Redwood

The autonomous enterprise

Orchestrating the next wave of AI in automation

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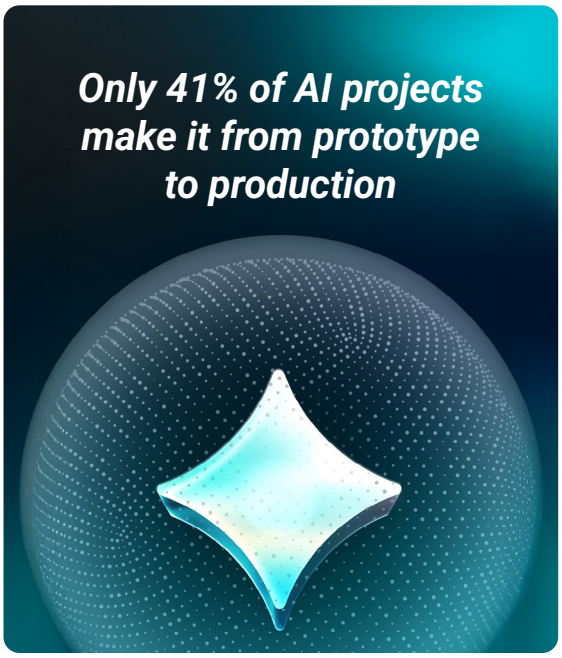
The $2.8 trillion ROI paradox

AI adoption is exploding, but value isn't.

By 2029, global AI-related infrastructure spending will likely surpass $2.8 trillion[1]. Yet, only 41% of AI projects[2] make it from prototype to production. Leaders like you face mounting pressure to show ROI on investments you can't yet fully govern.

The root of the paradox? AI adoption is happening faster than control frameworks can keep up. Each new model, agent or tool adds complexity and risk. Without orchestration, enterprises face a growing "AI sprawl," where fragmented systems make isolated decisions with no unified oversight.



That's why Service Orchestration and Automation Platforms (SOAPs) have become critical infrastructure. Gartner[3] predicts that by 2029, 90% of organizations will use SOAPs to orchestrate workloads across hybrid IT and business domains. Gartner analysts[4] also identified "intelligent automation" and "security and compliance" as Critical Capabilities for SOAPs. If your company, like most, heavily invests in a diverse portfolio of automation tools, these platforms act as a central control plane. They unify your automations, govern your AI interactions and ensure visibility and control at scale.

As AI evolves, it demands a shift in mindset from automation to orchestration. The next phase of enterprise innovation will depend less on how much AI you deploy and more on how effectively you govern and orchestrate it.

The agentic shift: Enterprise orchestration in the AI era

The transformation is profound and requires a new way of thinking:

Generative AI performs tasks like creating content or analyzing data.

Agentic AI drives outcomes, reasoning, planning and acting to achieve a goal.

But in the enterprise, no agent operates in isolation. Real value emerges only when specialized systems — human and machine — work in concert, governed by a central orchestration layer that ensures they operate safely within business and compliance guardrails.

While fully autonomous agents are still emerging, the principles of goal-oriented orchestration are already shaping how forward-looking organizations think about automation and decision-making.

2 AM fire drill

Imagine it's 2:17 AM. A supply chain manager is jolted awake by an alert:

`URGENT: Shipment flagged — production at risk.`

A critical shipment is stuck in customs, threatening a multi-million-dollar production line. Within minutes, a dozen people from Logistics to Finance are on an emergency call, scrambling to find documents, check inventory and calculate rerouting costs. By dawn, the team has burned hours, budgets and nerves just to keep things running.

A global supply chain is an immensely complex system ripe for disruption and perfectly suited for agentic orchestration. In scenarios like this, there's no warning, no clear ETA and every minute lost risks halting a production line worth millions.

It's a textbook example of how fragile global operations can be — and how human-intensive the response still is, even in an "automated" world.

Rewind: The agentic response

Consider how the same event might unfold in the future as orchestration systems become more intelligent and context-aware. This time, the company runs as an agentic enterprise, orchestrated by a SOAP coordinating a team of specialized AI agents.

