Accelerate Your DevOps Journey

Google DevOps Research & Assessment

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Who is this presentation for?

1. Executive starting DevOps journey and looking for business justification
2. DevOps practitioner interested in assessing your performance against industry peers
3. Customers & Partners exploring DORA and the Google Cloud Application Modernization Program (CAMP)

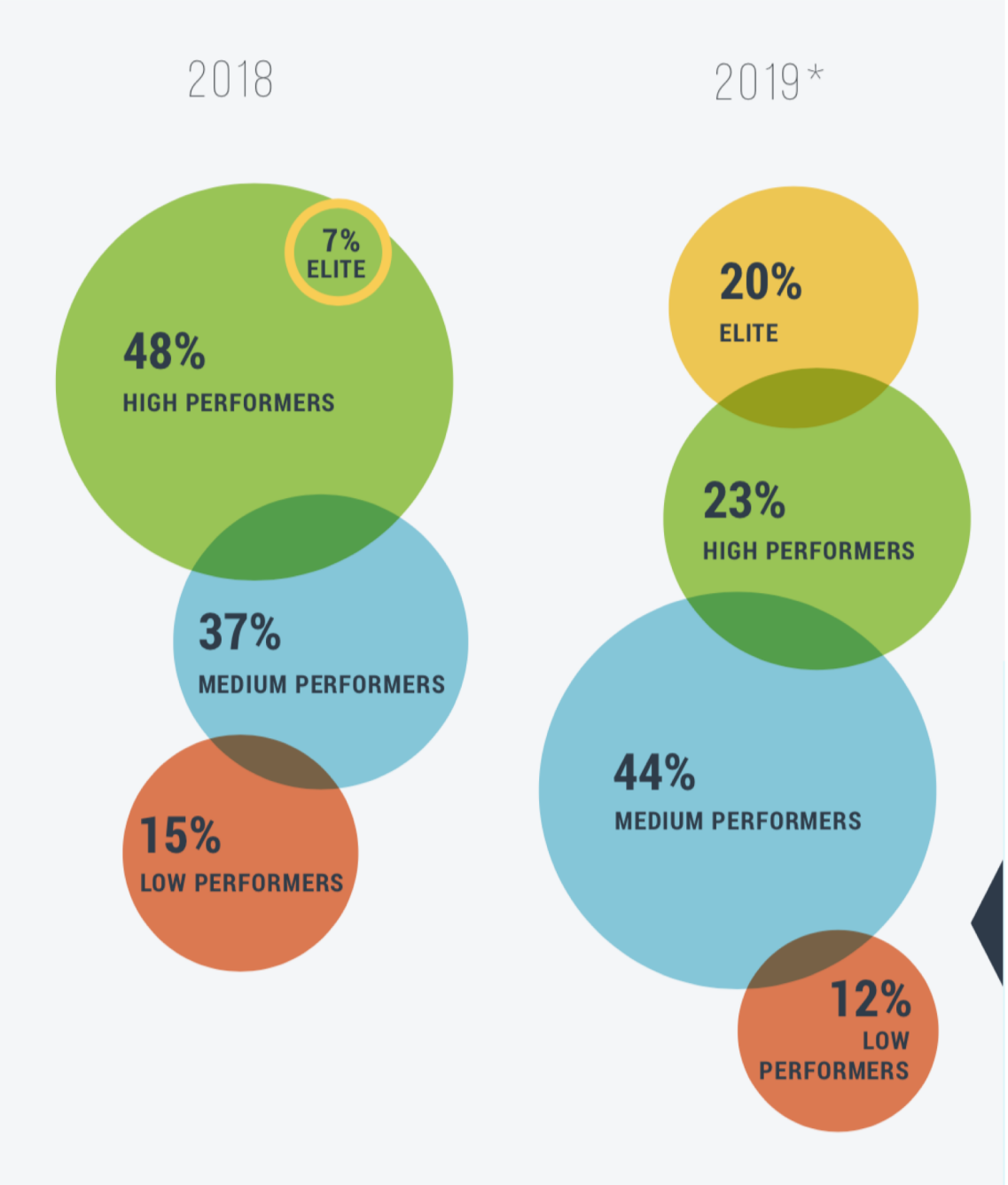
State of DevOps

cloud.google.com/devops

1

The industry continues to improve, particularly among the **elite performers**.

