JDK Technologies

Executive white paper

BUILD A TEAM, NOT A CHATBOT

# From AI assistants to AI teams.

## Designing secure, governed agent teams for the enterprise.

Give each AI agent a real job, the tools for that job, and clear authority.
Coordinate them. Keep the decisions that matter with your people.

**Maya**
Chief of Staff

**Tony**
Product Engineer

**Jack**
Sales

**Jane**
Marketing

**Automate the repeatable. Keep the decisions human.**

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EXECUTIVE SUMMARY

# Five things to take from this paper.

- **AI is moving from a personal productivity tool to an execution layer** that can perform bounded work across your systems. The question is no longer which model to buy. It is which work to delegate, under what controls, and how to measure the result.
- **The moment an agent can act, it needs what a human role needs:** a defined job, its own identity, only the tools and access the job requires, rules for when to act and when to ask, and a record of what it did.
- **A team of agents needs an orchestrator.** An AI Chief of Staff turns objectives into work, delegates to specialists, tracks evidence and escalates. It does not inherit executive authority. Contracts, money, strategy and security decisions stay human.
- **Authority follows risk, not capability.** Research and summaries run on their own with logging. Production changes and external commitments wait for a named human. Everything in between is governed by policy and audit.
- **Start with one workflow, not a program.** Discovery finds the work. A pilot proves it against a baseline. A shared foundation makes the second agent cheaper than the first. Managed operations keep the team honest.

WHO THIS IS FOR

Executives and operating leaders in organizations of roughly 100 to 2,000 people who have bought AI tools, seen pilots stall, and want a governed way to give real work to agents. Written for the COO, CIO, CFO and the security lead who will review the design.

WHERE THIS PAPER SITS

| CHATBOT | COPILOT | AGENT | AGENT TEAM |
|---|---|---|---|
| **Responds** | **Assists** | **Acts** | **Coordinates** |
| Prompt to answer | Human-led workflow | Goal to tools to action | Goals, roles and governed execution |
| | | | THIS PAPER |

**A note on names.** Maya, Tony, Jack and Jane are illustrative roles. Your team is designed around the work your business needs done. The structure and controls in this paper do not change when the roster does.

CONTENTS

SECTION 01

# The executive shift

AI is moving from an individual productivity tool to an execution layer that can perform bounded work across enterprise systems.

The opportunity is not a company run by autonomous software. It is deciding which work can safely be delegated, what authority each digital worker receives, and where human judgment remains mandatory.

The executive question is changing from *Which AI model should we use?* to *Which business processes should we delegate, under what controls, and how will we measure the result?* A chatbot generates content. An enterprise agent can change state in another system. The moment AI can act, identity, authorization, logging and escalation stop being nice-to-haves and become architectural requirements.

**The JDK position**

JDK designs AI workforces around business outcomes, not model novelty. Discover the work, score automation fit and risk, prove value in a real workflow, deploy securely, then manage and expand agent by agent.

**Framework- and model-neutral by design**

The architecture should not depend on one agent framework or one model vendor. JDK's value is the operating architecture around whichever runtime fits: design, infrastructure, integrations, security, governance, deployment, monitoring and operations.

## What makes an agent enterprise-ready?

A production agent needs the same clarity of authority and accountability expected of a human role. Eight things, none optional.

