

More Culture More Engineering Less Duct-tape

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Industry Leading, Innovative, Configurable Business Support Solutions

**REVENUE
MANAGEMENT**

**CONTENT
MONETIZATION**

**CUSTOMER
COMMUNICATION
MANAGEMENT**

**MANAGED
SERVICES**

**ASCENDON
NEXT GEN
PLATFORM**

3,300 EMPLOYEES
Around the Globe

35+ YEARS
Supporting the World's most respected CSPs



CSG International Confidential and Proprietary Information

CSG in North America

SaaS Based Customer Care and Billing

- ~61M Subscribers
- 150k Call Center Seats
- ~6B External Transactions/month
- 40 Dev. Teams & 1000 Practitioners
- ACP: ~20 Technology Stacks: JS to HLASM
 - Integrated Suite of 50+ applications

Challenges: Time to Market, Quality: Software & Operations

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More Culture, More Engineering, Less Duct-tape



2014
2015
2016

Pressures & Constraints

Demand for Quality & Speed
 SoRs being pressured to become SoEs
 Org & Process Debt, Technical Debt
[YouTube: f4et0EGvKXA](https://www.youtube.com/watch?v=f4et0EGvKXA)

Strive for Unimodal IT

Invest in:
 Culture, Empathy, Understanding,
 Simplicity & Automation
[YouTube: tKdIHCL0DUG](https://www.youtube.com/watch?v=tKdIHCL0DUG)

Accelerate Feedback & Learning

Understanding
 Accountability
 Engineering

[YouTube: 6afD-sQm03E](https://www.youtube.com/watch?v=6afD-sQm03E)

2017

Spread Culture, Invest in Engineering, Shift Ops Left

1. “Bi-Modal IT”
2. DevOps Journey: Business and Culture Metrics
3. Service Owner Model
 - SDLC/ITIL, Change, Incident
 - Post Incident Reviews(PIR)
4. Team Spotlight
5. Targeted DevOps Culture Focus(DevOps Leadership Series)



“Our DevOps transformation and closer working relationship enables us to react quickly to client demands which leads to improved customer satisfaction – the most important measurement for our business.

