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Modernize your Windows Server Workloads using Google Cloud Platform

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Sriram Subramanian
Research Director, Infrastructure Systems, Platforms and Technologies Group

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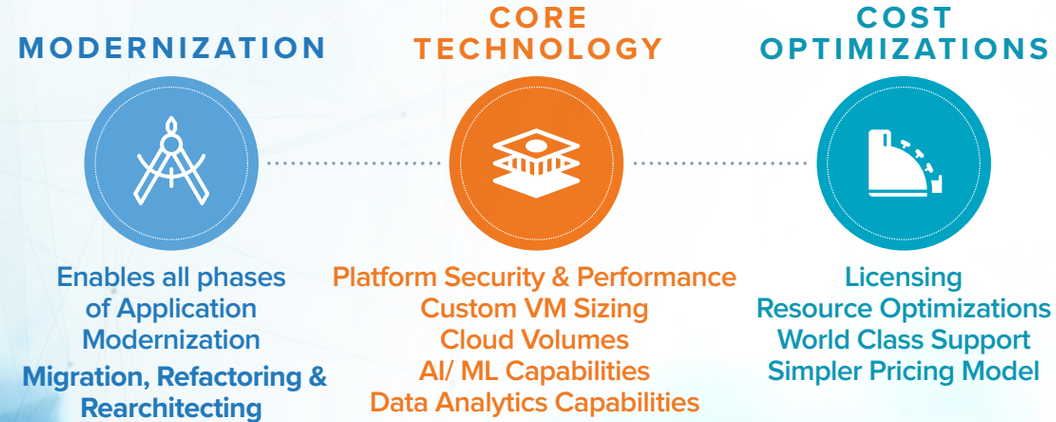
EXECUTIVE SUMMARY

Enterprises find Google Cloud Platform an optimized platform for Windows Server-based – .NET and SQL – workloads

Application Modernization (AM) is an important enabler of Digital Transformations (DX), which fuel competitive advantage through increased productivity and business agility. Public cloud infrastructure proves to be a solid foundation for application modernization by providing Self-Service Provisioning capabilities, cloud-based & cloud-native technologies, and easier access to technology innovations such as AI/ML.

Windows Server-based enterprise applications (both .NET-based & SQL Server workloads) rely on the underlying infrastructure for platform performance, security, and availability. A better performing cloud platform enables them to perform better and hence prove to be more resource-optimized and cost-effective.



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EXECUTIVE SUMMARY

Enterprise Experience with GCP

Enterprises find GCP's tools, services, and ecosystem of partners to be well-suited to enable forward progressions with the Application Modernization journey. Respondents were univocal about their plans to migrate and modernize, with the eventual goal of moving away from Windows Server environments. One of the respondents cited how moving from .NET to .NET Core enables them to delete more than 2000 Windows Server instances in the month preceding the interview.

"With leading security, networking, and price-performance, Google's infrastructure is the best cloud environment for Windows and enterprise workloads. From Windows VMs and Microsoft SQL server powering IT, line of business, and mission critical applications, to .NET integration across familiar Microsoft development tools, Google provides a first-class foundation on its platform. It enables us to exit non differentiating, capital intensive activities like hardware procurement and maintenance. It allows us to run workloads flexibly and protects our existing environment plus investment."

Director, IT
Large, US-based healthcare company

GCP provides tools and enables services through technology partners to migrate and modernize Windows Server-based workloads on GCP.

GCP proves to be an ideal platform for Windows Server-based applications through capabilities such as Custom VM Sizing, cloud storage, and AI / ML / Data Analytics capabilities, better platform and network performance, and security features.

Interview respondents cite that flexible licensing models such as BYOL, a simpler pricing model, and features to fine-tune resource optimizations provide enterprises with predictable and better TCO.

Enterprises find GCP well-suited platform for App Modernization

CHALLENGES

Application Modernization refers to modifying a traditional application to leverage modern infrastructure constructs such as self-service provisioning, cloud-based services, cloud-native technologies, or serverless infrastructure, and modern application lifecycle management practices.

