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Digital transformation is a key innovation driver in Canada today. The cloud is an enabler, but migrating workloads is a challenge for governments and enterprises alike. Simple, secure, resilient, and affordable implementations require proper planning and partnerships.

A "Digital First" Canada Requires Simple, Affordable, Resilient IT

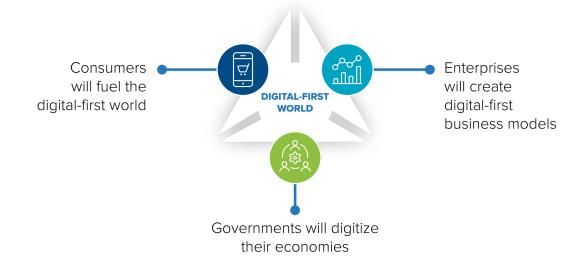
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Introduction

With the events of the last few years, we have seen a dramatic increase in Canadian organizations' pivoting to digital-first strategies as they try to keep their users, employees, and partners productive and safe, mitigate supply chain issues, and navigate turbulent macroeconomic and geopolitical times. While certain industries, such as banking and finance, have led the transformation to "digital business," transformation isn't beneficial only to business — it is critical to many sectors in Canada, especially the public sector, education, and healthcare.

In all areas of the public sector, digital business is extending the capabilities of service providers and empowering users. Municipalities have turned on new self-service digital portals for community programs. Health professionals offer remote consultations for an aging Canadian population. Federal and provincial governments look to improve data-driven decision making, while providing real-time and ubiquitous access to government programs to empower citizens with open government, shared data, secure access to private information, and more sophisticated applications.

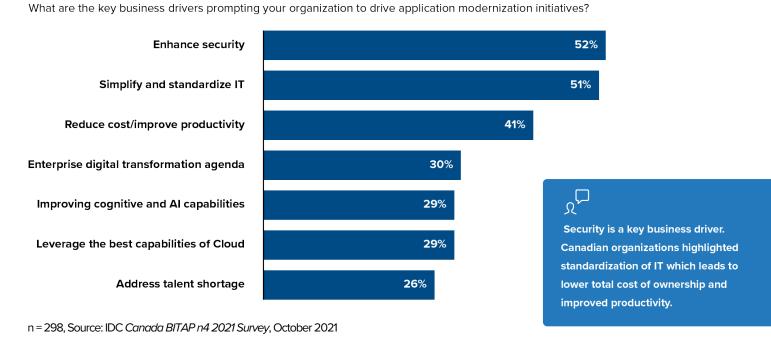


Benefits of Application Modernization and Migration

Figure 1 makes clear the top 3 priorities for application modernization among Canadian survey respondents: security, simplicity, and affordability. In the public sector, those modernization motivators take on even more relevance — 60% of provincial and municipal respondents put security at number 1, as did over 80% of educators. Cloud migrations, when planned properly and executed well, can satisfy all three of these demands.

Figure 1

Key Business Drivers Prompting Application Modernization Initiatives



IT security and resilience has been identified at all levels of Canadian organizations as a top priority for 2022 and beyond. Canadian organizations believe they are underinvested by almost 25% in cyber resilience, and there are a variety of reasons for that: They cannot find enough skilled resources in the security space, operational complexity is increasing faster than they can keep up, and the proliferation of bad actors and powerful, easily accessible tools means they're seeing more attacks than ever before. Cloud providers and their partner ecosystems can help mitigate these security concerns — few, if any, end-user Canadian organizations invest as much into security and availability capabilities as infrastructure providers. Increased availability and resilience through geographic replication and dispersion of data and workloads, as well as advanced data protection and business continuity/disaster recovery tools tying on-premises to cloud resources, can provide a far more reliable and resilient operating environment than an understaffed, underfunded IT security team.

Complexity is kryptonite for digitization, transformation, and modernization initiatives. In IDC's 2021 ITAP n5 survey of Canadian IT decision makers, the number 1 threat to digital transformation activities was reported to be that "operational complexity is increasing faster than we can keep up." This leads to increased costs, higher



resourcing and skill requirements, lower IT efficiency, and reduced digital resilience, as the visibility and manageability of data and workloads is broken by siloes within the organization.

Simplifying IT procurement and operations, leveraging the capabilities of cloud and managed service providers, and returning IT staff to value-added activities rather than simply "keeping the lights" on can improve several areas of business resilience, including digital, operational, and financial. These are the business outcomes Canadian CEOs and organizational leadership are seeking during and after disruptive times.

