



Carbon60 Modernization

eBook

CARBON60TM
YOUR HYBRID CLOUD PARTNER

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A CIO's Guide to Modernization Strategy

The digital age has ushered in unprecedented levels of disruption, forcing organizations to adapt or risk falling behind. For CIOs, this complex landscape is further complicated by recent industry upheavals, such as the Broadcom/VMware merger. As organizations grapple with the implications of this acquisition on their virtualization strategies, the need for a robust IT modernization plan becomes even more critical.



At the heart of this transformation lies IT modernization, a strategic imperative that can unlock new opportunities, enhance efficiency, and mitigate risks.

The rapid pace of technological advancement has transformed industries and business models, demanding unprecedented agility and adaptability from IT organizations. Cloud computing, artificial intelligence, and the Internet of Things (IoT) have disrupted traditional IT infrastructures, creating a complex and dynamic environment. The pressure to innovate and deliver business value faster has intensified, making it imperative for CIOs to re-evaluate their IT strategies.

This ebook delves into the critical challenges organizations face with outdated and virtualization strategies. We explore the compelling reasons driving the need for modernization and outline potential pathways to achieve it. Additionally, we discuss the pivotal role of strategic partners in this journey. By the end of this guide, CIOs will have a clear understanding of the modernization imperative, the challenges involved, and the steps to embark on this transformative path.

The Challenges of Outdated Virtualization Strategies

Virtualization offered a significant leap forward by enabling multiple operating systems and applications to run on a single physical server. This technology addressed some of the limitations of traditional infrastructure by improving server utilization, reducing hardware costs, and enhancing flexibility. However, while virtualization has been a valuable tool, it has its own set of challenges in today's dynamic IT environment.

✕ **Limited Flexibility & Scalability**

Traditional IT infrastructures, often characterized by monolithic applications, hardware-dependent systems, and manual processes, are struggling to keep pace with the demands of modern business. These legacy systems, such as mainframes and client-server architectures, are inherently inflexible, making it challenging to adapt to changing business requirements or introduce new technologies. Furthermore, their reliance on physical hardware limits scalability, resulting in performance bottlenecks during peak usage periods.

✕ **Infrastructure & Platform Architecture**

Platform architecture can be a drain on resources depending on software and costly hardware and infrastructure refresh cycles. Investing in wholly-owned infrastructure and licensed software can be capital and operational expenditure-intensive, often leading to vendor lock-in and requiring specialized maintenance and support to keep aging systems running smoothly.

✕ **Security Vulnerabilities and Compliance Concerns**

As organizations increasingly rely on IT systems for critical operations, the need for robust security measures has become paramount. Traditional infrastructure, often characterized by outdated security practices and limited visibility, is vulnerable to a wide range of threats. Virtualization, while offering some security benefits, also introduces new challenges, such as securing virtual machines, preventing unauthorized access, and ensuring compliance with industry regulations.

A significant security risk stems from the continued use of outdated hardware and software. These systems often lack critical security patches and updates, making them prime targets for cyberattacks. Additionally, relying on end-of-life technology can lead to compliance issues, as many regulations require the use of up-to-date systems.

✕ **Performance Bottlenecks**

Outdated infrastructure and virtualization challenges can significantly impact application performance and user experience. Factors such as aging hardware, resource contention, network latency, and storage performance can lead to slow response times, application failures, and decreased productivity. These performance issues can negatively affect customer satisfaction, employee morale, and overall business operations.

✕ **Management Overhead**

Managing traditional and virtualized IT infrastructures can be a complex and time-consuming task. Organizations often grapple with a multitude of challenges, including provisioning resources, monitoring system health, patching vulnerabilities, and ensuring compliance. This increased management overhead can divert valuable IT resources away from strategic initiatives, hindering innovation and business growth.

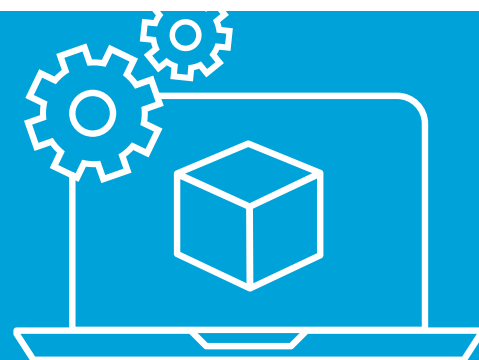
✕ **Incompatibility With Modern Services**

Outdated infrastructure and virtualization limitations often hinder the adoption of modern technologies and services. Legacy systems may lack the necessary capabilities to support cloud computing, big data analytics, artificial intelligence, and other emerging trends. Additionally, the integration of newer technologies like containers and software-defined networks (SDN) can be challenging or impossible with traditional infrastructure, limiting agility and innovation. This incompatibility can stifle innovation, reduce competitiveness, and limit the ability to deliver new products and services to market.

