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Enabling the Automated Data Center

A presentation at Data Center Summit, Oslo

Rolf Frydenberg, CEO Manag-E Nordic AS

About Manag-E Nordic AS

- HQ in Asker, Norway, subsidiary in Stockholm

- 20 employees in Norway, two in Sweden

- Annual revenue: 43 mill. NOK (€4 mill.)

- Platinum Partner for Micro Focus (OpenText)

- Provides SaaS and on-premise ITOM solutions, and related services, support and consulting

- 100% owned by Orbify.ai AS as of August '22

Agenda

Automating provisioning of servers and applications
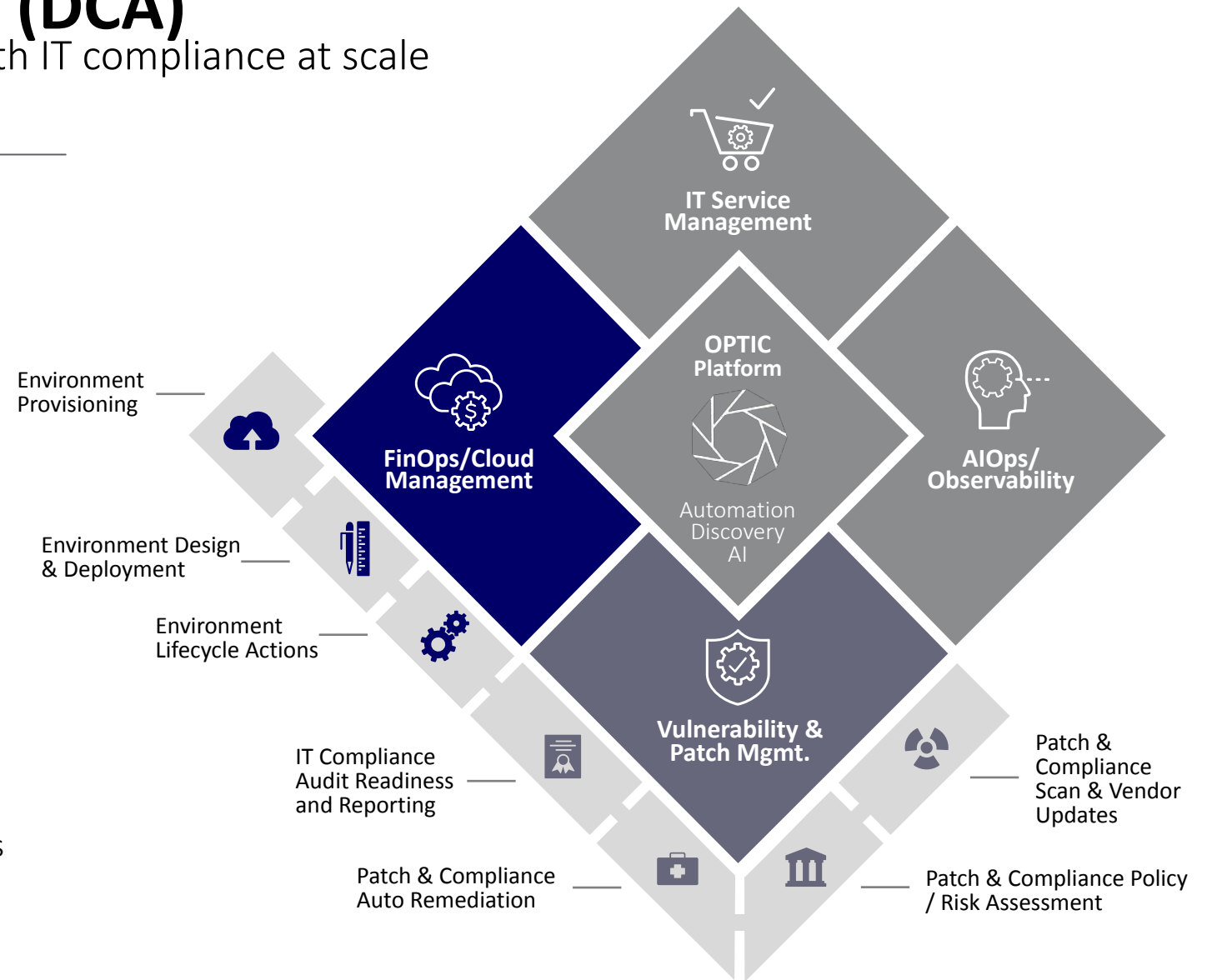
Automating service management

Automating monitoring of servers, applications and networks

Automation of financial management

Data Center Automation (DCA)

Vulnerability and patch management with IT compliance at scale

- Deploy faster and minimize configuration drift with enterprise-scale **provisioning, configuration and server lifecycle management** capabilities

- Take the pain out of manual patch scheduling with Service Level Objective (SLO) driven **patch and compliance scan and remediation**

- Keep up to date with the latest compliance regulations with market-leading OOTB content for **regulatory, security, and IT compliance**

- Assess and remediate critical vulnerabilities quicker with real-time **vulnerability risk and compliance dashboards**
- A **vulnerability management** solution that automatically patches servers or network devices to reduce security and compliance risks

IT Service Management

OPTIC Platform

Automation Discovery AI

AIOps/ Observability

FinOps/Cloud Management

Vulnerability & Patch Mgmt.

Environment Provisioning

Environment Design & Deployment

Environment Lifecycle Actions

IT Compliance Audit Readiness and Reporting

Patch & Compliance Auto Remediation

Patch & Compliance Scan & Vendor Updates

Patch & Compliance Policy / Risk Assessment

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Enterprise-Standard Provisioning and Configuration

Provision servers with customizable OS build plans

OS build plan library

1 Select an OS build plan

2 Choose multiple servers or groups to provision

3 Run the build plan against the selected servers now, or schedule the job

- Provision with OOTB OS build plans or create custom build plans
- Modify OS build plans to meet your organization's specific requirements
- Schedule provisioning or provision on demand
- Provision multiple servers from a single provisioning job
- Receive email alerts on provisioning job status

Provision at scale.
Shipped with extensive OS build plans.
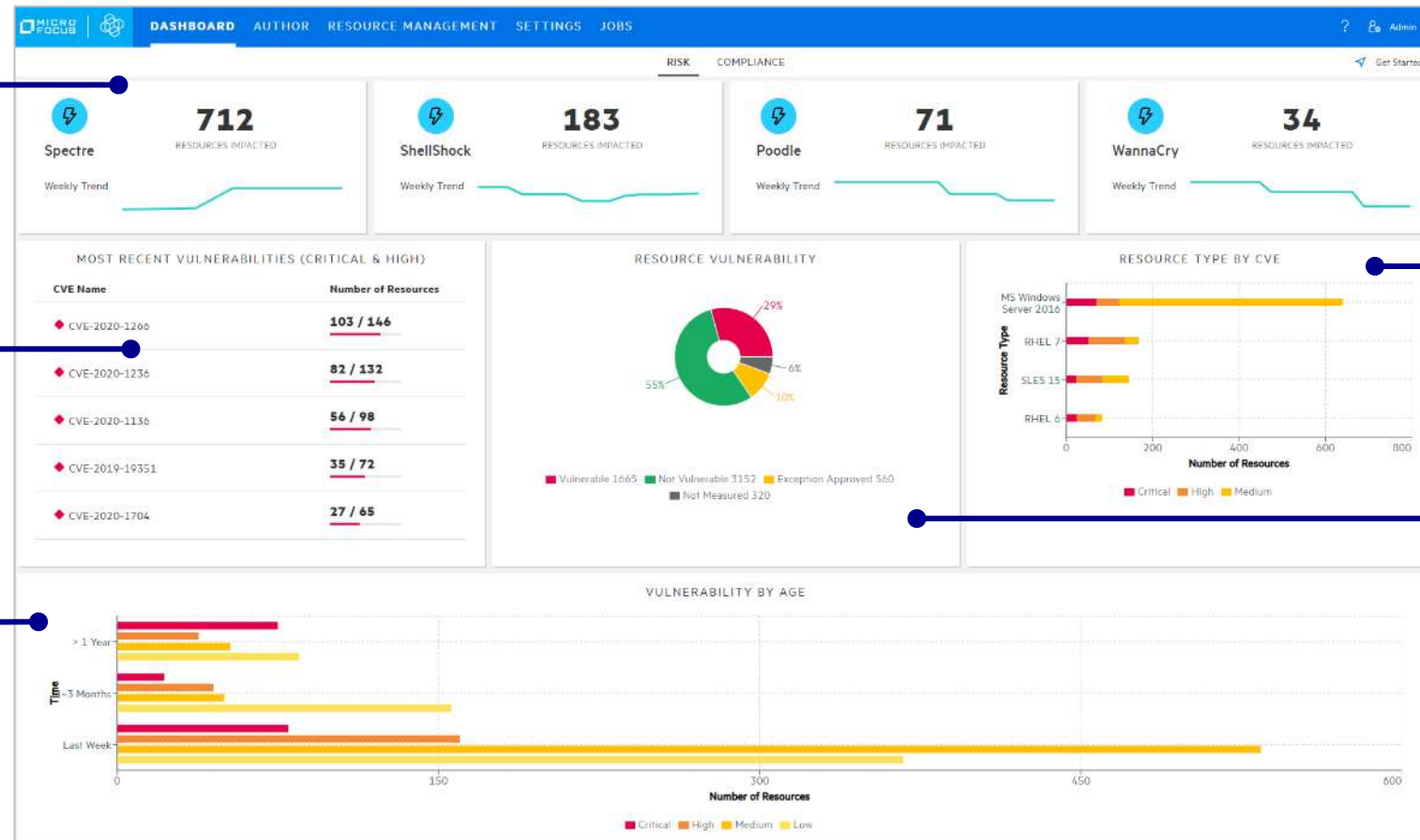RHEL, Solaris, Windows, CentOS, Ubuntu, ESXi, and more.

Smarter Patching
Risk dashboard

CVE threat monitoring & weekly trends

Impact of recent vulnerabilities on your datacenter

Old vulnerabilities not yet mitigated **are easier exploits**

Single view of vulnerabilities **by resource type**

Vulnerability exposure of resources **by severity**

The DCA Risk Dashboard uses **National Vulnerability Database** (NVD) data, patch metadata and patch scan data to identify vulnerabilities in the datacenter

Market-Leading Compliance Management
Compliance dashboard

One view to assess compliance state across data center resources.

