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Hybrid Cloud Management

IBM Observability by Instana

Overview & Demo & Roadmap for Nordic AIOps & Management User Group

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Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon many factors, including considerations such as the amount of multiprogramming in the user’s job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve results similar to those stated here.

Modern IT applications and operations are complex

Organizations are turning to AI-powered Automation to improve speed, utilization and service delivery

Lack of Visibility

Multi-cloud, disparate platforms & tools, and complex technology stacks.

No single source of truth results in manual actions

Rising Costs

Spend is not optimized – resulting in massive overspend

Resourcing decisions are made with “oversized guesstimates” to avoid performance issues

Limited Staff and Chasing Problems

Noise from disparate systems makes it difficult to enforce IT policies

Manual actions drains time from core business focus and few have the specialized knowledge needed

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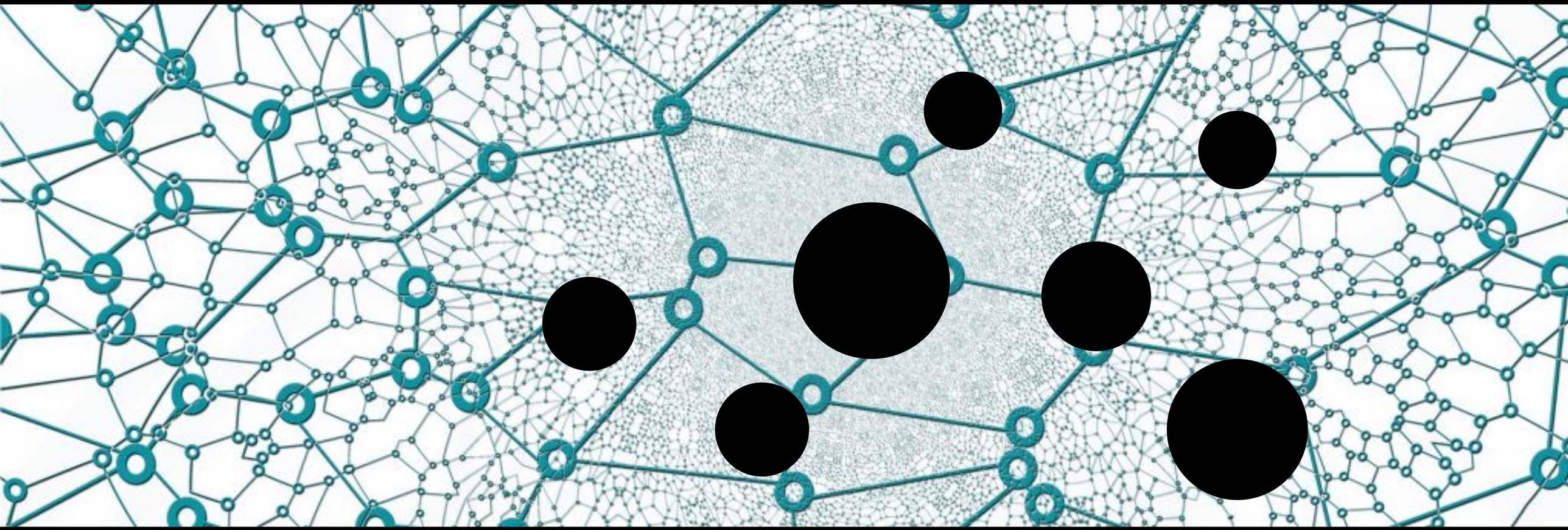
Traditional Monitoring Tools don’t give DevOps Teams Full Visibility into Hybrid and Rapidly Changing Environments



You Can’t Fix What You Can’t See

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What keeps things complicated?

Deployment Frequency

Organizational shift to DevOps

Technical Complexity

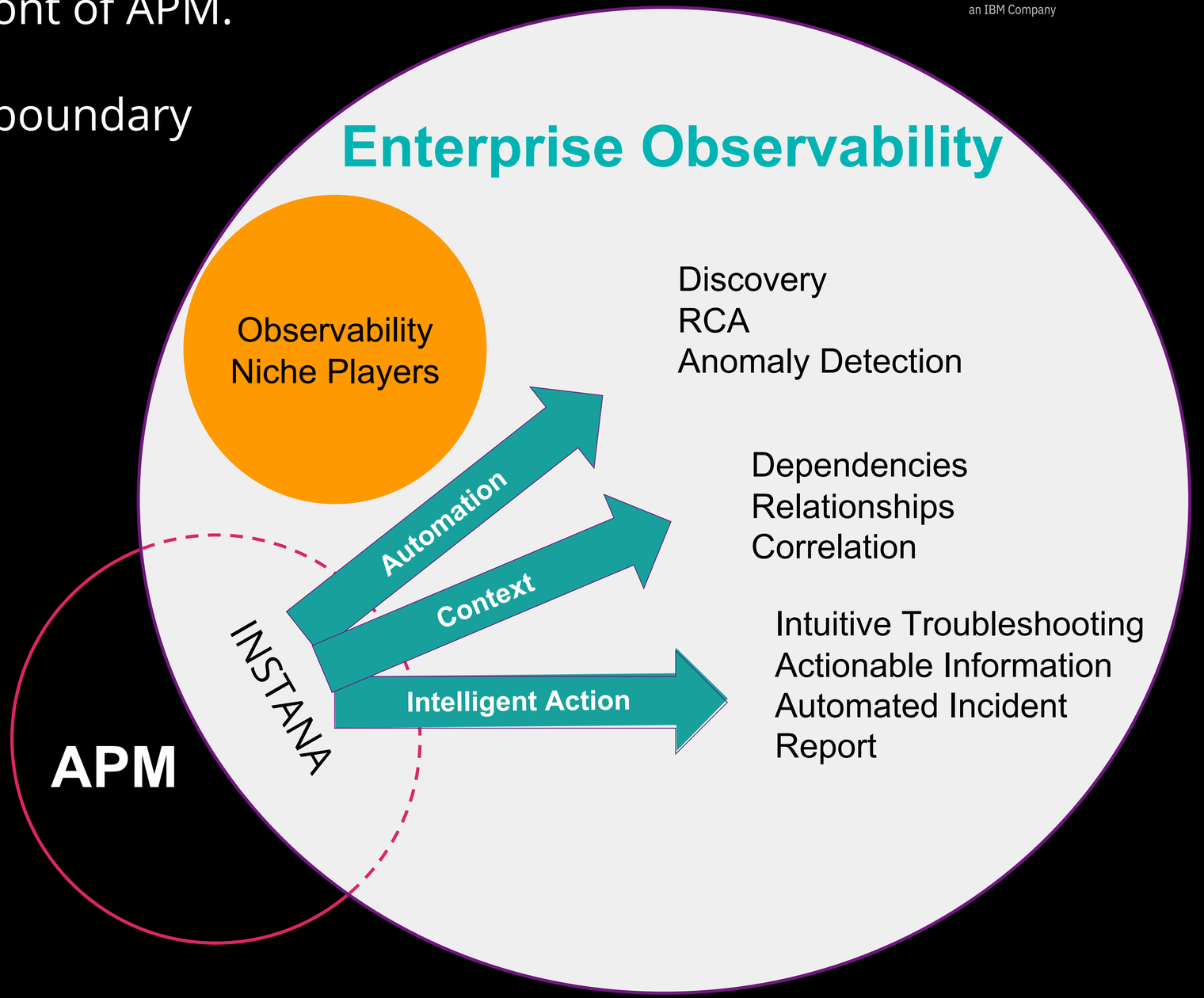
Instana has long been at the forefront of APM.