**Role and objective**
Defined job, scope and success criteria.

**Identity**
Distinct service identity and attribution. No shared credentials.

**Tools**
Only approved applications, APIs and commands.

**Permissions**
Least-privilege access to systems and data.

**Context**
Approved organizational knowledge and working memory.

**Policies**
Rules for act, prohibit and escalate.

**Observability**
Logs, metrics, traces and evidence.

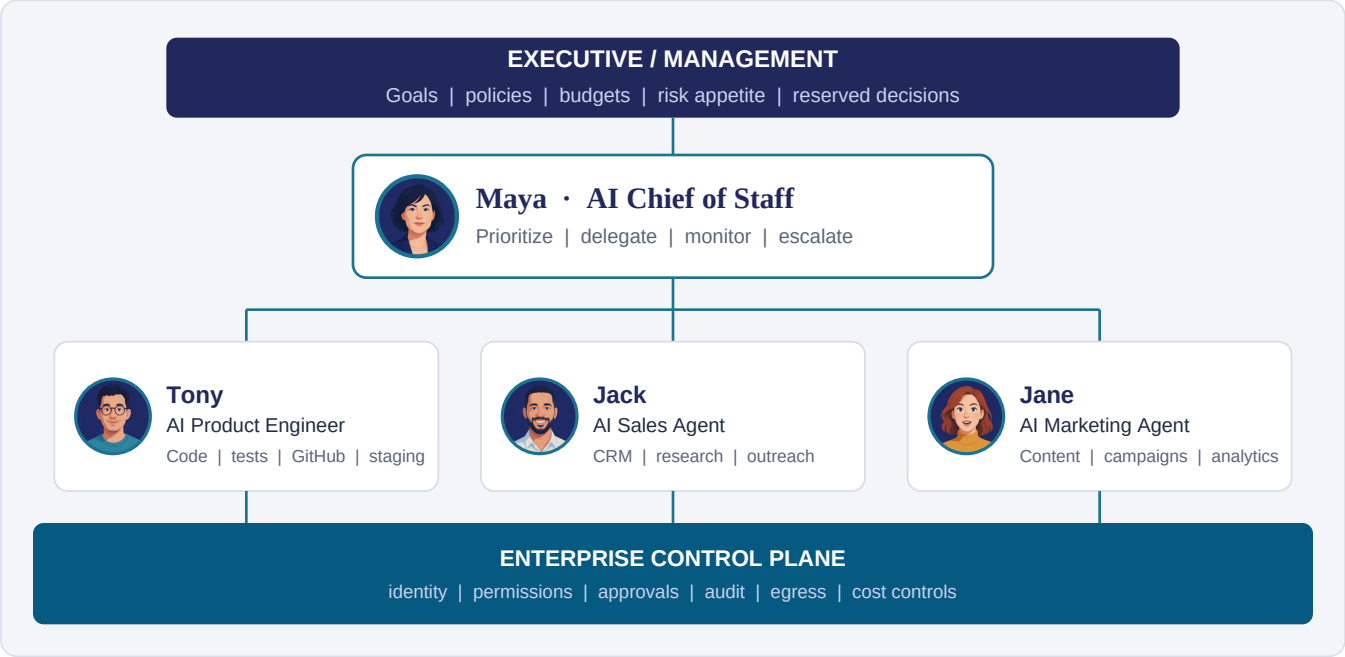
**Approval gates**
Human authorization for material actions.

> *Autonomy should be granted by risk level, not by technological capability.*

SECTION 02

# The AI Workforce architecture

The framework becomes a governed boundary between people, models, tools, data and systems.




Executives set goals and risk appetite. The Chief of Staff turns them into work and routes it. Specialists execute bounded tasks with role-specific tools. One shared control plane underneath.

## Agents as an organization, not a collection of bots

The enterprise value comes from the operating model that connects specialist agents, not from any single agent.

**Shared goals**
Objectives and KPIs establish what matters.

**Specialized roles**
Each agent owns a bounded class of work.

**Controlled delegation**
Authority follows role and risk.

**Shared context**
Approved knowledge and state reduce repetition.

**Governed handoffs**
Evidence and provenance travel with the work.

**Management oversight**
Humans retain reserved decisions and can intervene.

## Where it runs

Chosen by data sensitivity, regulation and appetite for managed services. In every model the control plane is shared, and a new agent receives a role-specific policy envelope rather than a new security architecture.

**Customer-hosted**
Agents and the control plane run in your cloud or VPC. Best where infrastructure ownership and data residency are strict.

