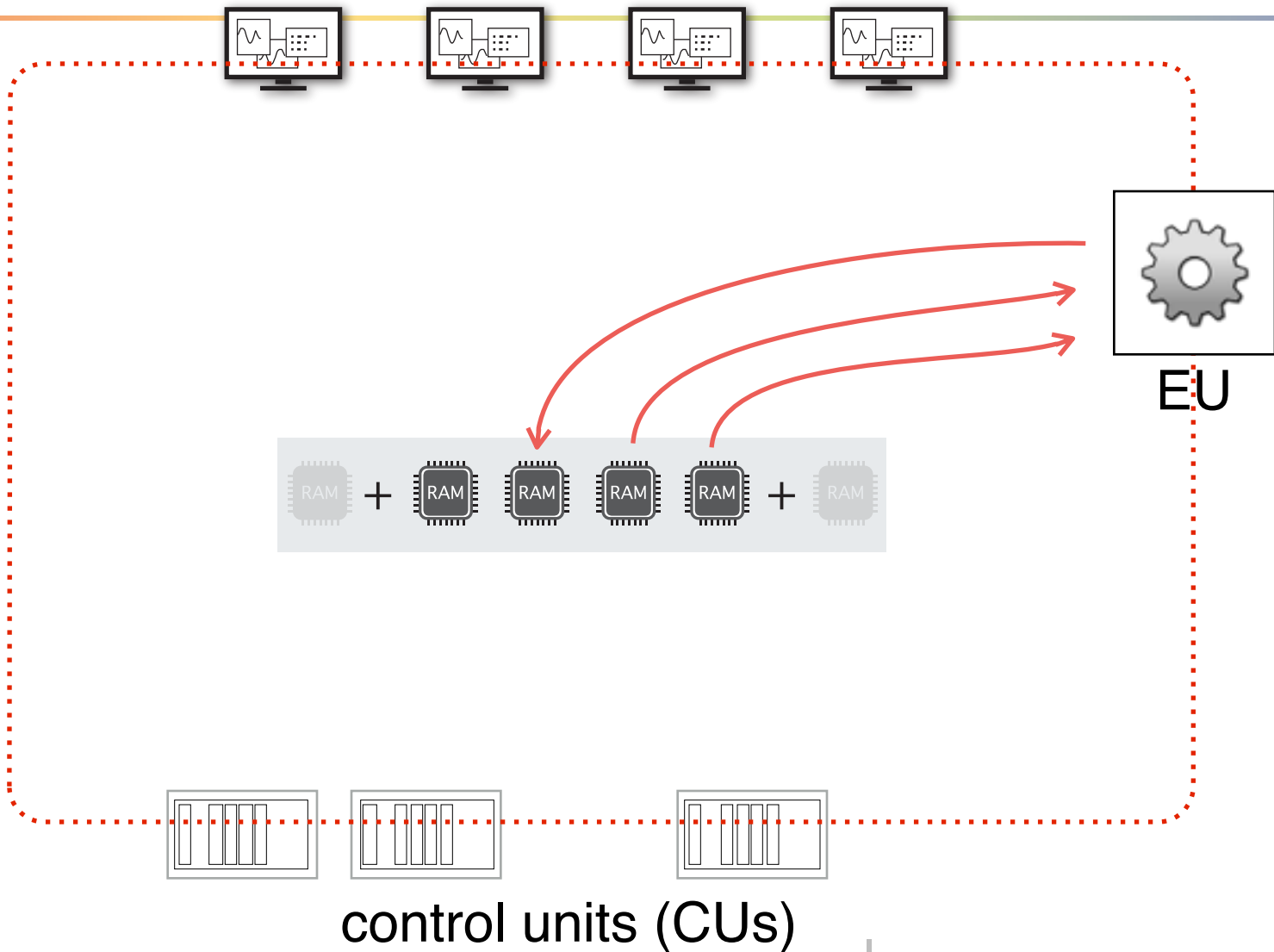
control room



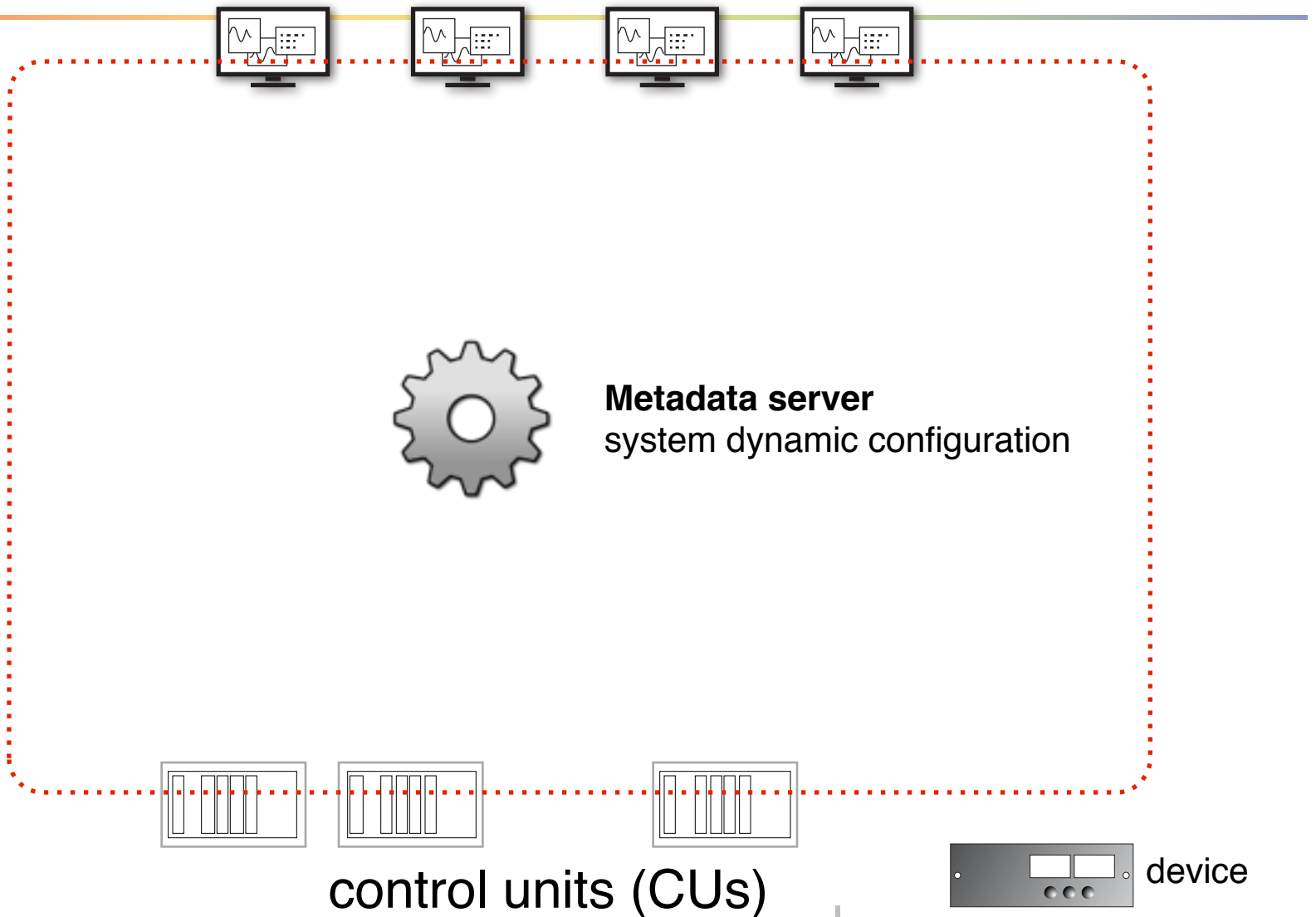
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