Summary

Outdated and virtualization strategies present significant challenges for organizations seeking to remain competitive in today's digital landscape. Legacy infrastructure, characterized by inflexibility, scalability limitations, and security vulnerabilities, hinders business agility and innovation. While virtualization offered improvements, it introduced complexities such as management overhead and performance issues. The incompatibility of traditional infrastructure and virtualization with modern technologies like cloud computing, big data, AI, containers, and SDN further exacerbates these challenges.

Collectively, these challenges create a compelling case for IT modernization. By addressing these issues, organizations can unlock new opportunities, improve operational efficiency, and mitigate risks.



The Drivers of Modernization

The challenges presented in Chapter 1 have compelled organizations to seek more modern and agile IT infrastructures. Several key drivers are propelling the modernization journey:

- Traditional Virtualization
- Hyperconverged Infrastructure
- Cost Management
- Multi-Cloud Workload Portability
- Vendor Lock-in

Traditional Virtualization

As discussed earlier, traditional IT architectures, often built around mainframes and client-server models, have become increasingly inefficient and costly to maintain. The hardware underpinning these systems is often aging, leading to reliability issues, performance bottlenecks, and increased energy consumption.



Costs of Maintaining Legacy Hardware:

- **High maintenance expenses:**
Aging hardware requires frequent repairs, replacements, and maintenance contracts, driving up IT operational costs.
- **Increased energy consumption:**
Older hardware tends to be less energy-efficient, leading to higher utility bills and a larger environmental footprint.
- **Skill shortage:**
Finding qualified personnel to support legacy systems can be challenging and expensive due to the specialized knowledge required.
- **Vendor lock-in:**
Reliance on specific hardware vendors can limit options and increase costs.

Impact of Hardware Failures:

- **Disruption of business operations:** Failures of critical hardware components can lead to system downtime, impacting productivity and revenue.
- **Data loss:** Hardware failures can result in data loss if proper backup and recovery procedures are not in place.
- **Reputation damage:** Service disruptions due to hardware failures can damage an organization's reputation and customer trust.
- **Financial losses:** Hardware failures can lead to significant financial losses due to downtime, lost revenue, and recovery costs.

Hyperconverged Infrastructure

Hyperconverged infrastructure (HCI) combines computing, networking, and storage into a single, software-defined system. While this approach simplifies management and deployment, it has scalability limitations, particularly with the storage abstraction that cannot be scaled independently of the compute infrastructure.

Cost Management

Modernizing IT infrastructure involves significant investments in new hardware, software, and services. Organizations must carefully evaluate the total cost of ownership (TCO) to justify the modernization effort. While cloud computing and virtualization offer potential cost savings, it's essential to consider factors such as licensing, support, and ongoing operational expenses.

Capital (Infrastructure) and Operational Costs of On-Premises Infrastructure:

- **Initial capital expenditure:** Significant upfront investments in servers, storage, networking equipment, data centre facilities, and power infrastructure.
- **Ongoing operational costs:** Expenses for electricity, cooling, maintenance, hardware and software upgrades, IT staff salaries, and security measures.
- **Capacity planning challenges:** Overprovisioning to accommodate peak workloads can lead to underutilized resources and increased costs while underprovisioning can result in performance issues and unplanned expenses.
- **Depreciation:** The value of on-premises infrastructure depreciates over time, reducing its resale value and increasing the need for replacement.

Multi-Cloud Workload Portability

The ability to seamlessly move workloads across different cloud environments (public, private, and hybrid) is becoming increasingly critical for organizations. This flexibility allows for optimal resource utilization, cost optimization, and risk mitigation. However, achieving true workload portability presents significant challenges, including technical complexities, data management, and security considerations.

Data Sovereignty Concerns

As organizations adopt a multi-cloud strategy, they must carefully consider data sovereignty regulations. Different countries have varying laws governing data storage, processing, and transfer. Ensuring compliance with these regulations while maintaining workload portability can be complex and challenging.

