

Maximizing Business Value from Cloud Investments by Leveraging Hitachi Vantara's HARC Solution

APRIL 2023 | BRIEFING NOTES

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Background

Currently, enterprises are compelled to look beyond traditional infrastructure and move toward a more flexible cloud-based approach for improved flexibility and agility. They continue to choose hybrid cloud elements that are increasing the complexity of hosting mission-critical workloads on cloud platforms. Enterprises are also seemingly wary of the new-age cyber threats and the high operation costs (OpEx) associated with the deployment of cloud-based solutions. They are also challenged with rapidly changing dynamics associated with migrating workloads from on-premises to cloud environments and efficiently managing them. One of the major reasons behind this is their lack of knowledge about the required

integration capabilities. Also, restricted domain knowledge greatly hinders their scope of gaining end-to-end visibility about a particular solution. Hitachi Vantara's Hitachi Application Reliability Centers (HARC) is one such unique and comprehensive integrated portfolio of cloud professional and managed services that uses best-in-class tools, frameworks, and automation with access to cloud experts to address the complexity of hybrid and multi cloud operating models, including AWS, Azure and Google Cloud. This is all part of the larger strategic plan for Hitachi Vantara services outlined by President and Board Member, Roger Lvin, at their HARC office launch in September 2022 in Dallas.

Briefing Notes

Premkumar Balasubramanian Senior Vice President and CTO of Digital Solutions Business at Hitachi Vantara, briefed ISG on the most recent offering – Hitachi Application Reliability Centers (HARC) – and how it empowers enterprises to seamlessly migrate and manage their applications and workloads to cloud environments. Hitachi Vantara is the digital infrastructure, data management and digital solutions subsidiary of Hitachi Ltd. Premkumar mentioned that the various operational hindrances like financial, technical, capacity management, etc. that are currently faced by organizations make them apprehensive about adopting a cloud strategy and maximizing the benefits from it. For example, he emphasized how organizations often struggle with the lack of smooth integration capabilities, a deficit of skilled resource pool or huge costs incurred while shifting from a legacy platform to next-generation environments. He also touched upon the severe data-integrity issues faced by enterprises in their cloud environments. However it doesn't have to be this way – Modern complex cloud workloads need modern operating models.

This is where Hitachi Application Reliability Centers (HARC) come in and allows enterprises to have reliable, always-on, secure and cost-optimized cloud, application and data workloads.

HARC is the confluence of superior engineering talent, best-in-class tools and frameworks, and a purpose-built modern facility that delivers the most advanced cloud workload management capabilities with focus on design for reliability, cost and security. The fundamentals of HARC are based on the following principles:

- **Product-oriented approach:** The model allows clients, partners, and Hitachi Vantara's team to jointly address a common product backlog without any lapses or visibility issues.
- **High resilience:** Considering the evolving cyber threat landscape, HARC has been designed and infused with programs that offer exceptional reliability and resilience. Its error feedback or relaying ability ranges from the operation stage to the development stage.



- **Extensive observability:** Hitachi Vantara allows users to have visibility into their entire IT ecosystem through its HARC solution. By strengthening the collaborations between operations and DevOps, HARC has been able to create a robust, integrated engineering function that can help secure against external and internal adversaries.

