

371 OS

Revolutionary Autonomous Agent Operating System

MIT License Node.js 18+ Built with Nx Powered by ElizaOS Deployed on Akash

Beyond MCP Limitations: The next evolution in AI agent coordination through blockchain-based Universal Tool Servers, achieving 97.6% cost reduction and true agent autonomy.

371 OS README v2.0

Core Innovations

- Universal Tool Server Architecture:** Stateless, blockchain-based agent coordination beyond MCP limitations
- Self-Aware Agents:** ElizaOS-powered agents that understand and manipulate their own workspace
- 97.6% Cost Reduction:** Through Akash Network decentralized infrastructure
- Blockchain Registry:** Decentralized agent discovery with cryptographic trust (Ethereum + IPFS)
- Enterprise Security:** Zero-trust integration with Secretless Broker and ACL.dev

Agent Ecosystem

CEO Agent (Mimi) — Strategic Decision Making — Cost Optimization (97.6% reduction) — Resource Allocation CTO Agent (Zara) — Technical Architecture — Plugin Development — System Design CFO Agent (Maya) — Financial Analysis — Budget Optimization — ROI Calculations CLO Agent (Alex) — Legal Compliance — Governance Frameworks — Regulatory Oversight

Revolutionary Technology Stack

Nx Workspace
Monorepo with affected analysis for 40x efficiency gains

ElizaOS + Qoder
Self-aware agent capabilities with workspace manipulation

Ethereum Smart Contracts
Decentralized agent registry and coordination

IPFS Storage
Distributed metadata for agent capabilities

Akash Network
97.6% cost reduction through decentralized infrastructure

Enterprise Security
Secretless Broker + ACL.dev integration

Quick Links

- [Getting Started Guide](#)
- [Milestone Report](#)
- [Source Code](#)

Executive Brief: AI-Augmented System Architect

The Category We Own

AI-Augmented System Architect (AASA): An enterprise architect for the agentic era—designing cognition-augmented systems that are safe by design, governed end-to-end, zero-trust native, and production-grade from day one.

Tagline: Autonomy with guardrails. Outcomes with evidence.

Market Signals

- 78% of UK/I C-suite already using AI agents
- NIST AI RMF 1.0 + ISO/IEC 42001 codified governance
- Zero Trust + Secretless patterns mature
- Agentic patterns documented by AWS/IBM/Microsoft

Revenue Targets

- Phase 1: Validate Pieces – Akash pipeline
- Phase 2: **\$50k MRR target**
- KPI: 80% workflows agent-first
- Cost advantage: 97.6% via Akash

Signature Frameworks

AZTA: Agentic Zero-Trust Architecture

Maps agent loops to ZTA components (PE/PA/PEP), app-layer identity, Secretless pattern

CAER: Cognition-Augmented Enterprise Reference

Bridges event-driven to agentic workflows with LLM planners, routers, tool callers

AIMS-Ops: ISO/IEC 42001 + NIST AI RMF

Operating model fusing AI management standards with lifecycle governance

CharacterOps: Persistent Agent Personas

Verifies all Characters as durable business personas with privacy controls

Non-Negotiable Guardrails



Zero Trust
NIST 800-207/207A



Secretless
No creds in app code



Standards
ISO 42001 + AI RMF

10-Slide Strategic Deck

The AI-Augmented System Architect

Cognition-Augmented Systems with Enterprise Guardrails



Local-First Cognition



Universal Tool Servers



Decentralized Runtime



Beyond MCP: Universal Tool Server Architecture

Traditional MCP Limitations

- Tight coupling between agents and tools
- Local context assumptions
- No decentralized discovery
- Limited trust mechanisms

UTS Innovation

- Stateless, blockchain coordination
- Ethereum registry + IPFS metadata
- Cryptographic trust
- Tool reuse without coupling

