Making SAM Tools Work:

Insights from IT Support

Mark S. Feinman
Senior ITAM Specialist
The SIE Group

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Agenda

About Me

Our Views of IT are Vastly Different

How SAM Tools Work

Skills and Tools for Effective Support

Maintenance Cycle & Best Practices

Why Maintenance Isn't Enough

Optimization & Collaboration

Key Takeaways

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About Mark

- Senior ITAM Specialist
- Over 15 years experience with ITAM tools & technologies
- Focus on installation, configuration, administration, monitoring, & programming
- Volleyball, bicycling, trains, & pinball
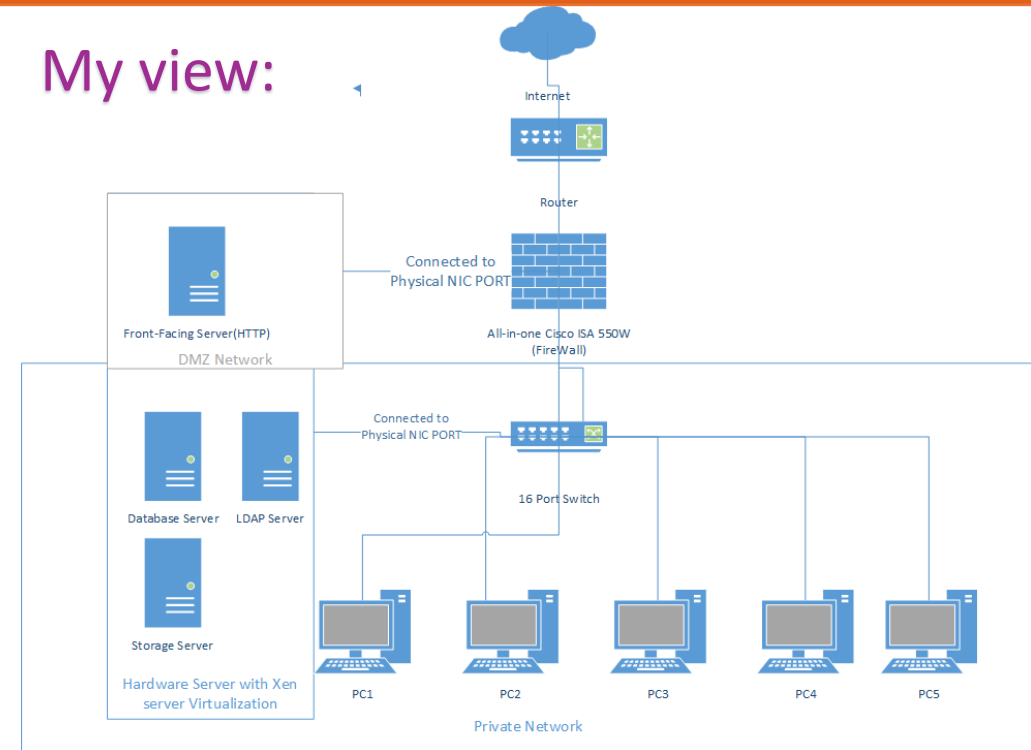- 1980s R&B is top billing!

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Our Views of IT are Vastly Different

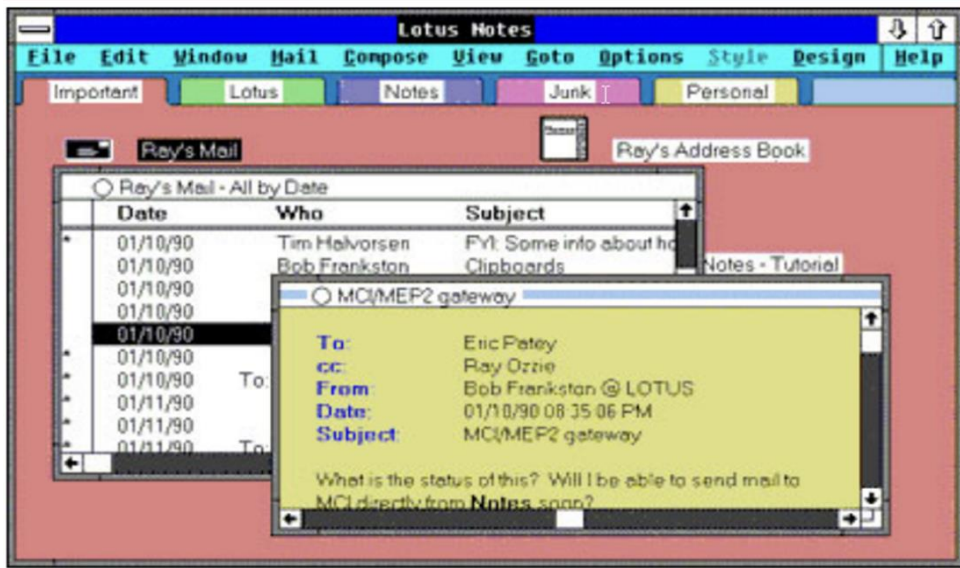## Different perspectives, same goal—making IT work.
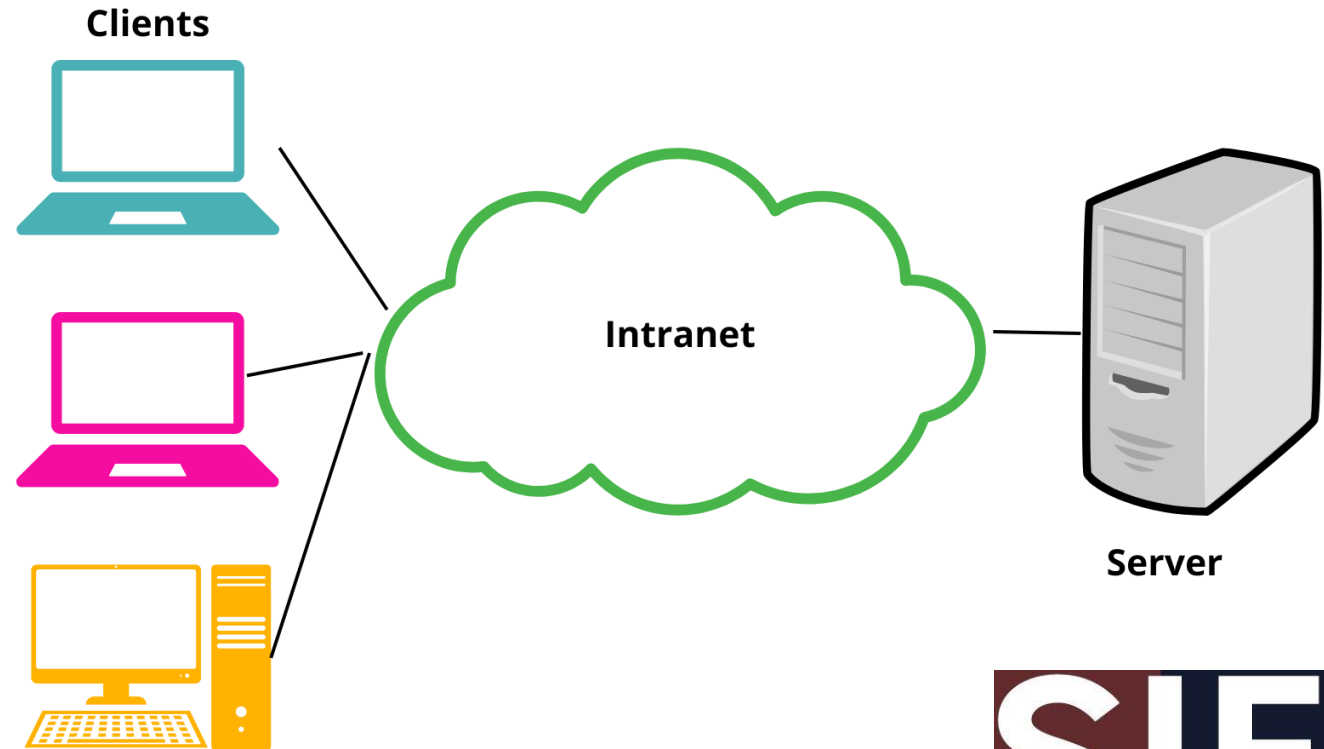
Your view:

