



White Paper

# Nutanix Runs the Platform. Virtana Reveals the System.

*System-Aware Observability for AHV, Nutanix  
Enterprise AI, and Agentic AI*

## A New Operating Model for Modern Infrastructure and AI

Enterprise infrastructure is changing faster than it has in decades.

Across the Global 2000, CIOs and infrastructure leaders are reassessing virtualization strategies as cost models shift and architectures evolve. At the same time, enterprises are moving beyond AI experimentation toward production-scale systems that must run reliably under real-world conditions.

These two forces are converging.

Modern infrastructure is no longer just about virtual machines and applications.

It is becoming the foundation for AI factories—environments that must support dynamic workloads, shared resources, and increasingly, large-scale agentic systems.

At the center of this transformation is a unified platform approach.

### **Nutanix.**

Nutanix provides a full-stack software platform spanning:

- AHV for virtualization
- Integrated storage and networking
- Kubernetes for modern applications
- Nutanix Enterprise AI for AI services and model operations
- The Nutanix Agentic AI solution for building and running multi-agent systems

This unified approach simplifies how environments are built and standardizes operations. As those environments expand across AI, services, and shared infrastructure, teams need deeper system-wide visibility to operate them with confidence.

## Unified Platform. Exponential Complexity.

As Nutanix environments scale, complexity grows across every layer of the stack.

Applications span clusters, services, and data systems.

Infrastructure resources are shared across thousands of workloads.

AI services introduce new performance and cost dynamics.

Agentic AI systems introduce high concurrency and constant change.

Infrastructure may be unified.

Operations are not.

Teams are left trying to answer increasingly difficult questions:

- Why is this application or service degrading?
- Where is the constraint across clusters or infrastructure layers?
- How are shared resources being utilized across environments?
- What is driving performance variability across AI workloads?
- Why are agents failing, slowing down, or producing inconsistent results?

Traditional, siloed monitoring tools cannot answer these questions.

They were built for static systems.

Modern Nutanix environments are dynamic systems.