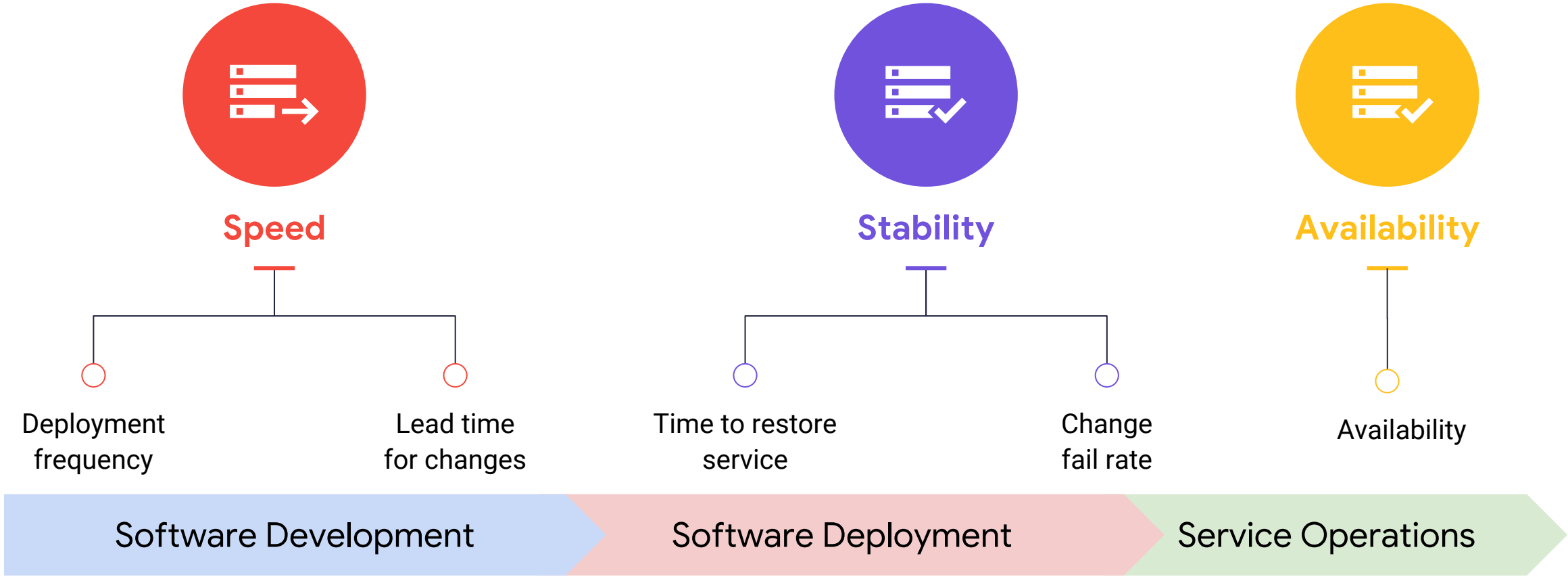
DevOps has crossed the chasm



2

Delivering software **quickly**, **reliably**, and **safely** is at the heart of technology transformation and organizational performance.

Measuring DevOps Performance



Aspect of Software Delivery Performance*	Elite	High	Medium	Low
Deployment frequency For the primary application or service you work on, how often does your organization deploy code to production or release it to end users?	On-demand (multiple deploys per day)	Between once per day and once per week	Between once per week and once per month	Between once per month and once every six months
Lead time for changes For the primary application or service you work on, what is your lead time for changes (i.e., how long does it take to go from code committed to code successfully running in production)?	Less than one day	Between one day and one week	Between one week and one month	Between one month and six months
Time to restore service For the primary application or service you work on, how long does it generally take to restore service when a service incident or a defect that impacts users occurs (e.g., unplanned outage or service impairment)?	Less than one hour	Less than one day[a]	Less than one day[a]	Between one week and one month
Change failure rate For the primary application or service you work on, what percentage of changes to production or released to users result in degraded service (e.g., lead to service impairment or service outage) and subsequently require remediation (e.g., require a hotfix, rollback, fix forward, patch)?	0-15%[b,c]	0-15%[b,d]	0-15%[c,d]	46-60%

Elite Performers

ELITE PERFORMERS

Comparing the elite group against the low performers, we find that elite performers have…

208
TIMES MORE
frequent code deployments

106
TIMES FASTER
lead time from commit to deploy

2,604
TIMES FASTER
time to recover from incidents

7
TIMES LOWER
change failure rate
(changes are 1/7 as likely to fail)

Throughput Stability

3

The best strategies for scaling DevOps in organizations focus on structural solutions that **build community**.

Find the **Right Information** to Solve a Problem

USE OF INTERNAL SEARCH

1.73
TIMES MORE
likely to be productive

USE OF EXTERNAL SEARCH

1.67
TIMES MORE
likely to be productive

4

Cloud continues to be a differentiator for elite performers and **drives high performance**

Five Essential Characteristics of **Cloud Computing**

Only **29% of respondents** met all 5 characteristics of cloud computing

- On-demand self-service
- Broad network access
- Resource pooling
- Rapid elasticity
- Measured service

Elite performers are **24x** more likely to have met characteristics of cloud computing

5

Productivity can drive improvements in work/life balance and reductions in burnout, and organizations can make smart investments to support it.

