

# From complexity to resilience: BUMA's SAP transformation on Microsoft Azure



## Client profile

PT Bukit Makmur Mandiri Utama (BUMA) is one of Indonesia's largest and most established mining contractors, delivering end-to-end mining services across multiple operational regions. The company manages extensive business-critical systems that demand high availability, scalability and secure digital infrastructure.

BUMA partnered with NTT DATA to move its SAP S/4HANA environment to Microsoft Azure and improve the efficiency of its business-critical mining operations. NTT DATA assessed the existing SAP landscape and designed an Azure-optimized architecture, giving BUMA a more resilient, scalable and cost-effective SAP foundation with stronger system performance, faster recovery and the flexibility to support AI-assisted insights and automation in the future.



NTT DATA brought the technical depth, discipline and structured methodology required for a transformation of this scale. Their SAP on Azure expertise, clear guidance and strong collaboration with both Microsoft and our internal teams, enabled us to accelerate the project timeline while maintaining quality and minimizing risk.”

**Edwin Rene Asparsayogi**  
IT Head, BUMA

## 98%

reduction in business continuity  
recovery point objective

## 80%

reduction in recovery time  
objective operational downtime

## 3½

months to migrate SAP S/4HANA  
across development quality  
assurance and production systems

## Business need

### Powering transformation with enhanced performance, greater scalability and lower cloud costs

BUMA operates large-scale mining operations in multiple regions, relying heavily on SAP S/4HANA and related systems to manage logistics, operations, finance, workforce and supply chains. BUMA's on-premises SAP environment provided variable performance and was limited by hardware scalability and legacy infrastructure, making it increasingly difficult to accelerate and support future business expansion and digital modernization initiatives.

In addition, its existing disaster-recovery posture no longer met the company's recovery time and recovery point expectations. Stakeholders raised concerns about latency, system responsiveness from remote mining locations and the need to strengthen operational resilience. With operational timelines tightening and coordination required across multiple stakeholders, BUMA needed a robust, cloud-ready architecture that could scale rapidly, deliver consistent performance and improve system reliability.

BUMA also aimed to modernize its SAP foundation to support future use cases such as AI-assisted forecasting, operational insights and intelligent automation capabilities.

After several technical discussions and a proof-of-concept (POC) cycle involving Microsoft, NTT DATA and BUMA's IT teams, it became clear that Microsoft Azure offered the flexibility, resilience and performance required. BUMA needed a migration strategy covering SAP S/4HANA, related SAP applications, network modernization and a fully defined disaster-recovery solution. To achieve this, BUMA engaged NTT DATA as the primary partner to design, build and transition its business-critical SAP systems to Azure.

## Solution

### SAP S/4HANA migration with Azure-optimized architecture

NTT DATA delivered a comprehensive SAP on Azure transformation for BUMA, beginning with assessment of the existing SAP S/4HANA landscape across Development, Sandbox, Quality Assurance and Production. The team designed a cloud-ready blueprint covering compute, storage, networking, identity and highly available SAP and disaster-recovery architecture.

The landing zone integrated BUMA's software-defined wide area network (SD-WAN) connectivity to support stable, low-latency access for mining sites and headquarters. NTT DATA migrated SAP S/4HANA, Solution Manager, PI NetWeaver, SAP Router, SAP Agents and connected systems to the cloud. The migration was phased to balance stability and speed, enabling BUMA to continue business operations without disruption.

The solution also included a detailed disaster-recovery architecture leveraging Azure Site Recovery, multiregion design and synchronization mechanisms to meet strict recovery point objective (RPO) and recovery time objective (RTO) requirements. The team implemented network segmentation, Proximity Placement Groups for optimal SAP S/4HANA performance, and SAP-recommended virtual machine sizing with premium storage.

Throughout the project, NTT DATA collaborated closely with BUMA and Microsoft during planning, execution, performance testing and remediation. Extensive POC testing and performance benchmarks confirmed that SAP workload performance improved significantly once migrated to Azure, meeting BUMA's internal requirements for go-live readiness.

## Outcomes

### Stronger performance, resilience and operational readiness for BUMA

Following the migration, BUMA achieved a significantly more resilient and scalable SAP environment. System performance improved through optimized virtual machine sizing, updated network architecture, proximity placement groups and latency remediation across regions. SAP Quality Assurance and user tests across more than eight operational sites confirmed smoother transaction processing, reduced round-trip times and more consistent performance during peak workloads.

The new Azure-based disaster-recovery solution reduced RTO and RPO from approximately 24 hours on the previous on-premises solution to as low as 4 hours RTO and 15 minutes RPO, dramatically improving BUMA's business continuity posture. Azure Site Recovery and geo-redundant architecture enabled BUMA to perform disaster-recovery drills with minimal operational interruption, creating confidence in the company's preparedness.

The cloud-based design also positions BUMA for long-term scalability, with a cloud-ready platform capable of supporting AI-driven initiatives. With infrastructure modernization completed, BUMA can expand compute, storage and SAP functional modules more easily, while leveraging Azure's monitoring, automation and governance frameworks. NTT DATA's structured approach guided the project through coordinated phases — assessment, migration, validation and readiness — resulting in a stable production go-live and smooth post-migration support. This transformation provides BUMA with a robust digital foundation that supports continued operational excellence in Indonesia's demanding mining environment.

With a modern SAP landscape on Azure, BUMA is now positioned to adopt AI-enabled operational insights, predictive modeling and automation to improve business efficiency.



Our SAP landscape is deeply embedded in mining operations across Indonesia, and migrating from legacy on-premises hardware carried significant risk. Our challenge was ensuring the new Azure environment could deliver the performance, stability and continuity we depend on, requiring close alignment and clear technical decisions across multiple teams.”

**Edwin Rene Asparsayogi**  
IT Head, BUMA

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