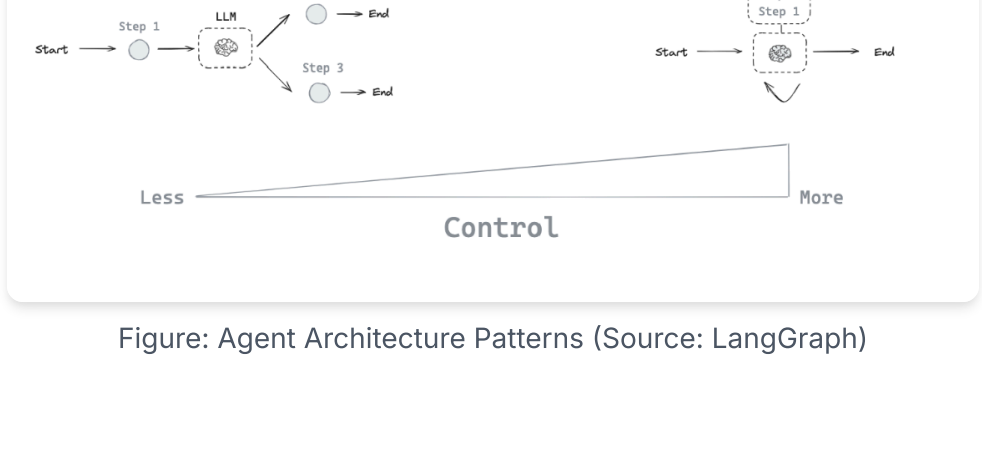




Figure: Agent Architecture Patterns (Source: LangGraph)


371 OS Core Architecture



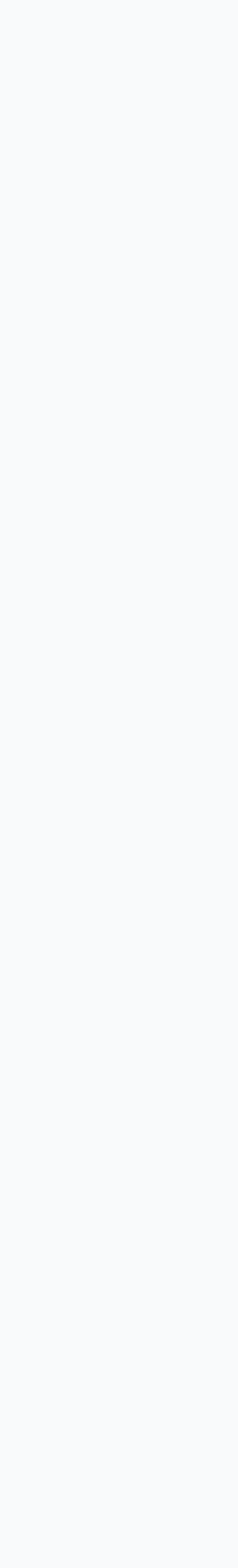
Cognition Layer
Pieces as local-first memory cortex, capturing workflow patterns for hyper-personalized agents



Orchestration
Nx monorepo + Ooder "Agent Factory" + ElizaOS self-aware plugins + MCP coordination



Infrastructure
Akash Network exclusive deployment (97.6% cost reduction) + Status/DAO governance



