Cisco IT AIOps

Scaling Enterprise Observability:
Insights and Best Practices

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BRKAPP-2037

Cisco Webex App

Questions?
Use Cisco Webex App to chat
with the speaker after the session

How

1. Find this session in the Cisco Live Mobile App

2. Click "Join the Discussion"

3. Install the Webex App or go directly to the Webex space

4. Enter messages/questions in the Webex space

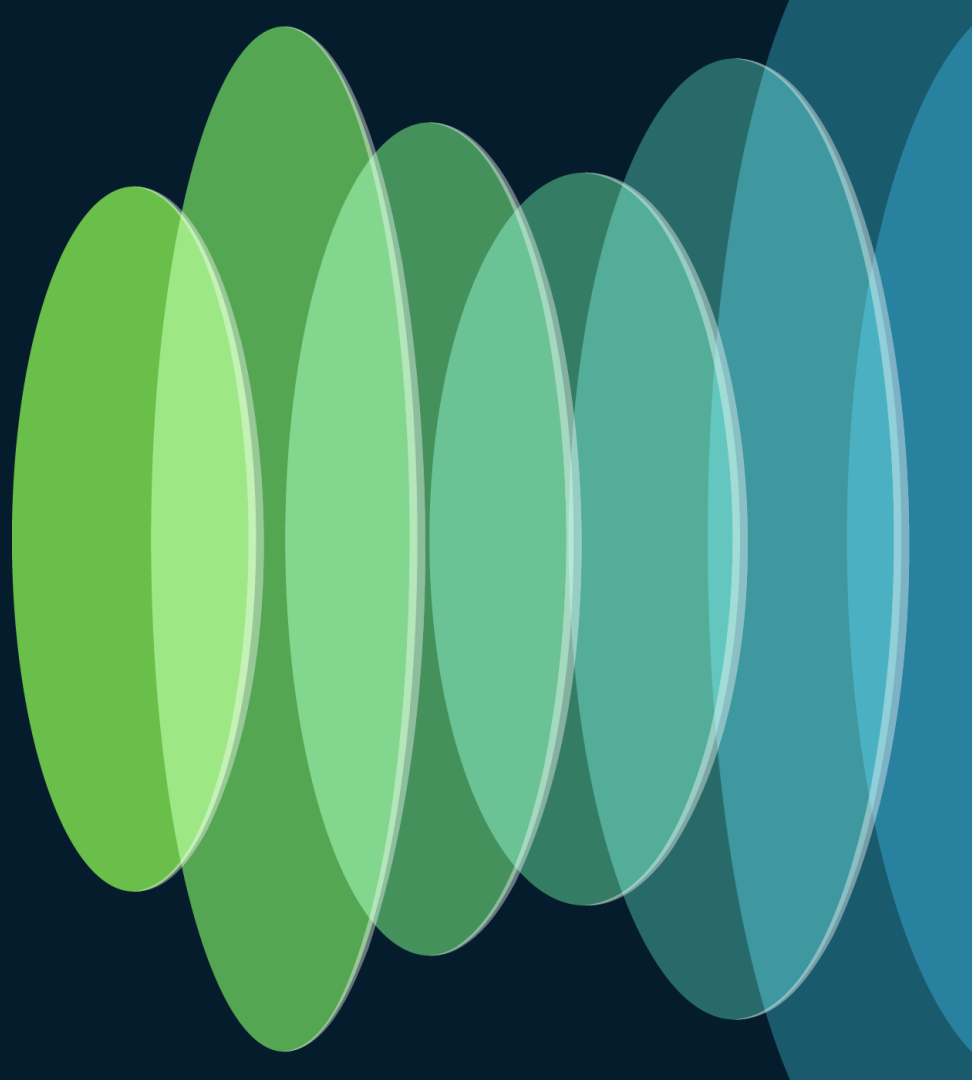Webex spaces will be moderated
by the speaker until June 7, 2024.

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Agenda

- Introductions
- Setting the Stage
- The Vision
- Execution
- Results
- What's Next

