Australian Energy Market Commission

AEMC

BUILDING OUR ENERGY FUTURE

ERICSSON

MARKET REVIEW

Framework for open access and communication standards.

Yochai Glick
Principal Architect
Ericsson

COMMON MARKET PROTOCOL

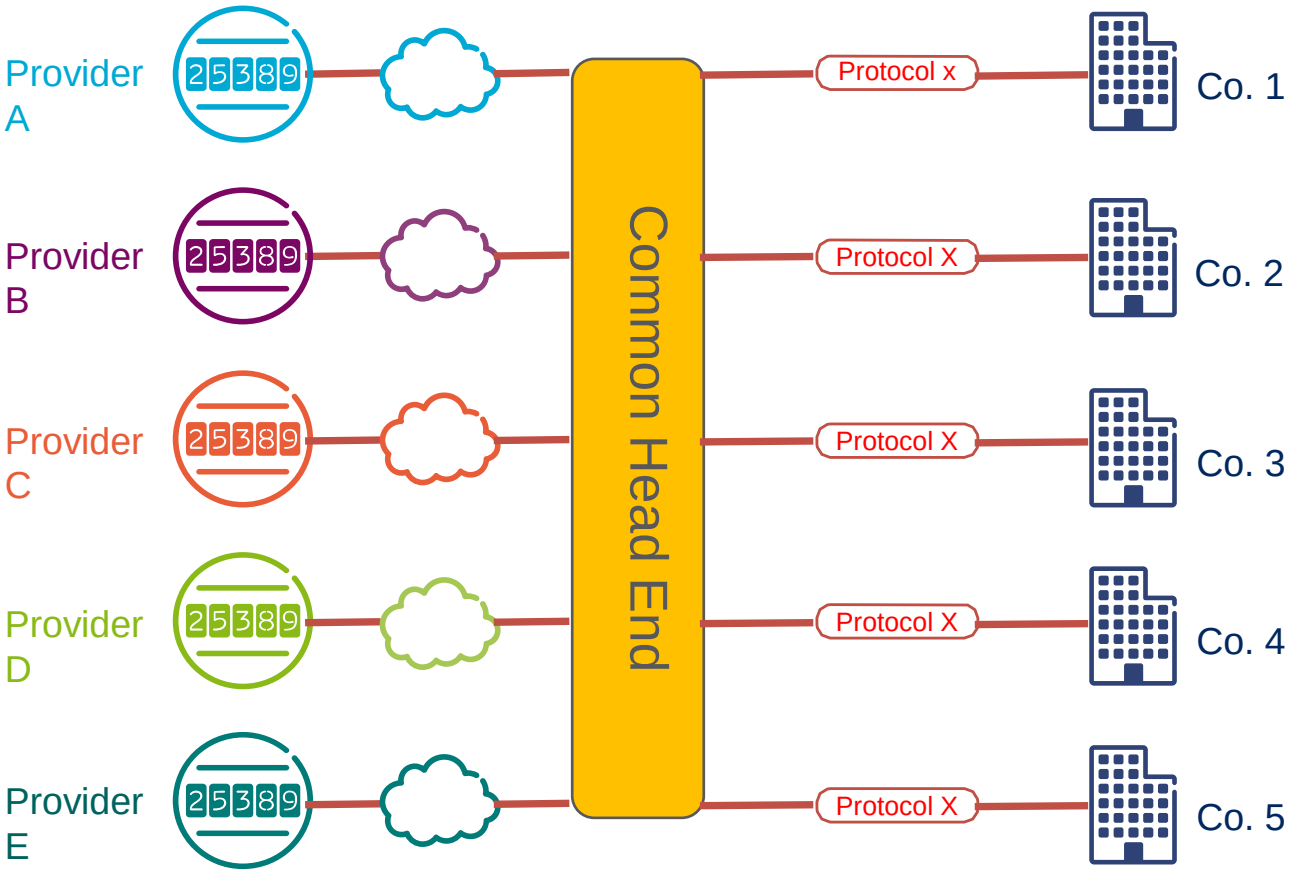
- The Dream / Wishful Thinking
  - The Problem
- The Requirement
  - The Solution
- How / Who / What ?