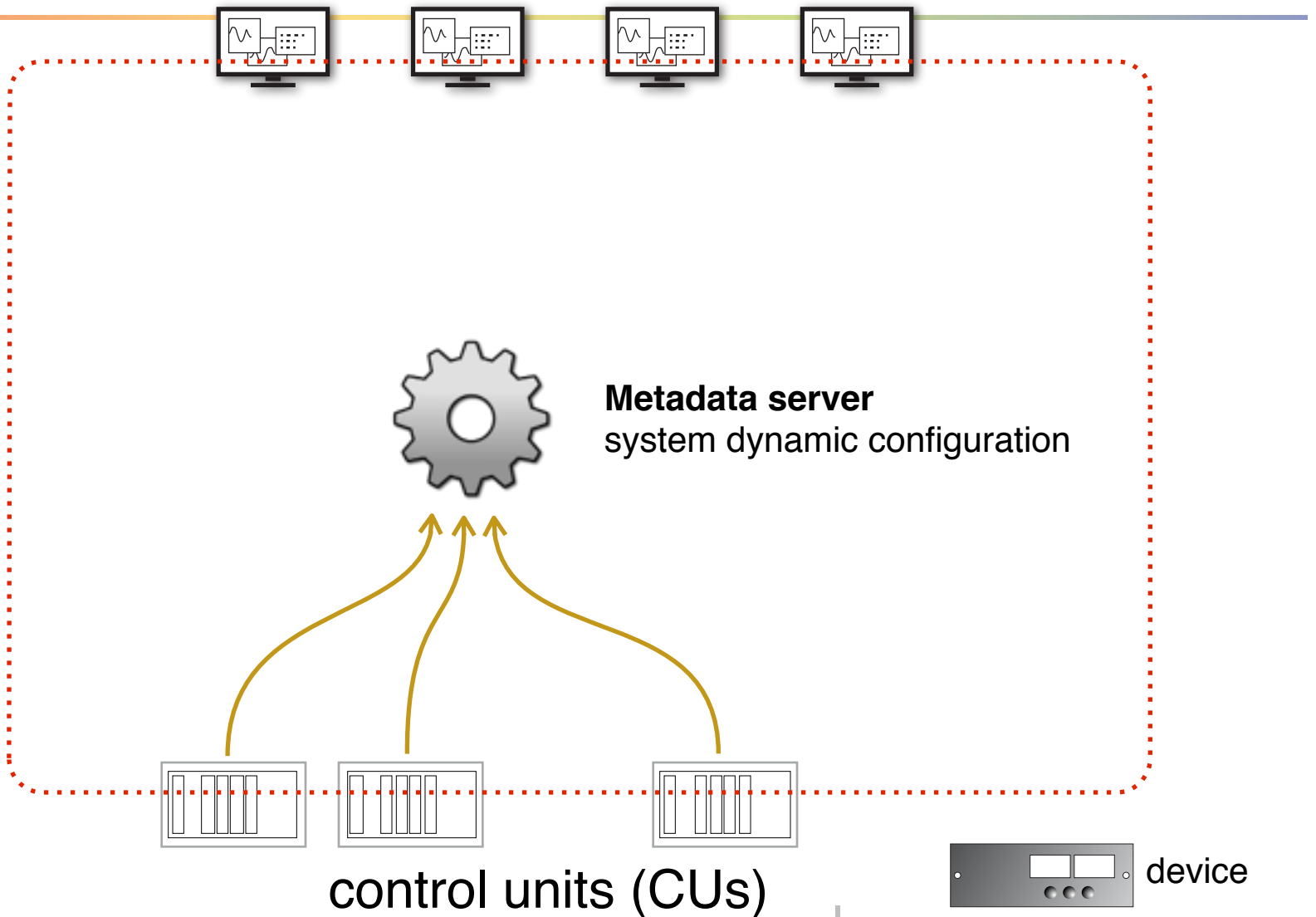
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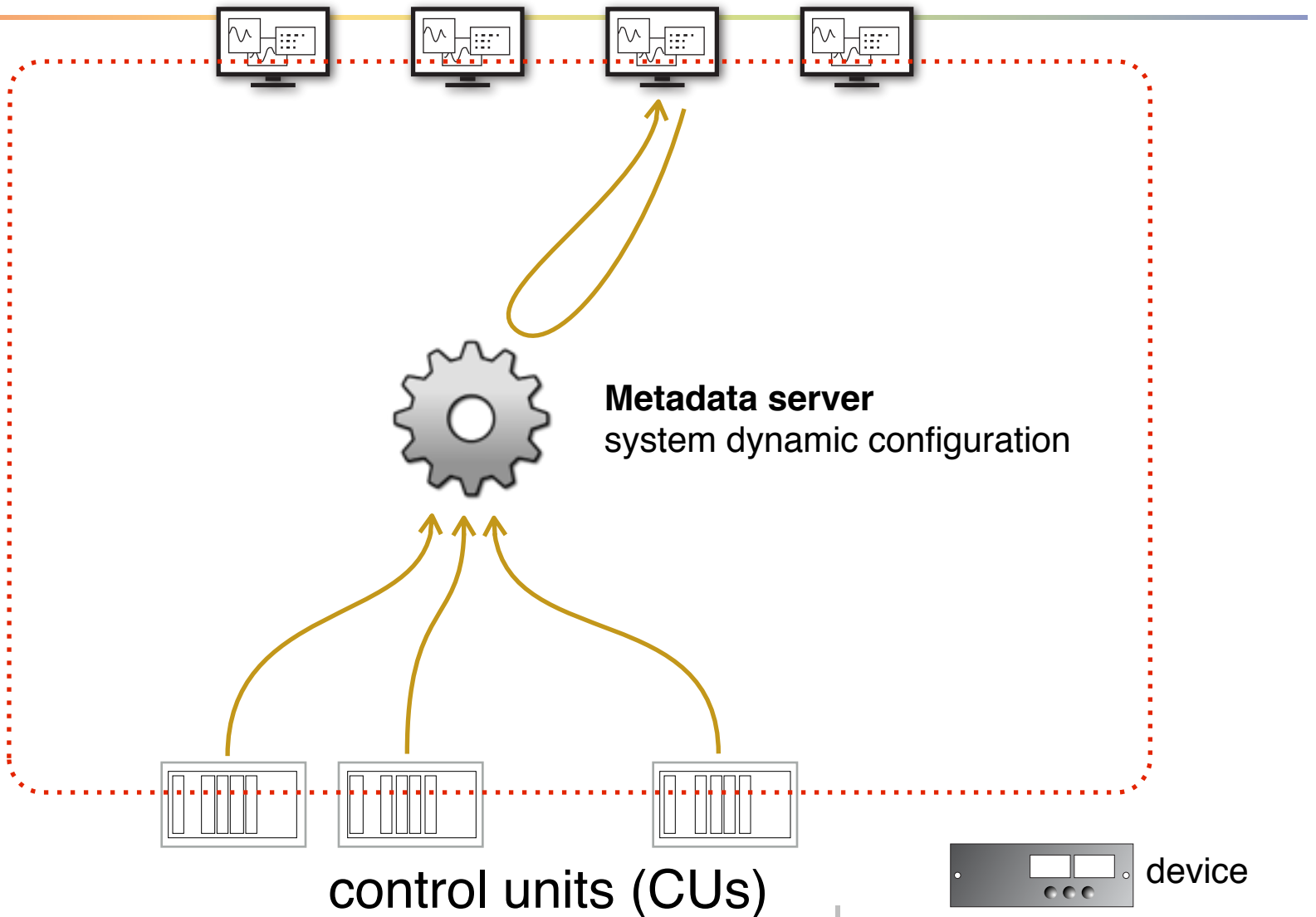
