



Introducing COTS to the Rail Industry

Rob Persons

Sr. Field Sales Architect

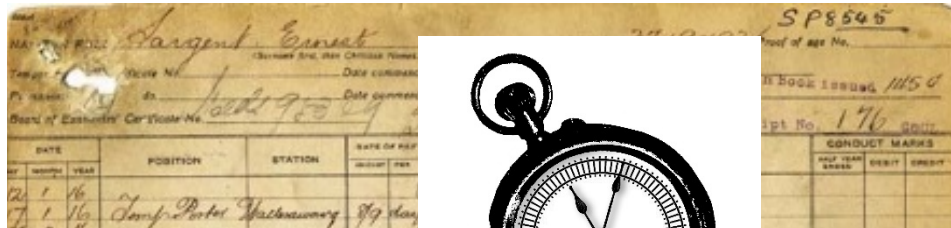
Artesyn Embedded Technologies, Inc.



Rail Control Systems

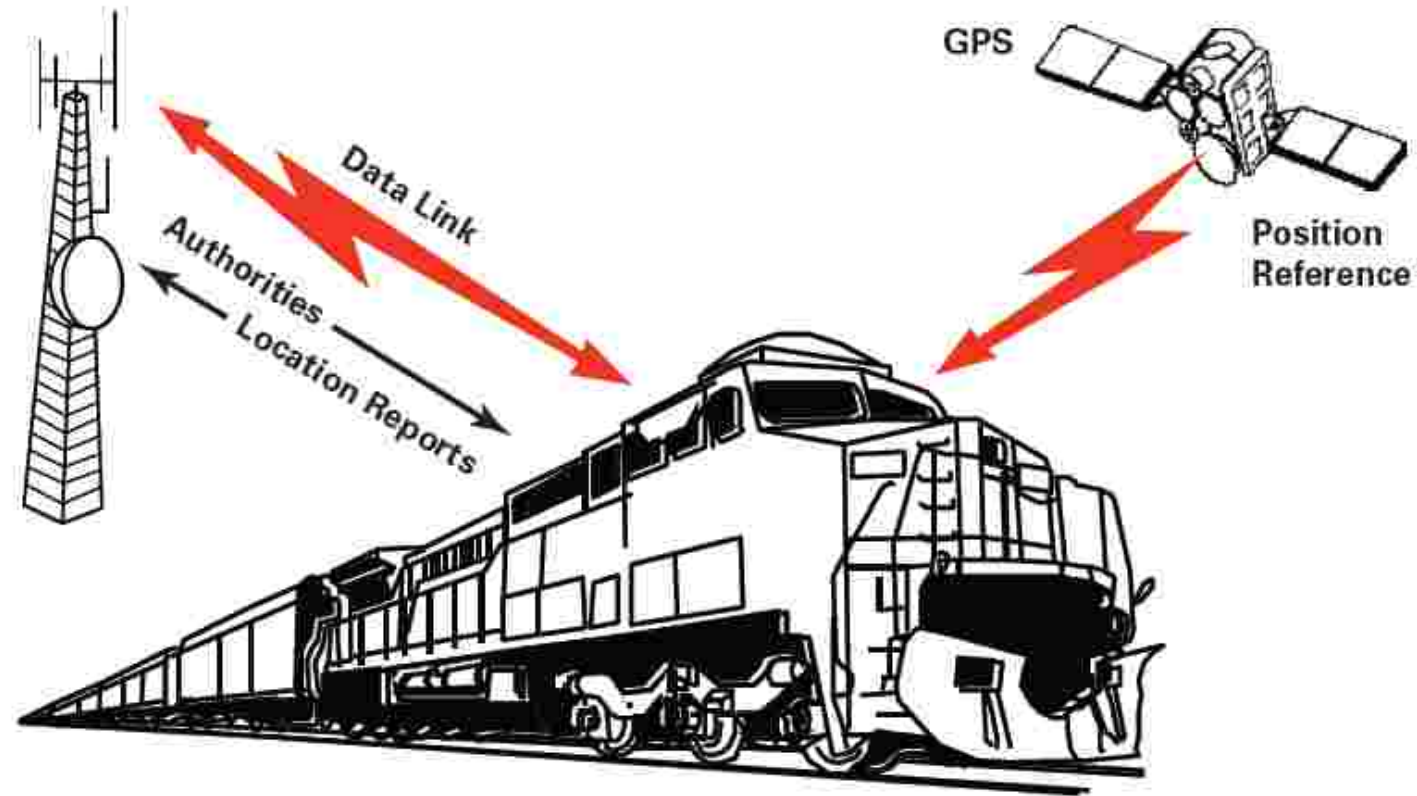


Rail Control Systems