**Hybrid**
You keep sensitive systems, identities and credentials. JDK manages selected orchestration and operations.

**JDK managed**
JDK operates the approved agent environment and lifecycle. For organizations that want outcomes without a dedicated platform team.

SECTION 03

# The team

One orchestrator, several specialists, different permissions and risk profiles, one governed foundation.

## Maya: the AI Chief of Staff

Maya is the orchestration layer between executive intent and specialist execution. She holds the operating context of the team: objectives, priorities, dependencies, metrics, blockers, policies and the decisions that require management.

1. **Understand** — Interpret objective and constraints
2. **Decompose** — Create work and success criteria
3. **Delegate** — Route to specialist agents
4. **Observe** — Review outputs and KPIs
5. **Adapt** — Adjust within authority
6. **Escalate** — Ask humans when required

| Executive input | Maya's responsibility |
|---|---|
| **Increase qualified pipeline by 25% while keeping acquisition cost within target.** | Translate the objective into initiatives, assign work to Jack and Jane, coordinate dependencies, monitor evidence, identify underperformance and recommend adjustments to management. |

### What Maya does not become

Maya does not silently inherit executive authority. Financial commitments, contracts, legal decisions, material strategy changes and security changes remain reserved for authorized humans. She is valuable when she closes the loop from goal to evidence without bypassing management.

## How the team works together

Jane's campaign generates interest, but Jack's outreach is not converting. Maya asks Jack to classify recurring objections, asks Jane to test revised messaging, and asks Tony whether a demo change could address a repeated technical concern. She summarizes the evidence and a recommendation. Management decides.

**Jane** spots interest → 

**Jack** captures objections → 

**Tony** addresses technical gaps → 

**Maya** coordinates and escalates

## A day in the AI organization

| Layer | What happens |
|---|---|
| **Executive** | Sets the objective: generate $2M of qualified pipeline for a new service over two quarters. |
| **Maya** | Plans, coordinates, measures, escalates. |
| **Jack, Jane, Tony** | Accounts, prospects and objections. Demand, content and campaigns. Demo, product and technical proof. |
| **Measured outcome** | Pipeline, conversion, objections, campaign performance, product feedback, with evidence attached. |
| **Executive review** | Reserved decisions remain with authorized leaders. Adjust, continue or stop. |

## The specialists

Same foundation, different policy envelopes. Each role is defined the way JDK defines every service: what the agent owns, what remains human, and how it is measured.

**Maya**
AI Chief of Staff

| WHAT THE AGENT OWNS | WHAT REMAINS HUMAN | HOW IT'S MEASURED |
|---|---|---|
| Plans and coordinates. Turns goals into work, delegates to specialists, watches progress, resolves blockers and escalates decisions. | Financial commitments, contracts, legal decisions, strategy changes, security changes. Any decision outside delegated authority. | Objective attainment, escalation quality, cycle time from goal to evidence, and how often management has to intervene unplanned. |

**Tony**
AI Product Engineer

| WHAT THE AGENT OWNS | WHAT REMAINS HUMAN | HOW IT'S MEASURED |
|---|---|---|
| Builds and validates. Analyzes code, creates a branch, implements the change, runs tests and security checks, opens the pull request. | Production approval. Nothing deploys without a named human reviewing the PR and its evidence. | PR acceptance rate, rework rate, defects found after merge, cycle time from task to accepted PR. |

**Jack**
AI Sales Agent

| WHAT THE AGENT OWNS | WHAT REMAINS HUMAN | HOW IT'S MEASURED |
|---|---|---|
| Builds qualified pipeline. Researches accounts, identifies relevant executives, qualifies, prepares personalized outreach, follows up, summarizes objections. | Contracts, pricing commitments, material representations, unusual discounts, closing authority. Outbound stays inside approved channels and rate limits. | Qualified opportunities created, response and conversion rates, objection classification accuracy, cost per qualified opportunity. |

