

Cloud as a delivery model is encouraging increased automation of the associated migration services; both clients and service providers will benefit.

Accelerating Cloud Migration Services Through Automation Delivers Multiple Benefits

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Introduction

Automation of professional services related to cloud migration is fast becoming a reality as providers seek to meet emerging customer requirements and standardize related advisory efforts. Such automation can help organizations implement transformative initiatives faster while using fewer internal resources. Automating more standardized cloud migration tasks allows clients to focus on higher value-added services such as deriving more data-driven insights. It also allows clients to focus on aligning their on-premises and edge offerings around the public cloud players' new "distributed cloud" (hybrid) stacks such as AWS Outposts, Google Cloud Anthos, IBM Cloud Private, and Microsoft Azure Stack.

Benefits

Automated cloud migration services provide the dual benefits of accelerating the project timeline while reducing the overall level of effort required by the organization to complete an implementation. Effective use of automation ensures efficient cloud management while focusing on security and compliance. Before starting the cloud migration process, an organization should conduct a thorough assessment of the cloud strategy and business objectives with an experienced cloud partner to make a more informed decision about whether a specific result is both desired (e.g., a datacenter modernization/migration) and viable. This next evolution of cloud professional services is not only about delivering IT at a lower cost but also about automation for accuracy, acceleration of migration, and more secure access to information for the overall business.

AT A GLANCE

KEY TAKEAWAY

Automation of more standardized cloud migration activities allows professionals to focus on higher value-added activities such as deriving better data-driven insights or managing more complex hybrid or multicloud delivery models.

Better. The importance of expert services in building and implementing better hybrid and multicloud solutions is increasingly apparent. Given this, key areas that require more automation are integration and acceptance testing related to the frequent software releases observed when using the cloud delivery model. While cloud applications can be easier to configure and to roll out in some technical ways, the challenges of integration, testing, training, and change management do not go away. Software is software whether it's delivered on-premises or via a cloud model. In fact, many cloud vendors release several software versions a year, significantly multiplying the testing load compared with annual or biannual cycles for some on-premises software upgrades.

Faster. The trend toward shorter implementation projects continues, and while these projects tend to be less expensive, the shorter time frames demand higher degrees of expert knowledge and subject matter expertise to maintain optimal efficiency. Standardized services have typically become automatable after numerous delivery cycles, increasing the knowledge of what level of effort will be required and the associated risk or delay points involved in the project. Likewise, shorter projects are often easier to cost justify, using a simple payback calculation rather than a more complex business return on investment.

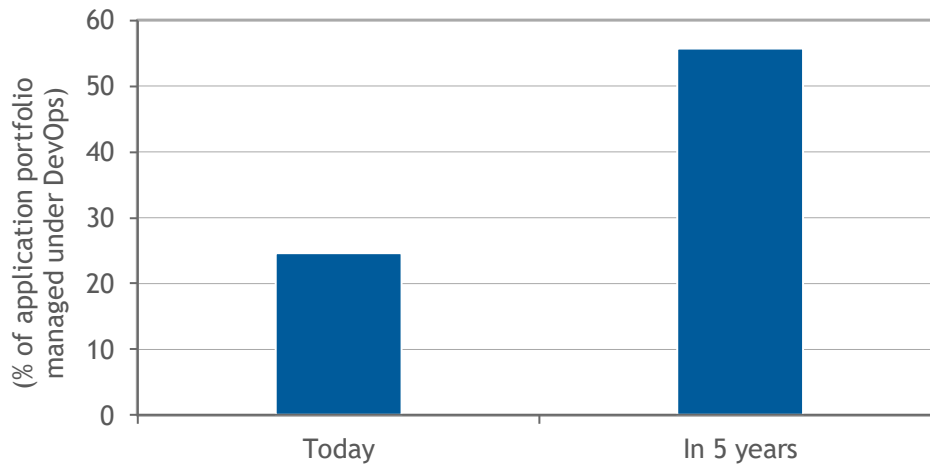
More secure. The use of progressive application life-cycle methodologies (i.e., DevOps, DevSecOps, DataOps) in a more automated fashion is important to maximize the return on data and to highlight how IT leaders need to invest in data and the technology related to security.

