Cognizant®

Driving Digital Experience through the Cloud

Here's how businesses across industries are realizing new levels of agility, resilience, security and efficiency through the cloud.

November 2019

Foreword
The Future of Business Is In the Cloud

Cloud has proved to be a fast and powerful means for companies to transform customer experiences, modernize their IT infrastructure, and cost-effectively implement business and customer-facing applications and services. No wonder, then, that IDC expects spending on off-premises cloud IT infrastructure to grow at a five-year compound annual growth rate (CAGR) of 11.7%, reaching $47.2 billion in 2021. Public cloud data centers will account for 80.4% of this amount. Combined with on-premises private cloud, overall spending on cloud IT infrastructure will grow at an 11.4% CAGR and will surpass spending on non-cloud IT infrastructure by 2020.[1]

To help businesses stay ahead, we offer integrated cloud services that leverage legacy systems through cloud consulting, implementation, migration and operations services. Many of our clients have embarked on innovative cloud programs that will give them the agility of digitally native "born-on-cloud" companies. We're seeing clients expand from "cloud-first" to "cloud-only" strategies, as well as integrating their legacy systems and public and private clouds to gain a holistic view of their customer data. From that foundation, they are making meaning from data, sparking innovation and designing new customer experiences, and then delivering them seamlessly, anytime, anywhere.

On the following pages, we share case studies that illustrate how your customers are using cloud to succeed in digital business. For more information, contact us at Cloud@Cognizant.com.

Cognizant Digital Systems & Technology's Cloud and Infrastructure Services Practice

[1] "Spending on IT Infrastructure for Public Cloud Deployments Will Return to Double-Digit Growth in 2017," IDC, April 11, 2017, www.businesswire.com/news/home/20170411006207/en/Spending-Infrastructure-Public-Cloud-Deployments-Return-Double-Digit.

Cognizant

Contents

Cognizant

Data Center Modernization

When businesses migrate their existing data center infrastructure and applications to a cloud-based IaaS (infrastructure as a service) or PaaS (platform as a service) architecture, the result is a highly scalable and more elastic, redundant, secure, cost-efficient, standardized and productive IT foundation that delivers higher value. With data center consolidation, businesses can improve their storage, backup and disaster recovery processes, re-host apps to cloud, and optimize apps to run in the new environment.

Cognizant

Media Giant Speeds Time to Market, Increases Business Agility through Data Center Consolidation

The Challenge

Looking to consolidate its IT operations, a global mass media, publishing and entertainment industry giant wanted a comprehensive assessment of the feasibility of moving to cloud-based solutions and to drive "as-a-service" (XaaS) digital models to its distribution and client base.

The company wanted to identify potential cost savings and performance improvements in its data center operations, and improve the flexibility and agility of diversifying its business interests, especially in markets where time-to-market and security are key considerations in product and service delivery.

The Solution

Utilizing our Cloud Steps Transformation Framework, we assessed the suitability of the media giant's estate for cloud migration and produced a set of target state recommendations and a phased migration plan. The identified applications were migrated to a combination of Amazon Web Services and a VMware-based off-premise co-location data center.

This migration allows the organization to leverage XaaS cloud solutions to reduce IT and data center facilities costs, improve productivity, implement a comprehensive security and compliance framework, and provide additional levels of disaster recovery and backup.

Using automation, standards are enforced across the delivery process and infrastructure, ensuring Payment Card Industry (PCI) compliance and enabling elimination of standalone or redundant systems, processes and workloads.

OUR APPROACH

We conducted a cloud suitability and migration feasibility study covering over 500 applications, more than 1,300 servers, 19 business units and nine locations in the U.S., Canada and UK, resulting in a recommendation to migrate approximately 60% of workloads to AWS IaaS cloud and the remaining to a new data center.

OUTCOMES

Significantly reduced time-to-market of products and services through automation, standardization and rationalization.

Dramatically reduced the in-house data center footprint.

The scalable and flexible architecture is aligned with variable business demand.

Cognizant
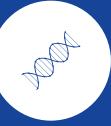
Digital Infrastructure Modernization Enables High Performance and Optimization for Pharma Company

The Challenge

A leading global biopharma company relied on more than 90 static and dynamic websites built on the WordPress platform to distribute content to the public, patients, providers and employees around the world.

