

# **Web Operations Summit**

**Interop New York – September, 2006**

# Survey:

## How much traffic do you have?

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- 10 hits a second
  - 100 hits a second
  - 1000 hits a second
  
  - 10 users at a time
  - 100 users at a time
  - 1000 users at a time
  - 10000 users at a time
-

# Survey:

## How do you find out your site is broken?

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- End-user phone calls
- Synthetic tests
- The load-balancer tells me

# Survey:

## How many of you use AFEs?

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- Traditional (L4) load-balancer
- True AFE (server offload, request routing, etc.)

# Survey:

## How do you find out your site is broken?

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# Survey:

## How do you find out your site is broken?

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- End-user phone calls
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# Is the web a unique discipline?

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## Business drivers

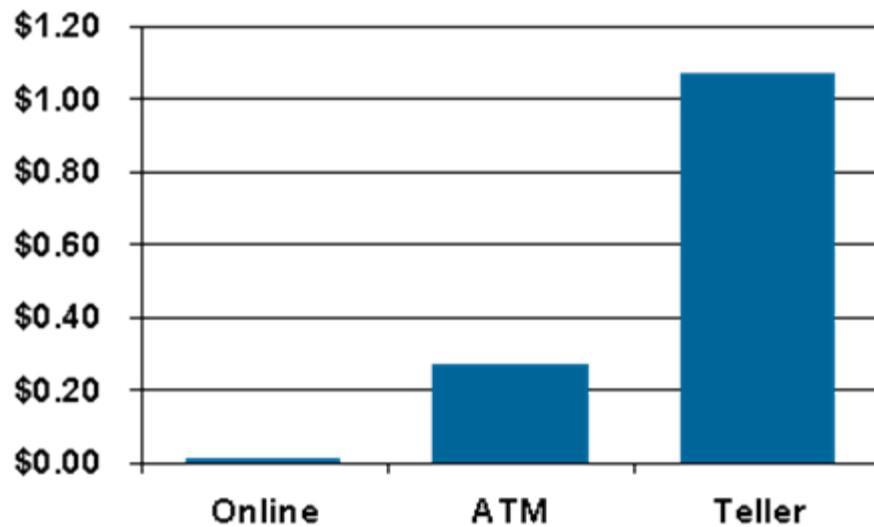
- Need to assure revenues
  - Purchase volume, service renewal, productivity
- Focus on QoE & uptime
  - User frustration increasing
  - Most errors from helpdesk
- Work with other groups
  - Line of Business
  - Engineering
- Attack costs
  - Improve efficiency, reduce risk
  - Scale effectively
- Comply with standards
  - Confidentiality, security

## Unique technical environment

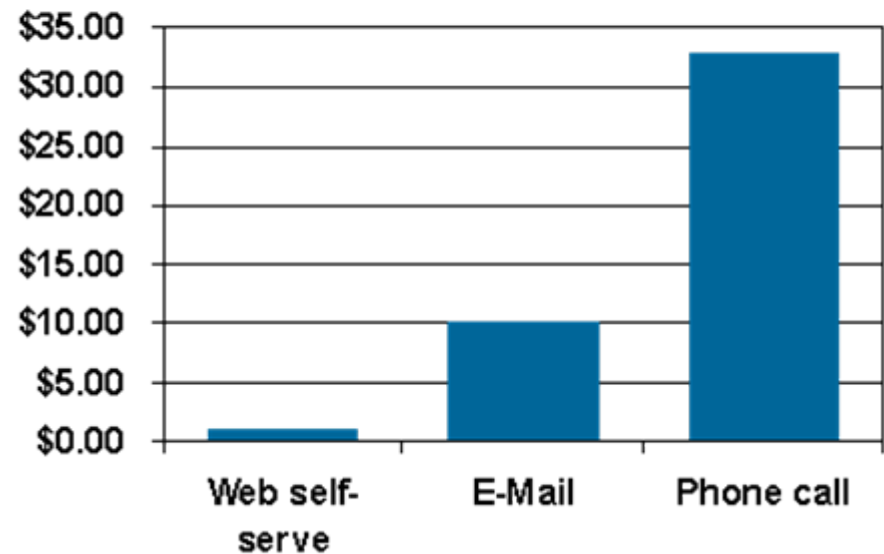
- Hard to manage
  - Distributed networks & apps
  - Distant, unreliable users
  - MTTR poor, relies on heroics
- High rate of change
  - Complex components
  - Up & down the stack
- No holistic view
  - Can't measure actual QoE
  - Every user's visit is unique

