H. MICHAEL SMITH, JR. / PORTFOLIO CASE STUDY

# BUSINESS AUTOMATION

## From operational work to reusable business capability

Connect systems. Reduce friction. Create decision-ready intelligence.

A generalized case study in systems integration, automation and operational intelligence.

SELECTED WORK · 2026

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*Representative examples and architectures are generalized to protect employer and client information while preserving the actual engineering patterns, responsibilities and lessons.*

01 / CASE STUDY OVERVIEW

# Turn recurring work into durable capability

The work began with ordinary operational assignments, not a platform strategy.

The recurring problem was familiar: important information lived in separate authoritative systems, operators rebuilt the same evidence repeatedly, and technical, business and customer audiences needed different views of the same underlying reality.

The response was to connect rather than replace: read from source systems, preserve provenance and ownership, automate repeatable work where the value justified it, correlate evidence across boundaries, and present the result at the level each audience needed.

### CONNECT

Integrate systems and workflows that were designed to operate independently.

### AUTOMATE

Turn repeatable checks, handoffs and operator lessons into reliable reusable capability.

### INFORM

Correlate evidence into role-specific operational, business and customer intelligence.

### PRESERVE AUTHORITY

Source systems remain authoritative. Integration should not quietly create a competing system of record.

### DESIGN FOR USE

The same underlying evidence can support a technical operator, an executive and a customer without forcing one interface onto all three.

### START WITH REAL WORK

Useful automation begins with an actual problem already in front of the business, not with a search for somewhere to apply a tool.

### KEEP WHAT WORKS

When a solution proves useful, preserve the pattern as documented, maintainable capability rather than one-time heroics.

02 / OPERATING MODEL

# Deliver. Enable. Assure.

A federated model: central capability without absorbing the work of every technical or business domain.

### DELIVER

Build cross-functional automation where centralized delivery creates clear value. Connect systems, create shared services and build decision-ready views.

### ENABLE

Help technical and business teams identify opportunities, reuse patterns, integrate data and improve automation inside their own domains.

### ASSURE

Maintain expectations for architecture, security, ownership, maintainability, observability and continuity; expose material gaps when needed.

## WHAT THIS MODEL IS NOT

### NOT PROJECT MANAGEMENT

It does not become a process layer between leaders and the teams that already own delivery.

### NOT A CENTRAL DEV TEAM

It does not absorb product development or replace domain-specific engineering methods.

### NOT A NEW SOURCE OF TRUTH

Authoritative systems remain authoritative; the capability connects, correlates and acts around them.

### NOT OWNERSHIP OF EVERY AUTOMATION

Technical and business domains retain responsibility for appropriate automation within their own boundaries.

**The durable accountability is broader: understand the automation posture, improve it, and make important gaps visible.**

03 / EVOLUTION

# From task to intelligence

The strongest automation often emerges by preserving the useful parts of work that already had to be done.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **TASK** | **SCRIPT** | **TOOL** | **PLATFORM** | **INTELLIGENCE** |
| A real assignment | Faster repeatable execution | Reusable operator capability | Shared services and evidence | Cross-system context for decisions |

A one-time solution becomes more valuable when the learning survives the task. Scripts can become tools; tools can become shared services; recurring evidence can become monitoring; and several independent capabilities can become a coherent information layer.

**READ**

Collect operational, project and business evidence from existing systems without forcing teams to abandon the tools that own the data.

**CORRELATE**

Connect infrastructure, security, project and service context so cross-functional questions can be answered quickly.

**ACT**

Automate checks, handoffs and recurring operator tasks where risk, authority and value justify it.

**PRESENT**

Create role-specific views for operators, leaders, business functions and customer audiences.

**Pattern: solve the immediate problem in a way that can become reusable capability when the evidence supports it.**

04 / REPRESENTATIVE EXAMPLES

# Solve the issue. Keep the capability.

The details are generalized; the operating pattern is not.

| | | |
|---|---|---|
| PROJECT + OPERATIONS | **Deployment-state correlation**<br>Project milestones and live technical state were correlated so operational status could follow real deployment progress while authoritative project ownership remained intact. | DURABLE VALUE<br>Fewer stale handoffs, faster shared understanding and a reusable event-driven operating pattern. |
| OPERATIONAL EVIDENCE | **Cross-system log search**<br>A troubleshooting need became a reusable way to search live application and infrastructure evidence across systems and time windows. | DURABLE VALUE<br>Faster incident support, less manual evidence gathering and repeatable cross-team access. |
| SECURITY + SUPPORT | **Authentication visibility**<br>A recurring security/support question became persistent collection and reporting that could connect network, identity and support evidence. | DURABLE VALUE<br>Shared evidence, faster triage and reusable monitoring rather than repeated one-time investigation. |