**Jane**
AI Marketing Agent

| WHAT THE AGENT OWNS | WHAT REMAINS HUMAN | HOW IT'S MEASURED |
|---|---|---|
| Creates awareness and demand. Monitors market and competitors, drafts content and campaign briefs, prepares campaigns, analyzes performance, recommends experiments. | New positioning, crisis communications, sensitive public statements, material brand changes, significant spend changes. Publishing goes through approval. | Campaign performance against target, content acceptance rate, experiment velocity, spend within budget. |

**Same foundation. Different policy envelopes.**
Jack needs CRM access, approved communication channels and outbound rate limits. Jane needs brand rules, publishing approvals and campaign budgets. Tony needs repository access and CI/CD gates. Maya needs read access to all of it and write access to almost none of it. The platform is shared; authority is role-specific.

## Same structure, different roster

Sales and marketing make a clear illustration. Most of the organizations JDK works with run member services, benefits intake, policy questions and proposal work. The team structure is identical; only the roster changes.

| Illustrative role | Association or benefits equivalent | What stays human |
|---|---|---|
| **Jack, AI Sales Agent** | **Support Triage Agent.** Classifies, routes and drafts responses to member and participant requests. | Escalations, angry members, anything sensitive. |
| **Jane, AI Marketing Agent** | **Knowledge and Policy Agent.** Answers eligibility and procedure questions from your documents, with citations. | Policy decisions, exceptions, personal cases. |
| **Tony, AI Product Engineer** | **Document Intake Agent.** Extracts, validates and files applications and claims into the system of record. | Borderline cases and acceptance decisions. |
| **Maya, AI Chief of Staff** | **Maya, unchanged.** Watches the queues, spots that a spike in status requests traces to an intake backlog, reprioritizes, escalates with evidence. | The reprioritization itself, if it changes service commitments. |

## Tony in detail: bounded execution in a familiar control environment

| Step | Activity | Authority |
|---|---|---|
| **1** | Task assigned | Autonomous |
| **2** | Analyze code | Autonomous |
| **3** | Create branch | Autonomous |
| **4** | Implement change | Autonomous |
| **5** | Run tests | Autonomous |
| **6** | Security and quality checks | Autonomous |
| **7** | Create pull request | Autonomous |
| **8** | Human approval | **HUMAN GATE** |
| **9** | CI/CD deployment | Controlled execution |

The value is not merely that Tony can write code. It is that Tony operates inside a defined delivery process: distinct identity, approved repositories and destinations, automated checks, reviewable evidence and a human gate before material production change.

SECTION 04

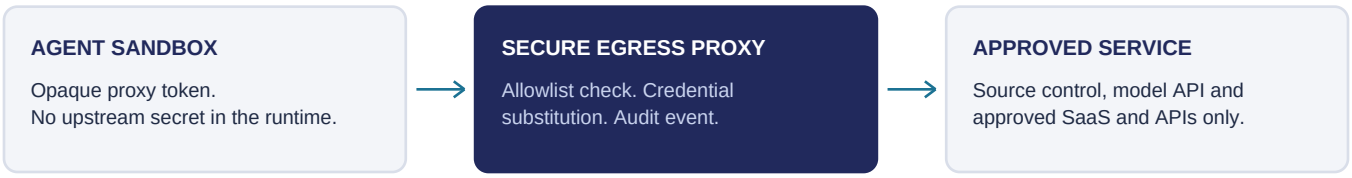
# Security: treat every agent as a privileged digital worker

Security assumes the agent is fallible and limits the blast radius.

| Control | Enterprise pattern |
|---|---|
| **Identity** | Distinct agent identity. No shared anonymous credentials. |
| **Least privilege** | Only required systems, records and actions. |
| **Runtime isolation** | Sandboxed execution separates agent work from hosts. |
| **Credential isolation** | Secrets remain outside prompts and, where possible, outside the runtime. |
| **Controlled egress** | Approved destinations only. |
| **Human approval** | Material or irreversible actions pause for authorization. |
| **Auditability** | Prompts, tool calls, data access, approvals and outcomes recorded. |
| **Observability** | Security, quality, cost and operational failures surfaced. |

## Credential isolation and controlled egress

Secrets and network access deserve special treatment. The sandbox never holds an upstream API key. It holds an opaque token. Outbound traffic routes through a host-side proxy that checks an allowlist, substitutes the real credential only for an approved destination, and writes an audit event.




