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re:Invent
NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

PRT203

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Correlate cloud performance metrics directly with business impact

Sunder Parameswaran

VP of Products
Cisco AppDynamics

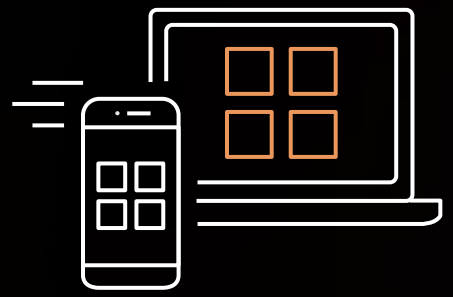
Nirmal Mehta

Principal Specialist Solutions Architect
Amazon Web Services

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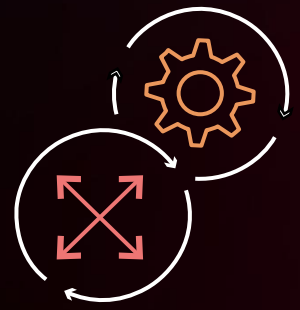
Customers want to innovate and deliver value to their customers



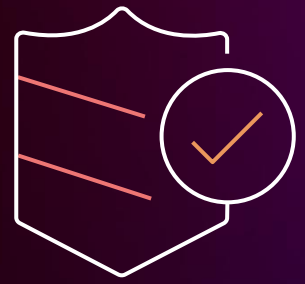
Getting to market faster



Lowering total cost of ownership



High performance and scalability



Security and isolation by design

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“Everything fails, all the time.”

Dr. Werner Vogels

VP and CTO at Amazon.com



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Observability matters because



Visibility



Real-time troubleshooting



Customer experience



Applications = $$

Operational → **Business**

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Success with AWS container services



When market leaders collaborate, challenges are overcome



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Cloud-native observability challenges

Most offerings were designed years ago with a single purpose in mind and then new use cases bolted on

- Disconnected silos of data and tab jumping
- Incomplete visibility
- Biased point of view based on legacy

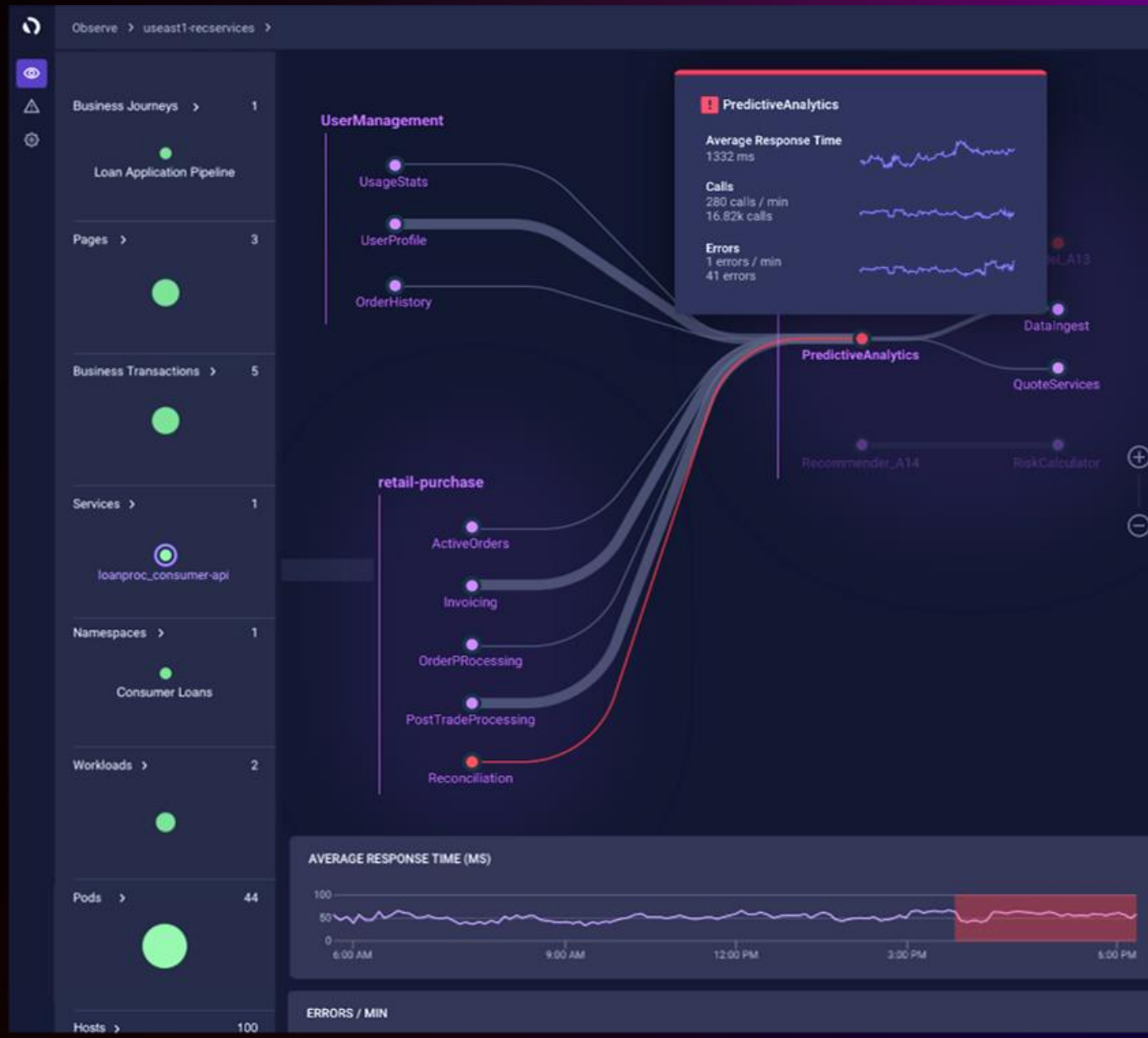


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APPDYNAMICS CLOUD

- Purpose-built for observing cloud-native architectures at scale
- Correlated full-stack visibility across all domains and data types
- Open standards-based extensible platform
- AIOps driven insights



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Cisco full-stack observability architecture foundation

BUSINESS CONTEXT

- Business impact
- Business risk
- Business experience
- Business operations

SERVICES

- Application performance monitoring
- Network and internet monitoring
- Application security monitoring and action
- User digital experience monitoring (DEM)
- Applications resources optimization
- Multi-cloud infrastructure and cost

PLATFORM

X – MELT | Advanced traces | Advanced correlation and insights (real time and predictive) | OpenTelemetry | Network telemetry | Security telemetry | Cloud advanced telemetry