Brian Clark, Executive Director, Product Management

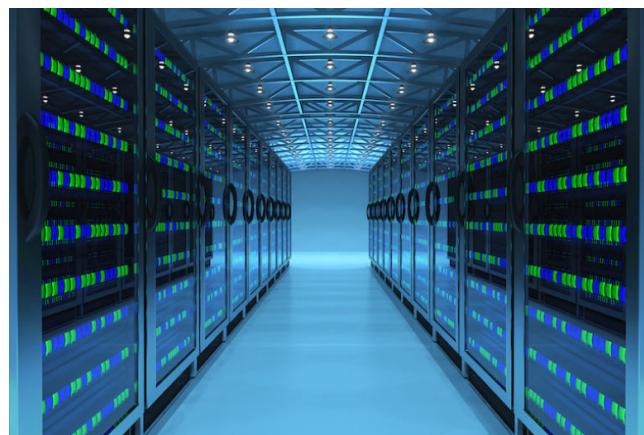


My Definition of Bimodal IT

Mode1: Servers are destroyed in the parking lot with a sledgehammer

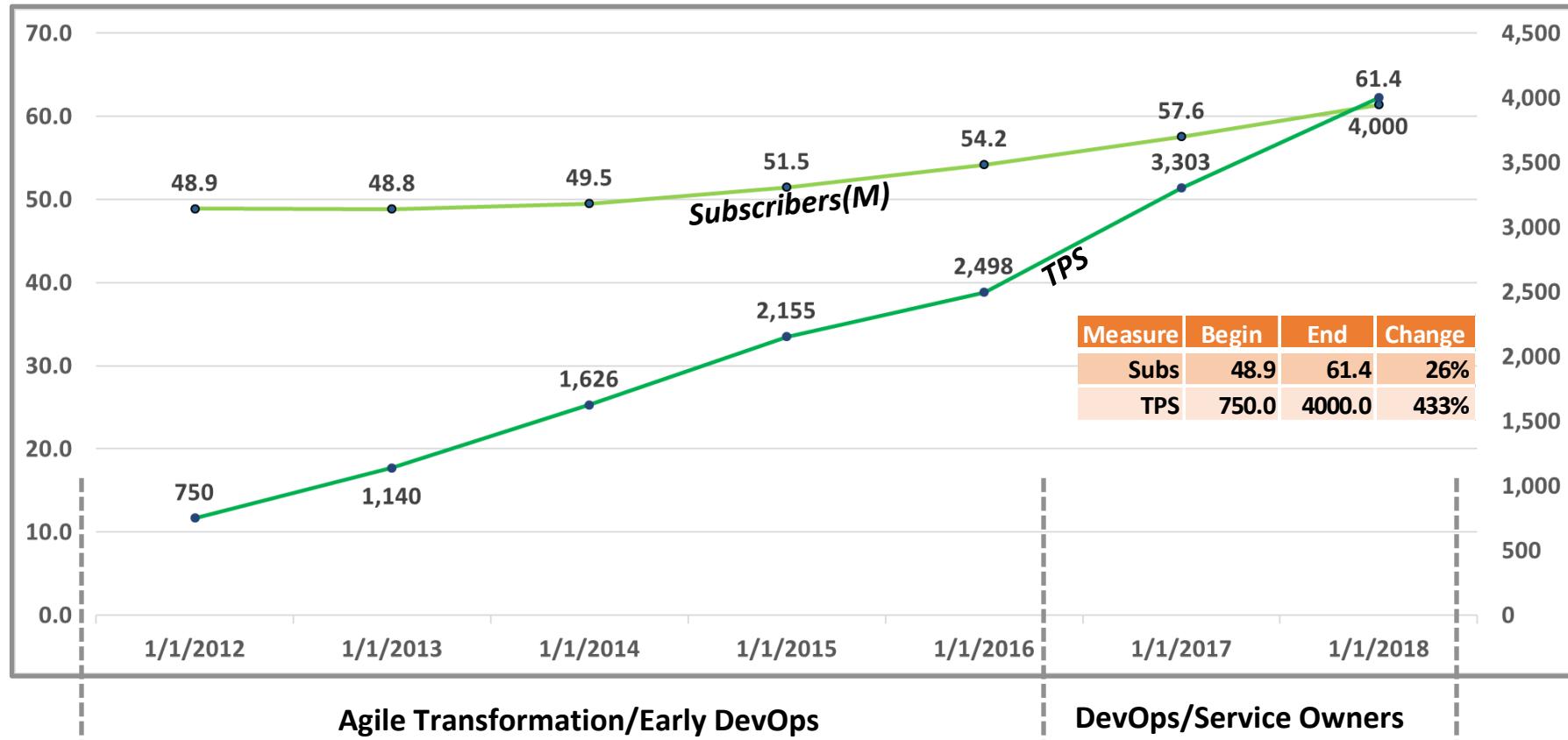