**The point is not the specific tool. The point is the repeated ability to move from a real operational need to a maintainable technical capability and an understandable business outcome.**

05 / BUSINESS LENSES

# Different audiences. Preserved ownership.

Cross-functional automation should adapt information and services to the audience without taking over the domain.

| DOMAIN | AUTOMATION CAN PROVIDE | DOMAIN RETAINS |
|---|---|---|
| **IT OPERATIONS** | Cross-system operational evidence; infrastructure automation; reliability and security workflows; shared platform services. | Owns infrastructure decisions and domain automation. |
| **PRODUCT / ENGINEERING** | Application and dependency intelligence; operational integrations; reusable services; shared production evidence. | Owns product architecture, software delivery and development methods. |
| **BUSINESS OPERATIONS** | Workflow discovery; integration; reporting; audience-specific interfaces; repeatable process automation. | Owns business rules, priorities and outcomes. |
| **EXECUTIVE LEADERSHIP** | Decision-ready views across health, delivery, exceptions, trends and areas requiring attention. | Retains business decisions; the capability improves the information environment. |
| **CUSTOMER / CLIENT** | Role-appropriate service, project and operational views assembled from managed systems and customer context. | Retains business ownership; technology provider retains service responsibility. |

**The same architecture can support several business lenses because the source evidence stays separate from the way it is presented.**

06 / BUSINESS VALUE

# What changes when the capability exists

The value is not another portal. It is the operating leverage created around the business.

**LESS MANUAL FRICTION**

Reduce repetitive steps, duplicate evidence gathering and avoidable handoffs.

**FASTER SHARED UNDERSTANDING**

Correlate evidence across systems so teams and leaders spend less time reconstructing the same situation.

**MORE RELIABLE EXECUTION**

Convert recurring work into documented, testable, reusable services rather than memory-dependent procedures.

**BETTER DECISION CONTEXT**

Create role-specific intelligence from connected operational, project and business evidence.

**AUTOMATION GOVERNANCE**

Define expectations, expose gaps, document exceptions and improve continuity across domains.

**REUSABLE CAPABILITY**

Abstract proven patterns so similar problems can be solved faster without forcing every problem into the same platform.

**MEASUREMENT PRINCIPLE**

Manual steps removed · time to evidence · reporting effort · operational reliability · automation throughput · recurring use · stakeholder requests · documented exceptions · reuse

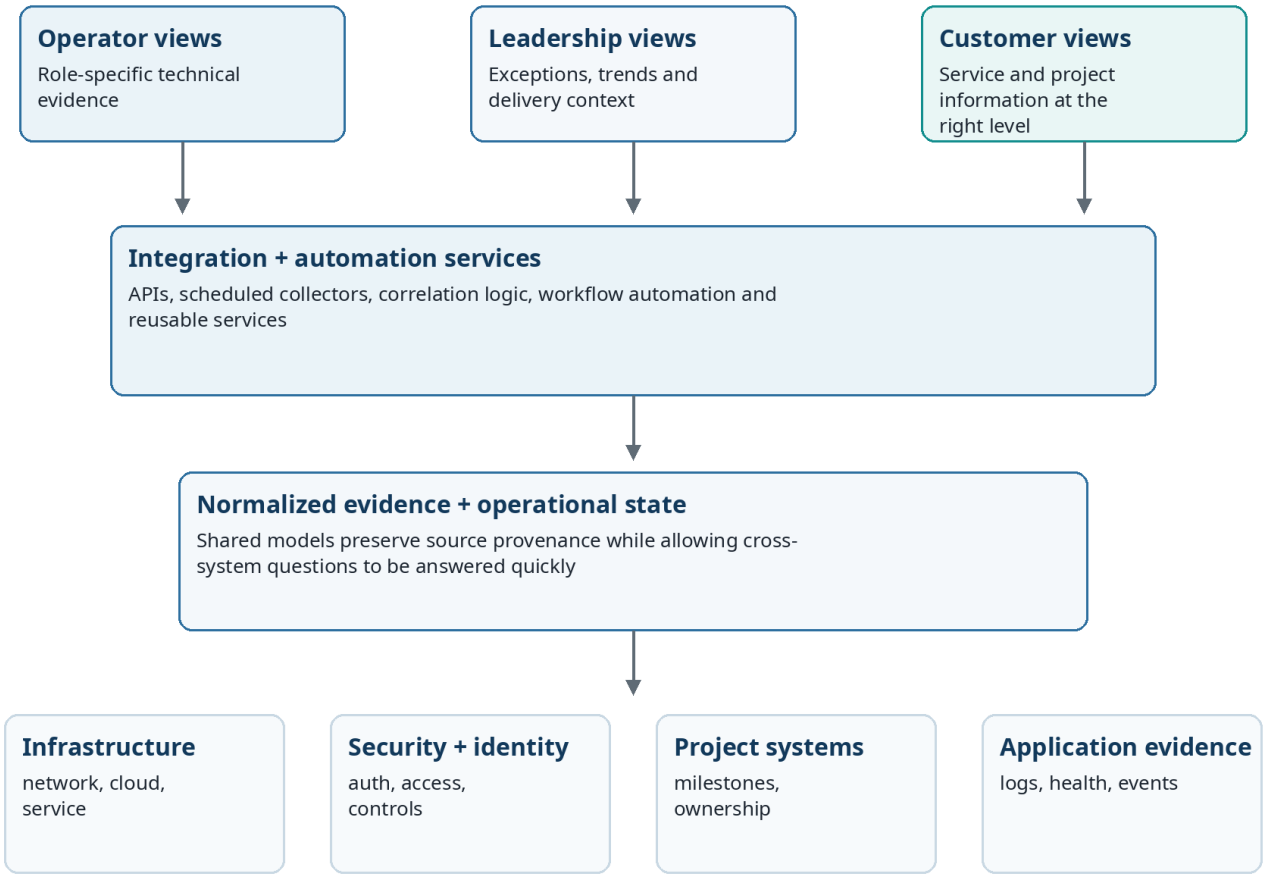
**The strongest business case is built from observed outcomes, recurring use and demonstrated demand - not speculative ROI.**

