Solution Brief

Cloud Tools
AI-Enabled Optimization

Intel® Migration Advisor by CloudGenera Saves Time and Money with Smart Workload Placement and Optimization

Analyze and optimize workload placements in the cloud or the data center with AI-powered, application-specific recommendations.

The Intel® Migration Advisor by CloudGenera helps organizations choose the best-fitting hosts and instances for their workloads, providing visibility and control over cloud spending. As organizations continue to migrate more workloads, applications, and services to the cloud, they can save time, money, and resources at scale when they rely on accurate, comprehensive analysis and guidance from Intel Migration Advisor by CloudGenera.

"Nearly every enterprise already makes at least some use of the public cloud; to avoid the cloud entirely is almost inconceivable. But many cloud implementations are poor. Too often, deployments are ad hoc, implementations are inconsistent, costs are poorly controlled, or governance is incomplete."

—Gartner Research, "2022 Planning Guide for Cloud and Edge Computing"[1]

Challenge: Poor workload placement choices can lead to high costs or resource constraints

Choosing the best cloud instance for each workload is a key to successful cloud migration. Each cloud service provider (CSP) offers a huge selection, and many instances have near-identical descriptions. Plus, instances change as new hardware and software come online and older configurations are retired.

In their rush to accelerate cloud adoption to accommodate remote employees and other trends during the COVID-19 pandemic, many organizations did not strategically plan their new cloud implementations. As a result, they often selected CSP or cloud instances that did not fit the organization's changing needs. According to Gartner Research, " ... many cloud implementations are poor. Too often, deployments are ad hoc, implementations are inconsistent, costs are poorly controlled, or governance is incomplete."[1]

In many cases, organizations migrate their applications and data from on-premises servers to the cloud with simple "lift and shift" transitions. Accordingly, development engineers and IT teams might specify CSP instances that most closely resemble their on-premises configurations. Further, the organizations often move workloads to the cloud only to find those functions are better suited to an on-premises data center. To avoid the threat of service slowdowns or outages, they could elect to add enough capacity to handle peak demand, leaving those resources idle between usage peaks.

When invoices arrive from the CSPs, costs are much higher than expected. Some cloud instances are overprovisioned, with excess capacity unused. Others are underprovisioned. Initial costs seem reasonable, but the lack of resources can trigger unexpected charges for contingency coverage that prevents slowdowns and outages of business-critical activities.

Solution: Optimize workload placement in the cloud or on-premises with Intel Migration Advisor by CloudGenera

As they plan their migration to the cloud, organizations can benefit from quick, accurate analysis to guide their workload placement choices. Intel Migration Advisor by CloudGenera simplifies the decision-making process by matching the workload's computing and resource demands automatically to the CSP instance or on-premises data center configuration that is the best fit for those needs. CSPs may offer workload placement and optimization solutions as well, but they do not compare their own service offerings with those of other CSPs. Instead, Intel Migration Advisor by CloudGenera's recommendations are CSP agnostic, relying on analysis of CloudGenera's database of current instances and configurations available for a broad selection of CSPs.

CloudGenera and Intel have collaborated closely to document the performance, service level, security, and pricing associated with hundreds of available services and instances in the cloud. With the AI-enabled, rapid analysis, Intel Migration Advisor by CloudGenera's platform generates precise, reliable workload placement recommendations in minutes.

CloudGenera provides a detailed report on the top three choices, including the projected total cost of ownership (TCO). In many cases, users are surprised to discover CSP instances based on the latest hardware may appear to be expensive but offer a lower TCO when all costs are considered. The solution's analytics also help organizations visualize which applications have accumulated technical debt and what modernization strategies can address these shortcomings, based on an organization's standards and goals.

"Modern software runs best on modern hardware. And cloud-native applications—as well as the core, legacy business applications that are migrated to the cloud—need an optimal price for performance," explained Brian Kelly, founder and CEO of CloudGenera. Without these tools, it can take months to conduct the necessary research and the results could be skewed by human error and other factors that reduce accuracy, according to Kelly. Customers report that the CloudGenera choices can support their organizations' current and future cloud utilization and business cases, often while optimizing cost and performance, reducing technical debt, and improving security.

"We've ... heard grumblings about cloud managers who faint at the sight of their bills—not because the bills were incorrect, but because they were unexpected and out of budget. They complain that there is no way to anticipate the size of the cloud spend, manage cloud operations to reduce costs ongoing, or plan in advance to optimize long-term cloud expenses."

—David Linthicum, "Cloud overspending spotlights the need for cost governance," InfoWorld, February 2021[2]

What you get with Intel Migration Advisor by CloudGenera

Operational analysis: The engagement with Intel Migration Advisor by CloudGenera starts with an analysis of the organization's operational needs, including security, regulatory compliance, and resource constraints, as well as application performance and budget.

Portfolio dashboard: The next step is to examine the characteristics of all workloads targeted for migration or optimization. Intel Migration Advisor by CloudGenera creates an application repository that maps each application to its corresponding performance and security requirements.