Digitization and Migration Considerations

Building a case for digital transformation and application modernization can be difficult during periods in which capital constraints caused by outside factors (such as a pandemic, macroeconomic stresses, and geopolitical turmoil) mean the C-suite may be more carefully considering every expenditure. The cost of these initiatives was, by a large margin, the top concern amongst Canadian respondents in our October 2021 survey. Among public sector respondents, most categories were on par with other verticals, except for education and cost — at 81%. Cost was a standout for all industries in terms of concern. Building effective KPIs around business outcomes (not technical achievements) and leveraging real-world examples of successful transformations from your trusted partners are critical to overcoming these challenges.

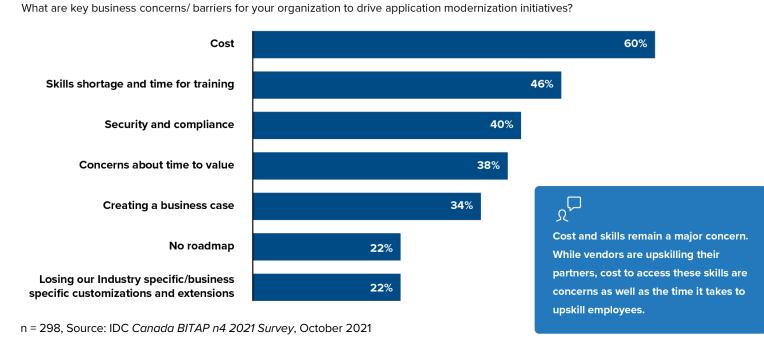
The cost of operating in the cloud is also a major part of the cost conversation: Despite the ease of access to cloud resources and low barriers to entry for individuals within an organization to get started with a provider, Canadian organizations are frequently surprised by the operating costs of their workloads in the cloud. Ingress and egress costs, bandwidth, and even capacity costs can increase well beyond equivalent traditional infrastructure for frequently accessed workloads and data, especially as organizations make use of the scale afforded to them by cloud providers.

The second key concern was the skills shortage currently being felt by Canadian organizations. Finding resources, especially technologists, has become a time-consuming and expensive endeavor in the current market. Canada is in need of hundreds of thousands of full-time employees, especially across IT organizations. At the top of the list are security experts¹, followed closely by cloud architects and developers. This dearth of skilled resources is one reason that managed service providers are in high demand today. It is also why Canadian organizations must find expertise early in the transformation planning cycle — to ensure they are not adding undue IT complexity, reducing security and resilience, and creating siloes rather than innovation. In addition, a knowledgeable partner can help ensure that organizations aren't escalating operational, financial, and business risks through inappropriate transformation road maps.

¹ Characterizing the Cybersecurity Talent Recruiting Issue: North America Is Struggling (IDC #US49579722, August 2022)



Figure 2
Key Business Concerns Around Application Modernization Initiatives



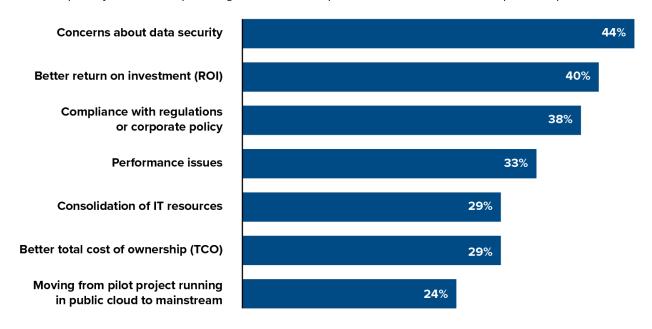
Workload migrations can be some of the most disruptive activities IT staff are asked to undertake. This is why IDC continues to stress the importance of performing exhaustive workload assessments early in the planning process. With the exception of planned dev/test repatriations to bring net new workloads back into production environments, moving mission-critical workloads to and then back from a cloud provider can be a costly failure — and yet almost 90% of Canadian organizations surveyed last year had done exactly that! The top reasons for repatriating workloads can be seen in **Figure 3** (next page); again, we see security and return on investment at the top of the list. Complexity, in the form of governance and compliance as well as IT consolidation, is another top consideration. Public sector organizations again conform to Canadian standards, with the exception of security: It is of paramount concern, especially among educators.