My view:

Back to the Future

Your view of the IT World in the '80s:

My view of Lotus Notes 1.0 in 1989:

Clients

Intranet

Server

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IT Was Easier in the '80s

One Server, One Job
- A single server handled everything, including client connections.

Simple Maintenance
- Less infrastructure to manage = lower costs.

Fewer Skills Needed
- IT teams required a smaller skillset to provide support.
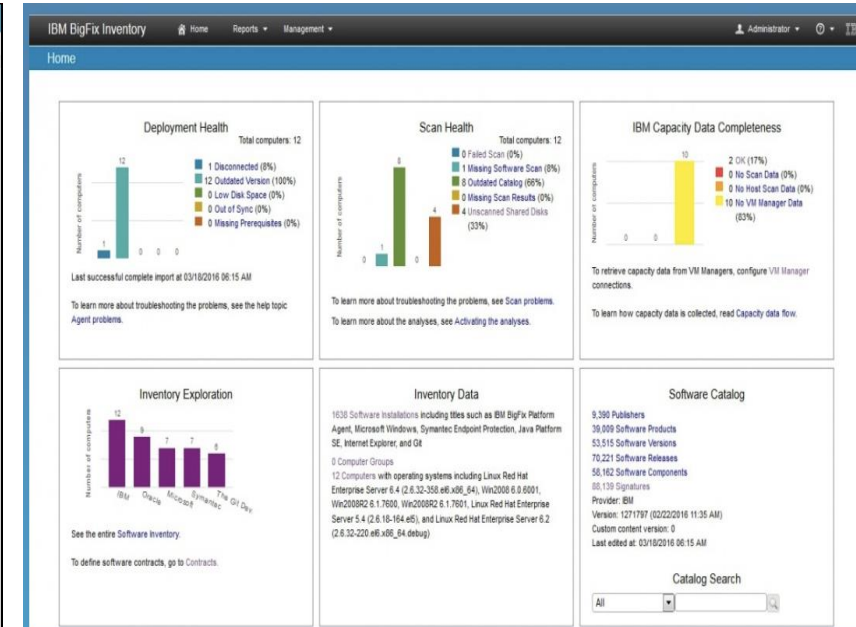
Licensing Was Simpler
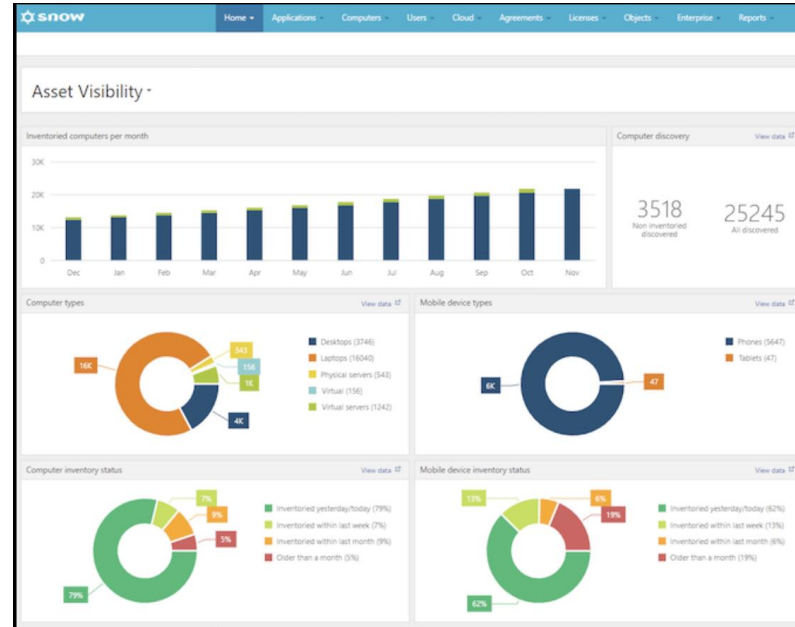- No complex agreements or multi-layered compliance rules.