Colocation hosting service providers hosted these websites; however, operating and maintenance costs were high, while performance, security, monitoring and scalability were unsatisfactory.

With growing traffic volumes and application usage, the pharma wanted to ensure the new infrastructure was rightsized. Further, the company had extensive security requirements, including protecting websites against external threats and analyzing user access to business-critical applications.

The Solution

We engaged with the client in two phases. The first phase involved designing an appropriate Amazon Web Services cloud to meet the client's performance demands and then migrating the applications to a single region in AWS cloud. The databases were migrated to AWS Relational Database Service, with backups stored in Amazon Simple Storage Service (S3). We also

configured the application stack, security stack and Cloud360 management platform.

In phase two, we extended the AWS infrastructure to multiple regions to enable an active disaster recovery configuration. To overcome any

latency-related concerns and ensure an optimal experience for end users, we also deployed the AWS CloudFront-based content delivery solution for the pharma's static website content.

OUR APPROACH

We delivered a high-performance and scalable web infrastructure on AWS cloud, covering multiple geographic regions to enable more responsive cloud hosting, content delivery and proactive security while reducing costs.

OUTCOMES

65% cost savings.

34% website performance improvement.

High availability.

Proactive security monitoring and alerts.

Defined process for expediting further adoption of cloud services.

Cognizant

Electronics Company Achieves Efficiency and Scalability through Infrastructure Simplification

The Challenge

A leading electronics company required a more flexible and scalable infrastructure to serve its international customer and channel partner base. The company also wanted to streamline a newly acquired company's operations that relied on Oracle's E-Business Suite and its own data center. It needed to integrate the acquisition's business applications and data into the parent company's existing data center. The target was to complete application and data migration within 90 days without business interruption.

The Solution

We planned the migration with our Cloud Steps Transformation Framework, which includes processes and pre-built solution blueprints for accelerating cloud adoption. Using Cloud Steps, we ensured all required system parameters were collected and usage parameters measured, and we held stakeholder meetings to gather missing details.

The acquired company was running Oracle Linux 5.4 and 5.9, neither of which is supported by Amazon Web Services. We did a raw-image migration of these environments to AWS and re-platformed them to an AWS-supported Linux version. Applications were run in parallel on AWS and the acquired company's data center. We closely monitored incremental data, and only after thorough testing were the AWS apps declared live.

OUR APPROACH

We deployed a secure, scalable AWS infrastructure for Oracle E-Business Suite and non-Oracle applications via an as-is, raw-image migration of Oracle Linux 5.4 and Oracle Linux 5.9. This included migration of 6.4 TB of production and non-production data. Oracle 8i and other Oracle E-Business Suite components were installed, configured and integrated with multiple external interfaces.

OUTCOMES

Reduced monthly operating costs.

Secure, scalable infrastructure.

Improved quality of service.

Enhanced data security.

Highly available application suite.

Completed integration of parent and acquisition company data centers in less than 90 days.

Cognizant

Agile Engineering Environments

Businesses are moving away from traditional development approaches to agile engineering environments that leverage IaaS or PaaS to optimize the engineering value chain from development to test to operations. The result: elimination of wasted effort and enhanced quality and speed of results while reducing costs.

Empowered by DevOps tools and methodologies, an agile engineering approach can transform previously fragmented and siloed activities into cohesive, unified and coordinated workflows that reduce duplication of efforts, conflicts in methodologies and practices, and uncertainties around the timely availability of resources. As a result, engineering teams are more productive, and infrastructure costs are reduced.

Cognizant

Pharma Enhances Quality and Availability, Reduces TCO through Automated Provisioning

The Challenge

A major U.S.-based pharmaceutical Group Purchasing Organization (GPO) was experiencing very high total cost of ownership (TCO) with its on-premises IT environment. It also faced challenges with performance and SLA adherence.

To solve these issues, the company decided to migrate its entire environment to the cloud. A key goal was to enable effective disaster recovery within budget and within the defined recovery point and recovery time objectives.