AWS SERVICES MELT



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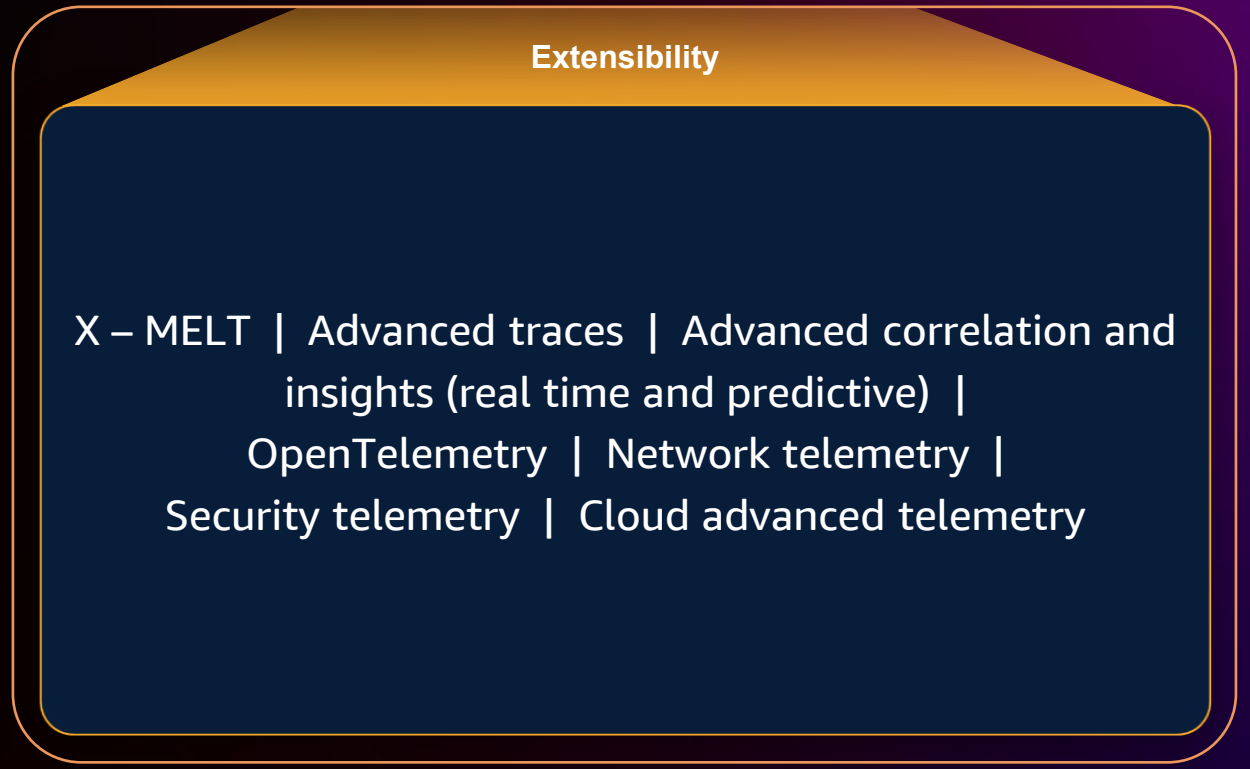
FSO platform

Single platform for Cisco and third-party FSO applications

Multi-product integration platform
Ingestion and storage for compute, networking, security, public, and hybrid clouds

Cross-MELT troubleshooting
Anomaly detection and root-cause analysis services across metrics, events, logs, and traces

Multiple sources → Single entity
MELT from multiple collectors are combined for a single entity view for multi-dimensional visibility



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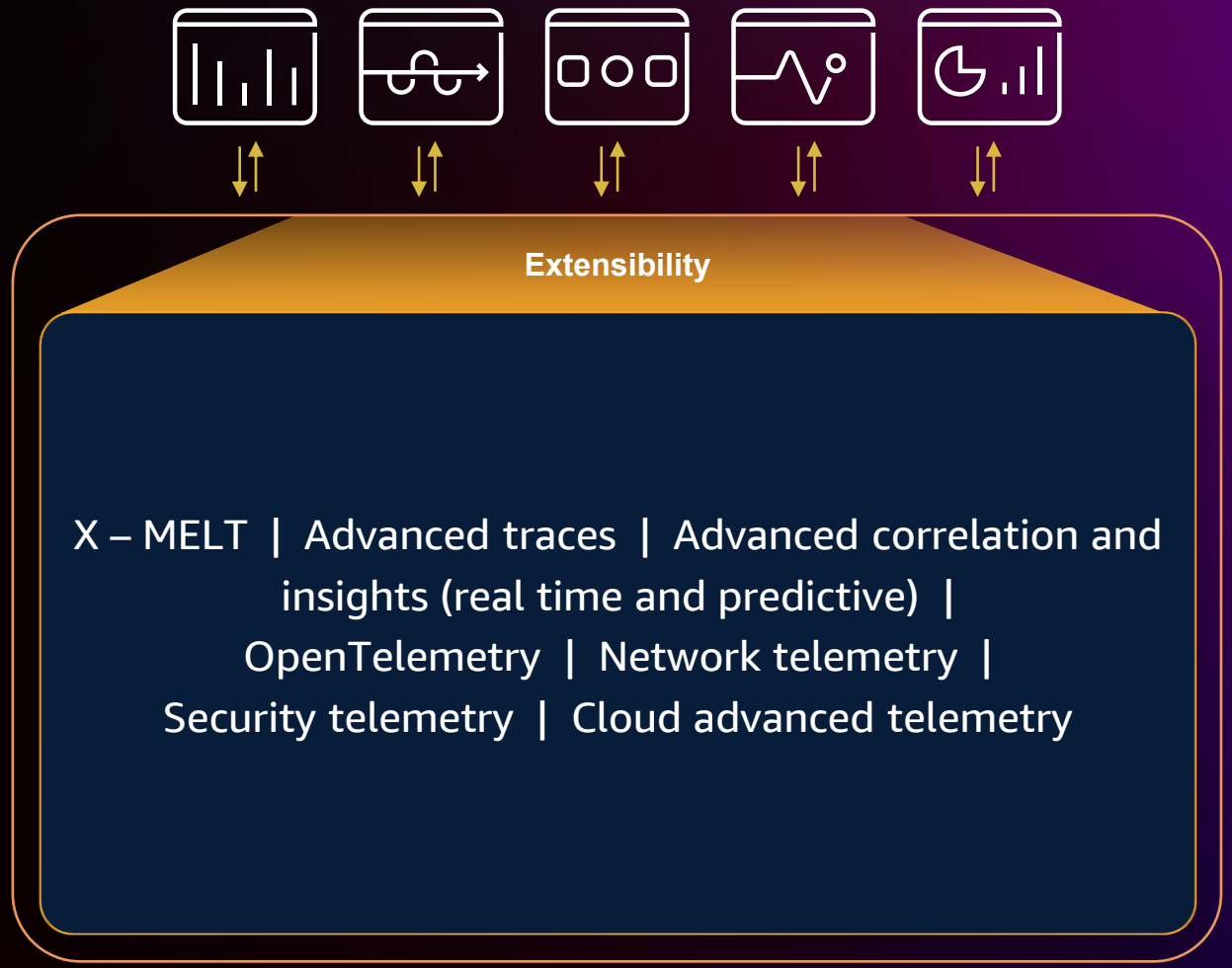
Extensible solutions

Built for today, ready for tomorrow

Empower solutions developers
Giving first-, second-, and third-party developers the tools to build new integrations

Extend FSO services
Create your own custom data models, custom APIs, and custom UIs

Create value-added solutions
Extend AppDynamics Cloud with enrichments, dashboards, custom experiences, and even full applications



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Business-focused observability

APPDYNAMICS CLOUD

Simplifying cloud-native complexity!



