

# What If Your Mainframe Could Run Itself?

## Building the Autonomous Mainframe Data Center

Actionable Intelligence for Mission-Critical Mainframe Ecosystems

Salon 20  
**Track - Operations Management**

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# From 24/7 Babysitting to Self-Driving Infrastructure



Cars adapt  
automatically



Phones optimize  
themselves



Cloud auto-  
scales

**But mission-critical systems?  
They still page humans at 2 AM.**

# The Operational Reality

Most Teams Live In



Alert fatigue



Manual playbooks



Shrinking expertise



Increasing compliance pressure



*The system is stable — but the people are stretched.  
That model doesn't break dramatically. It degrades slowly.*

# The Question That Changes Everything

What if the Mainframe Could:

- Provision itself
- Secure itself
- Tune itself
- Heal itself

# Autonomy Is Not Replacement — It's Amplification

*Why the Traditional Model Is Breaking Down*

## **Autonomy Removes:**

- Repetitive triage
- Cognitive load
- Firefighting fatigue

## **Autonomy Elevates:**

- Strategic decision roles
- Architecture optimization
- Risk modeling

**The mainframe becomes stronger. The workforce becomes strategic.**

# Why Autonomy Is Needed Now

*Why the Traditional Model Is Breaking Down*



## Scale

Transaction volumes exploding



## Threats

Security events move faster than humans



## Skill

Expertise retiring faster than replaced



## Complexity

Hybrid architectures multiply failure paths

***This is not about innovation curiosity. It's operational survival.***

# A Critical Mindset Shift

## Automation

- Executes predefined steps
- Reacts to known triggers
- Script-driven

## Autonomy

- Observes patterns
- Learns from outcomes
- Adapts policy
- Anticipates anomalies

