

MxD 15-03-02	Category: Recurring Manufacturing, PO to 1 st Article
Title:	SPEC-OPS: Standards-based Platform for Enterprise Communication enabling Optimal Production and Self-awareness
Completion Date:	2017-10-31
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Problem Statement:

In a job shop, the scheduler/operations manager must analyze the current capacity and capabilities of the shop to plan operations and dynamically adjust to changes, supply chain disruptions, back orders, rush orders, and so on. Since a shop has multiple types of equipment, it is difficult to get them all to communicate. Unless the equipment speaks the same language, it is impossible for automated systems to analyze utilization, aggregate it, and support the operations manager in scheduling and other high-level decision tasks.

Summary:

SPEC-OPS is implemented to make all equipment fully compatible with communication standards. SPEC-OPS enables data-driven, proactive, and predictive dynamic planning and scheduling.

Adapters are installed on equipment that is not already standards-enabled. MTConnect Agent(s) and SPEC-OPS software is installed. An interface with MES/ERP and any automated planning solution or third-party software is configured. The operations manager can then use the SPEC-OPS platform to integrate dynamic shop floor data with current orders and jobs to optimally schedule resources to utilize capacity. The job schedules can be automatically pushed back to the MES/ERP.

Demonstrations were completed on DMG and HAAS machines. The machines were updated with MTConnect Adapters.