Business-focused observability

A holistic view across your modern application stack



Cross-MELT troubleshooting

Correlate data types to accelerate root-cause analysis and remediation



AI-assisted root cause

Faster MTTR and MTTD with AIOPs

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Observe through the lens of business metrics

Observe business goals and prioritize technical investments



Business impact

Enable DevOps/SRE teams to solve critical issues to drive business growth

Troubleshoot with Biz context

Empower users to proactively troubleshoot changes to business metrics

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Business Transaction Insights

New

Business Transaction Monitoring

+

AppDynamics Cloud's Continuous-Context Experience



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Business Transaction Monitoring

Troubleshoot your most business-critical issues

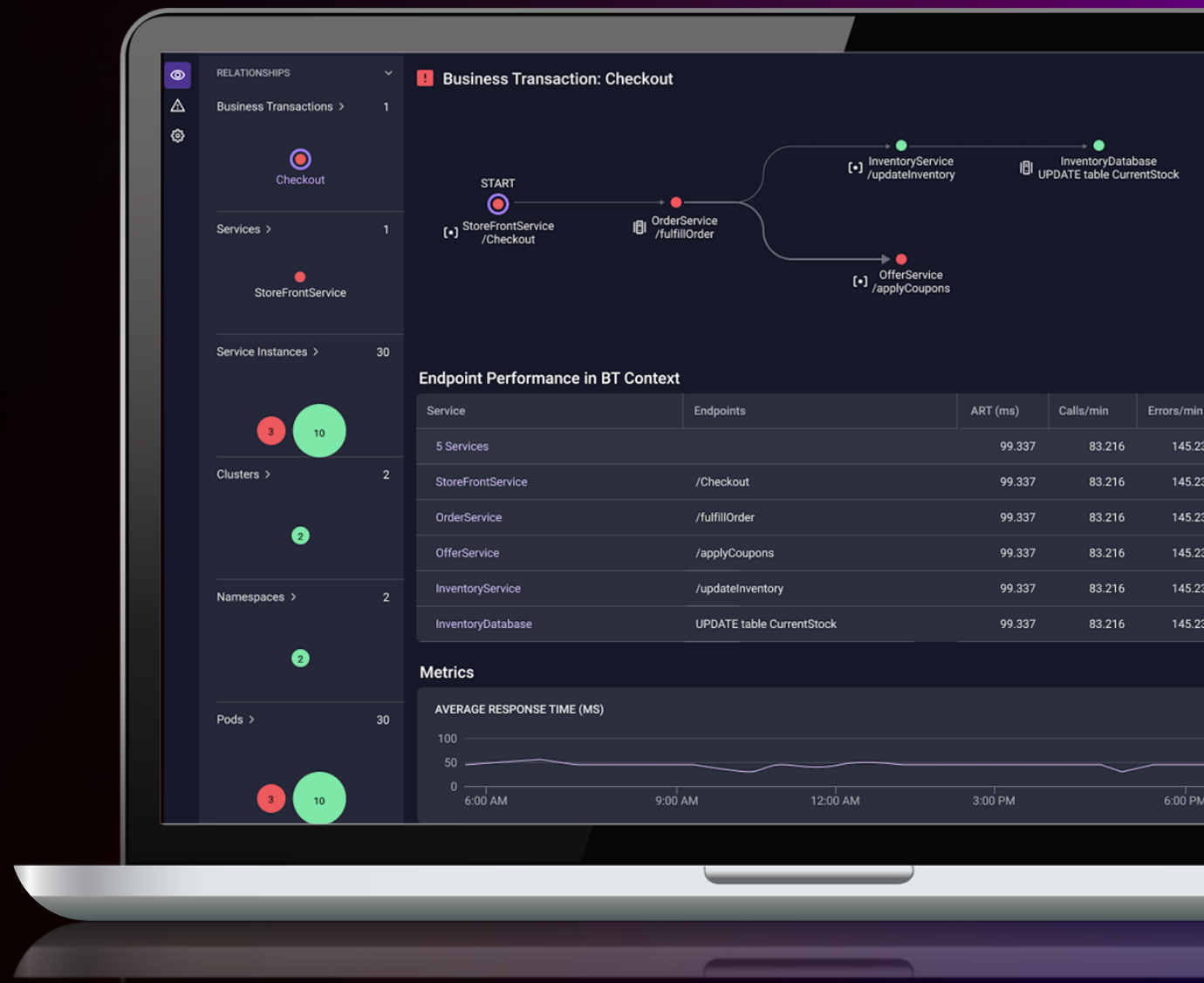
Correlate from Biz → Apps → Infrastructure

Auto-discover BTs

for easier definition and faster setup

Define new BTs

relevant to your business



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Continuous Context Experience

A holistic view across your modern application stack

Cohesive performance analysis

Gain a consolidated understanding of performance across services

Contextual relationships

Identify key relationships and dependencies between datasets

Grouped entities

Help operations focus on the most critical services and assets



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Troubleshoot service discrepancies

Deep-dive into service issues

- Gain a consolidated understanding of performance across services

Correlate service to underlying infrastructure issues

- Help operations follow the red to RCA quickly



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Troubleshoot K8s across public and hybrid clouds

Extend your observability to hybrid-cloud applications

Unify observability across clusters

Both on premises and in the cloud

Self-managed K8s support

Extends to most common enterprise container platforms

Easy to deploy on large clusters

With OOTB health rules for fast start



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Correlated visibility into AWS services

Troubleshoot public cloud infra and correlate to APM

Expanding services coverage

For greater breadth

Cloud service log collection

For agentless access to Amazon S3 buckets and Amazon CloudWatch log groups

Correlated metric and log analysis

To uncover root cause



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Business-focused observability

APPDYNAMICS CLOUD

Simplifying cloud-native complexity!



Cross-MELT troubleshooting

Correlate data types to accelerate root-cause analysis and remediation

AI-assisted root cause

Faster MTTR and MTTD with AIOPs

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Correlate infra and service events for faster MTTD