Instana is now breaking out of the boundary of APM and leading the way into Enterprise Observability.

Automation

Context

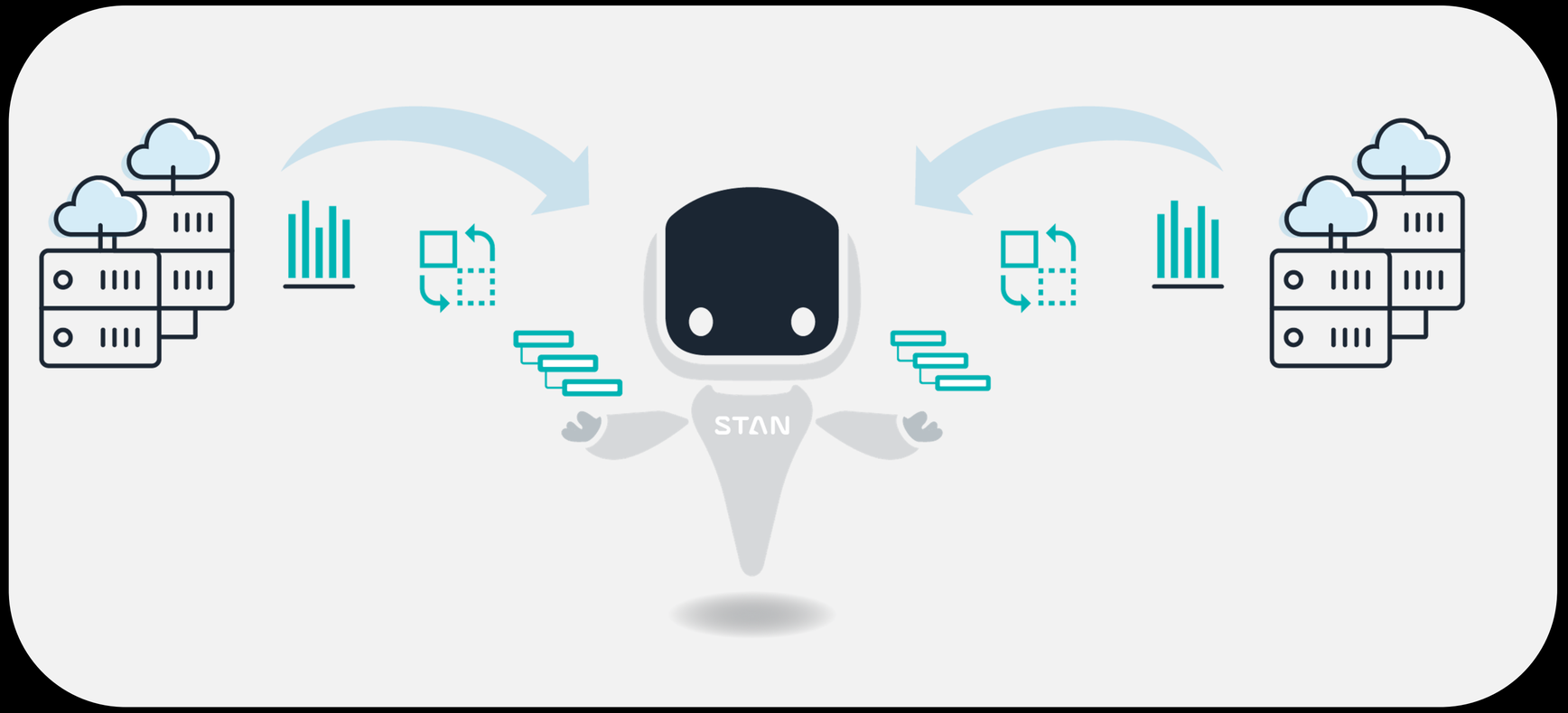
Intelligent Action



Discovery Automation

Automated full-stack application visibility - including real-time change detection, mapping, tracing and profiling - all with 1 second granularity and no sampling.