Figure 3

Key Drivers For Repatriating Workloads

What are the primary drivers for repatriating workloads to on-premises infrastructure or to off-premises public cloud infrastructure?



n = 250, Source: IDC ITAP n2 2022 Survey, April 2022

Modernization Trends in Canada

Canadian organizations are migrating many enterprise workloads to public cloud services over the next two years, based on the need for availability, reliability, and flexibility. Across all business segments and geographies, this has been identified as modernization priority number 1, as seen in **Figure 4** (next page). To achieve this, these organizations must hire and retain, develop, or seek skilled cloud migration resources externally to ensure success.

Most failures in this space are failures in planning: a lack of understanding of the potential pitfalls and unintended consequences of cloud migration, or insufficient knowledge of the characteristics of the workloads under consideration. Failures in planning lead to security risks, governance or compliance issues, out of control costs, etc. This is why expertise is at a premium, and why finding a trusted partner that can demonstrate successes, deep technical expertise, and an understanding of your industry's unique requirements and issues can be the difference between success and failure in a modernization initiative.



Figure 4

Application Modernization Initiatives For The Next 24 Months

Please rate the following application modernization initiatives for your organization in the next 24 months?

Cloud Migrations: Migrating enterprise applications to the cloud to access cloud-native capabilities, legacy to SaaS/PaaS/ cloud modernization

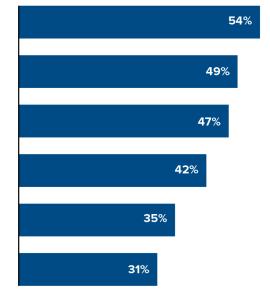
Packaged application upgrades: Upgrading packaged enterprise applications like SAP, Oracle, Microsoft Dynamics, Salesforce etc. to latest version

Infrastructure modernization: Upgrading the underlying infrastructure running applications

Customizations: Modernization through customizing current applications

Containers and Microservices: Resorting to containerization and refactoring of enterprise applications to microservices based architecture

Mainframe modernization: Migration of code and functionality to a platform that is based on newer technology and/or hosted in the cloud



n = 298, Source: IDC Canada BITAP n4 2021 Survey, October 2021



Over the next 24 months, Canadian organizations are seeking to modernize their application workloads and increase their use of cloud services and will seek cloud migration skills.

Conclusion

Application migration and modernization activities can help Canadian organizations both survive turbulent times and capture new share to grow their business. The choice of infrastructure deployment methodologies as well as planning and developing a road map toward a digital future can determine the success or failure of these initiatives. A trusted partner can fill the skills gaps in your organization and ensure that the cloud is a platform for innovation and a way to improve business outcomes.

Cloud infrastructure can provide added security, availability, and resiliency to your organization's operations. Ensure that your cloud migration is solving business problems without introducing new technical debt or business risks with a thorough modernization assessment and a measured approach to your digital transformation.

Complexity is kryptonite to modernization. Simplify IT to increase resilience, manage costs, and drive innovation.



About the Analyst



Dave Pearson, Research Vice President, Infrastructure Solutions, IDC As research vice president of IDC Canada's Infrastructure Solutions research group, Dave Pearson manages our team of datacenter analysts in the areas of compute, storage, networking, and security as well as contributing to edge, cloud, cognitive, and infrastructure software research.

Dave joined IDC Canada with over a decade of international experience in IT, in development, sourcing and selection, project management, and other disciplines.



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Prior to joining IDC, Henry worked as a research analyst at Diligent, where he did research on prospective European partners for corporate clients to identify potential issues of corruption/bribery, legal, financial, and other areas of concern and then analyzed and visualized this information.



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ThinkOn is a Canadian—owned and operated cloud solution provider (CSP) that works with a trusted ecosystem of top technology partners to provide simple, secure, resilient, and affordable infrastructure-as-a-service solutions and data management services. Our services fit together to create an economical, buildable outcome that makes sense for you and your bottom line. At ThinkOn, we tell you the cost upfront on an easy-to-read single-page quote. When the invoice comes, that's the number you'll see: no fine print, no escalating cloud allocation usage charges, no hidden fees — ingress, egress, or otherwise. ThinkOn is a Canadian VMware Sovereign Cloud partner, Pro-B certified, and the only CSP capable of offering data sovereignty to the government of Canada. Consider us your dedicated department of data-obsessed experts.

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