



The bridge to possible

Agile Engineering @ Scale

Making it a Reality!

Rich Delisser, VP Engineering
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ITLGEN-1021

CISCO *Live!*

IT Leadership Program

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Launching agile engineering at scale

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ITLGEN-2210

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*“[In the majority of organisations]
software developers **only**
spend 30-40% of their time on
feature development”*

State of DevOps Report (2018, 2019)

Who am I?



F&C
Investments

Disney



SUNCORP

World Kinect
Energy Services



CISCO



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Double the throughput and
half the cycle time.

Execute at the pace of a startup



Step One

Reorganise for agility and map our processes.



Step Two

Operationalise Agile ways of working through disciplined systems.



Step 3

Focus on engineering effectiveness.

First, reorganise for
agility and map your
processes

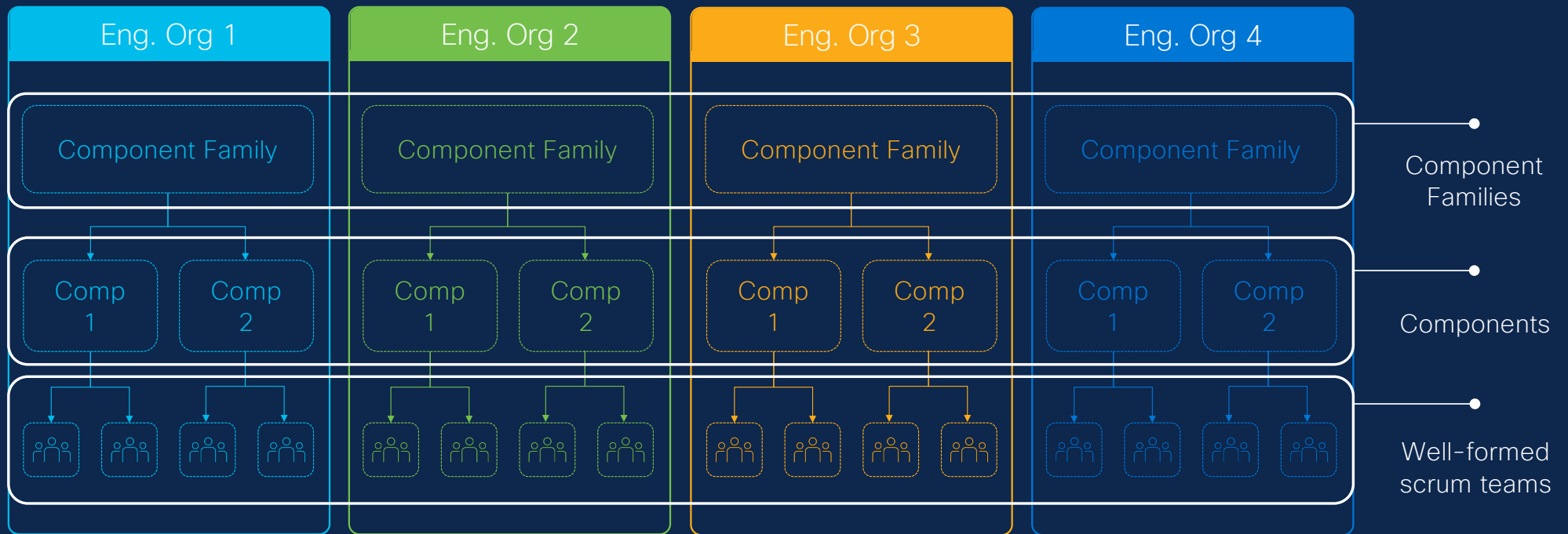
Agile Operating Model Principles

600+ Agile teams formed



Agile Operating Model

600 teams launched in only 6 months



Agile Operating Model

ONEx Stakeholder Management

Business Prioritization & Intake

- ELT Request and Priority
- Stage 0: MVP PRD concept defined and approved with initial wireframes
- Stage 1: Define feature speclet, UX wireframes, and estimate engineering effort
- Stage 2: Discuss trade-offs based on cost, time, and resources
- Stage 3: Finalise PRD, UX flows, engineering design, effort, and schedule

Agile Discovery

Target date for agile discovery to begin no sooner than 90 days prior to dev start.

Scheduling

Provide estimated start date and duration.

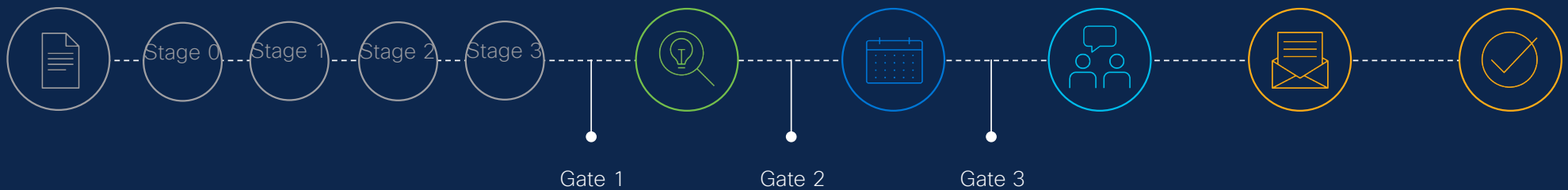
Iteration 0 & Development

Stakeholders notified when dev has started and significant scope change.