# No more evangelizing

**Relative cost of banking transaction**



**Relative cost of customer support**



# But is this different *enough*?

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- Different skillset needed
  - Up & down the stack
  - URL and IP address
- Such a large percentage of traffic
  - TCP port is useless; need to look inside
  - Transcends flows or packets
- Domain-specific tools
  - Protocol-specific acceleration, caching tech
  - Troubleshooting, service measurement
- Tend to expose more risks
  - Untrusted users, unsupervised access, personal data
- Other departments see the effects
  - Web analytics, helpdesk

I vote yes.

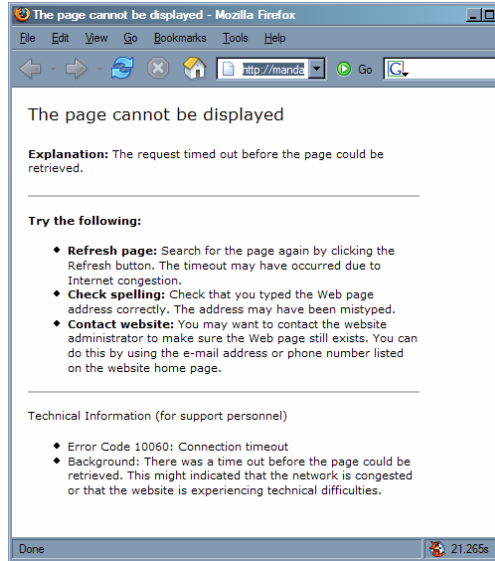
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# The Way of the Web Operator

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- Requires broad skill set
  - Ensure Performance, Availability, Scalability, Security
  - Across Content, Application, Network, Infrastructure
  - With a distant, uncontrolled, non-technical user base
  - For Operations, Engineering, and Line of Business

# Performance, Availability, Scalability, Security



**Productive  
users, satisfied  
customers**

**Reachable,  
reliable  
applications &  
services**

**Grow capacity  
with need and  
handle spikes**

**Protect user  
confidentiality  
and company  
risk**

# Content, Application, Network, Infrastructure

## Content

- HTML, Javascript, images, content management systems, dynamic content

## Application

- Workflow, navigation, application logic

## Network

- Routing, cookie tables, load-balancing, service providers, Application Delivery Networks, caches

## Infrastructure

- JVMs, databases, back-end services, servers, connections, front-end processors, firewalls

Disposition of Equipment (Include serial number)

Owner:  DOT  Vendor  Return date

Signature: *[Signature]* IBM Thinkpad Laptop Serial 32P4414

Property Custodian's Name (Printed), Rtn. Symb., Telephone No. *[Signature]* 412 924 8800

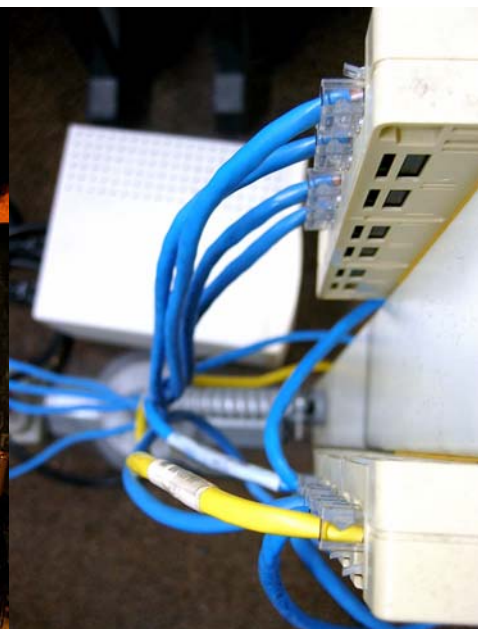
Part 8 - To Be Completed

Object classid="clsid:7059C066-ae6d-11cf-96b8-444553400000" data-bbox="10 680 240 830">`release="http://download.macromedia.com/pub/shockwave/cabs/flash300" height="30" id="pcpp" align="middle">  
<param name="allowScriptAccess" value="sameDomain" />  
<param name="movie" value="http://www.podcastpickle.com/media/podPlayer/pcpp.swf?URI=...&quality=high&bgcolor=#FFFFFF" width="300" height="30">  
<param name="quality" value="high" />  
<param name="bgcolor" value="#FFFFFF" />  
<embed src="http://www.podcastpickle.com/media/podPlayer/pcpp.swf?URI=...&quality=high&bgcolor=#FFFFFF" width="300" height="30" type="application/x-shockwave-flash" wmode="transparent" />`