Multi-Agent Orchestration Patterns

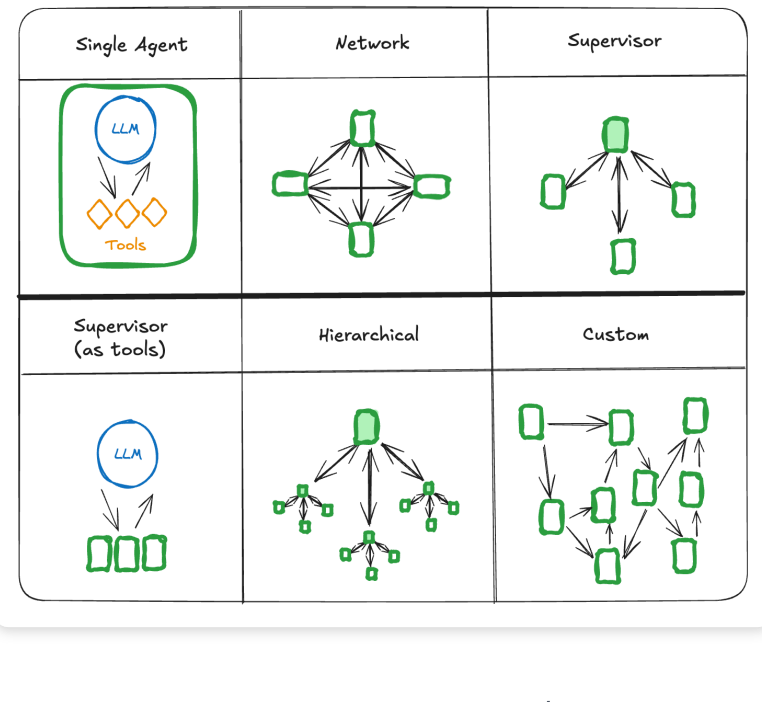


Figure: Multi-Agent Architecture Patterns (Source: LangGraph)

- Collaboration**
Shared scratchpad, router-based transitions
- Supervisor**
Central coordinator, independent agent scratchpads
- Hierarchical**
Supervisor of supervisors, nested teams



Zero Trust + Secretless Security

NIST 800-207 ZTA Tenets

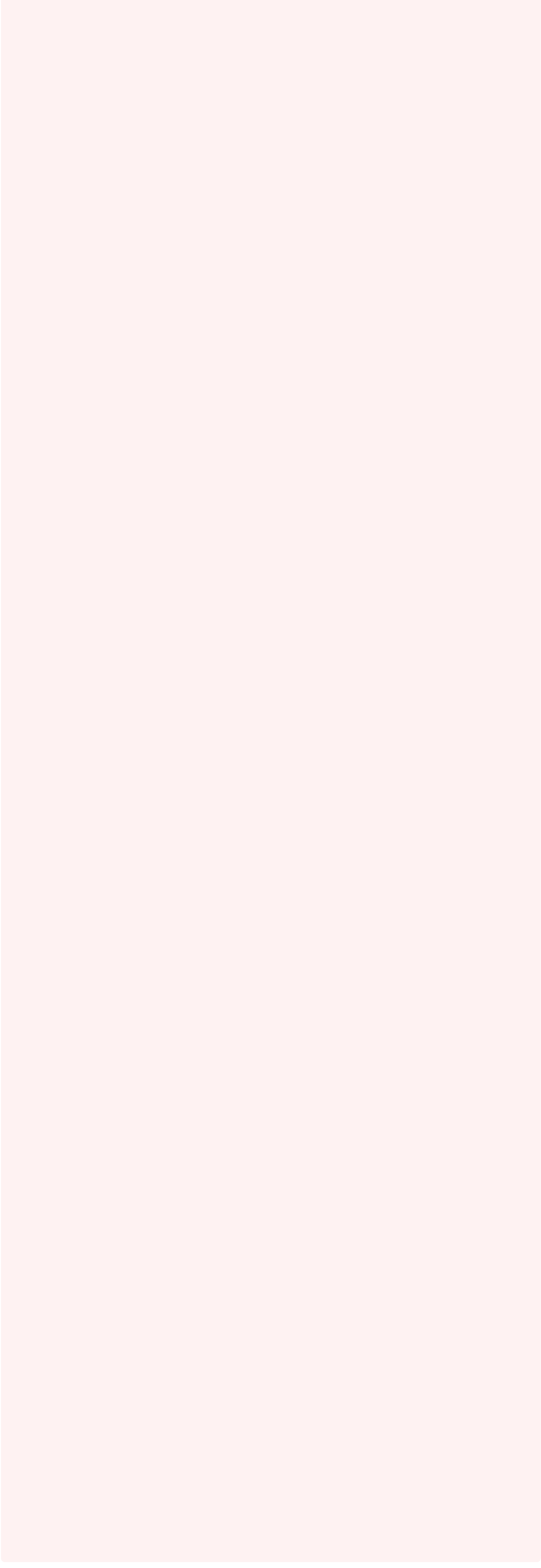
- Per-session least-privilege access
- Dynamic policy (identity + asset state)
- Encrypted/authenticated comms everywhere
- Continuous telemetry collection
- Policy Engine/Administrator/Enforcement Points

Secretless Pattern

- Agents never touch credentials
- Transparent rotations
- Sidecar/local proxy pattern
- KBs-friendly deployment

