Integrating high and low level actors

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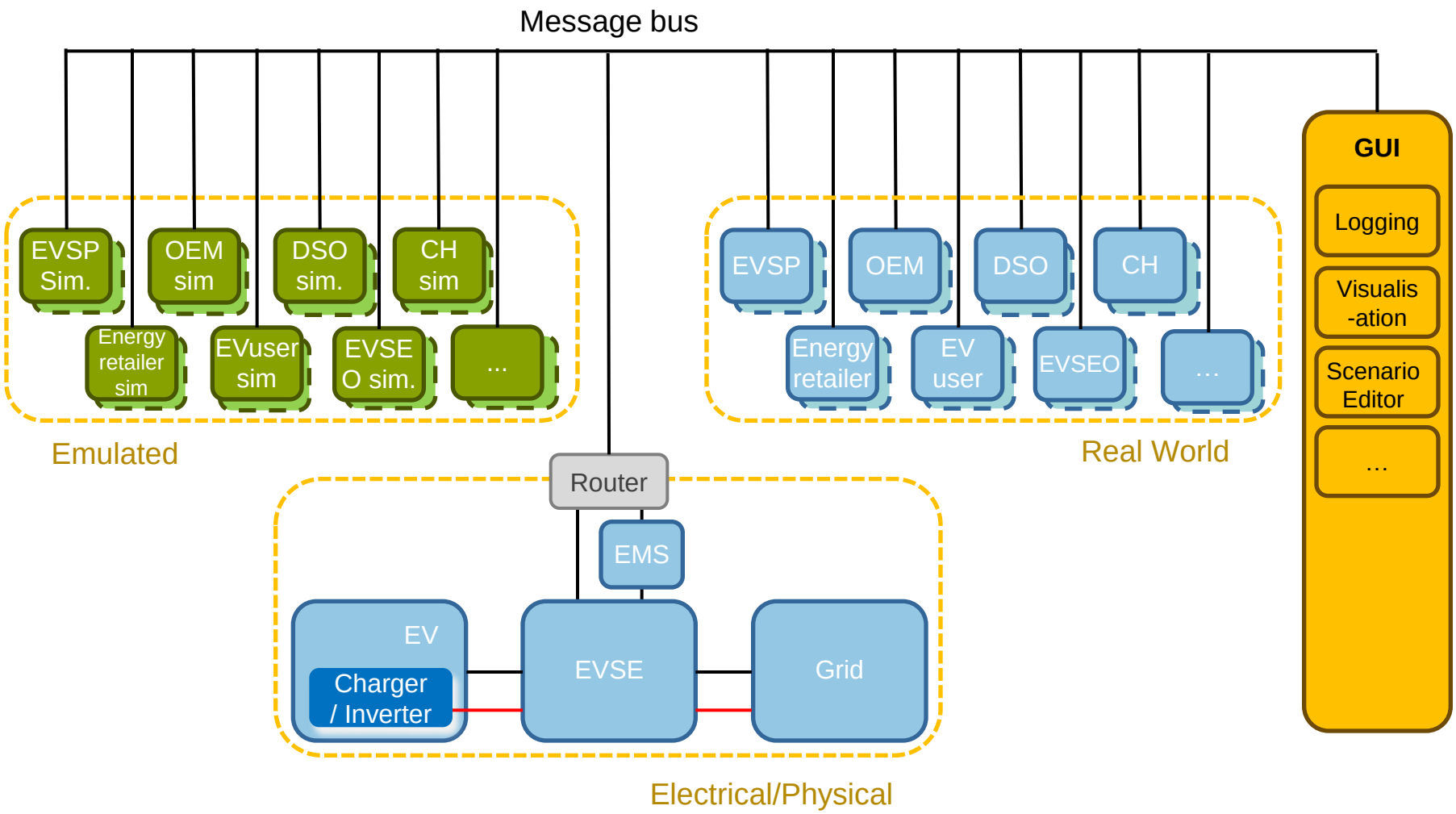
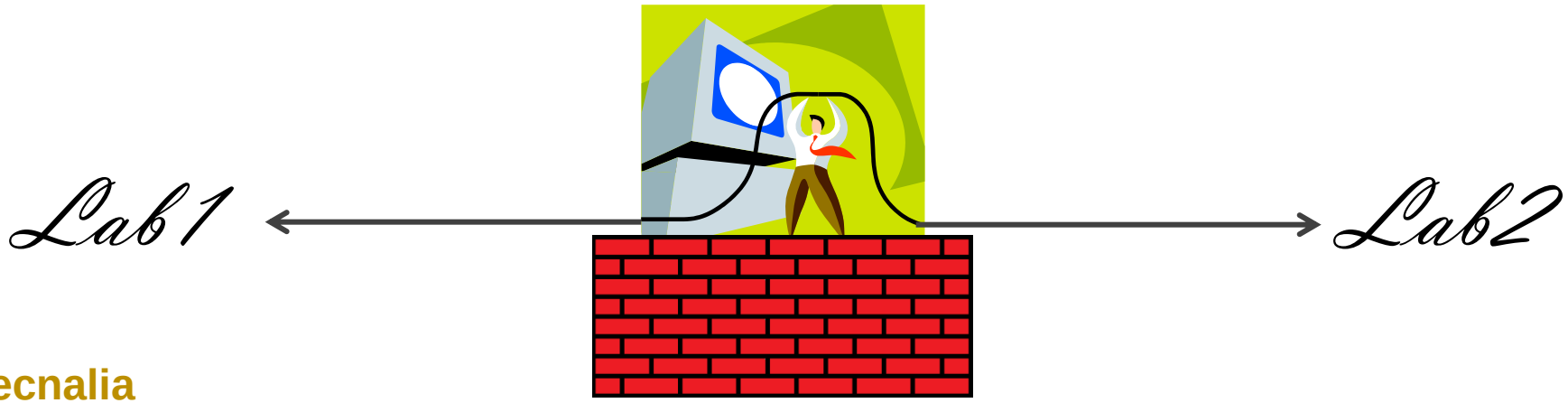
COTEVOS Reference Architecture



