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Achieving True Cost Efficiency in the Cloud

HCLTech maximizes Intel® Cloud Optimizer powered by Densify to optimize cloud workloads and achieve potential 34% cost saving.

"HCLTech's collaboration with Intel on the Intel® Cloud Optimizer powered by Densify has yielded desired results for the Internal IT team, HCLTech's cloud knowledge meets Intel's innovation to optimize cloud workloads, driving cost savings."

- Sunit Tyagi
  Senior Vice President - Information Technology, HCLTech

HCLTech

HCLTech, a leading global IT services company, has a vast cloud infrastructure that's spread across various geographical locations, and which caters to diverse client needs. Their expansive cloud infrastructure faced the challenge of underutilized resources, leading to significant expenses. To address this, HCLTech implemented the Intel® Cloud Optimizer powered by Densify, a SaaS-delivered cloud and container resource optimization solution, which led to substantial cost savings.

Challenge

In the context of cloud management, visibility into resource usage and a clear understanding of operational needs are crucial. For HCLTech, these elements proved to be challenging. The company was confronted with limited visibility into how their cloud resources were being utilized across their extensive infrastructure. Coupled with fluctuating operational needs, this made the task of manual cost optimization a complex and time-consuming endeavor.

Solution

HCLTech deployed the Intel® Cloud Optimizer, a Software as a Service (SaaS) technology designed to offer data-driven insights and recommendations for optimizing cloud instances. Leveraging advanced algorithms and analytics, the Intel® Cloud Optimizer provides HCLTech with a scientific basis for making informed decisions regarding its cloud infrastructure and in turn achieve cost-efficiency for their cloud workloads.

Result

This collaboration with Intel enabled HCLTech to identify 34% of cost saving potential and 30% immediate cost saving opportunities without impacting performance.[1]

The need for cost-efficiency and optimal resources utilization in the cloud

When harnessing cloud infrastructure, one of the primary challenges that HCLTech was facing pertains to striking the right balance between performance, uptime, and cost efficiency: what to buy (family), how much to buy (size), and how to ensure the optimal features that will allow specific workloads to perform and scale cost effectively in the cloud (features). Achieving this balance hinges on identifying and implementing the optimal features that enable specific workloads

to operate efficiently and scale affordably within the cloud environment.

This entails navigating complexities such as selecting the appropriate cloud instance types, configuring resource allocations, and optimizing workload distribution to meet performance requirements while minimizing costs. These important factors are impossible for the workforce to determine optimally using manual or estimation methods.

HCLTech utilizes cloud instances from multiple cloud service providers (CSPs), such as AWS, Microsoft Azure, and Google Cloud Platform (GCP), and these major

CSPs provide onboarding and optimization services at no cost. However, these services and analyses often have limitations. They primarily focus on purchase plans and billing optimizations, offering tooling that is not tailored to individual needs, lack granular controls, provides basic analytics, and fails to clarify the rationale behind conclusions. HCLTech needed analytics with the necessary rigor to yield accurate answers and eliminate guesswork, to ensure that they can optimally select the appropriate cloud instances for specific workloads, which in turn can result in significant cost savings.

Finding the right cost-saving solution with Intel® Cloud Optimizer

HCLTech turned to the Intel® Cloud Optimizer to help recommend the best cloud instances which can lead to cost savings. The Intel® Cloud Optimizer provides HCLTech a comprehensive solution for analyzing resource usage across multi-cloud environments, encompassing AWS, Azure, and GCP. Through the utilization of historical data and advanced machine learning algorithms, it effectively identifies underutilized resources and delivers tailored cost-saving recommendations that align with the specific requirements of HCLTech.
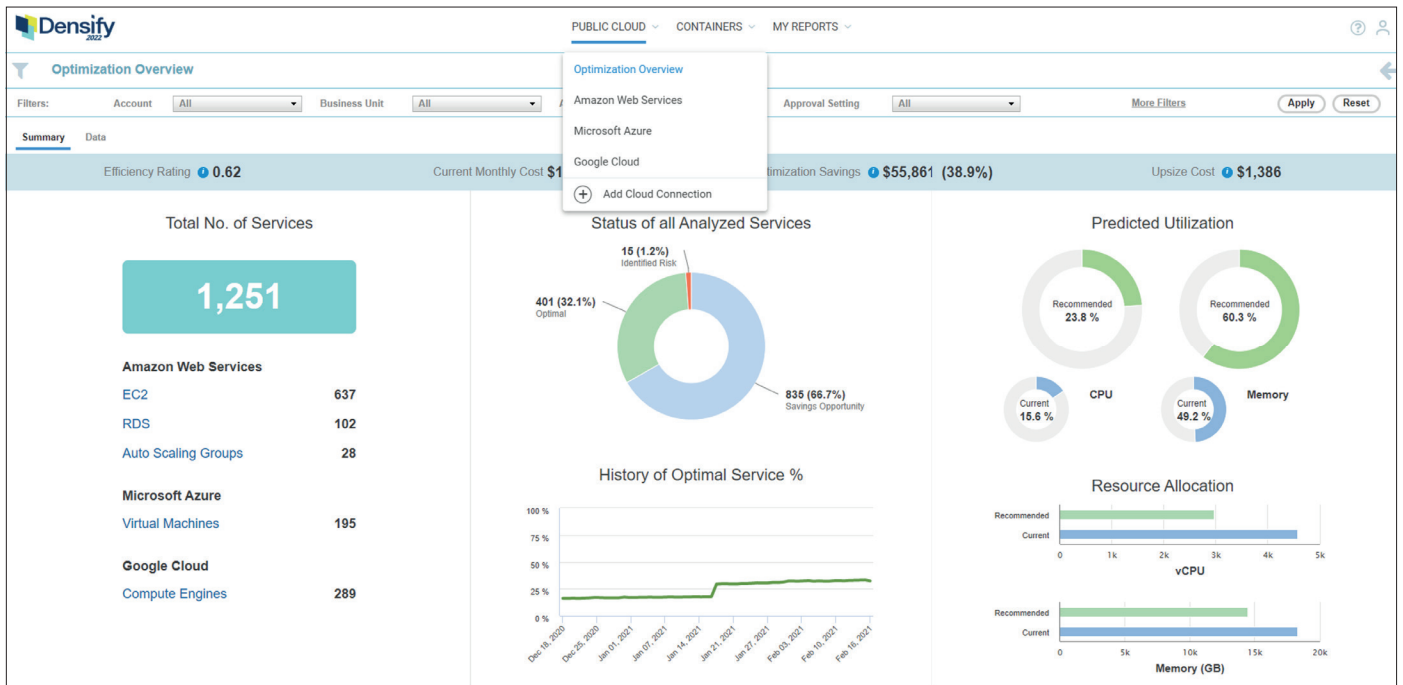