Introductions

Cisco IT

Anusha Nataraj
Leader, Service Delivery
Management, Cisco
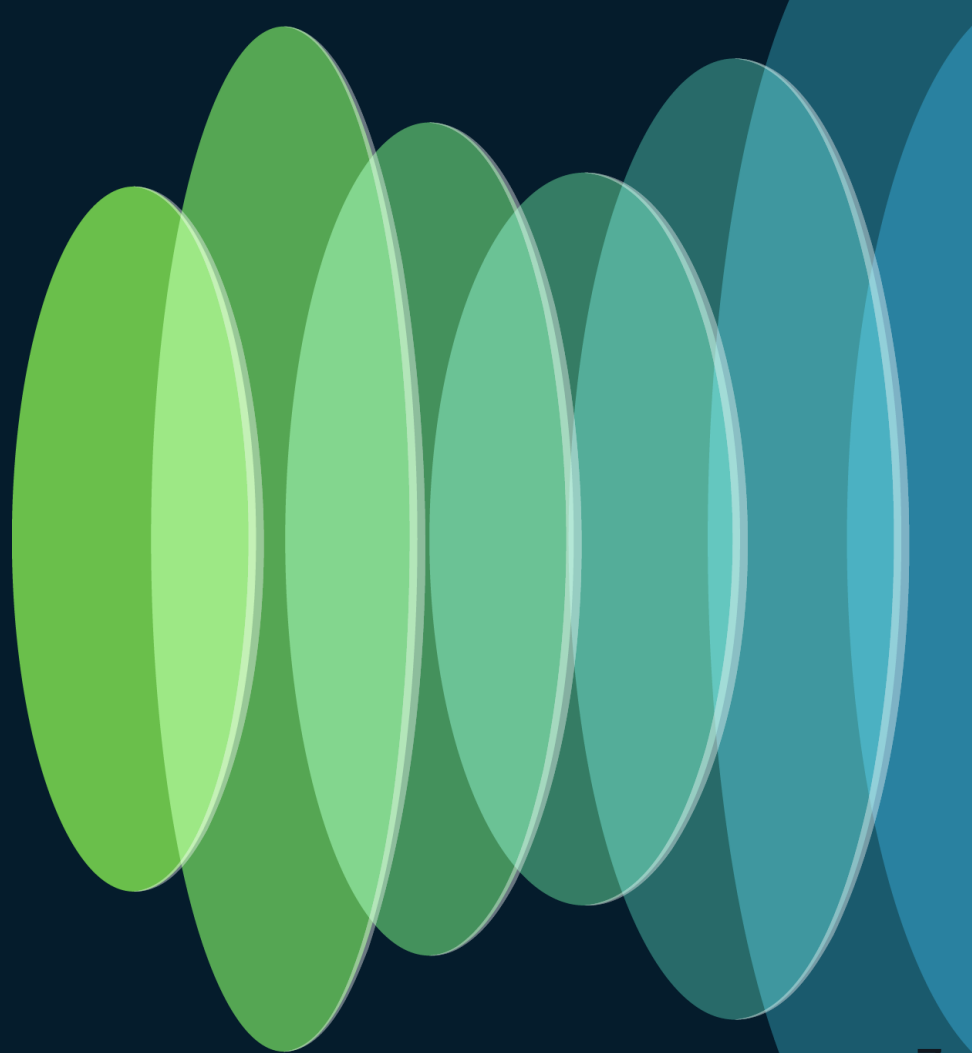
Venkat Bongoni
Principal Architect, Cisco

Cisco AppDynamics

Wayne Brown
Partner Engineering Team
Lead, Cisco AppDynamics

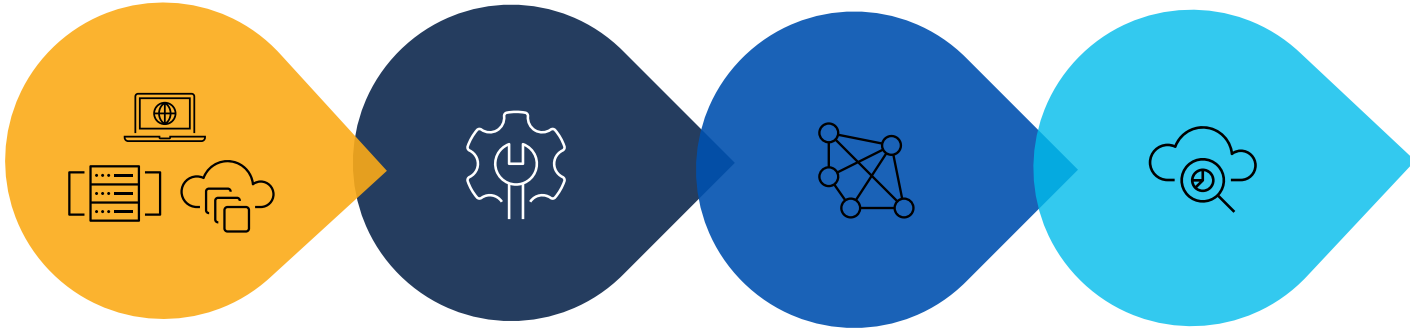# Setting the Stage

AIOps Impact for Cisco IT

- **60%** Reduction in MTTR

- **80%** Reduction in Business-Impacting Hours

- **99.99%** Business Availability

IT Complexity

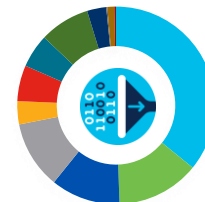|			
Increase in volume of Applications, Data, Tools, and Systems across hybrid landscape	Increase in Operational Complexity	Increase in System dependencies	Increase in Monitoring tools

Cisco IT Observability Landscape

⚠️ 2M events /day	🧩 40+ Integrations	📚 800+ Policies	🕐 500+ KPI's
📄 13 TB Logs/day	👤 1500+ IT Users	☁️ 100 Services	🗂️ 21,000+ App Endpoints 2900 + prod Applications

Event Distribution

- 🔵 Infra–alerts
- 🟢 Zabbix
- 🔵 Sciencelogic
- ⬜ AppDynamics
- 🟡 OEM
- 🔴 ThousandEyes
- 🟦 Zabbix
- 🟩 Splunk
- 🔵 snow
- ⬜ RPA
- 🟤 Others
- 🟥 AWS

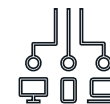4,800+ Routers   7,300+ LAN Switches   11,000+ UCS servers   56,000+ Virtual Machines   300,000+ Nodes   24,000+ Access points   70,000+ Containers   3000+ Databases   Availability Monitoring for 292,500+ Endpoints

Key Use Cases

DevOps | Domain teams/SRE | Duty Managers | Command Center | Leadership (Service Management Executives)

Policy-enforced monitoring | reduce IT noise

Reduce Noise through AI techniques; Automated policy enforcement, detect critical root-cause events and prioritize for faster issue triaging and detection

Cross Domain event correlation for monitoring On-Prem and Cloud based IT Services

Correlate events across various domains (AppOps, SecOps, NetOps, CollabOps, InfraOps) for end-to-end IT service monitoring

Incident Correlation and Self-Remediation

Reduce mean time to resolve issues through AI based advisory ; correlate live events with historical incidents, changes and problems