APM & infrastructure correlation

With Kubernetes native entities in context

Advanced alerting

With cloud-native health rule platform

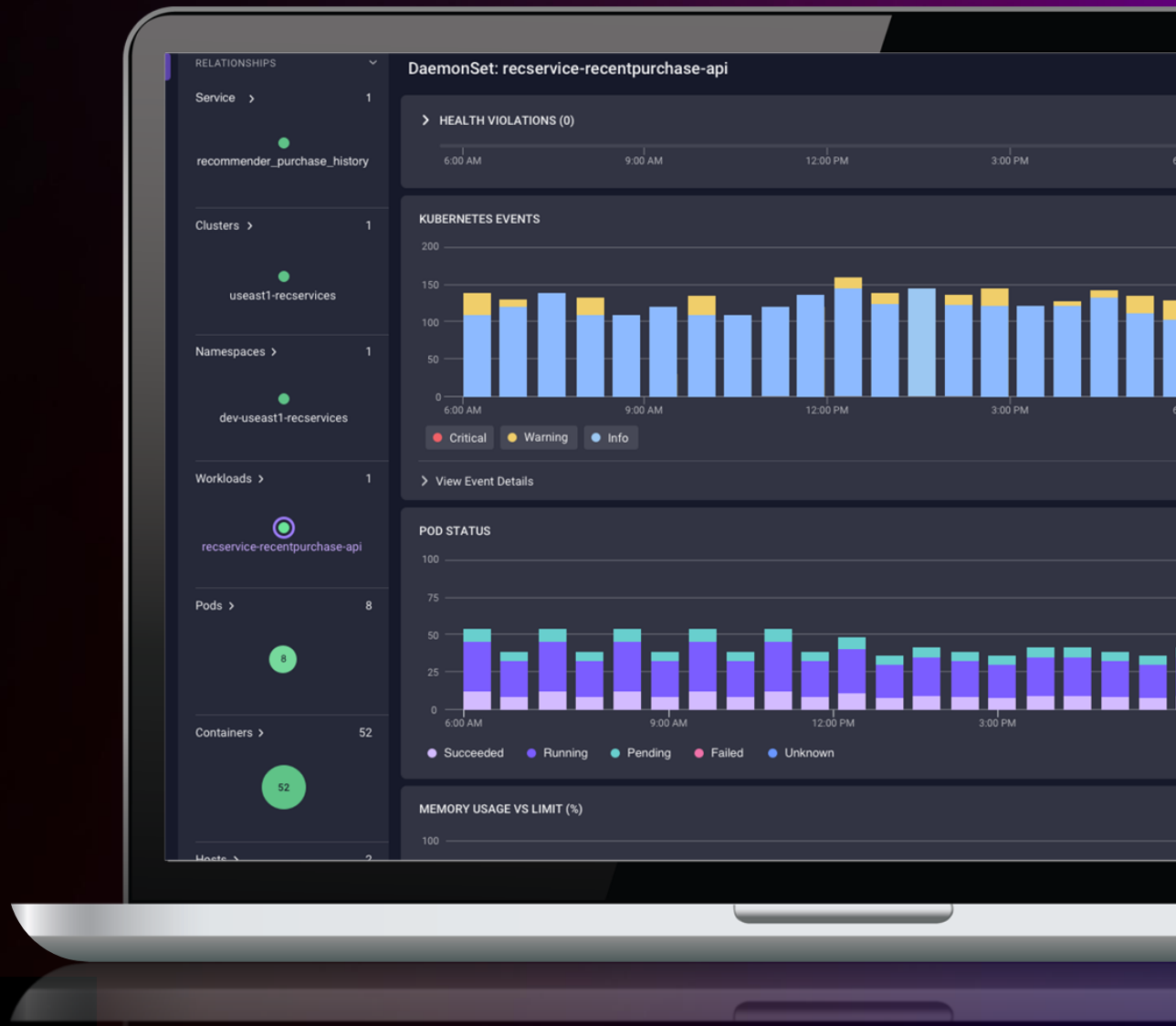
Easy onboarding

With Helm charts and unified Infra Agent

Filtering

Using Kubernetes concepts like namespace, deployments and labels

Example: View the impact of your Amazon EKS/AKS/OpenShift clusters on your applications and services



Pinpoints issues through logs

Search logs for root-cause analysis

Inline events and logs

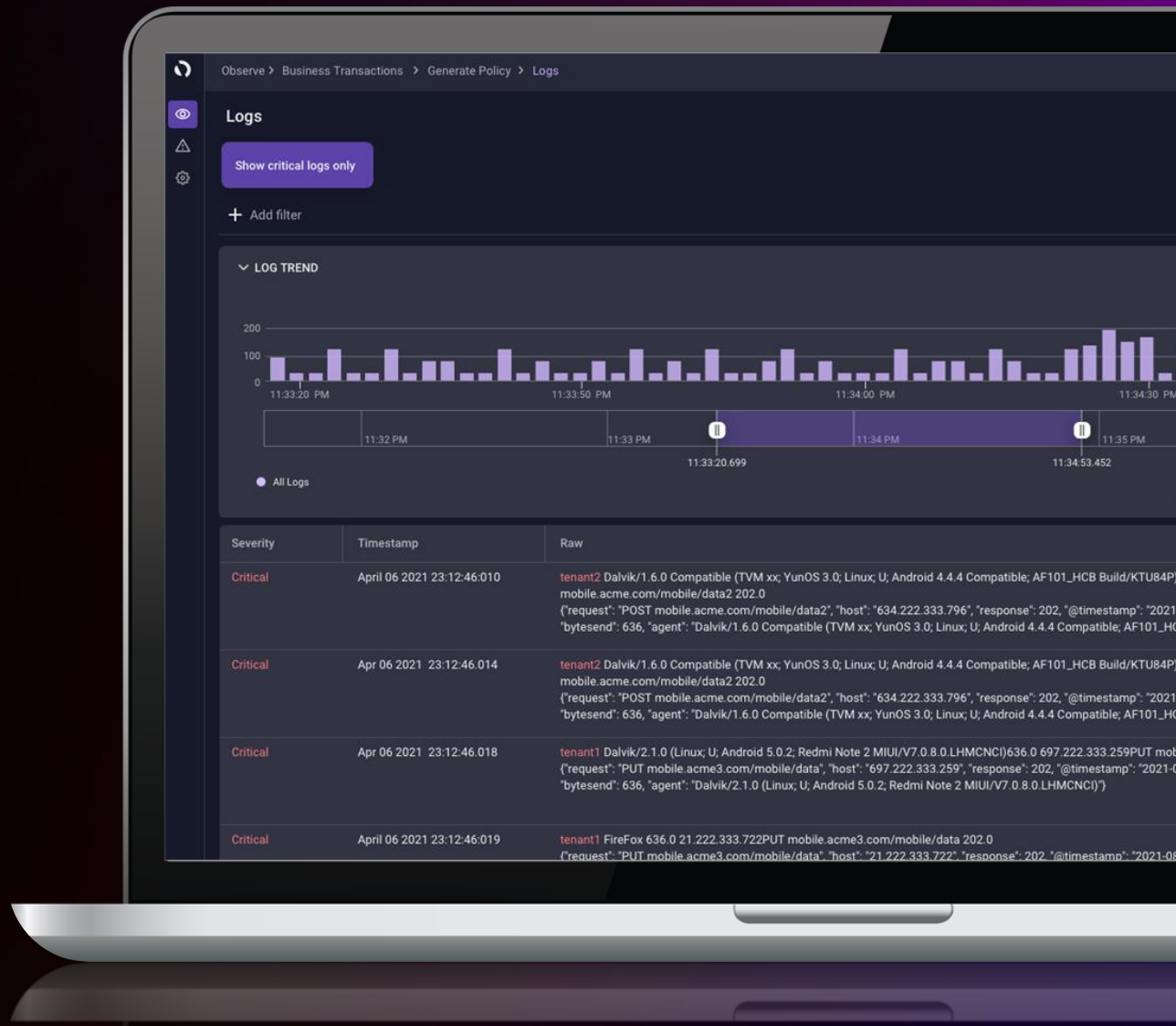
Surface key insights for troubleshooting

Metadata capture and filtering

Extracts key summary for easy analysis

Discover patterns

In log behavior through temporal analytics



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Business-focused observability

APPDYNAMICS CLOUD

Simplifying cloud-native complexity!

Business-focused observability

A holistic view across your modern application stack

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AI-assisted root cause

Faster MTTR and MTTD with AIOPs

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Cross-MELT AD troubleshooting

Leverage AI to reduce mean time to resolution (MTTR)