PRODUCTS

Compute Engine
Managed AD
Cloud SQL

SERVICES

Accenture, Capgemini, Deloitte, CI&T, Magenic, SADA

PARTNERS

CloudBolt, NetApp, CloudEndure, Tableau, SIOS, itopia

GCP'S SOLUTIONS

GCP provides the following products, tools, and services that enable smooth migration of Windows Server-based applications to cloud:

MIGRATE FOR COMPUTE ENGINE enables migrating Windows Server applications to Virtual Instances on GCP.

MIGRATE FOR ANTHOS provides the ability to migrate and modernize enterprise applications into containers on Google Kubernetes Engine (GKE).

Enterprises find GCP well-suited platform for App Modernization

ENTERPRISE EXPERIENCE WITH GCP

Enterprises find Google Cloud Platform (GCP) an optimized platform for Windows Server-based workloads due to core technology capabilities, support for application migration & modernization, and cost-optimizations.

Interview respondents find the combination of Windows .NET Core + Kubernetes + Linux + GCP a great foundation for Modern Apps.

Migrating Windows Server applications to GCP provides opportunities to refactor or rearchitect the application to leverage cloud-based or cloud- native technologies.

- Refactoring an application refers to modifying the application's components to leverage equivalent cloud-based services without changing the application architecture.
- Rearchitecting an application refers to tearing down the application to leverage modern application architectures such as microservices. This involves a complete rewrite of the application and leveraging cloud-native technologies.

Technology Capabilities make running Windows Apps on GCP easier

CHALLENGES

Windows Server-based enterprise applications (both .NET-based & SQL Server workloads) rely on the underlying infrastructure for platform performance, security, and availability. Public cloud service providers other than GCP offer select types of virtual servers with set resource capabilities (for example, m5.large instance offered by AWS offers 2 vCPUs & 8 GiB memory). When Windows applications are migrated to the public cloud through 'Lift & Shift' mechanisms, enterprise customers typically select virtual instances comparable to on-premises servers. This often ends up in inefficient resource allocation on the public cloud, which results in sub-optimal TCO.

GCP'S SOLUTIONS

Custom VM sizing enables enterprise customers to fine-tune virtual instance sizes to provide an optimal price-performance ratio. One utility service provider found this ability to create custom-sized virtual machines as the most beneficial to their organization, which enabled them to build a cloud-based infrastructure with maximum control and flexibility.

GCP is well known for its security capabilities. Its secure platform enables fine granularity of access, data confidentiality, and easy flow of data. GCP's Managed Service for Microsoft AD enables easier deployment, management, and high availability of AD across multiple regions. This provides customers with more flexibility. Respondents were univocal on their trust on platform security that enables them to store even the most confidential data on GCP.

Google is continuously innovating in AI/ML technologies. Data capabilities such as BigQuery provide alternatives to on-premises data-warehousing and analytics without the operational overhead. A large IT services provider was able to leverage services, including BigQuery and Cloud AI to optimize their resource usage and overcome the organization's shortcomings.

Technology Capabilities make running Windows Apps on GCP easier

ENTERPRISE EXPERIENCE WITH GCP

Enterprises find running Windows Applications on GCP easier by virtue of GCP's enterprise-ready core technology capabilities including custom VM sizing, superior platform and networking performance, platform security, AI/ML and Data Analytics, and modern infrastructure constructs such as cloud-native technologies and serverless infrastructure.

PLATFORM

Performance
Custom VM Sizing
Cloud Volumes
Networking

SECURITY

Encryption at Rest
Fine Grained Access Control
Security Investments
Compliance Certifications

INNOVATION

Cloud Native
Technologies
AI/ML Capabilities

"The most important benefit for our organization of using GCP is that it provides us the liberty to create custom size Virtual Machines or computes for deploying our workloads in segregated cloud environment. Using GCP we have built our own cloud-based infrastructure to have the maximum level of control and flexibility. Also, now that we are in a server less environment, we can gain a lot of flexibility to reduce our workloads."

Director, Cloud Infrastructure
Medium-sized, US-based Utilities provider

"The data in Cloud Volumes Service [by NetApp] is protected against multiple drive failures... It gives full disk encryption without compromising storage application performance. With this single-source solution, we can meet overall compliance with industry and government regulations without negatively affecting the user experience."