Mode2: Servers and apps are run safely with speed and quality

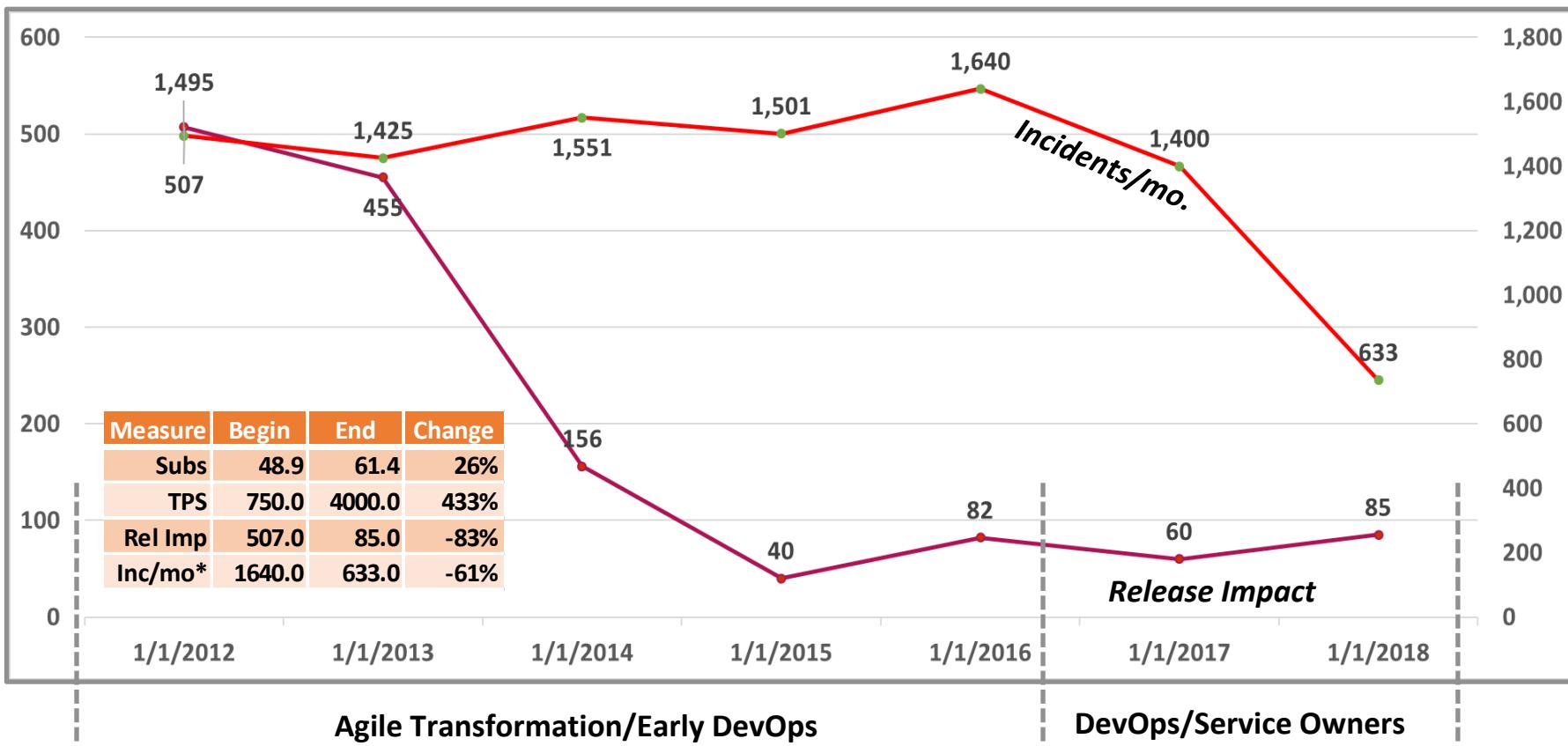


Apps and servers are updated safely and quickly with features and operational concerns. Tech-debt is actively managed. Be waiver free.

