



TIME XTENDER | KOMATSU

Komatsu deploys data estate to Microsoft Azure and enables instant access to data with TimeXtender's Discovery Hub®

Komatsu Australia offers its customers products, parts and services for a full range of earthmoving, mining, construction and utility equipment. As a fast-moving organization and early cloud adopter with multiple data sources, a system was required to receive instant access to data for real-time visibility into operations.

EARTHMOVING VEHICLES, DIGITAL TRANSFORMATION

Almost 100 years ago, Komatsu was established and soon afterwards built its first crawler tractor. Since then, it has developed the world's most extensive range of earthmoving, mining, construction and utility equipment. Komatsu has a deeply integrated approach to research, development and design, with technology ingrained in every aspect of this process. From the innovative human/machine interactions built into the machines, to their range of self-driving autonomous haulage vehicles and even the collection of data from these machines, Komatsu has fully embraced digital transformation while ensuring that technology developed in one industry sector flows to other sectors.

Today, Komatsu Australia offers a full range of products, parts and a reliable service network to meet their customers' needs. Products are directly marketed, serviced and supported throughout Australia, New Zealand and New Caledonia, while factory ownership and national coverage ensure the shortest possible lines of communication between manufacturing facilities and distribution outlets. This allows for faster response times to customer needs and more efficient handling of special requests.

As a fast-moving organization with a great need for information – to aid in planning, decision making and monitoring – and with multiple systems – including a new deployment of Microsoft Dynamics AX for operational data, KOMTRAX for telemetry data and LIMC for fluid sampling data forming part of the core data environment – visibility across all the systems needed to be improved.

CLOUD ADOPTION FOR DATA MANGEMENT

With data from three business critical systems identified as a must-have, and the possibility of additional internal and external data sources being added, Komatsu needed an information data estate that could support future growth from both a source and complexity perspective. It was of course also desired that this solution would have the quickest time-to-value for the business. After an evaluation period, TimeXtender's Discovery Hub® was chosen for its powerful data management capabilities, ease of use, Microsoft aligned cloud strategy and powerful Dynamics AX adapter.

Being an early cloud adopter, some of Komatsu's key technical success factors for the project were to have the infrastructure and services supporting their information data

MANUFACTURING & RESOURCES

CUSTOMER BACKGROUND

- Manufacturing company established 100 years ago
- Developed the world's most extensive range of earthmoving, mining, construction and utility equipment
- Products are sold throughout Australia, New Zealand and New Caledonia

CHALLENGES

- Needed an information data estate that could support future growth from both a source and complexity perspective
- Improve visibility to all systems and business decision making, response times and handling of special requests

SOLUTION

- TimeXtender's Discovery Hub® was chosen for its powerful data management capabilities, ease of use, Microsoft aligned cloud strategy and powerful Dynamics AX adapter
- Used the Discovery Hub®'s built-in Dynamics AX Adapter to abstract ERP database data, which was rapidly and securely sourced into Komatsu's information data estate

BENEFITS

- Fully automated and controlled documentation
- Improved accessibility to our data and resulted in more informed decision making
- Set up to take further advantage of Azure with AI and Machine Learning

estate deployed to Microsoft Azure while catering for Development, User Acceptance Testing and Production environments with strong version control and governance. Discovery Hub®'s Azure Certification, ability to deploy through the Azure Marketplace, built-in environment migration functionality – allowing for the seamless environment promotion – and the Team Development with versioning capabilities, helped to meet all the technical requirements.

The first phase of the project focused on data from the Dynamics AX environment. Using the Discovery Hub®'s built-in Dynamics AX Adapter to abstract some of the complexity in the ERP database, data was rapidly and securely sourced into Komatsu's information data estate. The adaptor's tight coupling and understanding of the AX data structure allowed for an extremely rapid time-to-value with dashboards becoming available in a matter of weeks. Once the AX data was integrated, data from KOMTRAX and data from LIMC were integrated and modeled in Discovery Hub®, creating a contiguous view of related data from the systems while maintaining the unique data aspects of each.

This robust information data estate, built using Discovery Hub®, now forms the foundation from which Komatsu can address any data related use case. Specifically, this means that core analytics can be achieved through Discovery Hub®'s Semantic Layer – with dashboards served up via Power BI – whilst providing a platform from which deep learning algorithms can be trained and fed using the same data asset that is continually updated and maintained.

COST SAVINGS AND INSTANT ACCESS TO DATA

Implementing Discovery Hub® has had many benefits, with one of the most important being the creation of a future-proof information data estate. This benefit was clearly illustrated when it was decided to move from Azure SQL DB in an Elastic Pool to Azure SQL DB Managed Instance, due to data size and granular environment management constraints.

Using Discovery Hub®'s native capabilities to deploy to any supported Azure Data Service, the UAT environment was successfully migrated to SQL DB MI in just 2 days, forming the successful test case based on which the full production environment was migrated. All of this was achieved in less than 2 weeks, while still complying with all required change control and governance procedures. As John Steele, Komatsu's General Manager of Business Technology reported, "We were able to deploy our TimeXtender solution into production on Azure SQL Database Managed Instance in a matter of weeks. We immediately realized a 49% cost savings and a 25-30% performance improvement, and the promise of applying artificial intelligence through machine learning to our data is an exciting opportunity for us."

While the ability to seamlessly migrate to the most suitable Azure Data Service is a major technical benefit, the biggest business benefit lies in the fact that Discovery Hub® has empowered Komatsu's decision makers and enabled instant access to data for real-time visibility into operations. This has significantly improved accessibility to our data and resulted in more informed decision making.

With the information data estate successfully laid down, Komatsu is now set to take further advantage of Azure with AI and Machine Learning, which are on the horizon to help improve understanding and decision-making of complex data points.

“ We immediately realized a 49% cost savings and a 25-30% performance improvement, and the promise of applying artificial intelligence through machine learning to our data is an exciting opportunity for us.

John Steele, GM of Business Technology & Systems, Komatsu

You're in good company

TimeXtender's Discovery Hub® provides companies with instant access to data, enabling them to make quality business decisions with data, mind and heart. Because time matters.

To learn more about Discovery Hub® and how the power of automation can move your business forward, visit:

www.timextender.com