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Maximizing License Efficiency When Migrating to Public Cloud With Nutanix Cloud Clusters

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Abstract: Migrating to the public cloud can be a useful starting point for application modernization for popular software platforms such as Windows Server and SQL Server, but organizations should be aware that the licensing implications can disrupt the business case for such moves. Nutanix is helping organizations with its Nutanix Cloud Clusters (NC2) on AWS solution and a migration optimization assessment approach that demonstrates it can deliver compelling license savings when migrating Microsoft workloads to native cloud services.

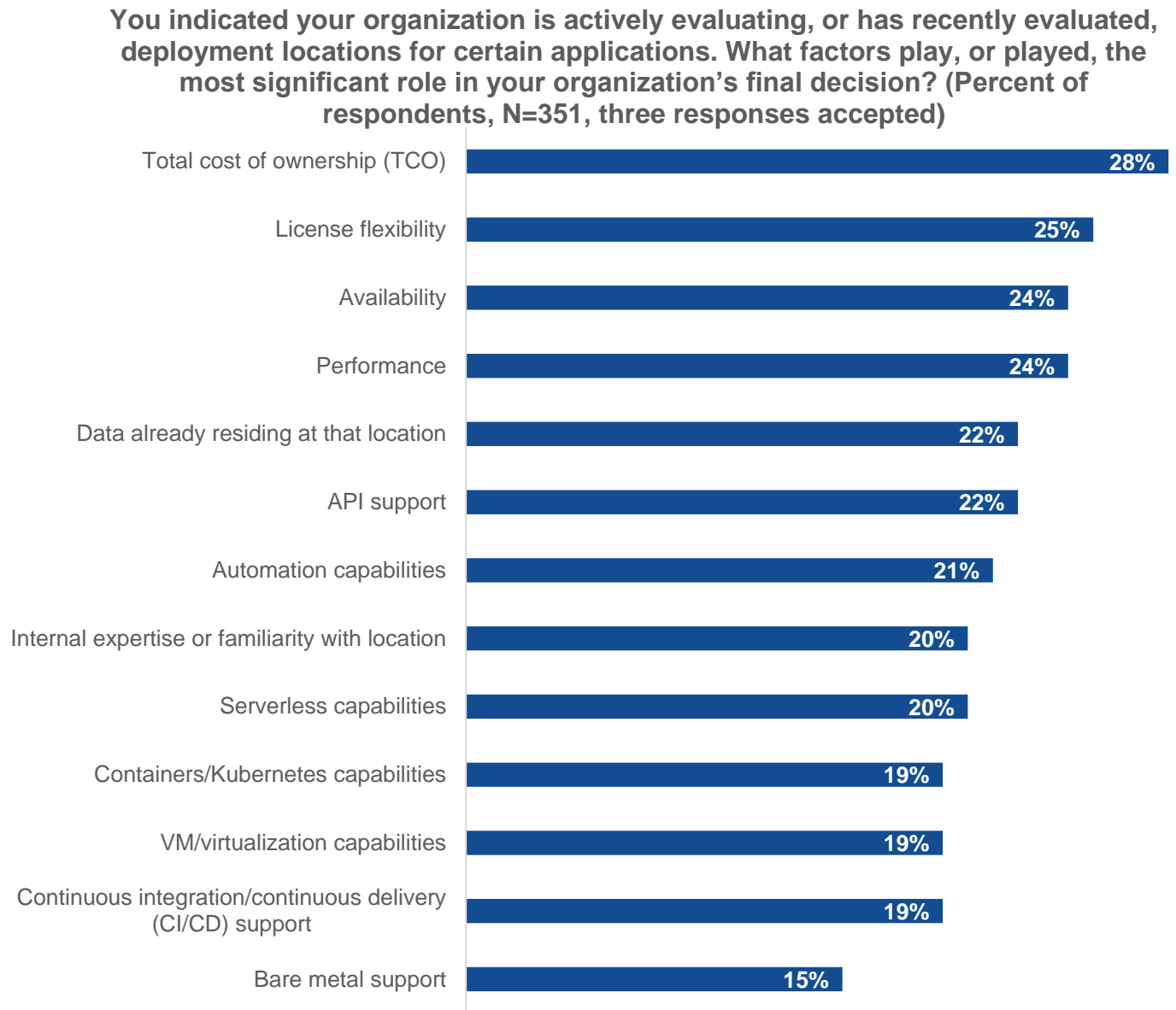## Overview – Licensing Costs Can Make or Break the Cloud Business Case

A common approach to IT modernization is to start with a move to cloud, but the migration of workloads alone is not, in itself, modernization. However, by going this route, workloads can be migrated to the cloud without having to be refactored, thereby tapping into some of the benefits of cloud—pay-as-you-go pricing, ease of use and scaling, management simplicity, and so on—with relatively little effort. Once in the cloud, organizations can then decide if they want to further optimize their workloads through refactoring, the use of cloud native technologies, and other modernization approaches.