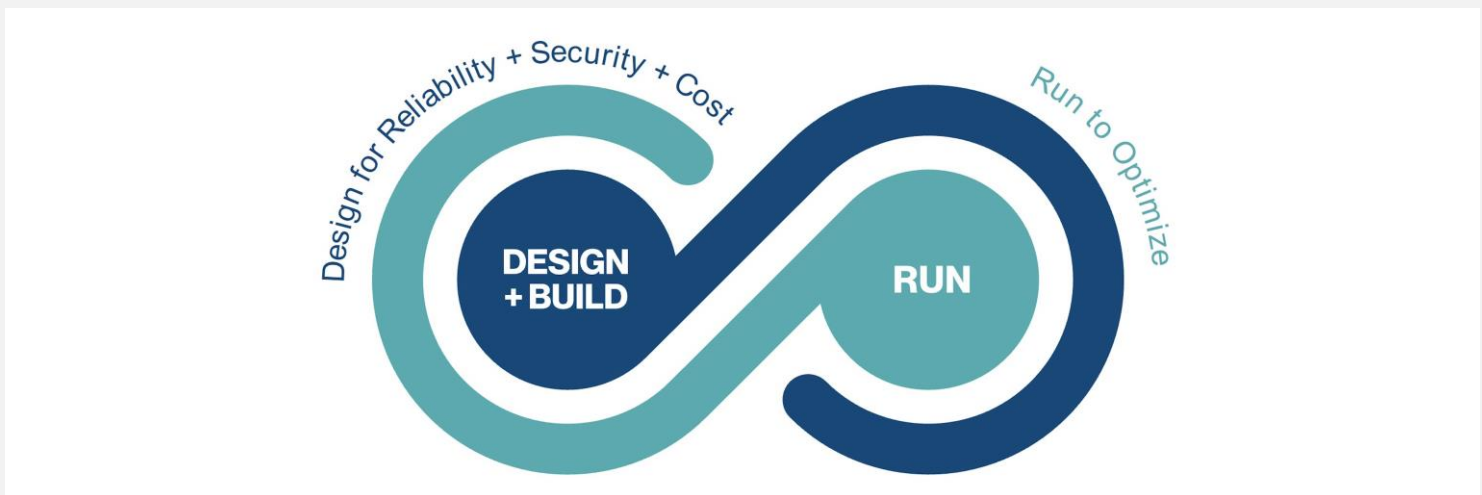
Premkumar also provided us with information pertaining to how Hitachi Vantara’s clients have reaped rewards across various metrics by adopting HARC. This all-inclusive value proposition has enabled Hitachi Vantara to distinguish itself from several competitor solutions in challenging environments.

Disruptive Engineering Principles – Redefining Cloud Operations and Management Capabilities

With Site Reliability Engineering (SRE) capabilities at the core coupled with strong AI-driven automation backbone, HARC focuses on addressing key issues pertaining to the convergence of physical and digital realms. By leveraging dynamic SRE principles, HARC is able to reduce the response time required to identify and recover from incidents by **25 percent**. The guiding principle behind HARC’s operational excellence is its ability to manage and efficiently optimize cloud-hosted services without deviating from the end goal. This is quite evident from Hitachi Vantara’s mindset of how it wants to change the silo-based operations

and consider SRE as an important skill set, by introducing the SRE-as-a-Service model. With this, it has been able to disrupt the entire cloud-based portfolio management process. The strong SRE fundamentals leveraging AI-driven automation principles simplify the software development lifecycle (SDLC) by downsizing redundant costs, operational convolvement and other relevant ambiguities and helps anticipate and respond to issues before they occur. This is again exemplified by the Product Engineering concept that augments HARC’s operational model that allows the Dev and Ops personnel jointly resolve a backlog or an application’s reliability features.

Figure 1. Operations Re-imagined – Integrating Operations across engineering lifecycle



