

Agentic AI in Action

Red Hat & Intel Shaping the Future of Enterprise Al

Madrid | 9 October 2025





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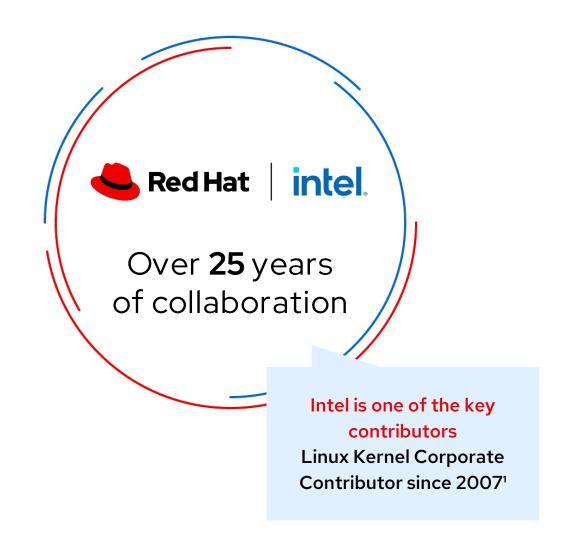
Intel - RH Partnership



Open source software: Intel is committed

Intel® has a long history with Linux®, actively participating in open source development and collaboration with the Linux community, to ensure hardware is well-supported and delivers optimal performance on Linux-based systems.

Intel contributes to more than 100 different open source projects, from the Linux kernel to cloud orchestration and plugins for Kubernetes.



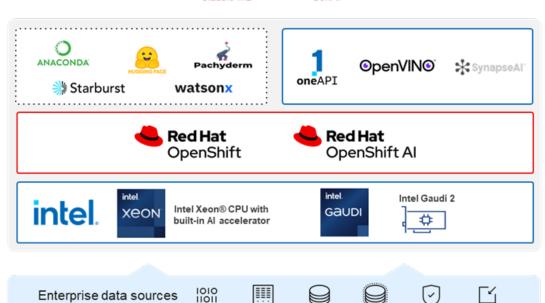
Real Customer Example: Al Sweden











- Collaborating to deliver Al solutions
- Deeper, product collaboration focused on customer enablement with OpenShift AI, Intel Xeon, Gaudi 2 and the Intel AI Suite
- Testing, validation, and proof of concepts
- Receive support for building AI applications



Intel's Al Strategy and Capabilities

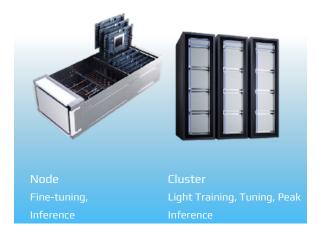


Bringing AI Everywhere

Intel's AI Strategy



AI PC Broadest AI SW Ecosystem



ENTERPRISE AI & EDGE AI
Open Standard, "Ready to Use"