The objective is not to prove an agent can never be manipulated. It is to ensure manipulation cannot easily become unrestricted credential theft, arbitrary Internet access or an unreviewed high-impact transaction.

## Agent-specific threat model

Traditional application security still matters. Agent-based systems add new combinations of risk.

| Risk | Enterprise pattern |
|---|---|
| **Prompt injection** | Instruction hierarchy, content isolation, tool authorization and approvals. |
| **Tool misuse** | Per-tool access control, scoped credentials and action allowlists. |
| **Data exfiltration** | Egress controls, DLP, secret isolation and data minimization. |
| **Memory poisoning** | Trusted write paths, provenance, review and expiry. |
| **Excessive autonomy** | Risk tiers, limits, approvals and stop conditions. |
| **Cascading failure** | Evidence requirements and independent validation. |

Agent security must address the full system: model, memory, tools, identity, permissions, communications and human oversight. Not the model alone. Implementation controls are defense in depth, not a substitute for enterprise governance.

SECTION 05

# Governance and the autonomy model

Capability and authority are not the same thing. This table is the center of the paper.

| Risk | Example | Agent authority |
|---|---|---|
| **Low** | Research, summarize, classify | Autonomous, with logging |
| **Moderate** | Draft communications, low-risk updates | Autonomous within policy, with audit |
| **Elevated** | Create a software PR, prepare a customer action | Autonomous preparation; reviewable evidence |
| **High** | Production deployment, external commitment | Explicit human approval |
| **Critical** | Wire transfer, contract execution, privileged security change | Named authorized approver; strong authentication |

> *The design target is maximum safe autonomy at acceptable business risk. Not maximum autonomy.*

## Governance and compliance

An agent framework does not make an organization compliant. It can produce the controls and evidence that support the organization's compliance program. The NIST AI Risk Management Framework organizes AI risk management around four functions; its Generative AI Profile extends the approach for generative AI.

**Govern**
Policies, accountability, risk appetite.

**Map**
Use cases, data, dependencies.

**Measure**
Testing, metrics, monitoring.

**Manage**
Controls, response, improvement.

## Enterprise control mapping

| Control area | Agent implementation | Evidence produced |
|---|---|---|
| **SOC 2 / access** | Agent identity, RBAC, least privilege, access reviews. | Access review records, audit logs. |
| **Change management** | PR workflow, automated tests, approval gate, controlled deployment. | PR history, test results, approval records, deployment logs. |
| **ISO 27001** | Asset ownership, risk treatment, access controls, logging, incident procedures. | Asset register, risk register, incident records. |
| **NIST CSF** | Identify, protect, detect, respond and recover applied to agent operations. | Control mapping, detection alerts, response runbooks. |
| **AI governance** | Use-case inventory, risk tier, model and tool inventory, evaluations, human oversight. | Inventory, evaluation results, approval and escalation records. |

SECTION 06

# The engagement, and how it is measured

Start with the work, prove value in one workflow, and expand only after security and operating evidence are in place.

| Phase | What happens |
|---|---|
| **01 Discover** | Map work, systems and repetitive tasks. How work actually gets done, not how the org chart says it does. |
| **02 Score** | Rank automation fit, data readiness, value, reversibility and risk. Produce a ranked backlog and a kill list of what not to automate. |
| **03 Design and secure** | Define roles, tools, identity, permissions, memory, approvals, network policy and evaluations. |
| **04 Prove** | Put one agent into a real workflow. Measure quality, cycle time, intervention and cost against the pre-agent baseline. |
| **05 Deploy and manage** | Operationalize monitoring, incidents, change control and cost management. Add agents one at a time. |

## The commercial path

A bounded entry point instead of asking a client to approve an enterprise-wide autonomous-agent program. Each step is a JDK service that stands on its own.

