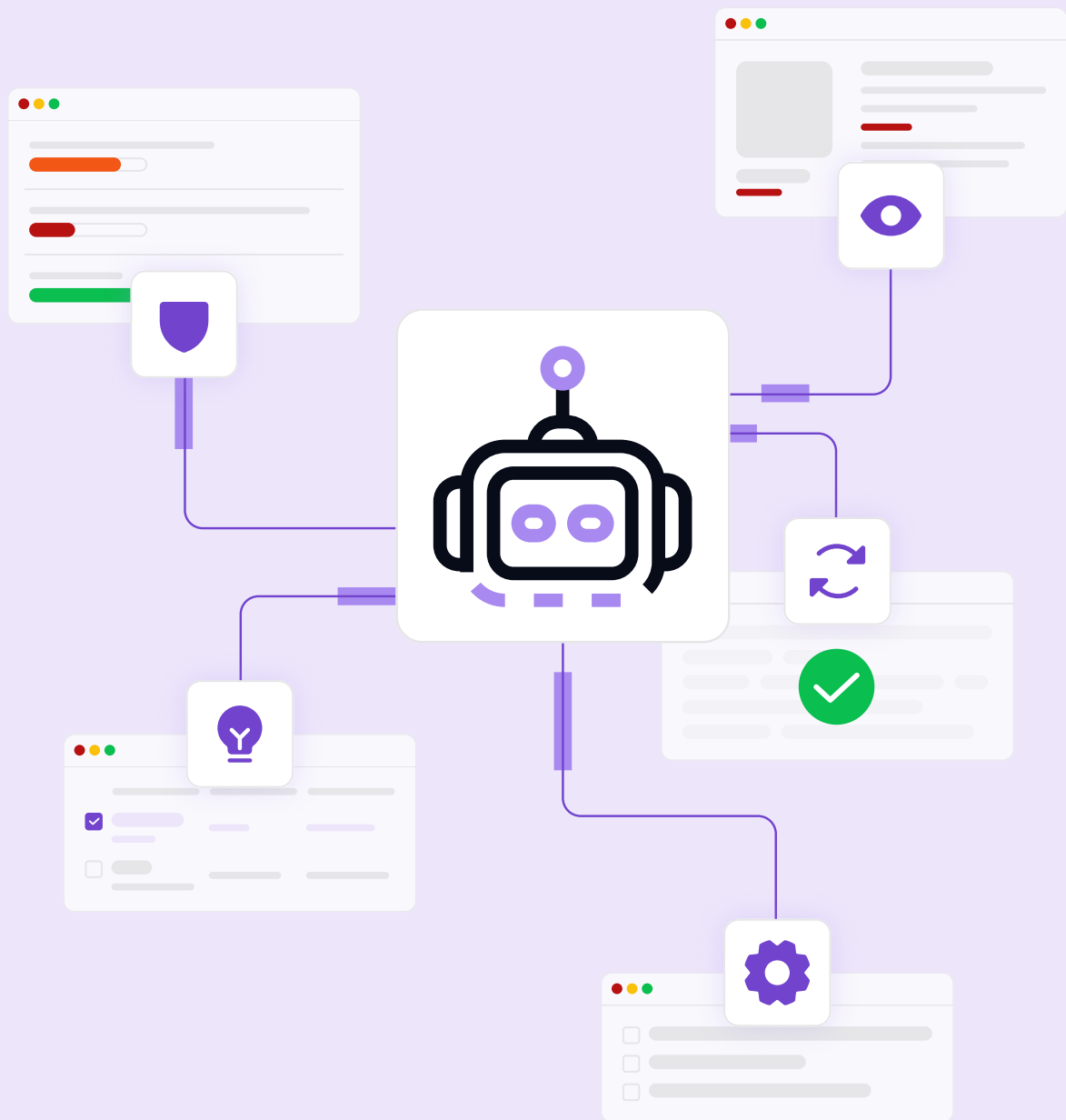




The Future Is Now

Five AI Agent Use Cases

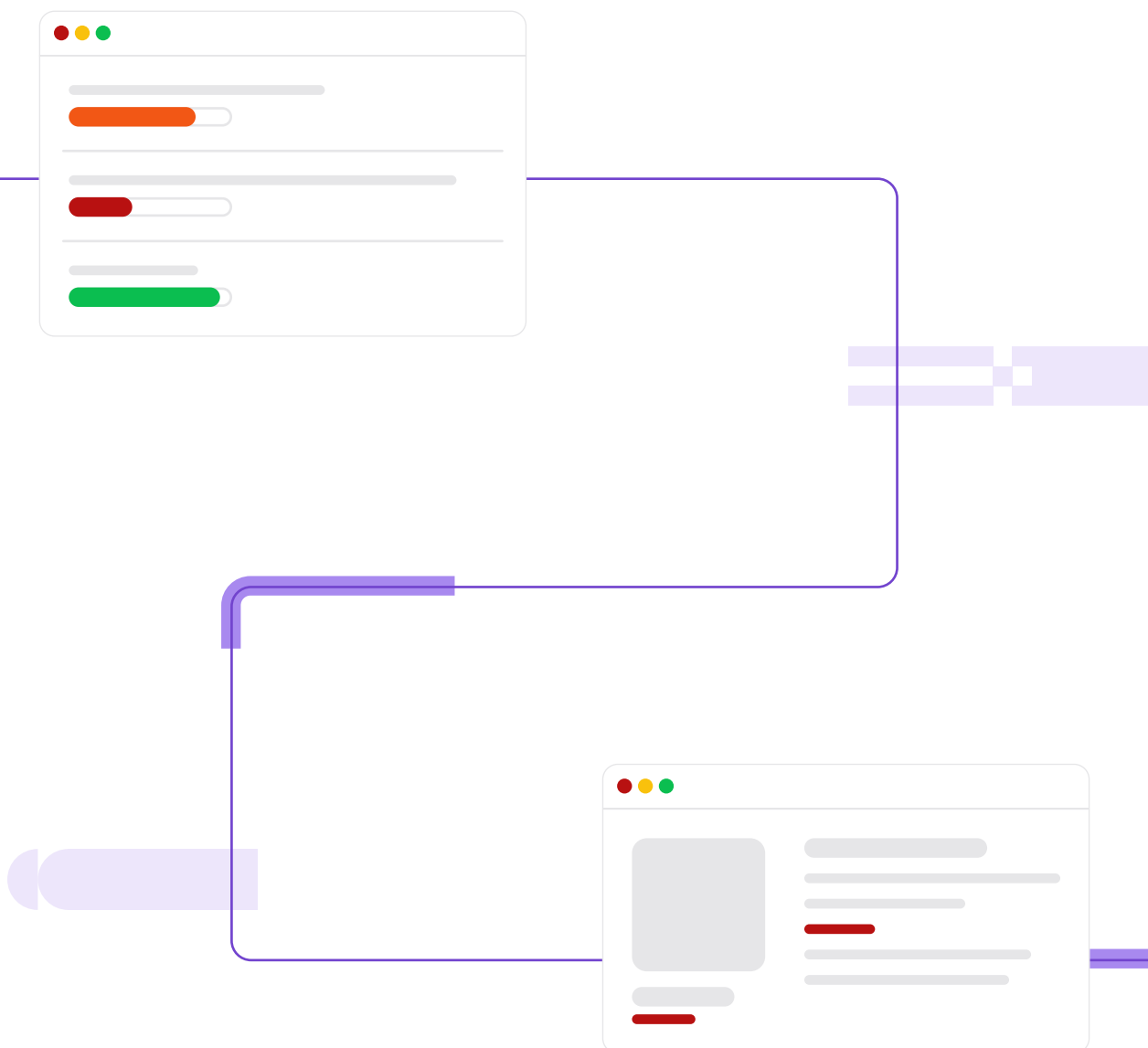
Transforming Mainframe Operations Today

Executive summary

Mainframe environments run some of the world's most critical workloads, yet many operational processes still depend on manual intervention, tribal knowledge, and lengthy approval cycles.

Recent advancements in AI Agents, Agent Skills, Routines, Commands, and Agent-to-Agent (A2A) communication are enabling organizations to automate complex operational workflows while maintaining governance and control.

This paper explores five real-world AI Agent use cases already being deployed by enterprises to reduce operational risk, improve efficiency, and accelerate response times across the mainframe ecosystem.



01

Self-Service Lifecycle Management

The Challenge

Many application lifecycle activities require experienced mainframe personnel to execute repetitive tasks such as:

- ▶ Provisioning environments
- ▶ Gathering operational information
- ▶ Deploying applications
- ▶ Managing development and testing workflows
- ▶ Executing batch processes

These requests often create bottlenecks and consume valuable engineering time.