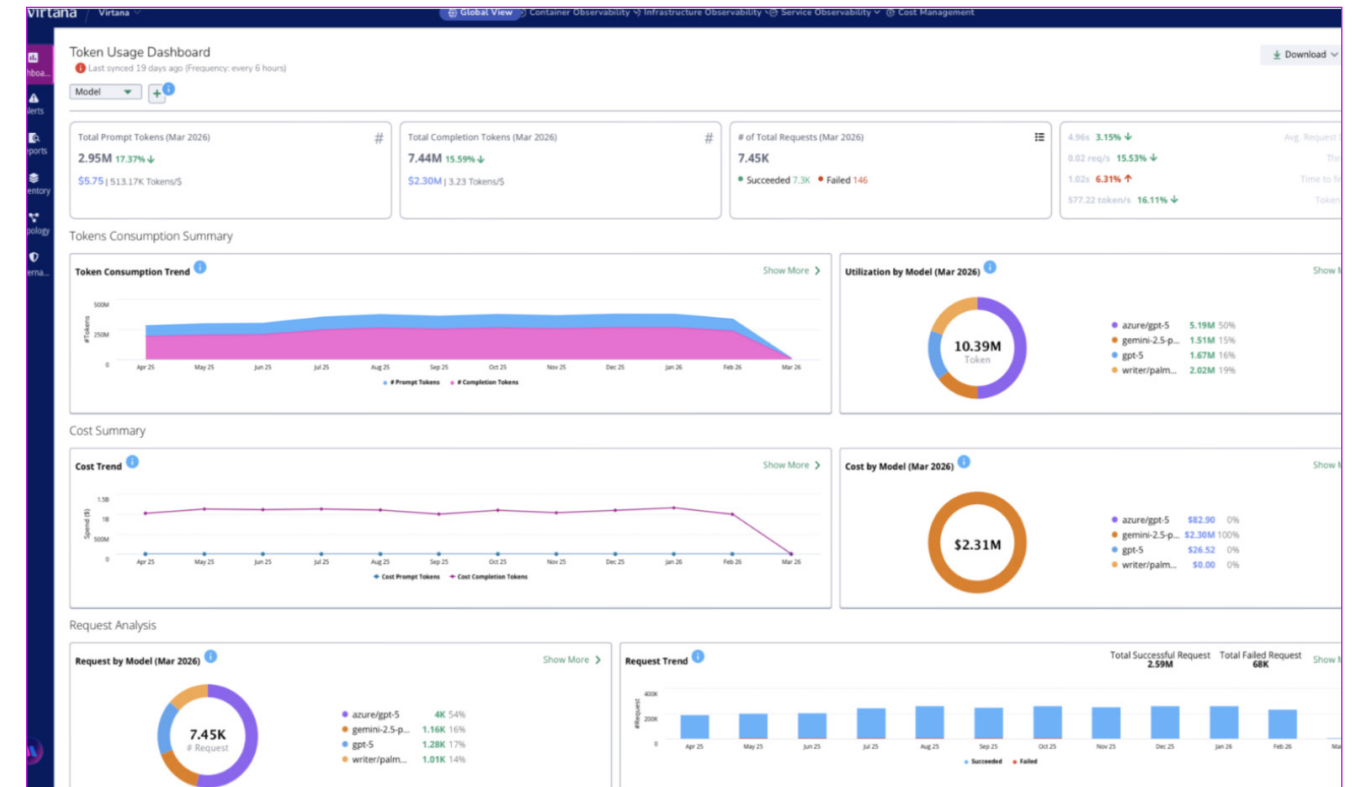


Figure 1: Token Usage and Cost Analytics Dashboard. Providing granular oversight of LLM consumption, model-specific expenditures, and request success rates across the AI infrastructure.

## Virtana: Purpose-Built for Nutanix Environments

Virtana is designed to operate modern, distributed systems running on Nutanix.

It provides system-aware observability across:

- AHV infrastructure and virtualized environments
- Nutanix Enterprise AI platforms and services
- Nutanix Agentic AI environments and multi-agent systems

Virtana continuously discovers and maps relationships across the full stack—building a real-time system dependency graph that reflects how the environment actually behaves.

This enables a fundamentally different operating model.

Instead of analyzing components, teams understand the system.

They see:

- How applications interact with AHV infrastructure
- How services depend on storage, network, and compute resources
- How AI workloads consume and impact shared infrastructure
- How agentic systems behave under load and across dependencies

### Core Capabilities



#### Deep visibility across AHV, AI, and infrastructure layers

Full-stack observability across virtual machines, clusters, storage, networks, GPUs, and AI services



#### Broad operational coverage across Nutanix environments

From core infrastructure to hybrid deployments to AI platforms



#### Autonomous system intelligence

Cross-layer correlation that identifies root cause automatically, including across AI and agent workflows



#### Immediate operational clarity

Teams see what is happening and why without manual investigation

This is what it takes to operate large, distributed Nutanix environments with greater clarity and confidence.

