

Moving from Reactive to Predictive to Self-Healing Ops

DevOps to NoOps in Action

 dynatrace
Perform

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Vice President Global IT
Service Excellence, Experian



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Senior IT Manager - DevOps Center of
Excellence, Experian



Andreas Grabner
DevOps Activist, Dynatrace

Who is Experian?

Our global reach and diverse client base = **local expertise and shared learnings**

16,500
employees in
39 countries

Diverse mix of
12,000 clients
in more than **80 countries**

No client industry represents
more than one-third of our
revenue

A man with a beard, wearing a dark suit jacket over a light-colored shirt, stands in profile looking out a large window. The window offers a view of a city skyline with various buildings under a bright, hazy sky. The sun is low, creating a warm, golden glow and some lens flare effects. The man's reflection is faintly visible on the glass.

At Experian, we unlock the power of data to create opportunities, improve lives and make a difference to society.

Enabling
smarter and quicker
decisions

Protecting
identity and
reputation

Helping
more people get
the services they
need

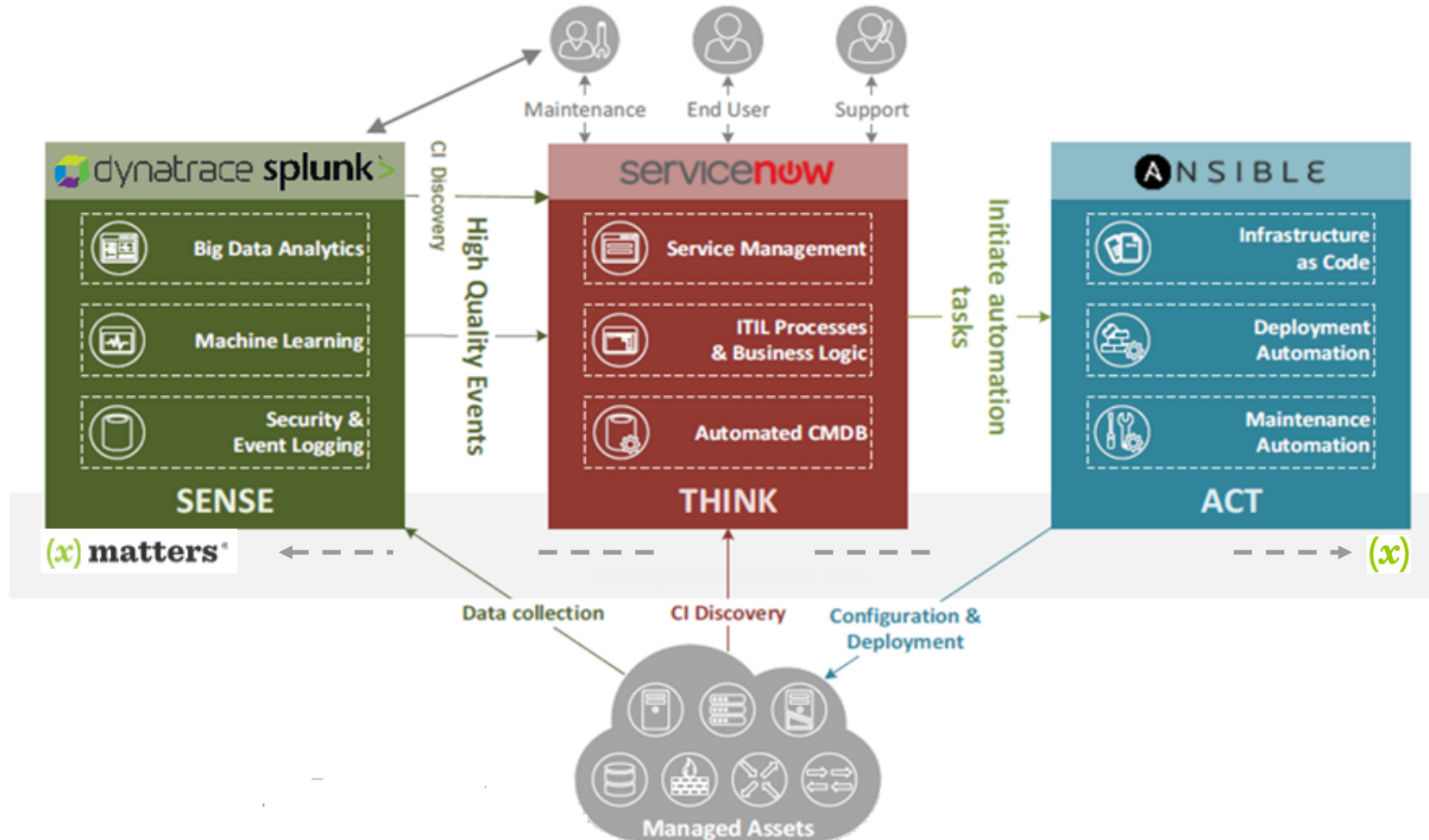
Making a difference
to our communities
and society

Using data responsibly. Adhering to regulations. Investing in technology, people and innovation.