Top failed requirements

Resource compliance trend over time to see progress made
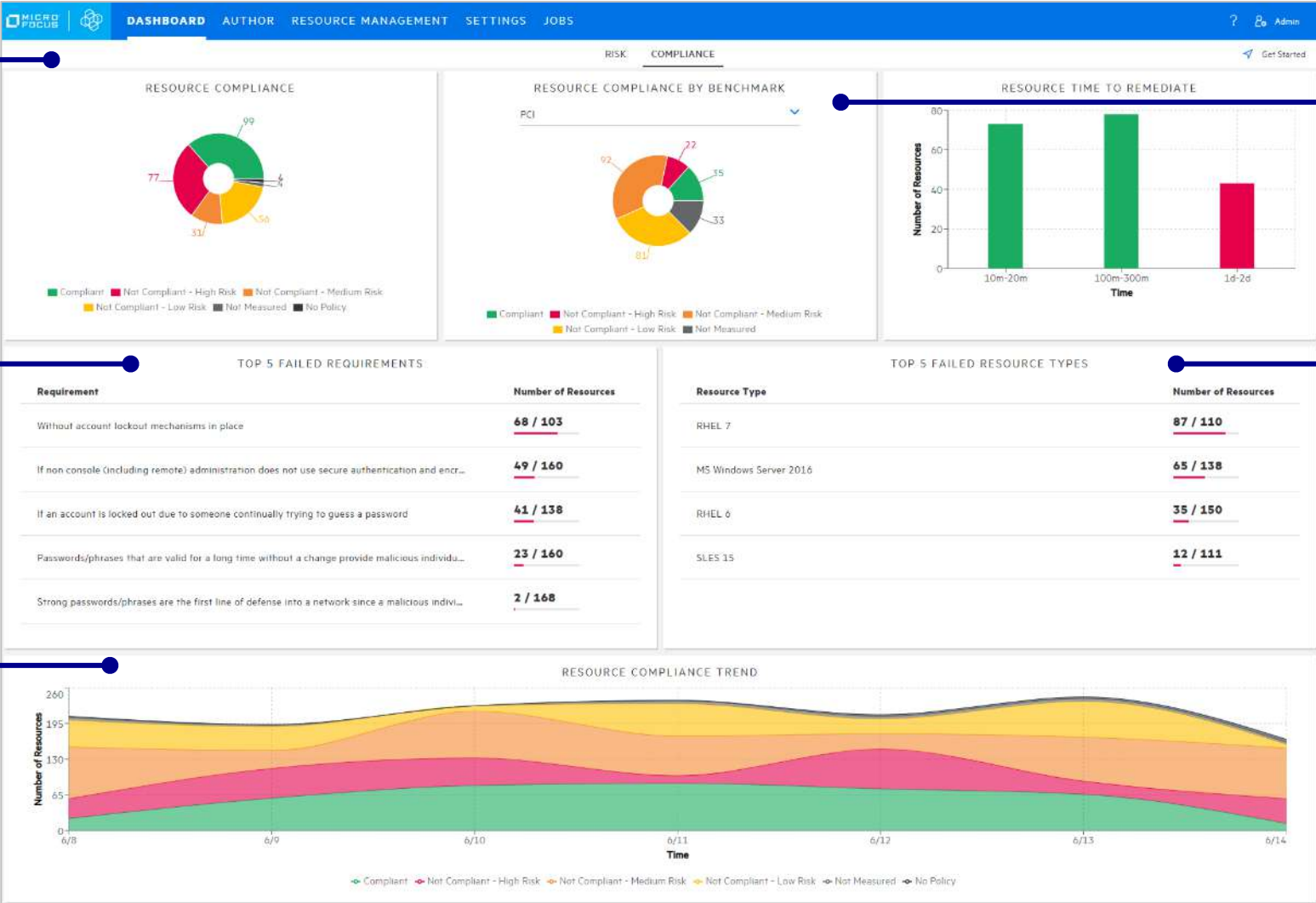
Resource compliance status by benchmark

Compliance status by resource types

Drilldown from dashboard elements for detailed information.

Hybrid Cloud Management X

Unify your multi-cloud and on-premises operations to speed provisioning and gain management consistency

- Speed deployment of services across hybrid IT with **powerful automation and OOTB content** – workflows and integrations

- Build solutions tailored to your business – from hybrid cloud components with **reusable blueprint designs**

- **Optimize your cloud spending** with governance capabilities and set **compliance guardrails**

- Empower your end-users and off-load IT admins with **AI-based self-service provisioning**

Support, Service Request & Subscription Management

Catalog /Service Onboarding

Cost Governance

Environment Provisioning

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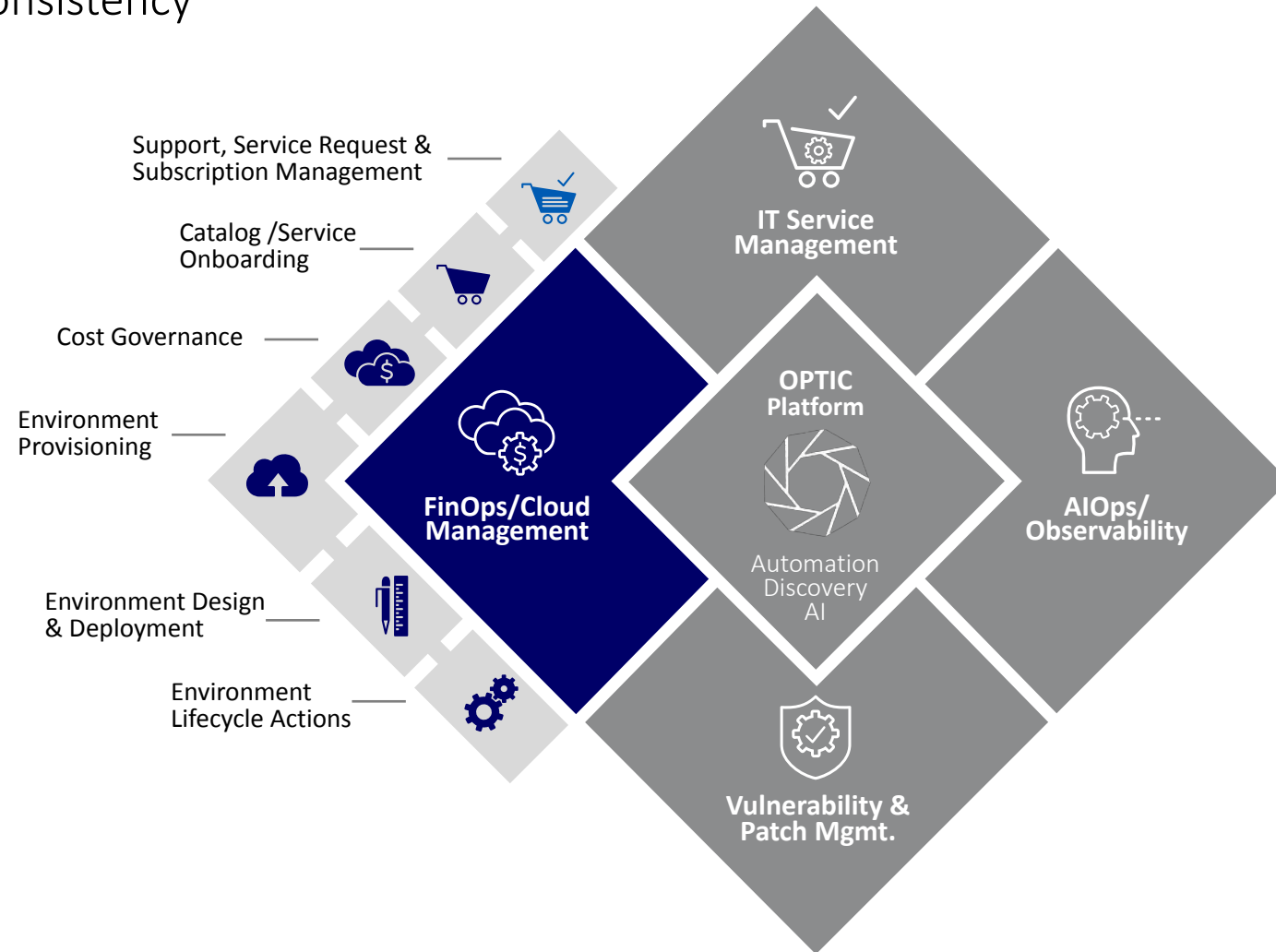
Aggregate Your Cloud Services

Immediate multi-cloud services onboarding. Offer cloud resources on-demand.

Find cloud services instantly with a search engine

IT can **preselect** the "right" options for each service

Aggregate services from AWS, Azure, and private cloud into a **single catalog**

10,000+ services to aggregate

Single Catalog for Cloud and On-premises Services

Easy. Fast. On-demand public/private cloud offerings available to end-users

Recommend offerings

Recent offerings for quick access

Catalog displays fixed and variable portions of the price

Design, Deploy and Manage Hybrid Resources

Adaptive, reusable service designs

Simple **drag and drop** designer
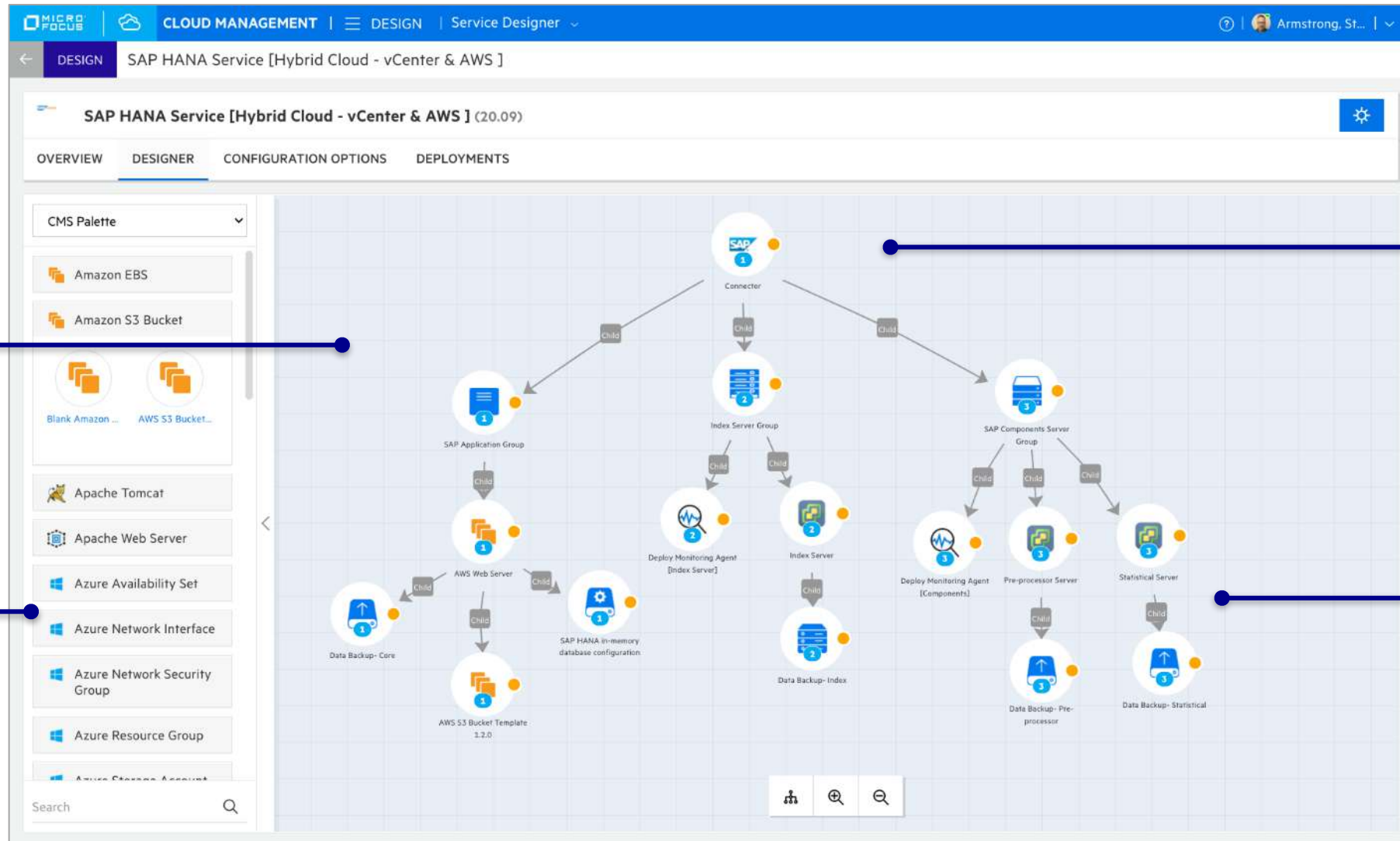
Cloud Agnostic:
Design once, deploy anywhere

App-store-like service **design library**

Build custom environments - from a simple VM to complex multi-tier application stacks

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Deployment Automation and Lifecycle Management

Master Orchestrator executes designs for cloud deployment or IT process actions

Intuitive IT workflow **designer** & execution engine

Leverage **a rich library of thousands** of out-of-the-box operations and flows!

