SAP ERP and Beyond Observability

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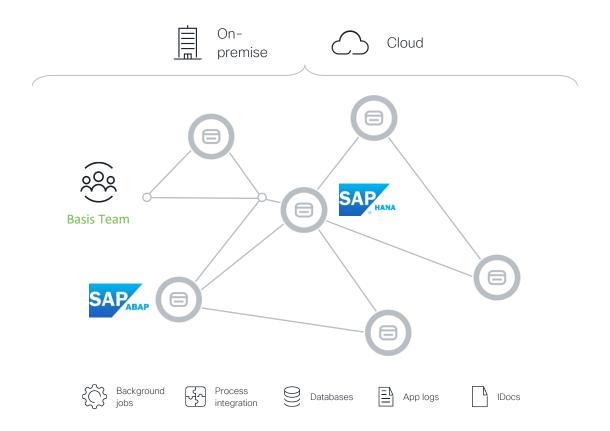## Webex spaces will be moderated until February 24, 2023.

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Agenda

- Why AppDynamics for SAP

- What AppDynamics has to offer

- Demo

- Summary...

Why AppDynamics for SAP

On-premise

Cloud

Basis Team

SAP HANA

SAP ABAP

Background jobs

Process integration

Databases

App logs

IDocs

On-premise

Cloud

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SAP HANA

SAP ABAP

Background jobs

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Users   Orders   Revenue   Payments
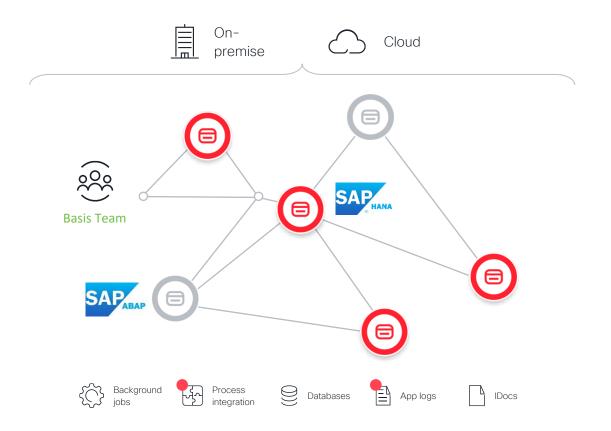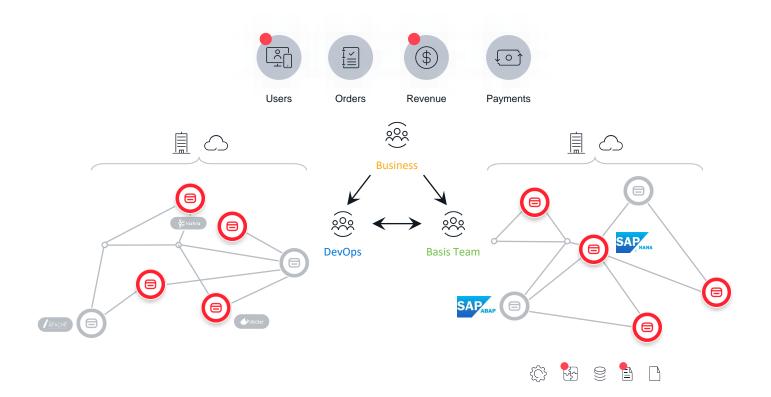
Business

DevOps ⟷ Basis Team

SAP HANA

SAP ABAP

Troubleshooting legacy SAP applications

"For the Fortune 1000 ... the average cost of a critical application failure per hour is $500,000 to $1 million."

IDC Opinion, DevOps and the Cost of Downtime: Fortune 1000 Best Practice Metrics Quantified

Insufficient monitoring solutions

- Challenging to instrument ABAP code and discover root cause

- Difficult to correlate problems in infrastructure, application, databases or integrated applications

- Cannot diagnose performance issues in SAPGUI apps

Unhelpful alert storms

- Static thresholds result in noisy warnings (ex: SAP Solution Mgr)

- Reactive approach due to a lack of any machine learning or AI capability.