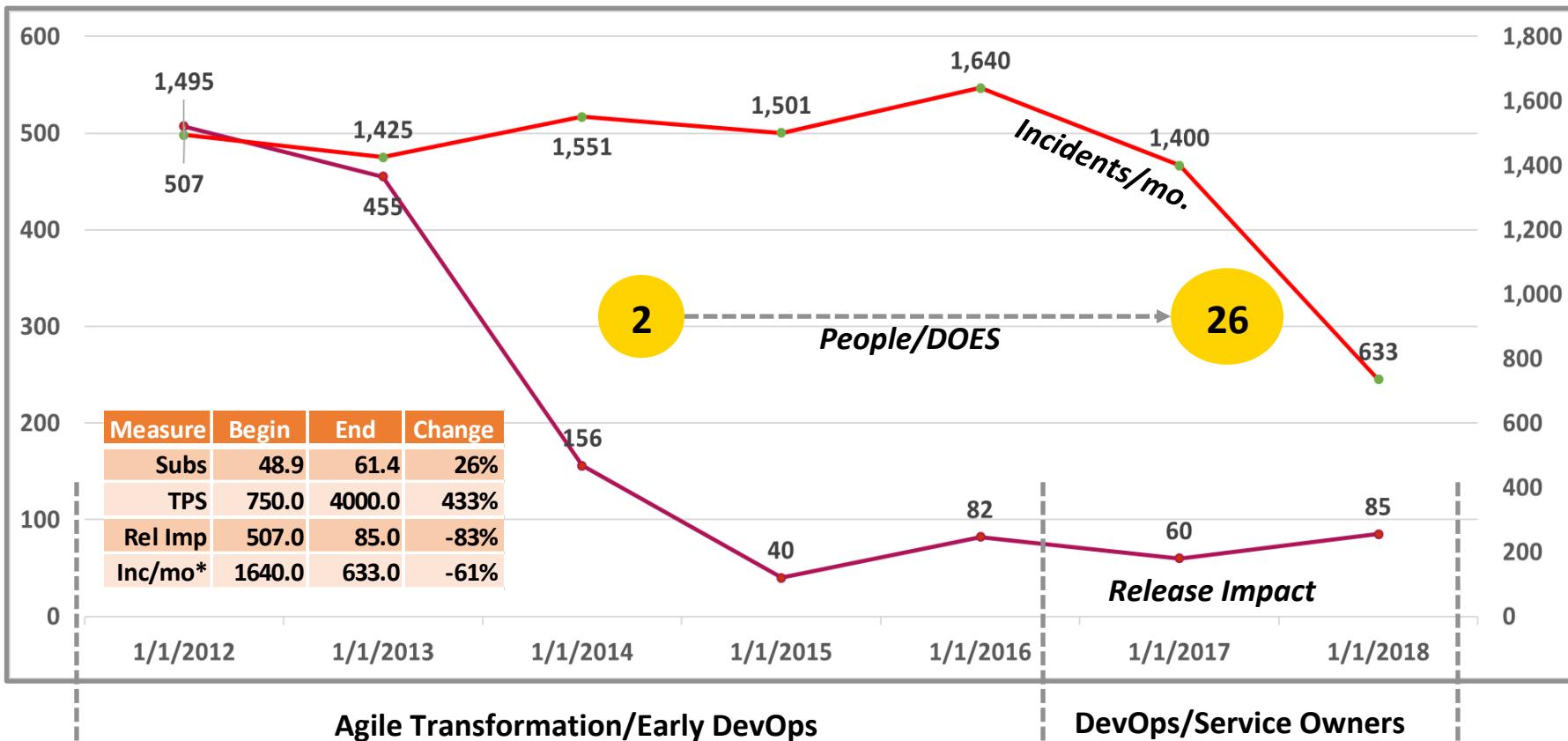
DevOps Enterprise Journey



DevOps Enterprise Journey



DevOps Enterprise Journey



People: More of Our Journey



Jill Musil
ED Corporate IT Product Manager



Jill Edmundson

Tuesday, 11:10-11:40
Grand Ballroom B

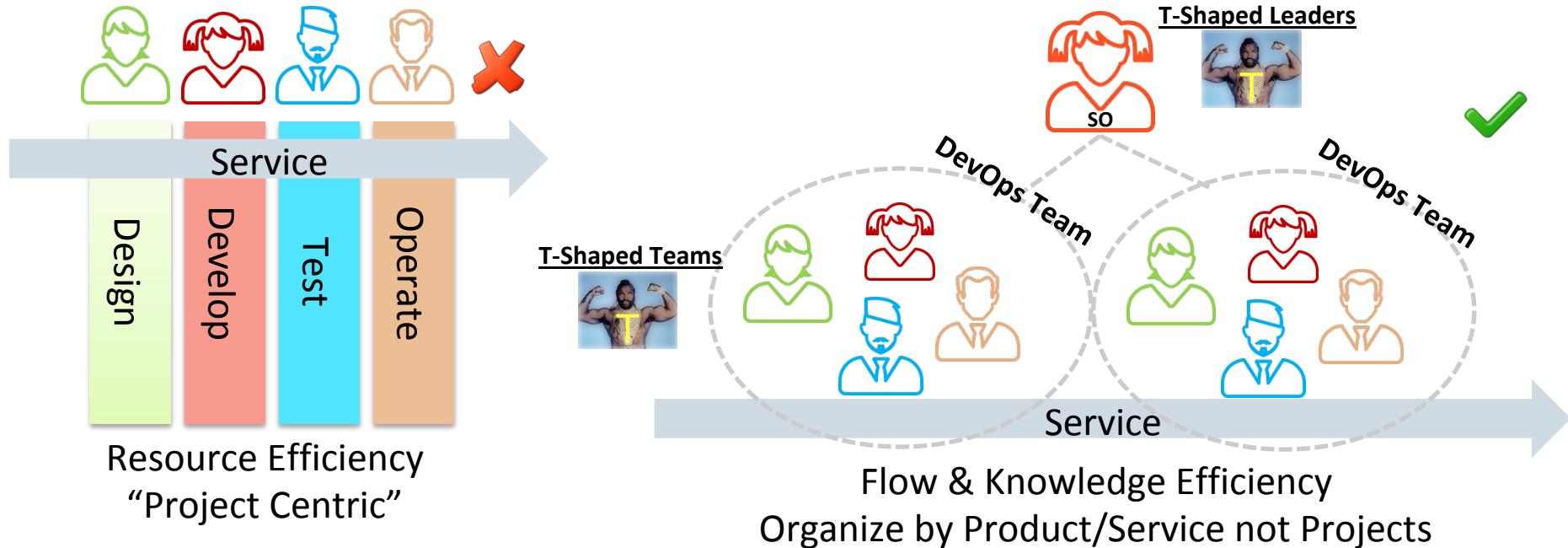


Lisa McCary-O'Neal
Business Partner

Service Owner Model



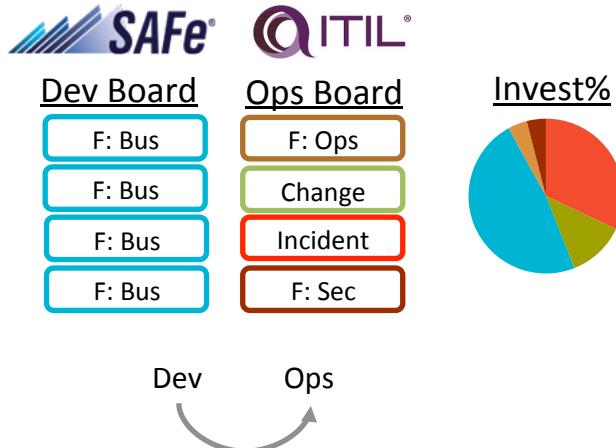
The Service Owner is the single Transformational Leader accountable for the: end to end construction, operation, SLAs, customer experience and stewardship of business value for a product or set of services.