Architecture Flow

Agent Request → Policy Engine Decision → Policy Admin Configures Path → Secretless Broker Injects Credentials → Policy Enforcement Point Allows → Tool Execution (with audit trail)



GPU Infrastructure: Bridge to Decentralization

GPU FOR DKS OPERATIONS		
Configuration	Price/Node	Nodes/Cluster
GPU Memory	16 GB	4x16 GB
GPU Memory 2	24 GB	4x24 GB
GPU Memory 3	32 GB	4x32 GB
GPU Memory 4	48 GB	4x48 GB
GPU Memory 5	64 GB	4x64 GB
GPU Memory 6	96 GB	4x96 GB
GPU Memory 7	128 GB	4x128 GB
GPU Memory 8	192 GB	4x192 GB
GPU Memory 9	256 GB	4x256 GB
GPU Memory 10	384 GB	4x384 GB
GPU Memory 11	512 GB	4x512 GB
GPU Memory 12	768 GB	4x768 GB
GPU Memory 13	1024 GB	4x1024 GB
GPU Memory 14	1536 GB	4x1536 GB
GPU Memory 15	2048 GB	4x2048 GB
GPU Memory 16	3072 GB	4x3072 GB
GPU Memory 17	4096 GB	4x4096 GB
GPU Memory 18	6144 GB	4x6144 GB
GPU Memory 19	8192 GB	4x8192 GB
GPU Memory 20	12288 GB	4x12288 GB
GPU Memory 21	16384 GB	4x16384 GB
GPU Memory 22	24576 GB	4x24576 GB
GPU Memory 23	32768 GB	4x32768 GB
GPU Memory 24	49152 GB	4x49152 GB
GPU Memory 25	65536 GB	4x65536 GB
GPU Memory 26	98304 GB	4x98304 GB
GPU Memory 27	131072 GB	4x131072 GB
GPU Memory 28	174464 GB	4x174464 GB
GPU Memory 29	232320 GB	4x232320 GB
GPU Memory 30	309760 GB	4x309760 GB
GPU Memory 31	413440 GB	4x413440 GB
GPU Memory 32	548480 GB	4x548480 GB
GPU Memory 33	731200 GB	4x731200 GB
GPU Memory 34	974720 GB	4x974720 GB
GPU Memory 35	1299840 GB	4x1299840 GB
GPU Memory 36	1733120 GB	4x1733120 GB
GPU Memory 37	2310400 GB	4x2310400 GB
GPU Memory 38	3079040 GB	4x3079040 GB
GPU Memory 39	4105600 GB	4x4105600 GB
GPU Memory 40	5450240 GB	4x5450240 GB
GPU Memory 41	7267200 GB	4x7267200 GB
GPU Memory 42	9689600 GB	4x9689600 GB
GPU Memory 43	12902400 GB	4x12902400 GB
GPU Memory 44	17177600 GB	4x17177600 GB
GPU Memory 45	22822400 GB	4x22822400 GB
GPU Memory 46	30430720 GB	4x30430720 GB
GPU Memory 47	40576000 GB	4x40576000 GB
GPU Memory 48	53848000 GB	4x53848000 GB
GPU Memory 49	71833600 GB	4x71833600 GB
GPU Memory 50	95104000 GB	4x95104000 GB
GPU Memory 51	126976000 GB	4x126976000 GB
GPU Memory 52	168320000 GB	4x168320000 GB
GPU Memory 53	223424000 GB	4x223424000 GB
GPU Memory 54	296704000 GB	4x296704000 GB