Detect cross-domain anomalies

Alert across K8s, services, and cloud metrics

Anomaly detection for BTs

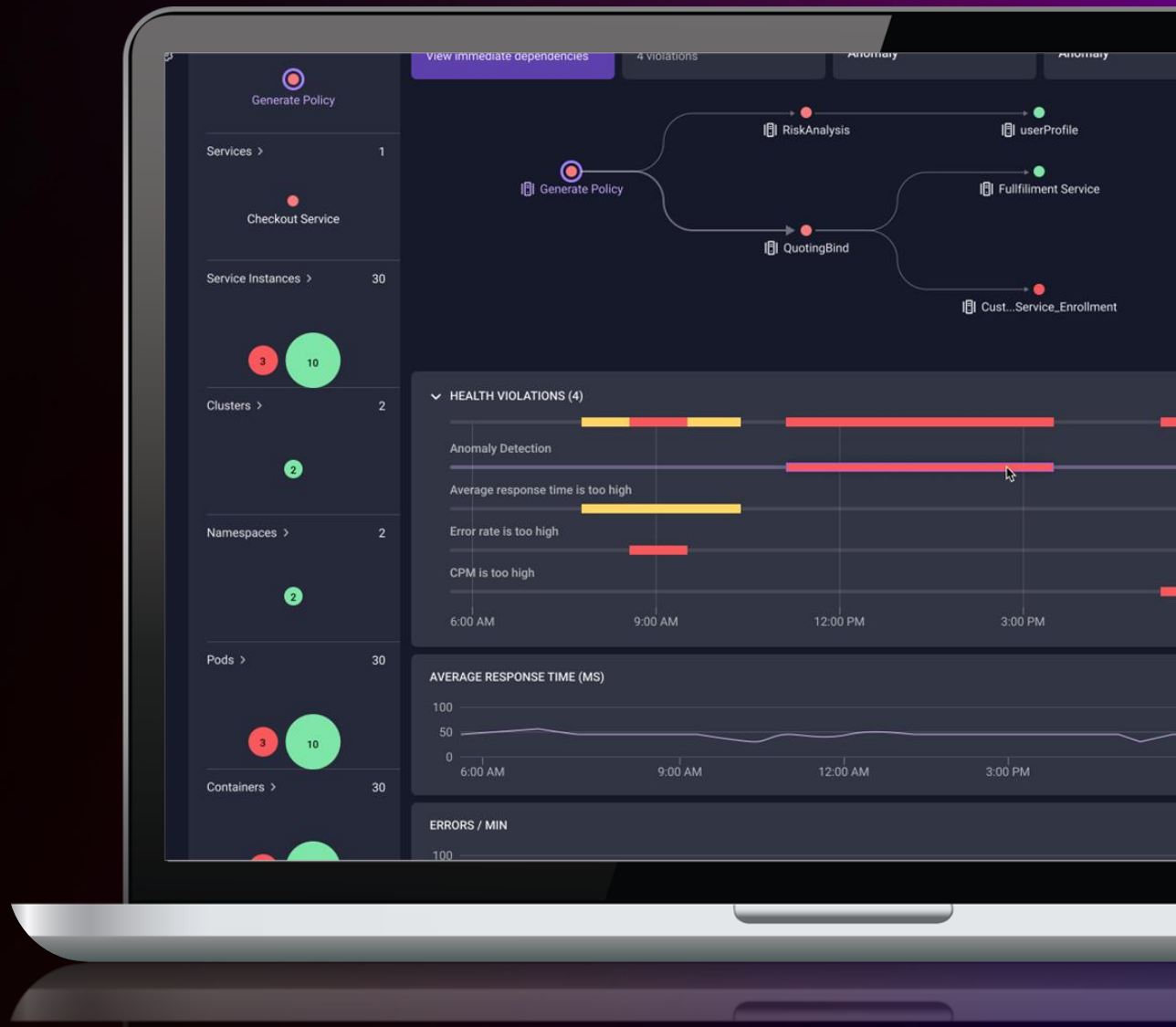
Identify issues aligned to business objects