Orchestrate to completion every time with **default failure handling**

Toggle between **textual and graphical** authoring

12

Modernize the IT Service Experience

Happier users. Efficient IT. Better outcomes.

SMAX

- Create superior service experiences – accessible, smart, connected

- Tackle service demands faster – increase IT productivity with easier, more flexible work options

- Build resilient services. Control costs and reduce risks – close service management gaps.

Knowledgebase & Analytics

Process /Policy Management

Change Management

IT Asset Management

Problem Management

Support, Service Request & Subscription Management

Incident Management

IT Service Management

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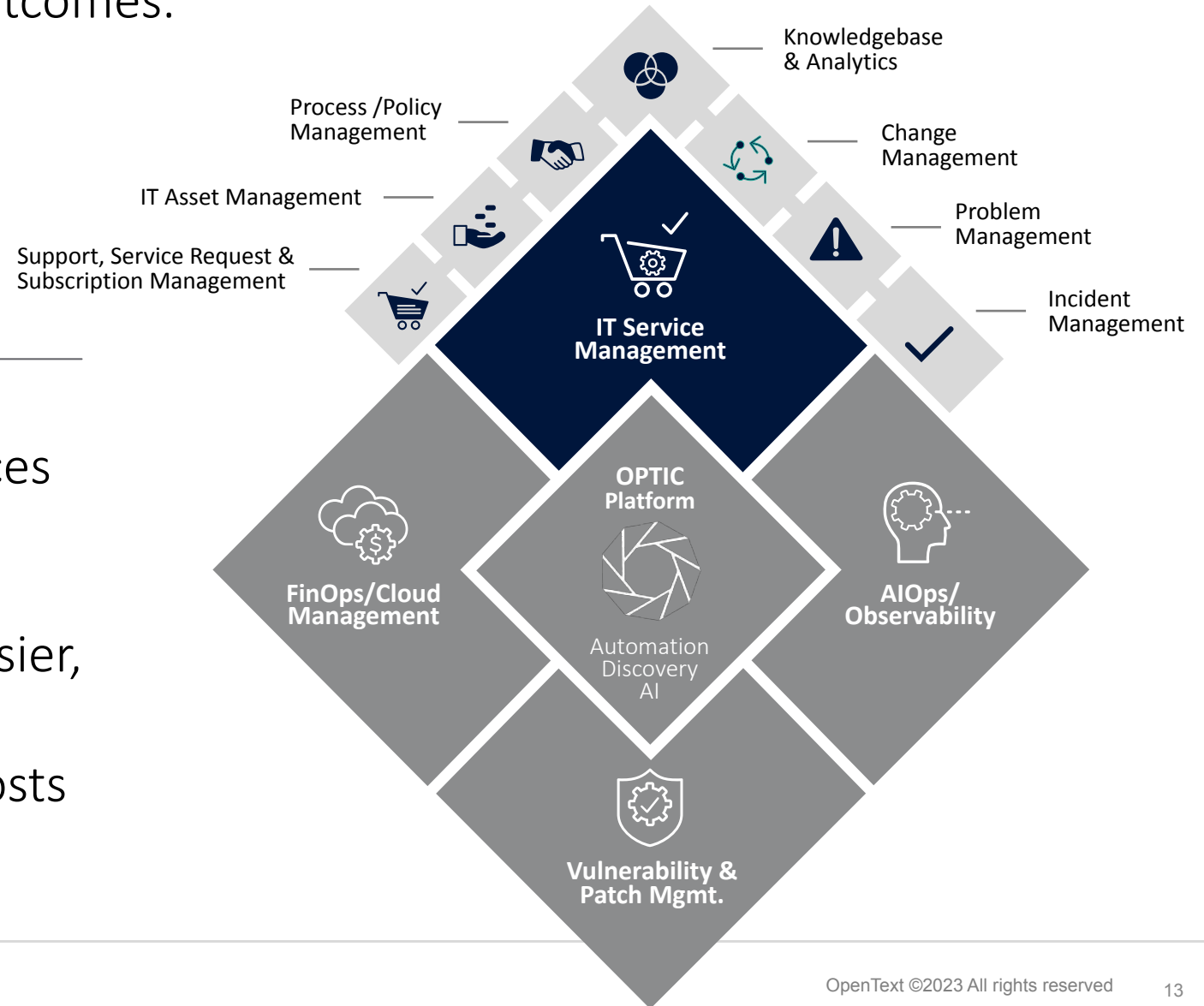
A Single Portal for All Services

Intelligent search

Configurable branding
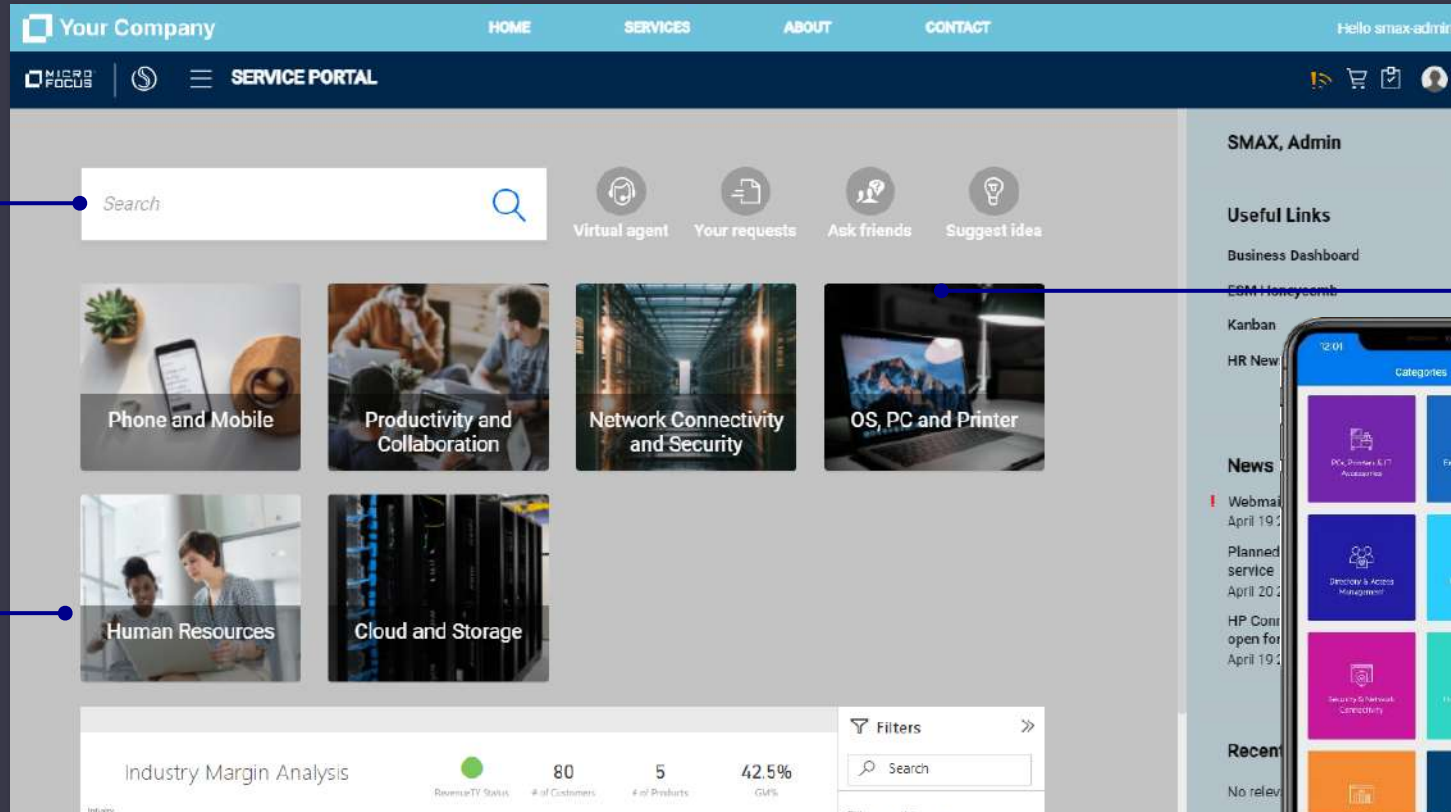
Configured catalog offerings

Service access from everywhere

- Mobile application for Android and iOS

- Native dynamic forms

- Virtual agent

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Codeless Configuration and Out-of-the-Box ITIL Processes