Vendor Lock-in

A significant challenge in adopting a multi-cloud strategy is vendor lock-in. Relying heavily on a single cloud provider can limit flexibility, increase costs, and hinder innovation. Proprietary technologies, data formats, and APIs can make it difficult to migrate workloads to other platforms. Long-term contracts for hardware, support, and software can lead to vendor lock-in, restricting your organization's ability to adopt new technologies and adapt to changing needs.

Summary

Several key factors are driving the need for IT modernization. Legacy infrastructure, characterized by high costs, performance limitations, and security risks, is a significant challenge. While hyperconverged infrastructure offers some benefits, it also has limitations. Cost management, achieving workload portability across multiple cloud environments, and mitigating vendor lock-in are critical considerations for organizations embarking on a modernization journey.



By addressing these drivers, organizations can improve operational efficiency, reduce costs, enhance agility, and unlock new opportunities for growth and innovation.

Pathways to Modernize Virtualization

Understanding the challenges of outdated infrastructure and the drivers for modernization is crucial, but equally important is charting the path forward. Several strategic approaches can be considered when embarking on an IT modernization journey.

	Costs	Risk of Vendor Lock-in	Potential Cost Savings
Option 1 Migrating to VMware and adopt an Alternative Hypervisor	High	Low	Low
Option 2 Lift and Shift to Public Cloud with Continued Application Modernization	High	Low	High
Option 3 Migrate to VMware and modernize to containers	High	High	High



Option 1

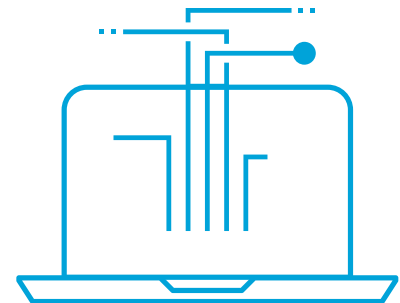
Migrate to VMware and Adopt an Alternative Hypervisor

While VMware has been a dominant force in virtualization, organizations may explore alternative hypervisors to reduce costs, increase flexibility, and mitigate vendor lock-in. This approach involves migrating existing workloads to VMware and gradually adopting an alternative hypervisor for new deployments.

There are several key players in the virtualization industry besides VMware, including Nutanix, Virtuozzo, Red Hat OpenShift (which uses containers and KVM), OpenStack, Proxmox, Hyper-V, and public cloud platforms like Azure Stack, Anthos, and AWS Outposts.

A strategy for using VMware with an alternative hypervisor would look like this:

1. **Immediate survival:** Initially, adopt the necessary tools and platforms to maintain operations and survive immediate challenges
2. **Diversification:** Begin diversifying your infrastructure by adopting an alternate platform, which could be either another on-premises platform or a public cloud.
3. **Gradual transition:** Move some of your legacy applications and workloads to virtual machines on alternative platforms. This phase involves a long-term strategy where you operate parallel infrastructures until the transition is complete.



Diversification offers several strategic advantages:

Cost Management:

By leveraging VMware's mature ecosystem and then transitioning to a potentially lower-cost hypervisor for new workloads, organizations can optimize their IT spending.

Enhanced Security:

Certain hypervisors may provide stronger security features, helping to protect sensitive data and systems. Many alternate source hypervisors are open-source, allowing for greater community scrutiny and faster identification and patching of vulnerabilities. Additionally, by diversifying the virtualization platform, organizations can reduce the potential attack surface making it more difficult for malicious actors to compromise the entire environment.

Long-Term Viability:

For older legacy applications without an immediate need for modernization, this strategy provides a viable long-term approach, ensuring a smooth and gradual transition.

Improved Performance:

Some alternative hypervisors may offer performance advantages for specific workloads, leading to improved application responsiveness.

Flexibility and Scalability:

Adopting an alternative hypervisor expands options for future technology choices and reduces dependence on a single vendor. By diversifying the virtualization platform, organizations can protect themselves from potential price increases or service disruptions associated with a single vendor.

Use Cases of VMware with alternative hypervisors

- Use an alternative hypervisor for non-critical workloads while keeping VMware for critical applications, ensuring high availability and disaster recovery while managing budgets.
- Use an alternative solution for new applications while gradually transitioning legacy applications from VMware to ensure a smooth modernization process.

Challenges associated with migrating to VMware and adopting an alternative hypervisor:

While this approach offers potential benefits, it also presents challenges:

Migration Complexity:

Migrating workloads from one hypervisor to another can be complex and time-consuming, requiring careful planning and execution.