Routing Instructions for Completed Forms  
Provide duplicate copy to individual concerned, and forward to security office.  
Security Office: Forward to property management office.

To	Routing Symbol	Organization
1		
2		

DOT F 1982 (Rev. 5-81)

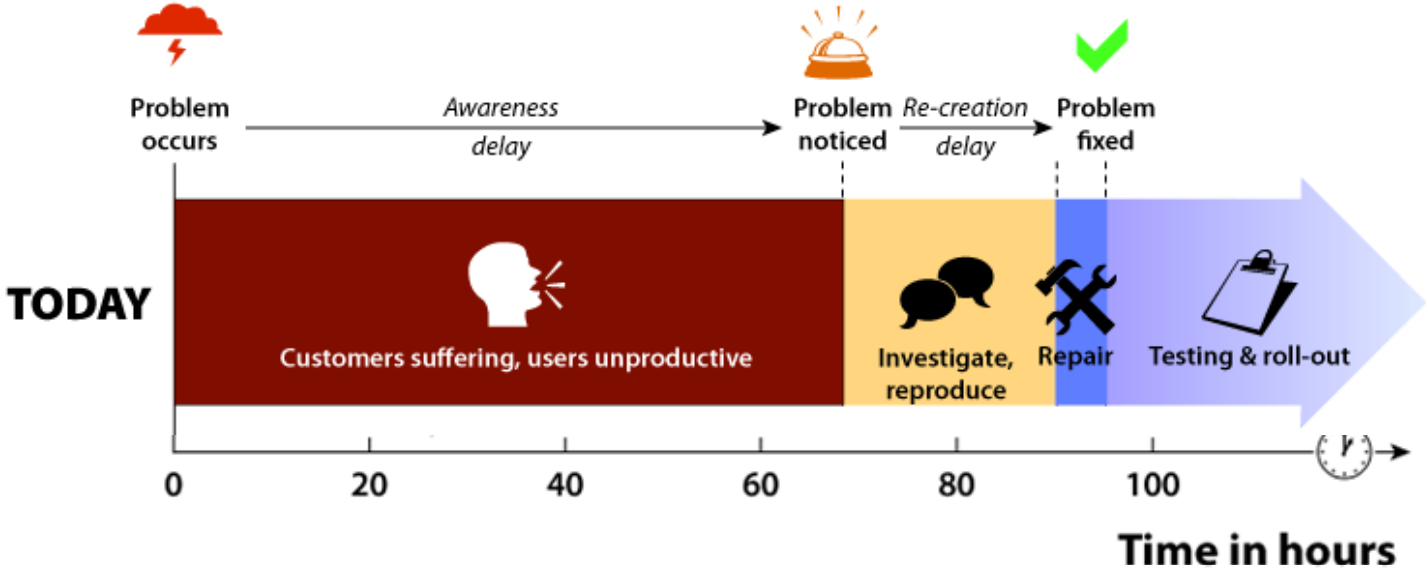


# The challenges of web operations

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- Incidents: Operations struggles to detect & resolve issues efficiently
    - Long time to detect and isolate
    - Can't communicate evidence or impact
  - Changes: Engineers want to reduce the risks of changes
    - Constant changes, enhancements, and upgrades
    - Either take too long or introduce new problems
  - Service Levels: Business operators can't see customer quality of service
    - No way to measure end-user experience
    - Subscriber disputes, non-renewal, finger-pointing