Real-time Service Availability Monitoring

Monitor IT Service availability in real-time with insights into impacted services , application and infrastructure components
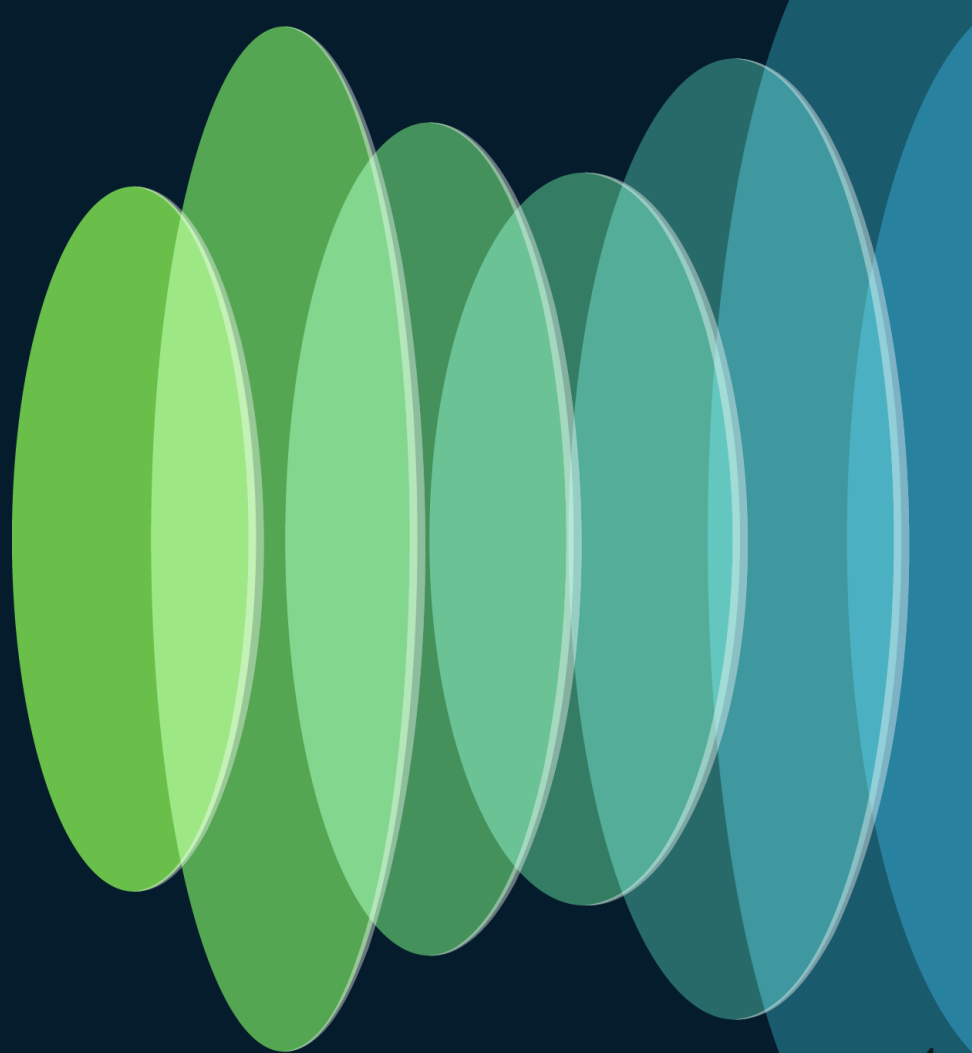
Outage Prediction with Actions

View predictive alerts for IT services , narrow down to causing application modules , components or end points to make quick decisions

Persona Based Unified Visualization

Visualize Business KPIs and IT's Service performance using the 5-level visualization framework from Domain teams /SRE to Leadership view

The Vision

Our Vision
Over the top virtual simplicity, insights, and action

Platform Agnostic

Any platform, any location, any operational domain, easy and fast on-boarding.

Unified Visualization

Inter-domain 5 levels of persona-based end-to-end visualization of entire I&O system health on a single screen

Insights

Inter-domain metric and incident correlation, of incidents and services across all operational domains – AppOps, NetOps, InfraOps, SecOps, CollabOps

Actions

Discover actionable events from correlated alerts and notifications and act on it

Multi-Persona Visualization Framework

Availability Dashboard
Top-level executive view with business impact and operational metrics

Command Center Console
Day 1 Operations view for issue triaging and incident creation

Topology View
Dependency-mapping dashboard that links application, network and server infrastructure

Service Health
Application, Network and Infrastructure drill-down dashboards

Event Search
Raw correlated data with dependencies, incidents and changes

Execution

CISCO Live!

Monitoring & Observability in IT – Today

Aggregating events and metrics into a single view

Focusing on Cisco solutions but providing support for a dynamic range of monitoring tools