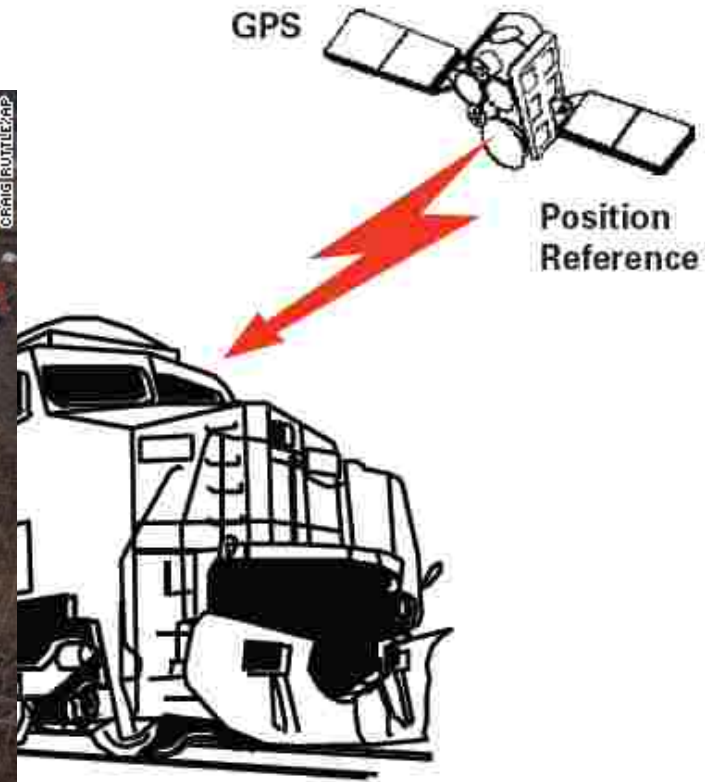
Why Positive Train Control?

POSITIVE TRAIN CONTROL (PTC)



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POSITIVE TRAIN CONTROL (PTC)



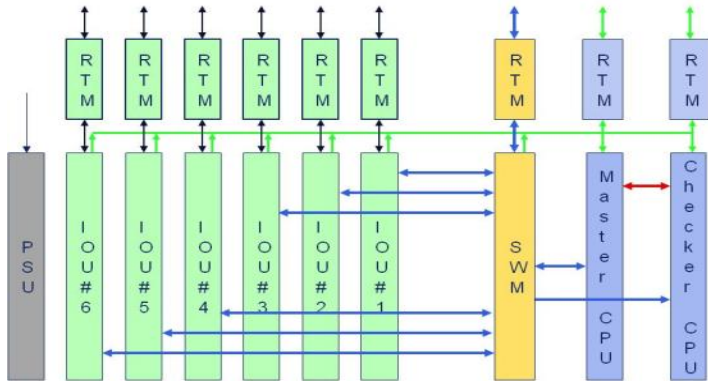
Why Positive Train Control?

2015?

