How to write and use standards

- Purpose of a standard
- Usage of standards
- Compatibility levels
- Configuration
- Compliance, conformance, test & certification
Purpose of a standard

• Horizontal standards
e.g. EMC, functional safety, applicable for different application domains (verticals).

• Product standards
  – Provisions how to build products that can interoperate or interwork with products claiming compliance to the same standard
  – Profile (Provisions how to build products that can interoperate or interwork with products claiming compliance to the same standard that is based on references to two or more other stds.).
Usage of standards

• Vendor selection of Options/resource values (min/max)/ list of capabilities/ list of services/ etc. of a standard.

• Combine several stds in one box, etc.

• Vendor specific implementation using some elements of a std. (incompatible/ coexistent or interconnectable or interworkable).
Compatibility levels

- Interchangeability, Interoperability, Interworkability, are typically outside of the scope of IEEE 802.3 and mostly outside of IEEE 802.1
- Coexistence and interconnectability is the scope of the IEC/IEEE 60802.

(Figure is used in IEEE P2413)
Configuration

• Manually configuring
• Automated configuring
  – autoneg.
  – Detection
  – etc.
• Preconfigured
Compliance, conformance, test & certification

• Claiming compliance: The IEC/IEEE 60802 will comply with the IEEE 802.1 and IEEE 802.3 standards by referencing selected content and provides constraints.

• Claiming conformance: A product conform to a standard if it at least fulfill the normative requirements of the standard. Mostly a product conform to more than one standard.

• A test & certification process can be used to claim conformance to a standard.