Director, Infrastructure
Large, US-based Manufacturing company

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GCP provides Enterprises with Cost Savings in Near-Term & Long-Term

CHALLENGES

Windows Server & Microsoft SQL Server licensing models are hardware-based and are optimized towards on-premises consumption. They are well-suited for steady-state workloads that can be scaled-up. Pay-As-You-Go pricing models on the public cloud are better suited for bursty utilizations and elastic workloads that can be scaled-out. Enterprises find Windows Server and SQL Server licensing on public cloud for such workloads to be more expensive.

"Budget-friendly pricing, cyber security, open source capabilities and big data analytics are some of the major reasons to start which makes GCP one of the best cloud platforms available in the market. GCP is not only an alternative to AWS but a far superior choice especially with regard to disruptive technologies such as artificial intelligence and machine learning."

Director, IT
Large, US-based IT Services provider

"Choosing GCP as a cloud provider was mainly because of the flexible options that come up with its services. They offer special discounts and is very cost effective. We get to choose between managed infrastructure and managed services. Also it's overall a secure option for us to rely upon."

Director, IT
Medium-sized Financial Services firm

GCP provides Enterprises with Cost Savings in Near-Term & Long-Term

ENTERPRISE EXPERIENCE WITH GCP

Through BYOL models, GCP enables enterprises to utilize any existing licenses, thereby providing cost-savings. Further, GCP supports capabilities (such as Custom VM Sizing), which enable enterprises to fine-tune their cloud resources. Respondents observed that GCP's superior platform and network performance enabled them to utilize fewer resources on GCP than on other platforms for comparable performance. They also found GCP's pricing models to be simpler.

- A large online ecommerce platform company observed about **40% cost savings** by moving SQL Server instances to GCP from another public cloud service provider.
- A large data management/ protection company found running SQL Servers on GCP more optimal than on another public cloud service provider. The cost offset of running about **1700 SQL server** licenses on the competing cloud service provider was not enough to leverage the hybrid capabilities it enabled.
- Another respondent observed that they could not get to the same level of performance on a competing platform as on GCP without a major price performance. For example, they had to spend **$5M more on storage performance** to be on par with the performance on GCP, on **a baseline spend of about $8M.**

In summary, enterprises find GCP to provide cost savings in both near and long terms.

Perception and Ways to overcome Cloud Migration Challenges

Public cloud adoption is not without challenges. Enterprises cite lack of in-house expertise on cloud technologies, unpredictable costs, and decision fatigue as primary inhibitors to public cloud adoption.

While most of the respondents found GCP to be an ideal platform for running Windows Server applications, interview respondents also observed GCP to be behind the competition in:

Capabilities that GCP offers but were either not generally available during the time of interviews (for example, Cloud SQL for SQL Server) or announced later than the competition (for example, Windows Containers). Since the time of the interviews, Cloud SQL for SQL Server is generally available, and GKE now supports Windows Containers.

Capabilities that were perceived to be lacking altogether (for example, DevOps for Windows applications). GCP is continuously expanding its portfolio of services to overcome this perception.

Perception and Ways to overcome Cloud Migration Challenges

Interview respondents also observed generic challenges with public cloud adoption, such as unpredictable TCO and loss of transparency on the underlying infrastructure. These challenges do not pertain to GCP alone, but to cloud service providers in general.

IDC recommends taking a workload-centric, multi-phased approach to cloud migration to overcome above challenges. As enterprises progress in cloud adoption maturity, they can modernize their applications and invest in automation and agile development practices. Once they are set up with automation at the organization level, they can leverage capabilities such as Custom VM Sizing to fine-tune resource allocations on the cloud. As they optimize their resource consumption, IDC recommends moving other business-critical/ mission-critical applications to the public cloud to leverage the advantages that cloud platform enables to the fullest. IDC also recommends leveraging the right partnerships to mitigate the lack of in-house expertise on cloud technologies.