Our capabilities help organisations foster meaningful, profitable, and risk-controlled interactions with customers throughout the relationship...



Leveraging best-of-breed technologies ...



Autonomous Cloud Self-Assessment Results

Averages across all PERFORM speakers

3 out of 10

Business Impacting
Deployments

3 hotfixes

Per Production
Deployment

4.8 days

MTTR
(Mean Time to Repair)

Verdict: We are reactive vs proactive!

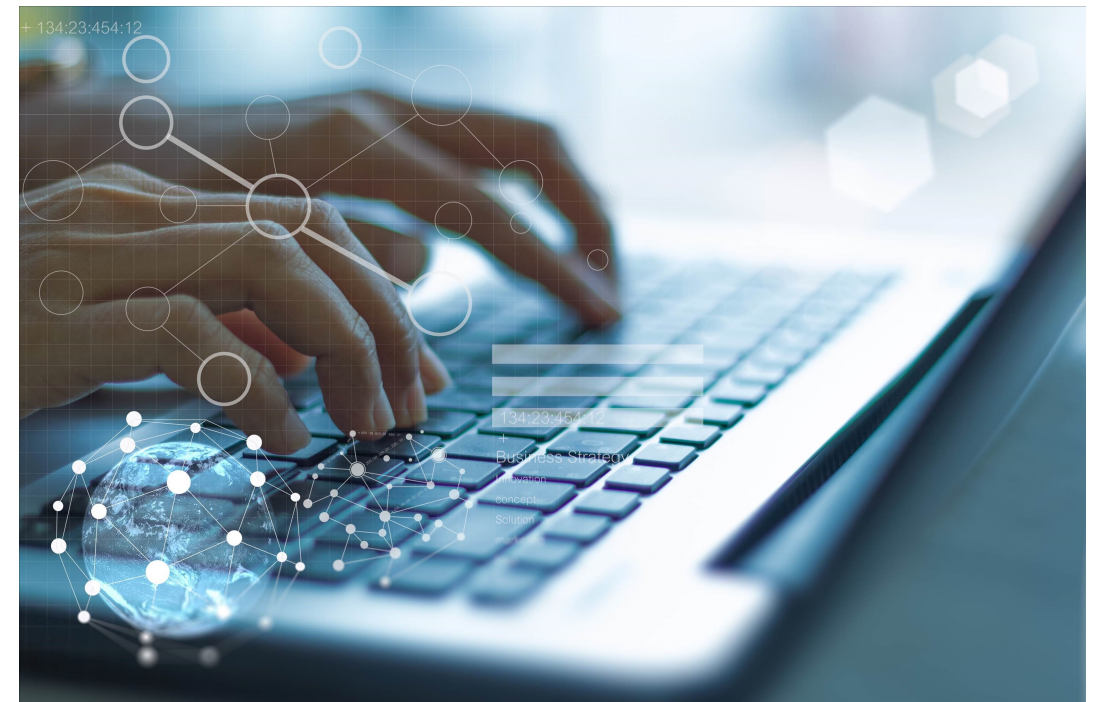
Fill out the survey: <https://dynatrace.ai/acsurvey>

Moving from reactive to predictive to self-healing Ops

AppMon Deep Dive (After the Fact)



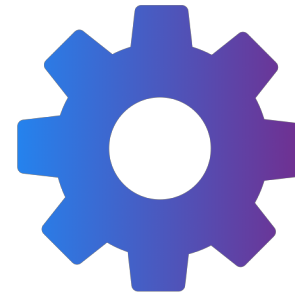
Dynatrace (replacing 13 other tools) Baked into the Platform / Fabric



Moving from reactive to predictive to self-healing Ops



#1
Speed up
MTTR



#2
Prevent vs.
Repair

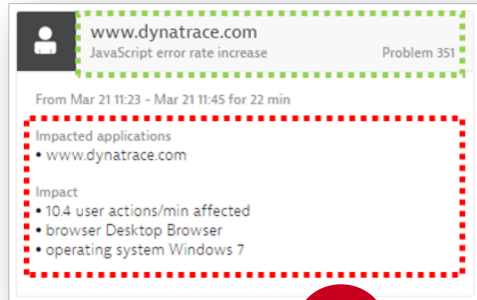
#1

Speeding Up MTTR

Smart Auto-Mitigation



Smart auto-remediation to reduce MTTR



How to escalate?



