



For a large multinational defense contractor, strong data governance is a vitally important foundational capability.

BAE Systems relies on xDM from Semarchy to master critical business data and enable data champions throughout the enterprise.

BAE Systems is one of the world's largest defense contractors. The UK-based multinational company employs more than 80,000 people in over 40 countries, and specializes in the development, engineering, and manufacture of military and security solutions for a wide variety of customers and partners.

The company emphasizes the use of leading-edge technological solutions, and there is an ongoing focus on how to best maintain and harness the enormous amount of operational and engineering data the business relies upon.

Tony Croughan is the Head of Program for Business Transformation within the company's Military Air & Information (MAI) business. He describes a current effort to deploy a new Master Data Management

(MDM) capability throughout MAI. "We're doing a major transformation of our back-office systems," he says, "and it necessitates data consistency to assure the integrations between all those different systems."

The transformation initiative includes a replacement of their primary Export Control platform and an upgrade to important compliance processes and systems. "We knew at the beginning that these efforts couldn't be achieved without robust interdependency management across the programs," Croughan says, "so getting MDM right is a particularly critical requirement for us."

A Modern MDM Solution

MAI has previous institutional experience with MDM, but Croughan and his team were looking for a

better solution than what had been used previously. "The MDM projects have been reasonably successful," he continues, "but they have required significant development effort. It was always manually intensive to add in data as new transactions occurred, and we needed a mish-mash of tools for the user experience layer. The solutions were technically complex and as a result there was little or no business user involvement or stewardship."

Croughan says this issue of business stewardship is particularly important in a company as large as BAE Systems. "Our organizational matrix is comprised of a number of functions and businesses, so what's key for us is to make sure we have ongoing stewardship of our data and that the ownership model is clearly understood."



Research from both Gartner and Forrester pointed to Semarchy as a disruptive innovator on the MDM landscape, and as Croughan began learning more about the platform he began to see a number of differentiating factors. “Semarchy emphasizes an agile, iterative deployment methodology,” he explains, “while the traditional competition usually requires a big-bang deployment. We saw a number of products that focused on dedicated application verticals, while xDM from Semarchy is a single multi-domain solution.”

As part of their evaluation, Croughan and his team did site visits with existing Semarchy customers and performed a close examination of the technical capabilities of the platform. “The technical evaluation is really what drove the decision for us,” Croughan says. “We had confidence that Semarchy could meet our requirements, and we began to see that we were choosing a tool set that would have broader applications across the enterprise once it was deployed.”

Croughan also says there were concerns that the larger legacy players couldn't provide the close level of

technical support reported by existing Semarchy clients, and a final key factor for the team was the expectation that Semarchy would be a tool that users throughout the company could rely on. “The strength of the embedded data quality component and the business-friendly facades were things we saw as a benefit for when we transitioned from the transformational program into an ongoing business-as-usual type environment.”

Jump-Starting Outcomes with the Proof of Value

BAE Systems decided to move forward with xDM from Semarchy, and Croughan's team initiated a Proof of Value (PoV) phase to begin deploying the platform. He explains the benefits of the PoV approach: “We set up the Proof of Value environment, and that allowed us to work through data provisioning, data discovery, and the extract/transform/load requirements. We did a first iteration of our initial design, and then did a second design after that.”

Beyond testing the technical capabilities of the platform, Croughan points out that the PoV also allowed his team to test the working partnership with Semarchy. “What you're effectively doing,” he says, “is taking the tool set and using it directly to determine whether it does what you need it to do. And you're doing it in a more

realistic way than if you just took a piece of software off the shelf because we were able to bring the working team together. We used Semarchy expertise, we had some of our own developers, and then we used a third-party organization as well. So there was a coming together of all the entities that would be required to deliver the solution, and then by halfway through the PoV process we knew the team was going to be able to deliver a platform that would meet our requirements.”

Croughan also describes how the PoV helped further the project's goals within the broader context of MAI. “By running the Proof of Value,” he explains, “we were able to accomplish a key requirement of the due diligence activity that's needed around a new software tool. In a large organization like ours we have to go through a fairly rigorous selection process for any new software. So the PoV was part of de-risking and using a vendor that we didn't know previously. It ended up accelerating the selection process.”

“And the key thing,” Croughan says, “is that we were able to reuse the work and the value that was delivered within the PoV. A lot of software application vendors will lock you into a solution, and then you run some kind of a pilot. But then you scrap the pilot when it comes time to build the real product. So what we especially liked with Semarchy was that while

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the PoV helped demonstrate the value to the business, we were also building something that then was useable in the configuration and implementation phase. Rather than doing work that you effectively throw away, it was an exercise we could build on and deliver against, so that there's a tremendous amount of actual value added in the exercise.”