Deployment and Release

Theme Business Owner provides bi-weekly update on progress and health.

Stakeholder notified when development is complete.



Second, operationalise
Agile ways of working
through disciplined
systems



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RESTRICTED

APPROVED B-17F and G CHECKLIST

REVISED 3-1-44

PILOT'S DUTIES IN RED
COPILOT'S DUTIES IN BLACK

BEFORE STARTING

1. Pilot's Preflight—COMPLETE
2. Form 1A—CHECKED
3. Controls and Seats—CHECKED
4. Fuel Transfer Valves & Switch—OFF
5. Intercoolers—Cold
6. Gyros—UNCAGED
7. Fuel Shut-off Switches—OPEN
8. Gear Switch—NEUTRAL
9. Cowl Flaps—Open Right—
OPEN LEFT—Locked
10. Turbos—OFF
11. Idle cut-off—CHECKED
12. Thrustles—CLOSED
13. High RPM—CHECKED
14. Autopilot—OFF
15. De-icers and Anti-icers, Wing and
Prop—OFF
16. Cabin Heat—OFF
17. Generators—OFF

STARTING ENGINES

1. Fire Guard and Call Clear—LEFT Right
2. Master Switch—ON
3. Battery switches and inverters—ON &
CHECKED
4. Parking Brakes—Hydraulic Check—On—
CHECKED
5. Booster Pumps—Pressure—ON &
CHECKED
6. Carburetor Filters—Open
7. Fuel Quantity—Gallons per tank
8. Start Engines: both magnetos on
after one revolution
9. Flight Indicator & Vacuum Pressures
CHECKED
10. Radio—On
11. Check Instruments—CHECKED
12. Crew Report
13. Radio Call & Altimeter—SET

ENGINE RUN-UP

1. Brakes—Locked
2. Trim Tabs—SET
3. Exercise Turbos and Props
4. Check Generators—CHECKED & OFF
5. Run up Engines

BEFORE TAKEOFF

1. Tailwheel—Locked
2. Gyro—Set
3. Generators—ON

AFTER TAKEOFF

1. Wheel—PILOT'S SIGNAL
2. Power Reduction
3. Cowl Flaps
4. Wheel Check—OK right—OK LEFT

BEFORE LANDING

1. Radio Call, Altimeter—SET
2. Crew Positions—OK
3. Autopilot—OFF
4. Booster Pumps—On
5. Mixture Controls—AUTO-RICH
6. Intercooler—Set
7. Carburetor Filters—Open
8. Wing De-icers—Off
9. Landing Gear
 - a. Visual—Down Right—DOWN LEFT
Tailwheel Down, Antenna in, Ball
Turret Checked
 - b. Light—OK
 - c. Switch Off—Neutral
10. Hydraulic Pressure—OK Valve closed
11. RPM 2100—Set
12. Turbos—Set
13. Flaps $\frac{1}{2}$ — $\frac{1}{2}$ Down

FINAL APPROACH

14. Flaps—PILOT'S SIGNAL
15. RPM 2200—PILOT'S SIGNAL

RESTRICTED

55

How we operationalise ways of working

Discuss what blockers are people or the teams struggling with.

Daily Leadership Team Check-in

Discuss what blockers are people or the teams struggling with.

Monthly Operations Review

Individual leaders present their metrics.

Monthly Retrospective and Calibration

Open and candid discussion: *What is working? What's not? What do we need to change?*