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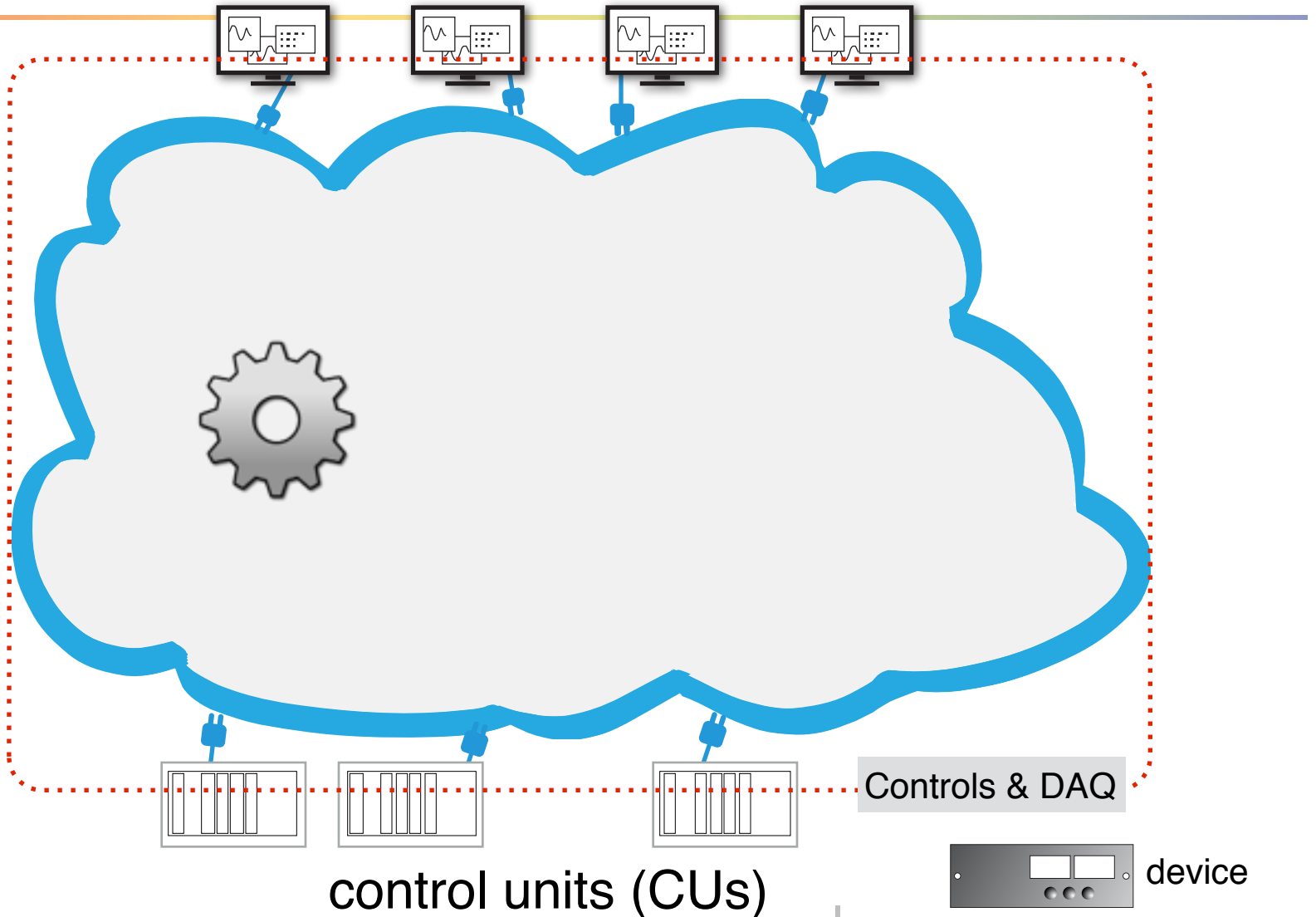
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