Inform #WebTeam about JavaScript Issue on IE



Push Status Update to inform our customers



Inform Support about potential incoming user complaints!



Auto Mitigate!



...

1

CPU Exhausted? Add a new service instance to distribute load!

2

Exhausted Connection Pool? Increase Pool Size!

3

Caused by Canary Release? Redirect Traffic to Main Canary!

?

Impact Mitigated?

Update Teams



?

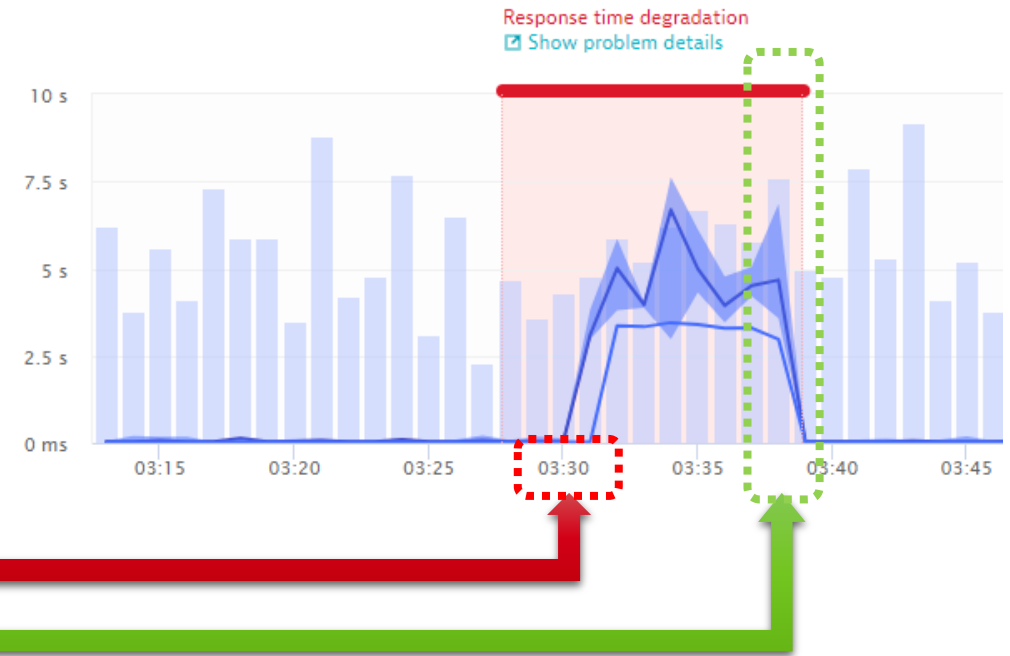
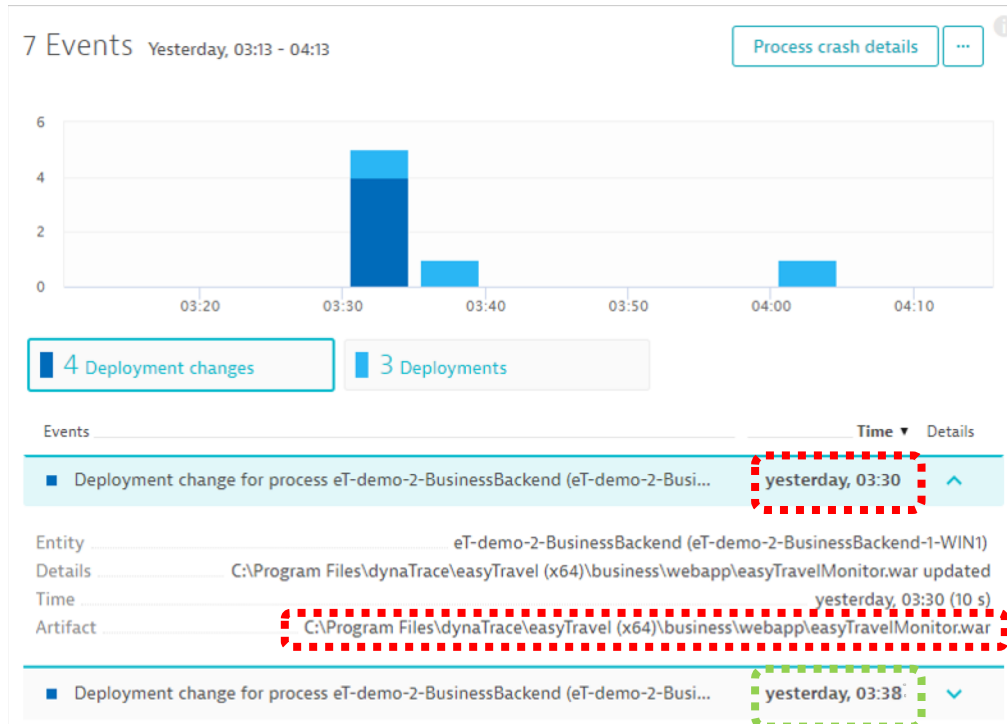
Still ongoing?