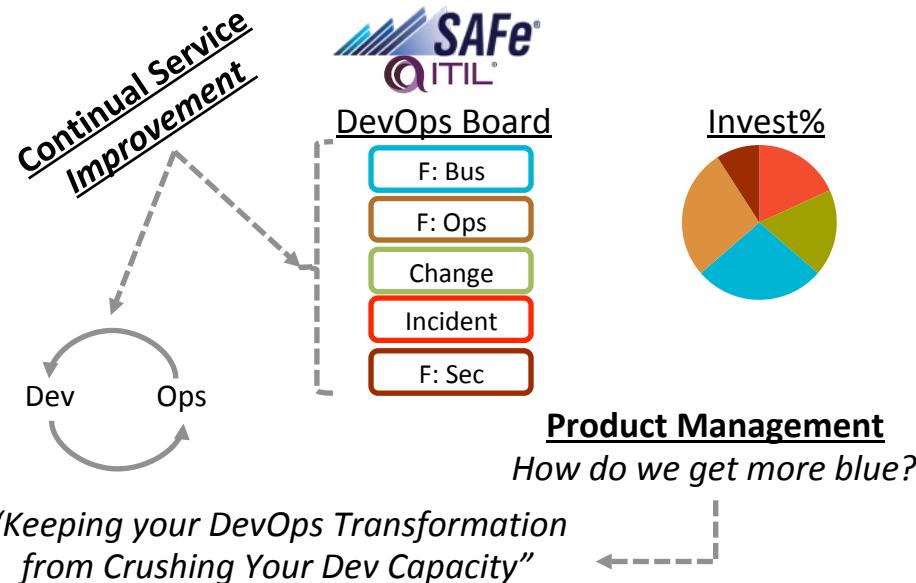
Service Owner Model: SDLC & ITIL



Traditional Dev and Ops



Collapse Dev + Ops teams + process



*Service Owner and team own bus. features, ops. features/concerns from one backlog.
Integrate ops design into construction instead of after deployment. CSI is BAU.*



Service Owner Model: Change

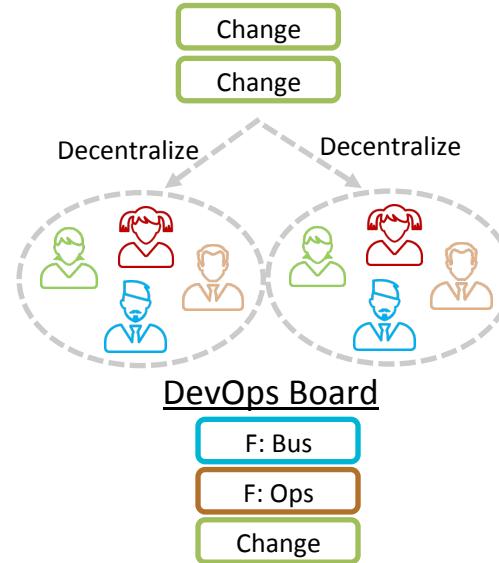
Traditional Change Advisory Model



Centralized Change Advisory/Approval

- Puts approval furthest from knowledge
- Removes accountability from responsibility
- Increases batch sizes and lead times
- Increases risk around change failure

Decentralized Change Model



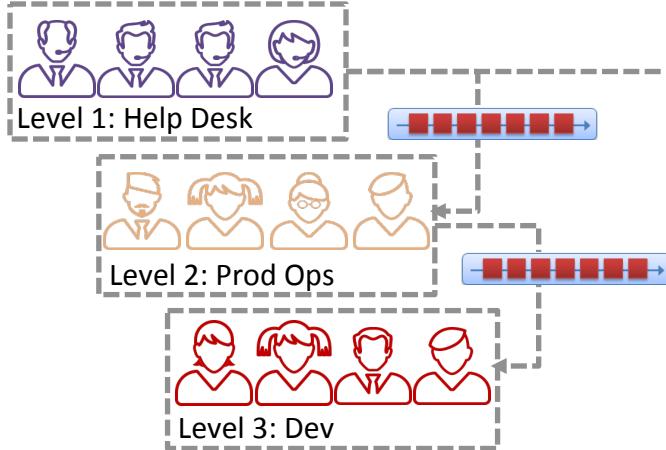
"Changes are features with low variability."

"How are you making the system safer for change?"