Cisco's IT AIOps Inter-domain Integrations

RUNBOOK AUTOMATION

Knowledge
Custom Scripts
Existing Runbooks

Known Remediation
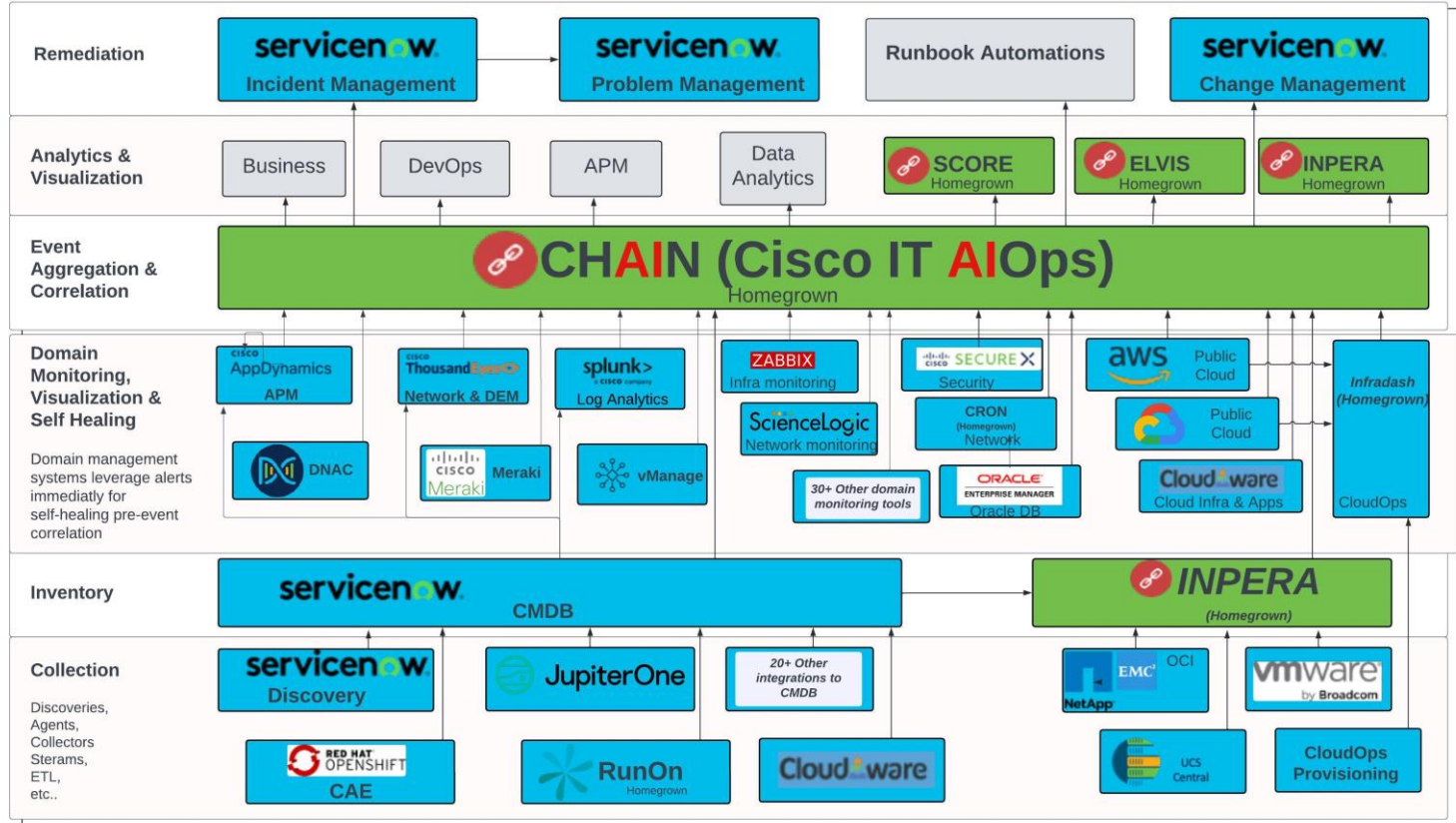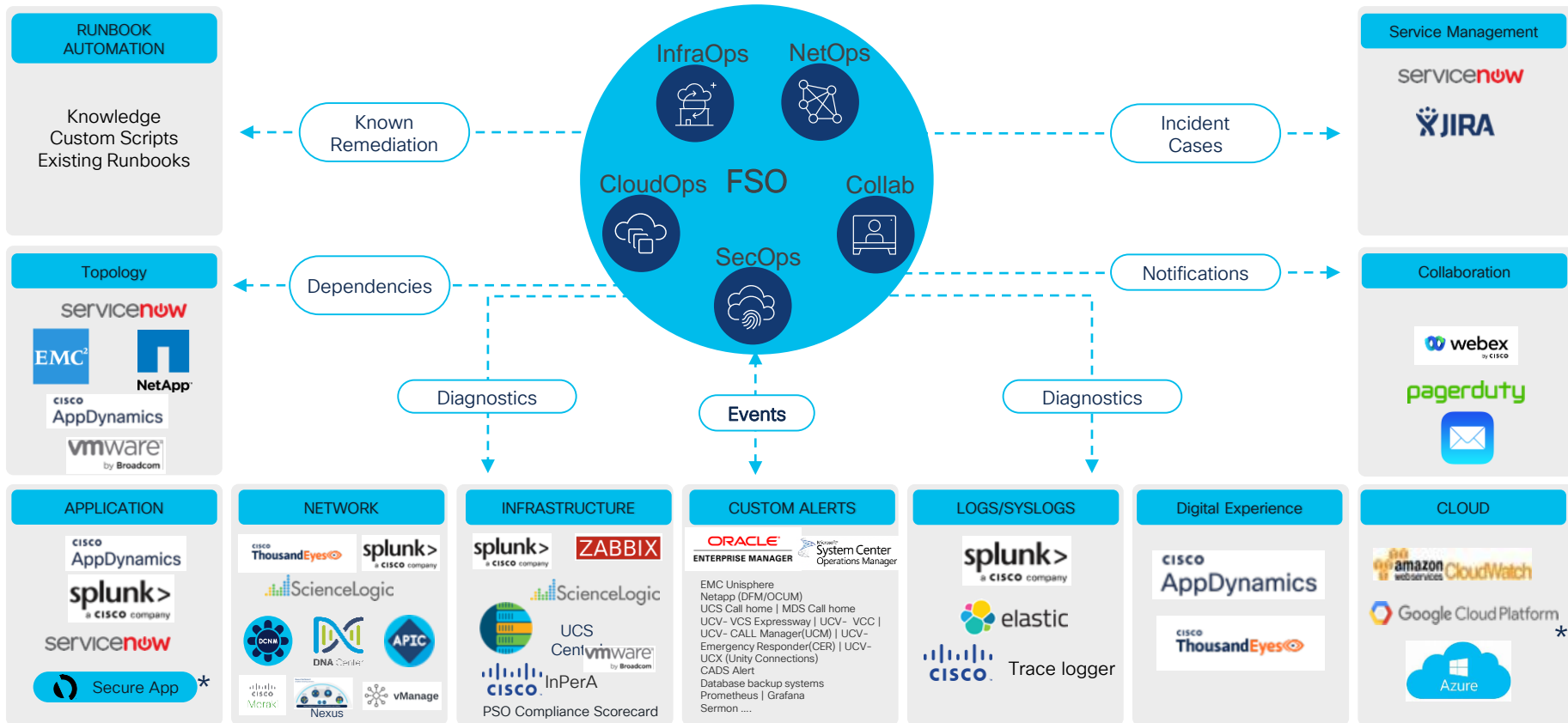
InfraOps **NetOps**