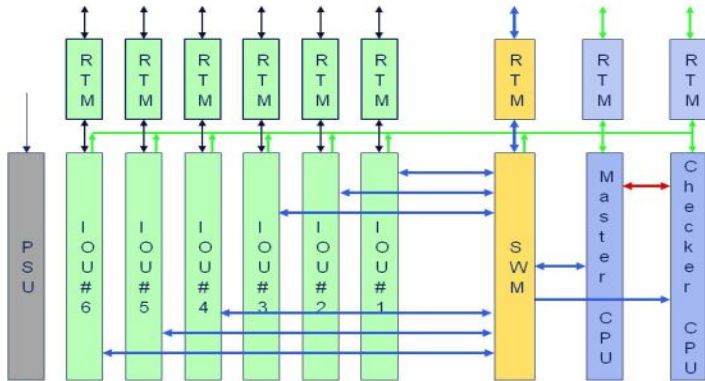
2018



SIL 4 Certified Fail Safe Computing



SIL 4 Certified Fail Safe Computing



ZERTIFIKAT ♦ CERTIFICATE ♦ CERTIFICADO ♦ СЕРТИФИКАТ ♦ CERTIFICAT



Product Service

CERTIFICATE

No. Z10 16 08 87324 008

Holder of Certificate: Artesyn Embedded Computing Inc.
 2900 South Diablo Way, Suite 190
 Tempe AZ 85282
 USA

Factory(ies): 26247

Certification Mark: 

Product: Safety-Related Programmable Systems

Model(s): ControlSafe™ Platform (CSP) with ControlSafe™ Computer (CSC) and ControlSafe™ Software

Parameters: Safety-related generic processing platform including:
 - Safe application processing
 - Voting and 2oo2 active/standby arbitration
 - Safety related communication

Tested according to:
 EN 50126:1999 (SIL4)
 EN 50129:2003 (SIL4)
 EN 50128:2011 (SIL4)
 IEC 61508-1(ed.2) (SIL3)
 IEC 61508-2(ed.2) (SIL3)
 IEC 61508-3(ed.2) (SIL3)

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

Test report no.: AT88765G

Valid until: 2021-08-24

Date: 2016-08-25 
 (Jürgen Blum)

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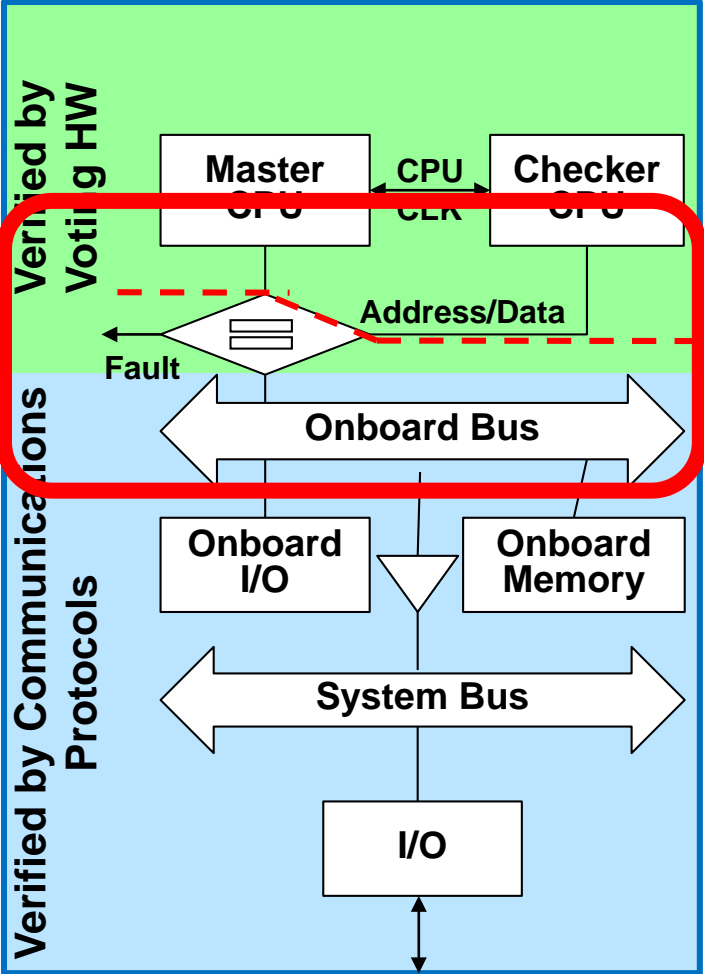
TÜV SÜD Product Service GmbH · Zertifizierstelle · Ridlerstraße 65 · 80339 München · Germany