Admission of guilt:

Many ideas and words, plagiarised from AEMC, OFGEM, GridWise, NIST, IEC, Wikipedia, Sisco, Sparx,

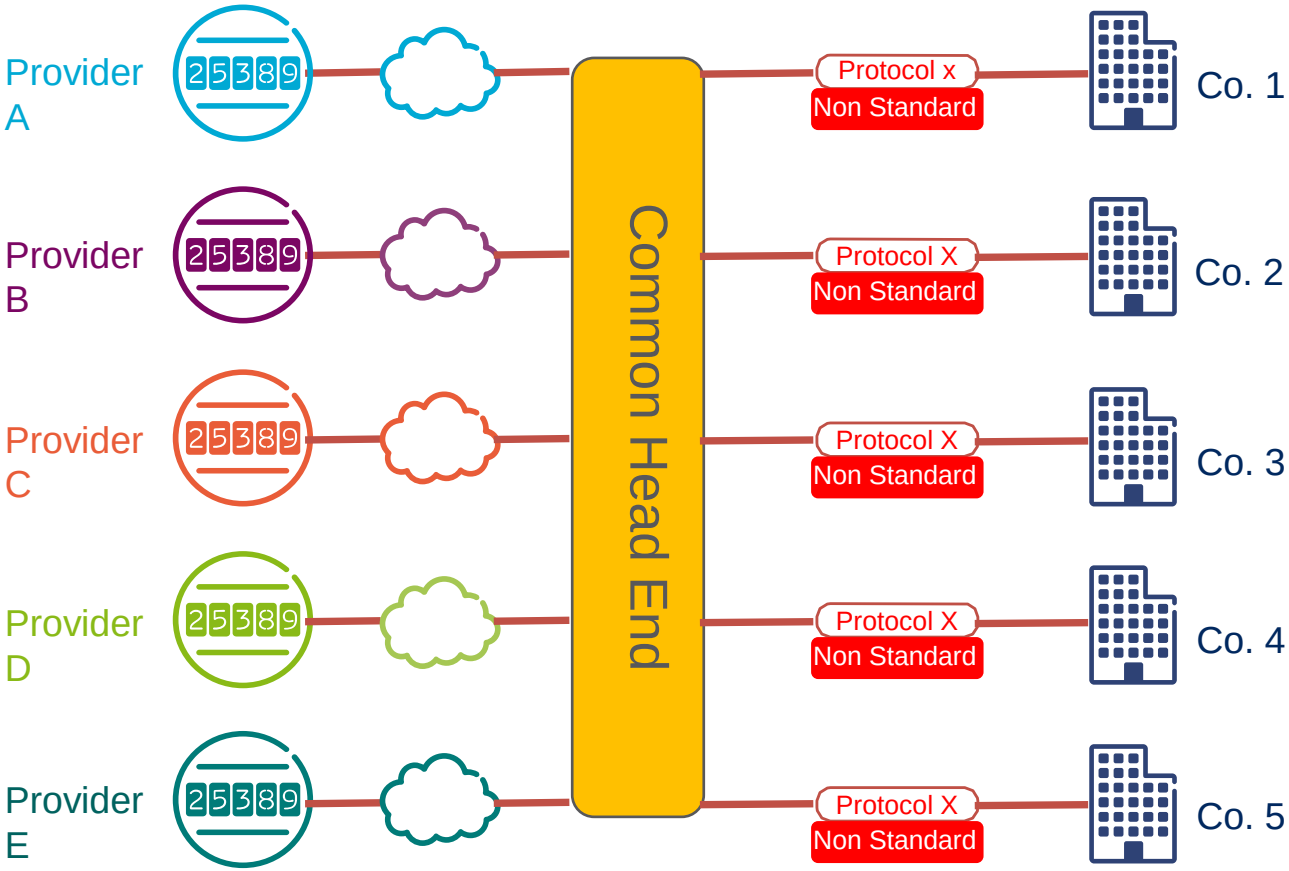
[ex-]friends and more …

THE DREAM (BENEFIT)