Automatic notifications

Out-of-the-box workflows

Pre-defined business rules

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Built-in AI and Analytics

Analytics for process improvements

Identify areas to reduce risk, increase success rates

Insights

Recommended improvements

Success rate

79%

22 of 28
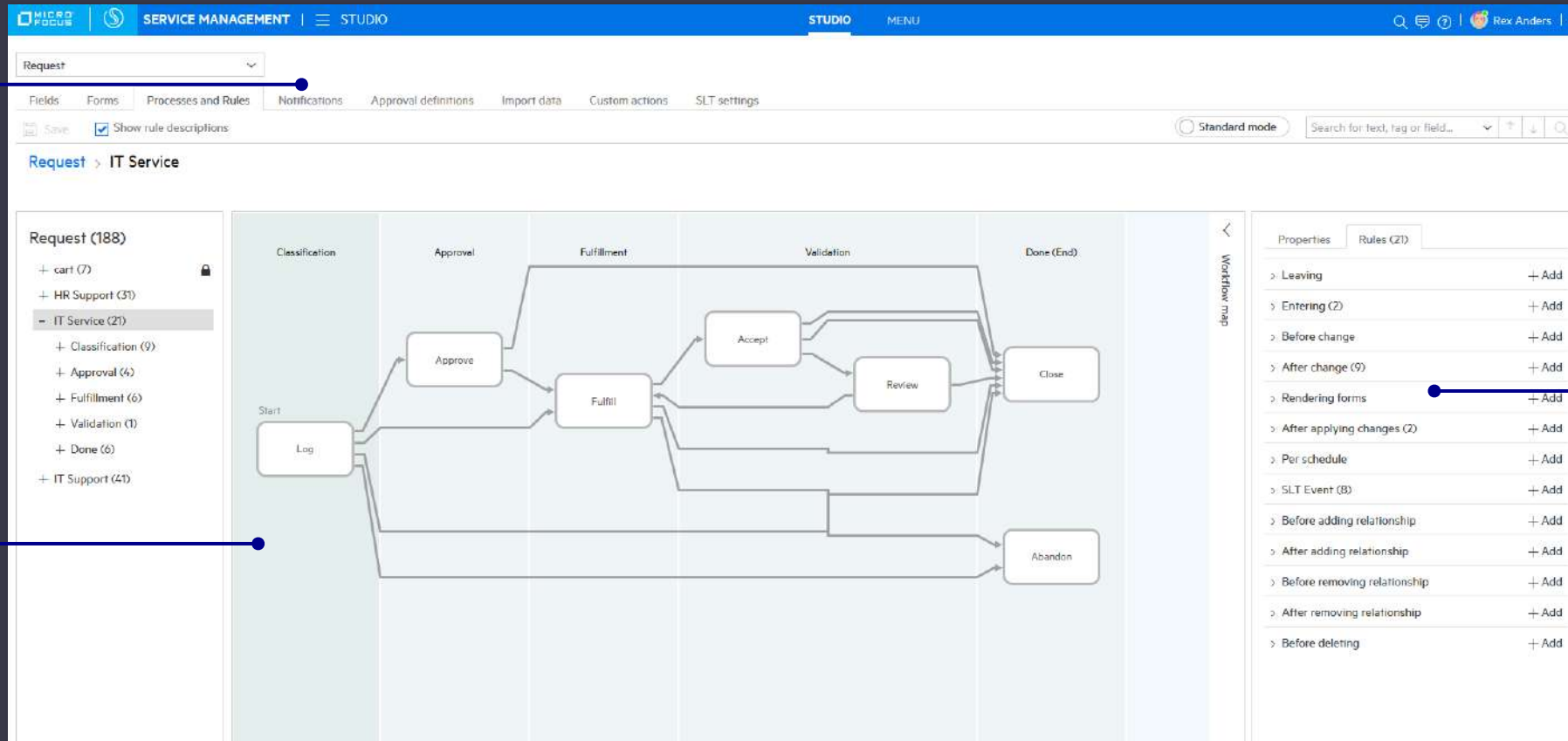
All Standard Normal Emergency

INSIGHTS

🥧 11%
Improvement needed to achieve the goal.

HOW CAN YOU IMPROVE?

Make more of your changes successful by reviewing some of our suggested action points.

Standard changes

INSIGHTS

🕐 12%
shorter imp...
standard ch...
changes

🥧 32%
more successful than non-standard changes

HOW CAN YOU IMPROVE?

Consider converting the following normal change models to standard change models:

Change automation

Configure KPI settings

🟥 Red range	0	% -	25	%
🟨 Yellow range	25	% -	40	%
🟩 Green range	40	% -	100	%

🎯 Set goal at   50 %

These settings apply to all calculations for this KPI.

OK

50%

12 of 24

...ndard Normal

...ss rate in automated changes...an non-automated changes

🥧 92% fully automated changes out of all automated changes

🕐 4 hours
Was the average manual change duration which may be reduced with automation

HOW CAN YOU IMPROVE?

Consider adding automation to the following change models:

Visibility Across All Services and Infrastructure
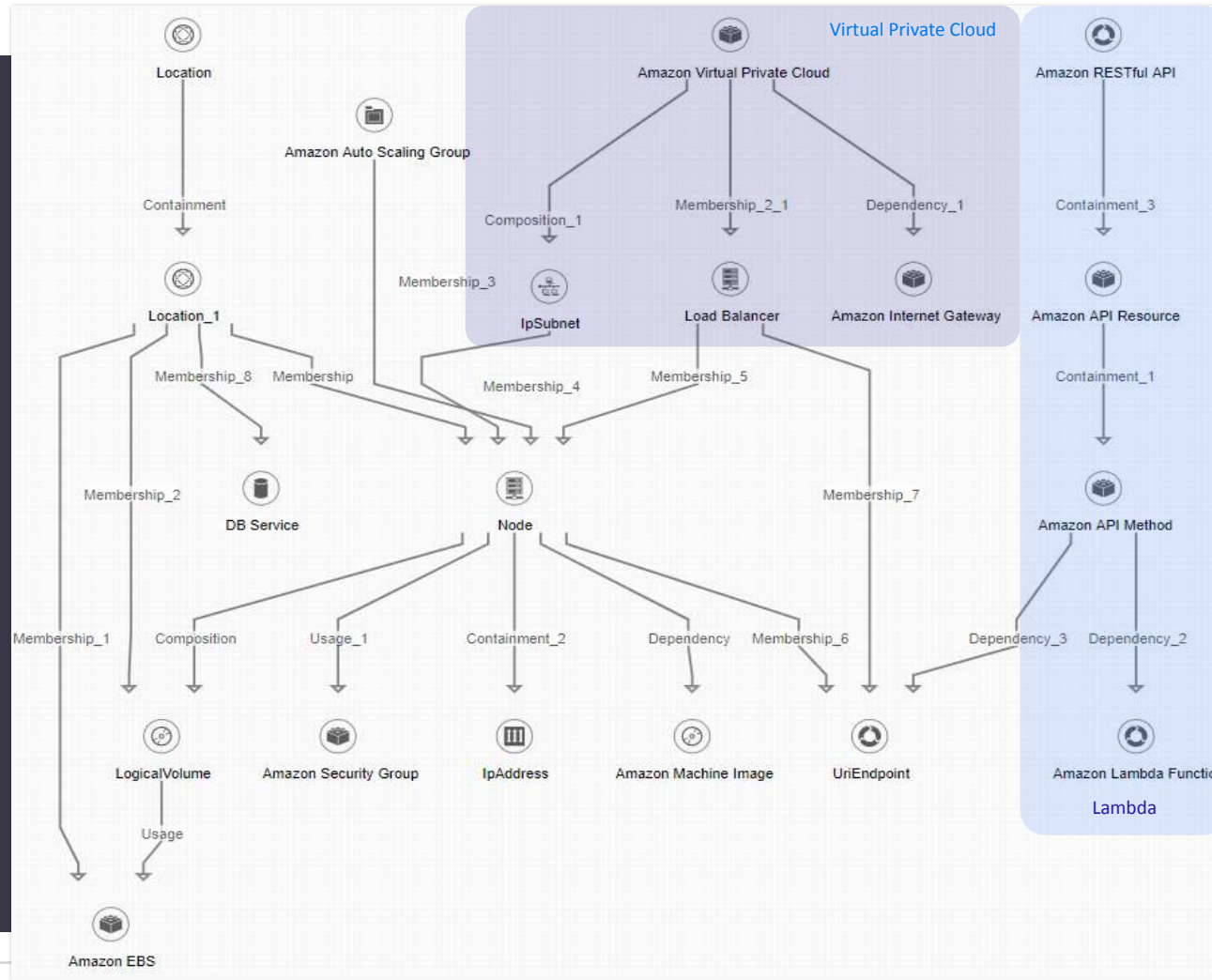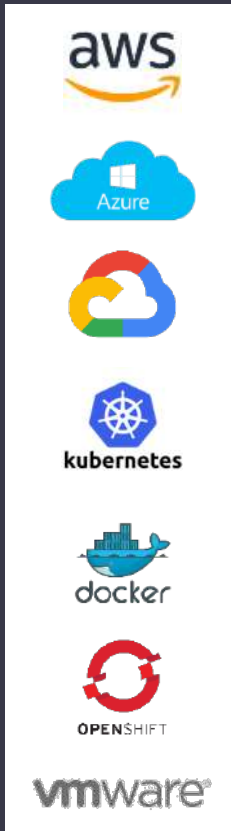
Multi-cloud discovery
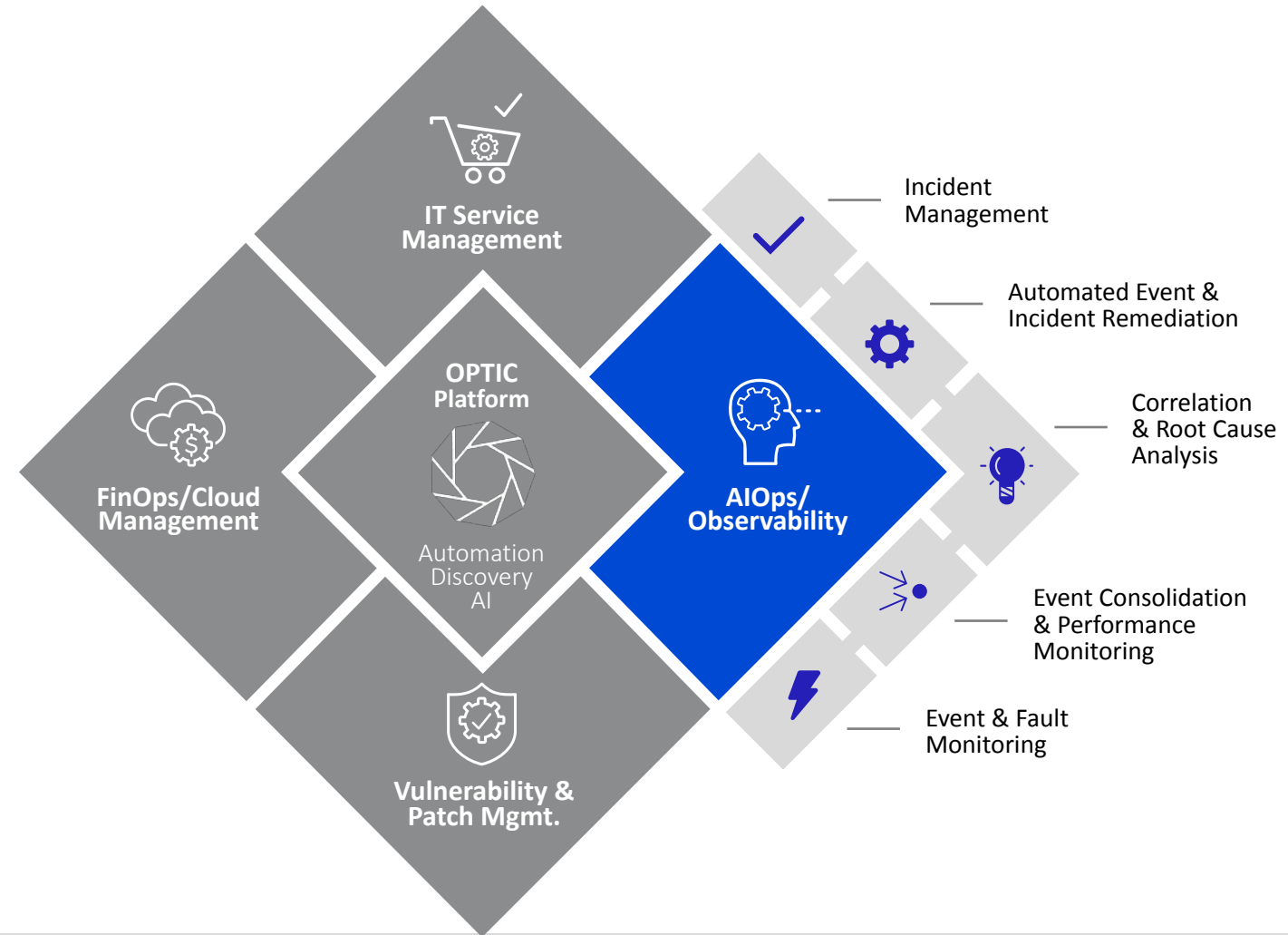
Agentless and agent-based discovery