Source: Hitachi Vantara



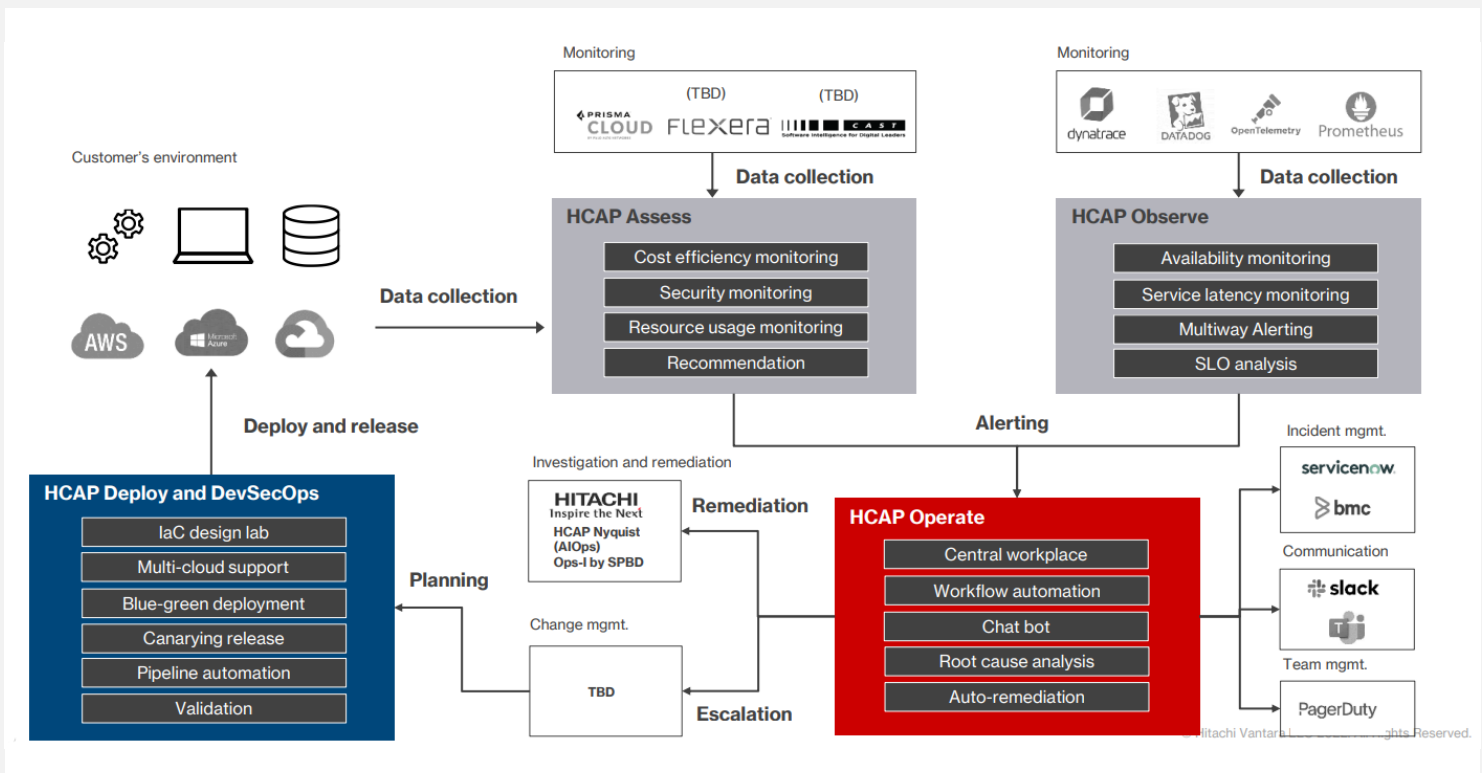
The Hitachi Application Reliability Centers (HARC) solution also offers cloud management services through its virtual and physical centers of excellence across the globe. In 2022, Hitachi Vantara opened its state-of-the-art physical HARC facilities in Dallas, U.S., and Hyderabad, India where cloud applications are monitored and optimized by its professional engineers to ensure client defined KPIs are consistently achieved. Currently, one more facility is in the pipeline to be inaugurated in Portugal. The shared physical SOC-like space with the persistent, live monitoring dashboard displaying a variety of key metrics, best-in-class frameworks, design patterns, automated tools, and people exemplify how the emphasis on a comprehensive solution is woven into the culture of the HARC teams.