Protocol X is a measurement protocol such as DLMS or ANSI C12

THE DREAM (REALITY)



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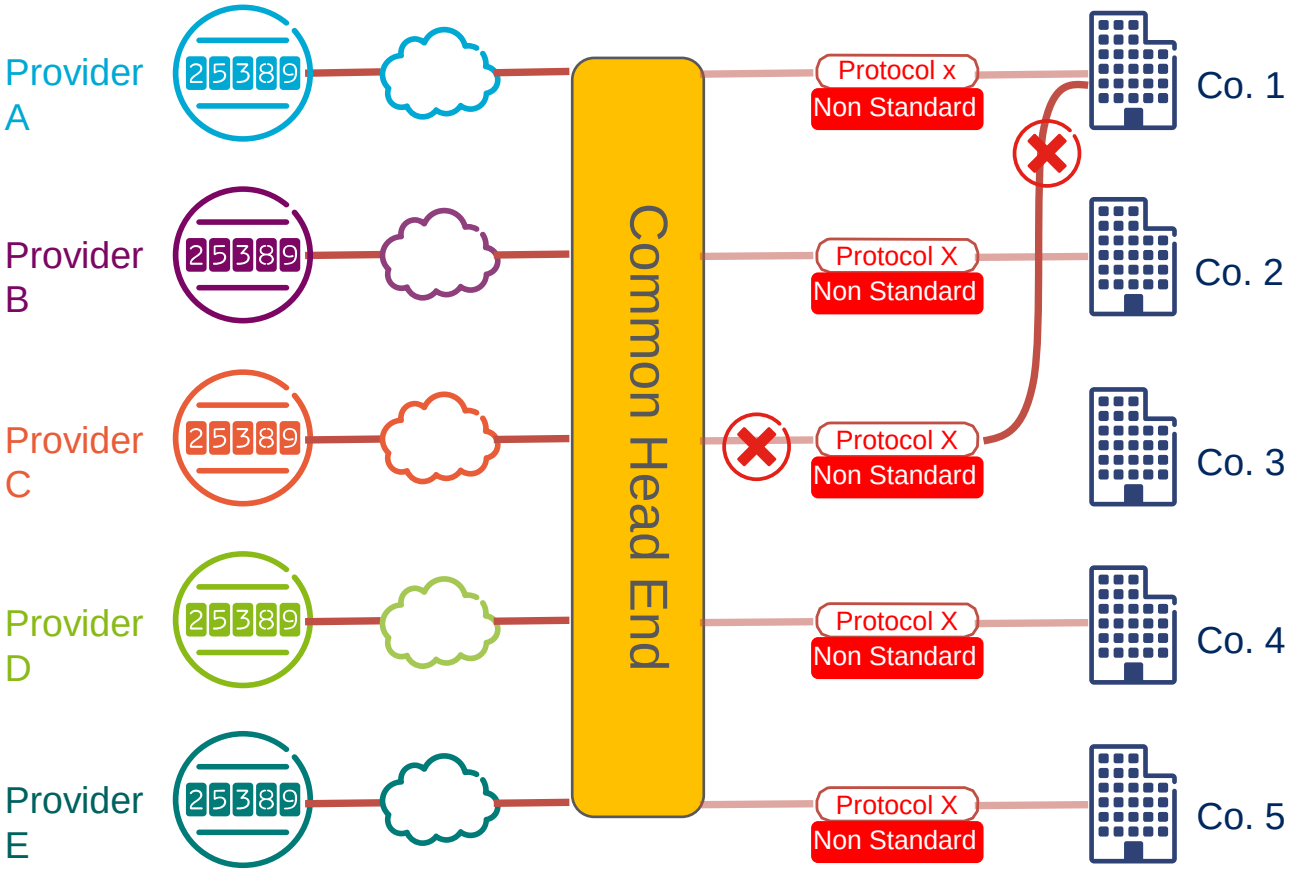
THE DREAM (BROKEN)