Escalate

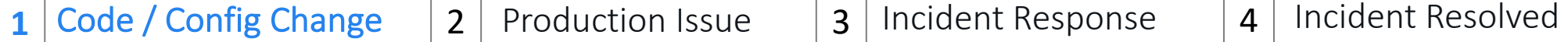
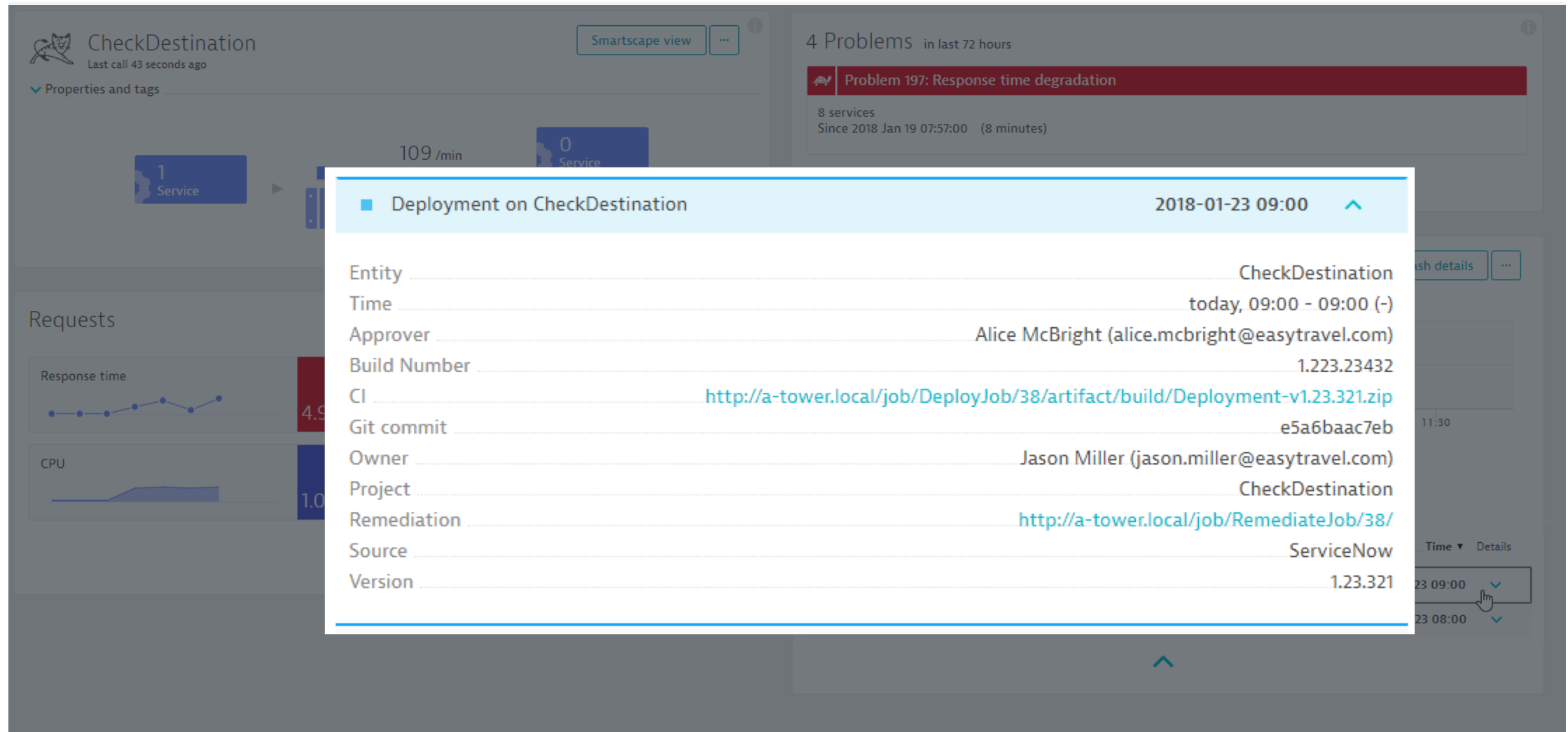