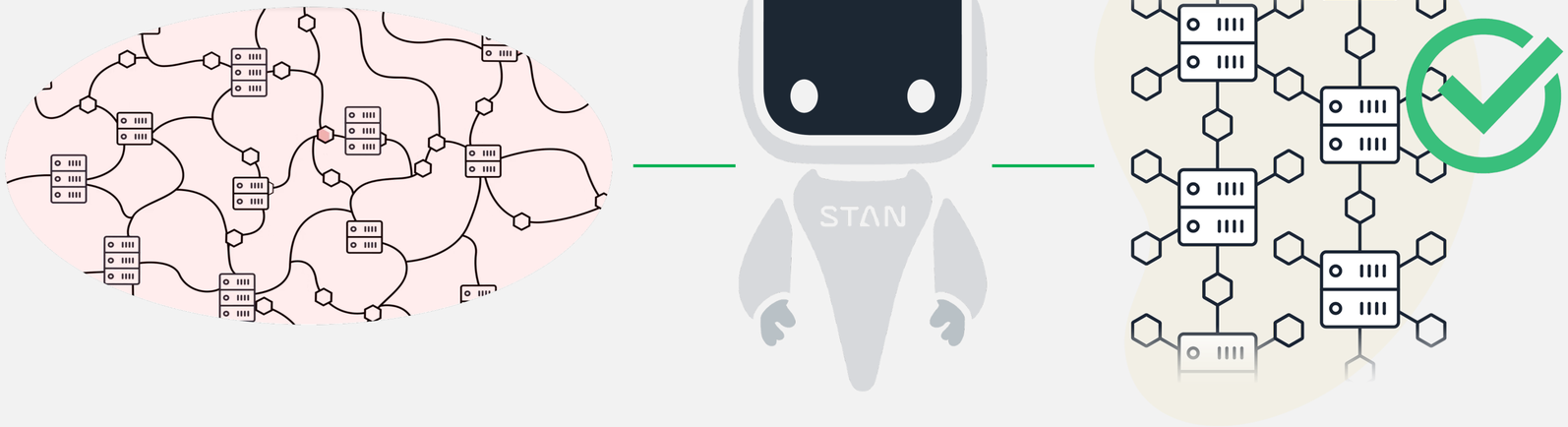
- Data collection
- Monitoring
- Dashboards
- Knowledge
- Anomaly Detection
- Root Cause Analysis



Real Time Context

Real-time detection and mapping of all interdependencies reduces risk and decreases MTTR by ensuring that you’re always looking at accurate information.

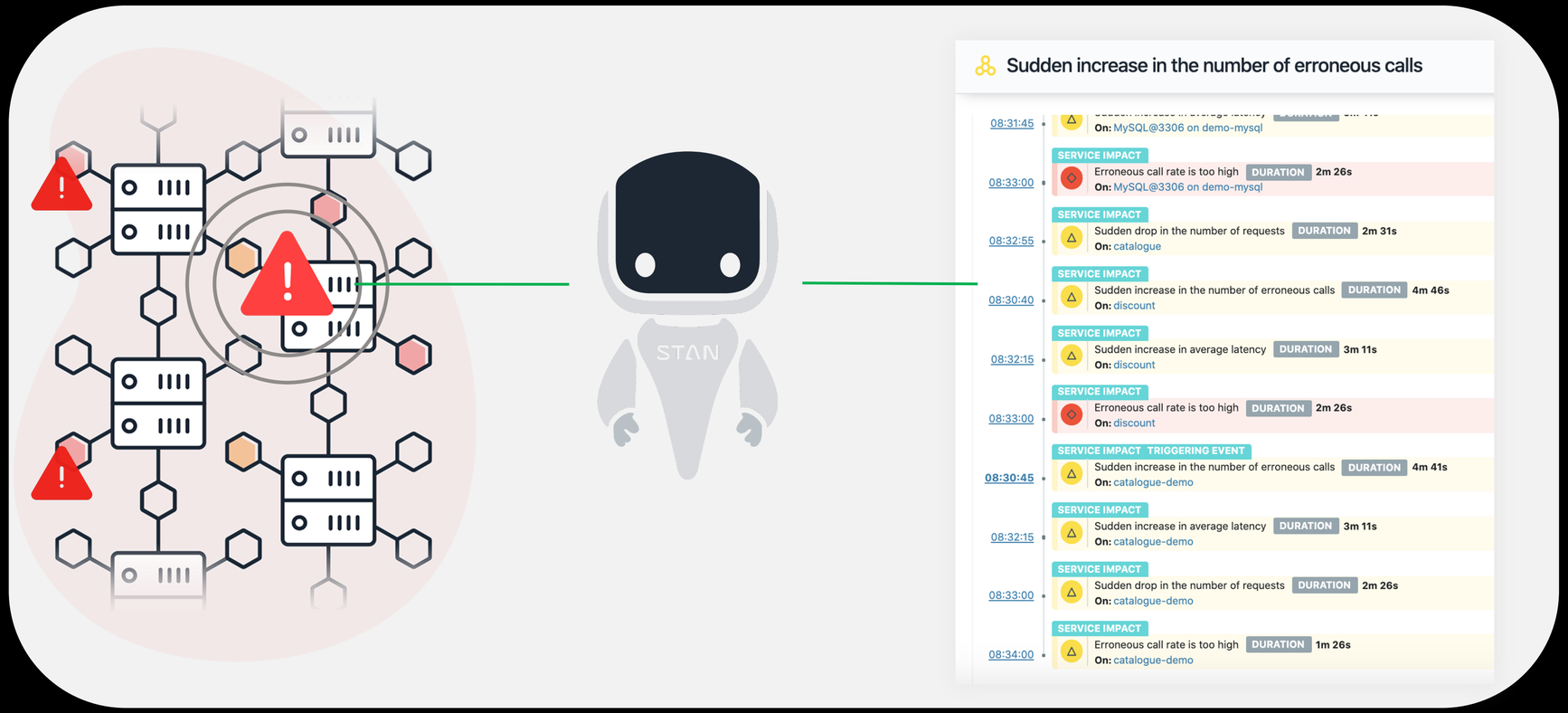
- Dynamic Graph
- Historical Capability
- Stream Processing
- Application Perspectives
- Context Guide
- Open Source & Logging Integrations



Intelligent Action

Resolve issues faster with an understanding of contributing factors. Analyze every user request from any perspective to quickly resolve bottlenecks and optimize performance.