CloudOps **FSO** **Collab**

SecOps

Incident Cases

Service Management

servicenow

JIRA

Dependencies

Notifications

Topology

servicenow

EMC² NetApp

CISCO AppDynamics

vmware by Broadcom

Collaboration

webex by Cisco

pagerduty

Diagnostics

Events

Diagnostics

APPLICATION

CISCO AppDynamics

splunk> a CISCO company

servicenow

Secure App *

NETWORK

CISCO ThousandEyes splunk> a CISCO company

ScienceLogic

DCNM DNA Center APIC

CISCO Meraki Nexus vManage

INFRASTRUCTURE

splunk> a CISCO company ZABBIX

ScienceLogic

UCS Central vmware by Broadcom

CISCO InPerA

PSO Compliance Scorecard

CUSTOM ALERTS

ORACLE ENTERPRISE MANAGER Microsoft System Center Operations Manager

EMC Unisphere
Netapp (DFM/OCUM)
UCS Call home | MDS Call home
UCV- VCS Expressway | UCV- VCC |
UCV- CALL Manager(UCM) | UCV-
Emergency Responder(CER) | UCV-
UCX (Unity Connections)
CADS Alert
Database backup systems
Prometheus | Grafana
Sermon ....

LOGS/SYSLOGS

splunk> a CISCO company

elastic

CISCO Trace logger

Digital Experience

CISCO AppDynamics

CISCO ThousandEyes

CLOUD

amazon web services CloudWatch

Google Cloud Platform

*

Azure

Drive Operational Excellence through Cisco AIOPS
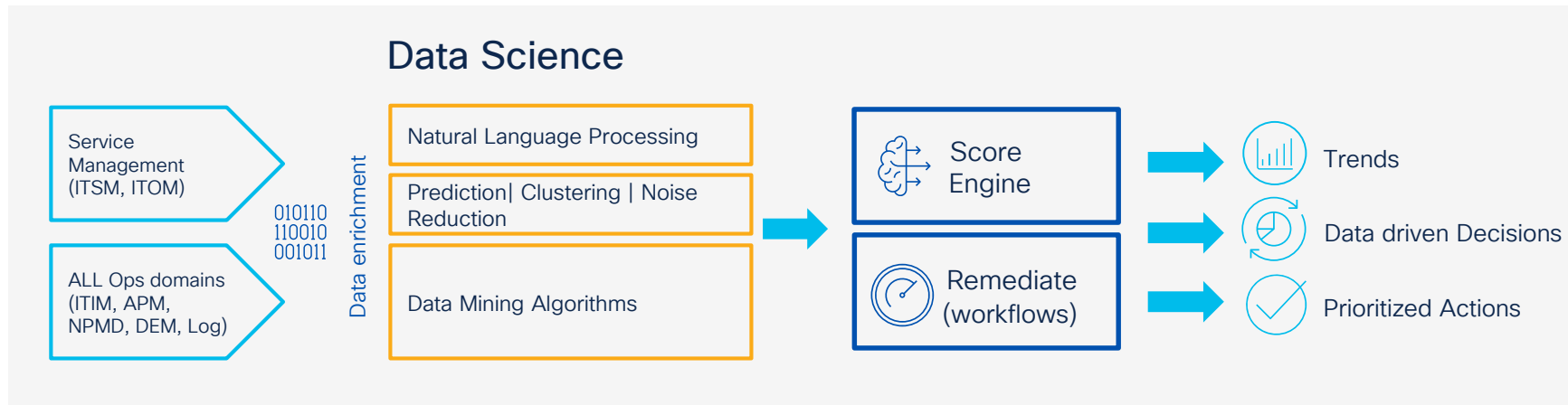
Noise Reduction