- **2:17 AM (Sensing Agent):** A custom API feed reports a "Hold" status. Instantly, the SOAP detects the anomaly and triggers a high-priority workflow.
- **2:18 AM (Analysis Agent):** It checks the production schedule in SAP, calculates the time-to-impact and quantifies the financial exposure.
- **2:20 AM (Decision Agent):** Given the goal to prevent downtime at minimal cost, it models three mitigation options, balancing logistics cost and throughput risk.
- **2:22 AM (Action Agent):** The SOAP approves the optimal path based on preset business rules, then executes a new purchase order, updates the ERP and triggers logistics notifications.
- **2:25 AM (Communication Agent):** A concise incident summary, complete with impact analysis and resolution details, is sent to stakeholders.

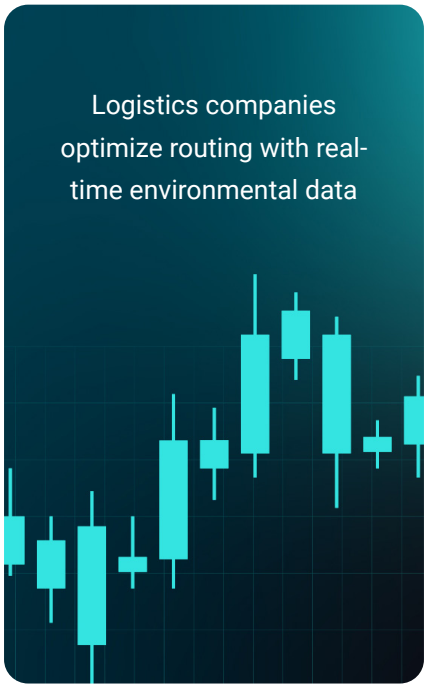
At 7 AM, the line manager arrives to a single notification:

`Shipment delay detected and resolved autonomously.`
`No production impact.`

Eight minutes. Zero human panic. Full accountability. That's **agentic orchestration** in action. While this is still an aspirational scenario for many, it illustrates the potential value of governed orchestration: faster responses, fewer manual touchpoints and higher confidence in outcomes.

How leading enterprises are adapting

The core mechanics of this illustrative example are already in motion across leading enterprises:



Each of these use cases reflects the difference between automated activity and orchestrated intelligence. Orchestration under a unifying control plane (the SOAP) can decompose complex goals into subtasks, assign them intelligently and ensure closed-loop governance across enterprise systems.

Governance: Humans stay in control

The autonomous enterprise is about elevating people rather than replacing them. Thus, the greatest challenge of this new era isn't technology; it's governance.

For the **97% of IT leaders**[5] concerned about unethical or erroneous AI behavior, orchestration provides the safety layer that makes autonomy possible.

97% of IT leaders are concerned about unethical or erroneous AI behavior

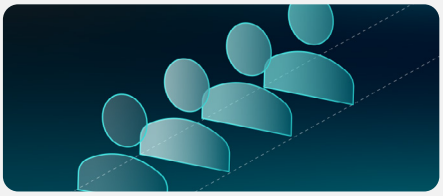
SOAPs provide **technical enforcement of governance frameworks**, not just policy documents. They log every agentic action, enforce compliance rules and route approvals for sensitive decisions through **human-in-the-loop** workflows. This keeps humans strategically in control, while allowing agents to execute safely at scale.

Your teams shift from doing tasks to designing and supervising intelligent systems. IT becomes the conductor of a digital orchestra, governing automation across ERP, supply chain and finance — and driving measurable ROI from AI investments.

Toward autonomy: A pragmatic roadmap

Achieving autonomy requires an evolution. The goal isn't full autonomy overnight. You should build a foundation of continuous orchestration that enables you to scale AI safely and transparently.

Now:
Augment human teams



Most enterprises today are in this first phase: using centralized orchestration to streamline complex processes while introducing AI-driven assistance to augment human teams.

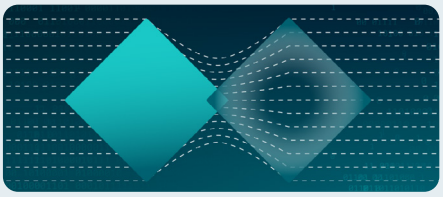
A finance user asks, "Why did our order-to-cash process fail this morning?"

An AI agent such as SAP Joule, integrated with the orchestration platform, automatically queries logs, identifies the failure point and recommends remediation.

Here, humans remain in control, but intelligent agents are accelerating insight and reducing resolution time.

Outcomes: Improved operational visibility and faster troubleshooting within a governed orchestration framework

Next:
Coordinate intelligence



The next phase — **agentic orchestration** — emerges as multiple AI agents begin to collaborate.