DATA CENTER AI
AI Open, Scalable Systems & Reference Arch











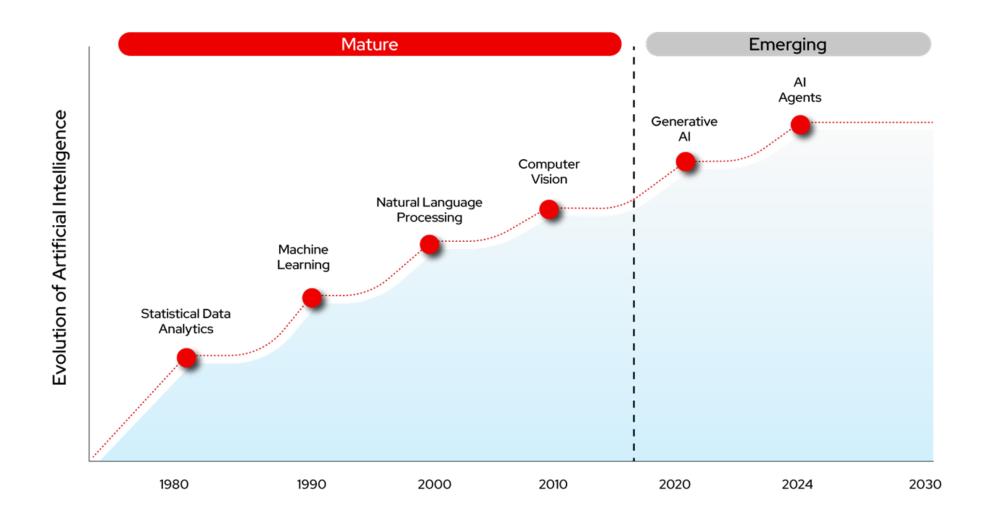




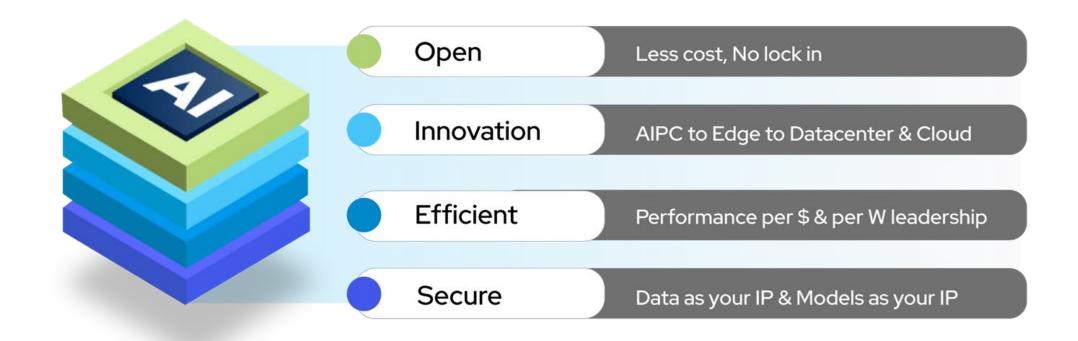




Evolution of Al Applications in Enterprise Use Cases

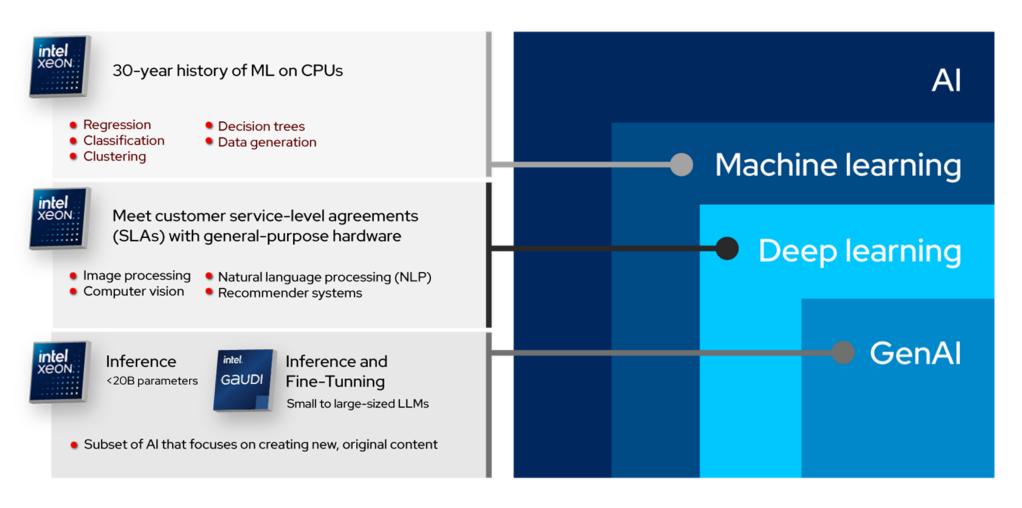


Intel's Al Strategy



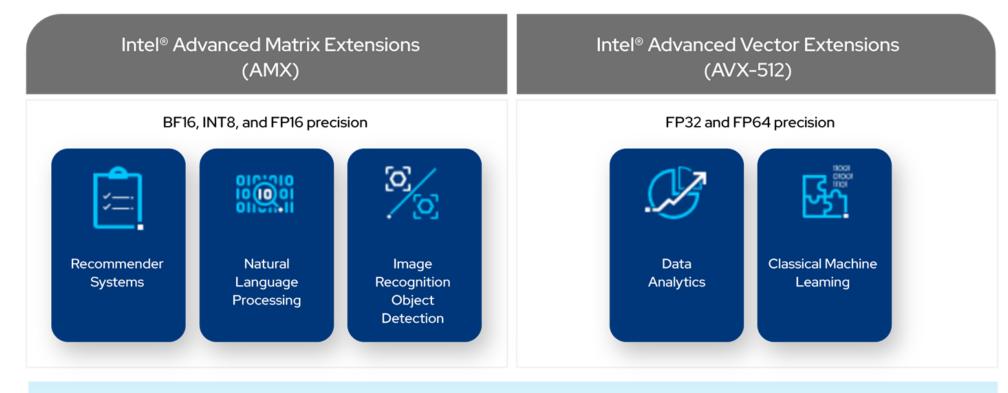
The Al Hierarchy: Mapping ML, DL, and GenAl with Intel

Discover how Intel® processors fuel Al workloads across inference, training, and next-generation GenAl applications