Scalability Was a Challenge
- Expanding systems was difficult compared to today.
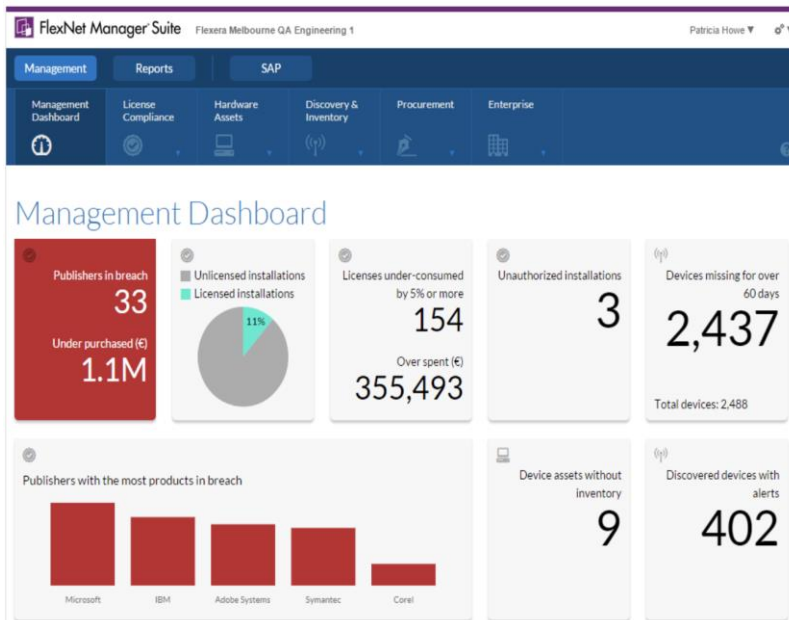
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Examples of My View Today

Typical BigFix Architecture

From Bigfix Platform 11 documentation
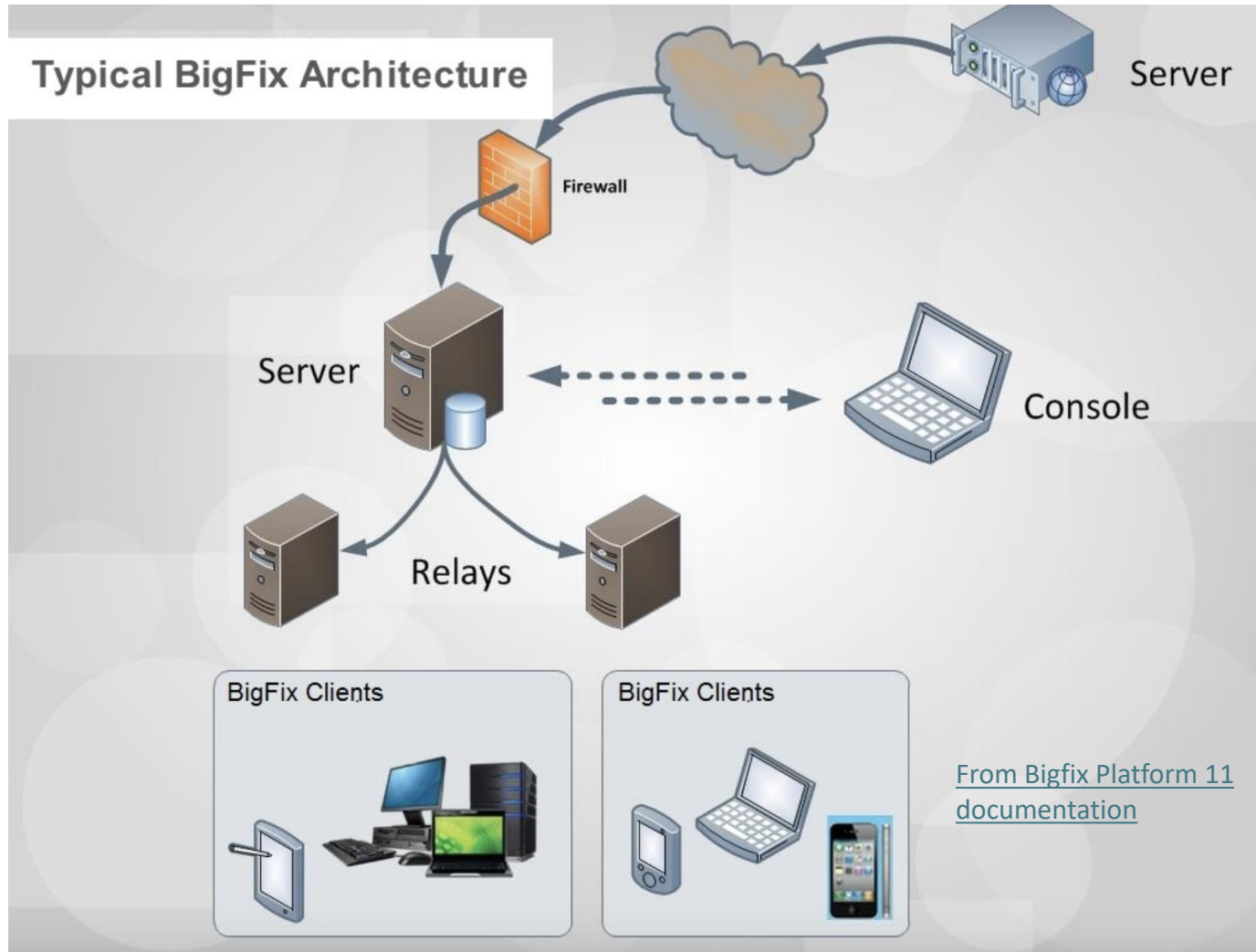
Examples of My View Today