Organizations Are Marching Toward More Progressive Application Delivery

In the past, many organizations relied on waterfall application development and deployment methods for application delivery and mitigation of defects. However, waterfall approaches have been hampered with matching the time-to-value demands of users in dynamic businesses. IDC has found that to combat such time-to-value challenges, companies are evolving their approaches to application life-cycle management and driving more safe agile methodology and DevOps delivery into their application portfolios. In fact, organizations estimate that roughly 25% of their application portfolios are managed under a DevOps methodology today, with that figure likely to jump to 55% in five years (see Figure 1).

FIGURE 1: **Percentage of Application Portfolio Managed Under DevOps: Today and in Five Years**

Q What percentage of your company's total business application portfolio would you estimate is being managed under a DevOps methodology today, and what would you estimate that percentage to be in the next five years?



n = 501

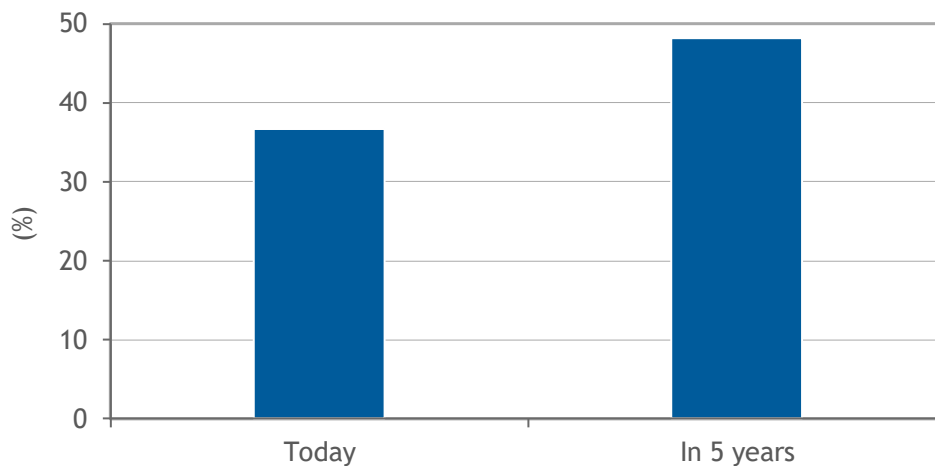
Source: IDC's Application Services Survey, December 2018

Key reasons for broader DevOps adoption have hinged upon:

- » **The rapid pace of business change.** Advancements in cloud provider services and capabilities and newer communication channels such as the web and social media have accelerated information consumption and exchanges. The speed by which information becomes available, disseminated, and consumed means that organizations need to respond to urgent matters quickly or risk loss of business or reputation. Organizations face increased pressures to respond to unplanned business needs, and they require tools and analytics that enable them to act dynamically and be more responsive to business changes.
- » **Heightened time-to-value expectations and increased reliance on automation.** With greater needs for improved business agility and responsiveness, IT organizations are increasingly pressed to complete full application life cycles more quickly. Deploying application functionality at the time that users need it helps businesses and business processes be more dynamic and responsive. IDC has observed that to this end, organizations are driving higher levels of automation to application testing to help speed up application release times. Organizations estimate that nearly 37% of their testing activities are automated today, and in five years they expect that nearly 50% of their testing activities will be automated (see Figure 2).

FIGURE 2: **Automation Levels in Application Testing: Today and in Five Years**

Q How much of your organization's overall testing life-cycle activities (i.e., test strategy development, test planning, test case development, test case execution, integration testing, security testing, end-to-end testing, regression testing, etc.) would you estimate are automated today, and how much do you believe will be automated in five years?



n = 501

Source: IDC's Application Services Survey, December 2018

Shifts to More Progressive Application Delivery Can Bring New Challenges

As organizations advance their application deployment methods to match more dynamic business needs, application delivery teams face new challenges. While DevOps adoption has grown to manage nearly a quarter of application portfolios, organizations must tackle the following issues:

- » **Emerging needs for data beyond operations (DataOps).** Data and insights are the foundations for faster innovation within the enterprise. Transformation and modernization projects are focusing on the application and the data together. Modernizing the most important applications and workloads always involves dealing with the largest data sets within an organization at the same time. While many organizations have focused on using operational data to optimize processes within application delivery, they have yet to focus much effort on capturing, storing, and protecting data to ensure that insights can be consumed and leveraged easily. As organizations progress with DevOps and agile delivery methodologies, they need to evolve their analytics and performance metrics to drive maturity higher and obtain more value out of their delivery. Without effective mechanisms and processes in place to curate and cultivate data — and get the right data at the right time to the right decision maker — application delivery teams can come up short in harnessing the benefits of speed and quality that more progressive application delivery provides.

