



# Software Delivery Lifecycle Management **Closing the Gap Between Development and Operations**

*How Rational and Tivoli Integrations power a Dynamic  
Infrastructure*

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## **Pulse**2010

The Premier Service Management Event

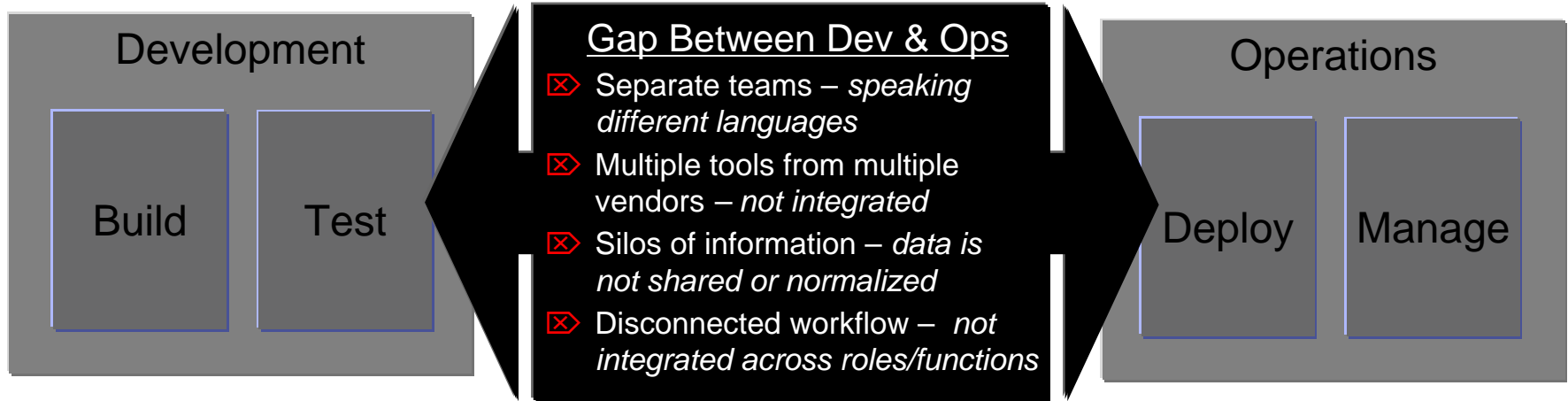
**Optimizing the World's Infrastructure**

February 21-24 Las Vegas, Nevada

# Agenda

- Closing the Gap Between Development & Operations
  - Key Challenges Faced
  - The Different Views of IT Dev & Ops
  - Unifying Development and Operations
    - ITIL & RUP
    - RUP Integration Points
  - Heat Areas for Collaborations
    - How To gain Business Advantages

# More pressure than ever on CIOs and senior IT managers to cut costs, while improving service quality & managing risk



## The result:

- Takes longer to deploy applications & services, impacting time to market and competitive edge.
- Slows problem identification, isolation & resolution impacting service quality, productivity, & customer satisfaction.
- Exposes the business to unwarranted risk and potential revenue loss.
- Drives unnecessary labor and operational expenses.

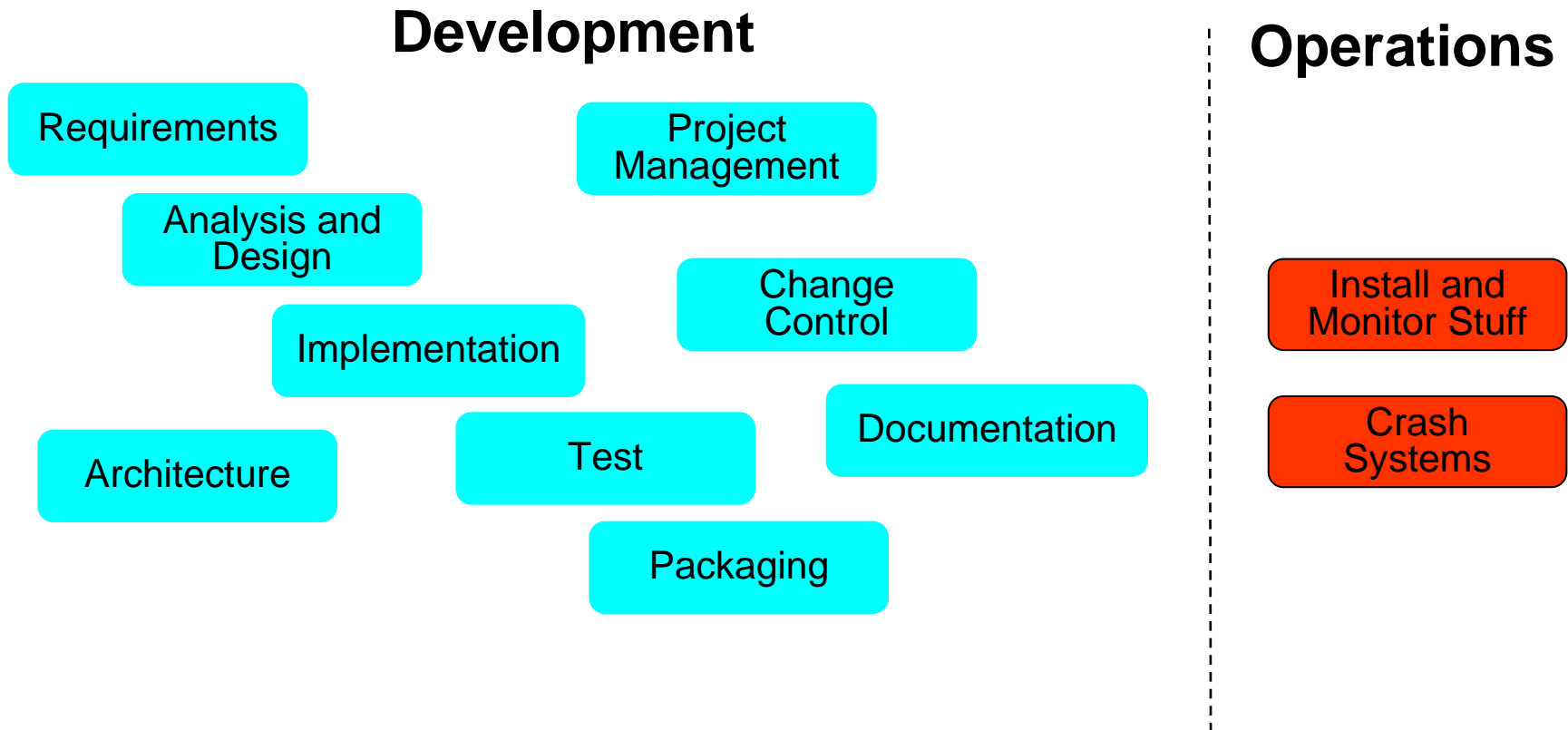
...we must bridge the gap between Development and Operations