Bad deployment: A common problem with a manual response

Response time



Smart auto-remediation workflow


The screenshot shows the Dynatrace Perform interface. At the top, there's a header with the 'CheckDestination' service name and a 'Smartscape view' button. Below this, a 'Properties and tags' section is visible. The main area displays a 'Requests' section with a line graph for 'Response time' and a bar chart for 'CPU'. A '4 Problems in last 72 hours' section is also present, showing 'Problem 197: Response time degradation' with 8 services affected since 2018 Jan 19 07:57:00 (8 minutes).

A modal window titled 'Deployment on CheckDestination' is overlaid, showing details for a deployment event on 2018-01-23 09:00. The details include:




- Entity: CheckDestination
- Time: today, 09:00 - 09:00 (-)
- Approver: Alice McBright (alice.mcbright@easytravel.com)
- Build Number: 1.223.23432
- CI: <http://a-tower.local/job/DeployJob/38/artifact/build/Deployment-v1.23.321.zip>
- Git commit: e5a6baac7eb
- Owner: Jason Miller (jason.miller@easytravel.com)
- Project: CheckDestination
- Remediation: <http://a-tower.local/job/RemediateJob/38/>
- Source: ServiceNow
- Version: 1.23.321


Smart auto-remediation workflow





www.easytravelb2b.com: User action duration degradation
Problem 197 detected at 07:57 (open for 12 minutes).
This problem affects real users.


	Affected	Recovered	Monitored
 Applications	1	-	15
 Services	13	-	105
 Infrastructure components	1	-	845




87,837,750
Dependencies analyzed

Business impact analysis

An analysis of all affected service calls and impacted real users during the first 10 minutes of the problem shows the following potential impact.


 **152**
Impacted users

 **11.4k**
Affected service calls

[Show more](#)

1 impacted application

128 User actions per minute impacted




www.easytravelb2b.com
Application

User action duration degradation
The current response time (25.1 s) exceeds the auto-detected baseline (1.68 s) by 1,395 %

Affected user actions	User action
128/min	All

Root cause

Based on our dependency analysis all incidents have the same root cause.



CheckDestination
Service Instance


1 Deployment

CheckDestination v1.23.321

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Smart auto-remediation workflow




 **BIQ UAT Report**
Synthetic monitor global outage Problem 985

From Sep 17 16:11 - Sep 17 16:29 for 18 minutes


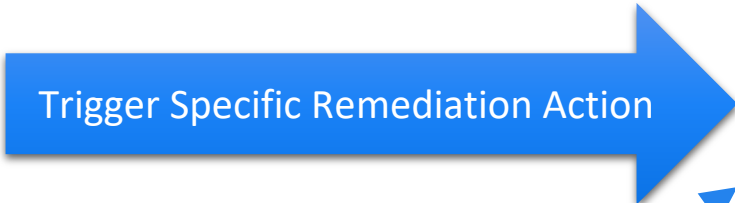
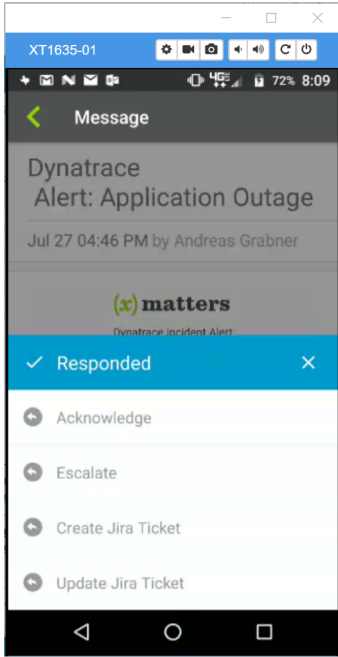
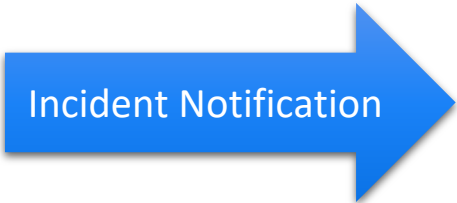
Impact
action click on "passwordld"
error type The html element could not be found to perform action