Scalable architecture

17

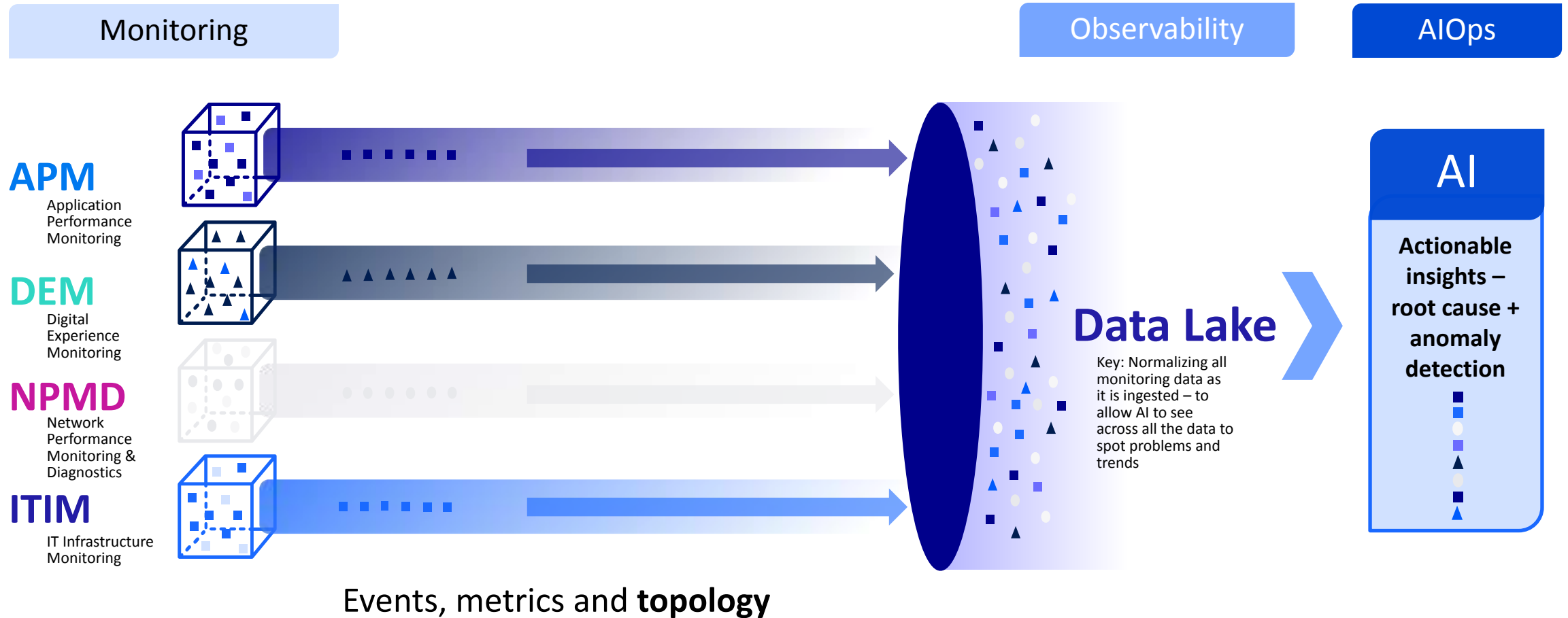# Boost IT Productivity and Performance with AIOps

Global observability. Fast insights. Efficient resolutions.

Operations Bridge

- Build global observability with unified data
- Get fast insights with transparent AI
- Drive efficient resolutions with integrated automation

IT Service Management

FinOps/Cloud Management

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Incident Management

Automated Event & Incident Remediation

Correlation & Root Cause Analysis

Event Consolidation & Performance Monitoring

Event & Fault Monitoring

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Monitoring vs. Observability vs. AIOps

Monitoring

APM
Application Performance Monitoring

DEM
Digital Experience Monitoring

NPMD
Network Performance Monitoring & Diagnostics

ITIM
IT Infrastructure Monitoring

Events, metrics and **topology**

Observability

Data Lake

Key: Normalizing all monitoring data as it is ingested – to allow AI to see across all the data to spot problems and trends

AIOps

AI

Actionable insights – root cause + anomaly detection

INTEGRATIONS ARE ALSO KEY 〉 23 On average, IT organizations seek AIOps integrations with 23 monitoring tools or other sources

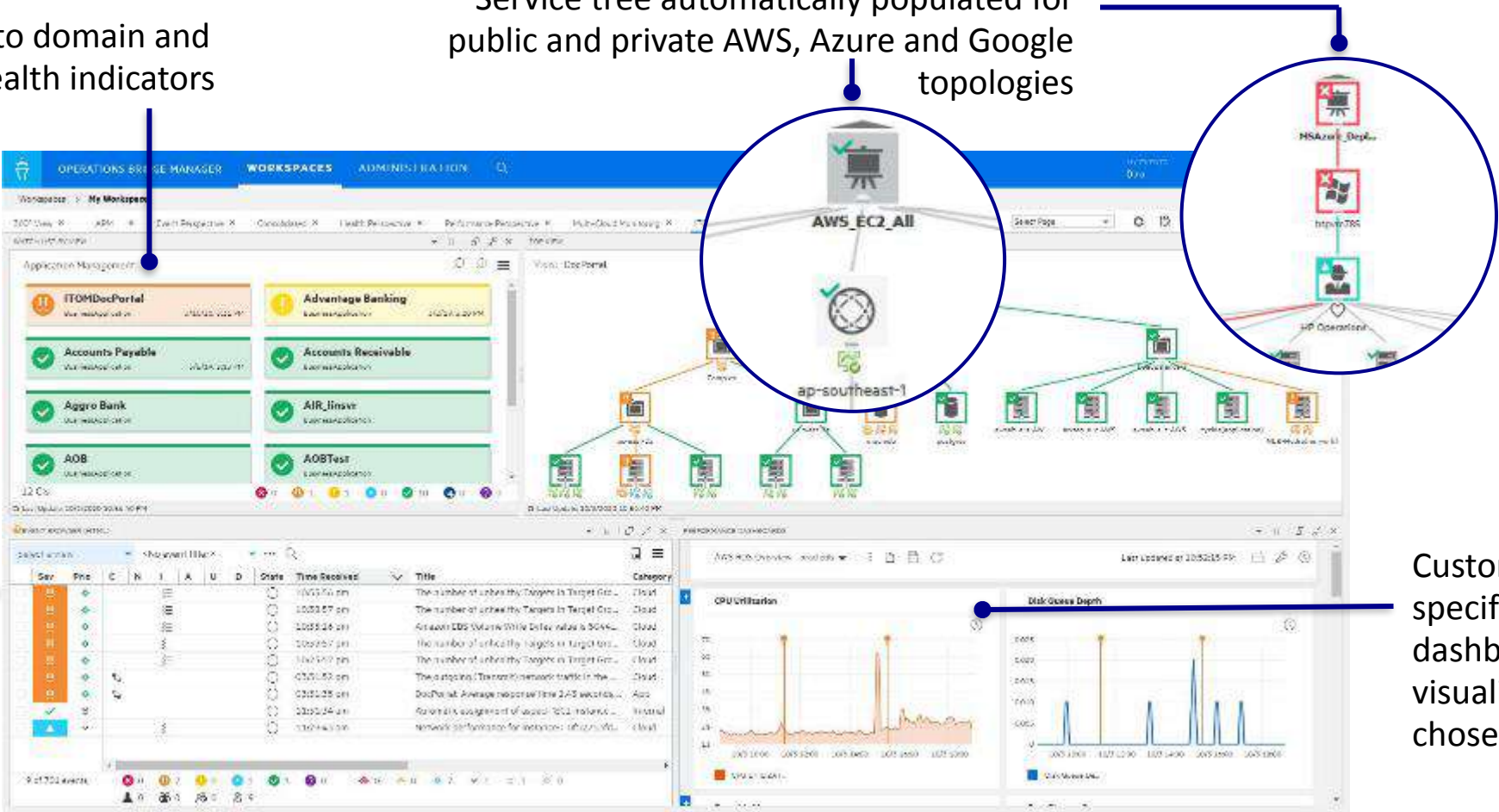# Automated Discovery and Monitoring

End to end observability from multi-cloud to traditional

Service tree automatically populated for public and private AWS, Azure and Google topologies