*Automation reduces effort. Autonomy reduces uncertainty.*

# The Foundation Is Already in Place

**AIOps & Predictive  
Analytics**

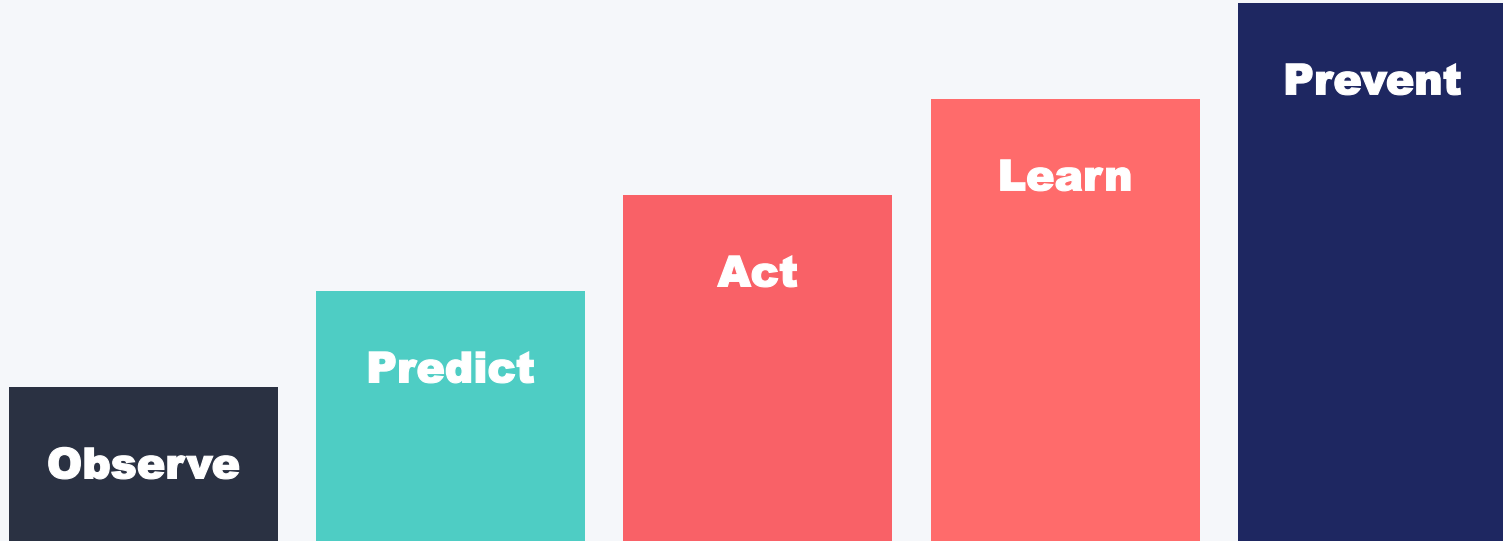
**Closed-Loop  
Orchestration**

**Zero-Trust  
Security**

**Adaptive Performance  
Tuning**

*Autonomy isn't futuristic. It's architectural.*

# Autonomy Is Built — Not Switched On



*Incremental. Measured. Controlled.*

# Stage 1 Observe



## FOUNDATION

Logs

SMF

Telemetry

Workload Behavior

*Without observability, autonomy is impossible.*

**"Before a system can run itself,  
it must first understand itself."**

# Stage 2 Predict

- Predict workload spikes before SLAs are missed
- Forecast capacity needs before expansion needed
- Identify risk signals before security becomes an incident
- Detect early warning signals cache misses, queue lengths, etc.

*Better to avoid the fire than to put it out.*

**When you predict before you react:  
Downtime drops. Resilience increases. Firefighting disappears.**

# Stage 3 Act

*Autonomy acts when delay costs more than action.*

## Policy-Bound Actions

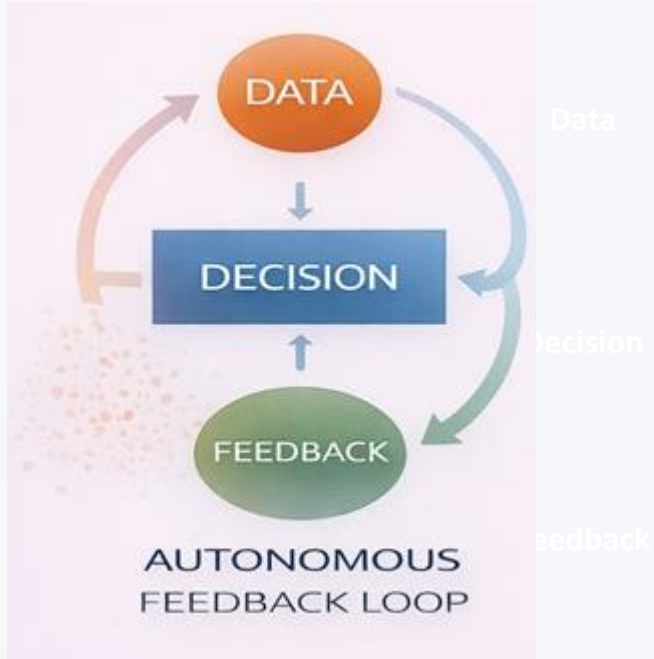
- Auto-restart sequences
- Auto-scale partitions
- Auto-reassign resources
- Auto-quarantine threats

## Human-Defined Guardrails

- Policy constraints
- Approval thresholds
- Rollback triggers
- Audit trails

**Humans define policy. Systems execute within constraints.**

# Stage 4 Learn



- **Learn from systems behavior**
- **Adapt and refine policies**
- **Self-optimize over time**

*Systems that learn stop repeating the same incident patterns.*

# Stage 5 Prevent

## Intelligent Resilience

- Monitor patterns
- Identify anomalies
- Interrupt incidents

From reactive ticket → To resilient deterrence

*System protection becomes proactive*

# The Workforce Evolves — Not Disappears

Autonomy modernizes roles

**Fewer  
repetitive  
tasks**

**More  
strategic  
roles**

**Higher  
workforce  
value**

Former operators become: More architects, more strategists, more leaders.

# Key Takeaways



**Autonomy is incremental and achievable, a strategic advantage**



**Built on existing capabilities — not science fiction**



**Elevates workforce from reactive to strategic**



**Delay compounds risk; start today**

# Your feedback is important!

Submit a session evaluation for each session you attend:

[www.share.org/evaluation](http://www.share.org/evaluation)

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