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Service Instance

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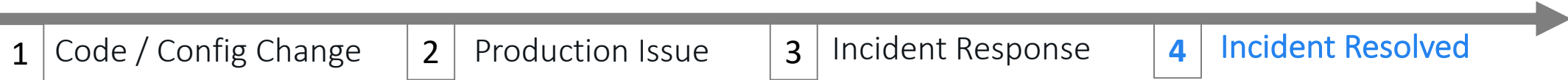
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CheckDestination
Service Instance

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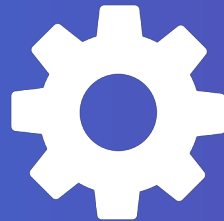
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16

#2

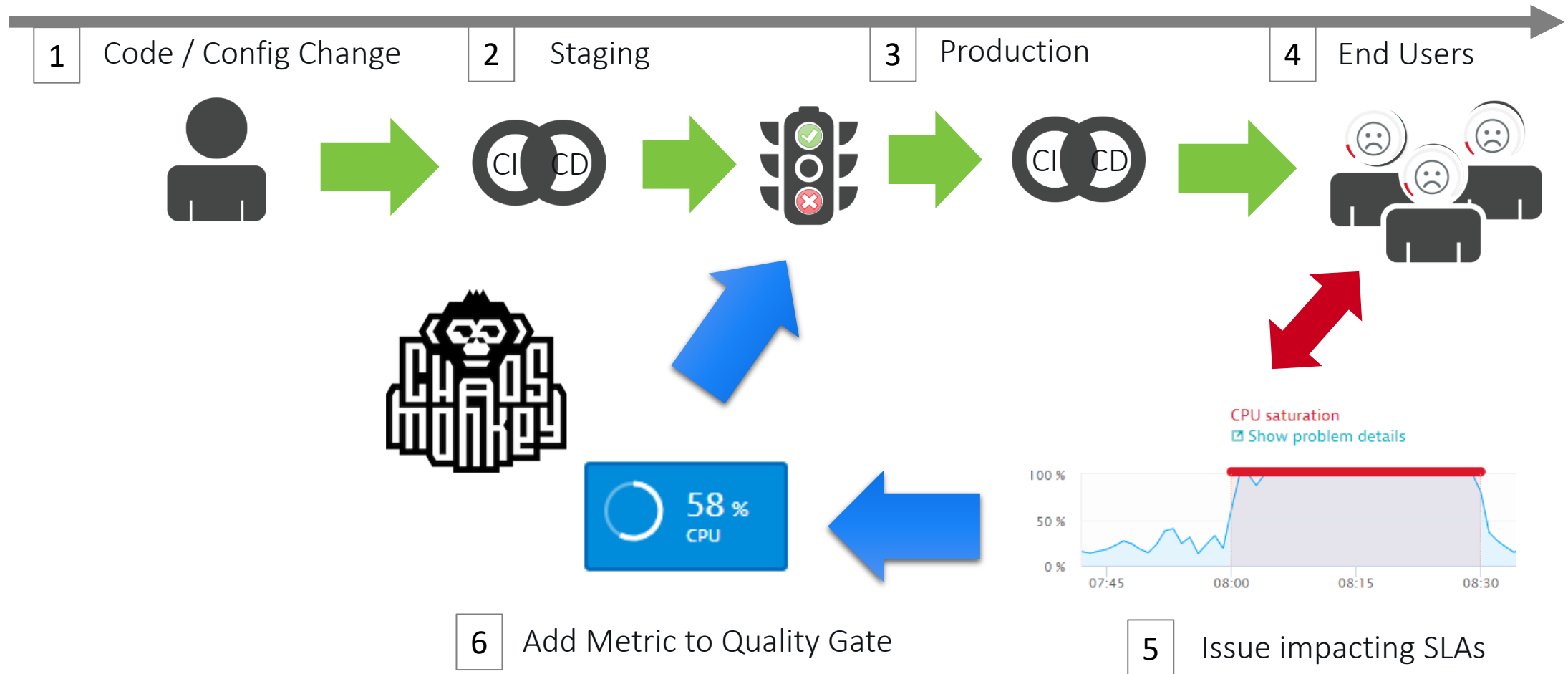
Prevent vs. Repair

Shift-Left SRE



Shift-Left SRE: Prevent vs Repair

Shift-Left: Chaos Monkey Testing for Well Known Production Incidents



Integrations into the pipeline