Correlate alerts

Reduce alert noise for related issues using topology and time

Cross-domain RCA

Extend root cause from service layer to infrastructure layer



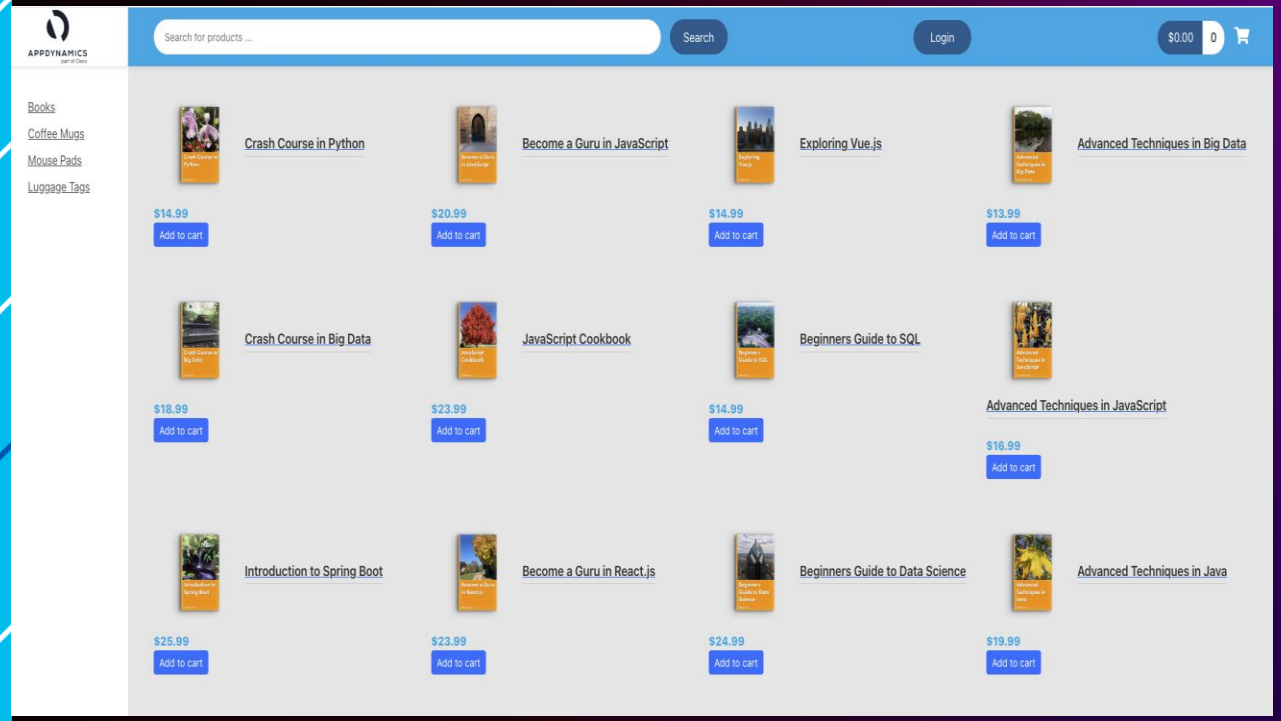
Ok, less talking
and more demo walking



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Demo App

Website that allows customers to purchase ebooks online

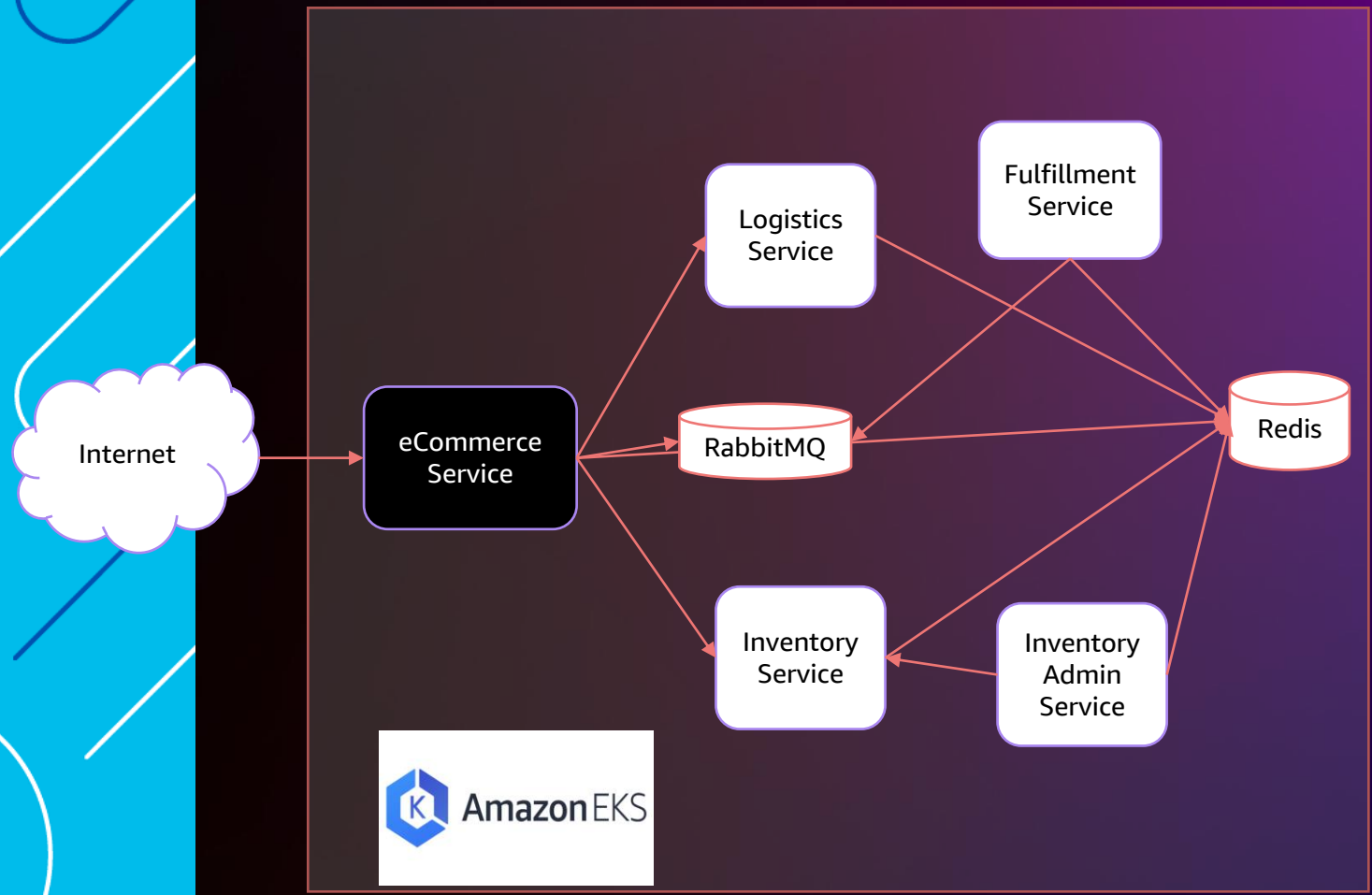


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App Design

Microservice application consisting of several stateless services

Deployed in EKS, leveraging various AWS services (LBs, EC2, VPC, etc.)

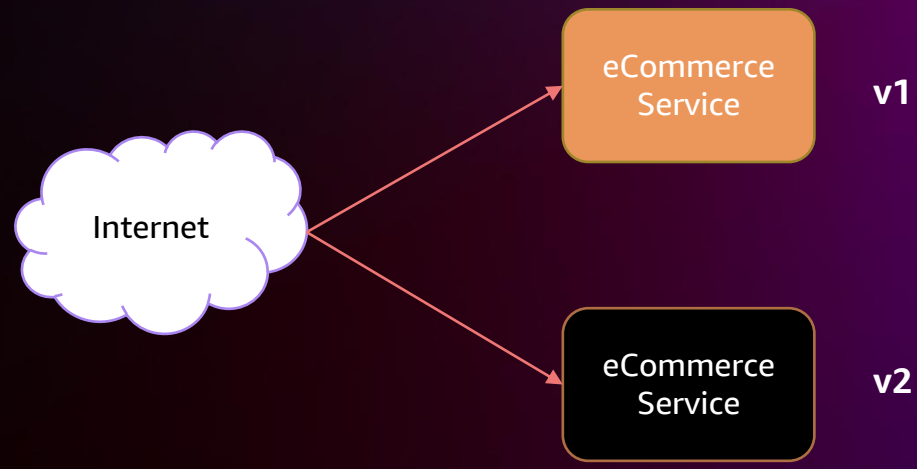


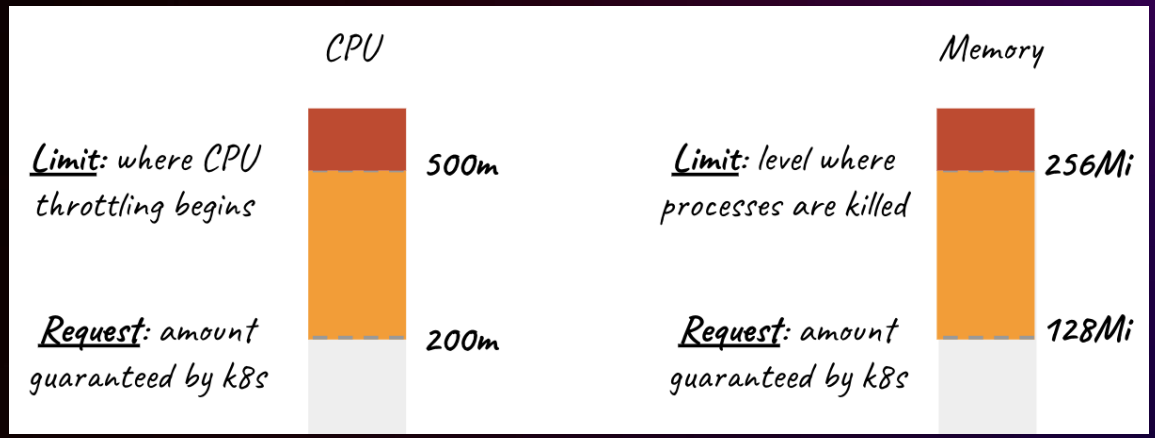
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Troubleshooting Use Case

Deployment issue with the blue (v2) version of the ecommerce service

Root cause is pods crashing due to incorrect memory limits in blue version





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AppDynamics Cloud Troubleshooting Tools