Migrations are not without their challenges, however. In particular, the licensing implications of moving from an on-premises to a cloud-based environment can be substantial. In some cases the license costs could be more than the cost of the cloud infrastructure itself. This aspect appears to be recognized as an important factor by IT decision-makers who have evaluated relocating applications. Research from TechTarget's Enterprise Strategy Group found that the top two factors in final decisions regarding workload placement are total cost of ownership (TCO) and license flexibility—placed ahead of more technical factors such as availability and performance (see Figure 1).[1] However, awareness here has not prevented many organizations from getting burned: Three-quarters said they had incurred significant costs and operational impacts due to applications being deployed at sub-optimal locations. Additionally, 73% said that their application deployment planning is hindered by a lack of visibility on spending for public cloud services.

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[1] Source: Enterprise Strategy Group Complete Survey Results, *Understanding Workload, Application, and Data Deployment and Migration Decision-making*, July 2024. All research references in this showcase have been taken from these complete survey results.

Figure 1. TCO and License Flexibility Are Key Factors Driving Application Deployment Location

You indicated your organization is actively evaluating, or has recently evaluated, deployment locations for certain applications. What factors play, or played, the most significant role in your organization's final decision? (Percent of respondents, N=351, three responses accepted)

Factor	Percent
Total cost of ownership (TCO)	28%
License flexibility	25%
Availability	24%
Performance	24%
Data already residing at that location	22%
API support	22%
Automation capabilities	21%
Internal expertise or familiarity with location	20%
Serverless capabilities	20%
Containers/Kubernetes capabilities	19%
VM/virtualization capabilities	19%
Continuous integration/continuous delivery (CI/CD) support	19%
Bare metal support	15%

Source: Enterprise Strategy Group, a division of TechTarget, Inc.

This underscores that, although the financial business case needs to be rock solid for organizations to move ahead with a cloud-based migration, organizations are struggling to properly understand how much moving to the cloud will cost. Therefore, as senior stakeholders such as CIOs and CTOs navigate cloud migration strategies, optimizing software licenses becomes a critical consideration. Different operating models, infrastructure approaches, and licensing rules can present challenges. However, by thoroughly understanding existing entitlements and carefully designing cloud infrastructure deployments, there are significant opportunities for optimization.

Thankfully, help is at hand with innovative approaches from providers such as Nutanix. The company's Nutanix Cloud Clusters (NC2) solution provides organizations with a straightforward route to cloud-based migration, utilizing the same comprehensive range of enterprise-grade features and functions that the company offers through its on-

premises solutions, only running in the public cloud. Crucially, Nutanix can also help customers navigate this transition while minimizing, and in many cases even reducing, overall license costs, compared with migrating and running common applications natively on public cloud infrastructure such as AWS EC2.

To understand these potential benefits in more detail, Nutanix has worked with software compliance and license optimization services specialist Evolve Cloud Services to assess customer scenarios as a migration optimization assessment for customers migrating a range of Microsoft workloads to native cloud services. This assessment includes evaluating existing licensing agreements and entitlements along with existing infrastructure and workload requirements. It lets customers create a detailed TCO that breaks down compute, license, network, and storage costs that helps them uncover and address the hidden costs of software licensing in cloud migrations.

The outputs of these assessments can be quite striking. For example, Evolve and Nutanix found that when undergoing a migration optimization assessment, more than 95% were able to migrate to NC2 without requiring additional Windows Server or SQL Server licenses. This was 29% more than when migrating to native public cloud solutions. Where a customer did require additional licenses, NC2 was able to reduce that additional requirement by 67% compared with native cloud solutions.

Optimizing Enterprise Software Licenses When Migrating to the Cloud

Just as with traditional on-premises applications, running applications in the cloud can be complicated, especially from a licensing point of view. As ever, the devil is in the details, so individual experiences will vary. However, we see a number of areas where organizations typically trip up or can become confused when looking at how to maximize their existing license entitlements as well as minimize new license spending.

A key aspect is to recognize that on-premises resources and cloud-based services are rarely an apples-to-apples comparison. Public cloud providers are building infrastructure at scale and for maximum efficiency, so they typically run more powerful compute capabilities. This can affect licenses, since cloud-based services might comparatively require fewer cores to run a given workload.

Additionally, many organizations have bring-your-own-license (BYOL) arrangements for their enterprise software licenses. Though this might provide some license mobility by entitling organizations to transfer existing on-premises licenses to public cloud environments, potentially avoiding having to purchase additional licenses, policies do vary between vendors, and not all licenses might be eligible for migration. Accordingly, organizations are always advised to check their own specific terms at the outset. Factors such as license type, purchase date, deployment status, and any unique or negotiated terms during renewal can all play a role and could significantly influence compliance status, migration cost, and TCO.