Skill Gap:

Organizations may need to acquire new skills to manage and maintain alternative hypervisors, potentially increasing training costs.

Compatibility Issues:

Not all applications and tools are compatible with all hypervisors, which may require additional testing and modifications.

Support and Maintenance:

Finding adequate support and maintenance options for alternative hypervisors may be more challenging compared to VMware.

Ecosystem Maturity:

The ecosystem around alternative hypervisors might be less mature than VMware's, with fewer available tools and integrations.



Option 2

Lift and Shift to Public Cloud with Continued Application Modernization

This approach involves migrating existing applications and infrastructure to a public cloud platform with minimal changes. While it offers rapid migration benefits, it's essential to plan for ongoing application modernization to fully realize the advantages of cloud computing.

Benefits of Lift and Shift:

- **Rapid Migration:** By avoiding significant application changes, organizations can quickly migrate workloads to the cloud, reducing downtime and business disruption.
- **Reduced Risk:** With minimal code changes, the risk of introducing errors or performance issues is lower compared to more complex migration strategies.
- **Cost Optimization:** By leveraging cloud-based pay-per-use models, organizations can potentially reduce infrastructure costs and optimize resource utilization.
- **Scalability and Flexibility:** Cloud platforms offer elastic scalability, allowing organizations to easily adjust resources based on demand.
- **Disaster Recovery:** Cloud-based solutions often include built-in disaster recovery capabilities, enhancing business continuity and resilience.

Challenges of Lift and Shift:

While lift and shift offers a rapid migration path, it's essential to consider the potential challenges:

- **Performance and Latency:** Applications designed for on-premises environments may experience performance issues due to network latency and differences in hardware infrastructure.
- **Vendor Lock-In:** Overreliance on a single cloud provider can increase the risk of vendor lock-in, limiting flexibility and increasing costs.
- **Cost Optimization:** Without optimizing applications for the cloud, organizations may incur higher costs due to inefficient resource utilization.
- **Security Risks:** Migrating applications without addressing security best practices can expose organizations to increased cyber threats.
- **Limited Cloud Benefits:** Lift and shift doesn't fully leverage cloud-native capabilities, hindering the realization of long-term benefits such as scalability, agility, and cost savings.

When lift and shift is a precursor to modernization, leveraging a partner for managed and professional services provides the following benefits:

**Expertise and Operational Efficiency:**

Managed services bring deep cloud expertise, ensuring that migration and ongoing management adhere to best practices. This partnership allows internal teams to focus on strategic initiatives rather than day-to-day cloud operations.

**Scalability and Resilience:**

Public cloud platforms provide elastic scaling and built-in resilience, supporting business continuity and enabling rapid response to changing business demands.

**Accelerated Cloud Adoption:**

A lift-and-shift strategy accelerates the transition to the cloud, enabling organizations to quickly capitalize on cloud infrastructure benefits such as scalability, reliability, and global reach.

**A Foundation for Comprehensive Modernization:**

While lift and shift offers an immediate pathway to the cloud, it also sets the stage for deeper modernization efforts. Applications can subsequently be optimized and re-engineered to fully exploit cloud-native capabilities.

Use Cases of Lift and Shift to Public Cloud

- For organizations with outdated applications, a lift-and-shift can migrate these applications to the cloud, ensuring operational continuity while reducing the maintenance burden on internal IT teams.
- Businesses experiencing rapid growth can move web hosting infrastructure to the cloud to handle increased traffic and user demand.
- When expanding operations internationally, managed cloud services can quickly deploy IT infrastructure in new regions. The cloud's global reach ensures that applications and services are available to users worldwide, reducing latency and improving user experience.

Option 3

Migrate to VMware and Modernize to Containers

Leveraging VMware as a stepping stone toward containerization presents a strategic pathway for modernization. This approach combines the stability and familiarity of VMware with the agility and efficiency of containers, offering a balanced and pragmatic route to digital transformation.

Using VMware as a launchpad for modernization leverages a familiar platform, reducing the complexity and learning curve for transitioning to new technologies. This approach facilitates incremental modernization, enabling organizations to introduce containerization at their own pace for a smooth and efficient transition.

Benefits of using VMware and gradually modernizing to containers:

**Portability:**

Containers offer greater portability across different environments, enabling easier deployment and scaling of applications.