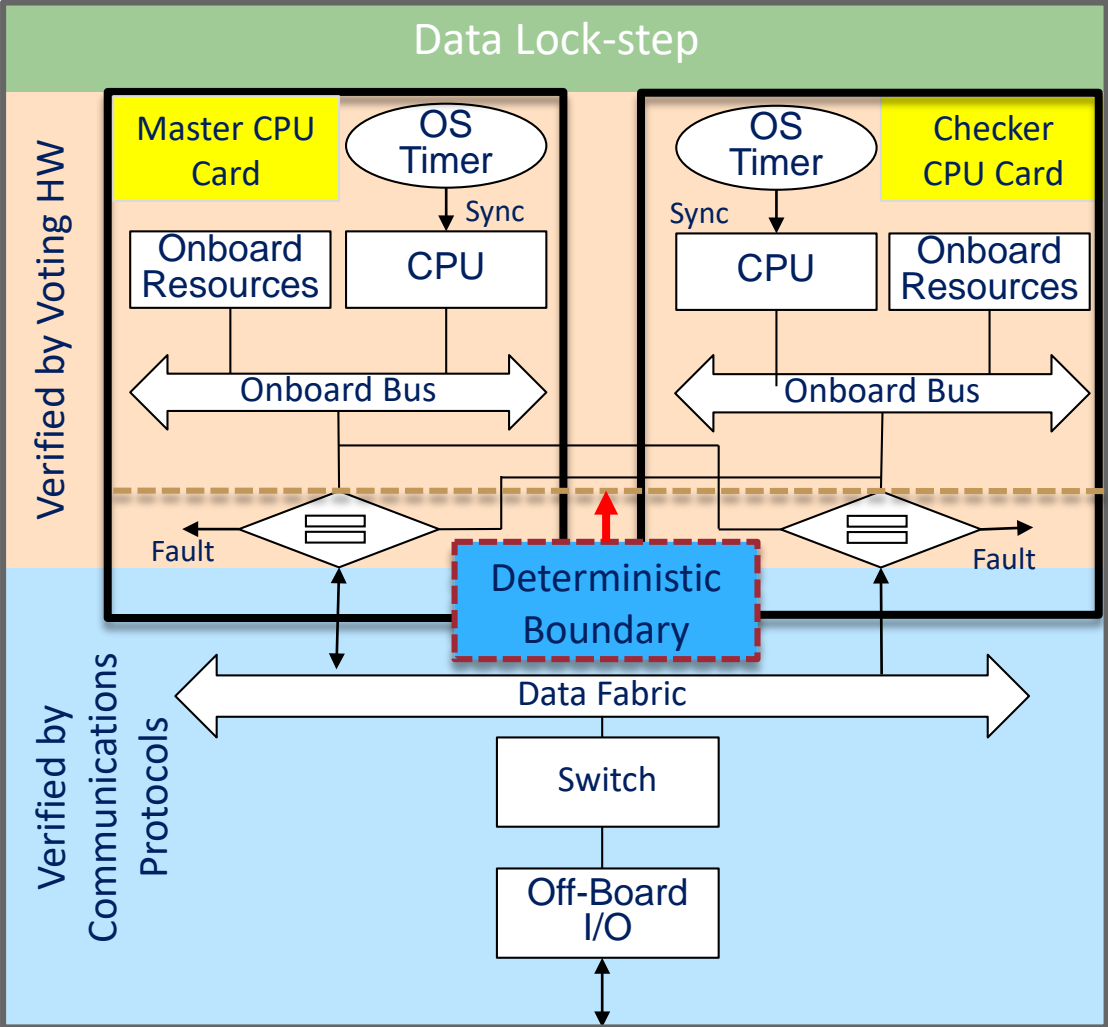
TÜV®



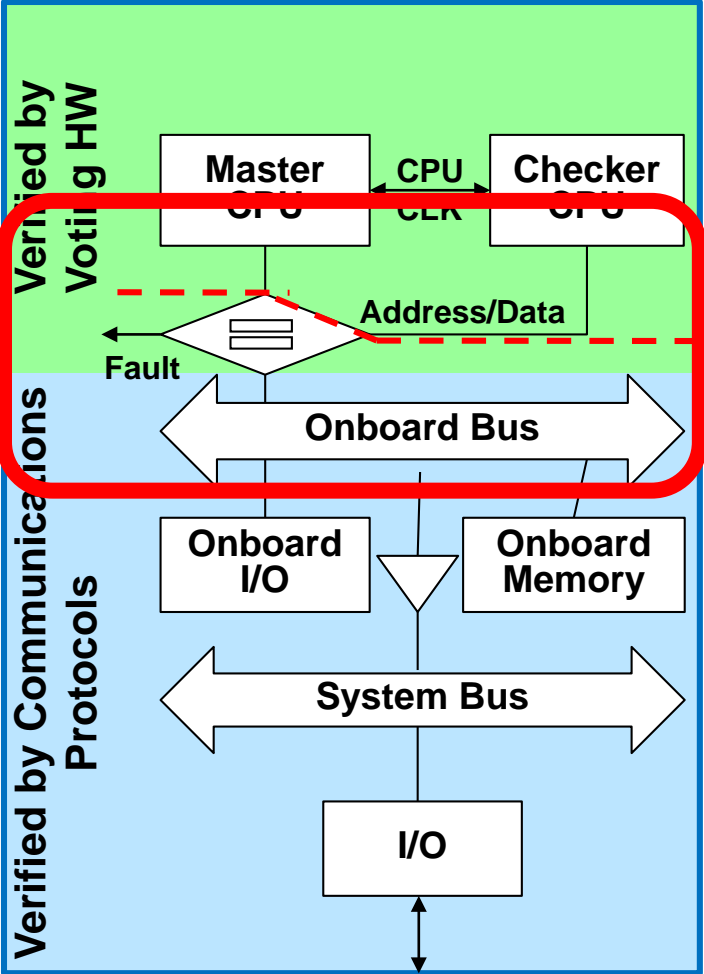
Hard Lock-step Operation



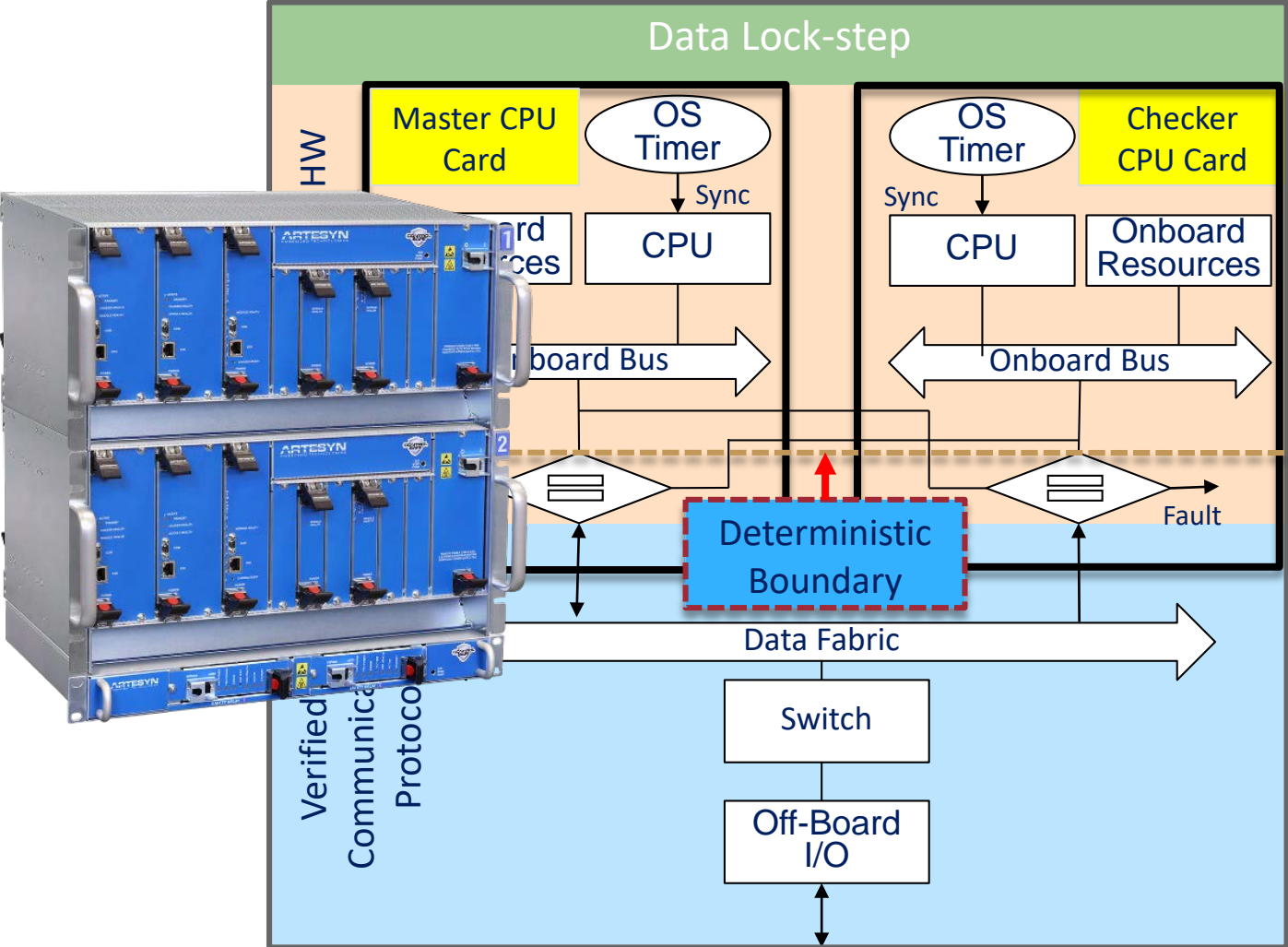