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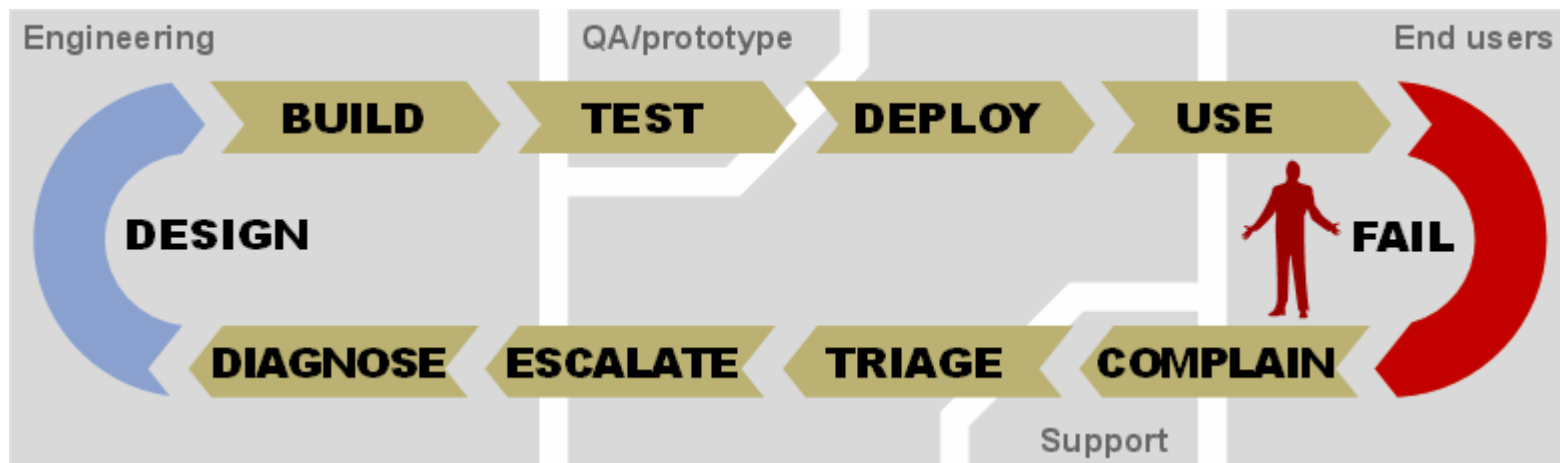
# Too long to find and fix problems



Sources: Network World IT survey, statistics from various large in-production web platforms, Forrester Research, NIST, and The Newport Group.

# No change accountability

- No visibility into user impact
- Too long to detect and roll back problems
- Wait-and-see approach to testing and prototypes



# Business operators can't see customer quality of service

- Web increasingly important
  - Need to assure revenues, attack costs
  - App success drives business success
  - Focus on Quality of Experience & uptime
    - Users' frustration levels increasing
    - Only 2-4% of users report problems



- Hard to measure end-user experience
  - Distributed networks & apps
  - No holistic view
  - Many things can go wrong
  - Technical complexity increasing
  - Every user's visit is unique

