YASH Technologies®

More than what you think.

Case Study

Lifting and shifting Microsoft workloads at scale to AWS

About the Client

The client is the pre-eminent, full-service national provider of the industry's premier brands. It is one of the largest fastener distributors globally. As a renowned building material wholesaler in North America and an exclusive distributor of several iconic brands, the company also offers value-added consulting and retail services worldwide. Client owns a distinct advantage operating both as a leading manufacturer of proprietary brands and a distributor of premier third-party brands.

Engagement Snapshot

Industry: Construction Materials

Headquarters: United States

Project Type: Migration of SAP along with DR Site with Amazon Web Services (AWS)

Engagement Model: Offshore

Key Technologies: AWS, Microsoft Windows Server, Microsoft SQL Server, SPA Workload, AWS CloudEndure (Now called MGN), Jira, etc.

aws PARTNER Advanced Tier Services

- Public Sector
- Immersion Day
- Solution Provider
- Amazon EMR Delivery
- SAP Services Competency
- Amazon Kinesis Delivery
- Amazon Redshift Delivery
- DevOps Services Competency
- Well-Architected Partner Program

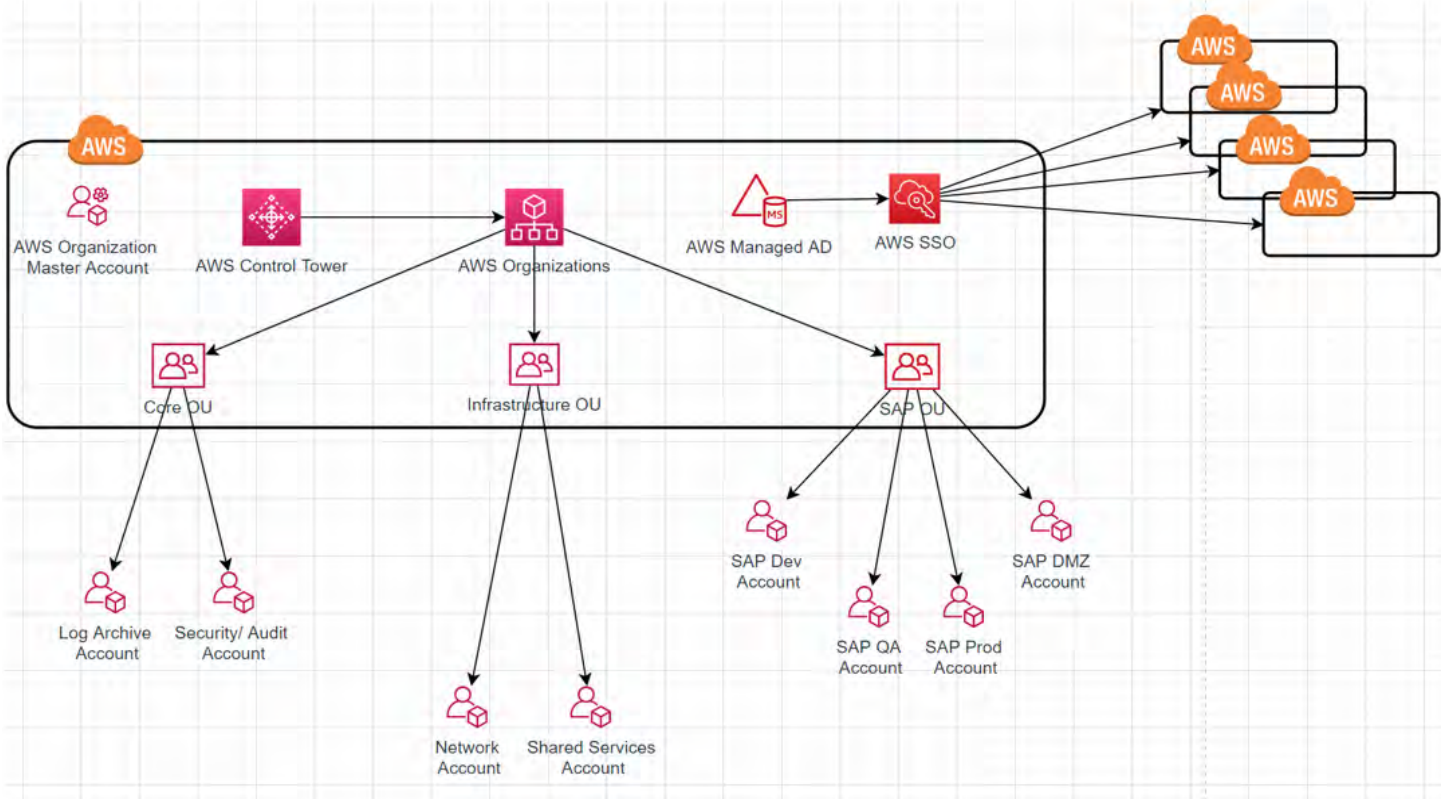
The Challenge

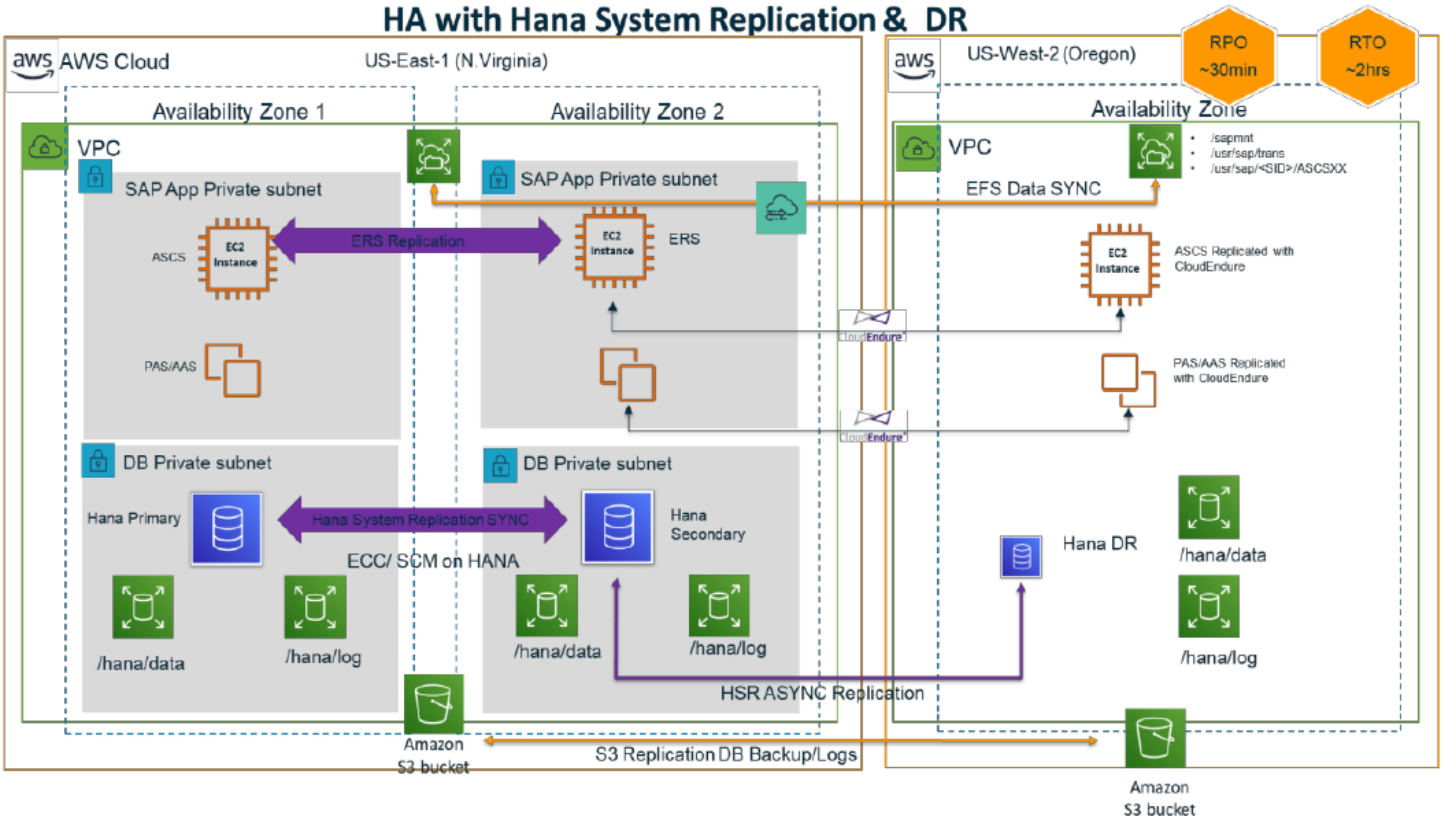
"The client brought YASH in to help with their digital transformation," says Nitin Gupta, Global Head-Digital at YASH Technologies. "As with most large organizations running their own data centers, they needed to modernize their infrastructure to take advantage of the scale, cost, and availability benefits that migrating to the cloud offers."