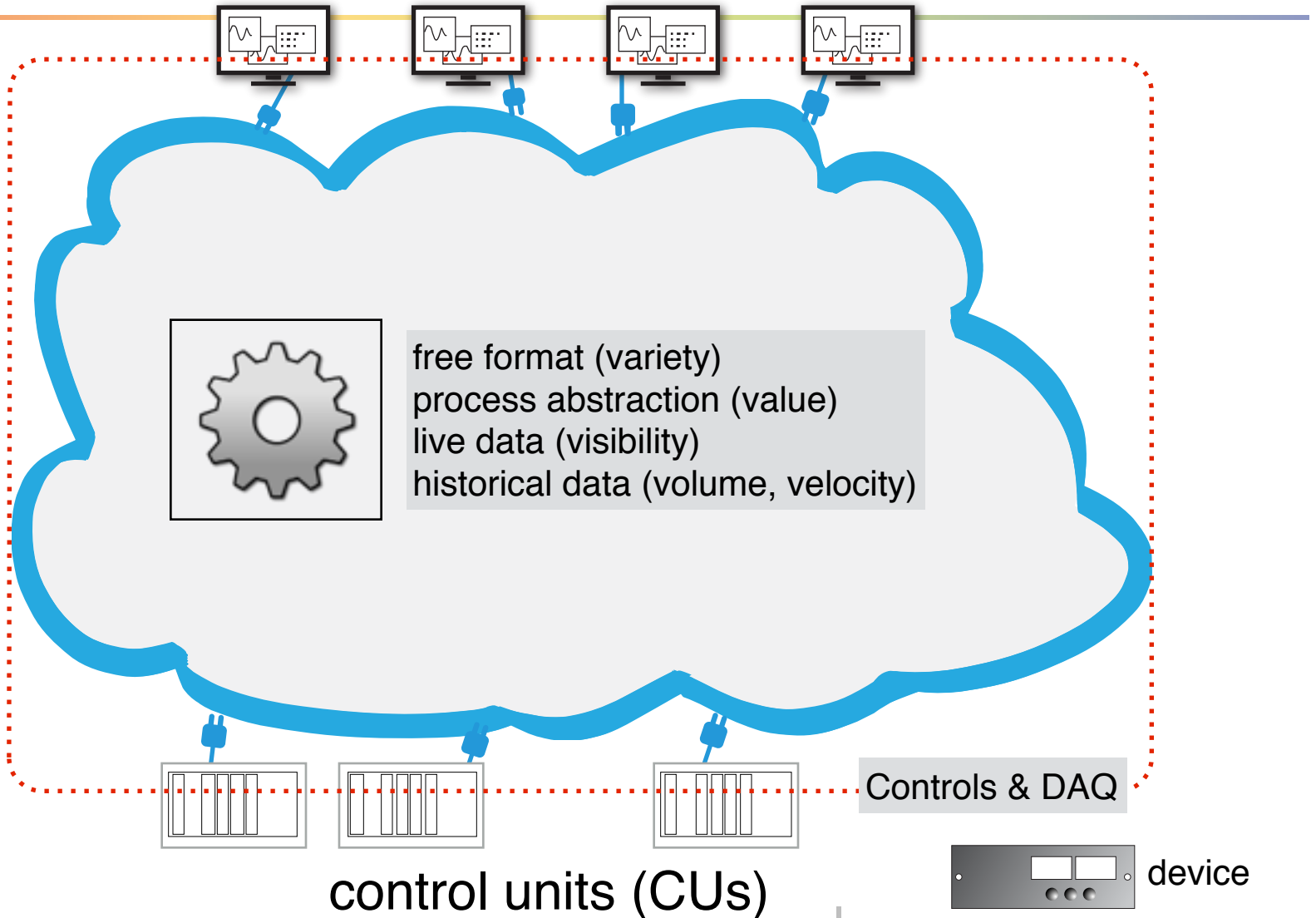
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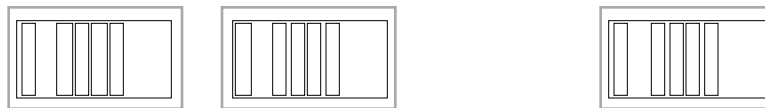
control room