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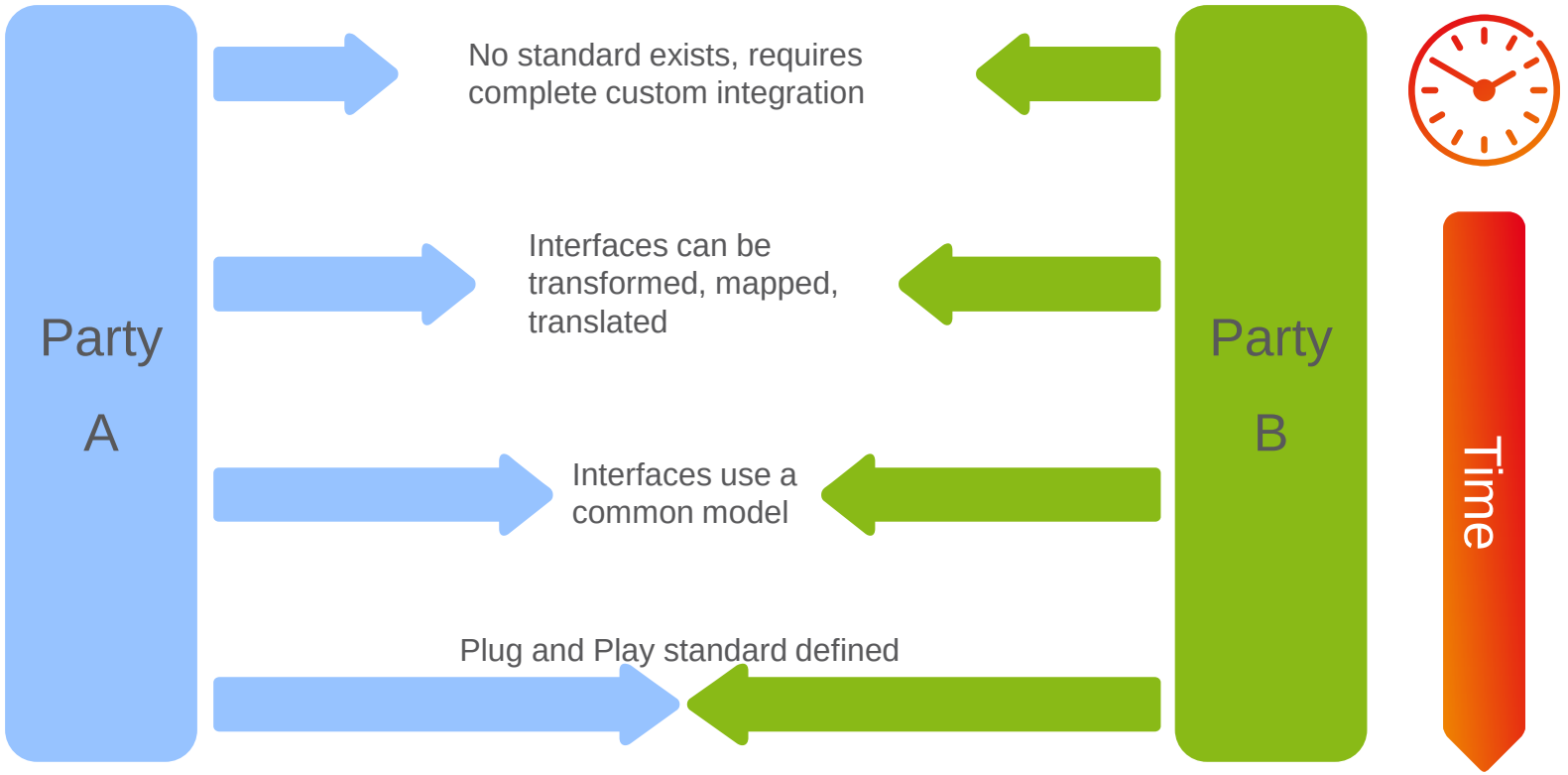
REQ: INTEROPERABILITY CONTINUUM



REQ:
INTEROPERABILITY ⇔ (not) FIXED STANDARD(S)

INTEROPERABILITY IS THE ABILITY OF MAKING SYSTEMS AND ORGANIZATIONS TO WORK TOGETHER (INTER-OPERATE)