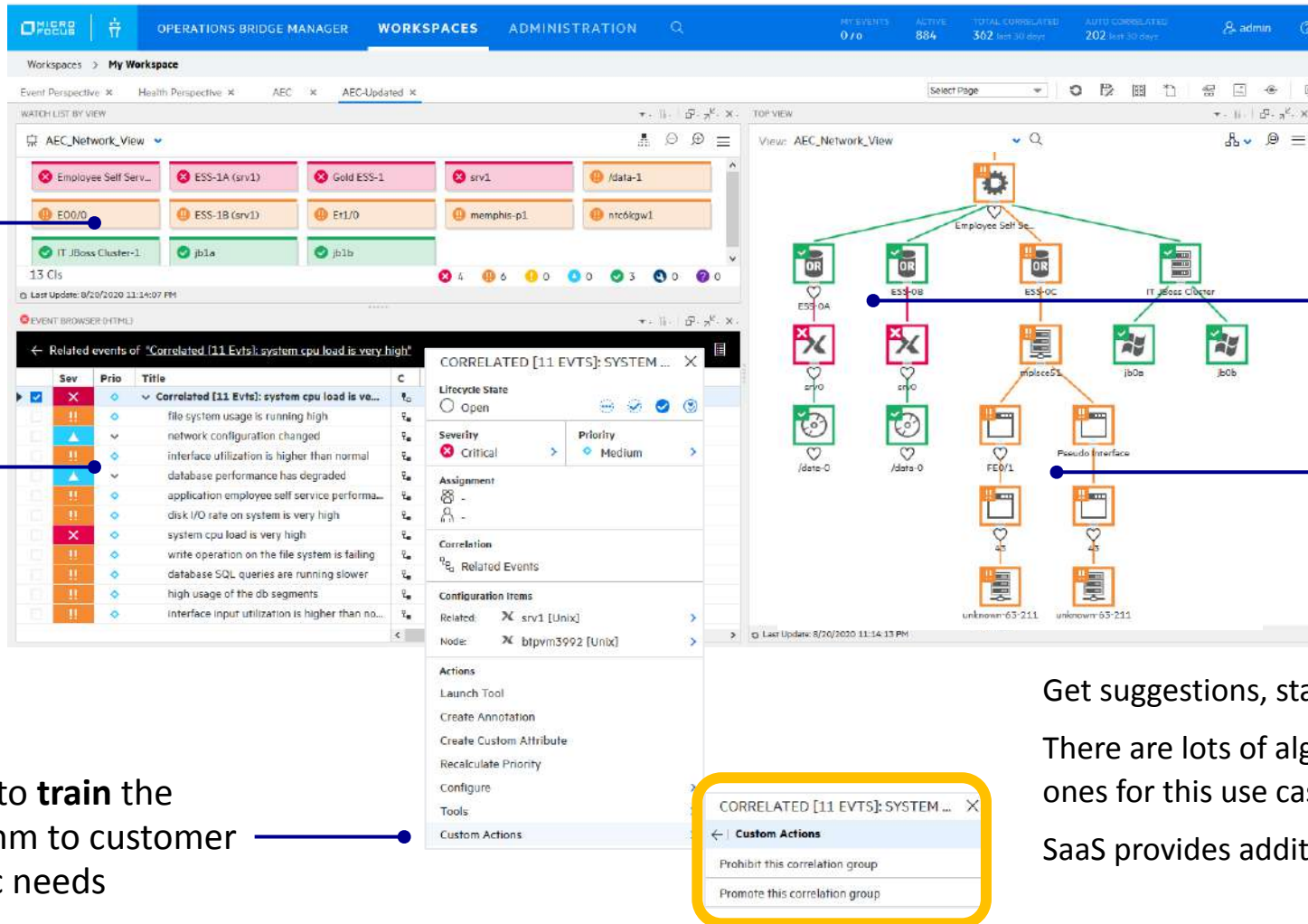KPIs grouped into domain and customizable health indicators

Context aware event browser showing root cause

Customizable, domain specific performance dashboards, group and visualize all data for the chosen domain

Reduce Events and Show Service Impact

AI based Automated Event Correlation (AEC) reduces the time to get to the root cause

Business service impact identified

Network & application dependent failure **automatically correlated**

Application topology automatically discovered by Management Pack

Network topology automatically discovered by NOM

Ability to **train** the algorithm to customer specific needs

Get suggestions, stay in control but efficiently

There are lots of algorithms our job is to find the right ones for this use case

SaaS provides additional resilience

Increased Observability and Collaboration

Delivering insight with historic & real-time data
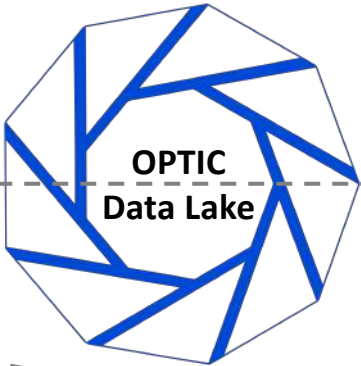
Operations & SMEs

Non-IT & Execs

Single source of IT operations data
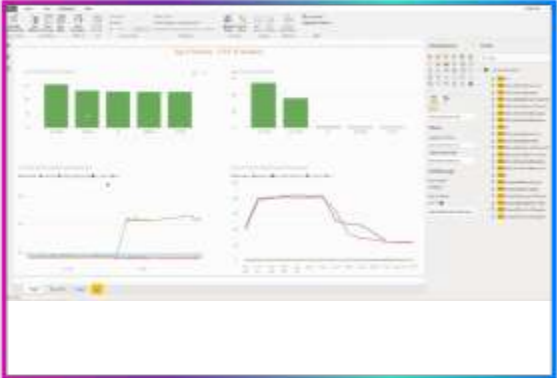
Bring Your Own Business Intelligence (BYOBI) reporting

OPTIC
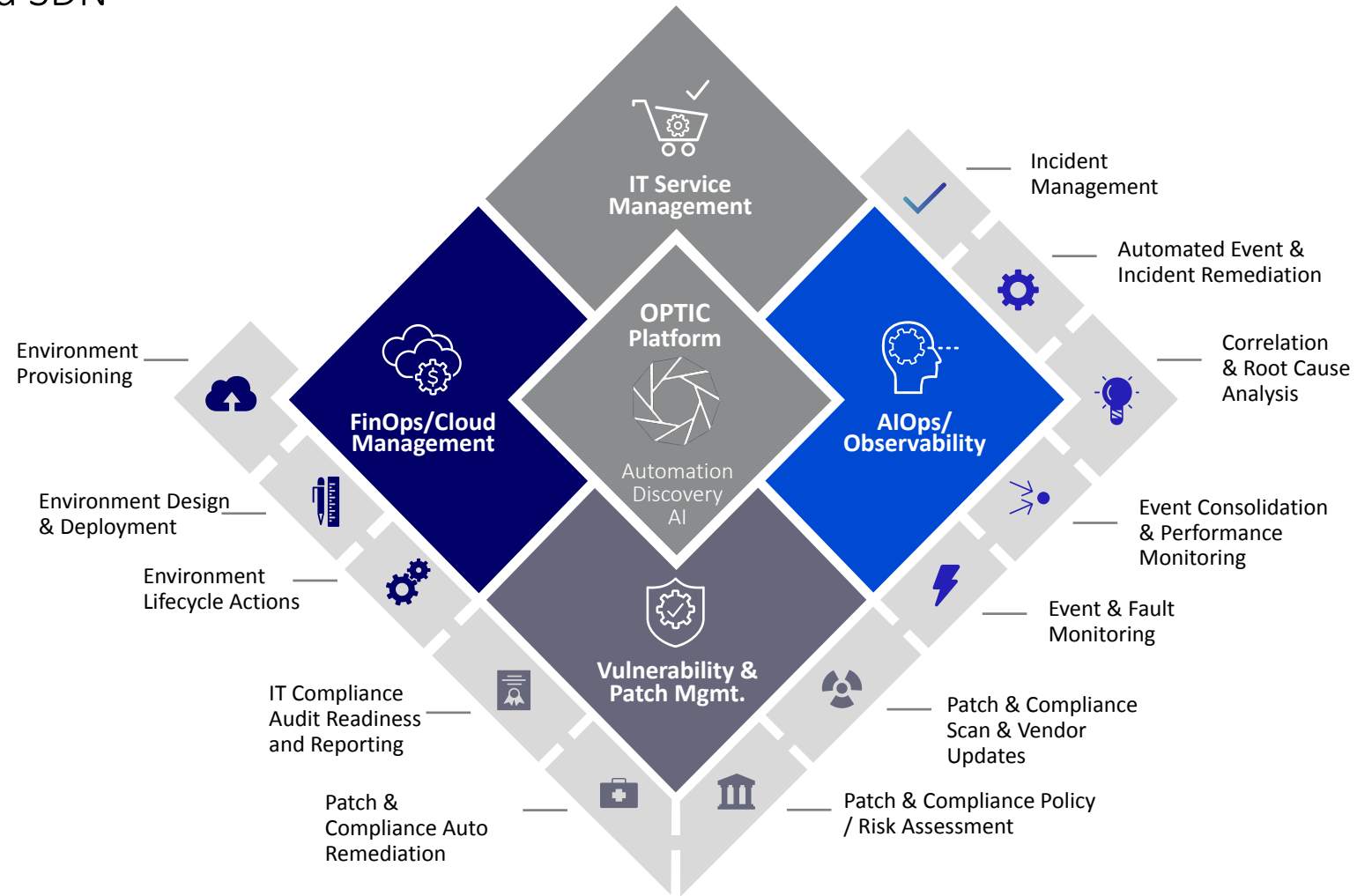Data Lake
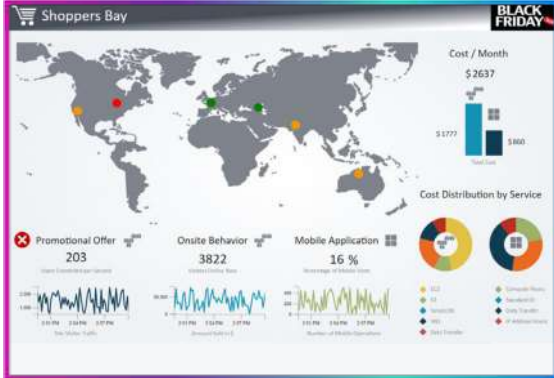
Out of box and custom dashboards

Unified big data platform consolidating multiple domains

Network Operations Management (NOM)

Operate dynamic and secure networking
across physical, virtual, wireless and SDN

- Improve compliance, security, and performance with a **single view across multi-vendor networks** to monitor and manage SDN, virtual and physical network devices

- Speed problem solving by monitoring for change, with **real-time config-change events** overlaid on performance charts

- Reduce network vulnerabilities with **policy-based compliance with auto-remediation**

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Single Toolset To Manage All Network Technologies Together

Physical, virtual, wireless, and SDN

- **Monitoring**, using mapping, performance management, root cause analysis, and configuration backup, ensures SLA compliance

- **Network-focused automation and orchestration** capabilities speed service delivery