cloudbees



Concourse



Azure Pipelines



Bitbucket Pipelines



Jenkins



RELEASE

 harness

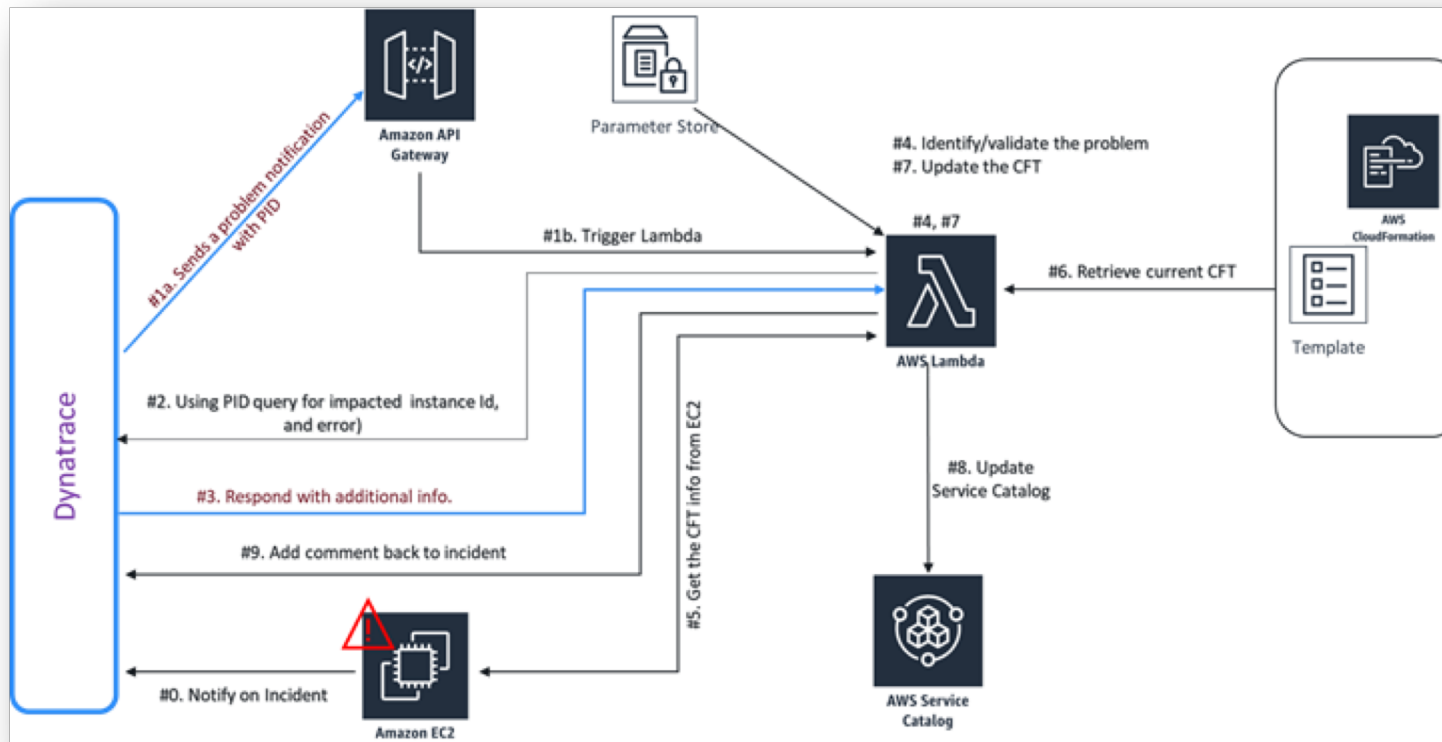


Travis CI

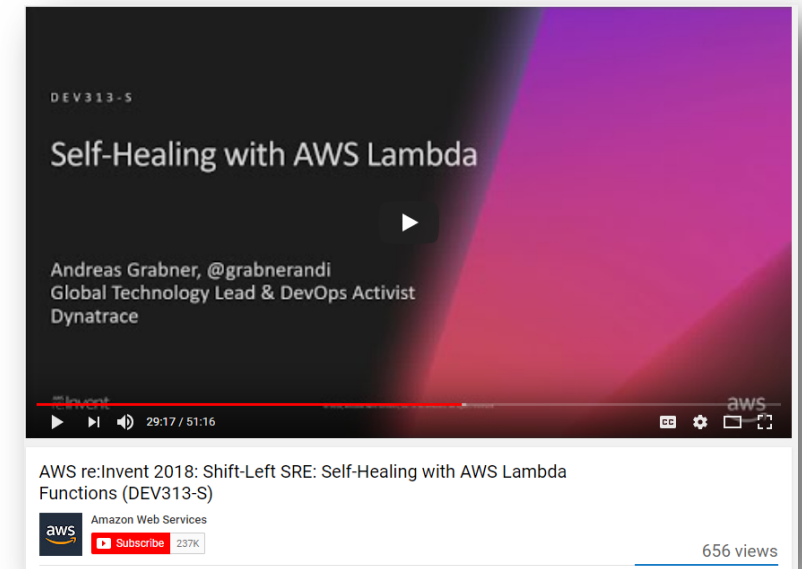

circleci

More on self-healing ...

“Self-healing” infrastructure-as-code



Shift-Left SRE on YouTube (DEV313-S)



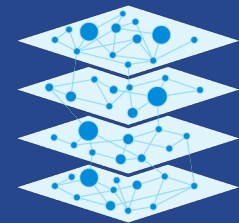


As the journey continues ...

- IT to continue as a key differentiator for us, delivering significant value-add to our clients
- Monitoring less a team or function, but woven into the fabric of our services
- Operations as a self-service, highly automated enterprise cloud environment driven by AI