# Distant, uncontrolled, non-technical users



# Distant, uncontrolled, non-technical users

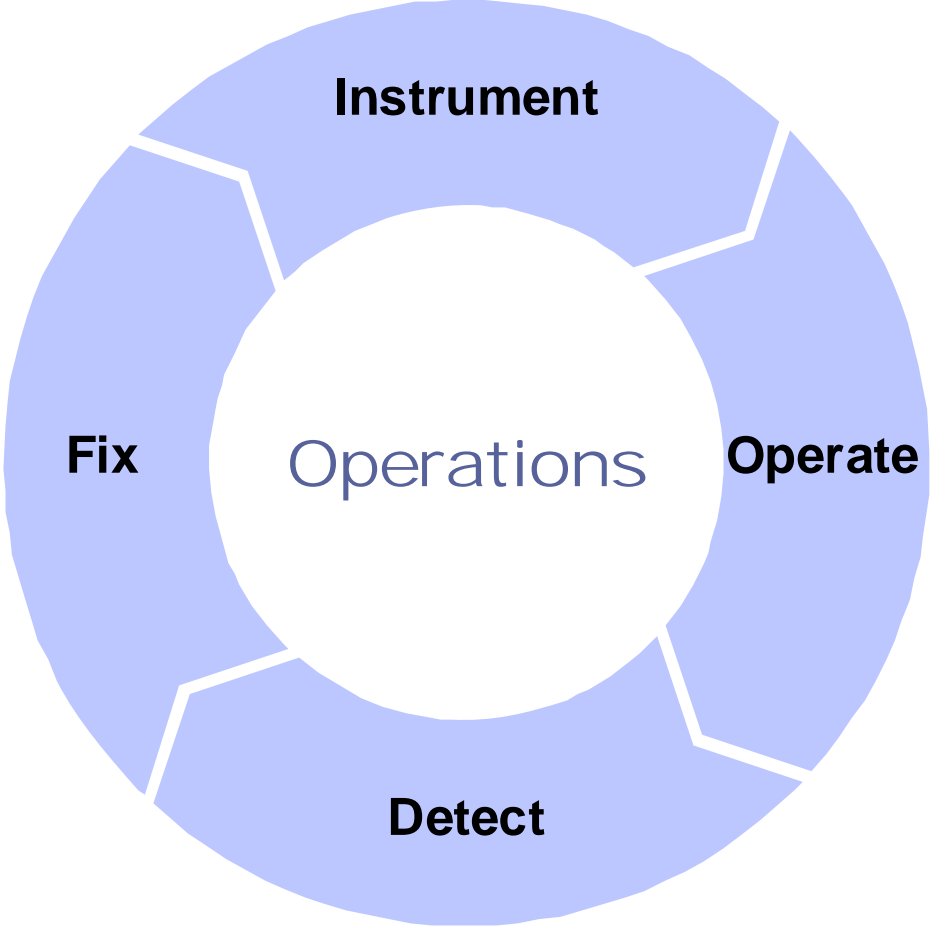


- Can't instrument invasively
- High variance in client environments
- Every user is unique
- Most technical data invisible or sandboxed
- Every visit could be an attack

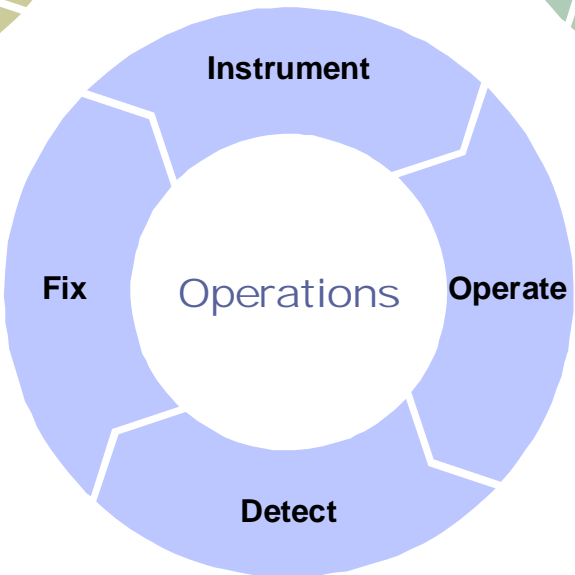
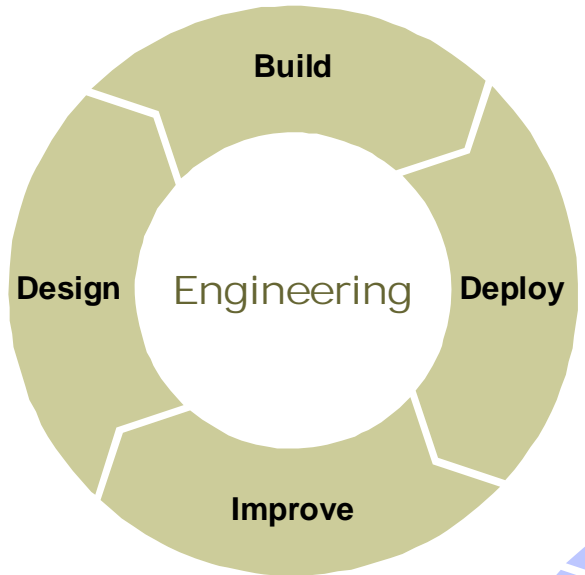