- **Policy-based audit and remediation** drives security compliance
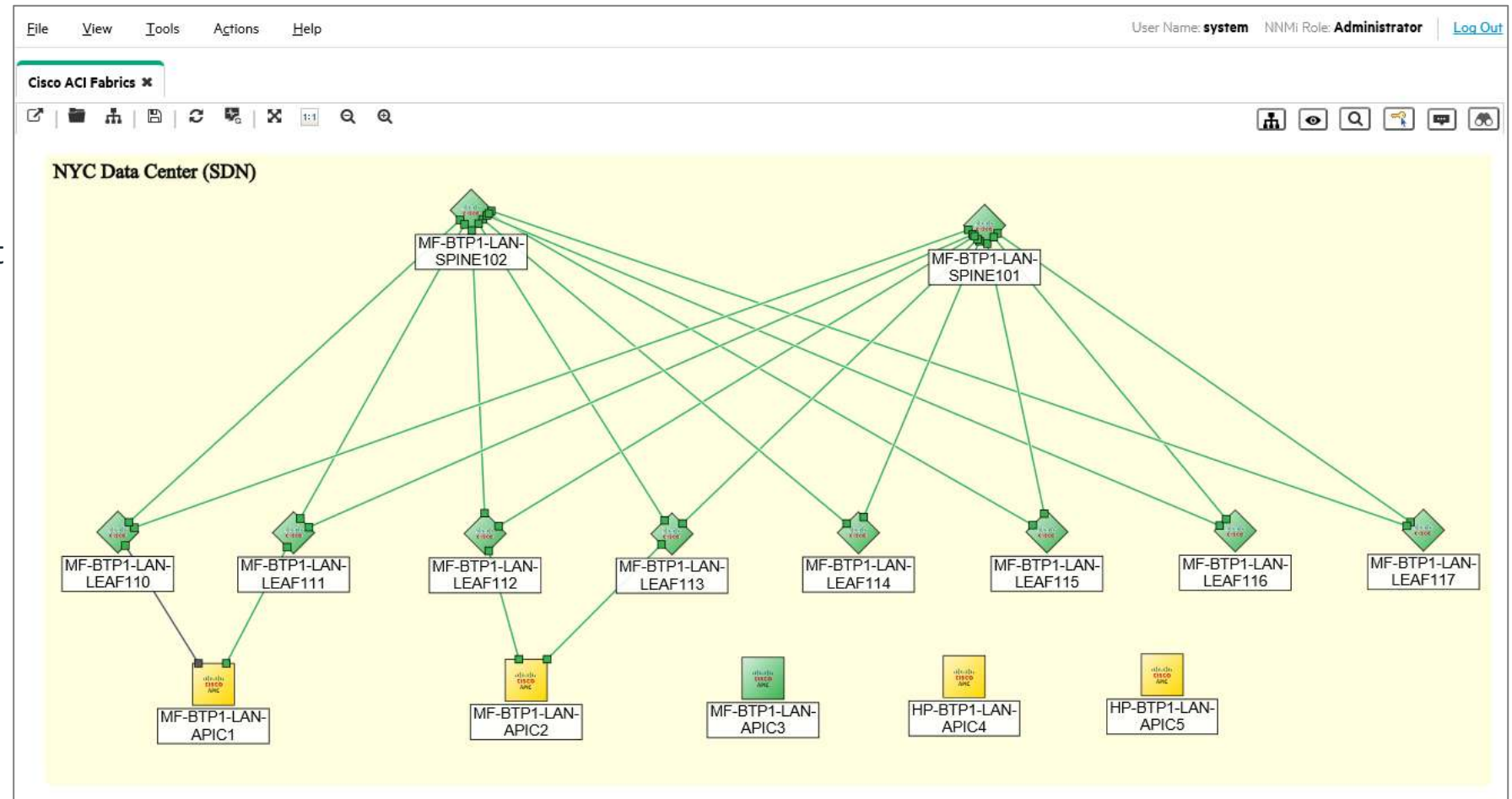
Performance is a Key Issue for Today's Networks
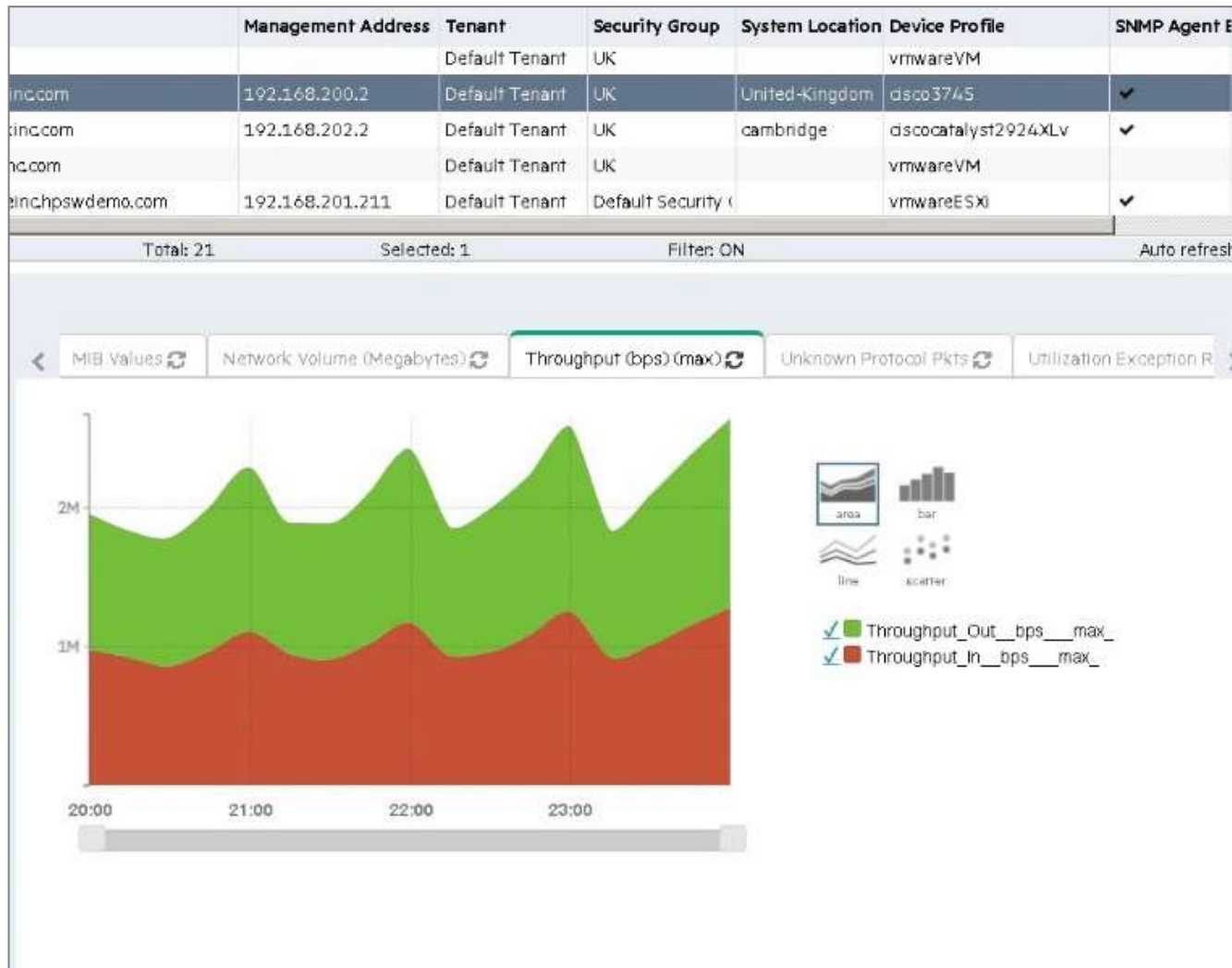
Metrics, traffic, quality assurance, and more...
- Performance data in context
- Efficient, unified polling engine
- Baselines dynamically calculated
- Threshold based incidents
- Forecast and usage trend reporting

> The ability to effectively monitor and report on network performance lowers downtime and time to repair and keeps the business running

Realtime Configuration and 3D Compliance Detection
Reduce risk knowing the realtime state of the network

Compliance Status

Configuration Change Detection

Compliance Violation Details

3D Compliance: Configuration, Diagnostic, and Software

Change Plans
Results driven configuration change and remediation

Conditions

A	Device Group	Any of selected groups	NYC
B	show ntp status	does not contain	Clock is synchronized
C	show ntp status	contains	Clock is synchronized

Conditions

Label					
A					
B					
C	show ntp status	contains	Clock is synchronized	Cisco IOS enable	Diagnostic

Add Condition

Validations
Proceed with change
Rollback based on outcome

⊖ **Validation**

Pre-Change Boolean Expression	A AND B
Post-Change Boolean Expression	C.POST

In the Boolean Expression, you can use only the Condition's label(s), boolean operators ("and", "or","not"), and parenthesis. No other operators are allowed.
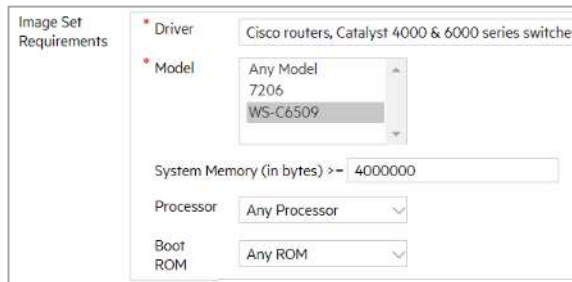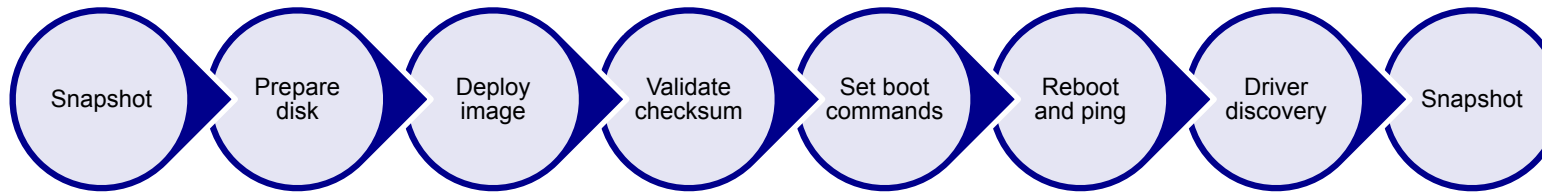
⊖ * **Change and Rollback**

Name	Mode / Device Family	Actions
Set my NTP Server	Cisco IOS configuration	Edit | Delete | Hide Scripts

Change Script	Rollback Script
// Script to assign the NTP server	// Script to assign the NTP server

Change & Rollback

Change Script	Rollback Script
// Script to assign the NTP server	// Script to assign the NTP server
ntp server NTP_Server_IP	no ntp server NTP_Server_IP

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Update Device Software
Supports OS upgrade requirements validation

Snapshot → Prepare disk → Deploy image → Validate checksum → Set boot commands → Reboot and ping → Driver discovery → Snapshot
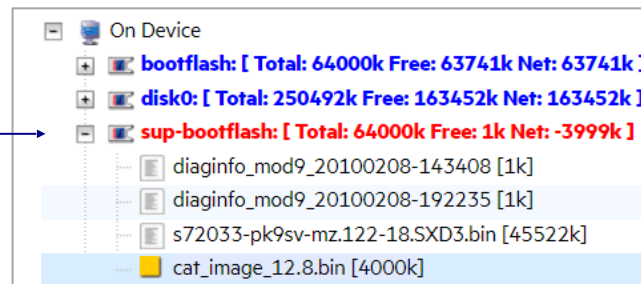