- » **Scaling and integrating security into DevOps delivery (DevSecOps).** With increased speed for application delivery, organizations need to consider how security and compliance will be impacted by changing to more progressive application delivery. Traditional methods of applying security to application delivery centered on security and compliance reviews and activities before applications were released to production. With agile and DevOps, organizations cannot afford to apply security at pre-production stages. More application release cycles and iterations mean that security and compliance need to be componentized, incorporated, and embedded at earlier stages of delivery, repeatedly and at scale, to circumvent risks and vulnerabilities. This change requires a restructuring of processes, skills, and team constitutions as well as a restructuring of culture across development, operations, and security organizations.

Trends

One of the important trends related to the automation of standardized cloud migration services is its ability to free up highly skilled professionals to work on the cutting edge of what is possible but not ready to be automated, such as new multicloud and hybrid cloud delivery models. As IDC has predicted for the past several years, the public clouds — and all the innovative services running on them — are beginning to extend out to customer premises and beyond. A new species of cloud — what IDC terms "local clouds" — is compatible with, and connected to, the major public cloud platforms. These offerings are poised to become widely deployed in on-premises datacenters and in distributed/edge locations. IDC estimates that by 2023, at least 25% of public cloud deployments (as measured by computing core shipments) will be running in third-party, on-premises, and edge locations, powered by public cloud vendors' distributed cloud platforms (e.g., AWS Outposts, Google Cloud Anthos, IBM Cloud Private, and Microsoft Azure Stack). It is imperative that IT product and services vendors serving enterprise datacenters and distributed/edge locations identify how their offerings will connect to the major cloud service providers' distributed cloud "stacks."

Considering Hitachi Vantara

Hitachi Vantara offers a complete suite of services that include migration and application modernization services, consulting services, security and compliance services, and managed cloud services for the entire cloud life cycle. The company takes a cloud-agnostic approach and provides consistent data services across the edge, on-premises, and in the cloud. By utilizing its extensive experience, Hitachi Vantara helps customers embrace the cloud to achieve agility, ensure governance, and realize cost benefits based on the needs of the business.

The company's rich set of blueprints and low-code cloud accelerators enable automation of all stages of the cloud adoption life cycle, including assessment and migration, testing and compliance, and operations and management. Its comprehensive range of services work together to accelerate the journey to cloud and holistic digital transformation.

For demanding environments, Hitachi Vantara can help validate, document, and monitor enterprise architectures and workloads in the cloud for regulatory compliance (e.g., NIST, ISO 27001, PCI, HIPAA, FedRAMP). It also assists with security package creation for FedRAMP PMO1 submission, including systems security plan and related documentation, artifacts to support assessment and authorization activities, and completion of all actions from the security documentation checklist.

To reduce the risk and time spent on cloud projects, Hitachi Vantara has created an end-to-end cloud automation platform with customizable out-of-the-box capabilities to address the specific requirements of each customer. The Hitachi Cloud Accelerator Platform is a cloud-agnostic collection of orchestrated and coordinated automation development routines/engines that streamline the tasks of managing cloud-native applications over their life cycles. It creates a structured framework for an agile continuous integration and continuous delivery (CI/CD) DevOps process that accelerates the development and operation of cloud-based applications and workloads. Hitachi Vantara uses the platform to migrate applications, modernize operations, and deliver managed cloud services.

The Hitachi Cloud Accelerator Platform leverages API and open software-based services to reduce enterprise digital transformation timelines from years to months. The platform automates the cloud adoption and software development life cycle to help customers move to the cloud faster. It uses cloud accelerators to speed migration projects and supports a CI/CD DevOps environment covering all areas of the application life cycle including assessment, migration, testing, deployment, and integration.