The Solution

Utilizing our Cloud Steps Transformation Framework, we employed the Microsoft Assessment and Planning Toolkit (MAP) to inventory the on-premises environment. Based on this analysis, we defined the target state architecture on the Microsoft Azure Cloud.

To accelerate deployment time, virtual machines were automatically provisioned with Azure Resource Manager templates and Windows PowerShell scripts. Backups of files, data and system state were configured with Azure Backup Vault to occur in a secondary region.

To reduce operational costs, we configured automation scripts to turn services off during non-business hours.

OUR APPROACH

We helped the company re-architect and migrate what had been a costly, underperforming environment to the Azure Cloud using advanced automation techniques to accelerate provisioning, reduce hosting and operational costs, and ensure disaster recovery within the required timeframe and budget.

OUTCOMES

Migration completed in 10 weeks.

Scripted automation reduced operational and hosting costs by 40%.

Automated 90% of pre-provisioning, provisioning and post provisioning.

Cognizant

Healthcare Provider Fosters Agility with HIPAA-Compliant Provisioning and Build Automation Solution

The Challenge

A leading U.S. healthcare provider wanted to achieve a more agile, cost-effective and scalable engineering solution to provision and manage its environments. The desired solution would support deployment of both production and non-production environments (development, test, QA, build) in Microsoft Azure IaaS, including support for continuous integration (CI) in non-production environments.

Stringent compliance with security, privacy and regulatory requirements, such as HIPAA, was also a critical priority. A multi-layered security strategy would therefore need to be implemented.

In addition, the organization wanted to incorporate Agile technologies such as accelerated application deployment, automated environment creation and automated build deployments.

The Solution

We architected a new environment-provisioning and build automation solution and chose technologies designed to accelerate engineering throughput while decreasing administrative overhead. We chose Microsoft Azure PowerShell scripts to automate the environment creation in Microsoft Azure and

selected Jenkins and Chef customization to automate application deployment into Azure virtual machines.

To satisfy rising build and deployment requests, the team chose GitHub as a source control repository, Jira for project tracking and SonarQube for code quality assurance and optimization.

Security choices included Barracuda NG firewall for perimeter level security, and Nexpose vulnerability scanner for virtual machine protection. We used the Team Foundation Service portal to track build and environment creation requests.

OUR APPROACH

We created a new environment-provisioning and build automation solution for cloud that provided enhanced agility for producing working code faster at higher quality and lower cost, all within a more secure, compliant environment that stays continuously aligned with the organization's healthcare mission.

OUTCOMES

20% cost savings.

20-minute environment provisioning and application deployment.

Reduced authentication latency.

Faster, more secure data transfer between on-premises and Azure data centers.

Cognizant

Resilient Web Platforms

By developing and migrating Web applications and websites to the cloud and IaaS/PaaS, businesses can improve the end-user experience, accelerate new-feature rollouts, reduce infrastructure costs, and increase performance and availability. The performance and architecture of existing applications or websites can be assessed to reveal gaps, and be remediated as required. Businesses also need to identify and implement enabling tools, technologies and strategies for fast and efficient migration to the new environment and enable optimal, resilient and scalable performance of the application or website once migration is complete. Going forward, the new services, features and functions must also be efficiently orchestrated.

Cognizant

Global Pharma Improves Resiliency and Performance of its E-Commerce Platform

The Challenge

A leading U.S.-based global pharmaceutical and medical device company wanted to expand its direct-to-patient channel for its flagship product, a patient glucose management system, across more than 30 markets in the EMEA region. To support this business imperative, it needed to significantly enhance the scalability and performance of its e-commerce platform, which was being hosted by a third-party provider, through a public cloud-based solution.

The Solution

We used our Cloud Steps Transformation Framework to assess the current state of the pharma's applications landscape and identified several areas for improvement. We migrated the Adobe Experience Manager/Magento-based platform and its components to Amazon Web Services to increase resiliency and enable high-availability.

Prominent aspects of the solution include multi-region relational database service deployments, AWS CloudWatch for monitoring and alerts, and automated provisioning of pre-built stacks.

OUR APPROACH

By leveraging the cloud, we helped the pharma improve the scalability, performance and availability of the e-commerce platform. The solution also ensured high availability with robust backup, disaster recovery, monitoring and alerting, and eliminated single points of service failure.

