Zero Downtime Upgrade Success Story:

How American Axle and Manufacturing (AAM) was able to upgrade and consolidate multiple instances of Maximo with ZERO production downtime

AAM, a leading global manufacturer, needed to consolidate two Maximo systems into one single platform. The project was carried out with zero downtime and performed by consultants, allowing the company's IT team to focus on other strategic goals.

The Company

AAM is a global tier 1 automotive supplier who designs, engineers and manufactures systems and technologies to make the next generation of vehicles smarter, lighter, safer, and more efficient. The company, which is headquartered in Detroit, serves customers worldwide, including Ford, Stellantis, and GM. Established in 1994 and operating in nearly 80 locations, AAM serves over 700 global customers and prides itself on quality, operational excellence, and leadership.

The Challenge

AAM has been using Maximo since its early years, implementing the system for new sites as they were opened or acquired. However, AAM found itself operating two separate Maximo environments with two separate databases.

While its US plants had already been upgraded to Maximo 7.6 and were using a SQL server database, attempts to bring other sites live on the same instance had to be abandoned as the SQL database could not support local languages. As a result, these sites were running an outdated and unsupported Maximo 7.1, using an Oracle database.

AAM needed help to upgrade and migrate the two environments into a single, up-to-date system that would support all international sites and languages. Given the demands of the production schedule, the company needed to make the transition with as little downtime as possible with minimal risk.

Bill Quinlan, AAM Manager, plant floor IT systems , said: "When we upgraded previously from 7.1. to 7.6 on SQL, we were down for a weekend. The schedule would not allow that, but I wanted to get off the old platforms and upgrade everybody so we could focus on enhancements and integrations using a single platform."

The Solution

AAM chose Cohesive Solutions to help consolidate both Maximo environments into one. As the process would require a shutdown expected to last several days, the Cohesive team decided to leverage an existing partnership with SRO Solutions to use the SDU 'zero downtime' upgrade tool.

Cohesive used a streamlined version of its Momentum Methodology to manage the whole conversion, upgrade, and migration. The team built a new clustered Maximo environment using the most current supported versions of Oracle and virtualized Windows Server software. They also created a library of data migration mappings to accelerate the eventual migration and data clean-up to reduce cost and save time.

The operation was carried out in two waves. First, Maximo was upgraded from version 7.1 to 7.6, using the SDU tool. Next, data was migrated from the original SQL Server database to the new Maximo 7.6 Oracle database leveraging the same SDU mappings resulting from the first wave.

The Benefits

The upgrade was completed with zero downtime and without any unplanned issues.

Bill Quinlan adds: *"When we went live, nobody knew we were on the new system and there were no tickets related to upgrades. We had mapped the old URLs to new URLs so there was little impact.*

The time spent was a whole lot less than if we'd had to do an upgrade from start to finish without using the SDU tool. We would have had to put up servers, the installation, the files and so on. Cohesive pulled the files down and did the software upgrading. We didn't have to do all that.."

Two months later, the second wave was carried out when the 7.6 SQL was merged into the 7.6 Oracle along with some select data clean-up. Again, the operation was relatively stress-free.

The new system has had significant benefits for AAM:

- **Better functionality** - AAM now has an up-to-date, fully supported version of Maximo, which offers more advanced technology and can manage multiple languages.

- **Consolidated support** – by consolidating the two Maximo systems into one, AAM no longer has to deal with different databases and reporting systems. The new platform will provide a more consolidated approach to managing and supporting its global business, especially once the new sites are included.

- **Reduced costs** - The upgrade and migration were completed with no disruption to production or operations. By eliminating the cost of downtime, the project came in well under budget – in fact, both waves of the project were completed within the budget established for the first wave.

- **Saving IT staff time** - the use of external consultants to manage the project and the SDU to avoid downtime and disruption helped relieve the pressure on in-house staff, leaving them free to focus on other tasks more strategic to the business.
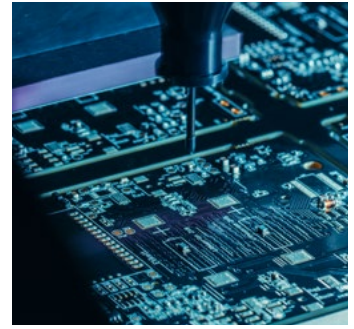
THE STRATEGIC VIEW
How AAM uses IT to support business growth

With the upgrades and consolidation now complete, and the implementation of new sites almost at an end, the AAM team is now looking at other ways to use Maximo to drive the growth of the business.

Bill Quinlan, who joined the company in 2005, has years of experience applying IT within manufacturing industries. He takes a strategic approach to IT development. *"That's what every good business system should do. You can't just have a great IT system; it has to provide value to the business,"* Bill explains.

He adds: *"We're currently using Maximo for asset management, but next year we going to do more with it, for example, integrate it with our ERP system. We are looking at global Maximo. We have a five to seven-year business plan for Maximo, which includes consolidating and streamlining it and moving it down the road. We've certainly made progress towards that by using the SDU tool."*

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