Upload image sets to NA and define requirements
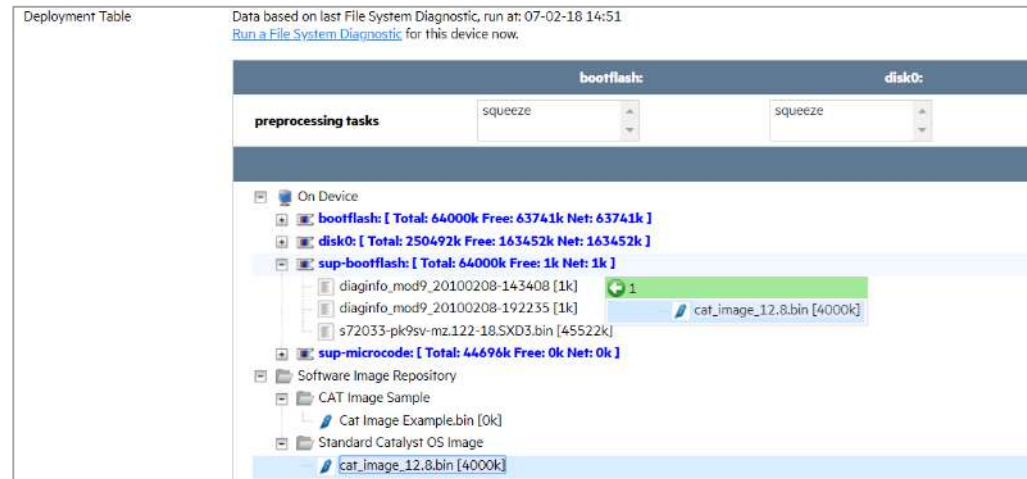
Drag & drop manage add / delete files and set file for boot
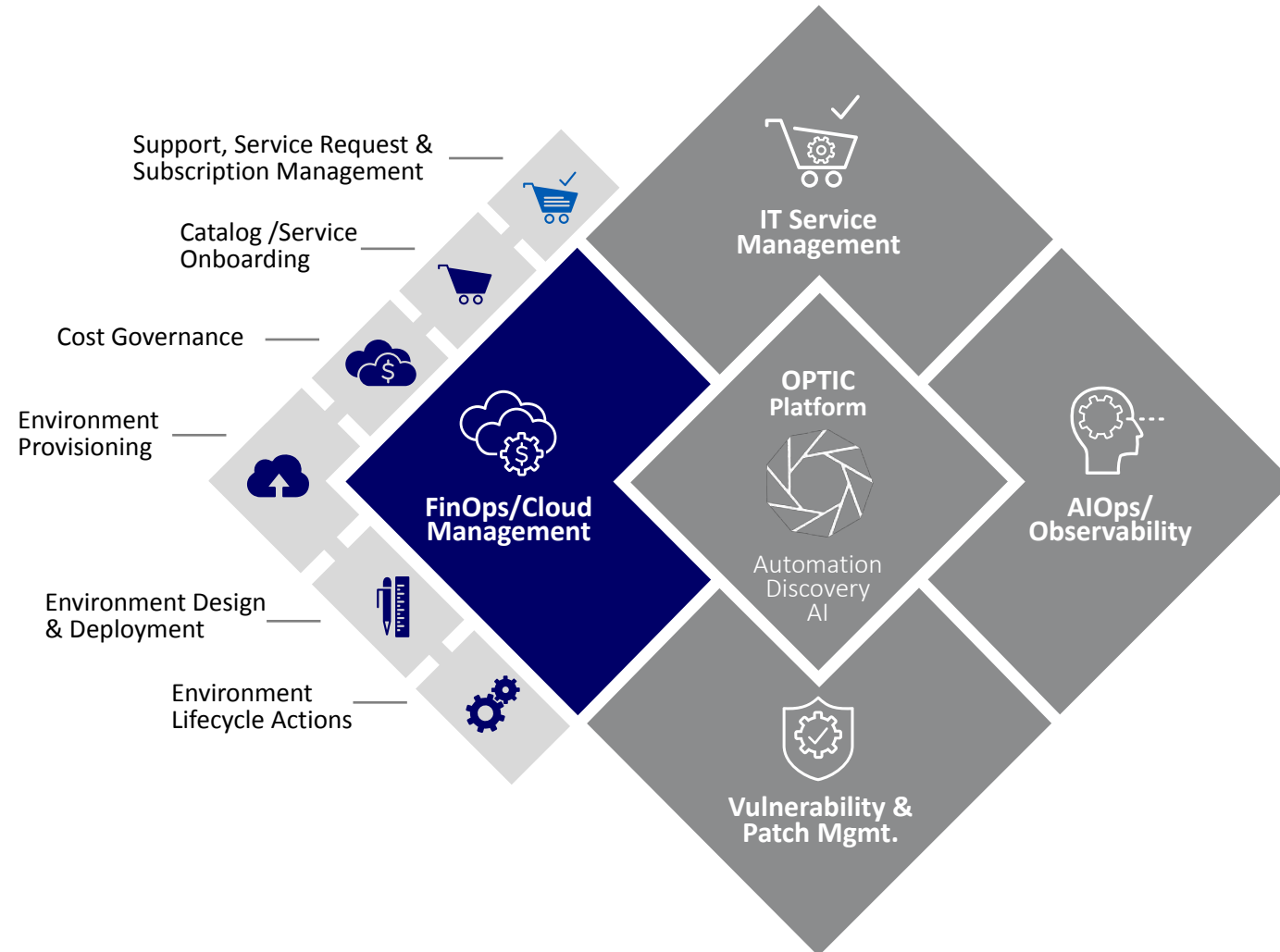
Highlight space issue\s →

Financial Monitoring using HCMX

Cut waste and control spend with FinOps

FinOps + Cloud Management

- Total cloud spend visibility
- AI-powered savings recommendations
- Guardrails for utilization
- Self-service fulfillment
- Multi-cloud management

Support, Service Request & Subscription Management

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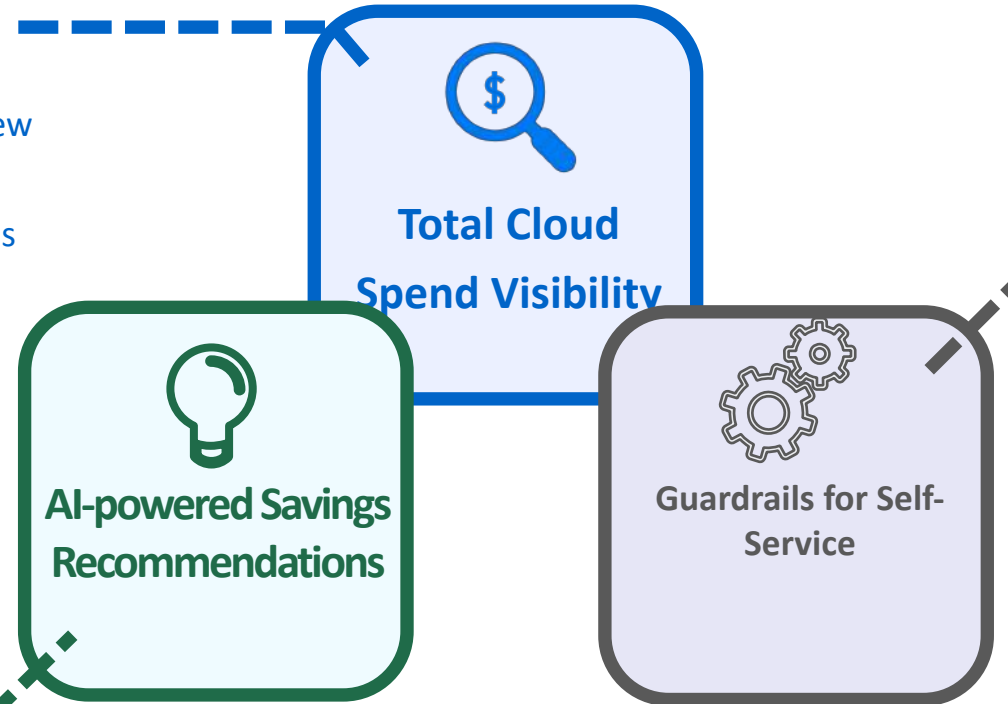Vulnerability & Patch Mgmt.

Micro Focus FinOps as SaaS
Cut waste and control spend

Uncover uncontrolled costs with actionable insights:

- Gain a complete, unified, real-time view of spend across all clouds
- Identify spend spikes and inefficiencies
- Enable showback and chargeback
- Use spend limits and alerts

Total Cloud Spend Visibility

AI-powered Savings Recommendations

Guardrails for Self-Service

Keep control of costs with self-service guardrails:

- Set consumption controls to prevent cloud over-provisioning
- Configure multi-level approvals
- Get advanced budget management features
- Automate workload shut-down times during idle periods

Take control of costs with ML-based optimization recommendations:

- Get RI (Reserved Instance) recommendations for discounted pricing
- View cross-cloud reservation coverage chart

Tame Your Cloud Costs with FinOps

Cut waste and control spend

Micro Focus FinOps Express

- Get holistic, granular multi-cloud spend visibility
- Lean on AI to auto-generate savings recommendations
- Prevent costly surprises with guardrails for self-service

open
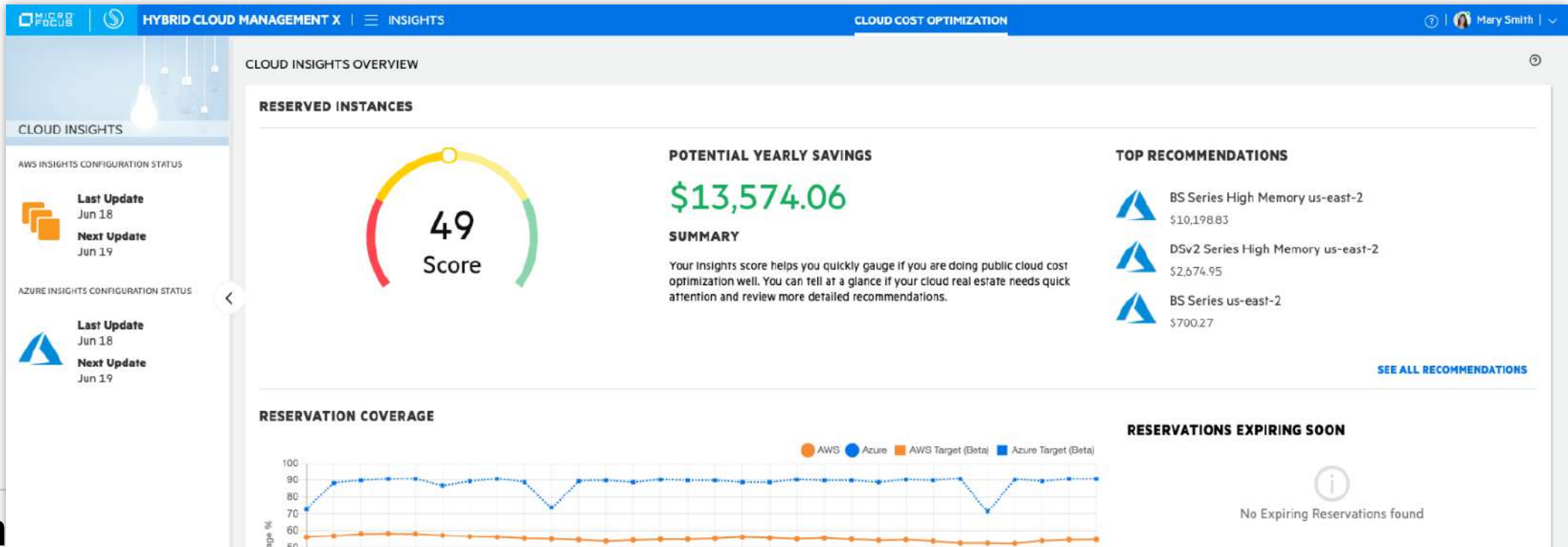
Cost Governance

Bring clear visibility and control to cloud expenditures across your organization

Showback

Filter reports based on account, region, and product

Filter reports based on native cloud tags

Filter reports based on custom, dynamic expressions

Configure **Azure tags**

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Thank you

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linkedin.com/in/rolffrydenberg

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manag**e**

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