**Scalability:**

Tools like Kubernetes automate scaling, ensuring efficient resource use and responsive application performance.

**Resource Efficiency:**

Containers optimize resource utilization by encapsulating applications and their dependencies into lightweight, portable units that can run consistently across various environments, lowering operational costs and enhancing system performance.

**Accelerated Development and Deployment:**

Containers facilitate faster development and deployment cycles, enabling quicker time-to-market for new applications and features.

**Gradual Modernization:**

Organizations can gradually migrate workloads to containers at their own pace, reducing disruption and managing risks effectively.

**Consistency:**

Containers ensure uniformity across development, testing, and production, reducing deployment issues and increasing reliability.

**Cost Optimization:**

By improving resource utilization and streamlining operations, organizations can achieve significant cost savings.

Challenges of using VMware and gradually modernizing to containers:

While this approach offers several benefits, it also presents challenges:

- **Complexity:** Managing both virtual machines and containers introduces additional complexity to the IT environment, requiring specialized skills and tools.
- **Tooling and Orchestration:** Effective container management requires robust orchestration tools and platforms, which may require additional investments and expertise.
- **Network Complexity:** Integrating containers into existing network infrastructure can be challenging, requiring careful planning and configuration.
- **Security Considerations:** Securing containerized environments presents unique challenges, as traditional security measures may not be sufficient.
- **Cultural Shift:** Adopting a containerized approach often requires a cultural shift within the organization, emphasizing DevOps practices and collaboration.

Use Cases of VMware and Containerization

- Use VMware as a managed environment, so your business can focus on application modernization without being burdened by infrastructure maintenance, allowing IT teams to drive innovation and improve productivity.
- Improve resource efficiency by encapsulating applications into lightweight units, lowering operational costs and enhancing performance.
- Ensure consistency across development, testing, and production environments, reducing deployment issues and increasing application reliability and stability.

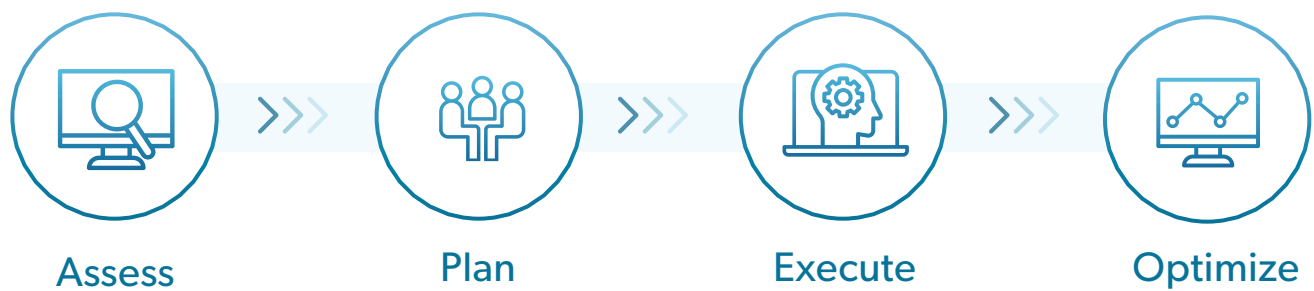
Partnering with service providers can further simplify your modernization pathway...

Selecting the optimal modernization pathway and successfully executing the transformation can be complex and resource-intensive. **Service providers offer ready-to-use infrastructure, easing the move from traditional platforms and mitigating vendor lock-in.**

With infrastructure management handled by the provider, organizations can concentrate on modernizing their applications and services. Service providers offer flexible solutions that evolve with business needs, ensuring continuous alignment with modernization goals.

How a Strategic Modernization Partner can Help

Partnering with a skilled IT services provider can significantly accelerate and de-risk the modernization journey. A strategic partner brings a combination of expertise, resources, and methodologies to guide organizations through the transformation process.



Assess

A service partner can help you understand your existing environment by conducting a comprehensive gap analysis and comparing it to industry best practices. As part of the assessment, a partner can support your business with:

- **IT Infrastructure Evaluation:** Conduct a comprehensive assessment of the existing IT environment, identifying strengths, weaknesses, and opportunities for improvement.
- **Business Requirements Analysis:** Align IT modernization goals with overall business objectives, ensuring the strategy supports organizational growth and success.
- **Risk Assessment:** Identify potential risks and challenges associated with the modernization process and develop mitigation strategies.