- Machine Learning
- Actionable Information
- Correlated Alerting & Incident Reporting
- Guided Troubleshooting
- Immediate Feedback of Pipeline & Canaries



IBM Observability by Instana - Today

Supporting Multiple Domains

BizOps | DevOps | SecOps | ITOps

Comprehensive Capabilities

- AUTO-DISCOVERY & INSTRUMENTATION
- VERTICAL & HORIZONTAL CONTEXT
- APPLICATON PERSPECTIVES
- PIPELINE FEEDBACK
- ROOT CAUSE ANALYSIS
- UNBOUNDED ANALYTICS

250+ Observed Technologies

- RUNTIMES: Java, .NET, Python, Ruby, Node.js, .NET Cor, Go, PHP
- OSS COLLECTORS: Prometh, Jaeger, OpenTelem, Zipkin
- MESSAGING: ActiveMQ, Kafka, Mule ESB, RabbitMQ, IBM MQ, Tibco EMS
- WEB PROXIES: HAProxy, HTTPd, NGINX, Microsoft IIS
- IBM TECHNOLOGIES: IBM MQ, IBM ACE, IBM Datapower, IBM API Connect, Websphere AS, Websphere Liberty, DB2, OpenShift, AIX, IBM i, Db2 on i, Linux on IBM Z, IBM Z, Db2 on Z, zHMC, CICS, IMS, IBM Cloud, IBM APM, IBM Watson AIOps
- DATASTORES: MySQL, MongoDB, PostgreSQL, Oracle Data, DB2, MariaDB, Elasticsearch, SQL Server, Redis, SAP Hana

Hybrid Multi-Cloud Platform Observability

- DIGITAL: Mobile Apps, Websites
- CLOUD PROVIDERS: IBM Cloud, Azure, AWS, Google Cloud
- CLOUD & VIRTUALIZATION PLATFORMS: Kubernetes, Cloud Foundry and BOSH, Docker, VMware vSphere
- MACHINES: Windows, Linux, Mac OS, Unix, IBM i, AIX
- MAINFRAME: IBM Z

Better, Stronger, Smarter Together: IBM + Instana

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Mainframe and Legacy Application and Infrastructure

Contribute mainframe and legacy infrastructure, applications, and middleware visibility

Preferred Observability feed for Watson AIOps

Contextualized data with metrics, traces, profiles, dependency mapping to drive automated remediation

Red Hat

Enterprise-grade container platform

Builds on OpenShift's infrastructure management capabilities to provide deeper application visibility

Accurate real-time data

- 100% distributed tracing, 1 second metrics
- Immediate software deployment pipeline and CI/CD feedback

Continuous, real-time discovery of microservices and infrastructure

- Single agent architecture
- 250+ domain specific sensors

Powerful and easy to use data analytics

- Infinite flexibility to generate new insights from the entire repository of application request trace data

Dependency mapping of "applications"

- Automated dependency mapping across the entire stack
- Flexible Application Perspectives

Automated Root-cause analysis of Service Level violations

- Automatic event correlation including performance, errors, and changes

DEMO

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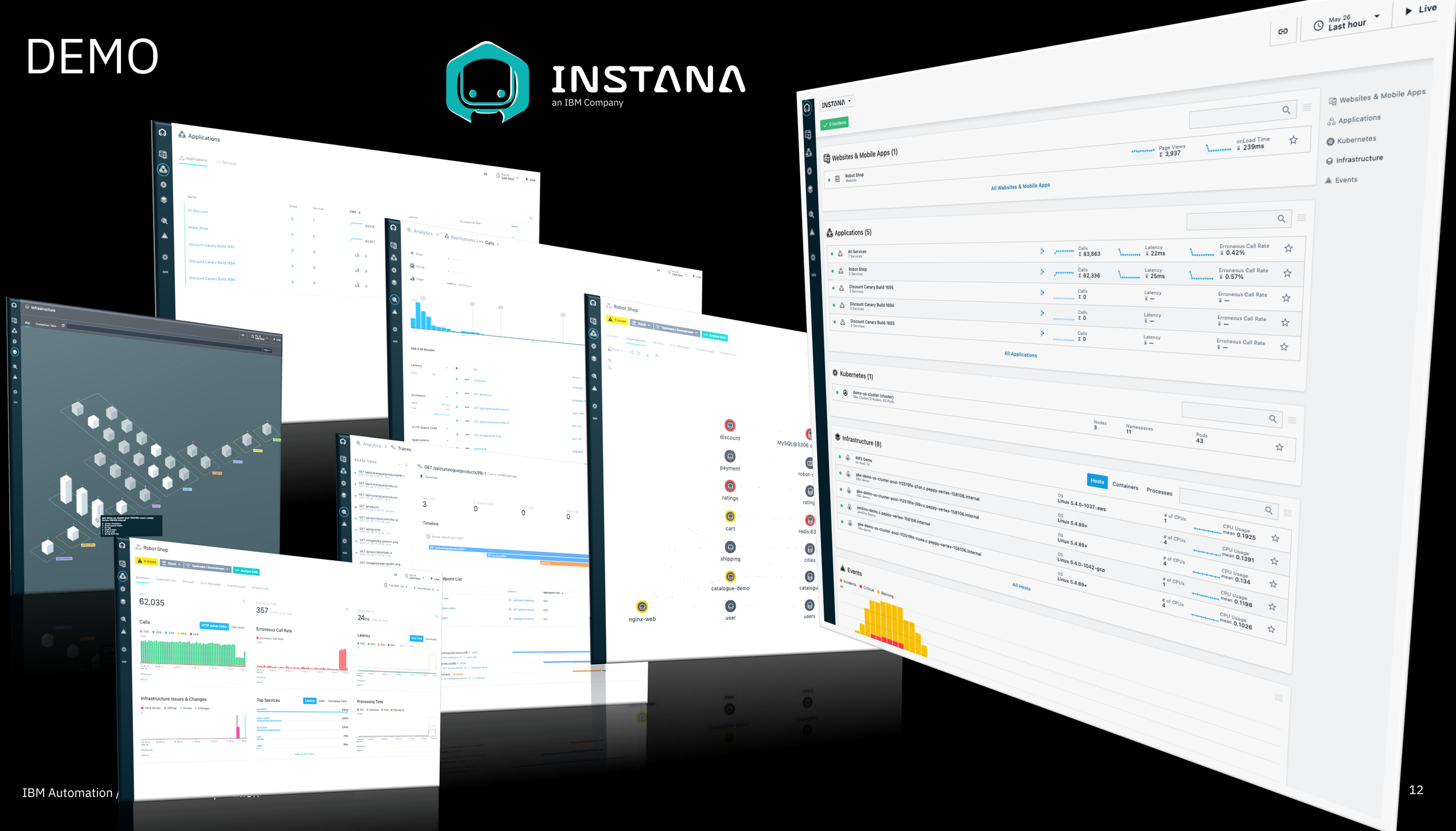