Infrastructure modernization encompasses a range of activities to enable business agility and optimize costs, investing in high-value innovation and transformational technologies rather than maintaining monolithic legacy environments. It includes replacing legacy hardware and software solutions, consolidating and rationalizing the infrastructure footprint, migrating to cloud-native systems, and building in automation, orchestration, and telemetry.

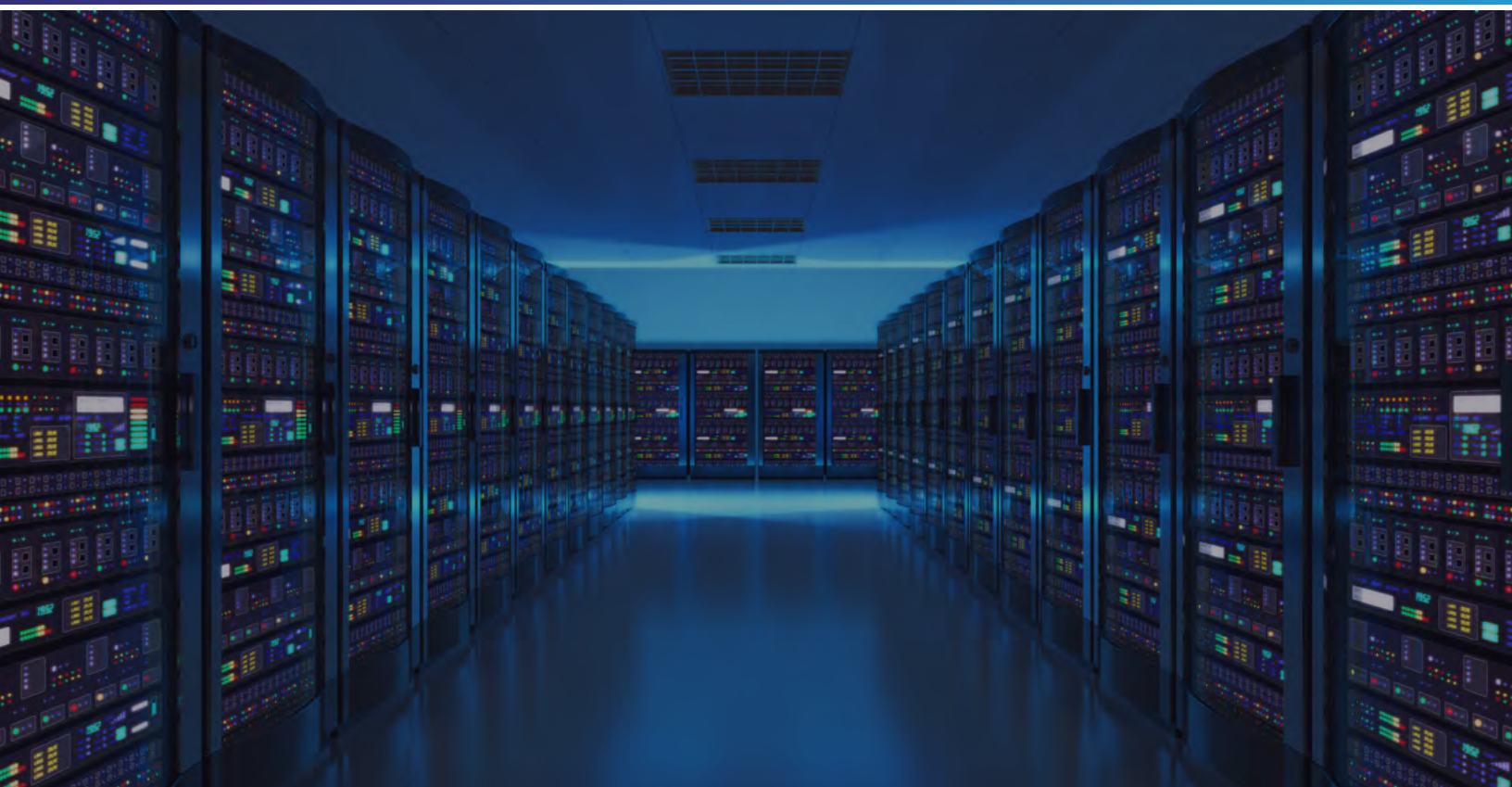
"Based on years of experience across different industry sectors, YASH Technologies' digital transformation consultants leverage proven best practices to help customers identify where and how they can make meaningful digital changes to their business," explains Nitin Gupta. "Designed to enable and empower our customers, YASH Technologies' broad portfolio of digital transformation services incorporates the full-service lifecycle from discovery and strategy to architecture and implementation—complemented by project management, knowledge sharing, and coaching."