- Continually sharing software intelligence to our clients for the best possible experience for their customers
- Enabling proactive management of the end-to-end digital experience



Automatic



Full-Stack

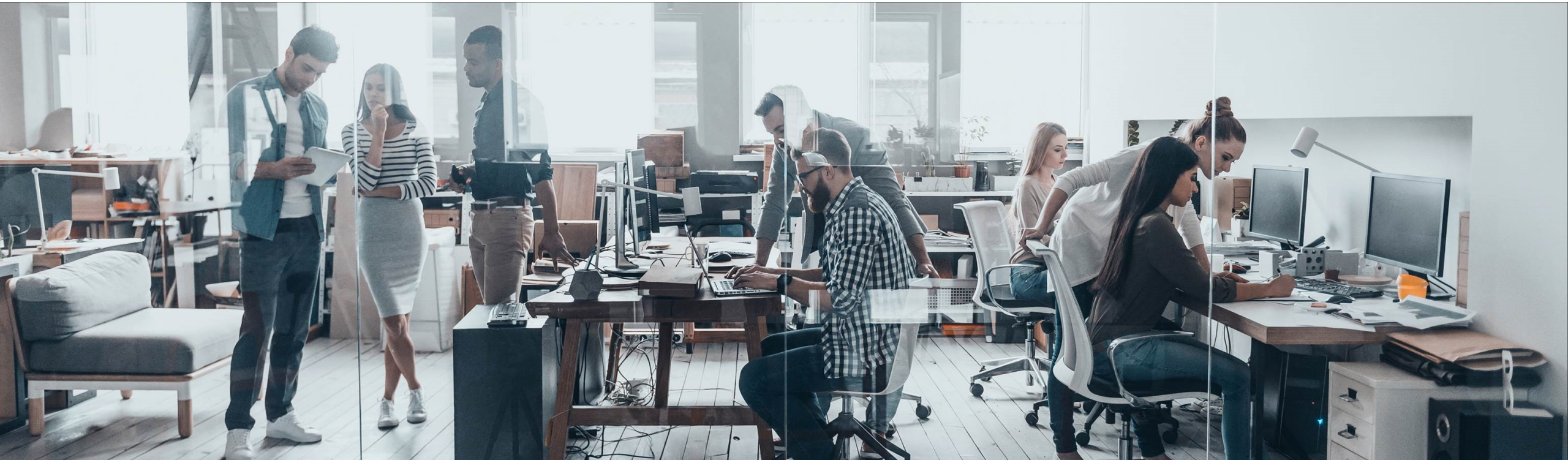


AI

Call to Action

- Fill out the Autonomous Cloud Survey
 - In your PERFORM Mobil App or via <https://dynatrace.ai/acsurvey>
- Learn more about Self-Healing

Stay with us for the final Breakout Session with Citrix on cool stuff around ChatOps, VoiceOps & Automation





Thank you

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