IBM Observability by Instana

Roadmap

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Better, Stronger, Smarter Together: IBM + Instana

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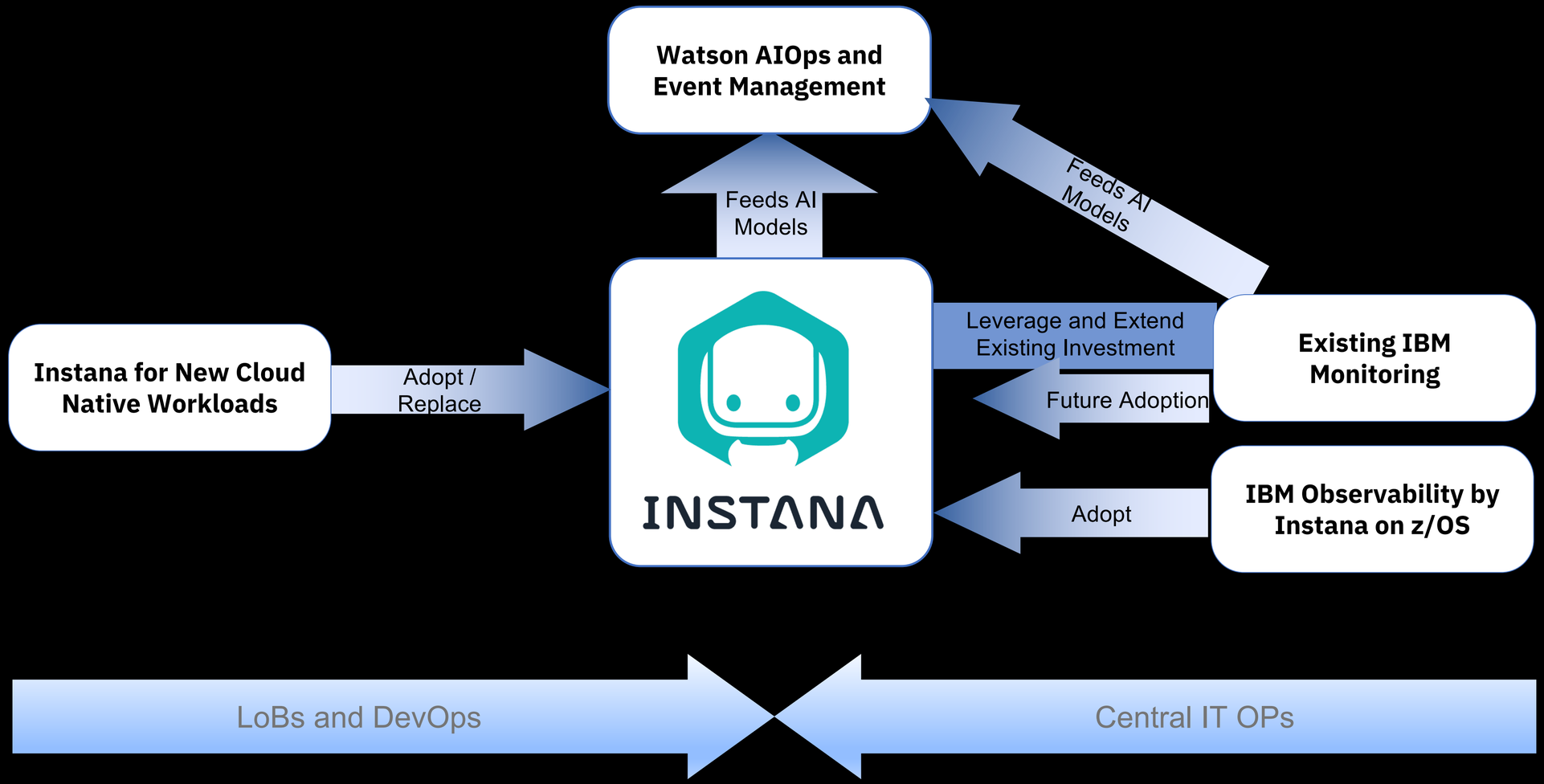

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Instana IBM Synergy Roadmap – by Themes

Q2 2021

- ✓ Integration with IBM middleware and platforms
  - ✓ Websphere (WAS)
  - ✓ IBM I *(tech preview)*
  - ✓ MQ *(tech preview)*
  - ✓ ACE *(tech preview)*
- ✓ Integration with existing IBM monitoring products
  - ✓ Consume APM v8 data *(tech preview)*

Q3 2021

- ✓ Integration with IBM middleware and platforms
  - ✓ MQ
  - ✓ ACE (App Connect Enterprise)
  - ✓ DataPower
  - ✓ DB2
  - ✓ IBM i - OS & DB2
  - ✓ 'Manage to' IBM Power *(tech preview)*
  - ✓ WAS ND on IBM Linux on Z *(tech preview)*
  - ✓ IBM HTTP Server *(tech preview)*
  - ✓ IBM Cloud *(tech preview)*
- ✓ Integration with existing IBM monitoring products
  - ✓ Consume APM v8 data
  - ✓ Consume ITM v6 data *(tech preview)*
- ✓ New Instana offering for IBM Z:
  - ✓ IBM Observability by Instana APM on z/OS
    - ✓ GA: September 10th 2021