Snow Inventory Server

Example: Enterprise platform
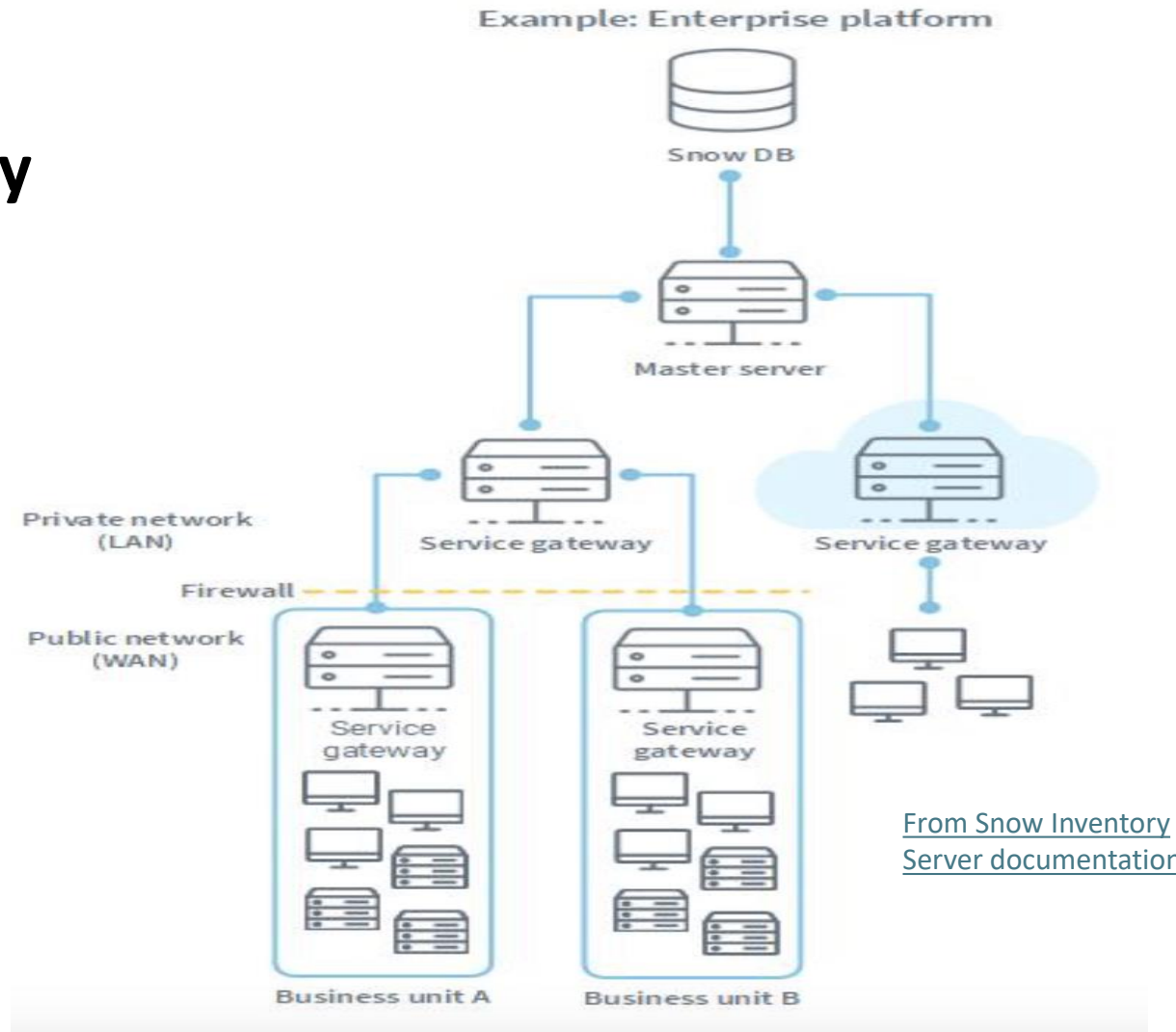
From Snow Inventory Server documentation
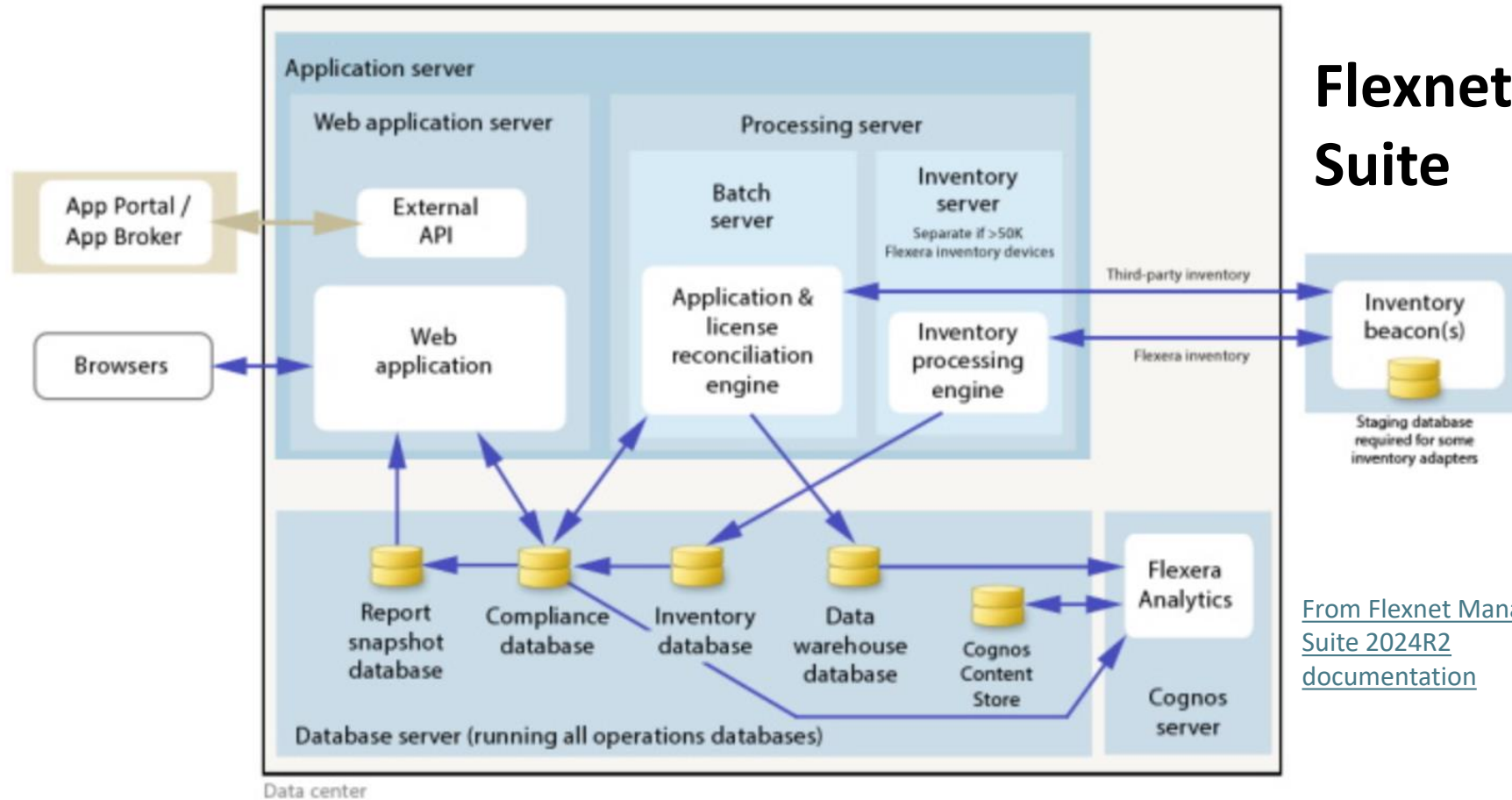
Flexnet Manager Suite

