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Application and Database Migration to AWS Cloud for

an NGO in Education Sector

CASE STUDY

About Client
Leading NGO

Industry
Education

Service
Cloud

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Business **Challenge**

The customer had hosted their Microsoft Dynamics Navision at their traditional data center. They were facing availability issues with their application hosting. The scalability of their application was one of their biggest concerns with the traditional setup. Traditional backup architecture was not meeting their application availability expectations.

Business **Solution**

Our deep domain expertise, proven credentials as a Cloud service provider and our status as an AWS Advanced Consulting Partner made us a partner of choice for the client when they considered their Cloud migration plan. The customer engaged with us to evaluate the capabilities of application and database migration, and backup solutions on AWS Cloud and the possible benefits of the migration.

We proposed the following services of the AWS cloud:

- Amazon S3
- Amazon IAM
- Amazon EC2
- Amazon EBS
- Amazon Lambda
- Amazon CloudWatch

To ensure data back-up we proposed Cloud Protect Backup:

CloudProtect is a backup solution that transfers data to the public cloud storage and restores it in minutes. The program connects to a specified storage account and securely transfers backup files and folders to the Cloud, serving as a transport between the end users and a remote storage facility.
Our approach to enabling data backup on the cloud included the following activities:

- AWS S3 was used for data backup using online data transfer to the Cloud. Data was encrypted and compressed during the transition
- Standard Data retrieval plan allowed to access any of the archives within several hours. Standard retrievals were typically completed within 3-5 hours
- Configured Cloud protect backup agent on the customer system
  - Created a File-Level Backup Plan
  - Created a backup plan of drive level backup
  - of files and folders
  - Created a schedule for backups
  - Encrypted the data both at rest and in transit
  - Configured retention policies
- Provided end-to-end 24 *7 backup support

Backup network level architecture
Server details: power BI Server, MBIF-VM3, CRMPROD, database_ax

Managed Services:
cloudxchange.io has its service desk web portal for managing incidents, alerts, and sending alerts to users. cloudxchange.io would provide 24 X 7 help desk support (Phone, Email & web-based) to customers. cloudxchange.io's help desk supports customers to address problems related to solutions. The Service Desk application includes all direct interactions between a user and the service desk by phone or by Email-ID. It also includes all user activities that occur by use of the self-service Web portal.

The following services have been used in the AWS cloud,

- Incident management, users can raise tickets via email, a self-service portal, phone, or in-person as per ITIL standards
- SLA Management & Self-Service Portal
- Automation & Service Catalogue
- 24*7 Customer Hotline support through chat, Mobile hotline, and email

Security Functionality includes:

- Enabled Multi-level security – AES-256 encryption, password protection, and SSL while transferring the data on AWS Cloud
- Enabled Amazon S3 server-side encryption to encrypt the data
- Used keys that are managed by Amazon S3 for default encryption

Reliability:

- Durable data storage provided by Amazon S3, which is designed for 11 nines durability
- Amazon S3 is created and stored across at least three devices in a single AWS region. Even when following the best practices, on-premises capabilities cannot match AWS durability due to our global scale and security.

Cost Optimization:

- Customers will access the data infrequently, so the proposed solution was designed in a way to optimize the cost. Data will move into glaciers if the customer requires it since the customer is fine with the retrievals process of 5 hours
- Since the migration of on-pre Windows servers has been completed and migrated to the AWS cloud, Elasticity plays an important role in cost optimization based on customer requirements, we can easily scale up and down the servers with minimal downtime

Our **Approach**

- Technology Solutions involved: Windows, Amazon Web Service (AWS), MS SQL Server
- Tool Used: AWS cloud Services (EC2, EBS, S3), MS SQL DB, Double take for migration
- Platform: Window servers, MS SQL Std.
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Business **Impact**

Freed-up IT resources: Improved efficiency by freeing up valuable financial and staff resources

Reduced Capital Expenditures: Customer no longer needs to acquire, enterprise backup software, or hardware system eliminating the need for capital expense for Infrastructure and equipment

Availability of data for restoring on cloud which is not needed to be located or retrieved on the physical server. During critical events such as on-premises data center outages, when many applications must be restored simultaneously and as soon as possible; none of these problems occur with Amazon S3. Data restoration can begin immediately, within 5 hours

Monitoring Services Features: Server Monitoring

- A quick summary of the status and performance of the customer's server over the last seven days through heat map analysis
- CPU/memory/disk utilization
- Services and processes
- Network statistics including bandwidth utilized by the server
- Processor queue length and uptime

Monitoring Services Features: Reports

- Availability Summary Report
- Busy Hours Report
- Health Trend Report
- Performance Report

About **NSEIT**

NSEIT Limited is a digital native technology company that engineers world-class solutions to help our global customers accelerate their digital transformation journeys. Our key service pillars are Application Modernization, Business Transformation, Data Analytics, Infrastructure & Cloud Services, and Cybersecurity, through which we create intuitive digital experiences and tangible business impact. For over two decades, our innate drive for excellence has made us the partner of choice for global organizations. At NSEIT, we fuel digital progress.

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