Intel® AMX Accelerates **DEEP LEARNING** Use Cases



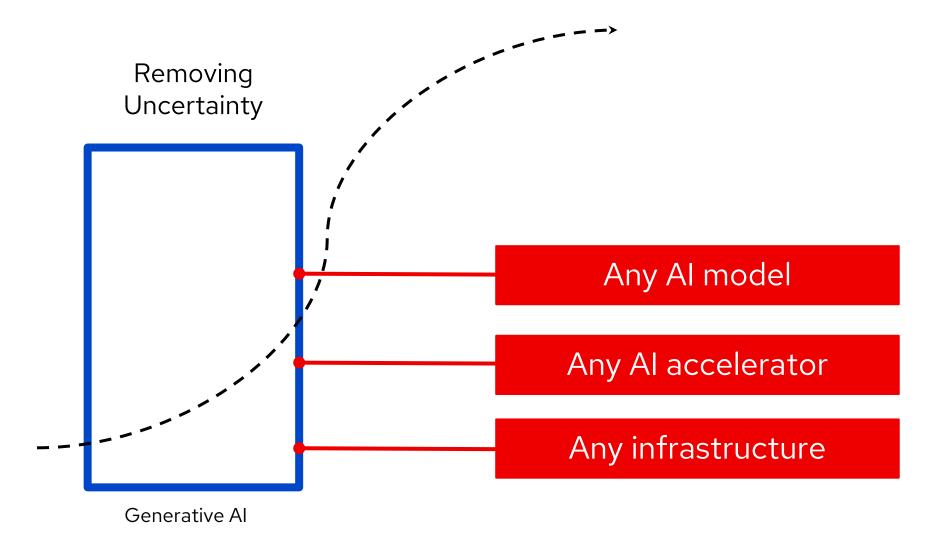
Many DL workloads are "mixed precision" and 5th Gen Xeon can seamlessly transition between AMX and AVX-512 as needed

intel ai Al Gold Deck **Public**



Red Hat's Al Strategy and Capabilities

Red Hat AI - Enabling AI Success







Accelerate the development and delivery of AI solutions across hybrid-cloud environments

Increase efficiency with fast, flexible and efficient inferencing

Simplified and consistent experience for **connecting** models to data

Flexibility and consistency when scaling Al across the hybrid cloud

Accelerate
Agentic AI delivery and stay
at the forefront of
innovation











Trusted, Consistent and Comprehensive foundation







Hardware Acceleration

















Physical

Virtual

Private Cloud Public Cloud

Edge



Intel Gaudi Al Accelerators



Intel® Gaudi® 3 AI Accelerator: AI Inferencing

Price Performance Advantage

Up to

43%

Higher throughput

(tokens per second)

on IBM Granite-3.1-8B-Instruct vs. leading GPU competitor with small context sizes

Jp to

120%

More cost efficient

(tokens per dollar)

on Mixtral-8x7B-Instruct-v0.1 vs. leading GPU competitor with long input and short output sizes

Up to

92%

More cost efficient

(tokens per dollar)

on Llama-3.1-405B-Instruct-FP8 vs. leading GPU competitor with large context sizes





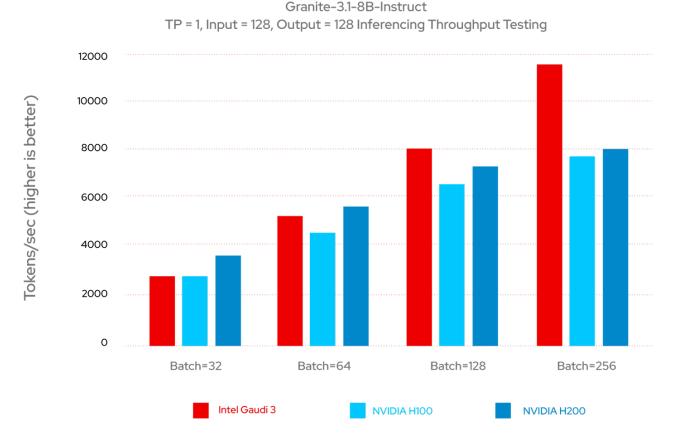
Up to 43% higher

throughput than NVIDIA H200

Up to **52% higher**

throughput than NVIDIA H100

For lightweight Al Use Cases



^{*}Source: NV H100 and H200 comparisons based on Signal65 Lab Insight: Intel Gaudi 3 Accelerates Al at Scale on IBM Cloud. April 2025.

Reported numbers are inferencing results for IBM Granite-3.1-8B-Instruct on Intel® Gaudi® 3 vs NVIDI H100 GPU and NVIDIA H200 GPU. Refer to this link for the latest published Gaudi3 performance $\frac{\text{https://www.intel.com/content/www/us/en/developer/platform/gaudi/model-performance.html}{\text{https://www.intel.com/content/www/us/en/developer/platform/gaudi/model-performance.html}}$

Pricing estimates based on publicly available information and Intel internal analysis. Results may vary.