With advanced engineering principles, HARC has been able to create an integrated approach to effectively manage concerns pertaining to FinOps, DevOps and DevSecOps through integrated tools and accelerators powered within Hitachi

Cloud Accelerator Platform (HCAP). HARC focuses on incorporating operations into engineering by leveraging powerful AI engines, which enable its users with 360-degree surveillance capabilities pertaining to cloud health, automated root-cause analysis and anomaly management.

The incorporation of advanced automation techniques has allowed HARC to significantly scale down the need for human intervention across various operational areas. The advanced algorithms allow HARC to automate incident management, regulate SLO monitoring, auto-update governance dashboards for ease of tracking program status, trigger proactive alerts in case of anomaly detection, etc. The ingenuity of the automation platform can be ascertained from the fact that **HCAP Nyquist** (the observability robot) can optimize more than 75 percent of the incident alerts and eventually manage the entire event. The core idea behind infusing HARC with high-end automation is to allow users to become more agile in their operations and subsequently become more robust and stable in managing their cloud portfolio.

Figure 2. HARC - Tools and Accelerators



Source: Hitachi Vantara



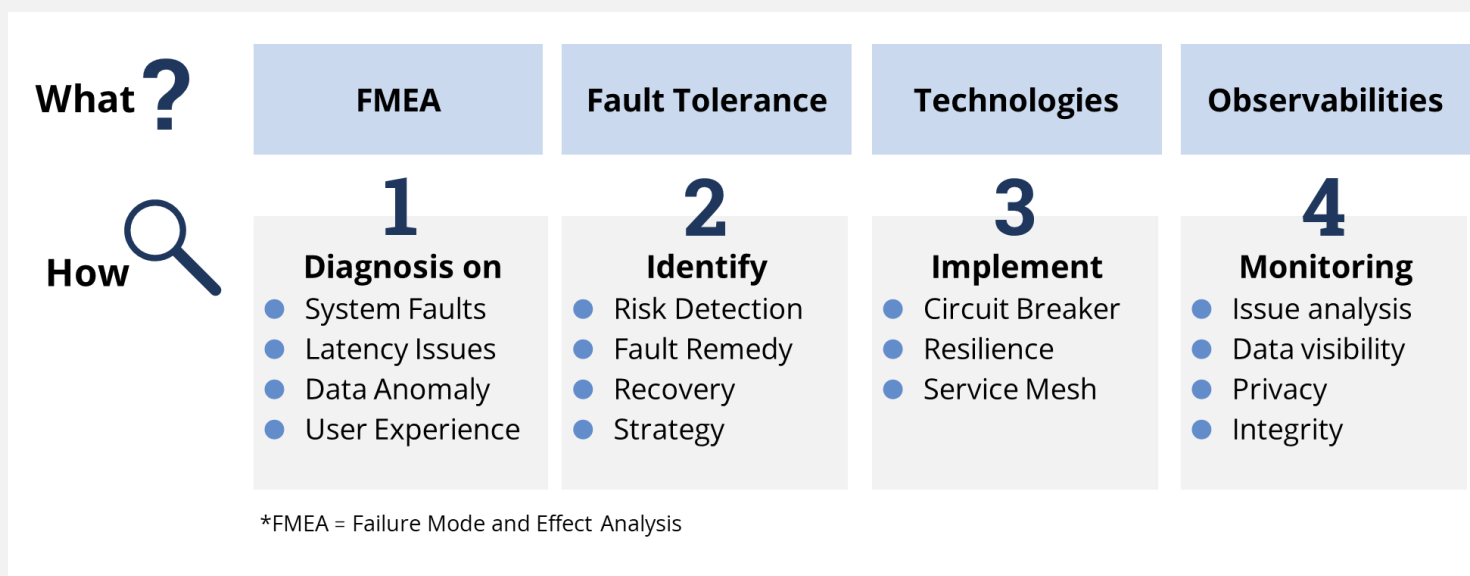
Fundamentally, HARC is a unique blend of AI-driven accelerators, solution cores, frameworks, methodologies, organized processes, advanced technologies and streamlined processes. All these components work in tandem to help clients augment cloud applications for resiliency, cost-effectiveness, compliance, security and performance. The dedicated high-end engineering suites embedded in HARC empower its users with capabilities as shown in the below diagram.