The Solution





The client's environment was quite complex with a lot of legacy applications. YASH usually identifies the optimal migration strategy for each workload, which might entail rehosting, refactoring, revising, rebuilding, or retiring and replacing applications based on a structured approach. However, the client wanted YASH technical team to migrate all of their applications to the cloud as quickly and seamlessly as possible, after which they would assess and optimize the environment."



Choosing the Right Strategy

After evaluating the client's environment using YASH Technologies' proven cloud readiness assessment, the team decided to leverage AWS's lift and shift migration methodology, *CloudEndure Migration (now called AWS Application Migration Service)*, due to the number and variety of applications.

Automatically converting any application running on a supported operating system, CloudEndure (Now called MGN) simplifies, expedites, and automates migrations from physical, virtual, and cloud-based infrastructure to AWS, enabling full functionality while eliminating compatibility issues. During the replication process, applications continue to run with minimal downtime and no performance impact while non-disruptive tests occur in the new environment. After a relatively short cutover window, migrated workloads can run natively on AWS.

Ensuring Connectivity

"While using CloudEndure (Now called MGN) to migrate workloads with sounds relatively simple and straightforward, it's not," says VP of leading Construction Materials company. "The client's environment encompasses many branches spanning different locations and industries. Our challenge was to migrate all of the applications and ensure fast, stable connectivity between AWS and the branches."

A further complication was that not all AWS regions support CloudEndure (Now called MGN), so the YASH Technologies team had to choose one that best covered the sphere of the client's operations, especially considering that CloudEndure (Now called MGN)'s control plane is hosted in northern Virginia on the east coast of the USA. In the end, they migrated the environment to the Europe (Ireland) region which offered the best balance between availability and performance, with the option to replicate to other regions if required.

Facilitating secure connectivity via VPNs from remote branches and data centers, YASH Technologies set up a shared services cloud incorporating multiple private and public subnets spanning availability zones for maximum availability and security. Simplifying access to Amazon EC2 instances and supporting many AWS services and third-party applications, *AWS Active Directory (AD)* was implemented to provide a cost-effective and highly-available primary directory in the AWS cloud for managing users, groups, and devices.

Maximizing Availability

One of the first things YASH Technologies did was split the client's infrastructure into two—production and user acceptance testing (UAT)—using Amazon Virtual Private Cloud (VPC) spanning multiple subnets separating the client's private, internal applications and Microsoft SQL databases over Microsoft Windows EC2 instances from publicly-accessible applications. VPC is an AWS service enabling users to define logically-isolated virtual networks for complete control over resource placement, connectivity, and security.

Once VPC was set up through the AWS service console, YASH Technologies added *Amazon Elastic Compute Cloud (EC2)* and *Amazon Simple Storage Service (Amazon S3)* resources, providing the client's with a reliable platform matching the demands of the workload—including industry-leading data availability and performance. The YASH Technologies team also implemented *AWS Transit Gateway* to connect VPCs, AWS accounts, and on-premises networks via a single, scalable central hub, simplifying the network and eliminating the need for complex peering relationships.

Enhancing Security

Ensuring data protection for the client's business, customers, and employees, YASH Technologies secured the environment with AWS Certificate Manager (ACM)and AWS Key Management Service (KMS). ACM eliminates the time-consuming and error-prone manual certificate acquisition process by simplifying the provisioning, deployment, and management of SSL/TLS certificates across applications and websites. KMS delivers a single control point for managing keys and defining consistent policies spanning integrated AWS services and in-house applications. In addition, KMS is integrated with AWS CloudTrail to provide an audit log of key usage.

