
AWS
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Automating AMIs for reliability, security and cost

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Agenda

1. Drivers for AMI Factory
2. Hitachi Vantara's Approach for AMI Factory, Hitachi Application Reliability Center (HARC) Overview
3. AMI Factory Outcomes

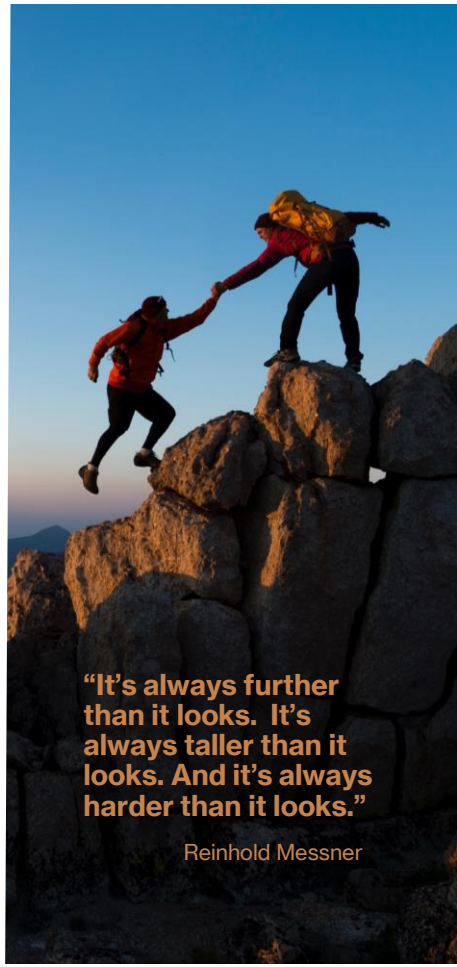
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Drivers for AMI Factory

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Amazon Machine Image (AMI) provides the foundational services for hosting workloads providing business capabilities on Cloud



Automated AMI Management is critical for the following:

1. Scaling of operations with increasing cloud complexity and lack of capacity, resources, and skills
2. Manage workload Availability, Reliability, Security, and ever-increasing cloud Cost
3. Ease of governance with ownerships between various groups managing cloud workloads



Handle complexities relating to creating and managing AMIs across its lifecycle

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Hitachi Application Reliability Center (HARC)

HARC (Hitachi Application Reliability Center) helps to manage Cloud workloads through the integration of people, process, methodology, and tools built on Site Reliability Engineering principles and underpinned by Automation, AIOps, and a Fault-Tolerant multi-center model

A modern way to manage Cloud applications and workloads

Product-oriented approach. Integrated delivery with shared responsibilities

Resiliency and reliability as a core function with continuous feedback loop from Ops to Dev

Extending DevOps through to Operations creating an integrated engineering function

Hitachi Application Reliability Services delivered through HARC

24/7/365 CloudOps Enabled by Accelerators, Solution Cores - Tools, Frameworks, Methodologies, Process, Technology and People

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Drivers for AMI Factory

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AMI Layers

- Base OS – Amazon Linux, RHEL, Windows
- Hardened OS Image
- Security and Monitoring Agents
- Inventory – AMI Inventory, EC2 Instance Inventory, Application Inventory
- Application/Platform Image
- Application Workload Image
- Pipeline through Packer or EC2 Image Builder

Service Delivery Framework

Architecture & Design

FMEA based fault-awareness, tolerance and remediation engineered into the micro-services.

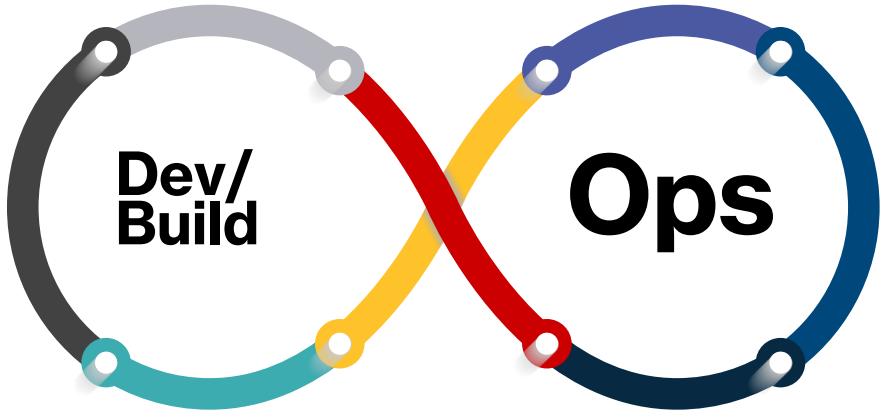
Production Readiness

Integrate production readiness pipelines.

Observability Robotics

360⁰ view of the system through comprehensive observability.

Automated RCA and suspect ranking through AIOps.



Build

Optimize performance and enable scale.

Establish SLOs and error budget consequence.

Automation

Find One, Fix Everywhere (F1FE) and toil reduction.

Validation

Integrate chaos engineering into CI for automated resilience validation.

Deploy

Define and implement deployment strategies.

Service Excellence

Business metrics alignment continual service improvements.

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AMI Factory Outcomes

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40%
savings

in build and deployment costs for a standard application.

75%
reduction

in monitoring of servers and system administration through proactive fault prevention results in reduced time spent on bugs and increase in topline generating feature development.



Unlock Human Potential – over 30% improvement in productivity, so talent can be redirected to high-value engineering.



Fault prevention techniques and hyper automation lead directly to improved uptime for running an **“ALWAYS-ON” business.**

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Thank you!

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