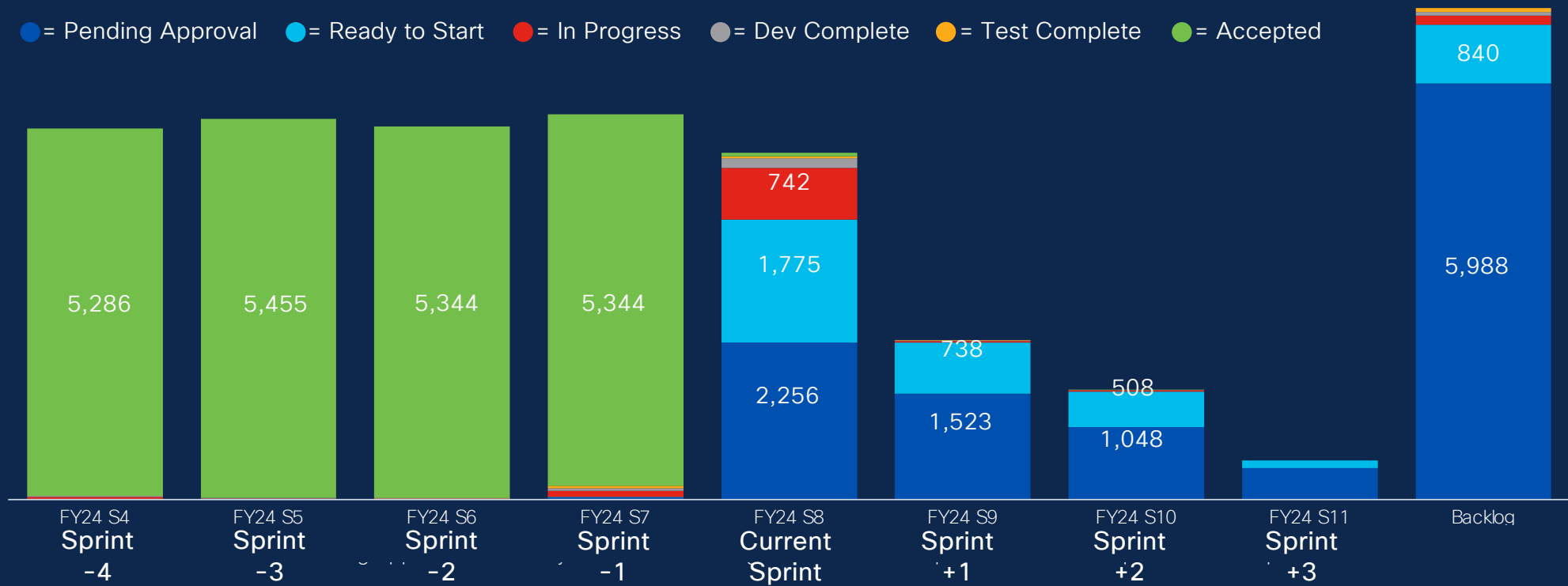
Quarterly Strategy Review

Review of strategy alignment, calibrate KPIs/V2MOM.

Flow the Work

of stories by status

● = Pending Approval ● = Ready to Start ● = In Progress ● = Dev Complete ● = Test Complete ● = Accepted



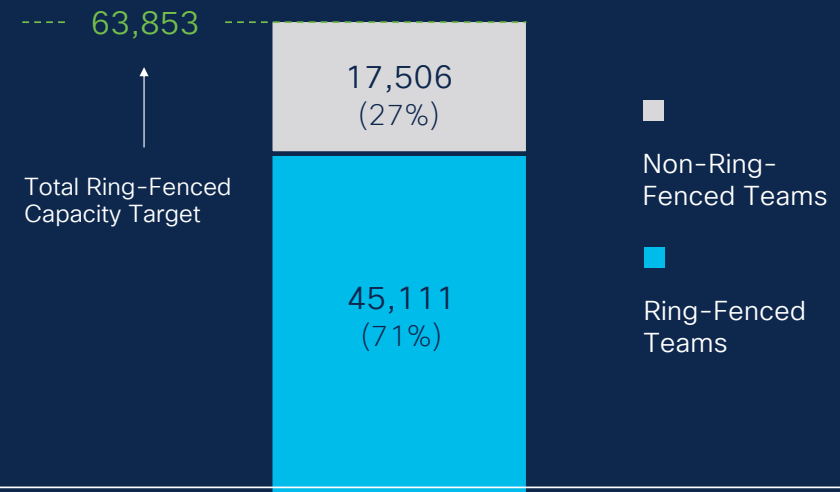
Flow the Work

Percentage of WFT vs Non WFT



“Are our teams well formed?”

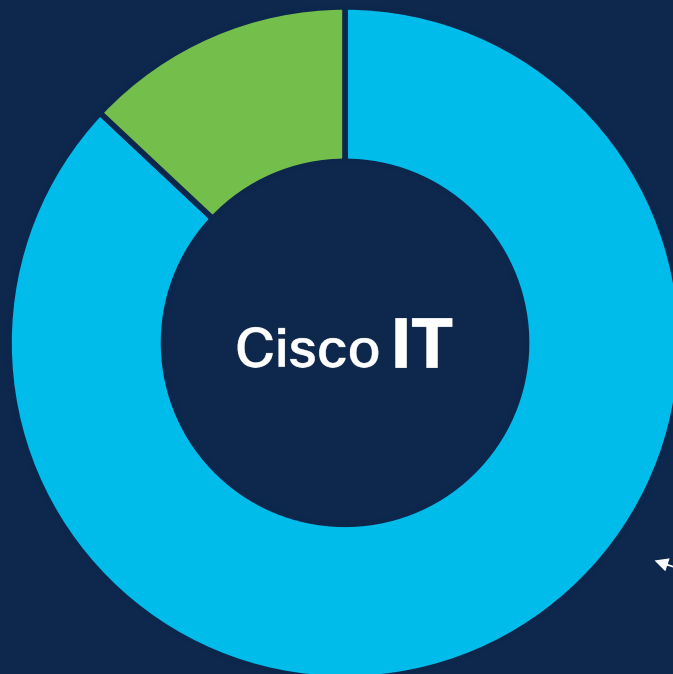
Ring-Fenced vs Non-Ring-Fenced



“Are we doing the right work?”

Focus on the people doing the work

Doers vs Enablers (All Employees)



13%

of our workforce enables.

87%

of our workforce do.

How can we best support?