GPU Memory 55	395520000 GB	4x395520000 GB
GPU Memory 56	526720000 GB	4x526720000 GB
GPU Memory 57	703296000 GB	4x703296000 GB
GPU Memory 58	931200000 GB	4x931200000 GB
GPU Memory 59	1237504000 GB	4x1237504000 GB
GPU Memory 60	1640000000 GB	4x1640000000 GB
GPU Memory 61	2166400000 GB	4x2166400000 GB
GPU Memory 62	2871040000 GB	4x2871040000 GB
GPU Memory 63	3812480000 GB	4x3812480000 GB
GPU Memory 64	5047040000 GB	4x5047040000 GB
GPU Memory 65	6727680000 GB	4x6727680000 GB
GPU Memory 66	8924160000 GB	4x8924160000 GB
GPU Memory 67	11827200000 GB	4x11827200000 GB
GPU Memory 68	15648000000 GB	4x15648000000 GB
GPU Memory 69	20697600000 GB	4x20697600000 GB
GPU Memory 70	27507200000 GB	4x27507200000 GB
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GPU Memory 72	48537600000 GB	4x48537600000 GB
GPU Memory 73	64870400000 GB	4x64870400000 GB
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GPU Memory 75	113744000000 GB	4x113744000000 GB
GPU Memory 76	150336000000 GB	4x150336000000 GB
GPU Memory 77	198144000000 GB	4x198144000000 GB
GPU Memory 78	261280000000 GB	4x261280000000 GB
GPU Memory 79	343936000000 GB	4x343936000000 GB
GPU Memory 80	453120000000 GB	4x453120000000 GB
GPU Memory 81	598848000000 GB	4x598848000000 GB
GPU Memory 82	794176000000 GB	4x794176000000 GB
GPU Memory 83	1055040000000 GB	4x1055040000000 GB
GPU Memory 84	1396480000000 GB	4x1396480000000 GB
GPU Memory 85	1845440000000 GB	4x1845440000000 GB
GPU Memory 86	2438080000000 GB	4x2438080000000 GB
GPU Memory 87	3228160000000 GB	4x3228160000000 GB
GPU Memory 88	4264960000000 GB	4x4264960000000 GB
GPU Memory 89	5626240000000 GB	4x5626240000000 GB
GPU Memory 90	7402240000000 GB	4x7402240000000 GB
GPU Memory 91	9783680000000 GB	4x9783680000000 GB
GPU Memory 92	12980480000000 GB	4x12980480000000 GB
GPU Memory 93	17193600000000 GB	4x17193600000000 GB
GPU Memory 94	22724480000000 GB	4x22724480000000 GB
GPU Memory 95	30000000000000 GB	4x30000000000000 GB
GPU Memory 96	39530240000000 GB	4x39530240000000 GB
GPU Memory 97	51904000000000 GB	4x51904000000000 GB
GPU Memory 98	68729600000000 GB	4x68729600000000 GB
GPU Memory 99	91488000000000 GB	4x91488000000000 GB
GPU Memory 100	121888000000000 GB	4x121888000000000 GB