07 / REFERENCE ARCHITECTURE

# Integrate around authoritative systems

A generalized pattern for connecting operational, project, security and business evidence without replacing the systems that own it.

## GENERALIZED REFERENCE ARCHITECTURE




Cross-cutting controls: security · observability · source control · documentation · recovery · ownership

### SOURCE PROVENANCE

Every normalized fact should retain enough source context to trace where it came from and how current it is.

### ROLE-SPECIFIC PRESENTATION

One evidence layer can support different views without requiring separate data pipelines for every audience.

### CONTROLLED AUTOMATION

Act only where authority, risk and rollback are understood; observation and correlation can often remain read-only.

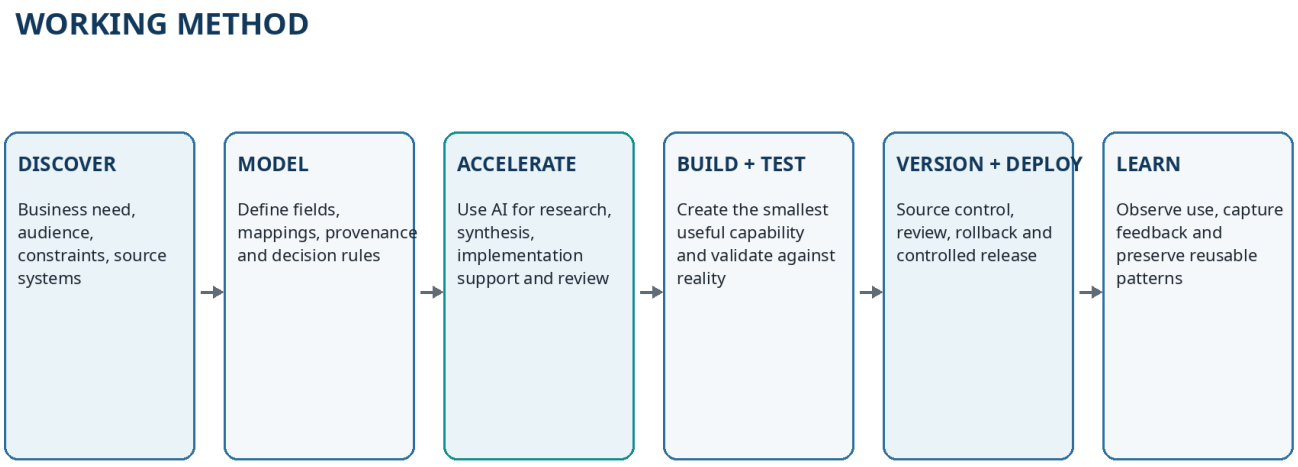
### CROSS-CUTTING CONTROLS

Security, observability, ownership, source control, documentation and recovery are part of the architecture, not cleanup tasks.