OUTCOMES

Efficient infrastructure utilization.

Lower cost of backup and disaster recovery.

Improved performance and reduced latency by using a content distribution network/edge locations.

Effective monitoring and alerting.

Cognizant

Scalable Infrastructure Drives Growth, Innovation and Compliance for a U.S. Healthcare Exchange

The Challenge

Homegrown, disparate, outdated and proprietary vendor solutions were increasingly inadequate for a not-for-profit member-based organization specializing in administrative healthcare information exchanges (HIE).

The regional exchange network encompasses over 50 member organizations, including 55 hospitals, eight health plans and tens of thousands of practitioners.

The organization required a modern, flexible and scalable infrastructure adhering to stringent data security and HIPAA-compliance measures. Key requirements were to reduce administrative costs, enable member innovation and support advanced transactions, including prior authorizations, referrals and combined administrative and clinical content.

The Solution

We leveraged our Cognizant Cloud Steps Transformation Framework to:

- Study the feasibility of leveraging the Amazon Web Services cloud platform, with rapid migration feasibility as one of the key success factors.
- Build the AWS cloud environment while establishing critical best practices for perimeter security, anti-virus, log

management, network security and other appliances.
- Establish secure connectivity with the organization's multiple partner channels.
- Enable secure direct data transfer using AWS Import/Export.

Our Cloud360 service orchestration and governance platform provides ongoing orchestration, provisioning and monitoring.

OUR APPROACH

We provided a modern cloud-based infrastructure to support transaction growth and workflow innovation among member organizations and practitioners for greater reliability, privacy, security and compliance.

OUTCOMES

Migration completed in three months.

Scalable, reliable, agile infrastructure.

Supports 12 million monthly transactions.

Enhanced security and HIPAA compliance.

Cognizant

Intelligent Data Platforms

Businesses are turning to cloud-based analytics, storage and IoT solutions to leverage their high volumes of data, reduce data management costs, and enable a secure and scalable data infrastructure. By combining best-of-breed technologies with cloud-based infrastructures and platform services, they can realize modern, scalable and robust solutions that facilitate business operations and create opportunities for rapid, game-changing innovation. The result: reduced cost of managing data stores, faster processing of high data volumes, and better insights across multiple data sources.

Cognizant

Online Fashion Retailer Builds Loyalty through a More Flexible and Functional Rewards Program

The Challenge

An online UK-based fashion retailer wanted to enhance its customer loyalty and rewards program to improve customer engagement and provide customers with better user experiences. Because the retailer wished to offer frequent promotions tailored to specific loyalty program levels, the new solution had to be capable of rolling out new offers, promotions, features and functionality with minimal downtime.

The retailer also wanted to give customers easy access to their reward point balances, as well as maintain the security of promotional voucher codes delivered via cloud. The existing legacy solution could not scale easily and did not support internationalization.

The Solution

We leveraged our expertise in cloud, analytics and micro-services to design and build a Microsoft Azure-based solution. Upgrades and updates are deployed from the retailer's primary website via a fully automated process that eliminates downtime.

The solution utilizes various Azure PaaS services, including Web Apps, Azure SQL, Azure Service Bus and Azure Storage.

To accelerate development, we used Scrum-based development and automated unit testing leveraging Octopus Deploy. Kibana and Elasticsearch enable real-time monitoring of the application.

OUR APPROACH

With its enhanced usability features, the solution increased customer engagement by allowing registered users to view their loyalty point balances, voucher values, dates and deadlines, account activity and more. A micro-services architecture also enables the retailer to frequently deploy new promotions and incentives with near-zero website downtime.

OUTCOMES

70% increase in shopper visits.

Re-engagement of lapsed customers.

Near-zero site downtime.

Enhanced voucher usability.

Micro-services architecture enables easy updates.

Secure scalable solution.

Cognizant

Automaker Enriches Telematics Insights through Cloud IoT

The Challenge

A major U.S. automaker was looking to transform its fleet telematics solution. It relied on a single Telematics Solution Provider (TSP) to capture vehicle data and then expose the data to fleet managers through the TSP's web application. The solution did not give the automaker control over the data uploaded to the TSP.