Tecnalia

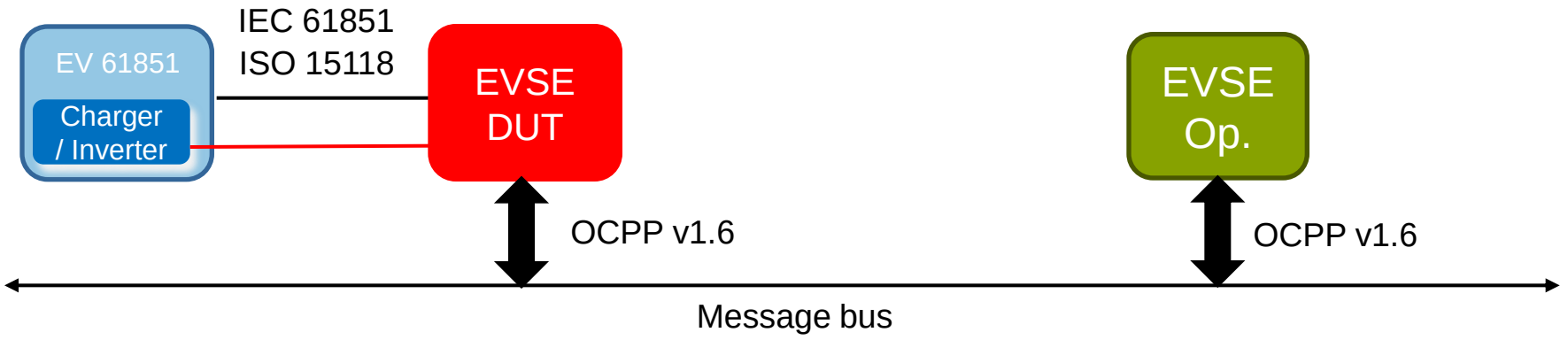
- Several laboratories collaborate in order to reduce costs
  - Reduce SW/HW development
  - Avoid implementing technologies which are not the expertise of the laboratory
- Service offering portfolio
  - Proper infrastructure
  - Remote infrastructure
- Gather more expertise
  - Interoperability issues. More devices are tested

- Note: Some tests **have to be** tested locally
  - Power delivery (network quality, harmonics, reactive power)
  - EMC
  - Manual actions
  - → Mainly in charging
- Needed infrastructure (by all laboratories)
  - Internet connection (firewalls, routing, etc.)
  - Security (certificates, VPN)
  - Services publication and maintenance
  - Normalized way to exchange results