No business context

- Inability to correlate performance problems to user experience

- Inability to prioritize issues by importance to business

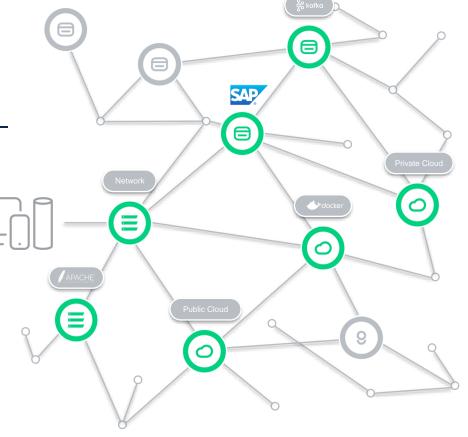# What AppDynamics Has To Offer

Real-time Mapping of Customer Experience, end-to-end across the enterprise

- Real-time mapping of transactions across distributed and SAP systems

- Understand upstream service dependencies and consumers of SAP
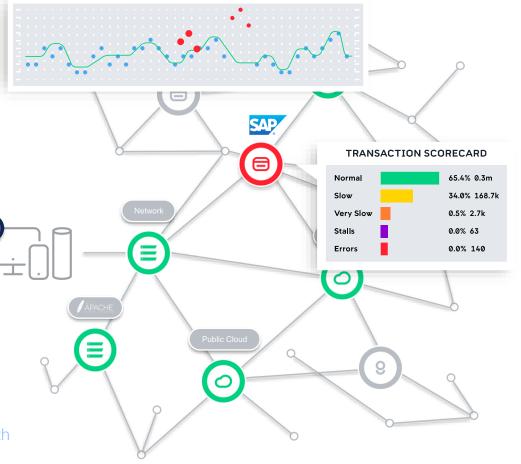
- End-to-end visibility into SAP systems, down to ABAP code

Dynamic baselines tell you what's normal, with real-time scorecards alerting you when things go wrong

TRANSACTION SCORECARD

Normal		65.4% 0.3m
Slow		34.0% 168.7k
Very Slow		0.5% 2.7k
Stalls		0.0% 63
Errors		0.0% 140

- 100% of all user transactions and SAP calls monitored
- Dynamic baselines and scorecards
- Real-time anomaly detection and isolation of both technical and business metrics

Code level insights into ABAP
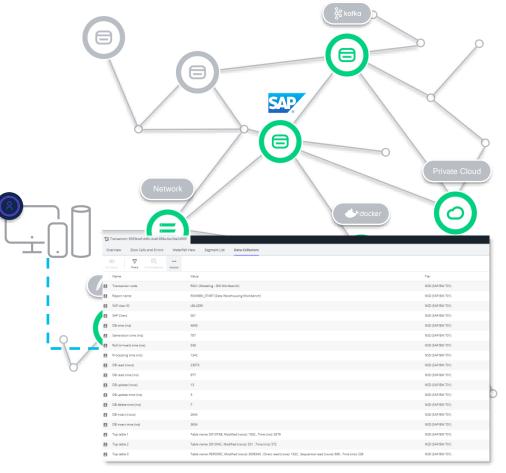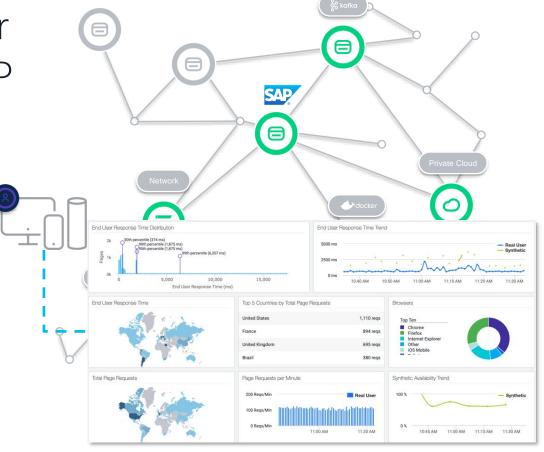
- SAP transactions end-to-end visibility
- Detailed info on a single user transaction
  - Show the button clicked in the GUI
  - Database tables written to, and how many rows modified
  - Show outgoing RFC calls from ABAP
  - Show outgoing HTTP calls from ABAP

Name	Value	Tier
Transaction code	RSA1 (Modeling - DW Workbench)	NSD (SAP BW 701)
Report name	RSAWBN_START (Data Warehousing Workbench)	NSD (SAP BW 701)
SAP User ID	LBLAZEK	NSD (SAP BW 701)
SAP Client	001	NSD (SAP BW 701)
DB time (ms)	4640	NSD (SAP BW 701)
Generation time (ms)	787	NSD (SAP BW 701)
Roll (in+wait) time (ms)	536	NSD (SAP BW 701)
Processing time (ms)	1342	NSD (SAP BW 701)
DB read (rows)	23973	NSD (SAP BW 701)
DB read time (ms)	977	NSD (SAP BW 701)
DB update (rows)	13	NSD (SAP BW 701)
DB update time (ms)	3	NSD (SAP BW 701)
DB delete time (ms)	7	NSD (SAP BW 701)
DB insert (rows)	2644	NSD (SAP BW 701)
DB insert time (ms)	3654	NSD (SAP BW 701)
Top table 1	Table name: D010TAB, Modified (rows): 1932 , Time (ms): 3079	NSD (SAP BW 701)
Top table 2	Table name: D010INC, Modified (rows): 331 , Time (ms): 572	NSD (SAP BW 701)
Top table 3	Table name: REPOSRC, Modified (rows): 3058345 , Direct read (rows): 1622 , Sequential read (rows): 969 , Time (ms): 238	NSD (SAP BW 701)