The automaker wanted to develop a new-generation fleet telematics solution that could support multiple TSPs and give it control over its own vehicle data flow to TSPs. The envisioned solution would collect and send vehicle data to the automaker's centralized system, and make vehicle data available to multiple TSPs by vehicle subscription.

The Solution

We developed a TSP-independent telematics solution that makes data available to multiple TSPs and can be provided based on a specific TSP's individual configuration and data requirements.

For rapid deployment and low cost of ownership, the solution leveraged Microsoft Azure IaaS, Azure SQL, Azure SDK 2.7 and fully automated Windows PowerShell scripts for application deployments. The solution also provided essential new features, such as usage-based customer billing.

OUR APPROACH

We developed an intelligent telematics solution with augmented features, high elasticity, high availability, automated disaster recovery, wide geo-distributed coverage and the flexibility to support multiple TSPs so the automaker would leverage more value from its data.

OUTCOMES

Highly scalable IoT solution meets real-time performance expectations.

Auto-scaling, load balancing, load leveling and high elasticity.

High availability and disaster recovery.

Control and ownership of data.

Usage-based customer billing.

Rapid time-to-market.

Cognizant

IoT Solution Delivers Differentiated Customer Experience for UK Bank

The Challenge

A major UK-based bank wanted to offer a differentiated experience to its customers with disabilities, ensuring they received special assistance when visiting the bank's branch locations. The bank wanted to leverage iBeacon technology to alert employees in real-time when a customer with disabilities entered the bank. The system would also need to provide secure storage of customer data, including identity, special needs and required assistance. Finally, the solution needed to be ready in three weeks, on World Disability Day.

The Solution

iBeacons located at various points around the bank's perimeter would establish a sensor-based geo-fence that communicates wirelessly with a mobile app on a user's mobile phone whenever the phone is nearby.

We designed, developed and implemented the mobile app and a cloud-based system to communicate with the iBeacons, all in under three weeks. Our team used Bluetooth Low Energy (BLE) technology to communicate with the iBeacons, as well as Microsoft Azure

platform services, such as Azure SQL and Azure Notification Hubs, to quickly develop the core capabilities.

Other technologies employed to implement the solution included Azure ServiceDesk and Microsoft .NET.

OUR APPROACH

In less than three weeks, we created and launched an iBeacon-based solution that alerts banking staff when a customer with a disability enters one of its branches so the customer can receive special assistance.

OUTCOMES

Quick time to market.

Service launch received widespread favorable media attention.

Successfully targeted a new segment of customers.

Superior experience through more context-aware services.

Cognizant

Industrial Equipment Manufacturer Enables Actionable Business Insights through IoT Telemetry Data Platform

The Challenge

A leading U.S. manufacturer of heavy equipment for construction, forestry and mining relies on telemetry data to track assets, perform predictive maintenance, improve design, and support other applications. Processing data in real time from millions of devices (a number that is rapidly growing) proved to be a major challenge due to the existing on-premises system's inability to scale. The system's lack of agility also limited its ability to incorporate various planned functional and performance improvements.

The company wanted to reduce data duplication, consolidate various technical components, monetize customers' access to telemetry data, and provide near real-time analytics. It also sought to increase availability and reduce risk of business interruption.

The Solution

We re-architected the existing system to be a resilient, scalable architecture. Our team leveraged the Microsoft Azure cloud platform to develop telemetry and analytics capabilities, and Azure Event Hubs to enable scaling for millions of events.

We used Azure HDInsight, along with Apache Storm, to provide near real-time analytics, and enhanced availability and business continuity with passive replication for failover with geo-redundancy for Azure SQL and Azure Storage.

OUR APPROACH

We delivered a resilient and scalable cloud solution that enables the client to process millions of real-time IoT-based events, perform near-real-time analytics, and monetize customers' IoT data access, while also enabling the ability to incorporate innovative features and functions.

OUTCOMES

OpEx-only model required zero upfront investment.

Adoption of DevOps and continuous delivery processes resulted in significantly improved release cycle times.