Data Lock-step Operation



Hard Lock-step Operation



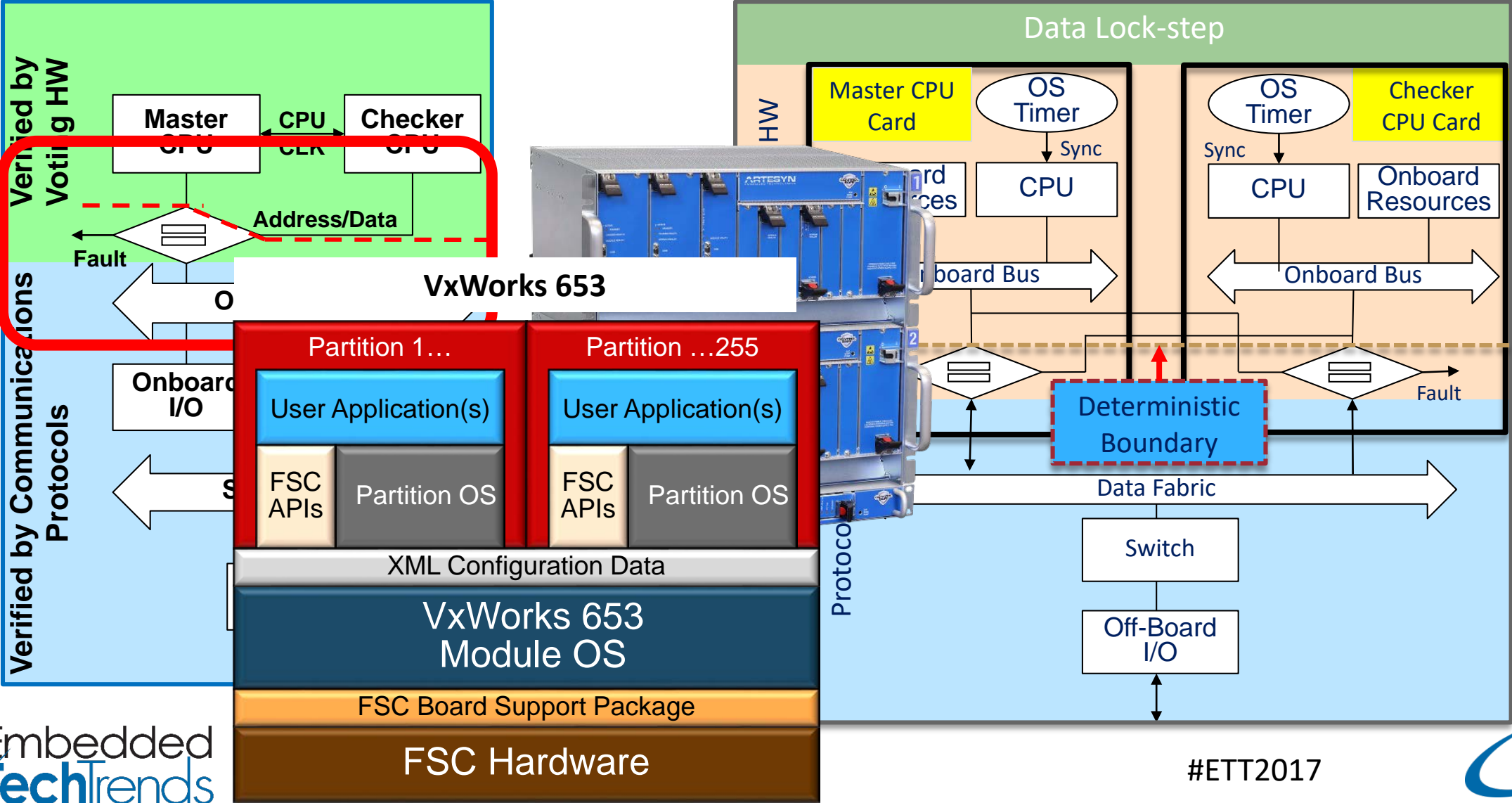
Data Lock-step Operation



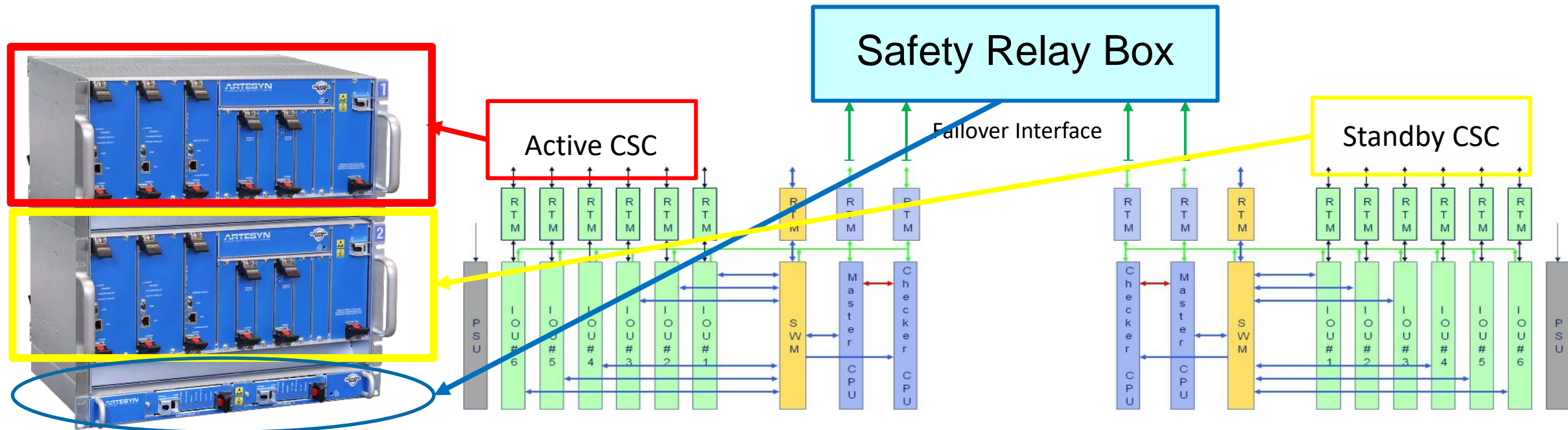
SIL 4 Control Safe Design

Hard Lock-step Operation

Data Lock-step Operation



The Artesyn Control Safe System



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One of First SIL4 Certified General Purpose Safety Platforms

#ETT2017

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