SynchroPhasor Interoperability

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Manu Parashar

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SynchroPhasors & Interoperability

Interoperability is especially relevant to SynchroPhasors:

SynchroPhasors is a ***wide-area*** technology

$\Rightarrow$ *need for power companies to exchange this data.*

Applications are ***distributed*** at the substation, PDC, and EMS

$\Rightarrow$ *need to internally exchange data across applications.*

Utilities are moving towards an open framework & design solutions with 'plug-and-play' type of interoperability.

flexibility to 'pick-n-choose' solutions while reducing integration/maintenance costs.

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Some of the Current Limitations

Most WAMS systems are currently information islands, need to share data with SCADA and EMS applications.

SCADA & PMUs will co-exist for quite some time (complement each other).

⇒ *Mechanism to transmit time aligned and non-time aligned data.*

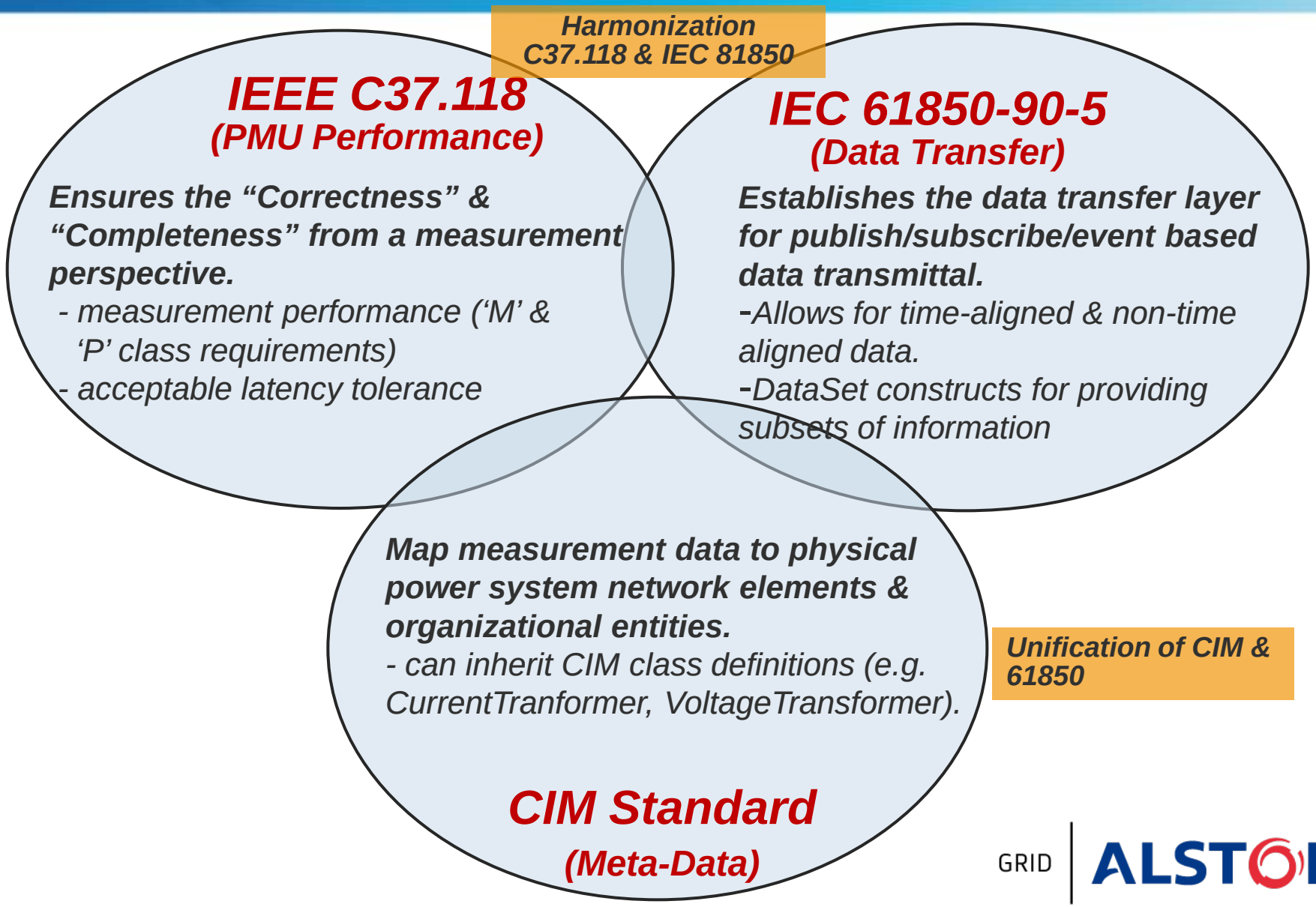
⇒ *Mechanism for mapping synchrophasor measurements to power system network data.*

The current IEEE C37.118 synchrophasor standard has deficiencies:

Communications:
- *Presently only supports real-time streaming data.*
- *No mechanism for re-requesting lost data.*
- *Cannot track delivery latency (i.e. "bottle necks").*
- *Limited security (CRC checks).*

Meta-Data:
- *No ownership information (e.g. Company, Vendor).*
- *No network connectivity information (e.g. mapping 'V' and 'I' meas.).*
- *No communications engineering information .*

Current Initiatives Underway



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Questions?