These assessments and analyses will help ensure that virtualization and modernization efforts align with strategic goals and operational demands.

Plan

In the planning phase, a good service partner develops a customized roadmap to support business and modernization goals. As part of planning, a partner can support your business with:

- **Strategy Development:**
Create a tailored modernization roadmap outlining the desired outcomes, key milestones, and resource allocation.
- **Technology Selection:**
Evaluate and recommend appropriate technologies and platforms based on business requirements and budget constraints.
- **Change Management Planning:**
Develop strategies to address organizational change and build employee buy-in for the modernization initiative.

These tailored plans ensure that your organization is well-positioned for a successful modernization journey, aligning infrastructure upgrades with your strategic objectives.

Execute

A good service partner can help bring the agreed-upon modernization plan to life, meticulously managing the transition to new infrastructure and technologies.

This phase involves deploying the agreed-upon strategies and ensuring minimal disruption. Strategic partners assist with:

- **Migration and Implementation:**
Oversee the migration of workloads to the chosen platforms, ensuring minimal disruption to business operations.
- **Infrastructure Setup and Configuration:**
Deploy and configure the new IT infrastructure, optimizing performance and security.
- **Application Modernization:**
Assist in application refactoring, modernization, or re-platforming to leverage cloud capabilities and improve efficiency.

Throughout the execution, they provide ongoing support, address any challenges that arise, and adjust as necessary to ensure a smooth and successful modernization process.

Optimize

A good services partner will ensure that your modernized infrastructure continues to operate at peak efficiency. This involves continuous management, monitoring and performance-tuning to address any emerging issues and to maximize resource utilization. The service partner will also implement automation tools to streamline operations, reduce manual intervention, and enhance overall system resilience.

Regular reviews and updates to your infrastructure ensure it remains aligned with evolving business needs and technological advancements. By proactively identifying and addressing potential bottlenecks or inefficiencies, the service partner helps you maintain optimal performance, cost-effectiveness, and scalability, ensuring long-term success in your modernization efforts.

By leveraging the expertise of a strategic partner, organizations can accelerate their modernization journey, reduce risks, and more efficiently achieve desired business outcomes.

The Benefits of Partnering

Partnering with a strategic services provider offers numerous advantages throughout the modernization journey:

**Expertise and Knowledge:**

Strategic partners possess deep industry knowledge and technical expertise, enabling them to provide valuable insights and recommendations.

**Resource Optimization:**

By leveraging the partner's skilled workforce, organizations can focus on core competencies while the partner handles IT modernization tasks.

**Risk Mitigation:**

Partners bring experience in managing complex IT projects, reducing the risk of failures and minimizing potential disruptions.

**Accelerated Time-to-Market:**

With their expertise and resources, partners can expedite the modernization process, enabling organizations to realize benefits faster.

**Innovation Catalyst:**

Partners can introduce new technologies and ideas, fostering innovation and driving business growth.

**Cost Efficiency:**

Strategic partnerships can help optimize IT spending by leveraging economies of scale and shared resources.

**Best Practices and Industry Standards:**

Partners often have access to industry best practices and standards, ensuring that the modernization effort aligns with industry trends.

**Focus on Core Business:**

By delegating IT modernization to a partner, organizations can concentrate on their core business operations and strategic initiatives.

By carefully selecting a strategic partner, organizations can significantly enhance their chances of success in IT modernization and achieve their desired business outcomes.



Considerations When Selecting a Partner

Selecting the right strategic partner is crucial for the success of an IT modernization initiative. Key criteria to consider include:

> Expertise and Capabilities

- **Industry Experience:** A deep understanding of the specific industry and its challenges is essential.
- **Technical Proficiency:** Proven expertise in cloud technologies, virtualization, and IT infrastructure.
- **Modernization Experience:** A track record of successful IT modernization projects.
- **Service Portfolio:** A comprehensive range of services, including assessment, planning, implementation, and ongoing support.

> Alignment and Compatibility

- **Business Goals:** Alignment with the organization's strategic objectives and business outcomes.
- **Cultural Fit:** Compatibility in terms of values, work ethics, and communication styles.
- **Financial Stability:** A sound financial position to ensure long-term commitment and reliability.

> Performance and Delivery

- **Project Management Capabilities:** Proven ability to manage complex IT projects on time and within budget.
- **Customer Satisfaction:** A strong reputation for delivering high-quality services and customer satisfaction.
- **Innovation Focus:** A commitment to staying up-to-date with emerging technologies and industry trends.