This is coordinated autonomy, not replacement. The platform becomes the conductor, governing how agents share data, communicate and act within pre-approved boundaries.

When a system outage occurs, one agent detects it, another diagnoses the root cause and a third executes corrective action within seconds, often before IT teams are even alerted.

Humans shift from reactive firefighting to proactive oversight.

Outcomes: Self-healing systems, improved SLA compliance and reduced downtime across ERP, supply chain and cloud workloads

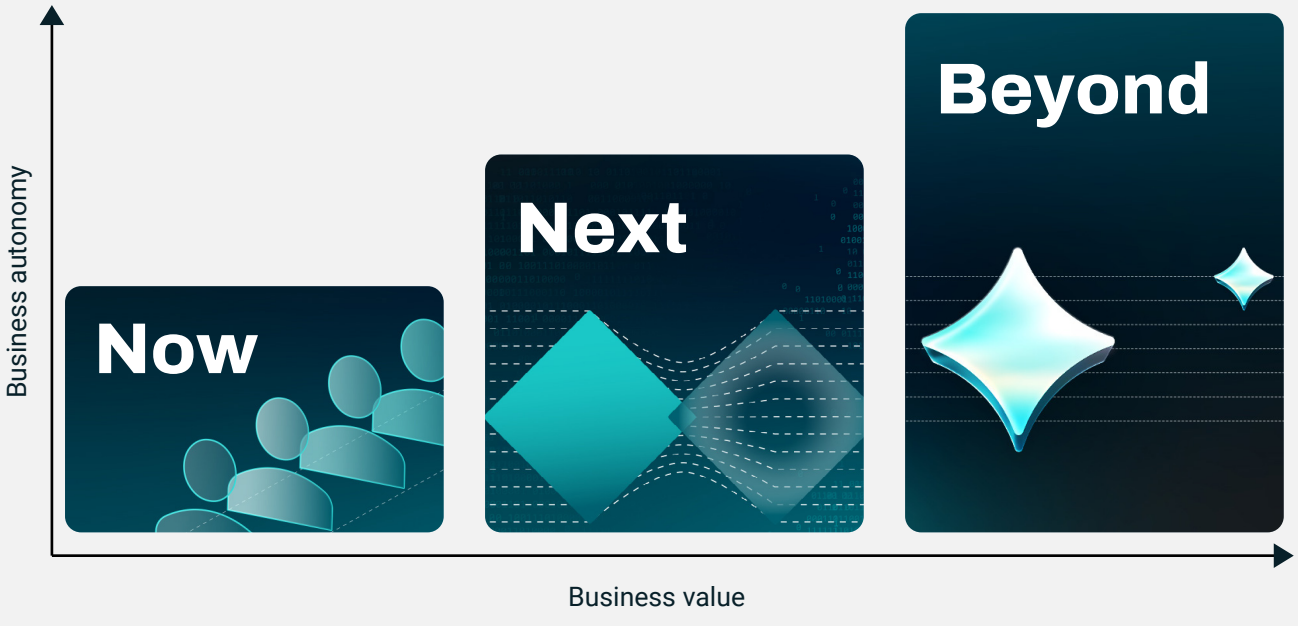
Beyond:
Build a unified agentic ecosystem

In the final phase, agentic orchestration evolves into a fully autonomous ecosystem: a **unified agentic ecosystem**. Your orchestration platform not only manages internal agents but also connects securely with external systems and platforms like SAP Joule, enabling natural language interactions and machine-to-machine collaboration.

A procurement manager asks SAP Joule, “Can you reduce our supplier delivery risk this quarter?”

Behind the scenes, a future-ready orchestration fabric triggers a chain of AI agents that model supplier performance, simulate risk scenarios and autonomously execute approved actions, while sticking to policy and compliance frameworks.

Outcomes: Self-healing systems, improved SLA compliance and reduced downtime across ERP, supply chain and cloud workloads



Your leadership mandate

The orchestration era rewards leaders who can balance innovation with control. To realize AI's promise and avoid the ROI paradox, lead with orchestration. Below are five critical questions to define your AI roadmap — and strategies to mitigate risk in each area.

1. **What is our control plane for AI? How will we govern a decentralized ecosystem of AI agents?**

   Risk: You could repeat the mistakes of the cloud era, creating "shadow AI," or blind spots in security, compliance and cost management.

   Strategy: Establish a central orchestration platform for unified governance across AI models, automation tools and enterprise data. It should enable, not restrict, innovation.