The AI Agent Approach

An AI Agent can act as a self-service interface for lifecycle operations.

Using Agent Skills and predefined Commands*, users can request lifecycle actions using natural language while the AI Agent executes the approved procedures behind the scenes.

Benefits



Reduced dependency on specialized personnel



Faster execution of routine tasks



Consistent execution of operational procedures



Improved productivity across development and operations teams



*Commands is a defined shortcut to a long prompt. It is predefined by the user and can be private or be shared to all users by the admin

02

Continuous Privileged User Monitoring

The Challenge

Identifying privileged users is critical for security and compliance.

However, the definition of a privileged user often varies between organizations and frequently requires manual analysis by security teams.

In many enterprises, the process involves:

- ▶ Collecting security data
- ▶ Sending data to security analysts
- ▶ Waiting for analysis
- ▶ Receiving a report

This process can take days or even a week, creating unnecessary exposure if unauthorized privileged access exists.



The AI Agent Approach

One large banking organization implemented an AI Agent that continuously scans for privileged users every three hours.

Using Agent Skills, the organization defined its own criteria for privileged access.

A Routine automatically executes the scan and compares the results against policy definitions.

If a new privileged user is identified:

- ▶ The AI Agent immediately generates an alert
- ▶ Notifications are sent to designated managers
- ▶ Messages are delivered directly through Microsoft Teams

Benefits



Reduced security exposure window



Continuous compliance monitoring



Automated reporting



Faster remediation of unauthorized access

03

Automated IPL Execution Through ServiceNow Approval

The Challenge

Performing an IPL (Initial Program Load) often involves multiple teams and carefully coordinated steps.

Manual execution introduces risks including:

- ▶ Human error
- ▶ Missed procedural steps
- ▶ Communication gaps
- ▶ Delays in execution



The AI Agent Approach

Organizations are leveraging AI Agents with Agent-to-Agent (A2A) integration between Geniez AI Framework and ServiceNow.

The workflow operates as follows:

- ▶ A ServiceNow ticket requests an IPL.
- ▶ The AI Agent monitors ticket status.
- ▶ Once approval is granted, the AI Agent validates prerequisites.
- ▶ A notification is posted to the appropriate Microsoft Teams channel.
- ▶ The AI Agent executes the IPL process.
- ▶ Supporting activities such as GDPS procedures are automatically initiated.

Agent Skills define the exact operational workflow, ensuring consistency and governance.

Benefits



Reduced operational risk



Standardized IPL execution



Improved communication



Faster change implementation



Elimination of procedural drift



04

Proactive Health Monitoring and Automated Troubleshooting

The Challenge

Many organizations still rely on operators to identify issues after symptoms become visible.

This reactive model increases Mean Time to Resolution (MTTR) and often allows small problems to grow into larger incidents.



The AI Agent Approach

A Routine executes every 30 minutes and performs a comprehensive health assessment across the environment.

The AI Agent evaluates:

- ▶ System health indicators
- ▶ Resource utilization
- ▶ Performance anomalies
- ▶ Operational thresholds
- ▶ Customer-defined metrics

When abnormalities are detected:

- ▶ A secondary AI Agent is automatically triggered.
- ▶ The troubleshooting agent investigates the issue.
- ▶ Findings and recommended actions are generated.
- ▶ Relevant personnel receive notifications.

Some organizations leverage multiple LLMs in the workflow:

- ▶ One model performs data collection and analysis.
- ▶ Another model validates results and determines whether intervention is required.

This architecture optimizes both cost and effectiveness.

Benefits



Reduced MTTR



Earlier issue
detection



Automated
root-cause
investigation



Improved
operational
resilience



Reduced
operational
workload

05

Intelligent Asset Discovery and Change Detection

The Challenge

Mainframe environments are constantly evolving.

Changes to software, configurations, datasets, applications, or infrastructure can introduce risk if not detected promptly.

Traditional asset discovery often produces static reports that are rarely analyzed in detail.



The AI Agent Approach

Organizations are implementing automated asset discovery routines that execute daily.

The AI Agent:

- ▶ Performs a complete asset discovery scan.
- ▶ Compares the results against the previous day's inventory.
- ▶ Identifies additions, removals, and modifications.
- ▶ Highlights significant changes.
- ▶ Generates notifications and reports for review.

Using Agent Skills, organizations can customize which changes should trigger alerts and which changes can be ignored.

