

# Data Sheets

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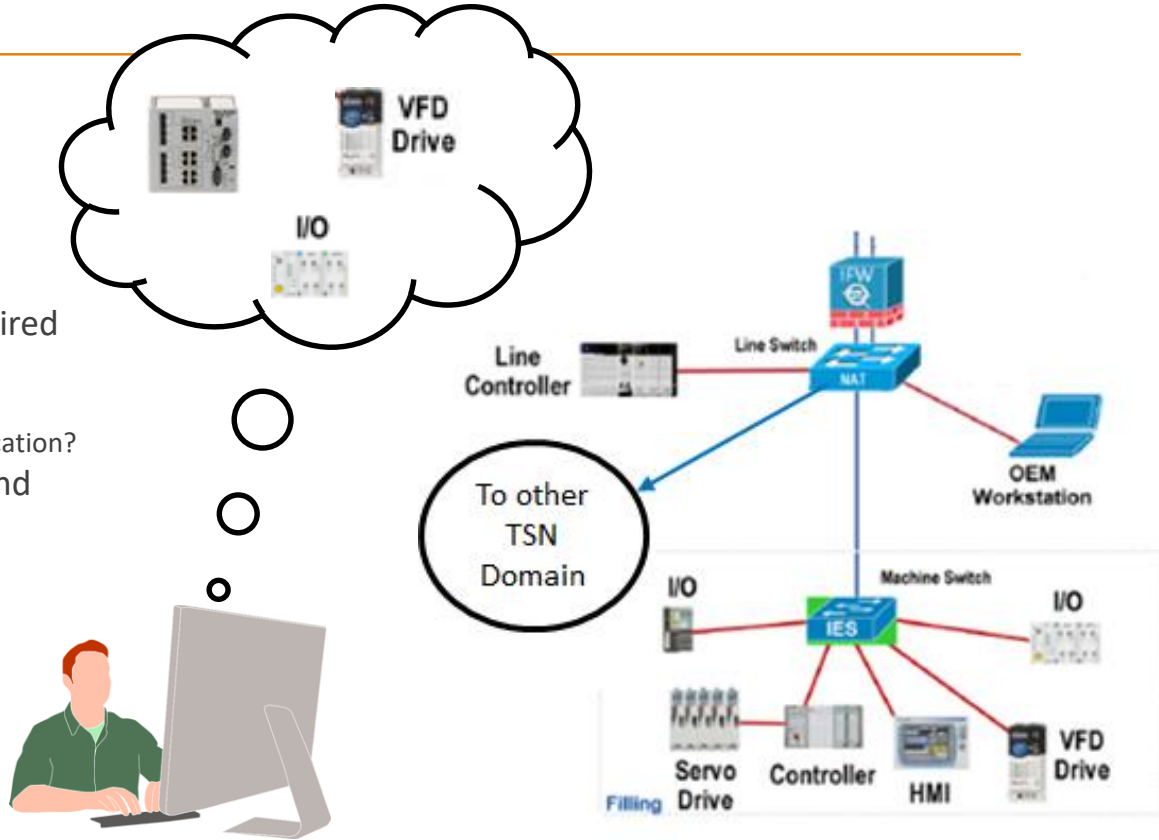




# Data Sheets Enable Intelligent Systems for Simulation, Emulation & Configuration

# Datasheets Enable New Workflow

- Multi-vendor database contains TSN validated components, devices, and infrastructure
  - Layout system architecture
  - Select Devices / Infrastructure with required attributes.
    - Which device is best suited for my application?
    - Which bridge / switch is best suited for my application?
  - Configure components at system level and offline
- Modeling & Simulation
  - Run system simulation
  - Model traffic and loading
  - Does it work?
- Runtime
  - Download system configuration
  - Run and monitor



# TSN Data Sheets

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- Define common TSN based attributes that allow for:
  - System modeling
  - System simulation
  - System level configuration
- Available offline (server) and online (from component)
  - Requires a multi-vendor catalogue database (out of scope)
- “Design-time” component selection
  - Which device is best suited for my application?
  - Which bridge / switch is best suited for my application?
- Data sheet parameters must be quantifiable, testable, and validated for conformance

# Considerations for a data sheet

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## End Devices

- I/O Devices, Controllers, Drives, Motion Control Products (Producers and Consumers of Traffic)

## Infrastructure

- Switches, Routers, Embedded Bridges, Security Devices (e.g., Firewall etc.)

# Considerations for a data sheet

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## End Devices

- I/O Devices, Controllers, Drives, Motion Control Products (Producers and Consumers of Traffic)
  - Is there support for:
    - Preemption
    - 802.1AS-REV
    - Qbv
    - Qci (Ingress Policing)
    - Wire speed
    - Quality of Service Parameters

## Infrastructure

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# Considerations for a data sheet

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## End Devices

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## Infrastructure

- Switches, Routers, Embedded Bridges, Security Devices (e.g., Firewall etc.)
  - Is there support for:
    - Preemption
    - 802.1AS-REV
    - Qbv
    - Qci (Ingress Policing)
    - Wire speed
    - Quality of Service (QoS) Parameters
    - Number of queues
    - Bridge Delay
  - Configuration protocol:
    - NETCONF, RESTCONF, SNMP
  - Discovery Services:
    - LLDP
  - Cut-through
  - LRP?
  - PRP?
  - .1CB
  - Wireless?

# Considerations for a data sheet

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- Vendor Specific Features should be supported
  - Allows for migration of existing installations
- XML or JSON formatted for portability and readability
- Specification in 60802 should include format and parameters
  - Parameters will be mandatory or not implemented
- Work required to determine hard-numbered parameters vs. configurable parameters
  - Focus on easily identifiable areas of agreement first. (I.e., “low-hanging fruit”)
- Avoid technical decisions that limit reasonable business decisions
  - For component, device and infrastructure suppliers
  - For end-users

Design the technology for market absorption!