DLMS / COSEM

- Designed as a measurement standard, DLMS is comprehensive when it comes to measurements, but less mature for non-measurement data items, or in being prepared for the volume of data from smart metering, as opposed to large industrial AMR-type metering.
- 2-Way communications
- Years to add new function or object to the standard

Required Diversity

- Multiple organisations and market participants that have to interact
- Multiple services that require integration
- Multiple products and vendors
- Multiple versions and maturity levels of standards and technology
- Many to Many communications. Publish Subscribe within the model.
- Today's reality with tomorrow's innovation

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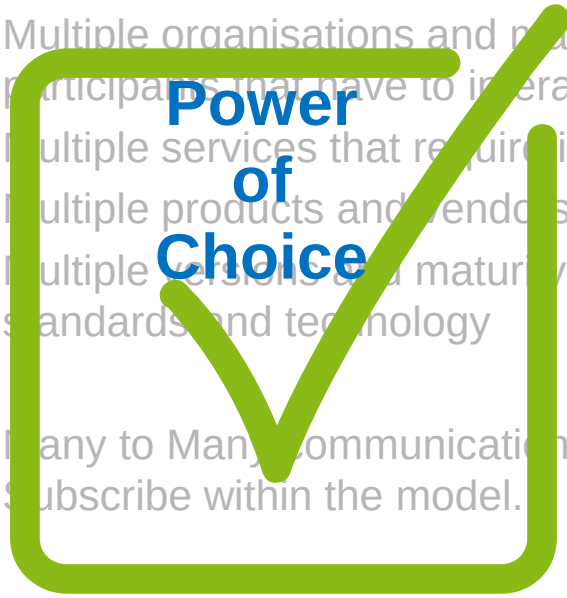
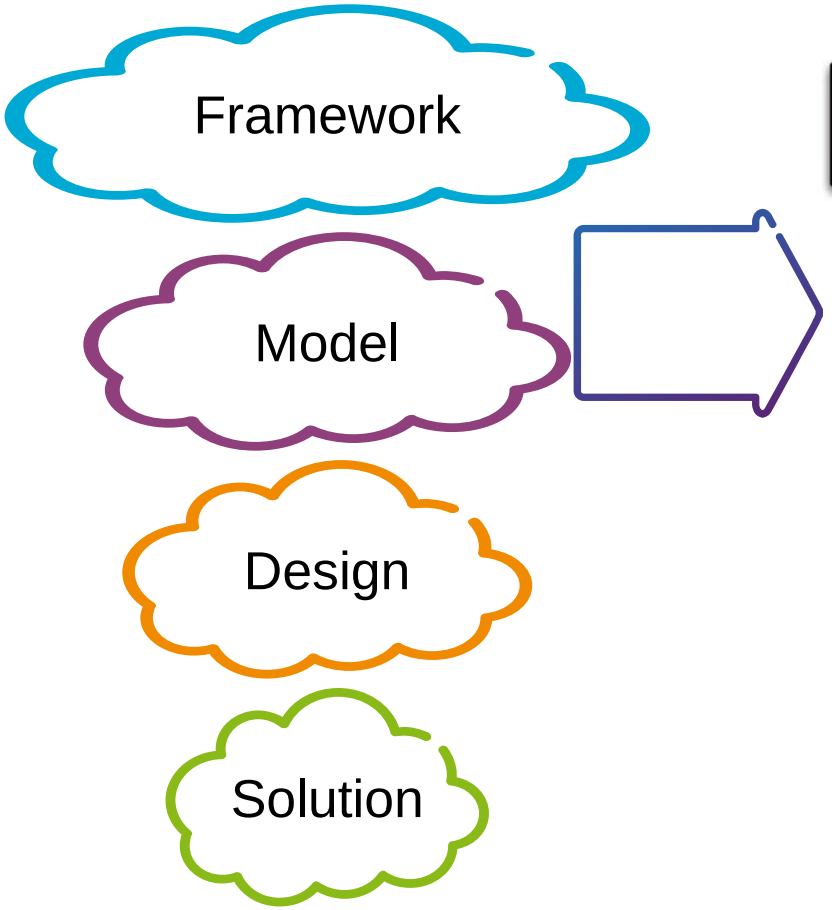
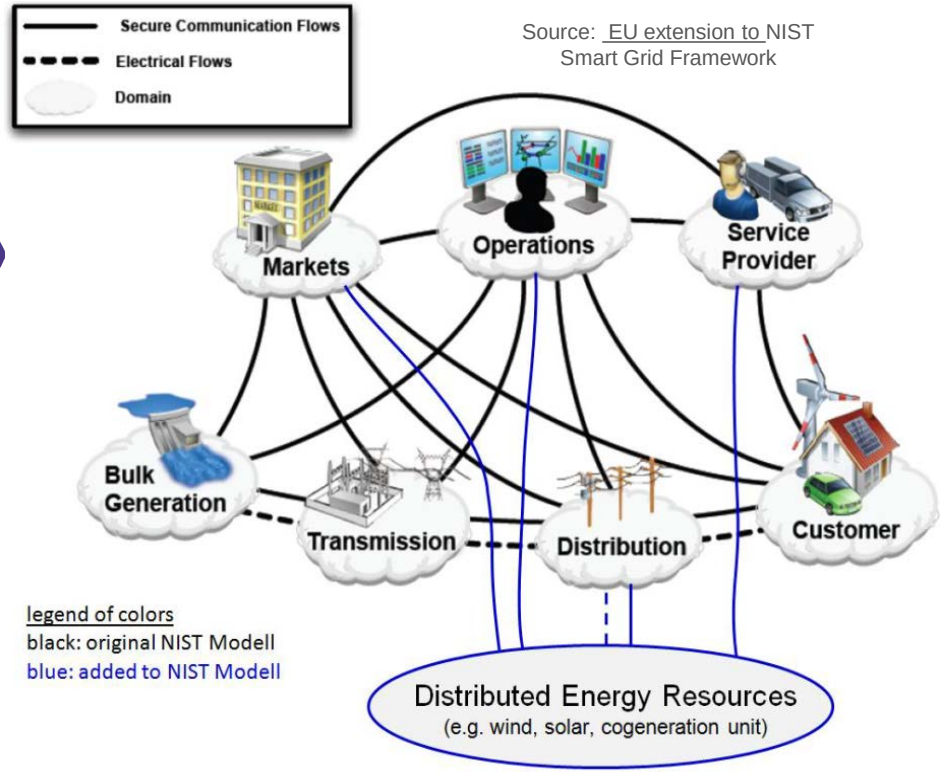