Content and time-based event grouping ; Event Deduplication
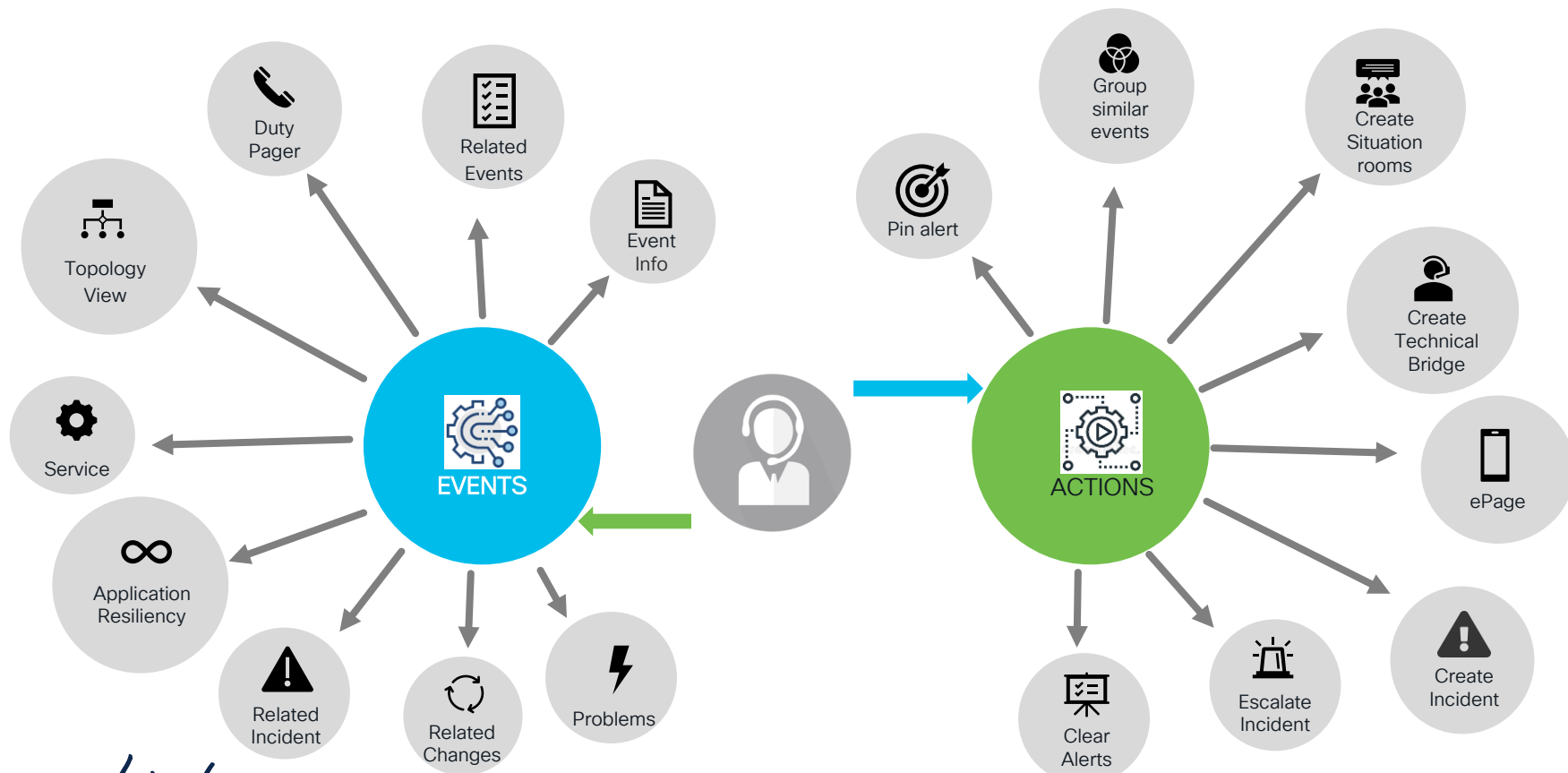
Event Clustering

Decision-making based on results from prediction & clustering
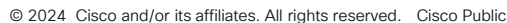
Predictive Events

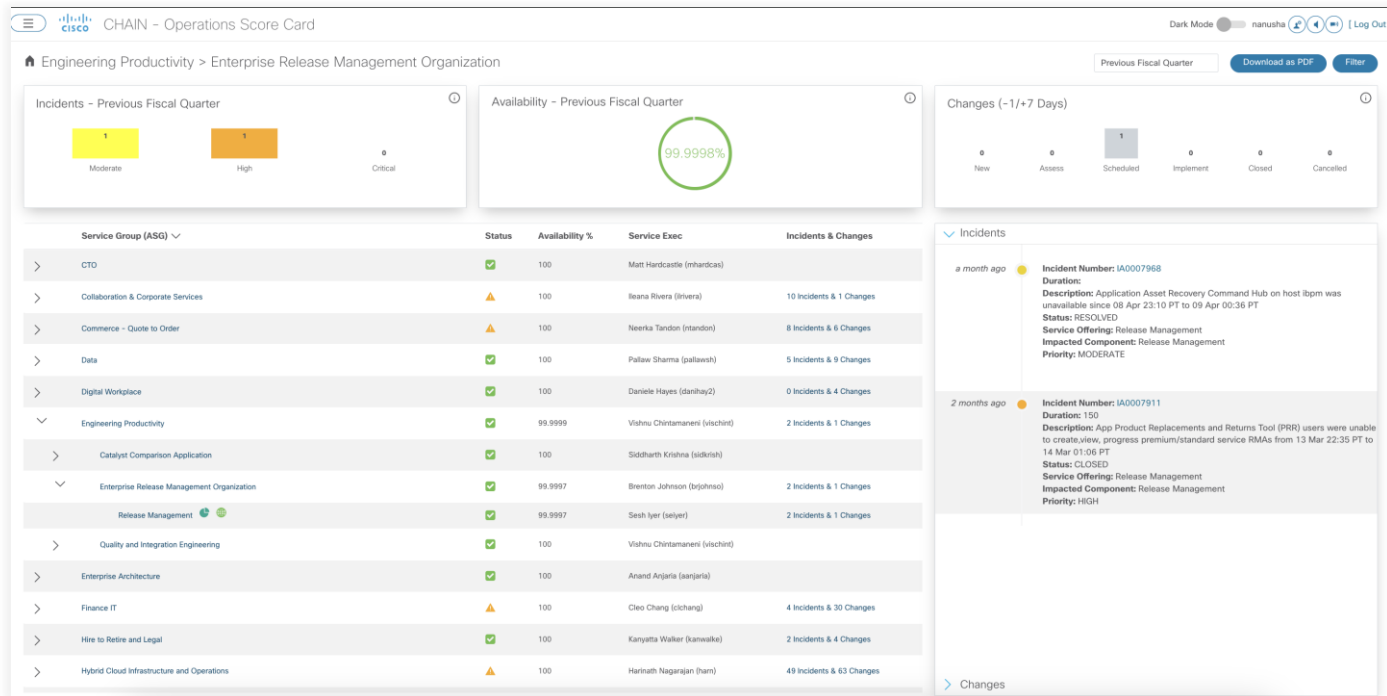Model training on historical correlated events with incidents data

