

The lean initiative

Linux and Digital Kanban

Most manufacturers have not achieved the performance improvements possible with lean manufacturing. While some steps in applying lean manufacturing principles have been taken, most manufacturing firms have not made significant progress in implementing lean manufacturing.

Reducing lead times through detailed flow techniques is the concept of a kanban system with a “push” manufacturing environment. IT managers are asked to develop methods for implementation of digital kanban systems, because a leaner production method is not created by paper (or card) kanban instructions that result in lost orders, duplicated orders, or supplier confusion. Constant breakdowns in information flow are a common problem in the manufacturing sector.

Linux and Digital Kanban: No obvious connection

Considering that Linux is an operating system for servers and digital kanban is a process related solution, there is no direct or obvious connection. However, according to Justin Diana, Vice-President of Datacraft Solutions, “Linux makes better economic sense to develop or run a digital kanban solution versus Windows.” According to Diana, “There is a paradigm shift in the investment and development community relative to “open source” technologies. The benefits that come from a global base of developers have made many of the open source technologies move to the forefront in many application areas.”

The majority of open source “diamonds in the rough” solutions revolve around the Linux platform far more frequently than in a Windows environment. The Apache web server has surpassed any other web server technology based on flexibility and reliability.

Many manufacturers have been implementing Demand Flow in the manufacturing plant for several years. While generally pleased with the benefits, progress is often slow and senior management becomes convinced that



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it needs to find a way to accelerate the results. The Vice President of Manufacturing and IT Managers take a personal role in identifying the barriers to faster implementation and often conclude that efforts are slowed by:

- Inability to share critical data
- No standard methodology
- The need to develop “home grown” tools
- Inability to draw on existing ERP data

According to Diana, the IT Manager works with a company like Datacraft Solutions and establishes digital kanban replenishment with key suppliers. This system replaces paper cards with a web site that instantly communicates the need for materials. Suppliers access this web site with a standard browser and see only the parts assigned to them. Status of the entire replenishment cycle is monitored and both the company and the supplier know the moment a milestone in the supply chain is missed. This instant identification of problems results in reduced part shortages and an improvement in on time delivery.

The major benefit to the company is to gain the results of lean at a much faster pace. Company management teams are able to complete 50 per cent more work in the same amount of time as a result of the digital kanban solution. The cost to market of developing digital kanban solution on a combination of a Linux platform base and some mixture of open source technology, personal IP and name brand applications is significantly more cost-effective than other alternatives. Ultimately, lean manufacturing is about eliminating waste; digital kanban solutions and the Linux environment are as well. **■20**

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