control room

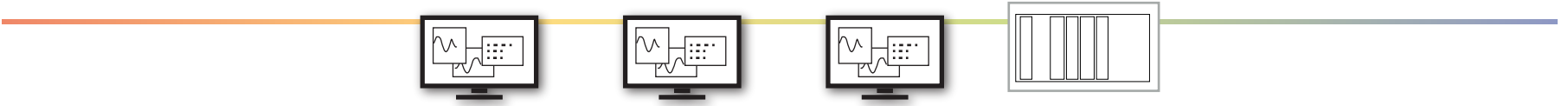


control room

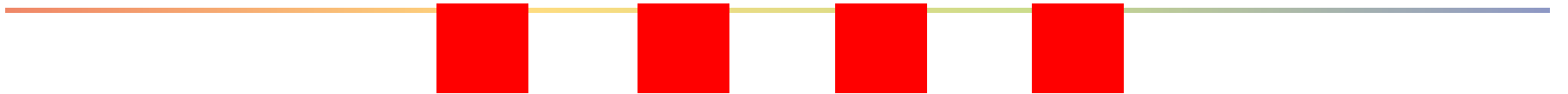


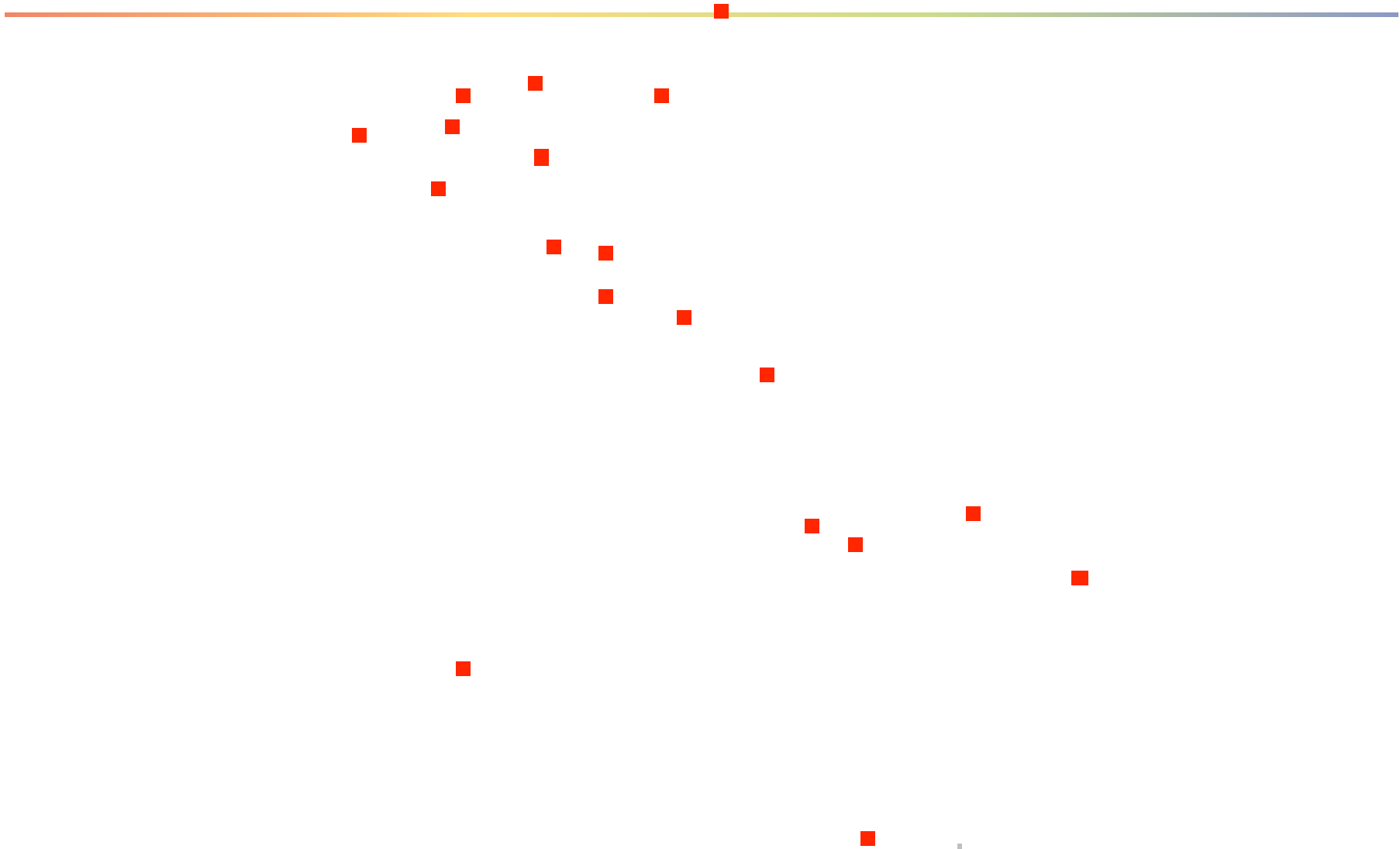
hardware layer

somewhere...

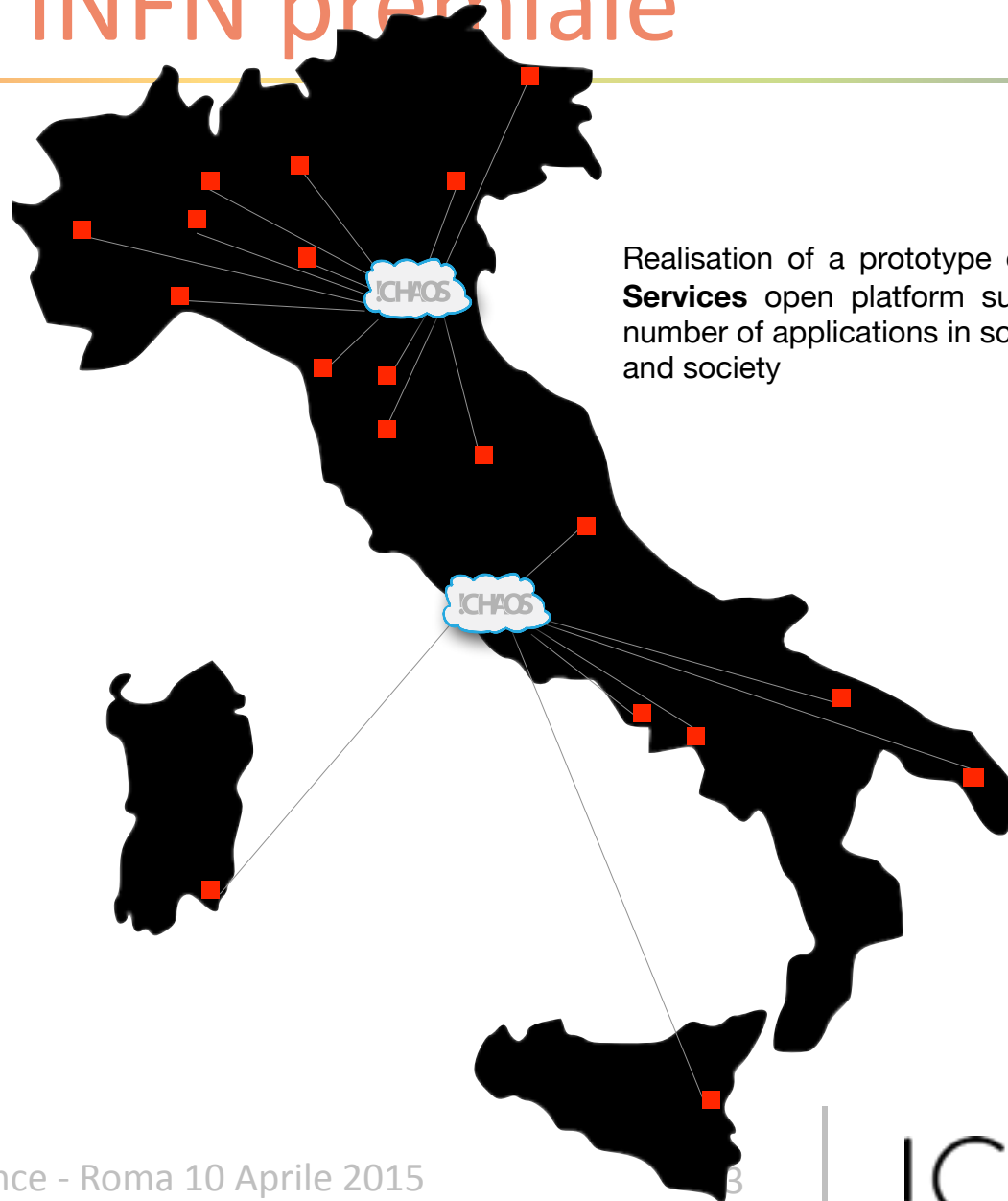


somewhere...