Data Science

Service Management (ITSM, ITOM)

ALL Ops domains (ITIM, APM, NPMD, DEM, Log)

010110
110010
001011

Data enrichment

Natural Language Processing

Prediction| Clustering | Noise Reduction

Data Mining Algorithms

Score Engine

Remediate (workflows)

Trends

Data driven Decisions

Prioritized Actions

Event Management
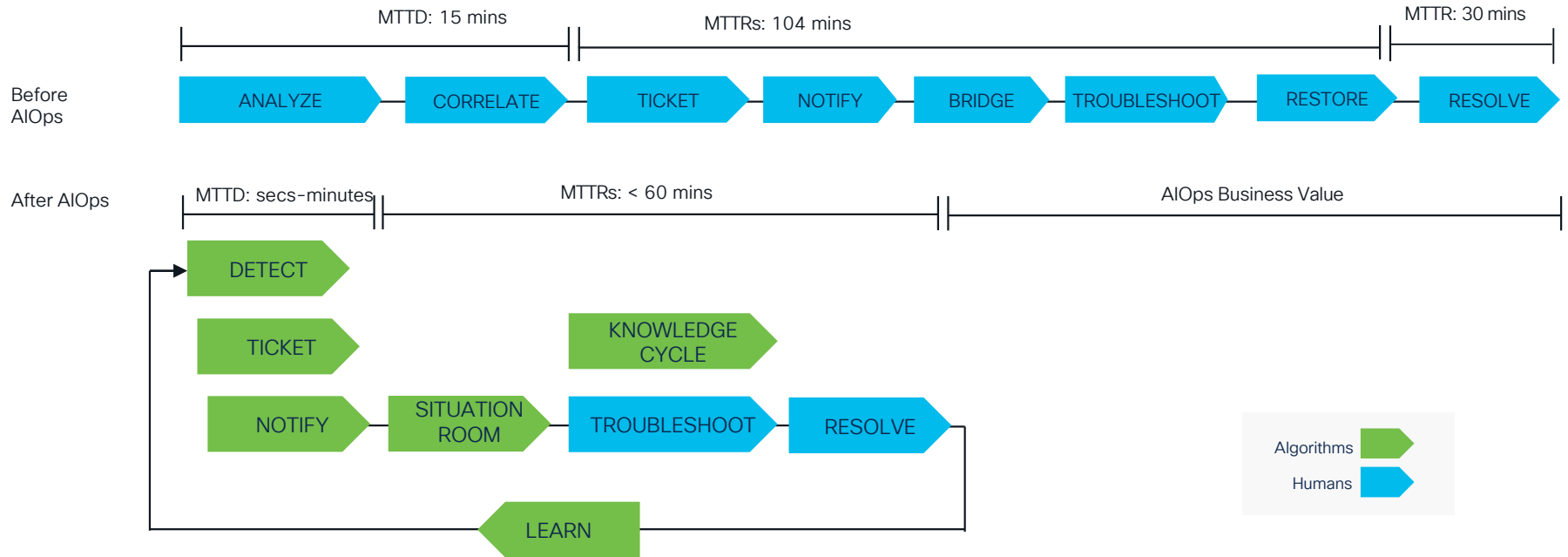
Enterprise Operations Center view

CIO view

Real-time IT Availability with insights into ongoing Incidents and changes

Drill-down view to business functions and related business impact

Results

BRKA2

Business Value

MTTD: 15 mins

MTTRs: 104 mins

MTTR: 30 mins

Before AIOps

| ANALYZE | CORRELATE | TICKET | NOTIFY | BRIDGE | TROUBLESHOOT | RESTORE | RESOLVE |

After AIOps

MTTD: secs-minutes

MTTRs: < 60 mins

AIOps Business Value

DETECT

TICKET

KNOWLEDGE CYCLE

NOTIFY | SITUATION ROOM | TROUBLESHOOT | RESOLVE

LEARN

Algorithms
Humans

IT operational metrics

Sum of Business Impact Hours / Sum of High and Critical Incident Count chart (FY2018–FY2023):
- FY2018: 1053.16, 222
- FY2019: 750.12, 170
- FY2020: 602.81, 155
- FY2021: 295.17, 91
- FY2022: 127.26, 45
- FY2023: 159.65, 31

↓ **80%**
Reduction
in business-impacting hours

Time to Resolve Major Incidents (FY2018–FY2023)

↓ **60%**
Reduction
Time to Resolution

Availability % (FY2019–FY2023)