After demonstrating value with the PoV, BAE Systems contracted with Semarchy and began a series of iterative development phases to configure and deploy the MDM platform. Through each phase they have continued to refine the rules governing the data and how the solution works within each specific domain.

Enabling Data Champions with Semarchy

With the deployment phases ongoing, Croughan says his team is already identifying business outcomes that are part of the project's overall success criteria. “We have demonstrable improvements in terms of the data cleansing activities we've been going through,” he says.

“We're in the process of cleansing a few different types of data. Parties are our customers and suppliers, and this data is usually held in the ERP system. Licenses are the export licenses that allow us to trade military hardware. And Components are the

products used in aircraft construction. In all three of these domains we're finding that the data cleansing is far easier and much faster with xDM. We have vastly improved the integration capabilities between systems, and the tool has reduced the need for manual intervention and master data remediation.”

“Some of the data migration has been simplified,” he continues, “so Semarchy's agility is already enabling us to be more efficient in these data cleanse activities. The message coming back from the teams doing this work is that the tool is far more efficient than anything we've used previously.”

For Croughan and his team, the tool must also be simple enough that anyone can use it without deep IT expertise or specific training. “We expect that this tool will be used by a wide variety of functions across the business, so ease-of-use has always been a key requirement for the project. We're really looking to enable data champions across the whole landscape of the business.”

Croughan offers the example of business teams being able to work directly with the tool to comply with various export control regulations. “Instead of needing to rely on IT resources for data stewardship, the businesses will be empowered to access and work with the data directly.”



Risk Management Through Master Data

“And this brings us to another one of our most significant criteria for this project,” Croughan says. “Ultimately, a main goal we’re working toward here is risk mitigation. When we did the business case for the larger program that MDM fits into, the high-level benefit was clearly around risk mitigation, and specifically, enhanced compliance with export control regulations.”

“One of the problems we’re solving,” Croughan explains, “is that when we bring components into the organization, we don’t necessarily have visibility into all of the controlled items in a particular component.” He gives an aircraft black box as an example. “We buy the black box at what is called a ‘Line Repairable Unit (LRU) level,’ and within that black box are a number of different components, some of which are controlled items.”

“With our previous systems, we needed to manually track the subcomponents that were controlled items, and this presented a certain amount of risk. xDM has given us the ability to add subcomponents to our Controlled Parts Register (CPR) at a much more granular level than before. Ultimately, this allows

bill-of-material management at a level far lower than you can typically get from an ERP system.”

Croughan says the ability to manage the CPR at this more detailed level is a key mechanism for enhancing their internal export compliance controls. “With this project, we’re building an automation of the data management so that compliance doesn’t solely rely on individuals getting hundreds of bits of detailed information exactly right every time.”

A Foundational Capability for the Enterprise

As Croughan’s project has demonstrated value within their current scope of work, other areas of the organization have taken notice. “We’re doing the Semarchy xDM deployment within one transformation program,” he explains, “but there is clearly value to be added in different parts of the business as well. The engineering folks in particular are very interested in leveraging the capability for different applications within their domains.”

Croughan says there are a number of legacy systems that manage engineering and product data for aircraft components. He says the

possibility of expanding the tool’s use was one of the key reasons for choosing Semarchy in the first place. “Even during the initial PoV we could see the scalability and the transferability of this tool into a wider space within the organization.”

As the transformational initiative continues, Croughan is very pleased with performance of xDM, and how it fits into the organization’s tool set. “As a leading defense, aerospace, and security company, we’re very open to cutting-edge technology,” he says. “So we’re looking to the marketplace on a regular basis to make sure we’re staying current and taking advantage of the best technologies that are available.”

“When we began this project, we knew at a high level what we wanted to accomplish, and we had a high-level understanding of what the design would look like. But the devil’s often in the detail. We’ve found that one of the true strengths of xDM is in its change tolerance. So as we’ve changed detailed elements of the design while going through this process, the tool set has been tolerant to that change. The product is very flexible, and we’ve found Semarchy as a company to be just as responsive.”

Semarchy

Semarchy is the Intelligent MDM™ company. Its xDM platform is an innovation in multi-vector Master Data Management (MDM) that leverages smart algorithms and material design to simplify data stewardship, governance and integration. It is implemented via an agile and iterative approach that delivers business value almost immediately, and scales to meet enterprise complexity. The technology is in use at some of the most well-known B2B, B2C, consumer and product brands in the US and Europe, supporting all domains, styles, organizations, industries and use cases in one environment that adapts to evolving business requirements.

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