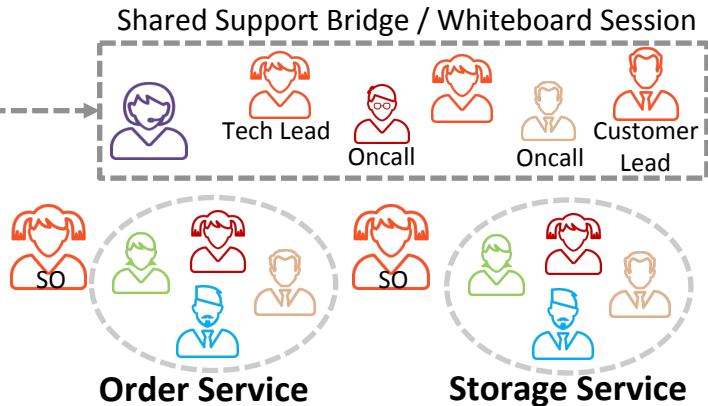
Service Owner Model: Support



Standard 3 Tier Support Model ❌



Major Incident Swarm Model ✓



Tiered Support Model Disadvantages

- Creates queues which
 - Elongate TTR
 - Prevent the sharing of knowledge
- Issue resolution furthest from the knowledge

Swarm Model Advantages

- All parties with proper expertise swarm
- Removes queues and handoffs
- Reduces TTR/maximizes knowledge sharing
- “Swarm and solve problems / create new knowledge”



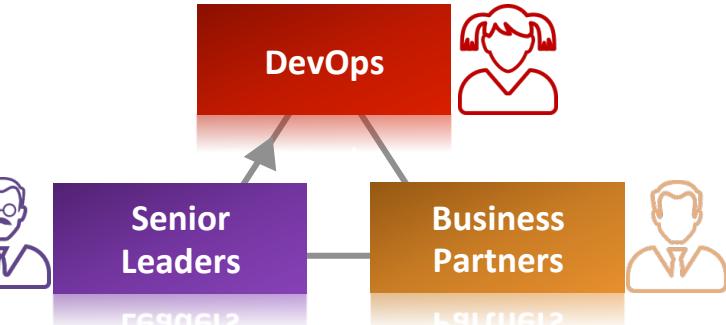
Service Owner Model: PIR

OLD WAY X

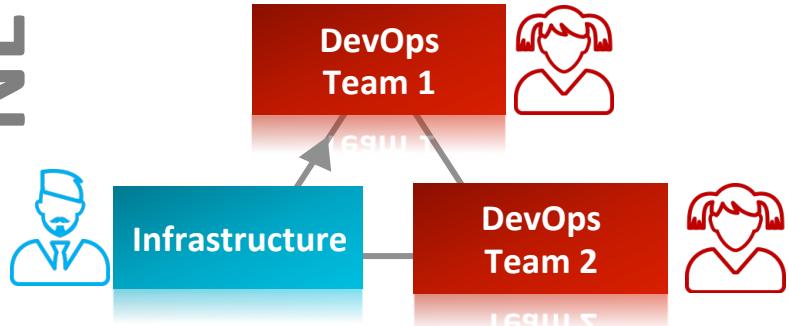


NEW WAY ✓

After Action Summary (AAS)



Post-Incident Review (PIR)



Service Owner Model: Additional Responsibilities



SLAs

Performance

Monitoring

Security

Incident Backlog

Sustainability

Tech Debt

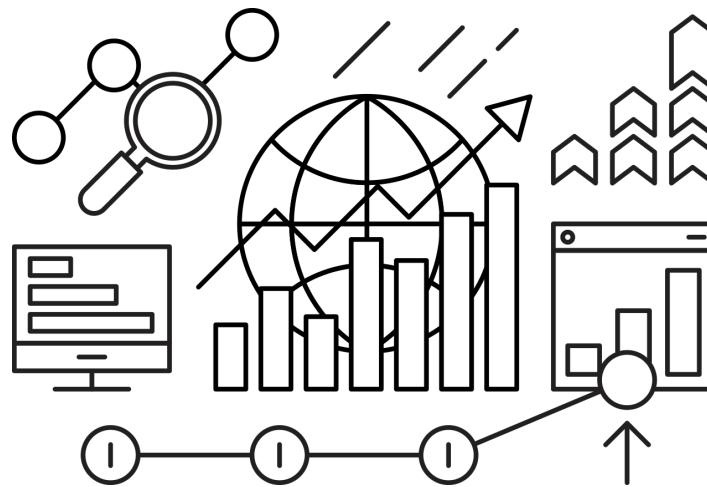
Standards

People Operations

Business Value

Additional details:
Q&A Session @ 2:35
in Imperial A

Success Is a Journey....