Q4 2021

- Integration with IBM middleware and platforms
  - 'Manage to' IBM Power metrics
  - ACE (vm based)
  - WAS ND on IBM Linux on Z
  - IBM Cloud sensor
  - IBM HTTP Server
  - MQ MFT / FTE *(tech preview)*
  - IBM Power HMC *(tech preview)*
  - Additional DataPower *(tech preview)*
  - API Connect *(tech preview)*
  - OpenStack metric monitoring *(tech preview)*
- Integration with existing IBM monitoring products
  - Enhance Instana on z/OS with additional usage scenarios
  - Consume ITM v6 data
  - Consume additional APM V8 agents (MQ, WAS)
  - Consume APM v8 data - add DB2 *(tech preview)*
- New Instana add-on's:
  - Synthetics Commercial Offering *(closed beta)*

1H 2022

- Integration with IBM middleware and platforms
  - IBM Power HMC
  - ACE (container based)
  - DataPower
  - API Connect
  - MQ MFT / FTE
  - OpenStack metric monitoring
  - Hosted on IBM Cloud Catalog
- Integration with existing IBM monitoring products
  - Enhance Instana on z/OS with additional usage scenarios
  - APM v8 - add DB2
  - Cloud Pak for Watson AIOps
- New Instana add-on's:
  - Synthetics Commercial Offering
  - Log based Root Cause Analysis *(tech preview)*

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Instana IBM Synergy Roadmap - Detail

Q3

Generally Available

- ✓ *IBM MQ tracing (vm based) & expanded metrics*
- ✓ *ACE/IIB, DataPower, expanded DB2 LUW metrics*
- ✓ *iSeries & DB2 on i sensor enhancements*

Tech Preview

- ✓ *Consume additional APM V8 agents (MQ, WAS)*
- ✓ *Connection to ITM V6 metrics*
- ✓ *Manage-to IBM Power metrics*
- ✓ *AppConnect (ACE) Tracing (vm based env)*
- ✓ *IBM HTTP Server (IHS) Tracing*
- ✓ *IBM Cloud sensor*
- ✓ *WAS ND on zLinux metrics*

- ✓ *DataPower Tracing (POC)*
- ✓ *AppConnect (ACE) Tracing container based (POC)*
- ✓ *API Connect monitoring using Autotracing (POC)*
- ✓ *Native Instana Log File monitoring (POC)*
- ✓ *MQ MFT / FTE sensor (POC)*
- ✓ *IBM Power HMC/VIOS sensor (POC)*
- ✓ *OpenStack metrics sensor (POC)*
- ✓ *Cloud Pak for Watson AIOps connector (POC)*
- ✓ *Alibaba: runtimes (VM and K8s) & RocketMQ metrics (POC)*

Q4

Generally Available

- Consume additional APM V8 agents (MQ, WAS)
- Connection to ITM V6 metrics
- Manage-to IBM Power metrics
- AppConnect (ACE) Tracing (vm based env)
- IBM HTTP Server (IHS) Tracing
- IBM Cloud sensor
- WAS ND on zLinux metrics

Tech Preview

- Consume additional APM V8 agents (DB2)
- API Connect monitoring using Autotracing
- MQ MFT / FTE sensor
- IBM Power HMC/VIOS sensor
- OpenStack metrics sensor
- Alibaba: runtimes (VM and K8s) & RocketMQ metrics
- Synthetics Commercial Offering (Closed Beta)

Q1 2022

Generally Available

- Consume additional APM V8 agents (DB2)
- MQ tracing (container based)
- DataPower Tracing (vm's & container)
- AppConnect (ACE) Tracing (container based)
- API Connect monitoring using Autotracing
- MQ MFT / FTE sensor
- IBM Power HMC/VIOS sensor
- OpenStack metrics sensor
- Cloud Pak for Watson AIOps connector
- Alibaba: runtimes (VM and K8s) & RocketMQ metrics

Tech Preview

- Synthetics Commercial offering
- Native Instana Log File monitoring (POC)
- Manage-from IBM Power (POC)

Q2 2022

Generally Available

- Hosted on IBM Cloud Catalog
- Consume additional APM V8 agents
- Consume additional ITM v6 agents
- Synthetics Commercial Offering
- Native Instana Log File monitoring
- Manage-from IBM Power

Tech Preview

- Native Instana Log File monitoring

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Instana "Manage To” IBM Z Roadmap

Q2

Instana

Tech Preview
- ✓ zLinux OpenShift monitoring
- ✓ zLinux OpenShift workloads (Go, Java-Spring Boot)
- ✓ z HMC sensor
- ✓ zOS remote sensor for metrics (DB2)

IBM Z APM Connect

Generally Available
- ✓ Initial mainframe tracing support for HTTP workloads to CICS, z/OS Connect to CICS, IMS

Q3

‘Manage to’ Linux on z

Generally Available
- ✓ Linux on IBM z OpenShift monitoring
- ✓ Linux on IBM z OpenShift workloads (Go, Java-Spring Boot)

IBM Observability by Instana APM on z/OS

Generally Available
- ✓ ***New single offering*** *– order via Shopz*
- ✓ z HMC sensor
- ✓ Transaction tracing for z/OS Connect applications calling CICS & IMS
- ✓ Transaction tracing for CICS HTTP & SOAP applications

Tech Preview
- ✓ Expanded support to include tracing for MQ calls to CICS/IMS
- ✓ zOS remote sensor for WAS, MQ metrics
- ✓ zOS remote sensor for DB2 metrics (POC only)

Q4

‘Manage to’ Linux on z
- ‘Manage-to’ IBM linux on z (PostgeSQL, MongoDB, WAS)

IBM Observability by Instana APM on z/OS

Generally Available
- Expanded support to include tracing for MQ calls to CICS/IMS

Tech Preview
- Newly added support for tracing transactions through CICS-MQ Bridge

1H 2022

‘Manage From’ Linux on z

Tech Preview
- ‘Manage-from’ IBM linux on z

IBM Observability by Instana APM on z/OS

Generally Available
- Newly added support for tracing transactions through CICS-MQ Bridge