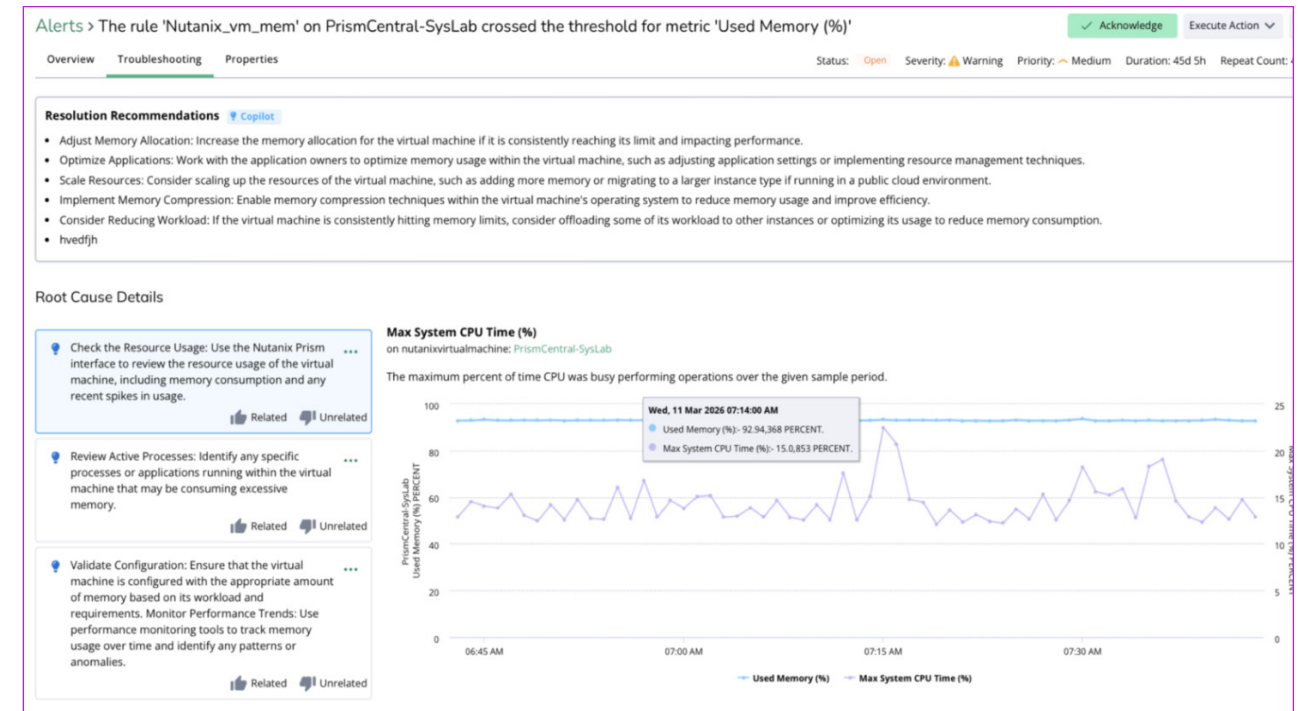


Figure 2: AI-Driven Root Cause Analysis. The platform correlates threshold breaches with historical performance trends to surface prioritized resolution recommendations and autonomous actions.

## Deep Integration Across the Nutanix Stack

Virtana operates across the full Nutanix stack.

### AHV Infrastructure and Virtual Machines

Virtana provides deep visibility into AHV environments, enabling teams to understand how workloads behave across hosts, clusters, and virtual machines.

Teams can immediately identify:

- Workload placement across AHV infrastructure
- Resource contention impacting performance
- Cluster imbalance and hotspots
- Emerging capacity constraints

Instead of managing VMs in isolation, teams operate the system as a whole.

### Nutanix Clusters, Storage, and Networking

Virtana maps how workloads interact across clusters, storage fabric, and network layers.

It provides visibility into:

- Cluster utilization and distribution
- Storage performance, including latency and throughput
- East-west network traffic across nodes

More importantly, Virtana connects these signals to application and service behavior, revealing how infrastructure decisions impact outcomes.

### Nutanix Enterprise AI (NAI)

As organizations adopt Nutanix Enterprise AI, new operational questions emerge.

- How do AI services behave under load?
- What dependencies impact model performance?
- Where are bottlenecks across data, infrastructure, and services?

Virtana extends system-aware observability into NAI by:

- Mapping relationships between AI services, models, and infrastructure
- Connecting model behavior to system performance
- Identifying constraints across AI pipelines and dependencies

This enables teams to operate AI platforms with the same clarity as infrastructure.

### Nutanix Agentic AI Environments

Agentic AI introduces a new level of operational complexity.

These environments are defined by:

- Thousands of concurrent agents
- Dynamic, multi-user workloads
- Continuous interaction between models, tools, and services
- High-performance infrastructure requirements
- Strict cost, performance, and governance constraints

Virtana provides the system intelligence required to operate these environments by:

- Mapping agent-to-service and agent-to-infrastructure relationships
- Identifying failure points across agent workflows
- Correlating infrastructure behavior with agent performance
- Providing visibility into system-wide behavior under concurrency

Organizations move from building agentic systems to operating them reliably at scale.

### AI Infrastructure and GPU Optimization

Nutanix environments increasingly support GPU-enabled infrastructure.

Virtana provides visibility into:

- GPU utilization and allocation
- Memory consumption and efficiency
- Power and thermal health
- Workload-to-GPU relationships

More importantly, Virtana connects GPU activity to system outcomes:

- Application performance
- AI service reliability
- Agent execution behavior
- Infrastructure efficiency

Teams no longer optimize GPUs in isolation.