Figure 1: Intel® Cloud Optimizer dashboard makes it easy to visualize savings opportunities across AWS, Azure, and GCP[1]

Intel® Cloud Optimizer offers analytics capability and machine learning (ML)–informed recommendations and provides HCLTech with a scientific basis for cloud instance recommendations based on a large variety of critical inputs, including workload history, business unit (BU) policies, and technical constraints, all while helping connect to the best resources across a multi-cloud environment. It delivers meaningful recommendations based on pricing, stability, performance, or other parameters based on HCLTech's specific needs.

One of the key features of the Intel Cloud Optimizer is its ability to automatically collect data from various cloud

environments through standardized APIs. This ensures a secure and non-intrusive approach to data gathering, allowing HCLTech to obtain accurate insights without compromising on security or privacy. Furthermore, the platform enables policy-driven optimization, empowering HCLTech to adjust and refine the analysis based on their unique operational needs and requirements. This includes the flexibility to fine-tune parameters such as bursting family types, setting upsize and downsize limits for resource utilization, and focusing optimization efforts on specific cloud environments.

The process behind the optimization

For HCLTech, it was just a simple process of simply inputting their CSP cloud credentials, which allows Intel® Cloud Optimizer to ingest up to two months of workload history maintained by the CSP for all identified cloud instances. And for a continuous optimizing process, the optimizer stores and maintains up to 90 days of workload history to further learn from and refine its recommendations. Apart from just leveraging workload history to analyze CSP instance usage, the optimizer utilizes additional technical or business constraints and flags to ensure that answers are truly "fit for purpose" and actionable.

The optimizer uses proprietary analytics models to learn from resource usage patterns and build a profile for each workload across compute instances and then recommend an ideal instance type for each workload. These recommendations are actionable because they include all the required considerations as well as actual detailed workload behaviors, enabling HCLTech to confidently take action and switch to the recommended instance type to help realize their goals for each workload, such as cost efficiency, uptime, and/or performance thresholds.