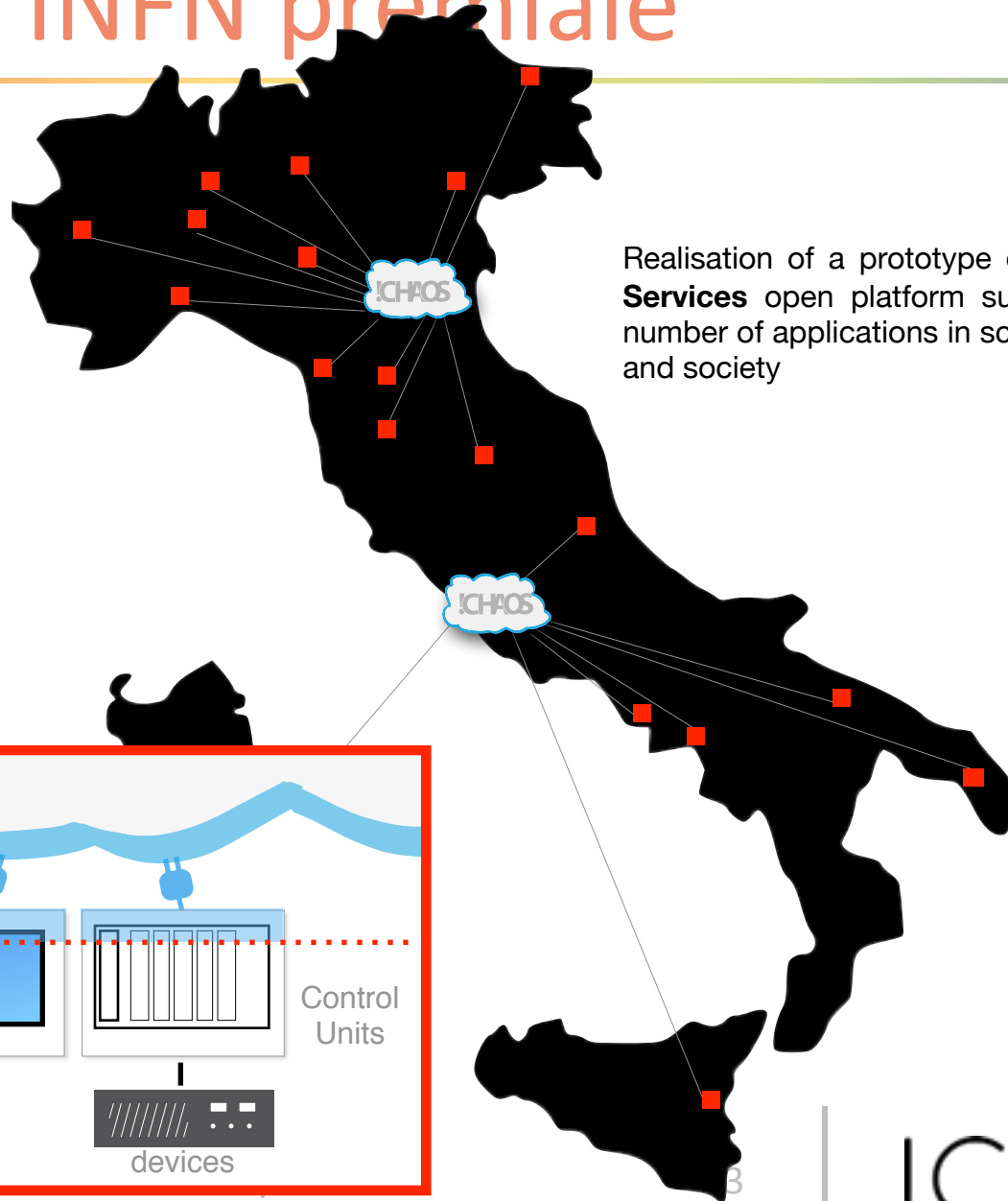


!CHAOS INFN premiale

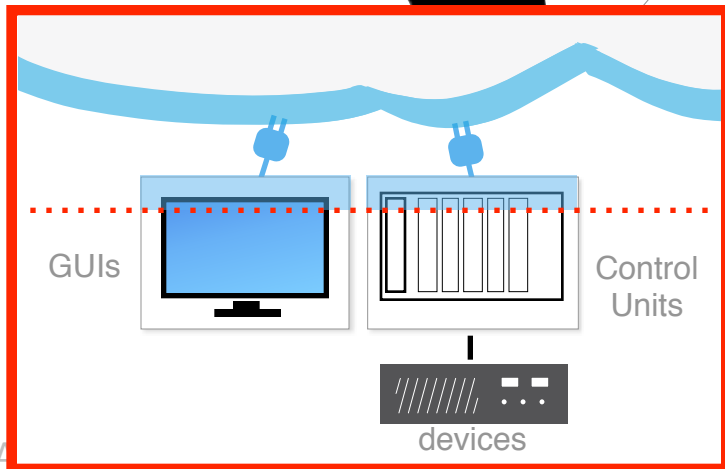


Realisation of a prototype of **Control as a Services** open platform suited for a large number of applications in science, industries and society