Cognizant

Healthcare Organization Gains Insight into Patient Data with HIPAA-Compliant MDM System

The Challenge

A not-for-profit managed care organization wanted to implement a scalable, resilient, HIPAA-compliant master data management (MDM) solution to gain better control and insight into patient data. The solution had to provide a single source of truth and real-time data access to improve decision-making, avoid errors and speed up business processes and workflows.

The solution also had to integrate all interactions with the patient to provide a complete 360-degree view of patient relationships. In addition, the organization wanted to be able to more quickly initiate and deploy new projects, such as MDM and medical claims applications, as well as build a separate environment for performance testing.

The Solution

We migrated the healthcare organization's Informatica MDM platform from its on-premises data center to Amazon Web Services, chosen for its HIPAA compliance facilitation and feature

comprehensiveness. As part of the migration, we standardized the data cleansing rules across the three Informatica products used by the organization: Power Center, Data Quality and MDM.

We implemented separate production and non-production environments on different virtual private clouds with connectivity to the on-premises network over a virtual private network using Microsoft Active Directory authentication.

OUR APPROACH

We helped the client achieve a highly scalable, resilient and HIPAA-compliant master data management solution that would eliminate duplicate and inconsistent data across multiple applications to reduce errors, avoid wasted effort, and accelerate business processes for better customer service.
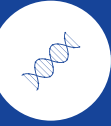
OUTCOMES

Eliminated duplicate or inconsistent data.

On-demand capacity to upgrade or introduce services.

Real-time data quality.

Highly available services that are tolerant of transient failures.

Separate development, QA, UAT and production environment to satisfy compliance.

Cognizant

Self-Service Cloud Platform Delivers IT Responsiveness, Transparency and Security to Life Sciences Company

The Challenge

A large medical device and pharmaceuticals company needed to simplify its IT operations, data center and IT asset management processes. The parent company does business in over 120 countries, supported by multiple data centers and over 8,000 applications.

Server provisioning clutter and operational costs were high, while optimizing compliance and security was critical for the data centers. Applications did not scale with demand, limiting flexibility and slowing response times to market conditions.

The goal was to make IT more responsive to changing business conditions by enabling application owners to independently provision infrastructure and development resources. Compliance and operations support integrated with enterprise applications would be centralized. Accurate and transparent billing was critical, as was optimizing infrastructure investment.

The Solution

We assessed the company's applications and its suitability for cloud migration, then developed a detailed migration roadmap. To expedite cloud adoption across business divisions, we helped build an automation suite and self-service cloud platform that enables application owners to

manage their own resource provisioning through a privileged central console.

The infrastructure incorporates hybrid cloud DevOps with Amazon Web Services and includes AWS services, best-in-class third-party

tools and customizations. The platform offers rapid provisioning, high flexibility and scalability, making it ideal for application workloads with high computing or data storage needs.

OUR APPROACH

We developed a highly automated self-service IT cloud platform to streamline and secure operations, improve data center flexibility and accelerate global adoption of best practices while also enabling business unit autonomy by allowing application owners to manage their own resource provisioning.

OUTCOMES

Significant reduction in ongoing IT infrastructure and operations costs.

Enhanced scalability, reliability and agility via DevOps capabilities.

Centralized, lower cost service from offshore global operations center.

Faster cloud adoption with clear enablement path across the enterprise.

Cognizant

Enterprise Apps on Cloud

Businesses are realizing new levels of agility and speed by moving enterprise applications to the cloud, thus overcoming the common issues of poor scalability, inadequate performance, lack of standardization, and under-utilization of asset-heavy resources. To do so, they need to assess their existing requirements, applications and infrastructure, and then architect a solution, following a roadmap for the migration. They also need to provision the target environment for optimum scalability, resilience and performance. The result: a lean, agile, fast and less disruptive alternative to conventional on-premises enterprise implementations.

Cognizant

European Floral Company Enables Global Supply Chain Visibility, Control and Management

The Challenge

A leading Dutch conglomerate of florists needed to efficiently track the movement of its products from growers throughout the world, as well as ensure the freshness of its flowers and plants throughout the value chain. It needed a highly available yet secure solution that would be easy to use, including growers in remote locations with limited communications infrastructure.