From Flexnet Manager Suite 2024R2 documentation

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IT in 2025: More Complex Than Ever

Many Servers, Many Roles	Higher Maintenance & Costs	Specialized Skills Required	Licensing is Complicated	Scalability is Easier
• Different servers handle UI, database management, inventory, and data imports.	• More infrastructure = increased costs and support needs.	• IT teams need expertise across multiple systems and tools.	• Many metrics, stricter compliance, and evolving ITAM standards.	• Modern infrastructure supports growth more efficiently.

How SAM Tools Work - The Big Picture
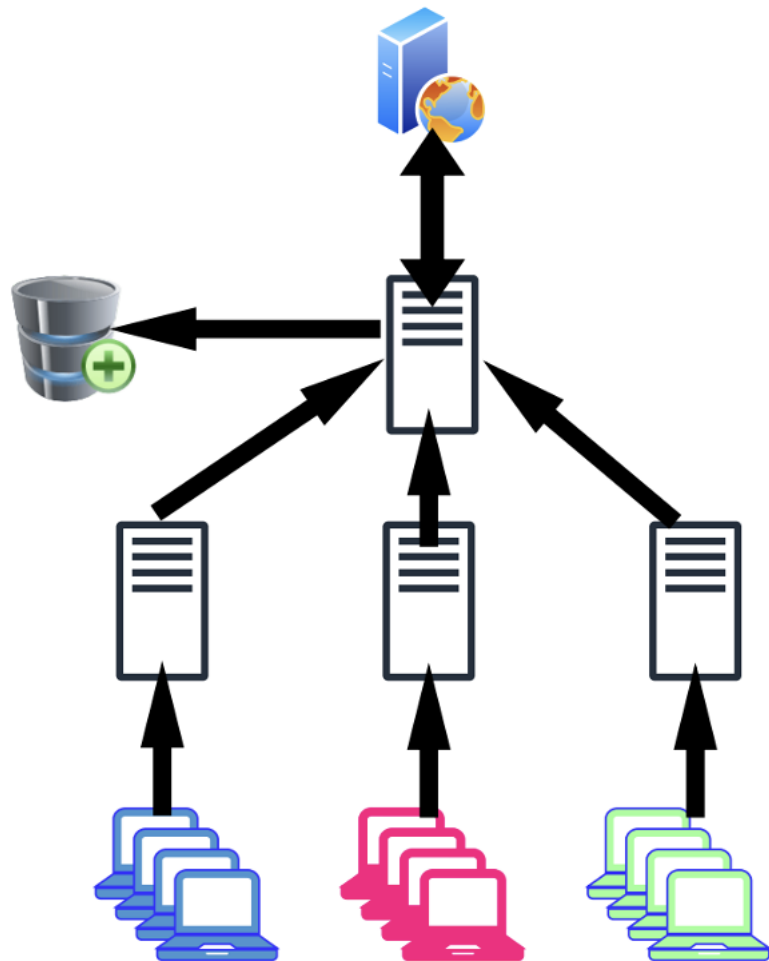
Results Access

- Compliance results are displayed in a web-based interface

Compliance Evaluation

- An automated process compares entitlements with collected data to determine licensing compliance

Centralized Data Processing

- Collection servers forward the inventory data to a central server

Data Transmission

- Collected inventory is transmitted to designated collection servers

Software Inventory Collection

- Devices gather software inventory at scheduled intervals

How SAM Tools Work – Tool Naming

Browsers
- Results Access
- Compliance results are displayed in a web-based interface