Intel Xeon Processors



Intel® Xeon® 6 Processor

1.9x

higher performance per watt at a typical 40% server utilization vs. prior generation

> Designed for Efficiency

2.5x

higher HPC performance vs. prior generation

Significant Performance Leaps 5.5x

higher Al Inferencing performance vs. AMD EPYC

> Unmatched Performance

Resolve Customer Queries Faster with More Concurrent Users in Your LLMs and

Get superior performance for batch, real-time inference, and training for smale like your CPU for cost-effective model updates. and medium language models with Intel® Xeon® processors.



Large language models (LLMs)

Intel Xeon 6 vs. AMD EPYC Turin

Intel Xeon 6 vs. 5th Gen Intel Xeon

5th Gen Intel Xeon vs.

Llama2-7B

Up to

1.38x

higher throughput

with Intel Xeon 6980P vs. AMD EPYC 9965'

GPTJ-6B

Up to

2x

Higher performance

Intel Xeon 6980P vs. Intel Xeon 8592+2 Llama-13B

Up to

2x

Higher performance

Intel Xeon 6980P vs. Intel Xeon 8592+2 Llama2-7B

Up to

2.3x

Higher training performance

Intel Xeon 6980P vs. Intel Xeon 8592+3' 3rd Gen Intel Xeon

Llama2-13B

Up to

2.1x

real-time inference performance speedup

5th Gen Intel Xeon vs. 3rd Gen Intel Xeon4

Intel Confidential Computing



Confidential Computing and Post Quantum Crypto for Information & Data Security

Intel® Software Guard Extensions (Intel® SGX)

Smallest Trust Boundary - Confidential data access is restricted to attested application code

Intel® Trust Domain Extensions (Intel® TDX)

Virtual machine isolation from cloud stack, admins, and other tenants

Post Quantum

Intel adds Quantum attack protection while providing 1.89 Tb IPsec throughput.

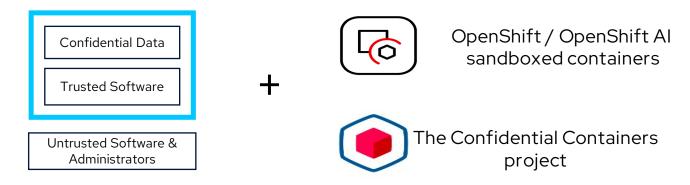
Performant Post-Quantum Cryptography (PQC) leveraging the Intel NetSec Accelerator and Arqit SKA-Platform™ for PQC.



Confidential AI Helps Protect Data & Models In-Use

Utilizing Confidential Computing for Containers with Intel TDX

Hardware-Based Protection of Data In-Use With Intel Trusted Domain Extensions (TDX)



Confidential Computing is about protecting data in-use. You do not have to trust the system admins of the providers any longer.

