

Architecture

Distributed Cloud Systems

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4, 2026

Executive Agenda

- **Strategic Overview:** Enterprise AI Requirements & Market

Strategic Overview

Vision

Enterprise Architecture

- **Platform Architecture:** Multi-Tier Microservice Mesh & Neural

Security & Governance

Core

Performance &

- **Security & Governance:** Zero-Trust Encryption & Compliance

Deployment

Strategic Roadmap

- **Performance Benchmarks:** Latency, Throughput & SLA Targets

- **Deployment Models:** Multi-Region Cloud & Edge Integration

- **Strategic Roadmap:** 2026–2027 Development & Delivery

Milestones

Overview

Executive Agenda

Strategic Overview

- Market Drivers & Enterprise Challenges
- Nexa Core Value Proposition

Enterprise Architecture

Security & Governance

Performance & Deployment

Strategic Roadmap

Market Drivers & Enterprise Challenges

- **Exponential Data Growth:** Enterprise telemetry data expanding at 45% CAGR.
- **Legacy Bottlenecks:** Monolithic backends struggle with sub-50ms latency SLAs.
- **Regulatory Fragmentation:** Strict data sovereignty requirements across EU and APAC regions.
- **ML Ops Complexity:** Inefficient model deployment pipelines increasing cloud compute costs.

Nexa Core Value Proposition

Legacy Architecture

- Monolithic limits
- P99 latency $> 250\text{ms}$
- Manual failover
- Fragmented security

Nexa Next-Gen Engine

- Autonomous scaling
- P99 latency $< 20\text{ms}$
- Self-healing mesh
- Unified zero-trust

Deployment

Strategic Roadmap

Architecture

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Strategic Overview

Enterprise Architecture

- Multi-Tier

Microservice Mesh

- Core Component

Specifications

Security & Governance

Performance &

Deployment

Strategic Roadmap

Multi-Tier Microservice Mesh



Enterprise Architecture

- **Multi-Tier Microservice Mesh**
 - Core Component
 - Specifications
 - Security & Governance
 - Performance & Deployment
 - Strategic Roadmap
- **Ingress Control:** Intelligent routing with dynamic load balancing.
 - **Service Mesh:** gRPC communication with mutual TLS authentication.
 - **Neural Core:** GPU-accelerated inference cluster for continuous analytics.

Core Component Specifications

Executive Agenda

Engine Module	Processing Mode	Target Capacity	Uptime SLA
Nexa-Ingress Gateway	Event-Driven Asynchronous	100,000 req/s	99.999%
Neural Core v3.4	GPU Tensor Pipeline	12,000 inf/s	99.99%
Vertex Storage Mesh	Distributed Raft Consensus	50 TB/day	99.999%
Nimbus Auth Engine	Zero-Trust Token Verification	250,000 req/s	100.0%

Strategic Overview

Enterprise Architecture

Multi-Tier

Microservices Mesh

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Governance

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Strategic Overview

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● Zero-Trust Security
Framework

Performance &
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Strategic Roadmap

Zero-Trust Security Framework

- **Data Encryption:** End-to-end AES-256 encryption at rest and TLS 1.3 in transit.
- **Identity Federation:** Native integration with SAML 2.0, OAuth 2.0, and OIDC.
- **Fine-Grained RBAC:** Context-aware permission policies evaluated at runtime.
- **Continuous Auditing:** Real-time immutable event log exportable to enterprise SIEM.

Executive Agenda

& Deployment

Strategic Overview

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Deployment

- Operational

Performance

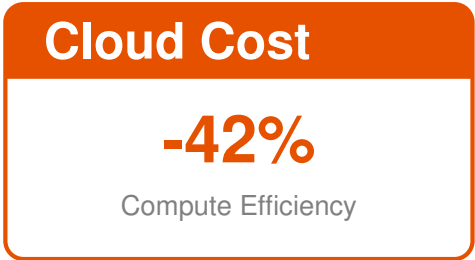
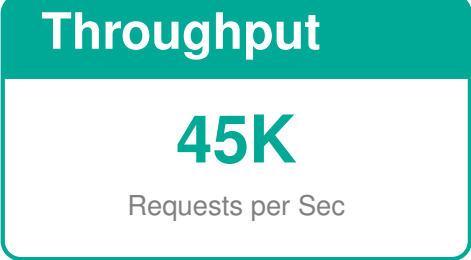
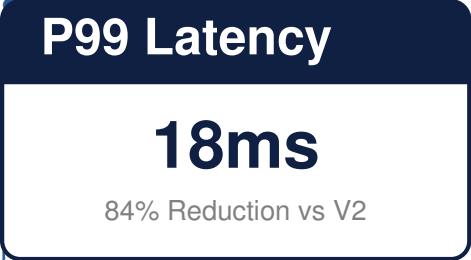
Benchmarks

- Global Infrastructure

Footprint

Strategic Roadmap

Operational Performance Benchmarks



- Performance & Deployment
- Operational Performance Benchmarks
- Global Infrastructure Footprint
- Strategic Roadmap

Global Infrastructure Footprint

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Multi-Region Hubs: Active-active deployment across US, EU, and APAC regions.

Sub-Second Failover: Automated cross-region traffic migration within 1.2s.

Edge Caching Nodes: 180+ global point-of-presence (PoP) locations.

Disaster Recovery: Automated RPO < 5s and RTO < 30s.

Roadmap

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Strategic Roadmap

- 2026–2027 Product

Milestones

- Summary & Strategic

Next Steps

- Thank You

2026–2027 Product Milestones

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● Deployment

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Q3 2026: Launch of Nexa Neural Core v3.5 with automated model quantization.

Q4 2026: General availability of Vertex Distributed Database Mesh.

Q1 2027: Integration of quantum-resistant cryptographic key exchange.

Q2 2027: Release of Autonomous Edge Analytics SDK for IoT gateways.

Summary & Strategic Next Steps

- **Architecture Maturity:** Proven sub-20ms latency at global scale.

Strategic Overview

Enterprise Architecture

- **Enterprise Readiness:** Complete compliance certifications (SOC2, ISO 27001).

Security & Governance

Performance &

- **Immediate Action:** Initiate pilot deployment on Vertex Sandbox environment.

Deployment

Strategic Roadmap

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Questions & Discussion

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