"The major challenge that we have faced is when it comes to the competitors. Other cloud providers are innovating very fast and have something new in place almost everyday."

Director, IT
Medium-sized Financial Services firm

"Most typical challenge we see with Lift and shift is that existing applications are not properly resized for public cloud, as outside the cloud applications are often over-provisioned for peak load."

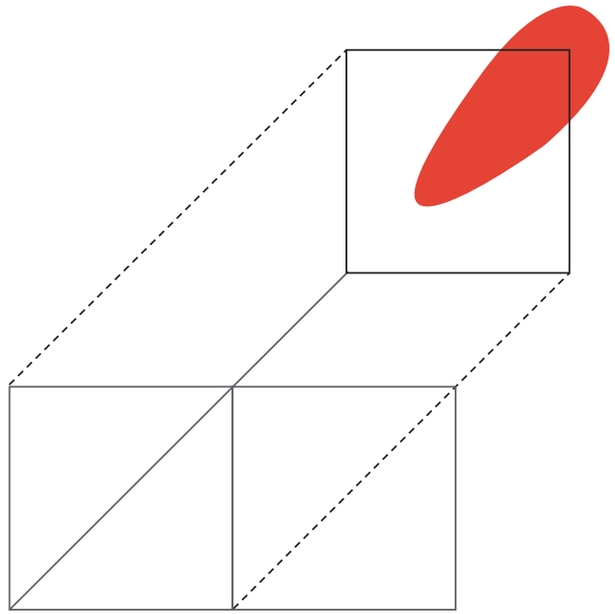
Director, IT
Medium-sized Telecommunications Service Provider

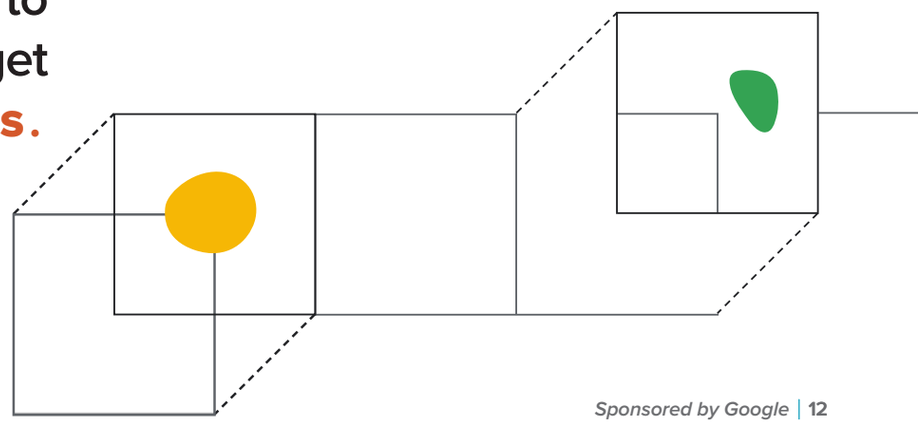
SPONSOR MESSAGE

Google Cloud

Google Cloud offers a first-class experience for Windows workloads with powerful, scalable infrastructure coupled with the choice to self-manage workloads or rely on managed services. You can purchase licenses from Google or bring your own licenses and run them on Google Cloud. Moving workloads to Google Cloud also lays the foundation for modernization of Windows on Kubernetes and gaining access to AI/ML and data analytics services.

Google Cloud aims to simplify the migration process to help you solve this puzzle. For more information and to get started, please go to CLOUD.GOOGLE.COM/WINDOWS.





Research Methodology

IDC conducted custom research with medium/large enterprises to yield firsthand feedback on their experiences running Windows Server based applications on GCP.

In-Depth Interviews (IDIs) (n=5)

GCP customers provided by Google

45+ minute phone interviews of freestyle conversation with customer representatives

Seeding questions approved by the client

Semi-Structured Interviews (n=15)

10-minute phone interviews with enterprises to yield a diverse pool of GCP users.

Customer mix included a variety of Industries and company sizes:

- Industries including Manufacturing, Utilities, Telecom, Financial Services, Healthcare, and IT services
- Employee Counts ranging from 100 to 5000+

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