BigFix Inventory, Flexnet Manager Suite, Snow Inventory Server
- Centralized Data Processing Compliance Evaluation

BigFix Relay, Flexera Inventory Beacon, Snow Service Gateway
- Data Transmission
- Collected inventory is transmitted to designated collection servers

BigFix Client, Flexnet Inventory Agent, Snow Inventory Agent
- Software Inventory Collection
- Devices gather software at scheduled intervals

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How SAM Tools Work - The Breakdown

Software Inventory Collection

- *Devices (clients) gather software inventory at scheduled times.*

Data Transmission

- *Collected inventory is sent to designated collection servers.*

Centralized Data Processing

- *Collection servers pass inventory data to a central server.*

Compliance Evaluation

- *Automated process compares data with entitlements to assess compliance.*

Results Access

- *Licensing data is available through a web-based dashboard.*

Final Review & Adjustments

- *License analysts refine compliance data for accuracy.*

SAM tools are powerful, but they don't work without trained professionals ensuring accuracy.

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Let's Talk About Skills, Baby

Skills in the '80s

Troubleshooting & Diagnostics

- Testing, network troubleshooting
- Ethernet (1983), Token Ring (1985), SNA (Mainframe - 1974)

Operating Systems

- **PC OS:** MS-DOS (1981), Windows (1985), OS/2 (1987), AIX (1986)
- **Mainframe OS:** MVS (1974), VM/370 (1972), AS/400 (1988)

Programming & Scripting

- **Mainframe languages:** REXX, CLISTs, COBOL, Fortran
- **Command-line environments:** Early scripting for automation

Limited PC-Based Software

- Fewer PC products before the late 1980s
- Mainframe access was primary

In the '80s, IT was hardware-focused—troubleshooting networks, managing mainframes, and writing scripts were essential skills.

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Skills in 2025

Operating Systems & IT Basics

- Windows, Linux, Command Line, OS of scanned devices

Technical Troubleshooting & Maintenance

- Network troubleshooting (TCP/IP), database backups, query writing (SQL)

Integration & Customization

- APIs, scripting (Python, PowerShell, Bash), automation

Soft Skills & Business Understanding

- Customer service, documentation, reporting, compliance

Now, SAM is not just a technical job—it requires IT, troubleshooting, automation, and business skills

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Essential IT Tools for Troubleshooting & Management

Network & Connection Checks	• Ping, Netstat, Tracert, Telnet / Test-NetConnection
Service & System Commands	• /etc/init.d/<service> restart, Net start / stop
Network Configuration	• Ipconfig / Ifconfig
Database & Scripting	• SQL Queries, Bash / PowerShell / Python / Batch
Log Analysis & Monitoring	• More, Less, Cat, Type, Tail • Splunk – Centralized log management

And More... *(This is not an exhaustive list!)*

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Maintenance Lifecycle
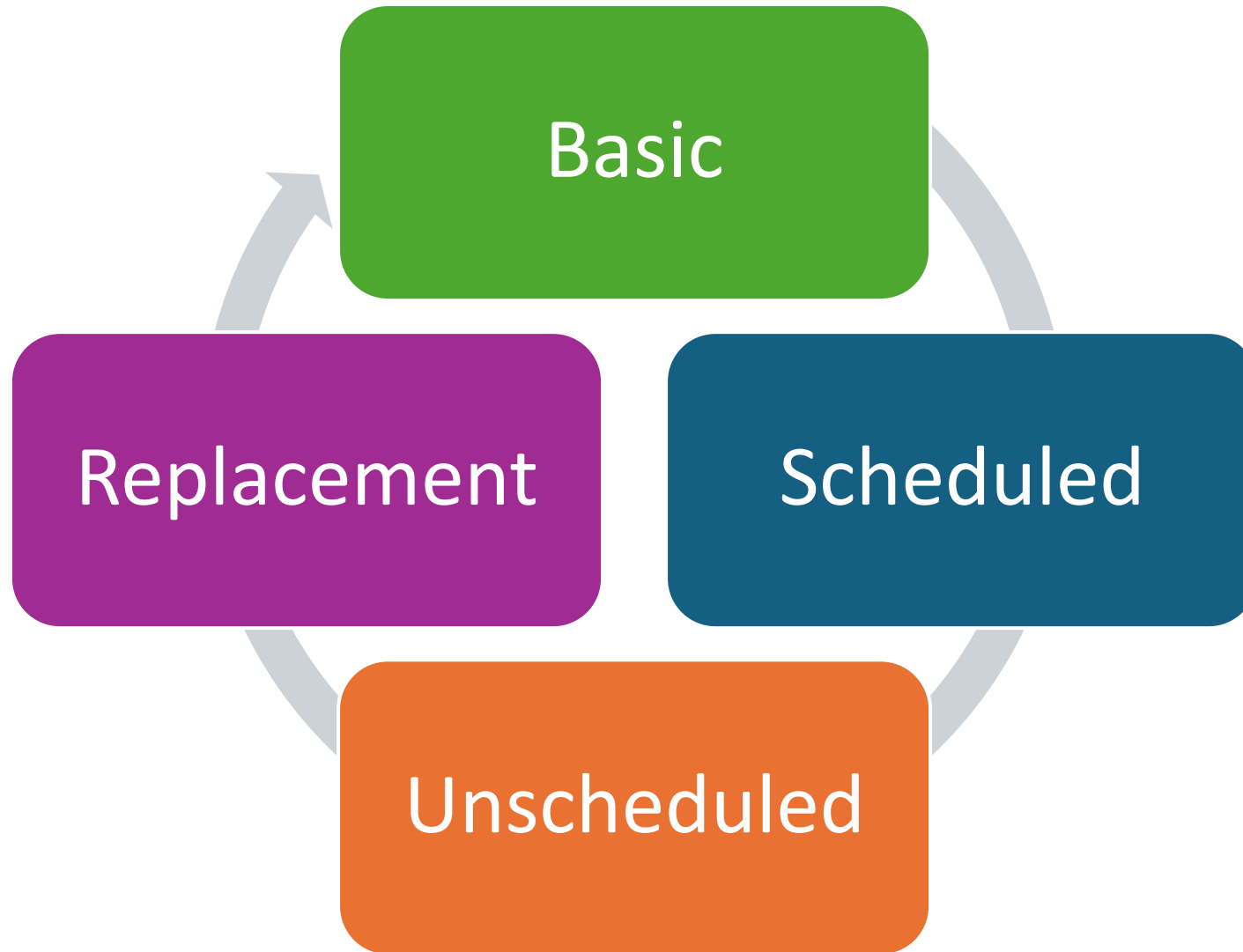
Why Basic Maintenance?