↑ **Improved**
Business availability from
99.98 → 99.99

What's Next

BRKM2

Our Full-Stack Observability portfolio

Full-Stack Observability use cases

GenAI Powered Unified Observability Experience

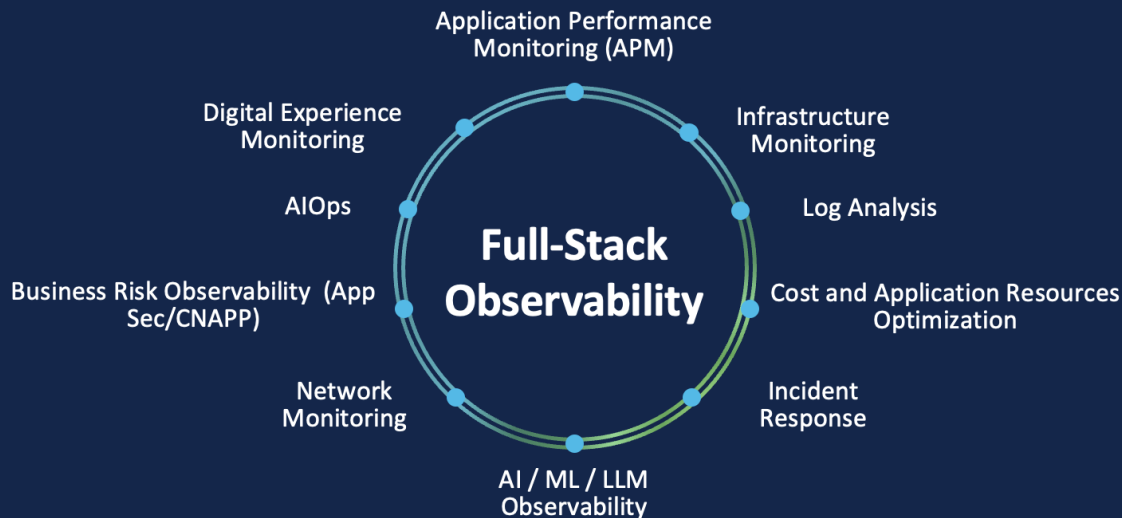**Splunk IT Service Intelligence**
Business Service Monitoring, Event Aggregation, AIOPS

AppDynamics SaaS | On-Premises

Splunk Observability Cloud

Splunk Enterprise | Splunk Cloud

Cisco + Splunk Full-Stack Observability

Full-Stack Observability

- Application Performance Monitoring (APM)
- Digital Experience Monitoring
- AIOps
- Business Risk Observability (App Sec/CNAPP)
- Network Monitoring
- AI / ML / LLM Observability
- Incident Response
- Cost and Application Resources Optimization
- Log Analysis
- Infrastructure Monitoring

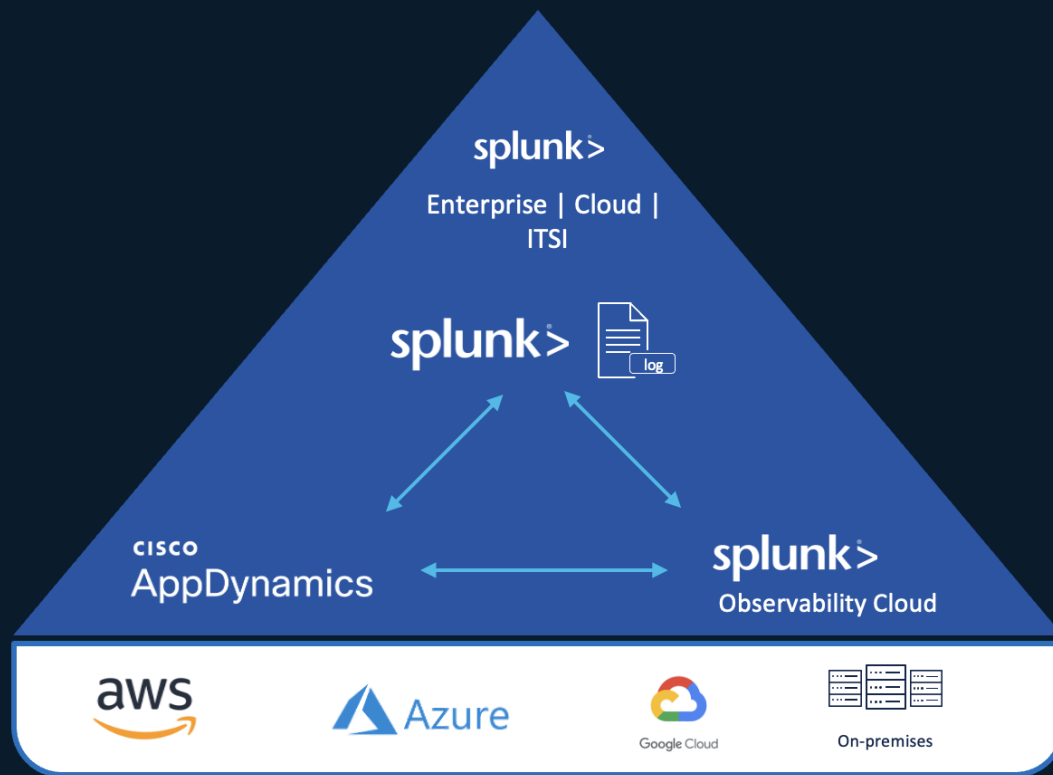| Real-Time Insights | AI Powered | Federated | Open Telemetry Native | Extensibility | Cross MELT | Business context |

On-Prem | Hybrid Cloud | Multi-Cloud | Cloud-Native

Our initial approach

Complete Your Session Evaluations

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- Book your one-on-one Meet the Engineer meeting

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Contact us at:

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CISCO Live!

Thank you