Measure what matters

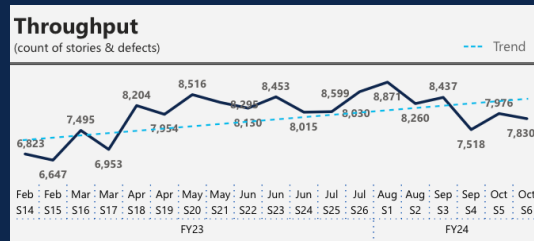
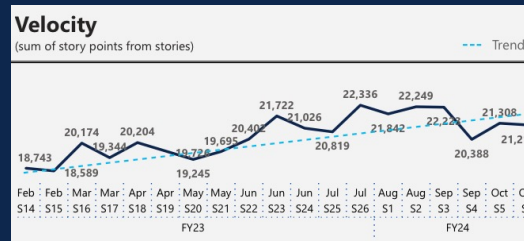
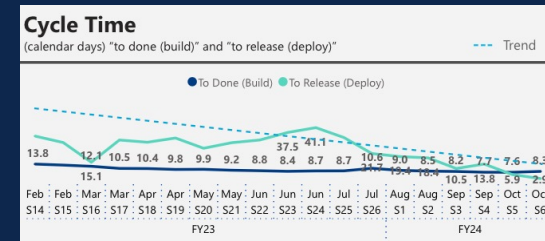
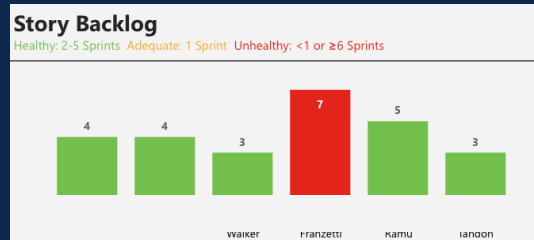
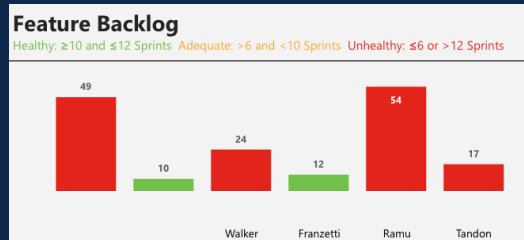
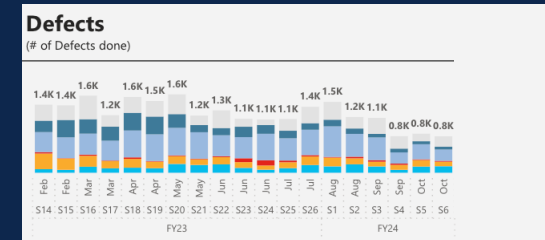
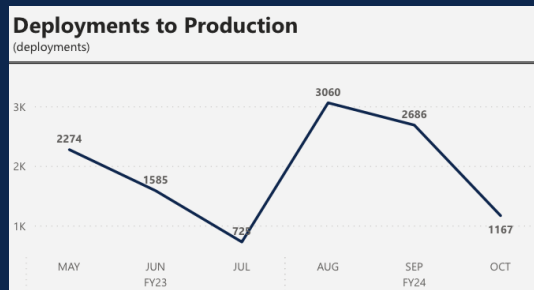
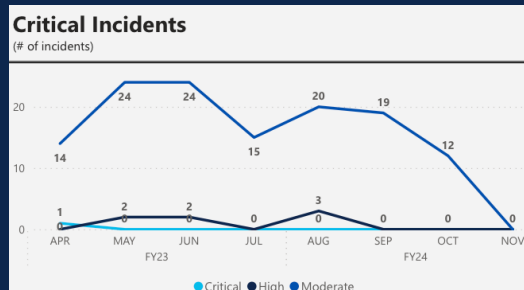
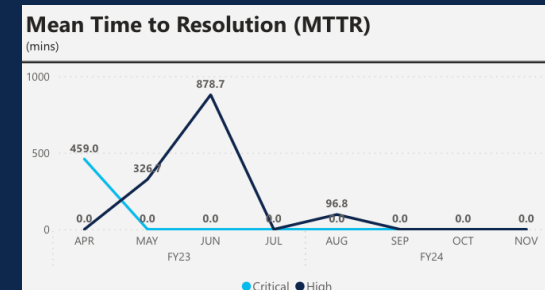
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Control without controlling: Agile Dashboard



Third, focus on
engineering
effectiveness

Cisco IT Engineering at a glance



10k

Employees &
Contractors



600

Agile Teams



60K

Story Points
per Month



34K

Daily Commits



24K

Deployments per
Month



#1

Best place to work in
6 countries

Leadership & Culture

Westrum Organisational Culture Model¹

Pathological (Power-Orientated)	Bureaucratic (Rule-Oriented)	Generative (Performance Orientated)
Low cooperation	Modest cooperation	High cooperation
Messengers “shot”	Messengers neglected	Messengers trained
Responsibilities shirked	Narrow responsibilities	Risks are shared
Bridging discouraged	Bridging tolerated	Bridging encouraged
Failure leads to scapegoating	Failure leads to justice	Failure leads to inquiry
Novelty crushed	Novelty leads to problems	Novelty implemented

Leadership & Culture

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Capabilities not Maturity Models

Capabilities that matter

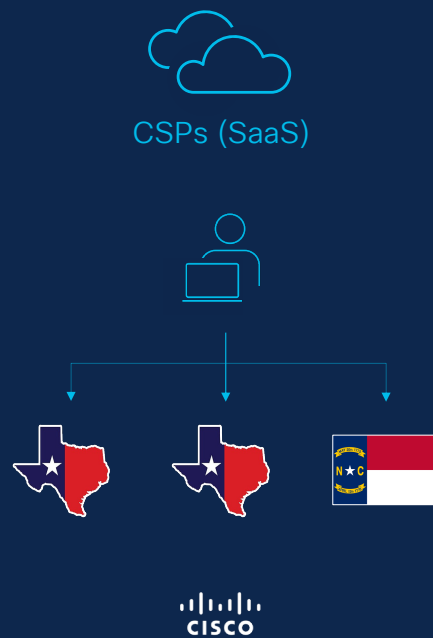
- Test Automation
- Deployment Automation
- Trunk-Based Development
- Shift Left on Security
- Loosely Coupled Architecture
- Empowered Teams
- Continuous Integration
- Version Control
- Test Data Management
- Monitoring & Proactive Notifications
- AI Co-Pilot Engineering