Business Transactions Insights

Troubleshoot your most business-critical issues

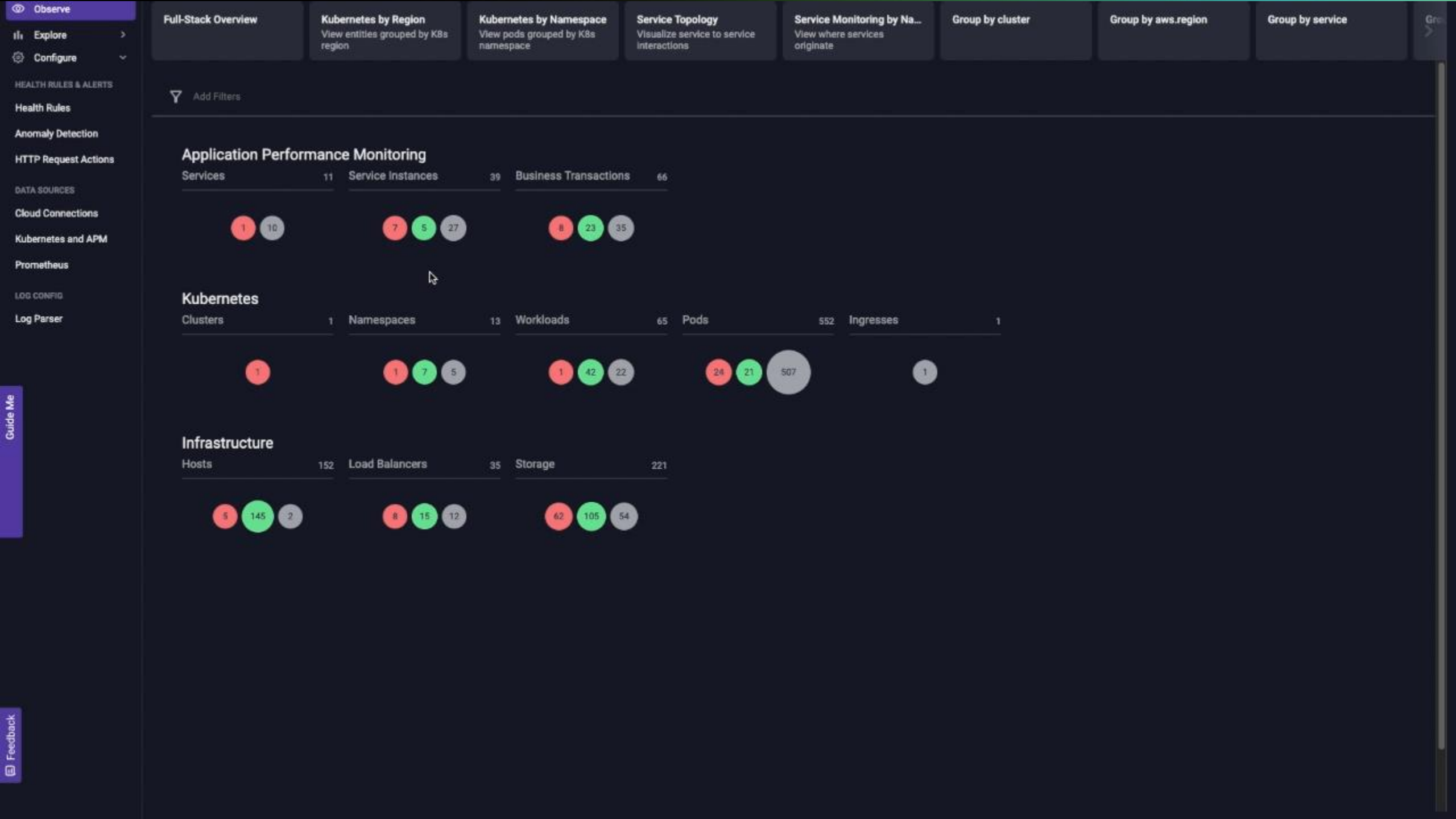
Auto-discover BTs for easier definition and faster setup

Continuous-context Experience

Cross-Domain RCA

Extend root cause from service layer to infrastructure layer

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Observe
Explore
Configure
HEALTH RULES & ALERTS
Health Rules
Anomaly Detection
HTTP Request Actions
DATA SOURCES
Cloud Connections
Kubernetes and APM
Prometheus
LOG CONFIG
Log Parser
Guide Me
Feedback
Full-Stack Overview
Kubernetes by Region
View entities grouped by K8s region
Kubernetes by Namespace
View pods grouped by K8s namespace
Service Topology
Visualize service to service interactions
Service Monitoring by Na...
View where services originate
Group by cluster
Group by aws.region
Group by service
Add Filters
Application Performance Monitoring
Services 11
1 10
Service Instances 39
7 5 27
Business Transactions 66
8 23 35
Kubernetes
Clusters 1
1
Namespaces 13
1 7 5
Workloads 65
1 42 22
Pods 552
24 21 507
Ingresses 1
1
Infrastructure
Hosts 152
5 145 2
Load Balancers 35
8 15 12
Storage 221
62 105 54

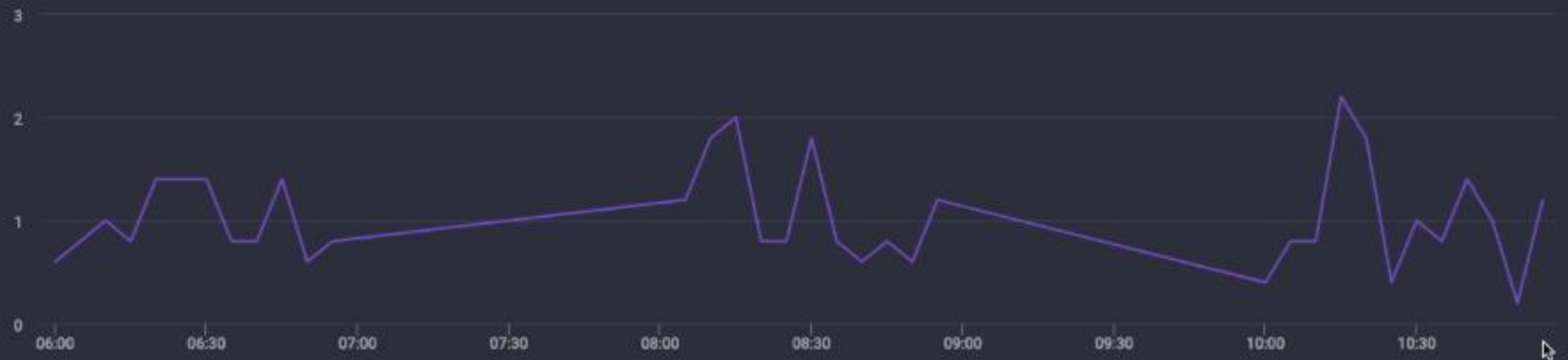
ecom-ecommerce-blu...	/ecommerce/confirm...	2.617K	0.28	0.00	/ecommerce/confirmOrder	/ecommerce/confirmOrder
ecom-logistics-svc	/logistics/updateOrder	1.185K	0.56	0.00	0	2

Metrics

AVERAGE RESPONSE TIME (MS)



CALLS PER MINUTE



ERRORS PER MINUTE

SERVICE ENDPOINT

/ecommerce/confirmOrder

HEALTH AND ALERTING

Health Rules

Create Health Rule

Service

ecom-ecommerce-blue-svc

Avg Response Time (ms)

2.617K ms



Calls/min

0.28 calls/min
94 calls



Errors/min

0 errors/min
0 errors

Service 1

ecom-ecommerce-...

Service Instances 15

3 12

Cluster 1

demo-west-appdcl...

Namespace 1

ad-ecommerce-ap...