Browser Real User Monitoring for SAP Fiori

- Auto Injection of Browser Monitoring
- Geo dashboards provide real-time visibility into end-user performance
- Page level breakdown shows experience by individual screens
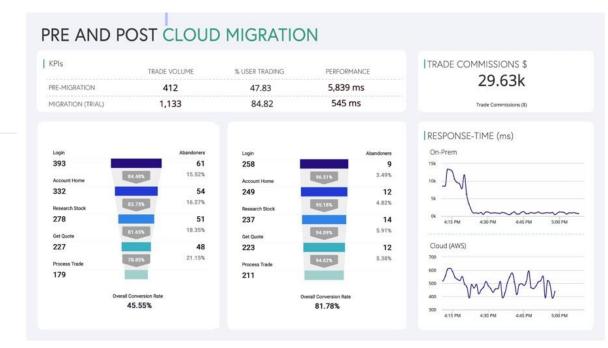
Real Time Business Intelligence

- Automatically Collected
- Fully correlated to transaction performance
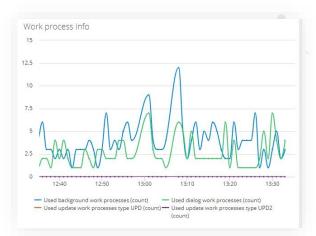- Ready for real-time insights

Order to Cash Business Journey

Order Count	Revenue ($)	Avg Cart Value ($)	Avg Cart Size (item)	Avg Fulfillment Journey Length
763	52,738	130.54	8.66	6.36k

12.4 mins → 7 ms → 1.2 Mins → 662 ms → 2.6 mins → 2,760 ms → 6.3 mins → 631 ms → 97.3 hours

Quotes — Sales Orders — Shipping — Delivery — Billing

Speed up cloud migration and S/4HANA adoption
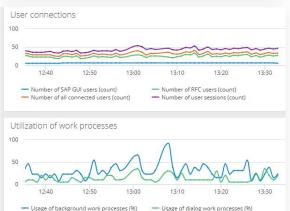
- Plan migrations more effectively
- Measure post-migration results

PRE AND POST CLOUD MIGRATION

KPIs	TRADE VOLUME	% USER TRADING	PERFORMANCE
PRE-MIGRATION	412	47.83	5,839 ms
MIGRATION (TRIAL)	1,133	84.82	545 ms

TRADE COMMISSIONS $
29.63k
Trade Commissions ($)

Login	393	Abandoners	61
			15.52%
	84.48%		
Account Home	332		54
			16.27%
	83.73%		
Research Stock	278		51
			18.35%
	81.65%		
Get Quote	227		48
			21.15%
	78.85%		
Process Trade	179		

Overall Conversion Rate
45.55%

Login	258	Abandoners	9
			3.49%
	96.51%		
Account Home	249		12
			4.82%
	95.18%		
Research Stock	237		14
			5.91%
	94.09%		
Get Quote	223		12
			5.38%
	94.62%		
Process Trade	211		

Overall Conversion Rate
81.78%

RESPONSE-TIME (ms)
On-Prem
15k
10k
5k
0k
4:15 PM 4:30 PM 4:45 PM 5:00 PM

Cloud (AWS)
700
600
500
400
300
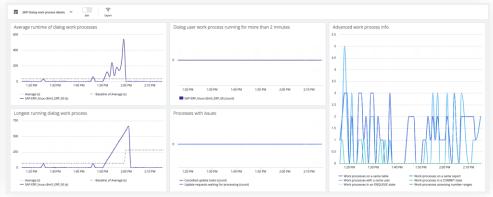4:15 PM 4:30 PM 4:45 PM 5:00 PM