This approach can be effective when considering "license-included" options that appear attractive from a compliance perspective, since licenses come pre-bundled with cloud instances. However, once again, this might not be the most cost-effective option, especially if there are existing licenses to be used or if there is a mismatch between virtual machine (VM) sizes on-premises versus in the cloud. Again, users are advised to carefully check these options against their existing entitlements.

In a similar vein, the shared hosting approach of many cloud providers can appear to be the most cost-effective approach, but it is often greatly complicated by issues such as inconsistent physical host sizes. Though dedicated hosts can be more expensive on the surface, they can often be more tailored to individual license circumstances. This can be particularly beneficial with products licensed at the physical core level, such as Windows Server and SQL Server Enterprise.

Considerations for Maximizing Existing License Investments

Accordingly, organizations planning cloud migrations should consider the following factors to maximize their existing license investments:

- **Understand your licensing exposure/position.** As early as possible in the planning process, request a licensing statement (e.g. from your value-added reseller) to understand your current commitments and entitlements. A clear picture at the outset can help you determine your optimal migration approach.

- **Be flexible.** There's no single or fixed route to migration success—a flexible approach will enable you to pick an optimal path forward, which could involve a combination of native virtualization, NC2, or cloud-native approaches to maximize license efficiency and still achieve migration goals.

- **Concentrate where spend is greatest.** Most organizations typically focus much of their licensing spend on a relatively small set of key applications, such as Microsoft SQL Server. Spending more time on optimizing spend here will have the greatest effect on TCO. Time spent understanding usage, required features and editions, and so on could make a meaningful difference to total spend.

- **Evaluate licensing assessment options.** A migration optimization assessment that includes a review of third-party licensing assets could be a very worthwhile investment.

How Nutanix Cloud Clusters (NC2) Can Help

The architecture of Nutanix Cloud Clusters lends itself to support customers who are looking to use their existing entitlements when migrating their applications to the public cloud. In such a way, the NC2 solution can minimize— and even potentially reduce—the total licensing costs for organizations looking to migrate key workloads to public cloud providers.

For example, NC2 enables overprovisioning of physical compute resources and right-sizing VMs based on actual performance data, helping avoid unnecessary licensing of unused cores. In particular, Evolve and Nutanix found that smart use of NC2 combined with native cloud solutions can deliver additional Windows Server savings of 91% compared to running entirely on native cloud solutions. The Nutanix Sizer and Collector tools help organizations gather the insight necessary to understand requirements, sizing, and optimization of infrastructure and licensing costs.

This approach also helps with BYOL compliance. Organizations with eligible entitlements could benefit from NC2, since it enables them to leverage some on-premises licensing models in the cloud. This provides visibility of underlying hardware and enables licensing at the physical core level, which maximizes value from existing investments in operating system and application licenses. This is not always possible with typical public cloud IaaS services that use vCPU-based licensing.

NC2 can also help with workload density. For example, public cloud IaaS usually operates at a 2:1 vCPU to physical CPU contention ratio, decompressing data center workload density (that is typically 4:1 or above) and potentially increasing licensing costs. By contrast, NC2 supports higher contention ratios, maintaining the benefits of workload density and reducing licensing costs for organizations with BYOL entitlements.

Finally, there are additional cost efficiencies to be gained around utilization of committed spend. For example, NC2 can save up to 50% compared with native cloud virtualization when including Nutanix licenses, bare-metal costs, and application refactoring. Evolve and Nutanix found that on average, customers running SQL Server can expect to see a 39% reduction of the licensing costs compared with running in native public clouds. Nutanix licenses can be purchased through resellers or cloud marketplaces, utilizing committed cloud spend plans and partner agreements. Additionally, the Nutanix Move application migration tool is available for seamless workload transitions, including between on-premises, NC2, and native cloud environments at no additional cost.

In summary, why should organizations consider Nutanix Cloud Clusters? NC2 can help accelerate the relocation of workloads to the clouds of their choice while operating the entire infrastructure footprint as a single cloud. IT operators can leverage the same UIs, operations, and automation mechanisms, providing the same level of resilience, intelligent operations, lifecycle management, and security that Nutanix is known for across all types of clouds.

Conclusion

Though public cloud services are a compelling option for IT organizations under pressure to modernize their environments, the real—and sometimes hidden—costs involved with moving existing on-premises applications to a public cloud provider can be a sobering wake-up call. While we would advise all organizations to carry out their own detailed cost analysis before making a migration decision, NC2 on AWS offers a robust solution for optimizing software licenses during cloud migrations. With the scalability, unified management, and cost-efficiency provided by the solution, organizations can drive significant value and ensure a smooth transition to the cloud. Planning ahead with a long-term strategy can ensure efficient operations and reduce the risk of noncompliance.