REQ: BASED ON MODEL





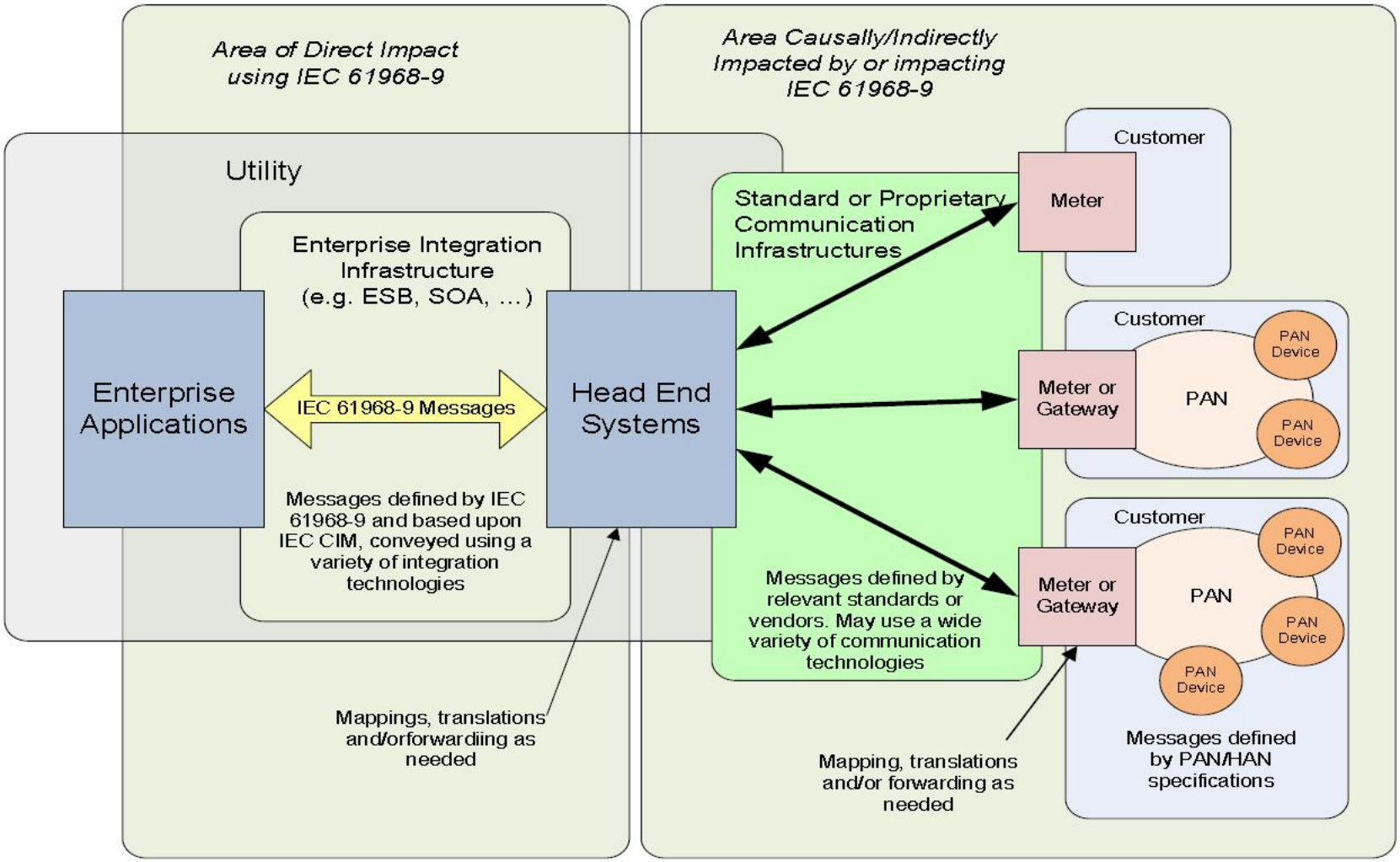

SOLUTION

CIM: IEC 61968-9

Interface Standard for Meter Reading & Control

- Defines the exchange of information between a Metering System and other systems within the enterprise
- Specifies the information content of message types used to support business functions related to Meter Reading and Control.
- Typical uses of the message types include:
  - Meter Event Messages
  - Meter Control Messages
  - Meter Reading Messages

PART 9 (AMI) SCOPE



THE S WORD

SOA: Service Oriented Architecture

ESB: Enterprise Service Bus

WS: Web Services

Supporting a suite of message transmissions:

- Publish - Subscribe
- Request - Reply
- Listen (to events)

… and all under security, auditing and governance rules.