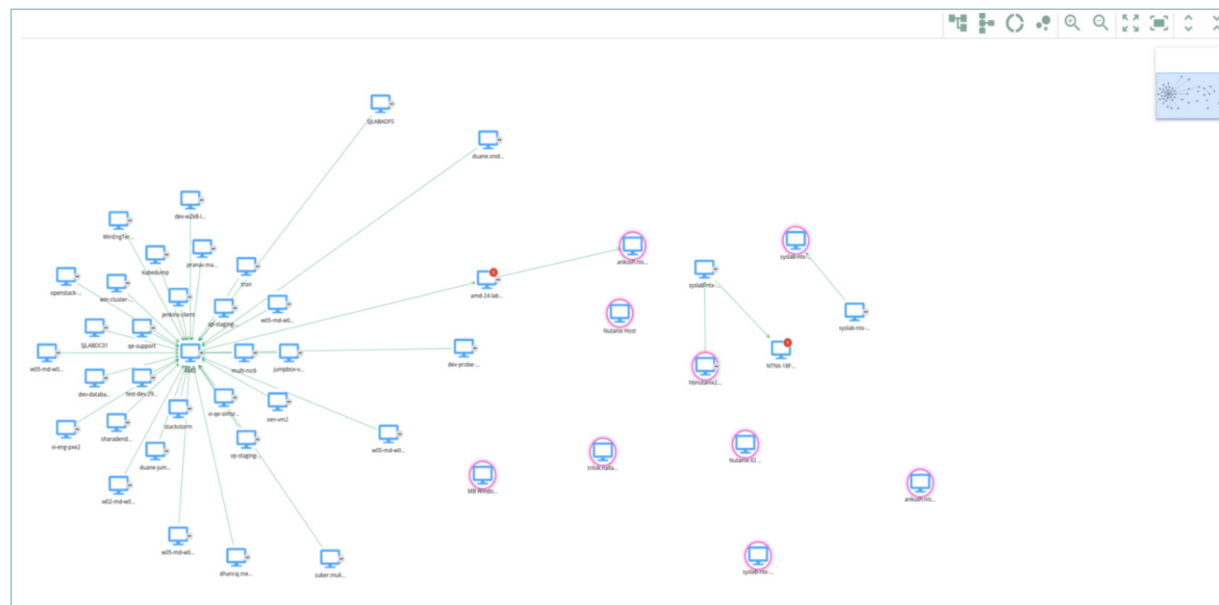


Figure 3: Dynamic Infrastructure Dependency Mapping. Visualizing multi-tier relationships across the Nutanix environment to accelerate impact analysis and troubleshooting.

## Accelerating Migration and Modernization on Nutanix

They optimize the system.

Enterprises migrating to Nutanix require deep system understanding:

- Application dependencies
- Infrastructure relationships
- Capacity requirements
- Workload placement strategies

Virtana provides that understanding.

Organizations can:

- Migrate faster
- Reduce operational risk
- Ensure performance post-migration
- Prepare for AI workloads

This is not just infrastructure migration.

It is platform transformation.

Figure 4: Context-Rich Incident Overview. Automated correlation policies and executed remediation actions are tracked in real-time to streamline Nutanix infrastructure management.

**Customer Example:****Replatforming Infrastructure at Scale**

A Fortune 100 enterprise modernized its virtualization platform across multiple enterprise data centers.

**The Challenge**

- 20,000 virtual machines
- ~2,000 hosts
- ~200 clusters

**The Result**

The organization completed the transition in under 12 months with a lean engineering team.

Virtana provided the system intelligence required to understand dependencies, guide workload placement, and operate the new Nutanix environment at scale.

**Infrastructure That Explains Itself.  
Even as it Evolves.**

When Virtana and Nutanix operate together, operations fundamentally change.

Teams no longer chase alerts across fragmented tools.

They gain a unified system view across:

- AHV infrastructure
- Applications and services
- Nutanix Enterprise AI platforms
- Agentic AI environments

They understand how issues propagate.

They identify root causes instantly.

They operate in complex environments with confidence.

The system explains itself—even as it becomes more dynamic and intelligent.

**The Bottom Line**

Nutanix provides the platform for modern infrastructure and AI.

Virtana provides the intelligence required to operate that platform across:

- AHV infrastructure
- Nutanix Enterprise AI
- Nutanix Agentic AI environments

Together, they enable organizations to:

- Modernize infrastructure
- Run hybrid and distributed environments
- Operate AI platforms and services
- Scale agentic AI systems
- Optimize performance, cost, and resource utilization
- Manage complex systems with confidence

Infrastructure is no longer just infrastructure.

It is the foundation for intelligent, autonomous systems.

Virtana is the platform that makes those systems understandable—and operable at scale.

**virtana**



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