Keeps the car running!

- ☐ Oil Changes
- ☐ Tire Rotation
- ☐ Fluid Checks
- ☐ Hose Checks
- ☐ Brake Checks

Keeps the tool running!

- ☐ Check CPU
- ☐ Check Disk Space
- ☐ Check Memory
- ☐ Incremental Database Backup
- ☐ Apply Patches

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Why Scheduled Maintenance?

Replace parts before expected failure

- ☐ Transmission Services
- ☐ Brake Pads & Rotors
- ☐ Spark Plugs
- ☐ Anti-freeze Flush
- ☐ Battery

Prevent & Resolve Defects

- ☐ Application Patches
- ☐ Database Maintenance
- ☐ Full Server Backup
- ☐ Tool Version Upgrades
- ☐ OS Upgrades

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Why Unscheduled Maintenance?

Fix issues as they occur

☐ Car Stalled/Won't Start

☐ Leak (Oil, Anti-Freeze, etc.)

☐ Overheating

☐ A/C Broken

☐ Intermittent Issues

Fix issues as they occur

☐ No Agent-Server Connection

☐ Agent Stopped Running

☐ Memory Leak

☐ Application Crash

☐ Hotfixes

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Replacement

When?

- ☐ Transmission Failure
- ☐ Engine Failure
- ☐ Repair Cost Exceeds Car Value
- ☐ New Functionality Wanted
- ☐ Outgrew Current Model

When?

- ☐ Hardware Failure
- ☐ Severe Performance Issues
- ☐ No More Vendor Support
- ☐ New Functionality Wanted
- ☐ Requirements Not Met

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Maintenance Best Practices

- Don't defer maintenance—small issues become big problems! *(NYCTA learned this the hard way!)*

Stay on Schedule

- Helps diagnose issues & roll back changes.
- Keeps track of what's been done.

Document Everything *(Think of it like an oil change log!)*

- Create SOPs for infrequent tasks.
- Essential when job roles change.

Standard Procedures Matter

- A well-trained staff prevents costly mistakes. *(Remember the CrowdStrike "Oopsie!")*

Train Your Team

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Why Maintenance Isn't Enough

- Check CPU
- Apply Patches
- Monitor Logs

Standard Maintenance Tasks

- Custom Reporting Needs
- Automation Gaps
- Security Requirements

Real Business Challenges

The Problem:
- SAM tools work **out of the box** for basic tasks (inventory tracking, licensing).
- But they **don't always meet unique business needs** (custom user tracking, automation, integrations).
- IT teams need to **go beyond maintenance** to optimize and customize their SAM tools.

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Custom Solutions: Making SAM Tools Work for You
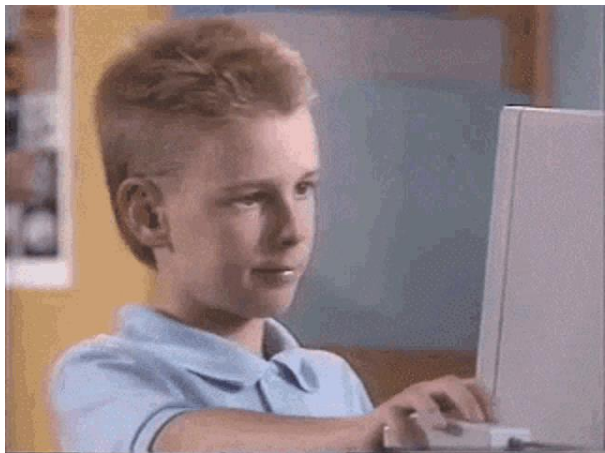
Challenge	Solution	How it Works
Disabling inactive users	Automate user status updates	Use a scheduled SQL procedure to check last login & disable users
Tracking last logged-in user for Macs	Create a user-defined field	Pull hidden Mac login data and display it in the SAM tool UI
Mapping computers to company divisions	Assign assets dynamically	Use ActionScript to match devices to business units automatically

SAM tools are powerful, but they don't solve every business challenge out of the box.
Custom automation, integrations, and reporting enhancements take your ITAM program to the next level!

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Case Study: Disabling Inactive Users

SAM Tool	Requirement	Analysis	Solution	Note
• Flexnet Manager Suite On-Prem	• Disable users who haven't logged in for 30 or more days	• FNMS tracks last login date though the user interface may not expose it • Access to backend databases and a published schema available • Compare last login date with today's date • If difference met threshold, change user state to Disabled	• Stored Procedure scheduled to run weekly	• Solution would not be possible with Flexera One. • No access to backend databases • Would need to rely on Flexera Support for a remedy

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Case Study: Last Logged In User for Macs

SAM Tool

- Flexnet Manager Suite On-Prem

Requirement

- Last logged in user displays for Windows devices; it should display for Mac devices, too.