Other requirements included a significant reduction in IT infrastructure costs, increased resiliency and the ability to scale capacity in response to high variability in seasonal demand. The company's traditional logistics application could not scale to meet its requirements.

The Solution

We utilized a cloud-first approach and Agile methodologies to build a logistics application on the Microsoft Azure public cloud, delivering the application in less than three months for the initial rollout. The application was developed on Microsoft .NET using the Azure App Service, Azure SQL, the Azure Service Bus and AngularJS, as well as Azure Active Directory on the cloud for identity management and authentication services.

The solution is seamlessly integrated with the client's ERP system. We also operate and support the solution and provide disaster recovery services.

OUR APPROACH

We designed and developed a cloud-powered, highly available, easy-to-use, scalable and secure end-to-end logistics solution that allows flower and plant growers throughout the world to track perishable inventories anywhere in the supply chain.

OUTCOMES

60% IT infrastructure cost savings.

On-demand scalability.

Consumption-based pricing.

Out-of-the-box resiliency, availability and security.

Cognizant

Leading Business Information Provider Delights Customers with Lightning-Fast Image Search and Document Retrieval

The Challenge

The world's largest provider of commercial information and insights on businesses had been storing approximately five billion images of financial and business records on a legacy technology stack. The projected growth in data volumes indicated that the cost of maintaining the legacy image bank was not sustainable. The platform was neither scalable nor responsive to new business requirements.

The company wanted a scalable storage management solution that would deliver faster document image downloads for customers across multiple geographic areas, while also reducing compute infrastructure costs. Implementing a new, reengineered solution would also require removing the dependency of several internal products on the existing image repository so it could be decommissioned.

The Solution

We built a solution that stores document images in Amazon S3 and managed the initial 50TB migration of images from the legacy platform to Amazon S3, utilizing Amazon Web Services Elastic Map Reduce (EMR). We also reengineered several existing apps to use AWS services. Users now have a highly available solution and can retrieve images much more quickly.

We also enabled automated monitoring and alerts, auto-scaling and load balancing to maintain desired capacity, and automated image archiving on AWS Glacier.

OUR APPROACH

We built a highly efficient, scalable and available solution for storing and retrieving image-based information while sharply reducing storage and maintenance costs.

OUTCOMES

50% faster image retrieval.

80% to 90% storage cost savings.

15% to 30% infrastructure cost savings.

Support for 1TB/year data growth at no maintenance cost.

Cognizant

Office Products Supplier Reduces ERP Costs and Strengthens Security with Full-Stack SAP Migration

The Challenge

An office products supplier wanted to upgrade and migrate its on-premises SAP systems to the Microsoft Azure cloud. The company's goal was to lower the cost of operating its ERP system and leverage Azure's security controls, which were more robust than those available with the existing system.

Moving to the cloud also meant the company could leverage managed services for cloud to achieve more cost-effective support and maintenance of the SAP environment.

In addition to supporting the production environments on Azure, the migration was an opportunity to build high-availability capabilities on Azure, as well as to support DevOps.

The Solution

Utilizing our Cloud Steps Transformation Framework, we performed discovery and analysis of the on-premises network, security and SAP workload and defined the target deployment architecture on Microsoft Azure Cloud.

We then executed the SAP upgrade and migration. As part of that upgrade and migration, we built staging and target environments for SAP on approximately 100 virtual machines on Azure. The migrated modules included ERP, APO, BW, PI and APO LC.

OUR APPROACH

We helped the company achieve a more secure, scalable and easily managed SAP infrastructure. The upgraded infrastructure costs less to operate and supports development, testing QA and disaster recovery, in addition to the production environments.

OUTCOMES

Lower costs (35%) of operating ERP platform.

Increased security controls.

Increased resiliency and availability.

Cognizant

Bike Rental Service Expands to New Markets with a Modern, Agile Cloud-Based Solution

The Challenge

An innovative urban bike rental service was experiencing rapid growth in existing markets and planned to expand into new territories. Yet infrastructure limitations impeded customer service processes and lengthened time to market for service launches in new markets to four months. Maintenance costs for the legacy platform were also eroding margins.

The company needed to improve its administrative management capabilities, including billing, and needed more insights into subscriber usage patterns in specific markets. System availability and support were critical. Finally, all these capabilities had to be available in every new market the client planned to enter, including in Europe and Latin America.