To reduce costs and improve operational efficiency, businesses are increasingly seeking service providers to draw on their expertise in best-in-class cloud migration processes and operational

capabilities. Additionally, clients are looking for service providers to take on the role of partners by bringing a consultative approach to their services and proprietary solutions. Hitachi Vantara's HARC solution solves many of these problems and more.

Also, by leveraging HARC powered by Hitachi's CloudOps tools, processes and SRE-led frameworks for workload management, clients can expect up to 35% reduction in their total cost of operations, along with a 30% increase in productivity and gains across attributes such as increased operational efficiency, reduced risk and AI-driven automated insights, root-cause analysis, and issue remediation.

Figure 3. Resilience/Chaos Engineering



Source: Hitachi Vantara



Success Stories

A Large Multinational Pharmaceutical

Problem Statement

The company had deployed Kubernetes on Azure and was facing issues with multiple POD failures, resulting in an increase in costs as PODs are automatically deployed on suboptimal environments.

What

Using HCAP Nyquist, Hitachi's unique AI investigation engine that helps in anomaly detection, root-cause analysis and auto-remediation, the company realized that, over a period, it had acquired 50 percent more PODs than it needed for managing the workload. Hitachi helped analyze the cost and was also able to identify the configuration as the root cause of these failures.

Key Outcomes

- 200 percent productivity improvements
- 3 to 5 hours of release velocity improvement
- Prevented frequent downtimes from POD crashes
- 30 percent improvement of MTTD and MTTR

Key Solutions Delivered

- 24*7 engineering led RunOps
- Performance tuning
- One view persona dashboard
- SRE Foundation SLOs and error budgets
- Automated runbooks
- Operations and communications frameworks
- Developer feedback mechanism

An MNC in HVAC, Fire and Security Equipment for Buildings

Problem Statement

The company was facing productivity issues due to a lack of automated solutions.

What

- Engineering-led RunOps and cloud workload management
- 24x7 engineering-led RunOps for client's **digital solutions and SRE organization**
- Supporting platforms, tools, cloud operations and microservices hosted on Microsoft Azure cloud environment

Key Outcomes

- 30 percent toil reduction
- Productivity improvements through automation
- Proactive detection of 90 percent of issues through comprehensive observability
- Consistent availability of 99.9 percent across all production environments

Key Solutions Delivered

- Complete ownership of RunOps working in close association with client's SRE design, security, and product engineering teams to improve the reliability, stability and security aspects
- CSI and automation to bring in operational efficiencies
- Proactive observability/monitoring deployed across the vast infrastructure, tools and application landscape to proactively identify irregularities in application and platform behaviour



ISG Observations

We believe there is a substantial need in the market to optimize cloud operations, as organizations move their focus from lift and shift of workloads into the cloud(s) and realize that they have sub-optimized their overall environments and the cost for sustaining their current **run** environments, which has significantly increased. A focus on application transformation and optimization is critical for gaining the desired business value from the cloud, and the HARC enables clients to focus on this crucial dimension of cloud adoption.

Clients should consider the HARC approach, which is fundamentally sound, by looking at their external and internal customer digital experience goals and objectives and then developing their integrated business and IT cloud strategy, resulting in a roadmap leading to HARC's first pillar of cloud modernization. The users that are already in the cloud and have not achieved their goals and objectives should consider HARC to realize their investment.

HARC ensures that enterprises manage their multi/hybrid cloud footprint with ease. They can be assured that their applications will remain available, performant, secure and optimized, as the HARC solution continues to improve through significant R&D investments. Organizations that are looking to expand their cloud footprint, optimize their existing footprint or shift their internal focus to their core business should consider HARC as a valuable solution.