THE D WORD

RDF: Resource Description Framework

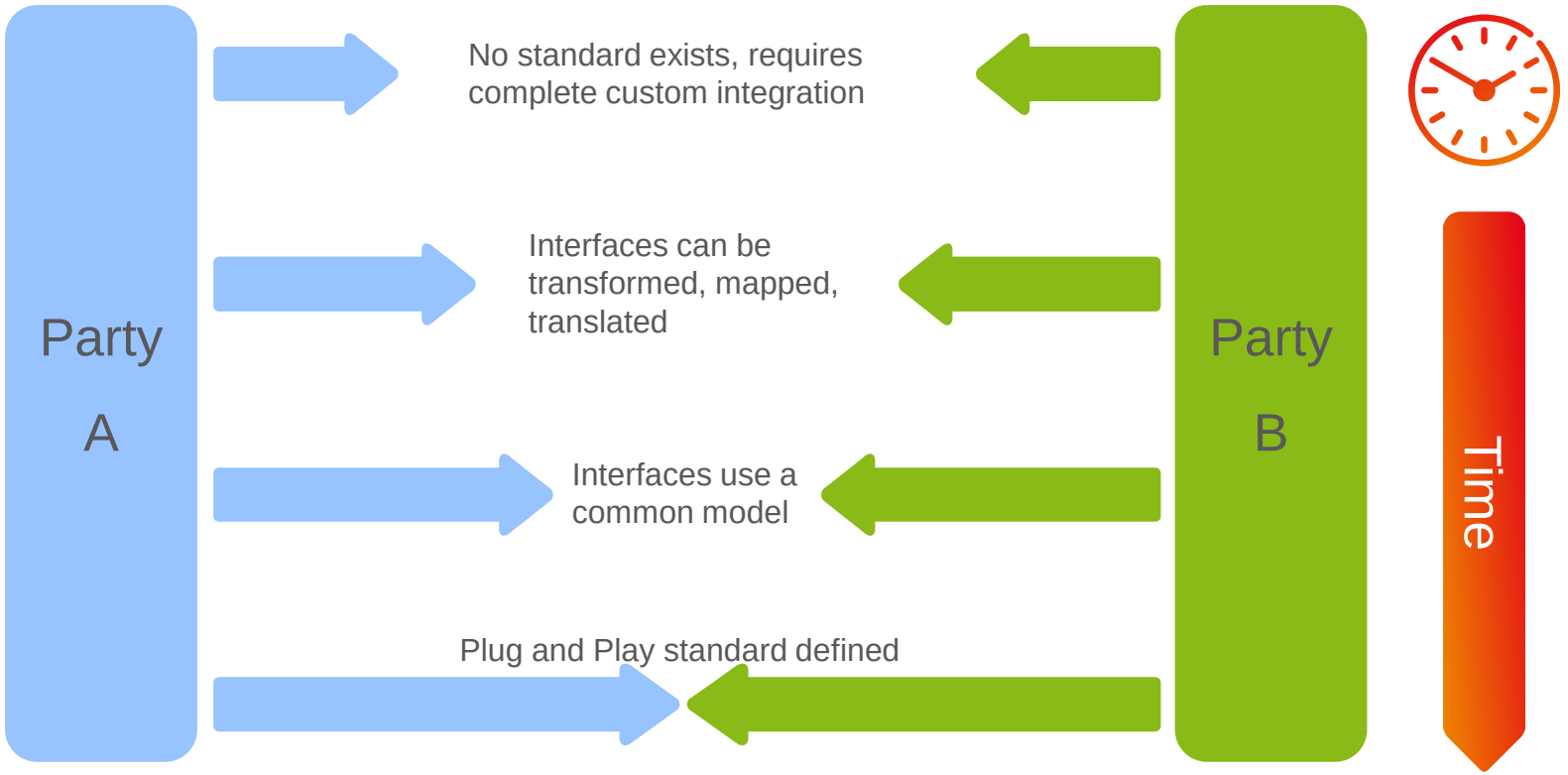
WSDL: Web Services Description Language

UDDI: Universal Description Discovery & Integration

A suite of standards:

- That assume change over time
- That allow auto discovery of new functions & services
- That have existing translation and mediation between them
- That are used by the largest ecosystem in the world

REQ: INTEROPERABILITY CONTINUUM



HOW, WHO, WHEN ?

THE THREE POWERS:

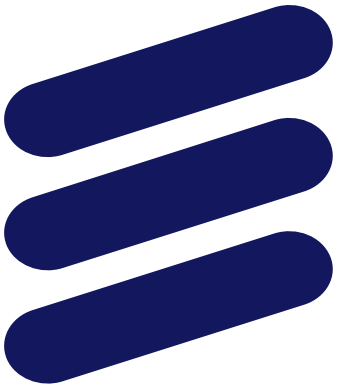
› Legislative AEMC*

› Executive AER enforces. AEMO manages**

› Judicial AER monitors compliance and investigates breaches

* Perhaps in cooperation with Standards ANZ

** As long as arrangements are set up properly and funding is independent.



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