01
### AI Work Discovery Sprint
Ranked backlog, kill list, first-agent recommendation, fixed fee.

02
### First Agent Pilot
One agent, one real workflow, measured against baseline for 30 to 60 days.

03
### Secure Agent Foundation
Identity, approvals, audit, cost controls, tool governance. Built once.

04
### Managed Agent Operations
Monitoring, tuning, cost, next agents. The Chief of Staff role lives here.

## Measure work, not tokens

Agent programs should be managed as operations, with the same scorecard discipline as any team.

**Task success rate**
% completed to acceptance criteria

**Cycle time**
Assignment to accepted result

**Human intervention**
% requiring correction or takeover

**Escalation rate**
% intentionally routed to a human

**Cost per outcome**
Model + infrastructure + review cost

**Rework rate**
% reopened, reversed or corrected

**Control exceptions**
Policy, permission or security violations

**Autonomy rate**
% safely completed without intervention

> *Autonomy is not the objective. An agent that escalates a high-risk exception exactly when policy requires is performing correctly.*

SECTION 07

# What we have learned running it

JDK builds agents for clients and runs its own operations on them. Three lessons that shaped this paper.

JDK has agents in production today, including a governed data analytics agent inside a benefits administration organization that writes and runs SQL against member data with every query logged and attributed. JDK also runs its own internal coordination and delivery work through a chief-of-staff agent and a product-engineer agent. Some of what follows would not be obvious from the architecture alone.

**1. The kill list earns more trust than the backlog.**
The first question a security lead asks is not what the agent can do. It is what you decided not to let it do, and why. Producing a ranked list of rejected use cases during discovery does more for credibility than any capability demo.

**2. Escalation is a feature, and it needs a budget.**
An orchestrator that escalates correctly generates work for humans. If nobody owns the escalation queue, the agent is either ignored or its authority quietly widens. Name the approver and measure their response time from day one.

**3. The second agent is where the foundation pays for itself.**
The first agent is mostly platform work: identity, egress, audit, approvals. The second agent reuses all of it and is scoped in days, not weeks. Organizations that skip the foundation to move faster rebuild it for every agent.

**What this paper does not claim**
No accuracy figures, cost reductions or cycle-time improvements are stated here because the ones that matter are yours, measured in your workflow against your baseline. That measurement is the first deliverable of a pilot, not a marketing claim.

JDK Technologies

THE EXECUTIVE TAKEAWAY

# The winners will not be the organizations that deploy the most agents.

They will be the ones that build a disciplined operating model for delegation: role clarity, least privilege, controlled tools, secure credentials, bounded network access, human approval gates, auditability, observability and measurable business outcomes.

Maya, Tony, Jack and Jane illustrate the model. One orchestrator, several specialists, different permissions and risk profiles, one governed foundation. The roles change with your work. The structure does not.

## See the team in action.

Bring one workflow. We'll show how a team of agents would run it, what stays human, and what it would cost to operate. No enterprise-wide program to approve first.

**Book a live demo**

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THE PATH

AI Work Discovery Sprint → First Agent Pilot → Secure Agent Foundation → Managed Agent Operations

SOURCES AND NOTES

JDK Technologies: jdktech.com, Agent Framework and AI implementation materials.
OWASP GenAI Security Project: threats and mitigations for AI agents.
NIST: AI Risk Management Framework and Generative AI Profile (NIST AI 600-1).

This paper presents architectural and governance patterns. It is not legal, regulatory, certification or compliance advice.



Automate the repeatable. Keep the decisions human.