08 / WORKING METHOD

# A controlled human + AI engineering workflow

AI is useful as a force multiplier when the data model, source ownership, validation and accountability remain explicit.




Principle: AI accelerates a controlled engineering process; it does not redefine source-of-truth systems, business rules or accountability.

The practical advantage is speed without surrendering structure. Human-defined requirements and mappings constrain the problem; AI accelerates research, synthesis, coding support and review; source control and testing preserve traceability; real-world use closes the loop.

**The method is transferable because the useful asset is not a particular model or tool. It is the disciplined workflow around them.**

09 / DURABILITY

# Capability should outgrow its original creator

A useful system is not durable if only one person can understand, operate or recover it.

**ARCHITECTURE**

Document components, boundaries, dependencies, data flows and operational assumptions.

**SOURCE CONTROL**

Version code and configuration; preserve change history and make rollback practical.

**RECOVERY**

Document deployment, restart, restoration and dependency recovery paths; test them before they are needed.

**TESTING**

Use targeted automated and manual checks to protect the capabilities that matter most.

**SECURITY**

Define access, trust boundaries, secrets handling, source-system permissions and review expectations.

**OBSERVABILITY**

Expose service health, collector state, dependencies and failures so problems can be diagnosed without archaeology.

**OWNERSHIP**

Make operational responsibility explicit and ensure another qualified person can take over normal administration.

**TRANSFERABILITY**

Write for the next engineer, not merely for the current builder; preserve context as well as procedure.

**Durability is a technical requirement and a business requirement: recurring capability should survive role changes, organizational changes and the absence of its original builder.**

10 / WHAT THIS DEMONSTRATES

# Technical depth translated into business outcomes

The case study is ultimately less about automation than about how a technical problem is understood, shaped and communicated.

**DISCOVERY**

Start with the real operational or business need, identify stakeholders, constraints and authoritative systems, and distinguish symptoms from the underlying problem.

**SOLUTION ARCHITECTURE**

Design across infrastructure, applications, identity, data and workflow boundaries while preserving ownership and operational reality.

**INTEGRATION**

Connect existing systems and evidence rather than assuming a greenfield environment or demanding replacement of working tools.

**AUTOMATION**

Use code and orchestration pragmatically to reduce repetitive work and preserve reliable patterns.

**TECHNICAL COMMUNICATION**

Present the same technical reality differently for operators, leaders, business teams and customers without distorting it.

**BUSINESS TRANSLATION**

Connect technical capability to time, reliability, decision quality, continuity, reuse and customer value.

**EXECUTION**

Move from concept to working capability, then harden the parts that earn recurring use.

**CONTINUITY**

Treat documentation, security, testing, recovery and transferability as part of delivery rather than post-project cleanup.

**This combination - discovery, architecture, hands-on implementation and audience-aware explanation - is the through-line across my infrastructure, automation and customer-facing work.**

11 / PROFESSIONAL PROFILE

# H. Michael Smith, Jr.

Infrastructure · Solutions Architecture · Automation · Customer-facing technical work

My career has repeatedly converged on the boundary between complex technical systems and the people who need them to produce useful outcomes: engineering and operations, architecture and automation, customer-facing solution design, technical leadership and executive communication.

**OPERATIONS + ARCHITECTURE**

Senior, lead and staff engineering across enterprise networks, security, data centers, cloud, WAN, load balancing and service delivery.

**LEADERSHIP + MANAGEMENT**

Engineering management, technical leadership, operational escalation, delivery responsibility and executive communication.

**AUTOMATION PLATFORM EXPERIENCE**

Enterprise automation platform architecture plus end-to-end design of operational integration and intelligence capabilities.

**SOLUTIONS + CUSTOMER CONTEXT**

Professional services, solutions architecture, sales engineering, product collaboration and customer-facing technical design.

## SELECTED CAREER PATTERN

| | |
|---|---|
| **1995-2004** | Network and systems engineering and management; enterprise and higher-education environments. |
| **2005-2013** | Solutions, network and development architecture; engineering management; customer-facing technical roles. |
| **2013-2019** | Automation Platform Architect / Technical Solutions Consultant IV at HPE; Staff Network Operations Engineer at GE Digital. |
| **2019-2025** | Senior and lead network engineering in software and utility environments. |
| **2025-NOW** | Network engineering plus cross-functional automation, systems integration and operational intelligence. |

Portfolio and additional professional background: **securitysmithrpc.com**

**Solve the issue.**
**Keep the capability.**

**H. MICHAEL SMITH, JR.**

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