All recommendations made by the optimizer are accompanied by rich detail on what went into the analysis - policy, workload history, technical constraints (Figure 2) to help paint a full picture of how the optimizer generates conclusions. This proof enables HCLTech the confidence to actually make the change and reap the benefits.
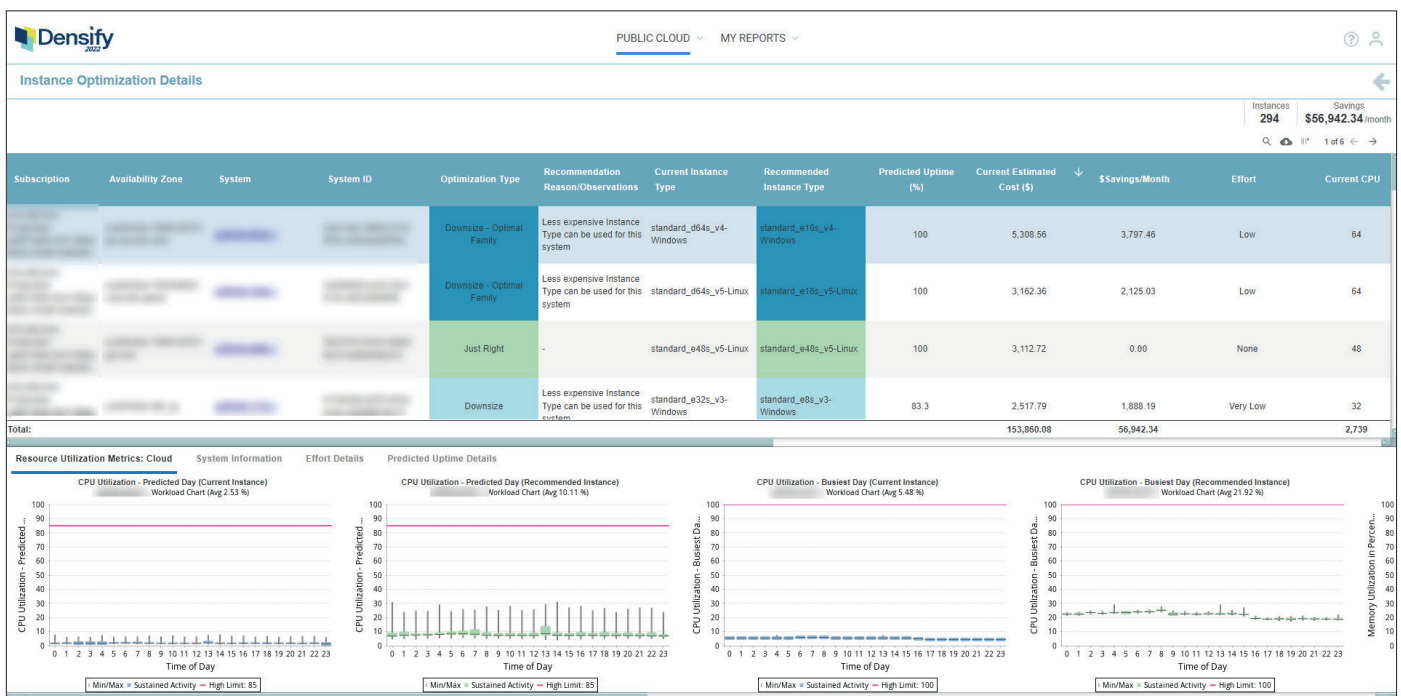

Figure 2: Intel® Cloud Optimizer delivers comprehensive recommendations, made accessible through the Densify web portal

Driving incremental benefits through comprehensive cloud optimization

The Intel® Cloud Optimizer has brought about a multitude of benefits for HCLTech, facilitating enhanced efficiency and cost-effectiveness in its cloud operations. Most significantly, the optimizer helped deliver significant cost savings by effectively reducing the overall expenditure on cloud infrastructure. This reduction not only frees up financial resources for other strategic initiatives but also contributes to bolstering profitability.

Moreover, the Intel® Cloud Optimizer has played a pivotal role in improving resource utilization within HCLTech's cloud environment. By enabling the efficient allocation of resources, the optimizer helps mitigate issues related to

underutilization and overprovisioning, thereby optimizing the utilization of available cloud resources.

Another key advantage delivered by the optimizer is its provision of data-driven insights. Through comprehensive analysis of resource usage, the platform empowers HCLTech with valuable insights, facilitating informed and strategic decision-making processes. These insights are not only accurate but also actionable, enabling the company to make well-informed choices regarding its cloud infrastructure.

Furthermore, the Intel® Cloud Optimizer facilitates faster optimization of cloud resources. By generating easy-to-implement recommendations, the platform enables HCLTech to swiftly implement cost-saving measures, resulting in rapid and tangible benefits.

Delivering impactful results

The Intel® Cloud Optimizer helped in expediting the realization of cost savings, allowing HCLTech to derive maximum value from its cloud investments, which include:

Potential cost savings	Immediate saving opportunity	Risk mitigation
The solution identified opportunities for HCLTech to potentially achieve approximately $3.7 million in annual savings from its $11 million cloud expenditure, reflecting a substantial **34% cost reduction**.[1]	Through meticulous analysis, the solution identified over $60,000 in monthly cost-saving opportunities without compromising performance, offering a significant **30% reduction in expenses**.[1]	Beyond cost savings, the solution addresses resource allocation concerns through proactive identification that enabled HCLTech to make relevant adjustments, **enhancing system stability and performance by up to 6%**.[1]

Policy-driven optimization	No-risk implementation
The solution empowers HCLTech to tailor optimization policies according to operational requirements. This flexibility ensures that recommendations align with HCLTech's practices and standards, enhancing accuracy and maximizing potential savings.	Leveraging standard APIs for data collection, the solution seamlessly integrates with existing infrastructure without requiring additional agents. This non-intrusive approach safeguards against disruptions, facilitating smooth implementation and operation.

Conclusion

HCLTech's seamless integration and utilization of the Intel® Cloud Optimizer underscore the transformative impact of data-driven cloud optimization strategies. By harnessing the insights gleaned from comprehensive resource usage analysis and leveraging advanced machine learning algorithms, HCLTech has not only the potential to achieve substantial cost reductions but also revolutionize its approach to resource management in the cloud.

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