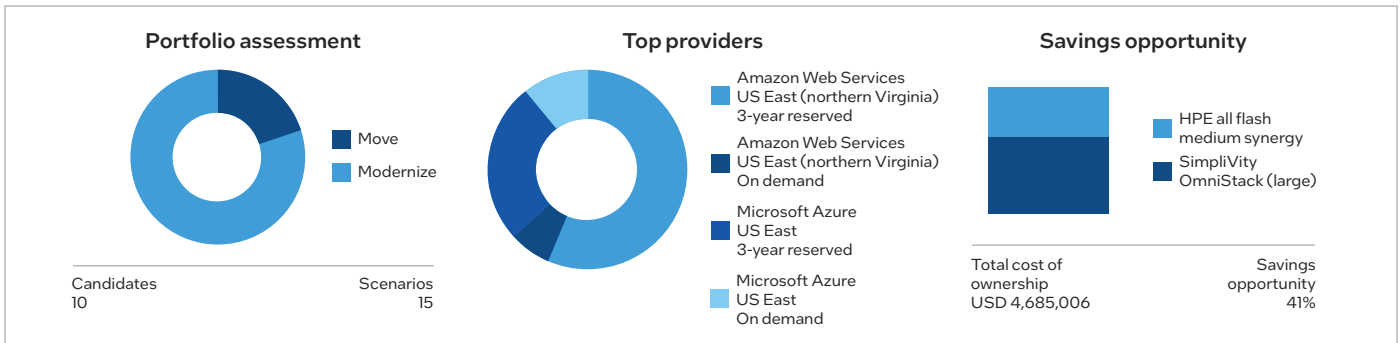

Figure 1: The Intel® Migration Advisor by CloudGenera portfolio dashboard.

Opportunity ranking: Intel Migration Advisor by CloudGenera's solution matches the targeted workloads with the most-suitable CSP instances or data center configurations and ranks the opportunities according to cost, performance, and other important considerations specific to the organization.

Business case validation: Intel Migration Advisor by CloudGenera produces a scorecard with easy-to-understand visualizations and full details to support the business case for each of the top opportunities.

Transformation: Continued or repeated use of the Intel Migration Advisor by CloudGenera tools can help organizations maintain the optimal balance between cost and performance as business needs change and new CSP offerings are introduced.