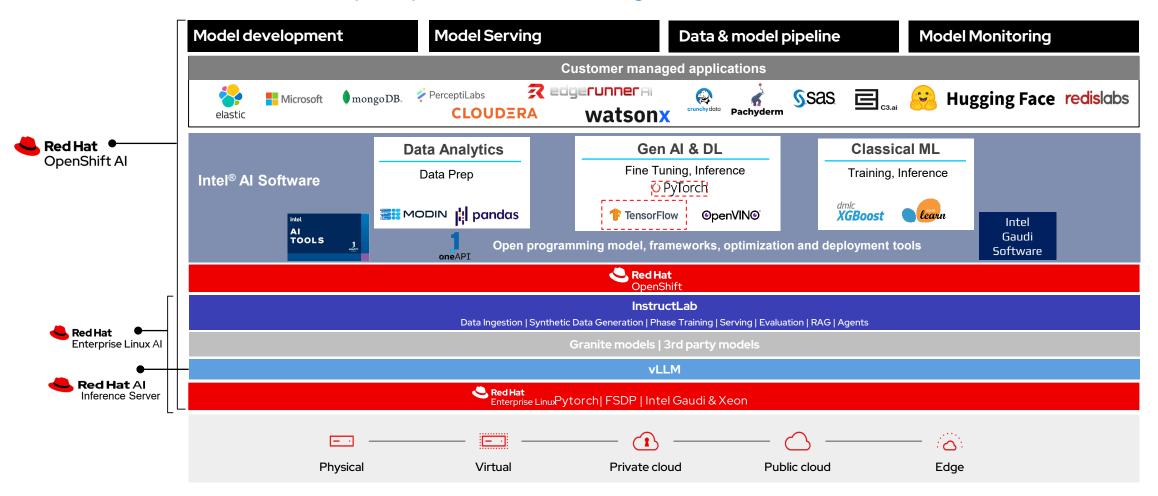


Intel Al Software



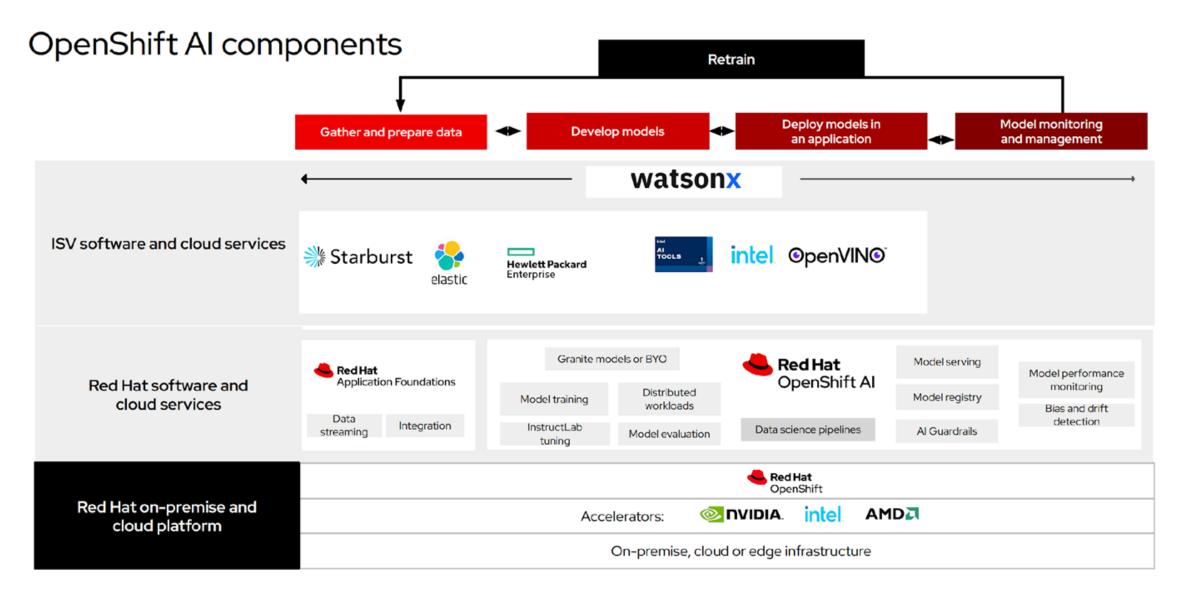
Red Hat AI with Intel AI platform

Generative AI and MLOps capabilities for building flexible, trusted AI solutions at scale



Red Hat Al Platform







Red Hat AI the inference engine for the hybrid cloud

vLLM supports the key models on the key hardware accelerators















Phi



Nemotron



Granite

Mistral























Virtual



Private Cloud



Public Cloud

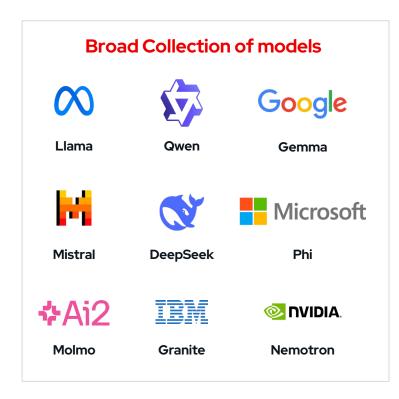


Edge



Red Hat Al repository on Hugging Face

A collection of third-party validated and optimized large language models



Validated models



- ► Tested using realistic scenarios
- Assessed for performance across a range of hardware
- ▶ Done using GuideLLM benchmarking and LM Eval Harness

Optimized models



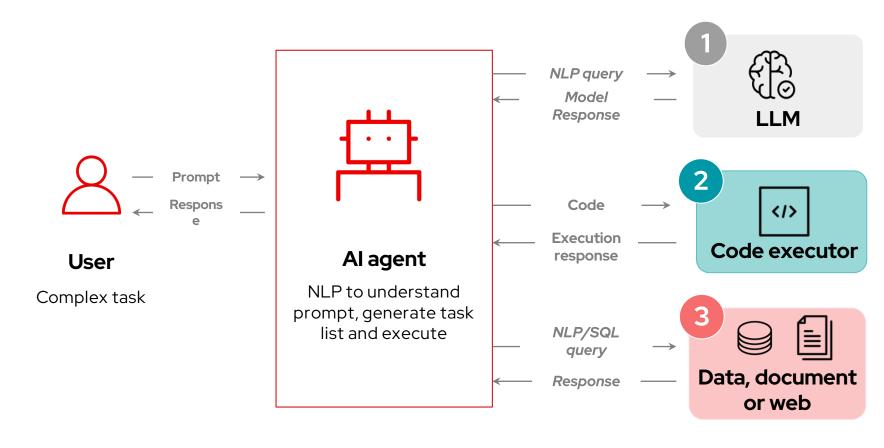
- Compressed for speed and efficiency
- Designed to run faster, use fewer resources, maintain accuracy
- Done using LLM Compressor with latest algorithms