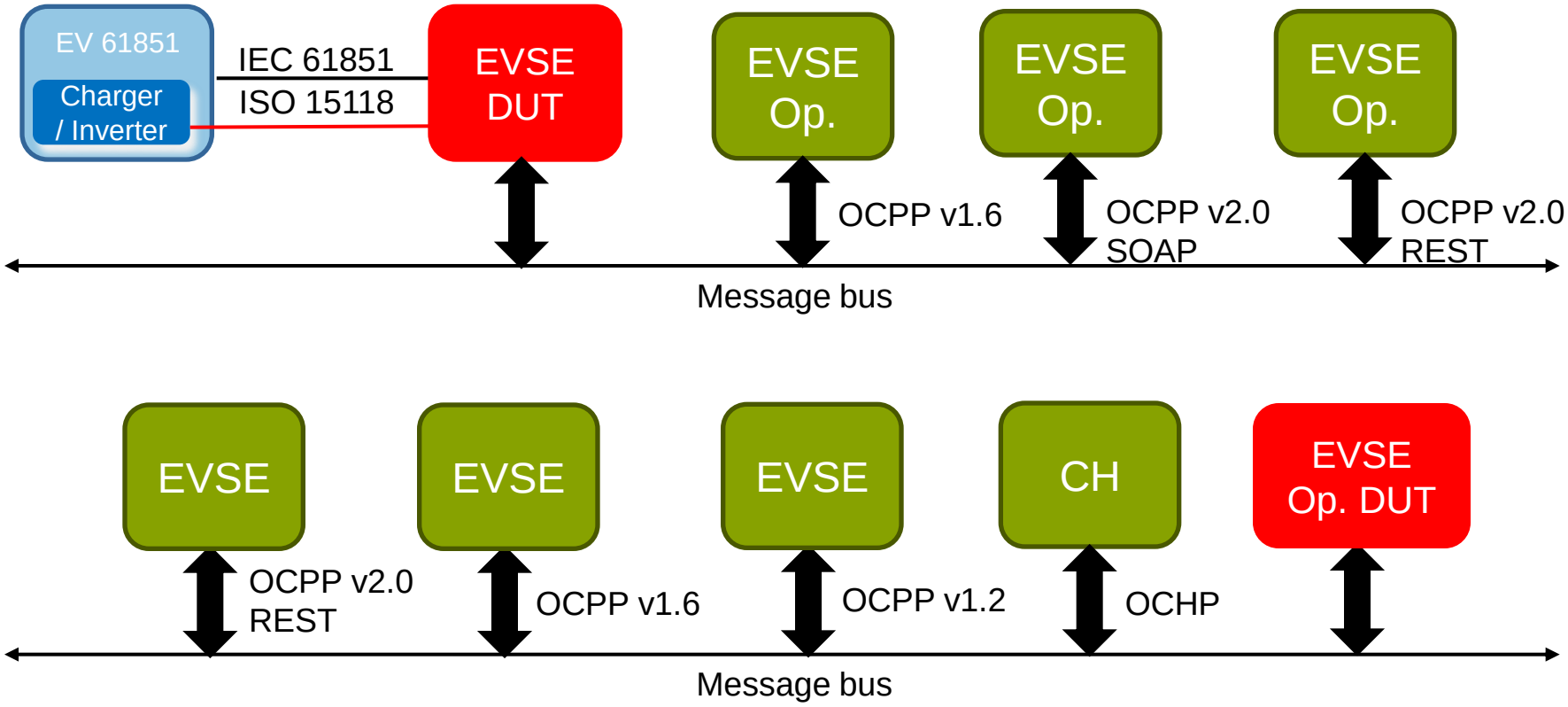
First COTEVOS inter-laboratory appoach

- Tecnalia
  - EV and EVSE infrastructure
  - IEC 61851, ISO/IEC 15118
- TNO
  - OCPP v1.6
- Testing scenarios
  - EVSE (DuT) implementing IEC 61851 or ISO/IEC 15118 charging and OCPP v1.6
  - EVSE Operator (DuT) which is tested by several OCPP v1.6 implementations



- Both laboratories can communicate (premise)
- OCPP v1.6 already implemented
  - Different implementations
- Test cases
  - Complete charging process (authorization, charging progress and termination)
  - Use power limitation profiles
- Interoperability issues found
  - EVSE vendors use WS-Addressing differently
  - WS implementation. SOAP and HTTP headers can drive to failures
  - These and more issues can be found when real DUTs are tested!!!
- Next steps
  - Identify these interoperabilty issues in the standards
  - Perform tests with real DuT

Other inter-operability posibilities



…and even more actors can be included

Thank you

Discussion