> Pricing and Commercial Terms

- **Cost-Effective Solutions:** Competitive pricing and flexible commercial models.
- **Transparent Pricing:** Clear and understandable pricing structures without hidden costs.
- **Fair Contractual Terms:** Balanced and equitable contractual agreements protecting the interests of both parties.

By carefully evaluating these criteria, organizations can select a strategic partner that will contribute significantly to the success of their IT modernization journey.

Summary

We've explored the complexities of IT modernization, from understanding the challenges posed by outdated infrastructure to identifying potential pathways forward. The importance of strategic partnerships in navigating this journey cannot be overstated.

By carefully assessing the challenges, selecting the appropriate modernization strategy, and partnering with a skilled IT services provider, organizations can embark on a successful transformation. The result is a more agile, efficient, and secure IT infrastructure that supports business growth and innovation.

Transforming Financial Services through Virtualization and Modernization with Carbon60

Customer Challenge

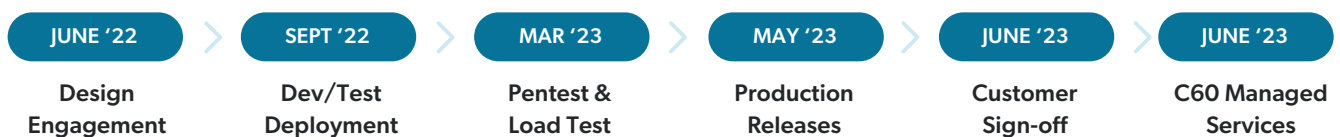
A Canadian authority for government banking and money management services was running systems on an outdated architecture that did not support automation and scalability. Updates would require manual configuration, and duplicate infrastructure pools, and would lead to ineffective QA, delaying application and platform deployments.

Customer Success

Carbon60 successfully guided the organization through a comprehensive transition to a hybrid cloud environment, modernizing its applications, intranet, and web properties.

The project included designing a robust architecture, conducting a proof of concept (PoC), and implementing a seamless cutover to the new system. **This transformation significantly reduced infrastructure requirements and introduced automation, scalability, and portability.** Carbon60 also deployed groups of Kubernetes clusters across multiple geographic locations and cloud providers, ensuring enhanced flexibility and performance for the organization's critical services.

Timeline



Choosing Your Modernization Path

Here are the questions to ask and consider when choosing your modernization path and the right partner to help you achieve your modernization goals.

> **Current Virtualization Environment**

- What is the size of your existing environment?
- What technologies are you using (hypervisor, software, network)?
- What virtualization platform are you running?
- Are you reliant on a single vendor?
- Does your team have the expertise to manage a new platform?
- Are you using Linux, Windows, or other OSs?

> **Workload Assessment**

- Is your application a legacy application, web application, or cloud-native application?
- Is your application in-house developed or purchased?
- What are your application's dependencies?
- Does your application require high CPU, memory, or storage?
- Does your application need to scale up or down quickly?
- Does it need to be portable between environments?
- Does it handle sensitive data?

> **Technical and Business Requirements and Motivations**

- What are you trying to accomplish via modernization?
- Do you want to reduce IT infrastructure costs?
- Do you need to be able to respond to changing business needs more quickly?
- Do you need to enhance the security posture of your applications?
- Do you need to be able to move workloads or applications between environments?

> **Cloud Maturity (Readiness)**

- What expertise, skills, and experience do you have with public cloud or alternative platforms?
(Novice: minimal exposure; Basic: some cloud exposure; Standard: using cloud, not optimized; Innovating: sophisticated usage, AI, born in the cloud)

> **Security, Data Residency, and Uptime Requirements**

- Do you have compliance requirements?
- What are your data residency requirements?
- What are your access requirements?
- What are your current SLAs?

> **Cloud COE (Centre of Excellence)**

- Do you have a team/bench ready for public cloud?

About Carbon60

Carbon60 accelerates companies on their cloud journey with our managed hybrid IT services. We provide cloud assessment, migration, 24/7 SOC2 compliant managed operations and security services combined with cloud adoption, app modernization and data insights services to organizations across several industries.

Our white-glove service is delivered by our certified experts using multiple clouds including AWS, Azure, Google, and our VMware clouds across Canada.

Visit www.carbon60.com to learn more.



Contact us to find out more about our solutions and how Carbon60 can help with your cloud journey.