Intro to Agentic Al

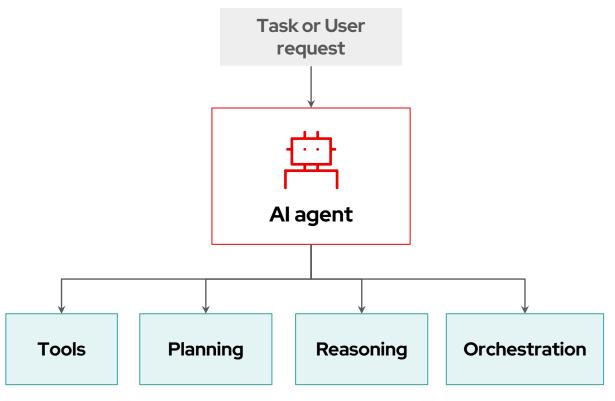
Al agents integrate models, functions & tools

Gen Al Models, Predictive Al Models, Code Functions, Search & more





The components of an Al Agent system



- ► **Tool Utilization:** Leverages external tools to gather data and perform tasks.
- Planning and Execution: Develops and executes multistep plans to achieve goals autonomously.
- Reasoning: Applies logic and contextual understanding to make informed decisions.
- Orchestration: Coordinates actions, tools, and agents to dynamically adjust and complete tasks.
- Communication protocols: enables the connections between the components.



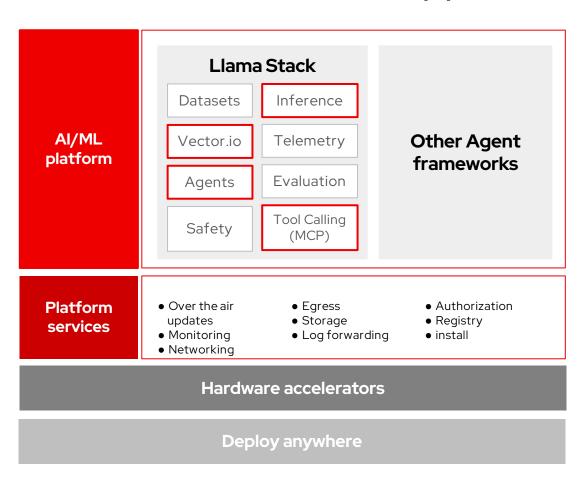
Red Hat AI provides an agile, stable foundation to accelerate the development and deployment of AI agentic workflows.

- Offers built-in agent frameworks with Llama Stack, and standardized communication protocols (MCP).
- Provides the flexibility to integrate preferred tools like LangChain and Crew AI.
- Allows running and managing agents as microservices.
- Simplifies production deployment by managing LLM serving and scaling.





A modular approach to building AI agents



Red Hat Al allows to:

- Build agents using Llama Stack's native capabilities and implementations.
- Bring compatible Llama Stack implementations to OpenShift Al.
- Use your own agent framework and selectively incorporate Llama Stack APIs.
- Build with Core Primitives and manage your own agent framework as a standard workloads.