The Solution

We designed and implemented a new platform for the company, as a multi-tenant, Microsoft Azure cloud-based application. The application easily scales to accommodate service expansion to multiple geographies, and leverages Azure IaaS and PaaS services and our Subscription Enablement Platform (S3P), a SaaS solution that simplifies billing operations.

Designed to cater to transformed operational and customer processes, each bike rental station functions as a sensor, collecting real-time data on bicycle usage, based on check-in/check-out activities, for later analysis. Service automation and geo-redundant storage ensure shorter disaster recovery times.

OUR APPROACH

The highly scalable bike rental platform — a first-of-its-kind solution on Microsoft Azure Cloud — streamlines business processes, dramatically improves customer service and reduces service rollout times to new cities and countries, while adding more effective administrative management and service usage analytics.

OUTCOMES

New market rollout times cut from four months to two weeks.

Significant reduction in system maintenance costs.

Process automation improves customer service, cuts costs.

On-demand real-time scalability.

Support for multiple rental stations in multiple cities on two continents.

Cognizant

Healthcare Analytics Company Enables Business Agility, Enhances Customer Experience through Cloud-Based Scalable Platform

The Challenge

An innovative healthcare analytics company that offers a predictive analytics platform for population health and care management was ready to expand its solution to a wider customer base.

However, its existing on-premises infrastructure did not have the flexibility or scalability to support its business expansion strategy or onboard new customers within an acceptable timeframe.

In addition to improving customer service, the company needed infrastructure resources that could scale with fluctuating processing demands. Supporting faster development to deliver new features and services to customers was also critical.

The solution had to meet rigorous industry security and privacy regulations for personal health information (PHI). Due to increasing industry economic pressures, the company also had to minimize its capital and ongoing operating costs.

The Solution

Leveraging our deep healthcare HIPAA/PHI domain expertise, we designed and implemented a cloud-based platform on Amazon Web Services, encompassing 100% of the company's IT

landscape, including a security fabric for PHI/PII/PCI compliance across the infrastructure, network, data and application layers.

We addressed recovery time and recovery point requirements using a multi-region, multi-zone backup and disaster recovery solution, and used Cloud360 for cloud management and operations. We also implemented virtual workspaces and automated build, deployment and provisioning to accelerate collaboration between developers and data scientists.

OUR APPROACH

We developed a 100% cloud-based platform that cost-effectively delivers increased security and compliance, scalability and flexibility to swiftly onboard customers, meet evolving processing needs and enable rapid development in the cloud — all leading to greater market share.

OUTCOMES

40% cost savings.

30% faster product build.

50% savings in tools costs.

Customer onboarding cut from two months to one week.

Cognizant

About Cognizant
Digital Systems & Technology

Cognizant Digital Systems & Technology works with clients to simplify, modernize and secure IT infrastructure and applications, unlocking the power trapped in their technology environments. We help clients create and evolve systems that meet the needs of the modern enterprise by delivering industry-leading standards of performance, cost savings and flexibility. To learn more, contact us at simplify@cognizant.com. You can also visit us at www.cognizant.com/cognizant-digital-systems-technology, or e-mail us at Inquiry@ cognizant.com.

About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 194 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us @Cognizant.

Cognizant

World Headquarters	**European Headquarters**	**India Operations Headquarters**	**APAC Headquarters**
500 Frank W. Burr Blvd.	1 Kingdom Street	#5/535 Old Mahabalipuram Road	1 Changi Business Park Crescent,
Teaneck, NJ 07666 USA	Paddington Central	Okkiyam Pettai, Thoraipakkam	Plaza 8@CBP # 07-04/05/06,
Phone: +1 201 801 0233	London W2 6BD England	Chennai, 600 096 India	Tower A, Singapore 486025
Fax: +1 201 801 0243	Phone: +44 (0) 20 7297 7600	Phone: +91 (0) 44 4209 6000	Phone: + 65 6812 4051
Toll Free: +1 888 937 3277	Fax: +44 (0) 20 7121 0102	Fax: +91 (0) 44 4209 6060	Fax: + 65 6324 4051