Proactive Landscape Monitoring

- Run regular diagnostics on key metrics from components of the landscape to identify a slow down in system performance for either a single user, or the entire SAP landscape
- Constant system confidence by monitoring and alerting on overall SAP landscape degradations, and/or slow downs
- Out of the box dashboards for HANA, Background Jobs, Database, BW, PI, App Servers, RFC, SAP Connect, Lock Statistics, System Changes, Work Processes & Users, and more.
- Proactively alert on, identify and resolve potential system issues
- Troubleshoot system bottlenecks
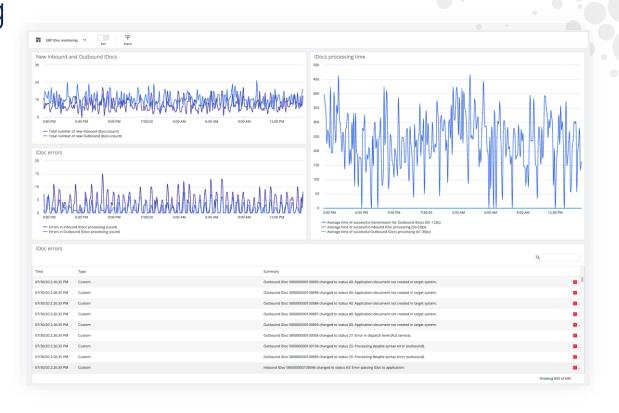
Capacity

- Quickly diagnose capacity issues from incorrectly sized infrastructure

- Actively manage infrastructure configurations for ECC, S4/HANA and BW

- Right-size server deployments and overall capacity needs

- Optimize infrastructure spend, while guaranteeing customer experience

IDocs Monitoring

Detection & drill down to
root cause of failed IDoc
communication

SAP App Store

SAP Premium Certified
Integration with SAP Applications

"Our most strategic and global partnership organizations attain platinum status by invitation only… Working with one of our platinum partners means you're working with one of our largest and most trusted SAP partners."

SAP certification for ABAP add-on	SAP Premium certification with high security	Certified for both ECC and S/4 HANA

Demo
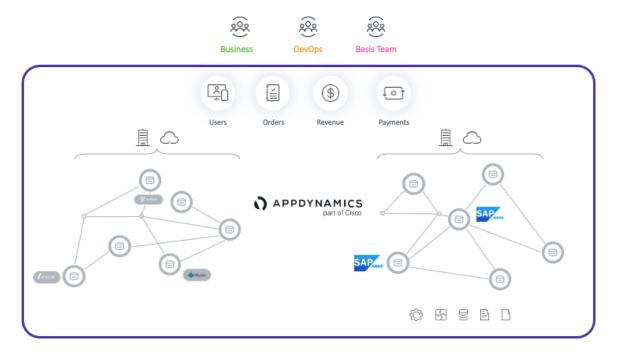
Summary....

The AppDynamics way

Single Pane Of Glass + Correlation with Business Context = Small MTTR

Improving Customer Experience & Revenue

Company

- Global athletic apparel manufacturer with a physical and online retail presence in addition to supplying other retailers. This company is a Global 50 SAP customer.

Scenario

- Online retail presence was being severely impacted by the backend, which is using SAP ECC and other SAP ABAP Platform products (~350 critical issues/month)

- Inventory management, material management, and logistics were also impacted which resulted
  in shipment delays both to 3rd party retailers and customers.

Challenge

- There was no holistic view across the business transactions making it difficult to identify whether root cause was in SAP and if so, where it was

- Inefficient war room due to lack of visibility and multiple tools that were not coordinated in their usage.

SAP Solution Value

- Holistic view across the business transaction, including deep SAP visibility

- Can quickly correlation application performance issues across each step and solve for root cause

- Reduction in alerts by using dynamic baselines instead of static thresholds

- Tool consolidation resulting in savings and gains in efficiency for incident mgmt.

RESULTS

- Reduction in frequency and duration of production events resulting in ~$4.5M USD annual savings

- Had an **70% reduction in "poor performing application minutes"** resulting in improved end user productivity of ~$4M USD annually

- Reduction of customer impact resulting in **revenue protection of ~$750k USD annually**

Improve IT Efficiency, Reduce MTTR

Company

- American medical diagnostics company that markets its products globally.

Scenario

- The company was losing significant time and money ($270k USD per year) troubleshooting issues with SAP and connected systems

- IT was rarely able to meet the stringent 99.95% SLA with the business and was generally informed of issues by manufacturing.

Challenge

- Static thresholds for alerts were causing unnecessary war rooms, contributing to IT costs

- Average of 1 P1 incident a month, impacting as much as 25% of the SAP end users and causing a 50% loss in productivity.

SAP Solution Value

- By using AppDynamics platform capabilities of dynamic baselining on SAP data alert setup becomes less burdensome and false alerts drop

- AppDynamics visibility across the business transactions and down to the code level in SAP reduces MTTR

- Code-level visibility allows for tuning to reduce hardware expenses

- RESULTS

  - Able to reduce business impact / revenue loss by **reducing Production issues by 35% and time to remediate issues by 80%**

  - Had an **80% reduction in "poor performing application minutes"** resulting in improved customer experience and revenue

  - Net benefit from all improvements: $600k/year

Pirelli

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