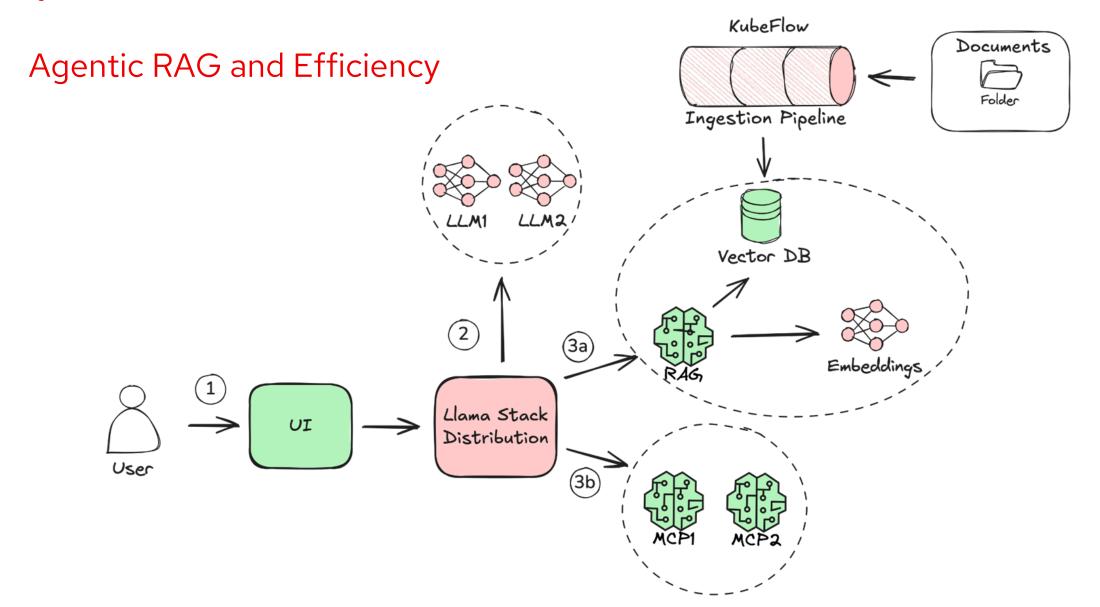


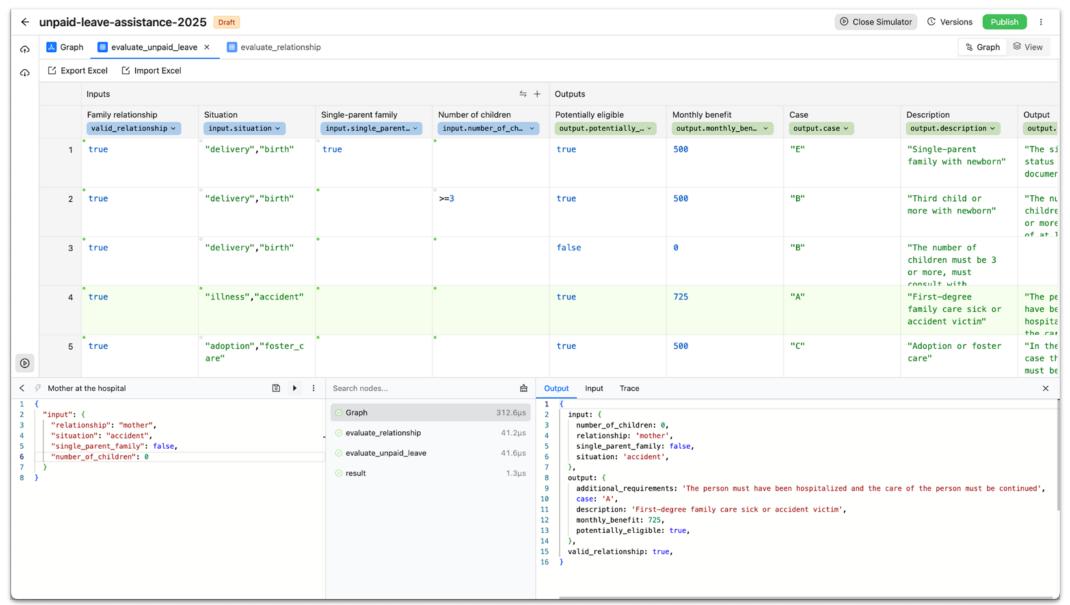
RAG vs RAG + MCP

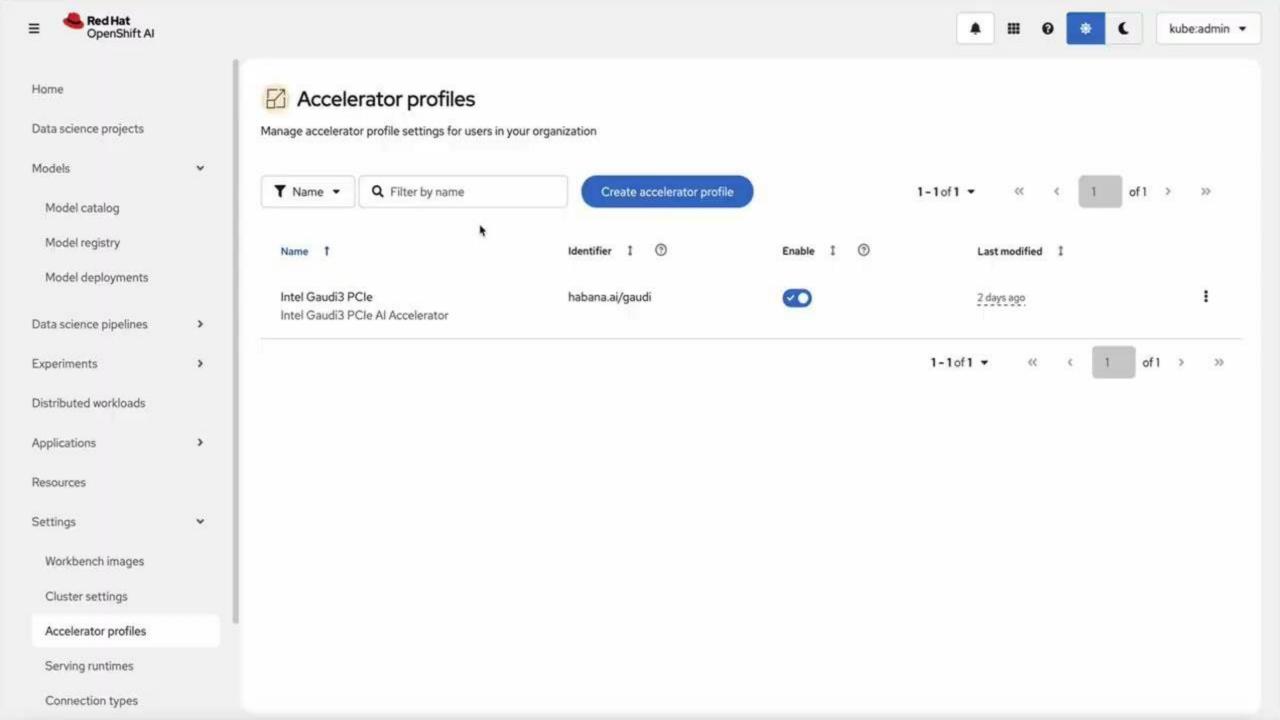
	RAG	RAG + MCP
Context	Token-limited	Session memory, multi-step
Integration	Custom APIs	Standardized plug-in tools
Agents	Hard to scale	Multi-agent coordination
Deployment	Manual, standalone	Cloud-ready, replicable
Monitoring	Isolated errors	Centralized logging
Resources	Ad hoc calls	Batching, caching