Benefits



Improved visibility into environment changes



Faster identification of unexpected modifications



Enhanced governance and compliance



Reduced manual review effort



Conclusion:

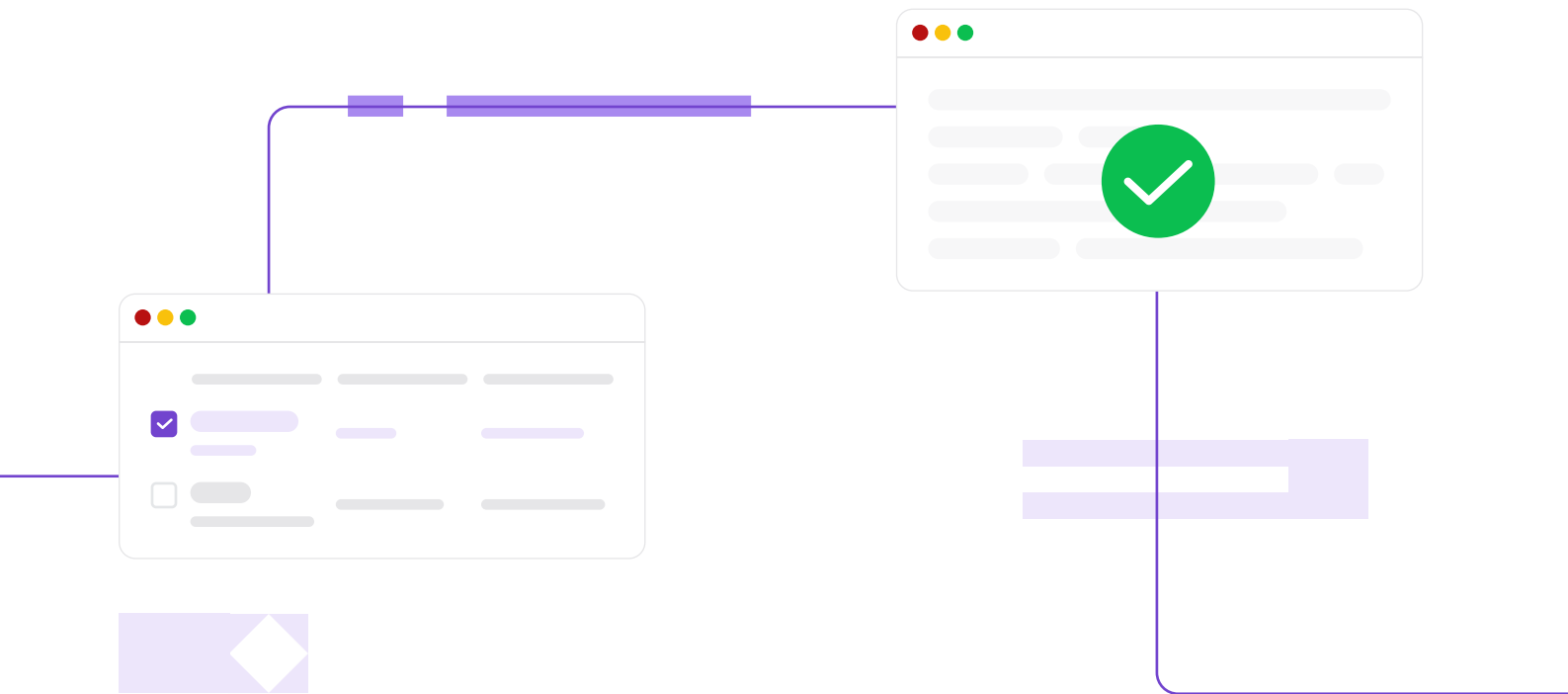
The Rise of Autonomous Mainframe Operations

AI on the mainframe is rapidly evolving beyond chat interfaces and productivity assistants.

Organizations are now deploying AI Agents that can monitor environments, execute operational workflows, enforce security policies, coordinate across enterprise platforms, and proactively identify issues before they impact the business.

By combining Agent Skills, Routines, Commands, and Agent-to-Agent communication, enterprises can move toward a future of autonomous mainframe operations, where repetitive tasks are automated, response times are measured in minutes instead of days, and operational teams can focus on higher-value initiatives.

The future is no longer a vision. It is already happening today.



Let's Talk Automation

To learn more about how Geniez AI can help automate mainframe professionals' day-to-day work contact: **contact@geniez.ai**