Capabilities that do not Matter

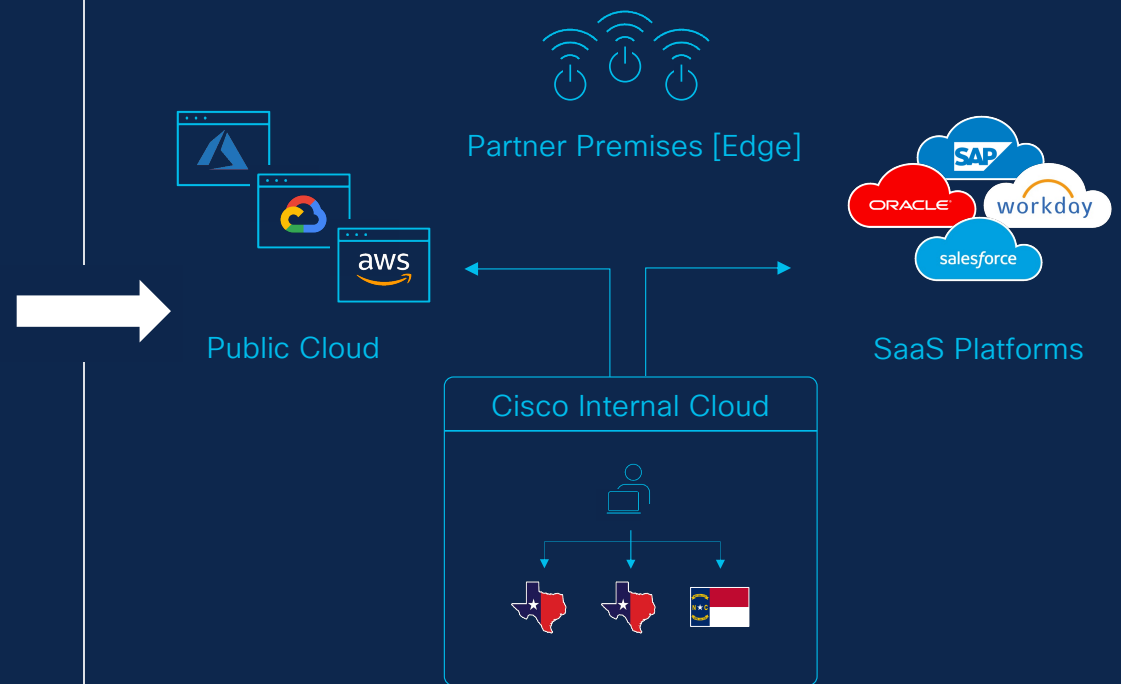
- Age and technology used
- Industry or size of organisation
- Who performs deployments
- Change Board or no Change Board

Developer Experience

From a few data centers...

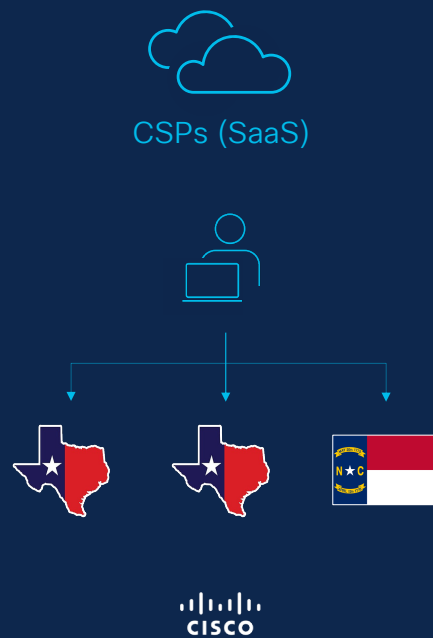


...to multi-Cloud, multi-SaaS.