Tech Preview
- Launch to OMEGAMON for deep dive metrics for SME
- Initial OMEGAMON metrics integrated into Instana UI
- Initial support for transaction tracing through select DB2 z/OS configurations
- Expanded support to trace transactions from CICS TG to CICS
- Expanded IMS transaction tracing support (IMS TMRA & IMS User-Written client)

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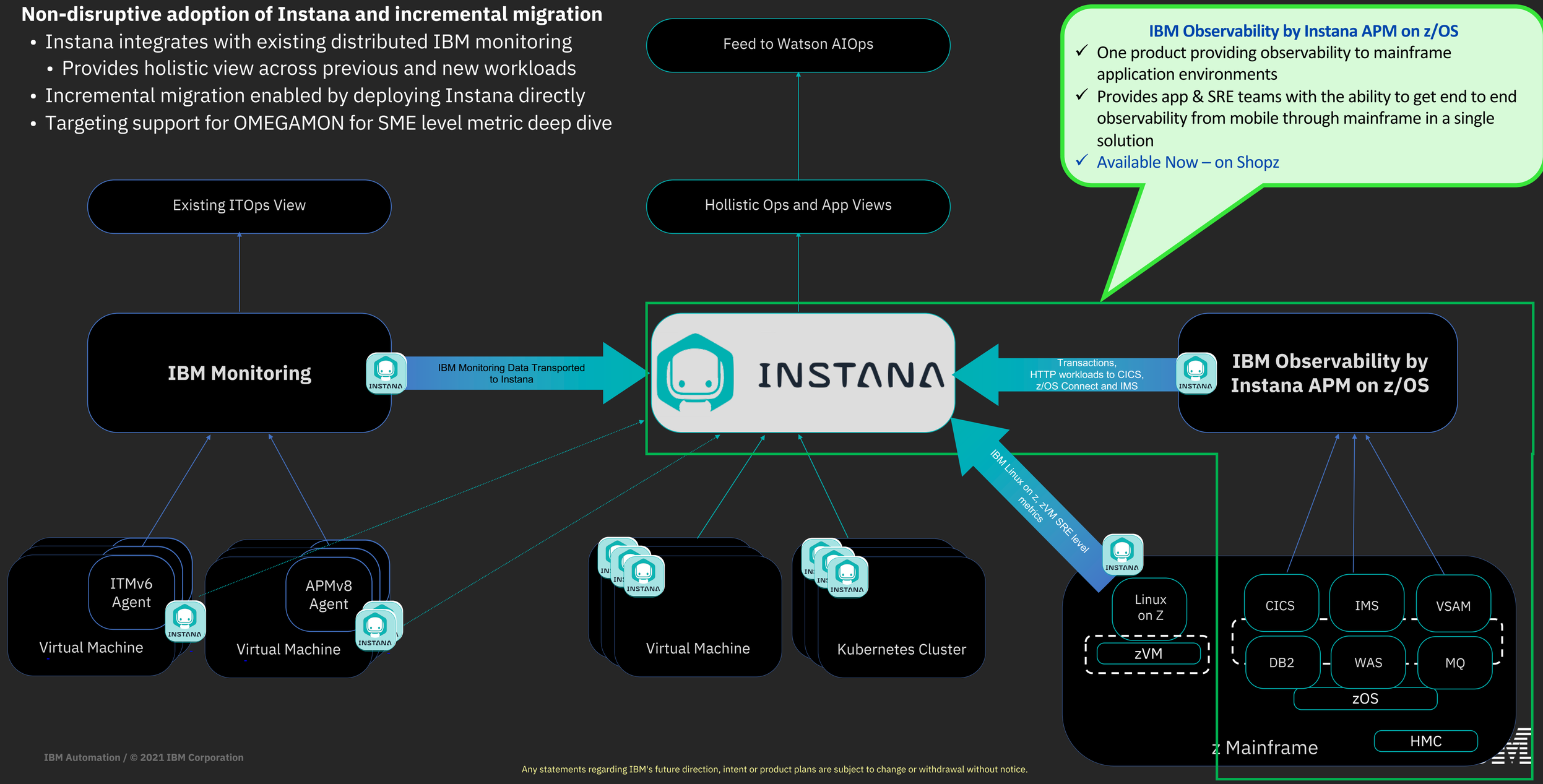
Instana Integrates with and extends IBM's Monitoring solutions

Non-disruptive adoption of Instana and incremental migration

- Instana integrates with existing distributed IBM monitoring
  - Provides holistic view across previous and new workloads
- Incremental migration enabled by deploying Instana directly
- Targeting support for OMEGAMON for SME level metric deep dive

IBM Observability by Instana APM on z/OS

- ✓ One product providing observability to mainframe application environments
- ✓ Provides app & SRE teams with the ability to get end to end observability from mobile through mainframe in a single solution
- ✓ Available Now – on Shopz



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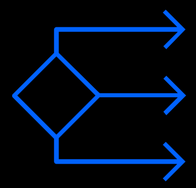
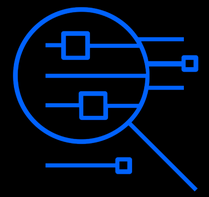
IBM’s Hybrid Cloud Management
AI-driven automation of IT



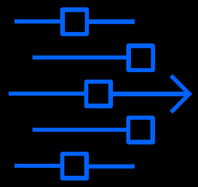
Faster Decision Making

Full-stack, enterprise observability



Smarter Resource Allocation

Dynamic resource management and cost optimization



Automation

Autonomous problem determination, remediation, avoidance

Observe

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Real-time understanding of environment

Optimize

turbonomic
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Maximize efficiency, compliance