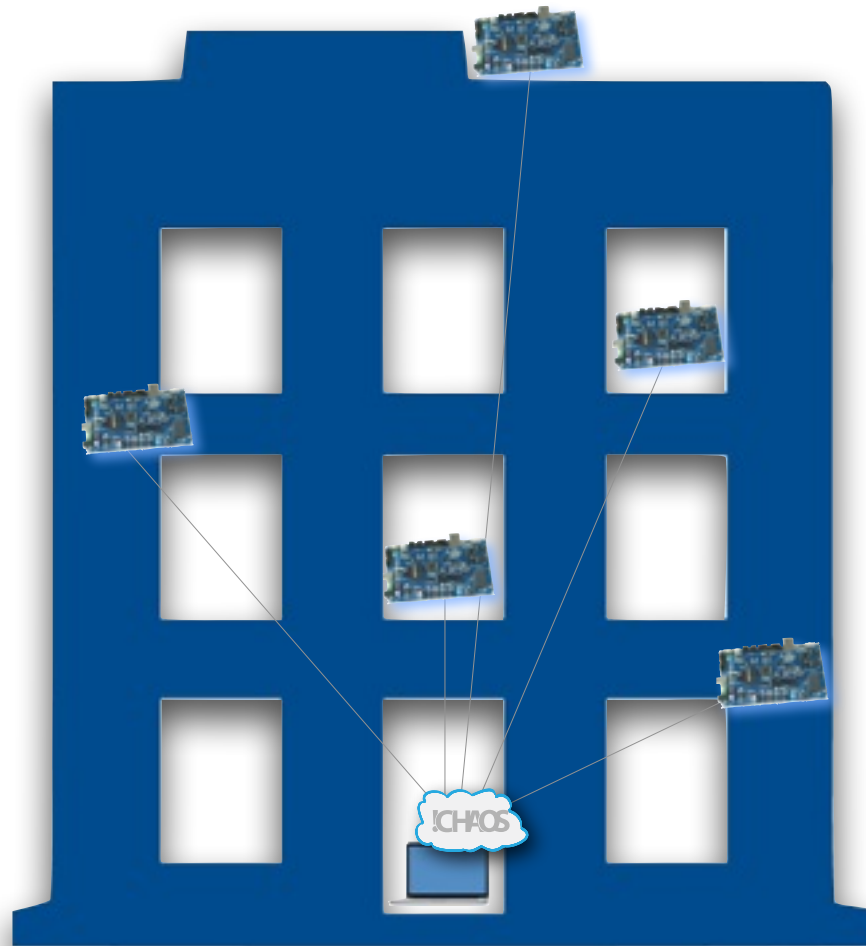
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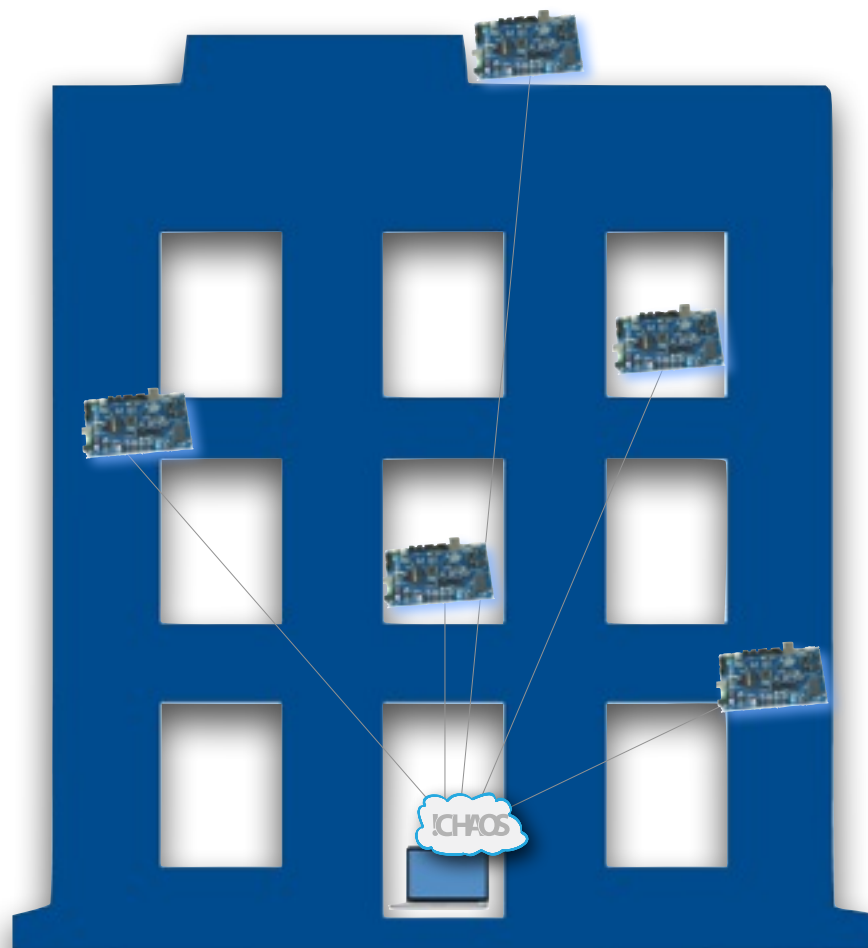
Realisation of a prototype of **Control as a Services** open platform suited for a large number of applications in science, industries and society



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!CHAOS@BTF Test-bed

FROM SINGLE MAGNET CONTROL



IT developed for !CHAOS

Name	State/Change	Polarity/Change	Current	SP Current	Readout	Seconds	Timestamp
simsupply	On	Reg. / open	100	set	100.000	33.348	78615.22 Wed Nov