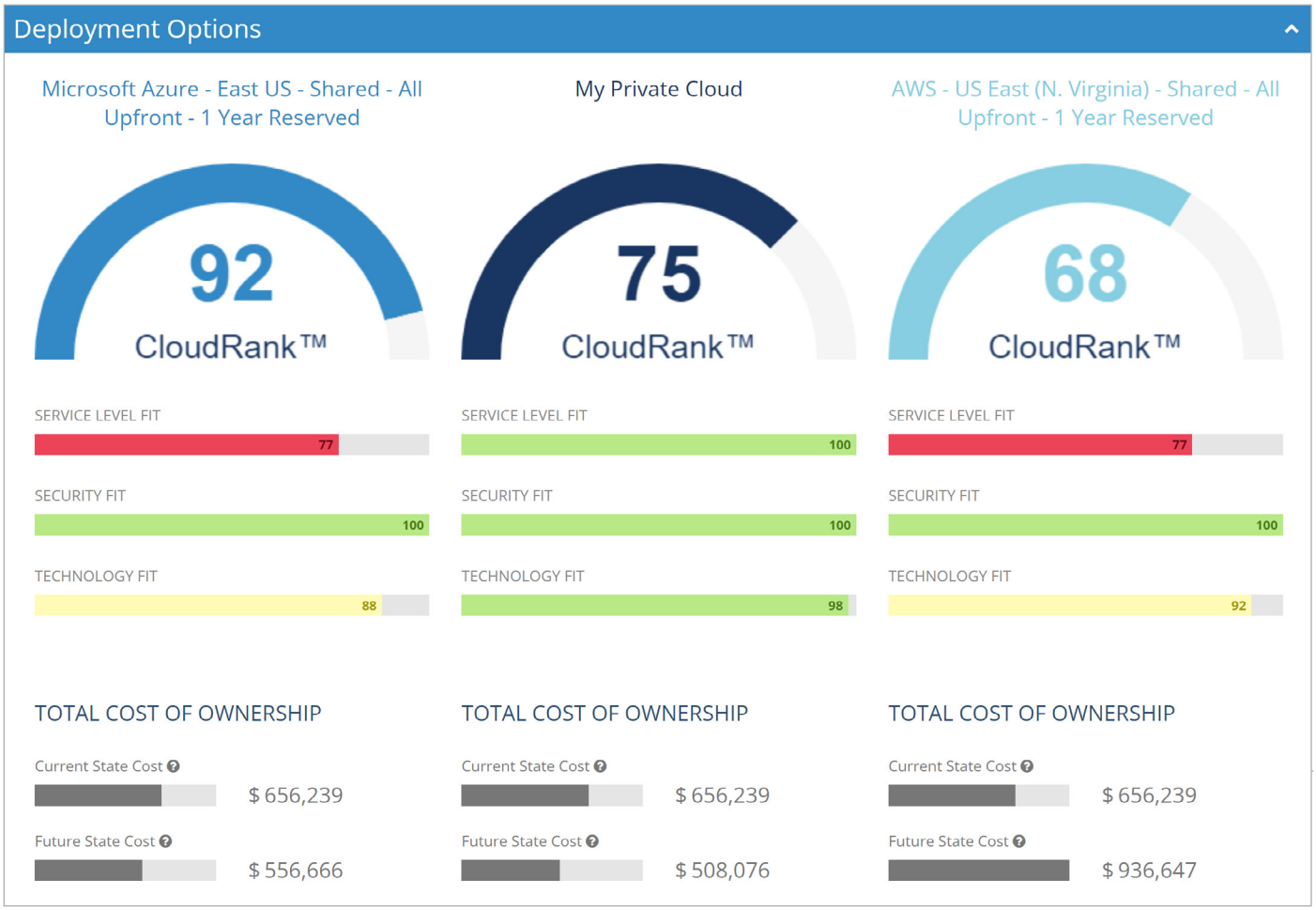

Figure 2: A report from Intel® Migration Advisor by CloudGenera provides ranked recommendations of CSPs and instance types that offer the best price per performance for the organization's specific workloads and usage patterns.

Features of Intel® Migration Advisor by CloudGenera

Vendor neutral

Intel Migration Advisor by CloudGenera maintains an extensive, comprehensive database that includes details of current instances from major CSPs as well as potential on-premises data center configurations.

Immediate analysis

Intel Migration Advisor by CloudGenera analyzes the organization's cloud and on-premises technology demands and matches those needs with the database of instances and configurations to deliver a full report in hours instead of months.

Actionable recommendations

Intel Migration Advisor by CloudGenera recommends the specific instances or configurations that provide the best, most precise fit for the organization's workloads, applications, usage patterns, and budgets.

How it works: Predictive analytics for optimization

STEP 1: Assess workload requirements.

Intel Migration Advisor by CloudGenera deploys AI algorithms to predict optimizations by simulating migration scenarios. The optimizations can draw on the organization's policies or industry best practices to develop business cases that meet current needs and predict future use. Without Intel Migration Advisor by CloudGenera, this step could take weeks or even months, delaying cloud implementations and incurring opportunity costs as well as labor expenses and consulting fees.

STEP 2: Search database of CSP instances.

The CloudGenera data service aggregates and integrates CSP data continuously to capture changes in cloud service offerings, instances, and the underlying hardware. Without Intel Migration Advisor by CloudGenera, organizations might choose an older instance that does not meet their needs. However, CloudGenera customers often find they save money over the long term by choosing the newest instances based on the latest generation of high-performance servers.

STEP 3: Discover the best fit.

The CloudGenera solution analyzes the available offerings and matches solutions to the organization's business needs as well as the technical requirements of the workloads and applications. Evaluations that would take weeks—or months—of consultations and complex spreadsheets are accomplished in minutes, preventing "analysis paralysis."

STEP 4: Produce scorecard and TCO analysis.

CloudGenera provides reports with visual scorecards to help the organization's leaders and FinOps teams understand the business case and necessary investments, including costs, benefits, and expected payback period. The scorecards can be incorporated into a proposal to an organization's leadership team as an explanation of migration choices as well as to ensure buy-in.

STEP 5: Revisit evolving needs.

Intel Migration Advisor by CloudGenera can be used periodically to reevaluate workload placement choices and optimizations as the organization's needs evolve and new cloud services become available.

Qualify for a 30-day pilot

Intel and CloudGenera are offering access to their joint Intel® Migration Optimizer Initiative to select organizations for a 30-day pilot, funded by Intel. For details on this offer, visit **go.cloudgenera.com/cloud-cost**.

About Intel® cloud technologies

Unlock the full potential of cloud computing with the Intel® portfolio of technologies and tools that process, accelerate, store, and optimize millions of workloads in the cloud, in the data center, and at the edge.

intel.com/cloud

About CloudGenera

CloudGenera supplies vendor-agnostic IT analytics that arm organizations with the business cases needed to optimize their technology spend. CloudGenera's proprietary algorithms recommend application migration choices, leveraging AI and machine learning technologies to support decision-making in minutes instead of weeks or even months.

go.cloudgenera.com

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1. Paul Delory, Lydia Leong, Tony Iams, Matthew Brisse, Douglas Toombs, Angelina Troy, Stanton Cole, Fintan Quinn, Mohini Dukes, and Marco Meinardi, "2022 Planning Guide for Cloud and Edge Computing," Gartner Research, 2022, https://www.gartner.com/en/doc/753853-2022-planning-guide-for-cloud-and-edge-computing.
2. David Linthicum, "Cloud overspending spotlights the need for cost governance," InfoWorld, February 2021, https://www.infoworld.com/article/3608528/cloud-overspending-spotlights-the-need-for-cost-governance.html.