# Not just operational work

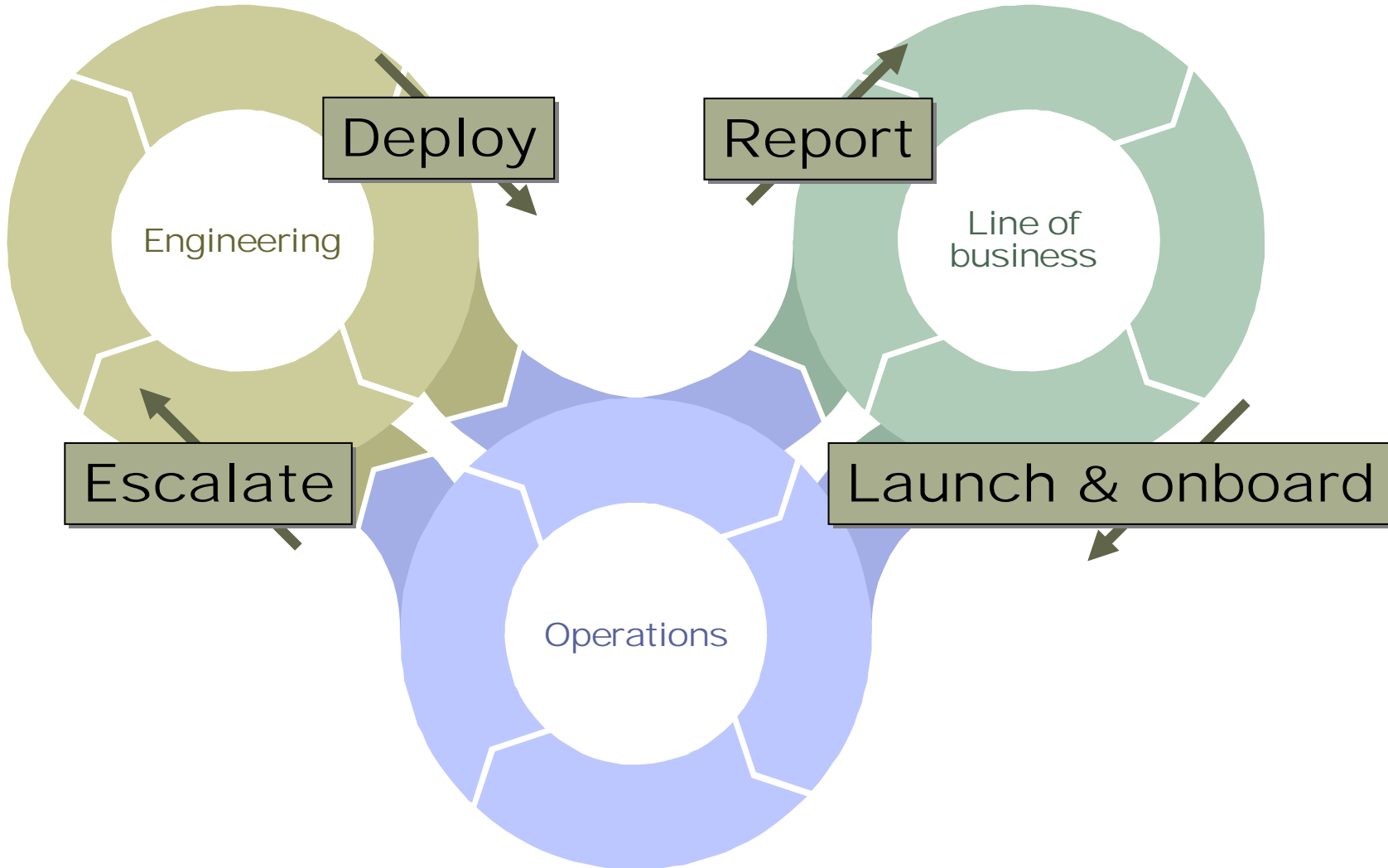
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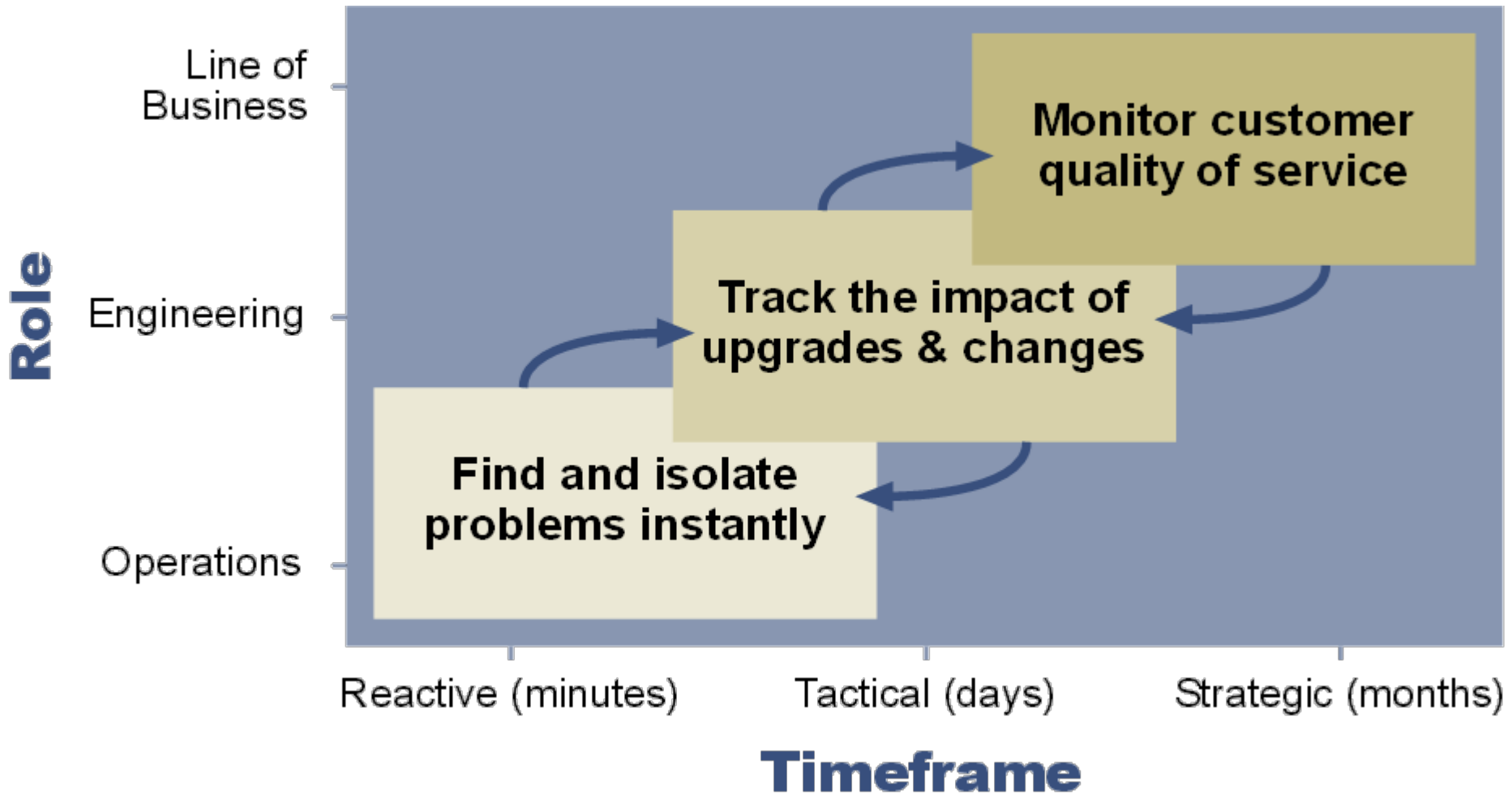
# Has to work with other groups



# Bridging the gaps



# An example: How different roles care about monitoring



# Without a WebOps strategy

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- Dissatisfied users
    - Missed uptime & performance goals
    - Service non-renewal
  - Elevated MTTR
    - Learn about problems from the helpdesk
    - Management by anecdote
    - Too long to fix, too much guesswork and heroics
  - Operational inefficiency
    - Finger-pointing and disagreement
    - No clear problem triage
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# The WebOps Summit

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- Brings together Web Operations professionals and providers
    - Monitoring and performance
    - Rich Internet Applications
    - Application Delivery Networks
    - Port 80 security
    - Application front-ends
    - Actual hands-on experience from WebOps professionals
      - John Overton, ATG OnDemand
      - Ian Rae, Syntenic
      - Kamal Jain, Brassring
      - John Overton, Accenture
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