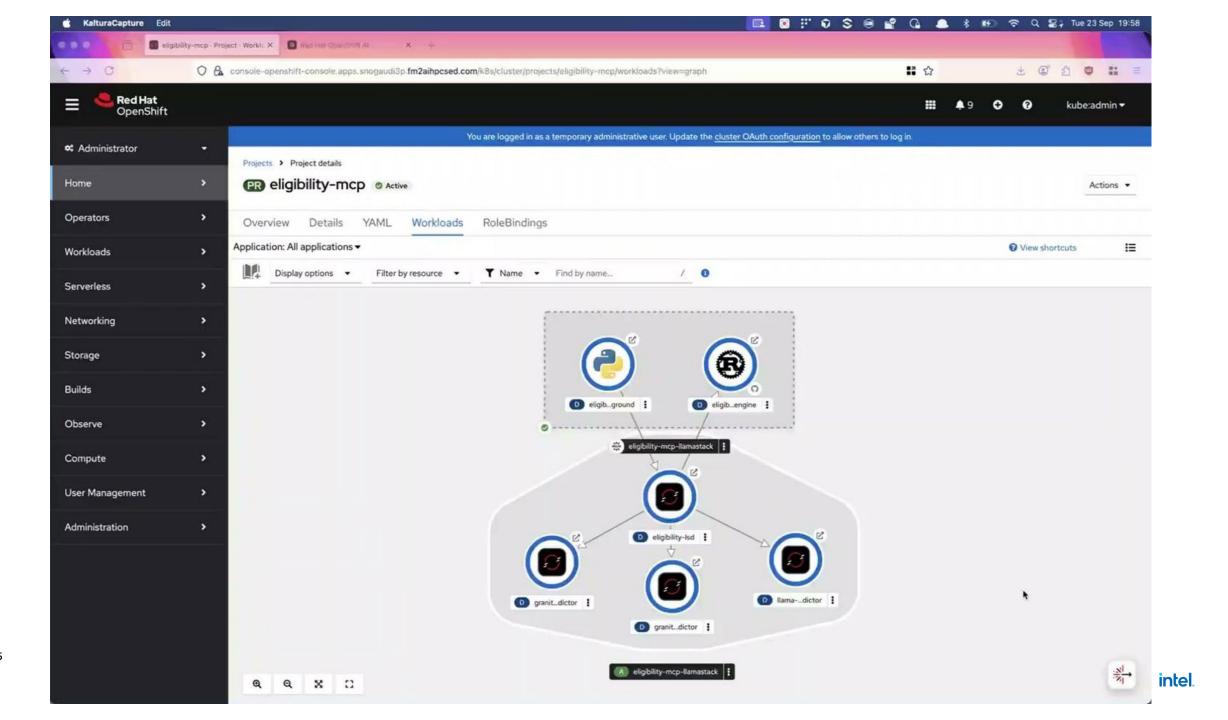
Agentic Al Demo











Apply for a free Gaudi 3 Proof of Concept in 30 seconds

Choose your GenAl or Virtualization PoC:

Building Inference, RAG, AgenticAI, Model-as-a-Service, and other AI Use Cases with Intel Gaudi and Xeon

Optimize finetuning with intel Gaudi

Why work with Intel + Red Hat?:

Benefit from access to free highly qualified experts from Red Hat and Intel and free access to the latest hardware to build your Al use case / application.

If selected, a Intel / Red Hat representative will contact you via email.

Come visit the Intel and Red Hat booths to learn more!





Thank you



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