Automate

IBM Cloud Pak for Watson AIOps

Automate IT availability

AI-Powered Automation

Instana and Watson AIOps: Improve efficiency with automation

INSTANA

Business and IT Observability

Auto-Discovery

Auto-Instrumentation

Collection and Contextualization

Condition Detection and Event Creation

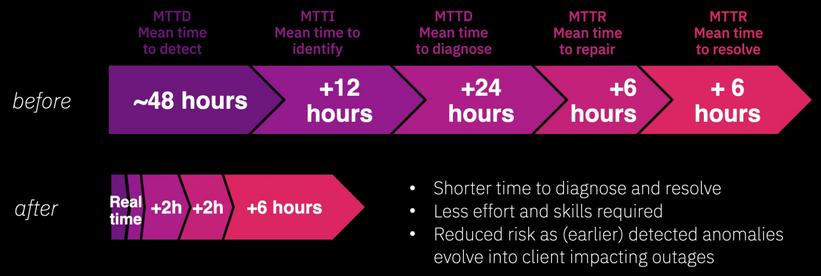
Event Grouping and Root Cause Analysis

Alert Creation and Propagation

UNDERSTAND AND DETECT

Actions and Automations

Events and Alerts



- Shorter time to diagnose and resolve
- Less effort and skills required
- Reduced risk as (earlier) detected anomalies evolve into client impacting outages

IMPROVED EFFICIENCY

Watson AIOps

Automated IT Ops

Automation

Next Best Action

ChatOps and Collaboration

Incident and Change Management

Root Cause Analysis

DECIDE AND ACT

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What's new in *IBM Observability by Instana*

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Version 1.0.209 (for distributed environments) – Released in September 2021:

- Expanded coverage of the ***IBM Observability by Instana*** observability platform and automated APM solution – designed specifically for the challenges of managing microservice and cloud native applications
  - This latest release delivers enhancements and additional coverage to leverage your prior **investments in IBM middleware** and more
    - **General Availability**
      - IBM App Connect Enterprise (ACE) monitoring enhancements
      - IBM MQ tracing and metrics monitoring enhancements
      - IBM Websphere Application Server (WAS) expanded metrics monitoring
      - IBM DataPower expanded metrics monitoring
      - IBM i – expanded metrics monitoring
    - **Technical Preview**
      - Connection to IBM ITM (IBM Tivoli Monitoring) v6
      - IBM App Connect Enterprise (ACE) tracing

IBM

Read our blog for more information

IBM Observability by Instana APM on z/OS

- Bring Instana APM observability to mainframe application environments – provides Application & SRE teams with the ability to get end to end observability from mobile through mainframe in a single solution
  - Works seamlessly with the separately licensed Instana APM offering for distributed platforms

- **GA**: September 10th, 2021
- Initial release supports CICS and IMS applications – including transaction tracing for z/OS Connect applications calling CICS & IMS
- Pricing / Sizing:
  - Execution based pricing using VUE007 table
  - 5698-5A1 (License), 5698-5A2 (S&S)
- Fulfillment:
  - Available for download through Shopz

Read our blog for more information

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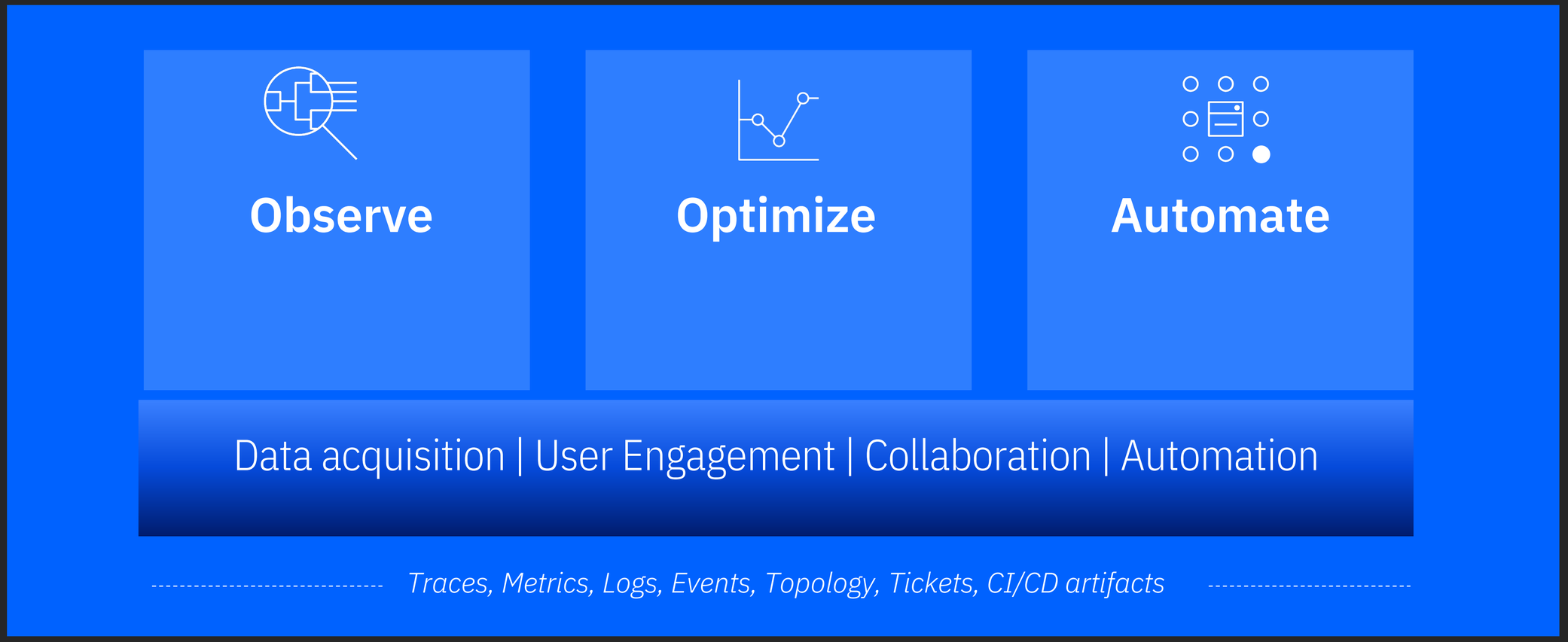
Hybrid Cloud Management - AI-Powered Automation for IT

Reduce cost | Optimize performance | Minimize risk | Increase agility



Faster IT decision making | Optimal resource allocation | Efficient IT service delivery

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