Workload 1

Pods 15

12 3

Hosts 2

Guide Me

Feedback

Final thoughts

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APPDYNAMICS CLOUD

Cloud-Native Observability built from the ground up

AppDynamics Cloud enables modern teams to eliminate siloes and navigate complex cloud-native relationships with a correlated view of all telemetry across their entire technology landscape

Cloud-Native Visibility



Full-Stack Observability Platform foundation to see your entire cloud-native landscape and understand all relationships

Cloud-Native Insights

New



Business Transaction Insights cuts through the complexity of cloud-native operations and observe your app the way an end-user experiences it

Cloud-Native Exploration



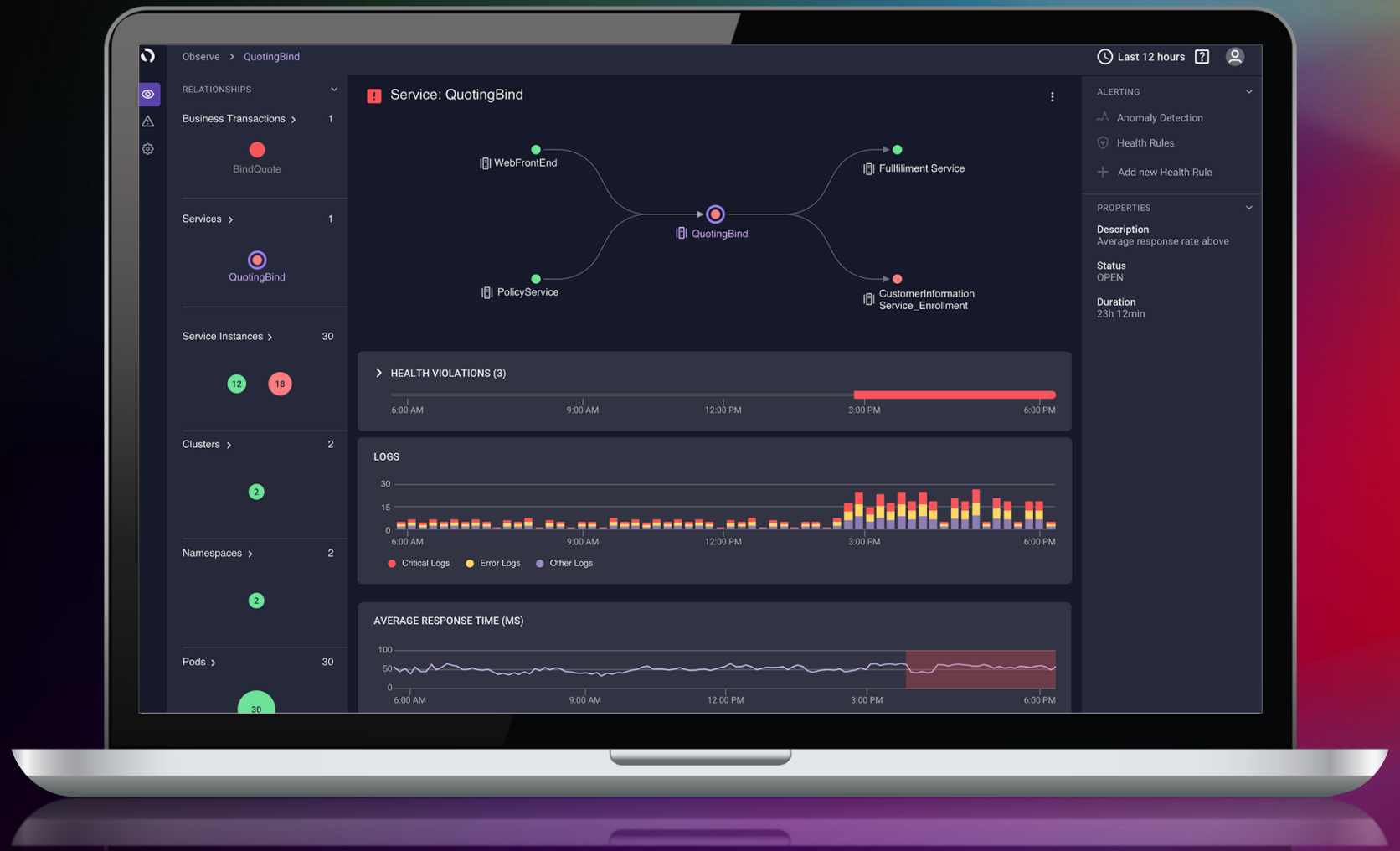
Continuous-Context Experience quickly view and continuously analyze all the cloud-native observability dimensions to optimize for the business

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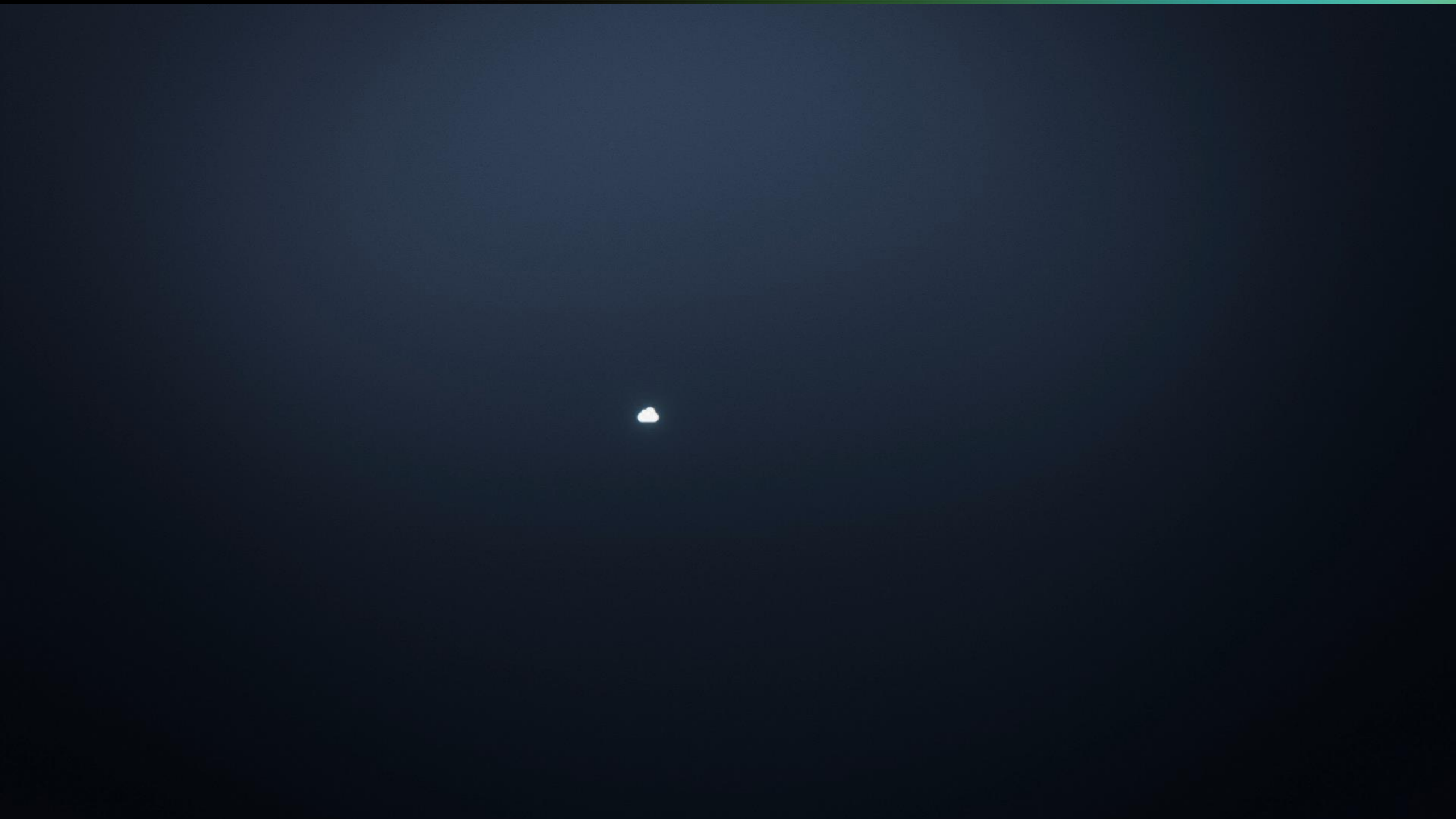
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Thank you!

Sunder Parameswaran

Nirmal Mehta



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