2. **Where is the strategic value? Which end-to-end processes, such as order-to-cash or supply chain fulfillment, yield the greatest impact?**

   Risk: It's common to invest in isolated proofs of concept that become fragmented and paralyzed, with no scalable path to ROI.

   Strategy: Prioritize initiatives that transform core, end-to-end processes over siloed optimizations. Anchor each investment to your KPIs.

3. **How will we measure ROI? How can we move beyond tactical metrics such as cost savings to holistic metrics like SLA performance, cycle time and resilience?**

   Risk: When you measure success only through short-term cost savings, you limit AI's perceived value and overlook the larger opportunities for business value.

   Strategy: Link AI performance directly to C-level metrics, such as SLA compliance, cycle time reduction and risk mitigation. With centralized orchestration, you'll get the transparency you need to quantify its impact.

4. **How will we manage the human transition? How can we empower teams through upskilling and governed innovation?**

   Risk: If you neglect change management and upskilling, your adoption will be fragmented and you could create resistance that forms bottlenecks.

   Strategy: Champion a formal change management plan led by executive sponsors. Combine transparent communication with targeted skill development.

5. **How will we future-proof our core systems? How can we integrate with — not replace — our existing ERP and automation investments?**

   Risk: Chasing a "rip-and-replace" approach creates technical debt and makes your tech stack unmanageable.

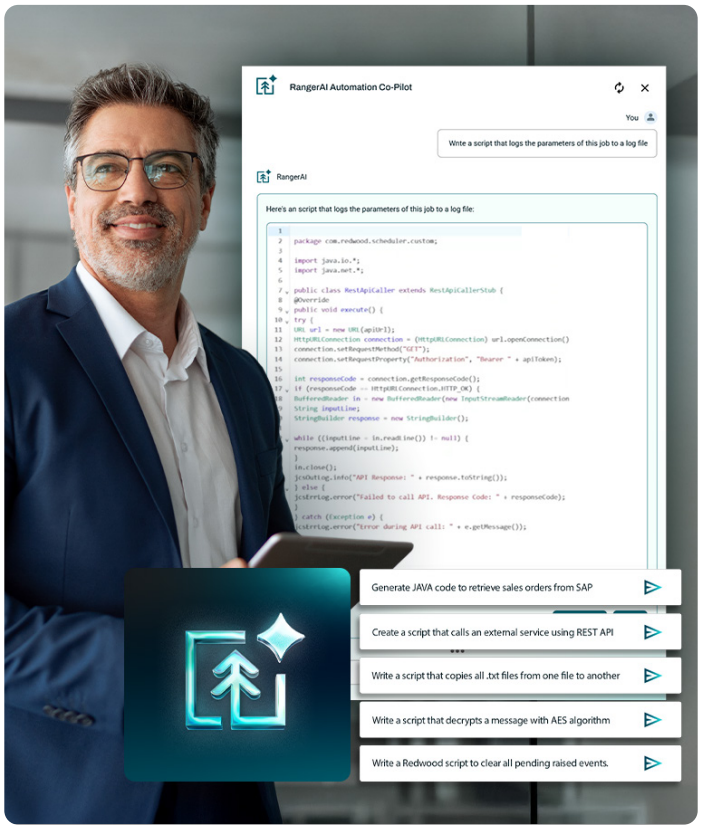
   Strategy: Adopt an "augment-and-extend" philosophy instead. Select AI and orchestration platforms that integrate through APIs and open standards, so you can maximize the value of your existing ERP and automation investments as you prepare for the next generation of agentic technologies.

Redwood Software: Your partner for the autonomous era

For over three decades, Redwood has helped the world's leading enterprises orchestrate their most complex processes, from mainframe to cloud, and now to AI.

As organizations like yours prepare for more intelligent orchestration capabilities, Redwood provides the foundational automation and governance layer you need to evolve and be ready for agentic AI. Its **automation fabric solutions** will unify, secure and scale intelligent automation across business and IT, enabling you to:

- **Govern decentralized AI ecosystems** within a secure orchestration framework
- **Integrate SAP, Oracle and cloud systems** without custom code or disruption
- **Measure real ROI** through improved uptime, faster decision-making and reduced manual effort



The future of enterprise automation is not only faster, but also smarter, safer and orchestrated. The winners of the autonomous era will be those who can combine AI's power with governance, agility and control.

Learn more about Redwood's approach to intelligent orchestration and AI readiness

Visit the AI hub →

Sources

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