Elite Performers favored **open source** vs proprietary

"Companies should be thoughtful about which software is strategic and which is merely utility".

- Martin Fowler

TOOL USAGE BY PERFORMANCE PROFILE

	Low	Medium	High	Elite
A mix of proprietary tools, open source, and commercial off-the-shelf (COTS) software	30%	34%	32%	33%
Mainly open source and COTS, heavily customized	17%	8%	7%	10%
Mainly open source and COTS, with little customization	14%	21%	18%	20%
Primarily COTS packaged software	8%	12%	8%	4%
Primarily developed in-house and proprietary to my organization	20%	6%	5%	6%
Primarily open source, heavily customized	6%	7%	5%	12%
Primarily open source, with little customization	5%	12%	24%	15%

Intelligent automation has additive benefits

AUTOMATION AND INTEGRATION BY PERFORMANCE PROFILE

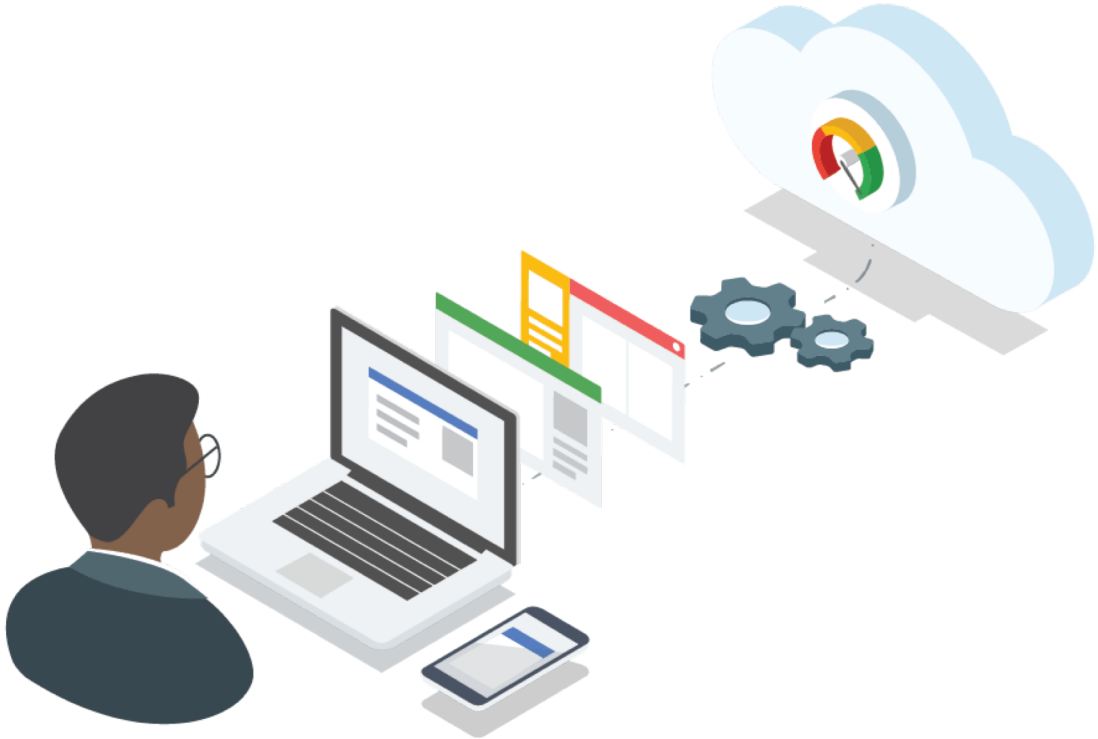
	Low	Medium	High	Elite
Automated build	64%	81%	91%	92%
Automated unit tests	57%	66%	84%	87%
Automated acceptance tests	28%	38%	48%	58%
Automated performance tests	18%	23%	18%	28%
Automated security tests	15%	28%	25%	31%
Automated provisioning and deployment to testing environments	39%	54%	68%	72%
Automated deployment to production	17%	38%	60%	69%
Integration with chatbots / Slack	29%	33%	24%	69%
Integration with production monitoring and observability tools	13%	23%	41%	57%

6

There’s a right way to handle the change approval process, and it leads to improvements in speed and stability.

DevOps

An **organizational and cultural movement** that aims to increase software delivery **velocity**, improve service **reliability**, and build **shared ownership** among software stakeholders.



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Thank You!