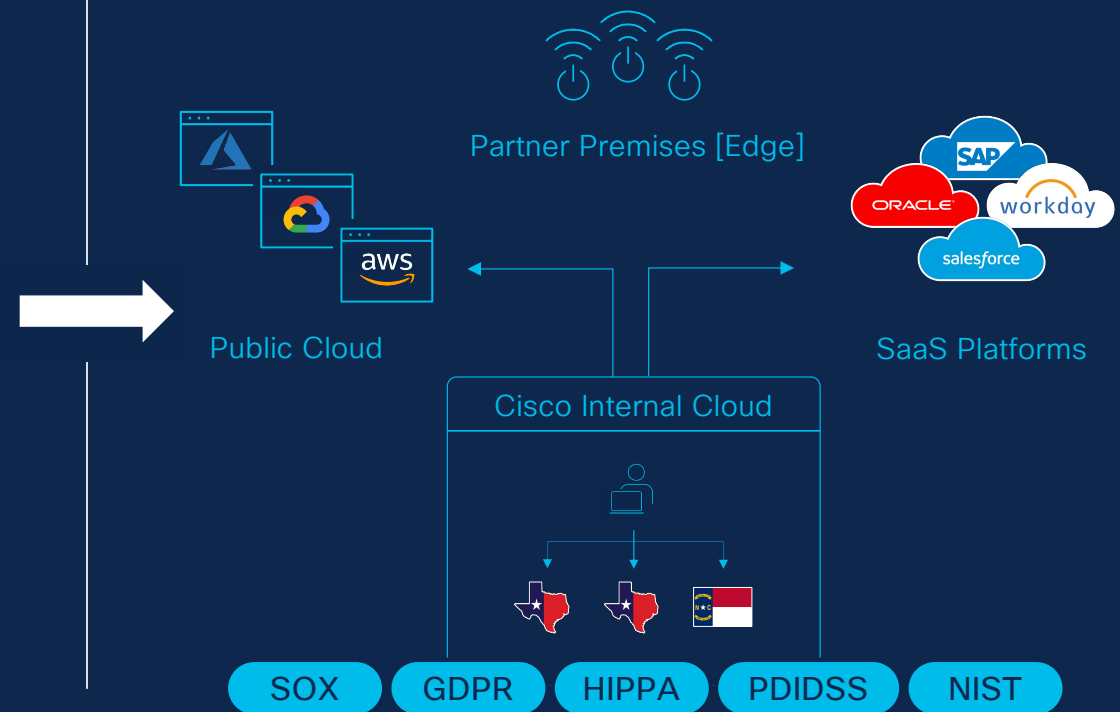


Developer Experience

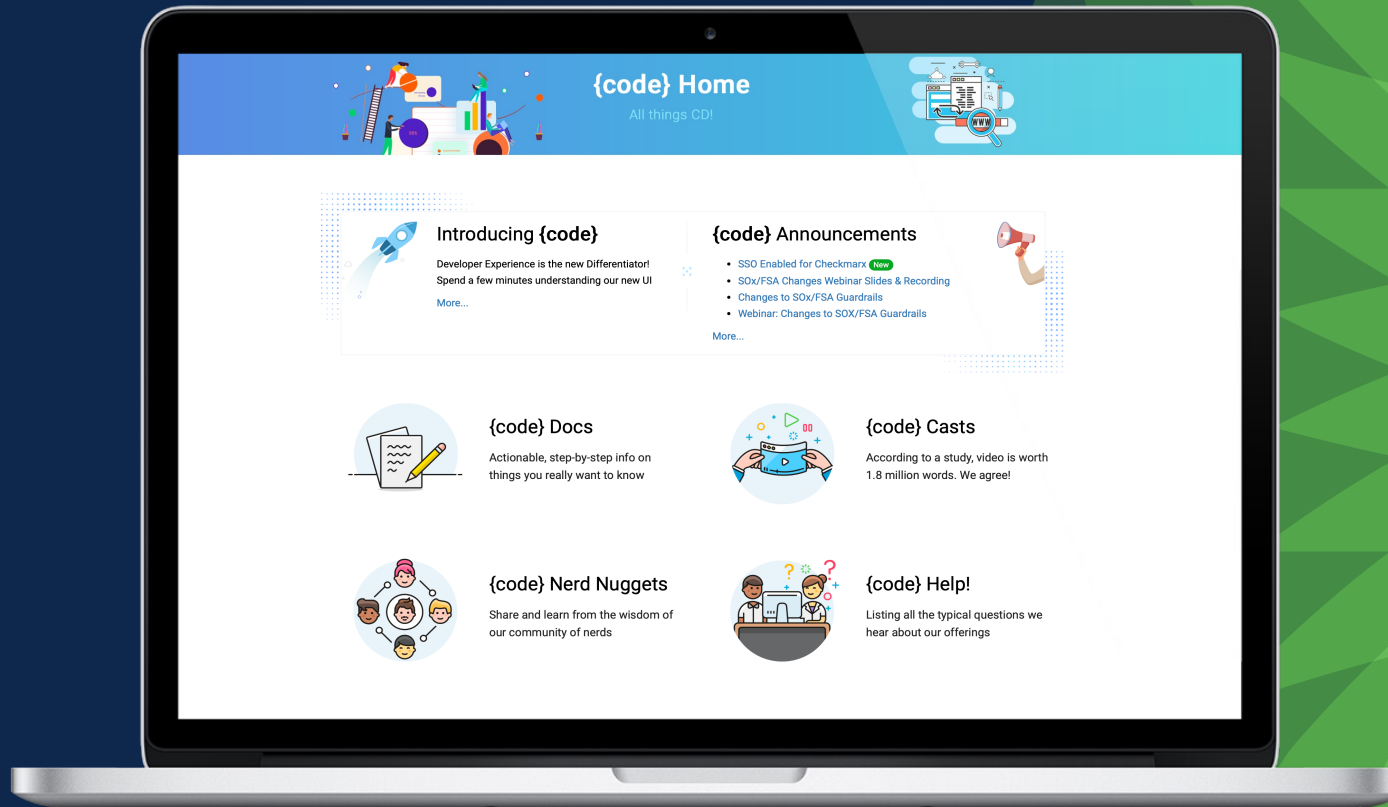
From a few data centers...



...to multi-Cloud, multi-SaaS.