With the client's content delivery network (CDN) vulnerable to DDoS attacks, YASH Technologies implemented *AWS Web Application Firewall (WAF)* to protect the environment, providing control over which traffic is allowed or blocked according to clearly-defined security rules. In addition, AWS WAF protects web applications and APIs against common web exploits and bots that may compromise security or consume excessive resources, impacting availability.

YASH Technologies also implemented *AWS Control Tower*, *Amazon GuardDuty*, and *AWS Security Hub* for increased protection and visibility. Control Tower offers an easy way to set up and govern a secure, multi-account AWS environment using best practices. GuardDuty is a threat detection service continuously monitoring AWS accounts, workloads, and data stored in Amazon S3's for malicious activity and unauthorized behaviour. At the same time, Security Hub is a powerful security tool for aggregating, organizing, and prioritizing security alerts across multiple AWS services.

Maximizing Observability

Aligned with the overall AWS strategy and offering simplified operational analysis and troubleshooting of both applications and infrastructure, YASH Technologies replaced the client's legacy monitoring tools with *AWS CloudTrail*, AWS CloudWatch, and *Amazon Inspector*. Monitoring and recording user activity and API usage, CloudTrail helps to meet compliance obligations and improve the organization's security posture, while CloudWatch collects monitoring and operational data for on-premises environments and more than 70 AWS services.

The data and actionable insights collected allow the client's IT team to monitor applications, detect anomalous behaviour, respond to system-wide performance changes, and optimize resource utilization. In addition, an automated vulnerability management service, Amazon Inspector, continually scans the client's AWS workloads for software vulnerabilities and unintended network exposure.

Optimizing Costs

YASH Technologies' initial mandate was to ensure availability, connectivity, and reliability irrespective of cost. Once that was accomplished, YASH technical team looked for ways to optimize costs-especially for Amazon EC2 and reallocate the savings to other areas.

Leveraging the powerful machine-learning insights of *AWS Compute Optimizer*, YASH Technologies' consultants identified optimal compute resources across the client's EC2 instances, including those allocated to Amazon EC2 Auto Scaling groups. The team also disabled several unused services and optimized costs at the infrastructure level using *AWS Saving Plans*, a flexible pricing model offering savings of up to 72% on AWS compute in exchange for a specific usage commitment over either a one- or three-year term.

Key features for Windows Landscape

Currently, PrimeSource operates on 194 windows servers with 41 Linux servers and 16 Microsoft active directory. Windows landscape covers implemented by YASH for the client covers:

- 28 Windows AD/ADC servers spread across multiple AWS regions and on premises to avoid single point of failure and redundancy
- All the Non-SAP application workload leverages Microsoft SQL Server standard edition. As standard edition does not support MSSQL HA, YASH experts leveraged DRS for MSSQL disaster-recovery
- WSUS is deployed for the latest Microsoft product updates and patch management
- All the customer intranet and internal application are hosted on Microsoft web server (IIS)
- Windows failover cluster has been configured to handle automatic application failure

Results & Benefits

"We initially undertook the migration with a certain amount of trepidation owing to the number of applications and complexity of the client's environment," states Nitin Gupta. "However, looking back, I'm amazed at how smoothly everything went. The combined team of AWS, YASH Technologies, and the client experts worked hard to create a plan that met the project's goals- on time and within budget."

Moreover, with a highly-available, scalable infrastructure with separate staging and production environments alleviating operational headaches, the client's IT team enjoys the flexibility of provisioning applications on-demand, speeding up the time to value for the business. In addition, by optimizing their costs, they have more money to invest in innovative, high-value projects.

- Experienced a ***noticeable performance improvement*** for the delivery application
- At least ***37%*** operational ***cost savings***
- ***Increased availability*** of resources and performance by more than ***40%***
- ***Reduced*** Security Incidents by ***65%***

For more information contact YASH today at *info@yash.com* or visit *www.yash.com*

About YASH Technologies

YASH Technologies focuses on customer success. As a leading technology services and outsourcing partner for large and fast growing global customers, the company leverages technology and flexible business models to drive innovation and value throughout its customer's enterprise. YASH customer-centric engagement and delivery framework integrates specialized domain and consulting capabilities with proprietary methodologies and solution offerings to provision application, infrastructure and end-user focused Right-Sourcing services. YASH is a SEI CMMI (Level 5) and an ISO 9001:2015 certified company with U.S. and India headquarters and regional sales and development offices globally with customers spread across 6 continents.

Global Presence

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