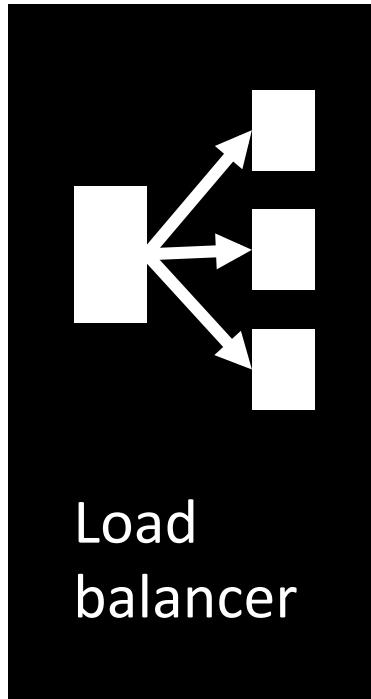


Successes will bring
unexpected challenges

Not a straight-line
journey



Team Spotlight



Expanding infrastructure as code

Created synthetics

Introduced release cadence (small batches)

Evolving towards self-service



Team Spotlight



Added and separated infrastructure

Separated/scaled software components

Tuned third-party components

Improved fault tolerance between components

Introduced blue/green deployments

Focusing on infrastructure as code and cloud

Improved visibility around system usage



Targeted DevOps Culture Focus

Set the vision

Provide a forum for discussion

Provide venue for success stories

Introduce DevOps Leadership Series

Expanded DevOps Community of Practice

Hold book clubs

Participate in local DevOps community

DevOps Target Vision and Guiding Principles



1x1 Feature Flow
100% Value Add
Zero Impact & Customer Delight
Security for People and Customers

Customer Focus & Delight

- Improve Customer Experience & reduce impact by 50%
- Improve delivery speed(cut lead time by 75%)
- Deliver customer commitments
- Understand and test end to end with our customer
- Actively engage and challenge our customers to solve their business needs with dynamic solutions

People

- Spread Lean & Kata Thinking(Culture of Learning)
- Encourage risk-taking, safe experimentation and knowledge
- Encourage continuous and faster learning
- Grow/Hire/Organize T and E-Shaped skills(people and teams)
- Build a modern, high performance and flexible culture
- Empower teams for Understanding, Accountability and Engineering
- Remove handoffs, self-serve, eliminate helplessness
- Initiate and Lead change with courage. Challenge the status quo.
- Celebrate success

Modernization/Process

- Optimize for speed and quality
- Embrace Continuous Delivery & build for the Public Cloud
- Simplify & deploy automation. No tasks/runbooks. More code.
- Design from the front-of factory: More engineering, less duct-tape
- Embrace IAC: Congruency desktop to cloud. Think cattle not pets
- Embrace OSS/eliminate heavy and burdensome solutions
- Design broad based fixes, build safe architectures, rehearse failure
- No impact, small cycle time maintenance windows
- Make system behavior visible: Deploy telemetry
- Reduce technology variance(Buoys)/consolidate system redundancy
- Commoditize access to data
- API focused exposure. No direct access across systems
- Integrate security into the product lifecycle

Model the behavior you want to see:

As Leaders we need to understand and model these principles. The people we lead will follow.

Summary



Recap



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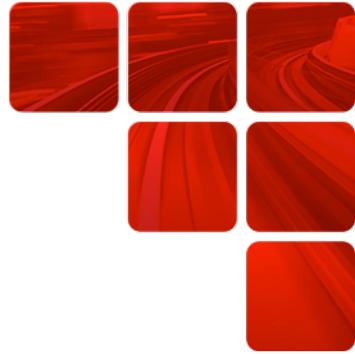
Help We Are Looking For



- Continuing to build DevOps culture and cross-skilling
- Penetrating the next level of leadership
- Building consistency of message



Spread Culture, Invest in Engineering, Shift Ops Left



Thank You!

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DevOps Enterprise Journey