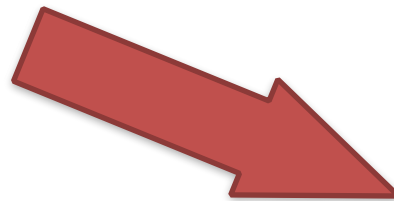
!CHAOS

UP TO DAFNE MAG TERMINAL



!CHAOS

National Instruments collaboration



Large Deployment



distributed Control System

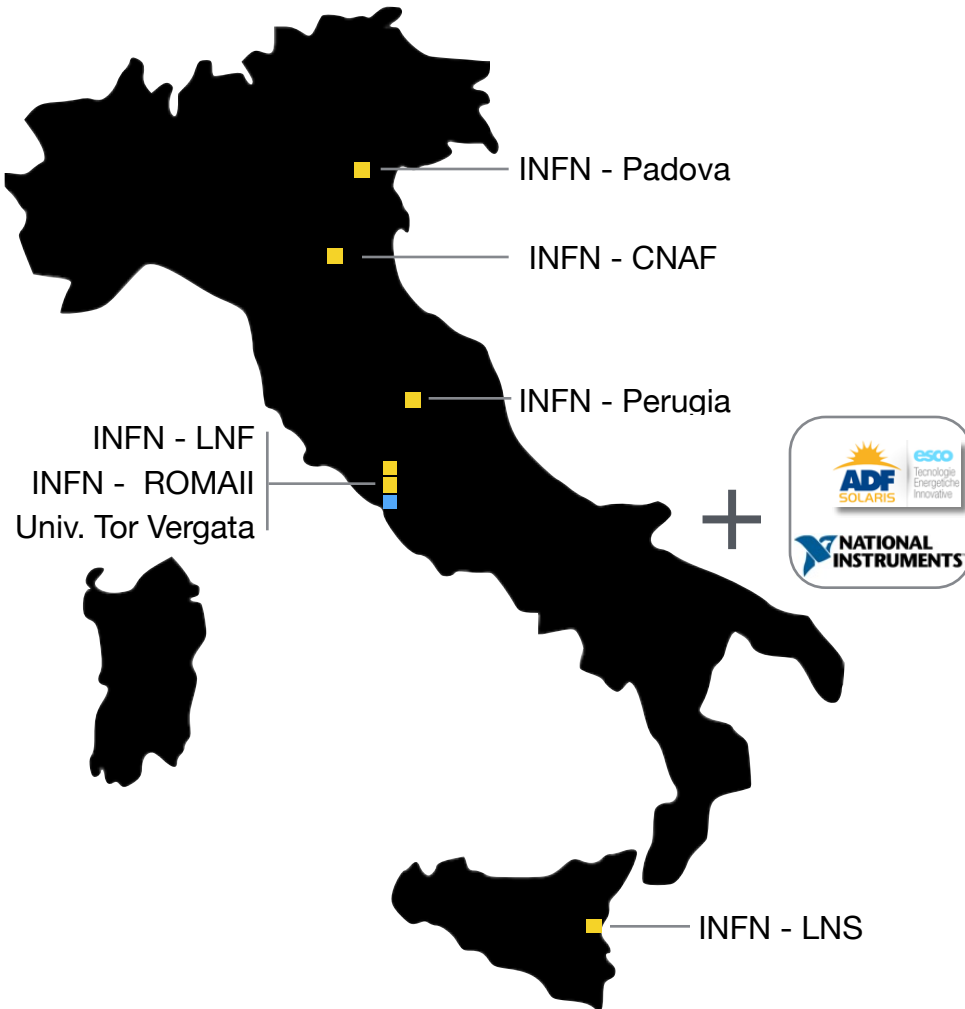
LabVIEW
Real-Time

Sviluppo grafico,
prestazioni real-time

Presentazione Multimediale: "Introduction to LabVIEW Real-Time"

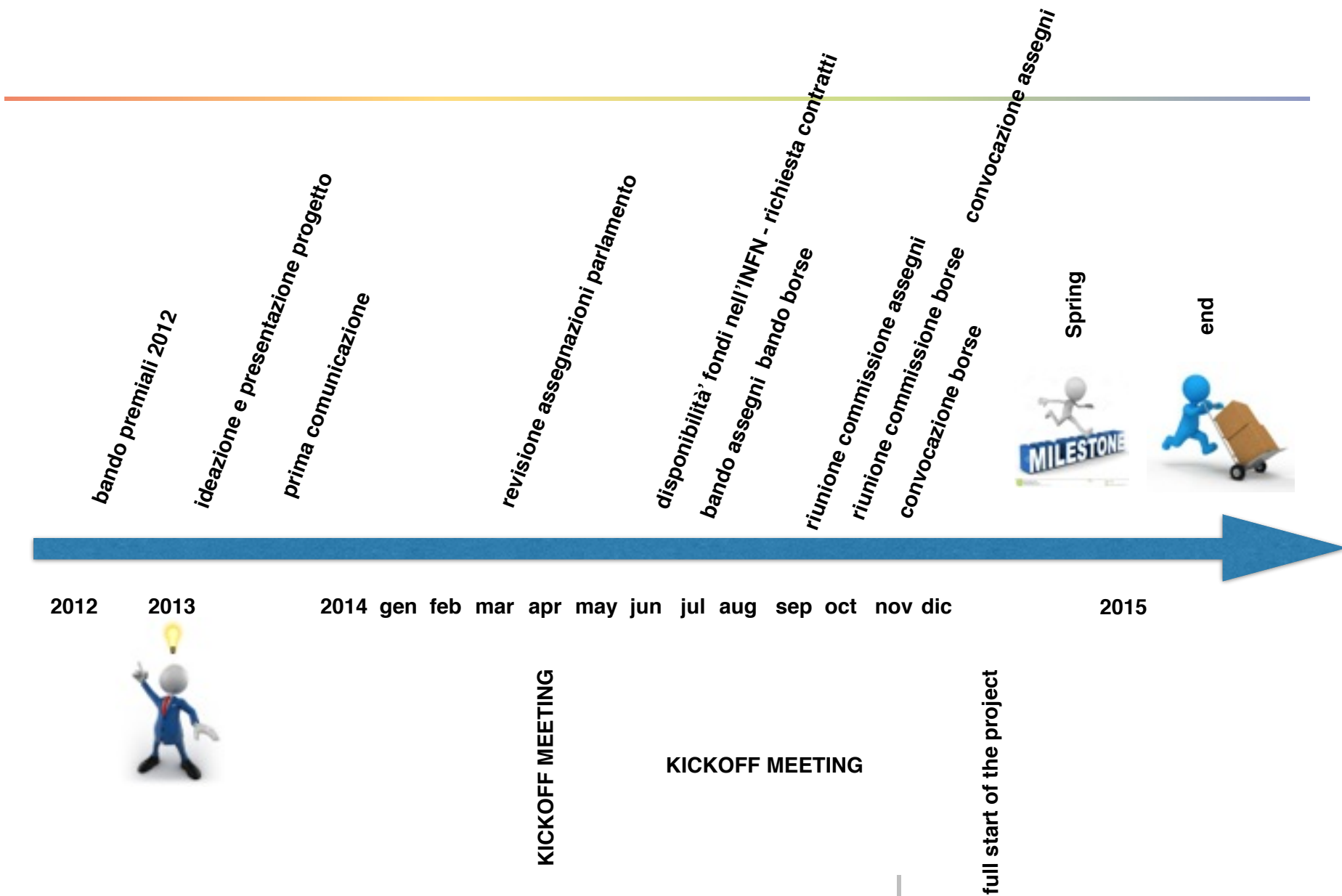


Who is who



WP	Workpackage title	Lead
WP1	MANAGEMENT & DISSEMINATION	INFN-LNF
WP2	ARCHITECTURE SOFTWARE DEVELOPMENT	INFN-LNF Uni. TV
WP3	FRONTEND DRIVERS & INTEGRATION	INFN-LNF INF-LNS ADF & NI
WP4	HARDWARE DEVELOPMENT	INFN-TV INFN-PG INFN-LNS
WP5	IT INFRASTRUCTURE & SERVICES, ACCESS POLICY COLLABORATIVE TOOLS	INFN-CNAF INFN-LNF INFN-LNS

Contact: WP2; C. Bisegni (LNF); WP3: A. Michelotti; WP4: G. Salina (TV); WP5 E. Fattibene (CNAF); Technical Manager: A. Stecchi (LNF); Project leader: G. Mazzitelli.





Domande

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