Figure: DigitalOcean Kubernetes GPU Options (Source: DigitalOcean)

Current: DO K8s GPU Nodes

- AMD MI300X/325X + NVIDIA H100
- Single vs 8x configurations
- Training, inference, distributed workloads
- Familiar enterprise bridge

Target: Akash Exclusive

- Decentralized, censorship-resistant
- 97.6% cost reduction demonstrated
- Permissionless deployment
- Staged migration with identical guardrails

Governance: ISO/IEC 42001 + NIST AI RMF

ISO/IEC 42001 AIMS

- World's first AI Management System standard
- Policies, objectives, PDCA cycle
- AI lifecycle governance
- Risk/opportunity management
- Continuous improvement

NIST AI RMF Functions

- **GOVERN:** Culture, policies, accountability
- **MAP:** Context, risks, system categorization
- **MEASURE:** Metrics, TEVV processes
- **MANAGE:** Response, resource allocation

12 GAI Risk Categories

Contabulation	Info Integrity
Data Privacy	Info Security
Harmful Bias	IP Violations
Human-AI Config	Value Chain
Environmental	CBRN Info
Violent Content	Abusive Content

Each risk mapped to concrete controls in agent patterns

The Augmented Architect Role

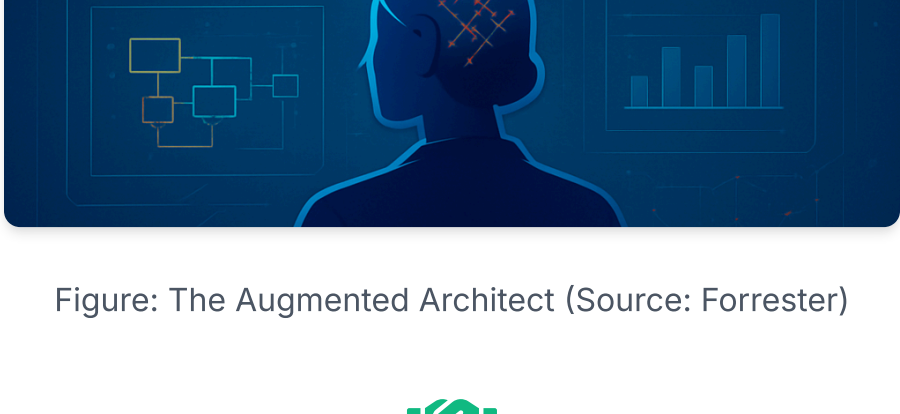
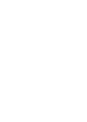
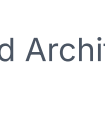


Figure: The Augmented Architect (Source: Forrester)



Curator

Architecture graph maintenance, pattern libraries, anti-pattern detection



Facilitator

Cross-team coordination, stakeholder alignment, decision acceleration



Critical Thinker

AI guides but doesn't dictate, guardrail design, feedback loop optimization



CharacterOps: Persistent Agent Personas

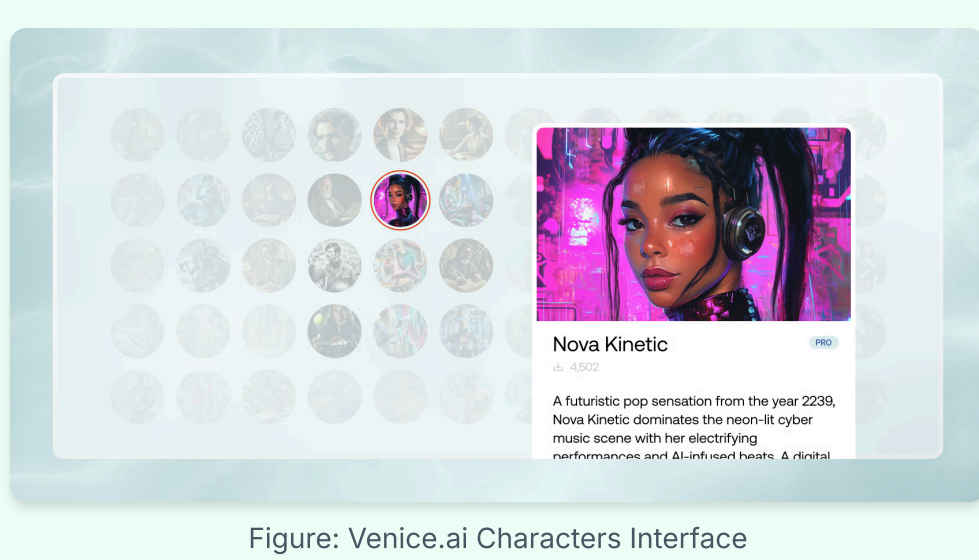


Figure: Venice.ai Characters Interface

Private by Design

- Conversations stay in local browser
- Uncensored, consistent personalities
- Web-enable selectively
- Context files for deep knowledge

Business Applications

- C-Suite agents (CEO, CTO, CFO, CLO)
- Department heads with domain expertise
- Brand voice consistency
- Regulatory compliance personas



Roadmap & Success Metrics

🕒 Phase Targets

Phase 1 (Weeks 1-4)
Validate Pieces – Akash pipeline
Launch monetizable product

Phase 2 Target
\$50k MRR

📊 Key Metrics

Autonomy KPI
≥80% workflows agent-first

Cost Advantage
97.6% Reduction
via Akash Network

🚀 Ready to Ship

Local-first cognition • Universal Tool Servers • Zero Trust • Autonomous economics





★ 371OS

Revolutionary Autonomous Agent Operating System
Beyond MCP • 97.6% Cost Reduction • True Agent Autonomy

🔗 Resources

- 📄 Source Code
- 🚀 Getting Started
- 📅 Milestones

📜 Standards & Citations

- NIST AI RMF 1.0 & GAI Profile
- ISO/IEC 42001 (AIMS)
- NIST 800-207 (Zero Trust)
- CyberArk Secretless
- AWS Agency Patterns
- LangGraph Multi-Agent