Some of the unique aspects of the HARC solution are as follows:

- HARC not only focuses on the public cloud but also on optimizing the entire hybrid cloud

landscape. This enables Hitachi Vantara to have a competitive edge over its competitors.

- Hitachi Vantara was an early adopter of the AI-driven predictive insights within its HARC solution design. Others are starting to catch up on this space; however, Hitachi Vantara has a first-mover advantage in delivering this highly differentiated capability.
- The company has also invested in Cloud FinOps discipline to help clients optimize run environments supported by HARC. This ensures that the clients always optimize (balance) their needs for innovation with the cost to achieve the innovation capabilities.
- HARC uniquely combines the security, SRE, cost optimization (FinOps) and efficiency into a strong unified solution. The shared physical SOC-like space with the persistent, live monitoring dashboard that displays a variety of key metrics exemplifies how the emphasis on a comprehensive solution is woven into the culture of the HARC teams.

Over the last decade, cloud adoption has increased exponentially due to its high security, cost-effectiveness and faster time to market. Recently, there has been a shift in the mindset for many of these organizations to ensure they scale responsibly, with a focus on cost, security and reliability, without compromising on the benefits of cloud. While many providers have disparate offerings for these benefits, HARC combines these core functions into a unified solution to ensure seamless, comprehensive support for always-on, Resilient and cost-optimized cloud environments.



Key Takeaways

Hitachi Vantara has quickly realized the need for introducing a one-stop solution, specifically focused on troubleshooting the operational complexity and the technical issues pertaining to the cloud-native application and services. ISG observes that the value proposition for the HARC is highly differentiated and seems to address some of the major challenges of enterprises. In this cost-conscious economic environment, enterprises are focusing on self-funding business innovation and transformation by optimizing the run, design and build stages of the workloads to survive, thrive and compete in the market.

The HARC provides the foundation capability for an organization to sustain its innovation pipeline. HARC's four primary pillars of Cloud Modernization Services, FinOps Services, Cloud Operation Services and Managed Services for Cloud Operations provide end-to-end capabilities that clients need to consider when transforming to the cloud. HARC targets the application layer to generate cost-effective application reliability in the cloud.



About the Author



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Lead Author

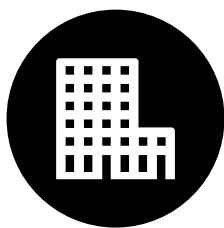
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Partha Chakraborty has over 5 years of experience in business research, market estimation, portfolio positioning, etc. Partha has delivered business narratives across various strategic imperatives like digitized manufacturing principles, smart mobility, cashless ecosystems, digital governance and often comments on themes such as Cloud, Digital Twins, AI, Blockchain and Disruptive measures in Cyber Security.



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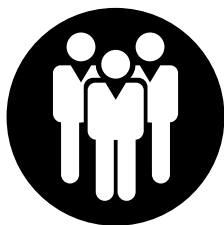
Revenue

Hitachi Vantara
is a part of Hitachi
Group, a publicly held
Japanese conglomerate.



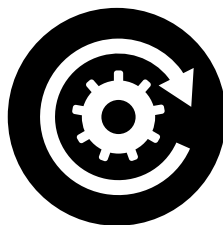
GlobalLogic

GlobalLogic also operates
as a Hitachi Group
Company, with 28,000+
employees in 15 countries.



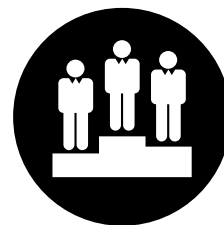
Number of Employees

Approx. 350,000
employees within
the Hitachi Group.



Service Portfolio

Focuses on enterprise storage
infrastructure software and
solutions, Cloud and
Application modernization
services, IoT, big data
products, solutions
and services, digital
transformation services.



Competitors

Infrastructure providers
like NetApp, Pure Storage,
Infinidat, IBM and Dell
Technologies, system
integrators like Accenture,
TCS, Wipro, Deloitte





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