The Hitachi Cloud Accelerator Platform enables faster cloud migration and DevOps and creates business agility through a suite of accelerators. For example, a repair accelerator can auto-remediate a cloud "disk full" incident that could negatively impact a production environment. The repair accelerator allows customers to focus on developing the capability to trigger remediating actions rather than having to create a framework and the remediating actions. The Hitachi Cloud Accelerator Platform is also available to license annually by customers to manage their applications and cloud-native environments.

Early indications from customers who have used the company's services are positive. In a customer case study supplied by Hitachi Vantara, the senior director of cloud platforms for a cloud-based software provider said: "We had worked with Hitachi Vantara before on a successful and seamless migration project. The company has plenty of experience, and the Hitachi Cloud Services migration and automation team provided a solid foundation for a swift move to the AWS cloud."

Challenges

Frequent changes in business and technology environments are imposing greater pressures on service providers to execute exceptional service delivery, and clients' expectations of application services performance have increased. IDC research has found that application environments for development, testing, and production are becoming more complex, and the inclusion of automation platforms to help streamline service delivery can drive environment complexity higher. Highly federated and convoluted infrastructure environments are extending from on-premises to host-based and hybrid clouds and edge computing and have created new sets of challenges for services providers. Given these conditions, Hitachi Vantara and its offerings must not only ensure application functionality and performance amid varied hosting and infrastructure environments but also be well equipped to support evolving security testing requirements, protect against security threats, and address security weaknesses that the more complex infrastructure and hosting environments may pose. Further investment in and focus on Hitachi Vantara's cloud migration and automation services, which span a wide range of testing disciplines and integrated testing domains through the application stack, should help prepare the company to support a broader array of different client requirements.

Conclusion

Working with an experienced cloud advisor can position a company to fully realize the potential of application modernization. Adding a modernization phase allows an organization to refactor applications and redesign data sources to unlock much more value than a simple lift-and-shift migration. IDC believes that when choosing a cloud automation services provider, organizations should:

- » **Make cultural fit a priority.** According to IDC discussions with companies that used a third-party provider for application modernization initiatives, a top selection criterion for modernization and migration services has been the provider's ability to mesh with the business and IT teams. Many large organizations tend to integrate service providers as part of their overall IT operations. Therefore, it becomes critical for a business to partner with a service provider that works well with its business and IT teams for continuous delivery to ensure that the value of modernized applications comes to fruition in the hands of users.
- » **Think about application service provider relationships over the long haul.** In conversations with IDC about application modernization initiatives, many buyers noted that their modernization and digital transformation journeys were ongoing. Their application modernization involved a road map of activities and initiatives spanning multiple years and milestones. Buyers shouldn't approach the strategy and selection process as a one-time exercise. Instead, they should think about the relationship and service provider positioning as a long-term asset.
- » **Align application modernization needs with provider strengths.** The key to ensuring a successful application modernization initiative is understanding the organization's long-term vision for business transformation and how applications will play a part in future operations. An organization needs to decide on business goals and objectives with application migration and modernization before modernizing the first application. It must define and dissect deeper-level requirements to achieve business goals and then understand how applications will need to support the future state of the organization. It should start with a requirements framework forged with input from lines of business and IT to outline synergies, dependencies, and complexities. From there, an organization can determine where it may have capabilities to execute against its goals and where it may need to complement those capabilities with third-party expertise.

IDC believes the cloud professional services market will continue to grow, especially with the advent of more cloud automation services. To the extent that Hitachi Vantara can address the challenges described in this paper, the company has good opportunities for success.

About the Analysts



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Gard Little is Vice President for IDC's Global Services Markets and Trends research team, with program leaders that focus on worldwide services, IT consulting and systems integration, product engineering, both digital strategy and agency services, and digital transformation professional services. His core research spans both business consulting and digital transformation, which includes analyzing customer demand and vendor offerings for building new business processes, organizations and systems using cloud, business analytics, enterprise mobility, and social business technologies. Mr. Little's research also includes an emphasis on emerging service opportunities related to the Internet of Things and cognitive systems.



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MESSAGE FROM THE SPONSOR

Hitachi Vantara cloud experts can work with you to realize value of cloud by implementing accelerated migration and application modernization. You can maximize the return on data by using automation-based progressive application life-cycle methodologies.

Contact Hitachi Vantara to speak to a cloud expert and plan a successful cloud strategy. Get started:

<https://www.hitachivantara.com/go/cloud-services/>



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