Analysis

- Field populated in database
- Not shown in UI because field value was used to perform a lookup to Active Directory, and the lookup failed
- User formats on Mac and in Windows were different
- FNMS supports user-defined fields

Solution

- User-defined field for Mac last logged in user
- Stored procedure to reformat "hidden" last logged-in user value and place it in the user-defined field

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Case Study: Device Division Lookup

SAM Tool

- IBM License Metric Tool

Requirement

- Given a device, identify the company division it belongs to.

Analysis

- BigFix platform allows for creation of computer properties
- Source data available that lists all known devices and their division, obtained externally from ILMT
- Presence in a file represents the division

Solution

- Create ActionScript to
  - Download source data to device
  - Create a Windows script file or a Linux bash file on the device, on the fly
  - Launch script to determine division
  - Create property for device
  - Clean up after itself
- Create task to launch ActionScript on all Windows and Linux devices

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Improve Collaboration for Better SAM Outcomes

Make Data Accessible

- Use **Splunk** or similar tools to share insights **without granting full tool access**.

Leverage SAM for Security & Cost Savings

- Help Security teams **identify outdated or prohibited software**.
- **Reduce unnecessary software** → Save money & improve cybersecurity.

Document & Share Knowledge

- Create a **Wiki** for:
  - **Deployment & Asset Management How-To's**
  - **Translating SAM metrics into business value** *(PVUs → Dollars)*

Build a Strong SAM Team

- Invest in **training** & develop a **Center of Competency**.
- Combine **technical, analytical & business skills** for maximum impact.

Secure Executive Buy-In

- **Not just at the start!** Maintain leadership support as your SAM tool evolves.

And Now… A Horror Story!

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Deployment (Excitement & Rush)

- Nakatomi rushes to deploy IBM License Metric Tool (ILMT) to avoid an audit but fails to plan for long-term support.

Neglect (The Hidden Problem)

- Months pass. No documentation, no clear ownership. SAM team shrinks, and nobody maintains the tool properly.

Disaster (The Audit Nightmare)

- IBM audits Nakatomi. ILMT is outdated, errors everywhere, no support team. Nakatomi pays way more than they should have.

* = name changed to protect the guilty

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Lessons Learned from Nakatomi's Mistakes

👎 Skipping SAM Planning = Future Disaster
👎 No Documentation = No Visibility
👎 Ignoring Maintenance = Compliance Risk

👍 Assign ownership from the start.
👍 Keep records of SAM processes & updates.
👍 Regularly update SAM tools to stay compliant.

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Don't Be Nakatomi Technologies!

- Executive sponsorship is a MUST!
- Assemble the team
  - SAM role
  - IT role
- Remember the goals
  - Save $$$
  - Discover IBM software in your environment
  - Audit readiness
- Communicate the core benefits of ITAM
  - Cost savings
  - Improve cybersecurity posture
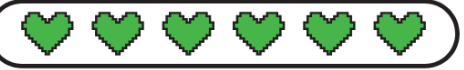

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Level Up Your SAM System: Performance Boost Strategies

	OPTIMIZATION FOCUS	EXAMPLE FIX
LEVEL 1: REDUCE TECHNICAL DEBT	Clean up outdated configurations & remove legacy scripts	Identify redundant processes & retire unused agents
LEVEL 2: IMPROVE DATABASE PERFORMANCE	Optimize queries & reduce system load	Schedule reconciliations wisely to avoid slowdowns
LEVEL 3: ENHANCE REPORTING & ANALYTICS	Tune dashboards for better insights	Pre-filter data before running large queries
LEVEL 4: AUTOMATE & SCALE	Use scripts & integrations for efficiency	Implement API connections & scheduled maintenance

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Final Boss Battle – Defeat SAM Chaos & Optimize Your Processes!

Your mission:

Defeat SAM Chaos and transform SAM from a slow, inefficient system into a strategic powerhouse!

PROCESS FOCUS

LEVEL 1: IDENTIFY GAPS IN FUNCTIONALITY

LEVEL 2: GET TO KNOW ANALYTICS & REPORTING

LEVEL 3: CHANGE ATTITUDES ABOUT SAM

LEVEL 4: MAKE SAM A STRATEGIC ENABLER

ATTACK MOVE!

ASSESS YOUR SAM TOOL'S CAPABILITIES & MISSING FEATURES

UNLOCK HIDDEN INSIGHTS BY OPTIMIZING DASHBOARDS

COMMUNICATE THAT SAM IS ABOUT MORE THAN COUNTING LICENSES

USE SAM TO IMPROVE DATA QUALITY, COLLABORATION & DECISION-MAKING

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Key Takeaways

1. SAM Tools Are Only as Good as Your Strategy

- Regular maintenance, proper optimization, and executive buy-in are **critical for success**.

2. Collaboration is Key

- **IT, Security, and Leadership** must work together to maximize SAM's value.

3. Turn SAM into a Business Enabler

- It's not just about compliance—**use data for cost savings & better decision-making**.

4. Invest in People & Processes

- Training, documentation, and clear workflows keep SAM effective over time.

5. Optimization is an Ongoing Process

- Keep refining your system, updating best practices, and leveraging automation.

(AIX is NOT "Armani Exchange")

What's one change you'll take back to your organization today? Let's turn insights into action!

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Let's Do The Time Warp Again!

- About Me
- Our Views of IT are Vastly Different
- How SAM Tools Work
- Skills and Tools for Effective Support
- Maintenance Cycle & Best Practices
- Why Maintenance Isn't Enough
- Optimization & Collaboration
- Key Takeaways

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Connect with SIE

Mark Feinman

☎ **(845) 641-5232**

✉ **MFeinman@SIEConsultingGroup.com**

in **https://www.linkedin.com/in/markfeinman**

The SIE Group

💻 **www.TheSIEGroup.com**

✉ **Events@SIEConsultingGroup.com**

in **https://www.linkedin.com/company/the-sie-group**

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