CoDE.cisco.com



The “Simple” Developer Experience

Product Management	Source Code Management	Continuous Integration	Continuous Quality	Continuous Security	Testing Mgmt & Test Automation	Binary Artifacts Management	Deployment Tools	App Observability
CODE CONSOLE (Frictionless and Fast Developer Onboarding)								
  Jira Cloud   Jira Align 	  GitHub 			Static Code Scans  CheckMarx Dynamic Code Scans  RAPID7 Secrets Management  CyberArk Software Composition Analysis (SCA)  Corona  	Test Management  TRICENTIS qTest Test Automation  UiPath API Automation  Postman  			Logs Analysis  splunk App Performance Monitoring  Cisco AppDynamics Internet & Cloud Insights  Cisco ThousandEyes  
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The Developer Experience Today

Application
Runtimes

Product
Management

Source Code
Management

Continuous
Integration

Continuous
Quality

Continuous
Security

Testing Mgmt
& Test
Automation

Binary
Artifacts
Management

Deployment
Tools

App
Observability

CODE CONSOLE (Frictionless and Fast Developer Onboarding)



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Test Management



Test Automation



API Automation



Logs Analysis



App Performance
Monitoring



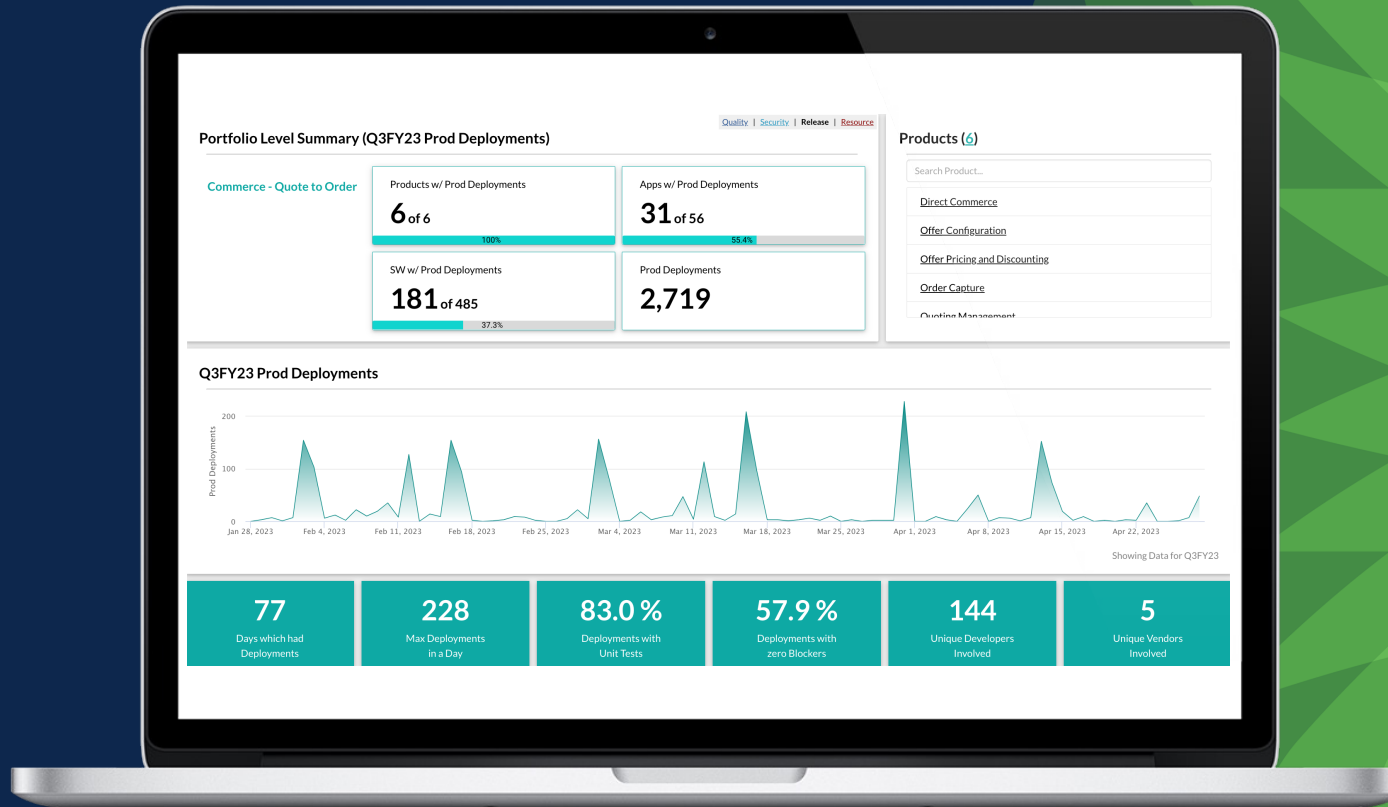
Internet & Cloud
Insights



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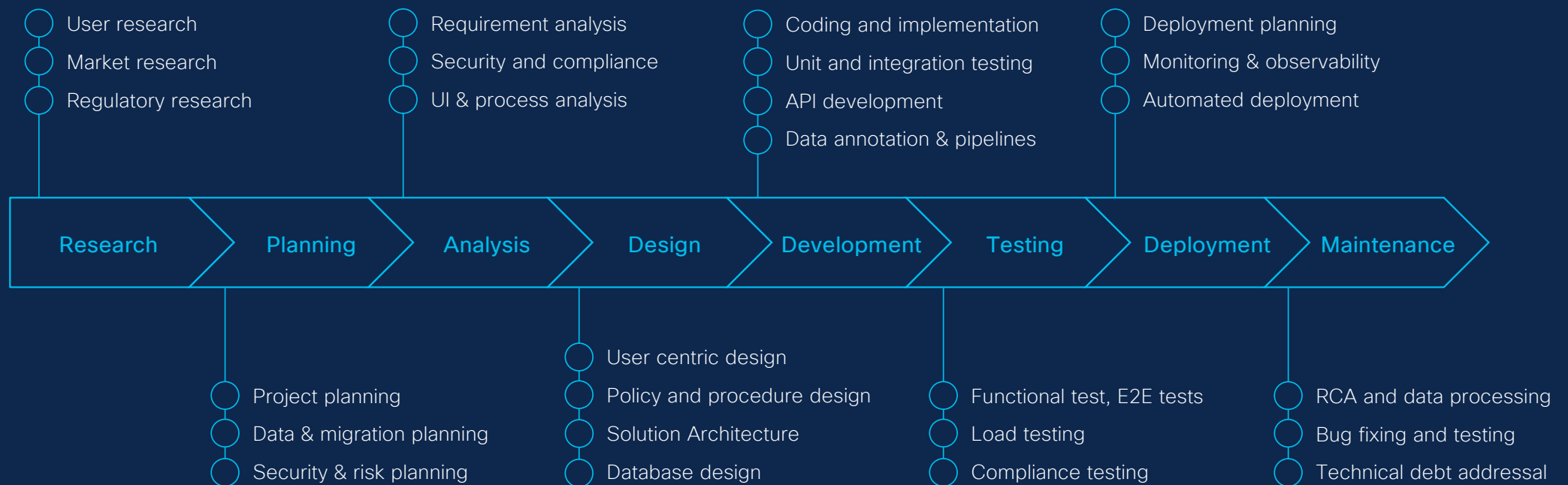
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Developer experience



Focus on quick wins and high leverage SDLC areas

Leverage of AI (ROI)



Developer Experience

Satisfaction Survey Results



Extremely
dissatisfied



Somewhat
dissatisfied



Neither satisfied
nor dissatisfied



Somewhat
satisfied



Extremely
satisfied

82%

of developers feel they are satisfied in their job roles.
Which creates happy and productive engineering teams!

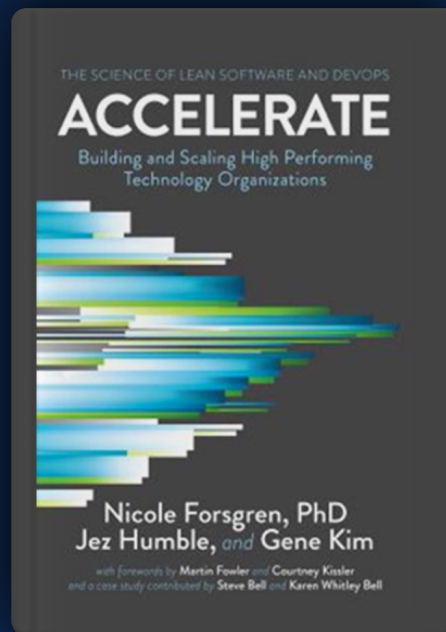
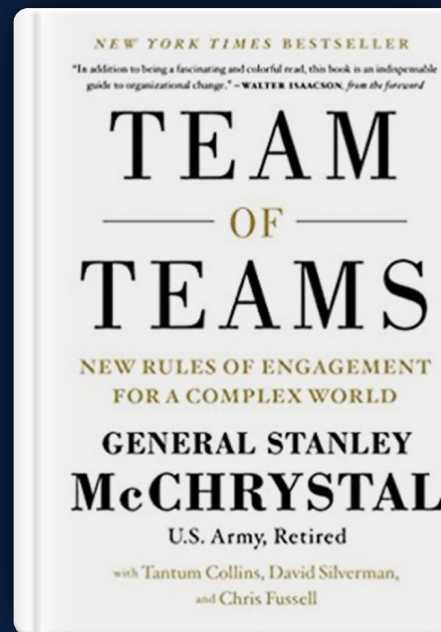
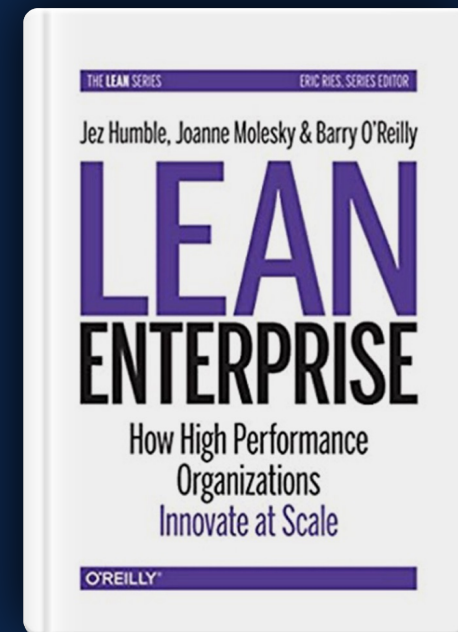
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Additional Reading



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1. Set bold aspirations
 2. First, reorganise for agility and map your processes
 3. Second, operationalise Agile ways of working through disciplined systems
 4. Third, focus on engineering effectiveness
 5. Have fun!

Watch your agile engineering transformation take flight!



The bridge to possible

Thank you

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