# Development and IT operations – push and pull

- Weak collaboration with blame-game expectations
  - Misunderstanding of the other
  - Leads to reactive, delayed IT activity
- Inefficient communication methods and handoffs
  - Differing taxonomy with unclear relationships
  - Differing processes
- Differences in incentive and accountability
  - Development can bristle at control
  - IT operations thrives under control

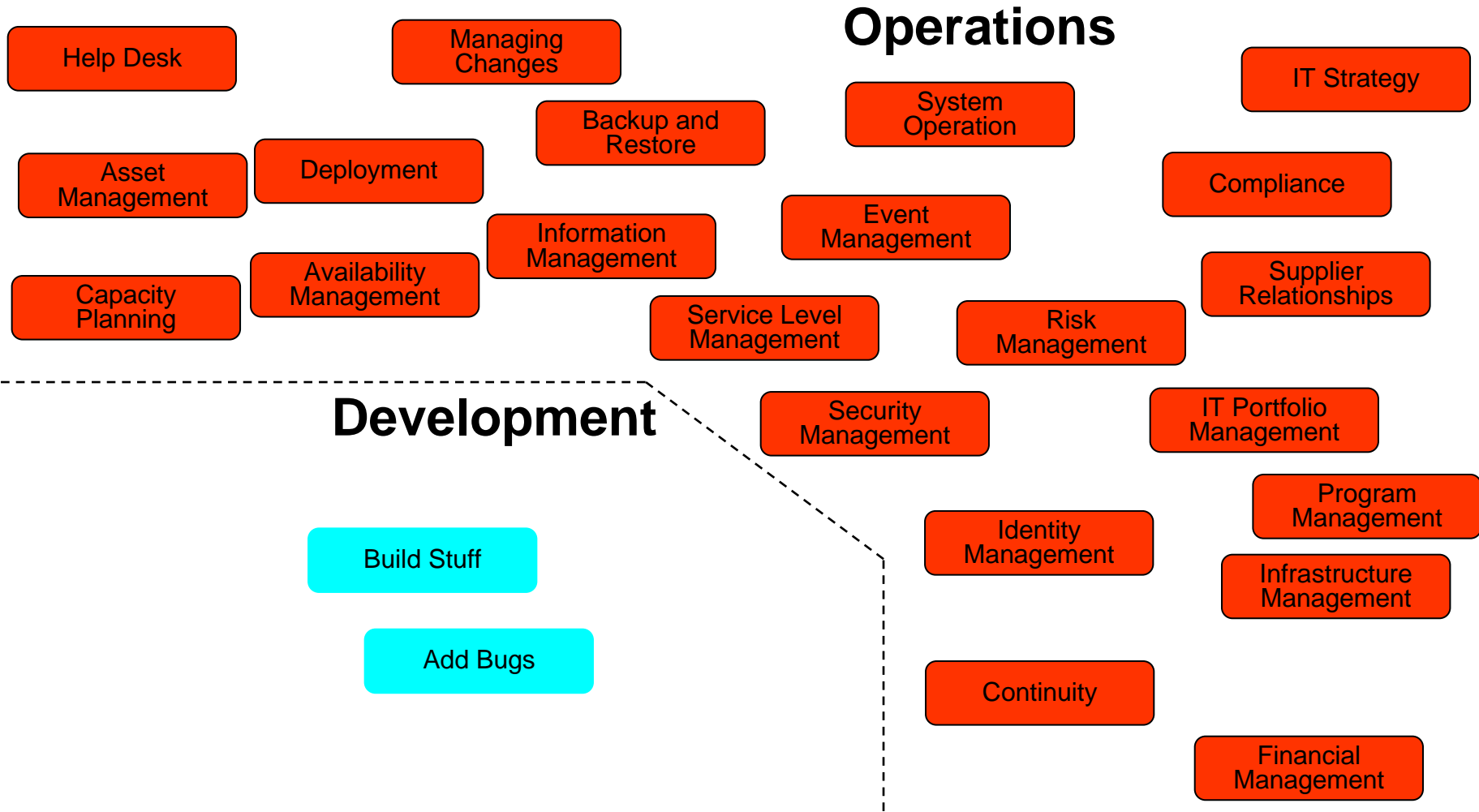


# Development's view of IT Operations



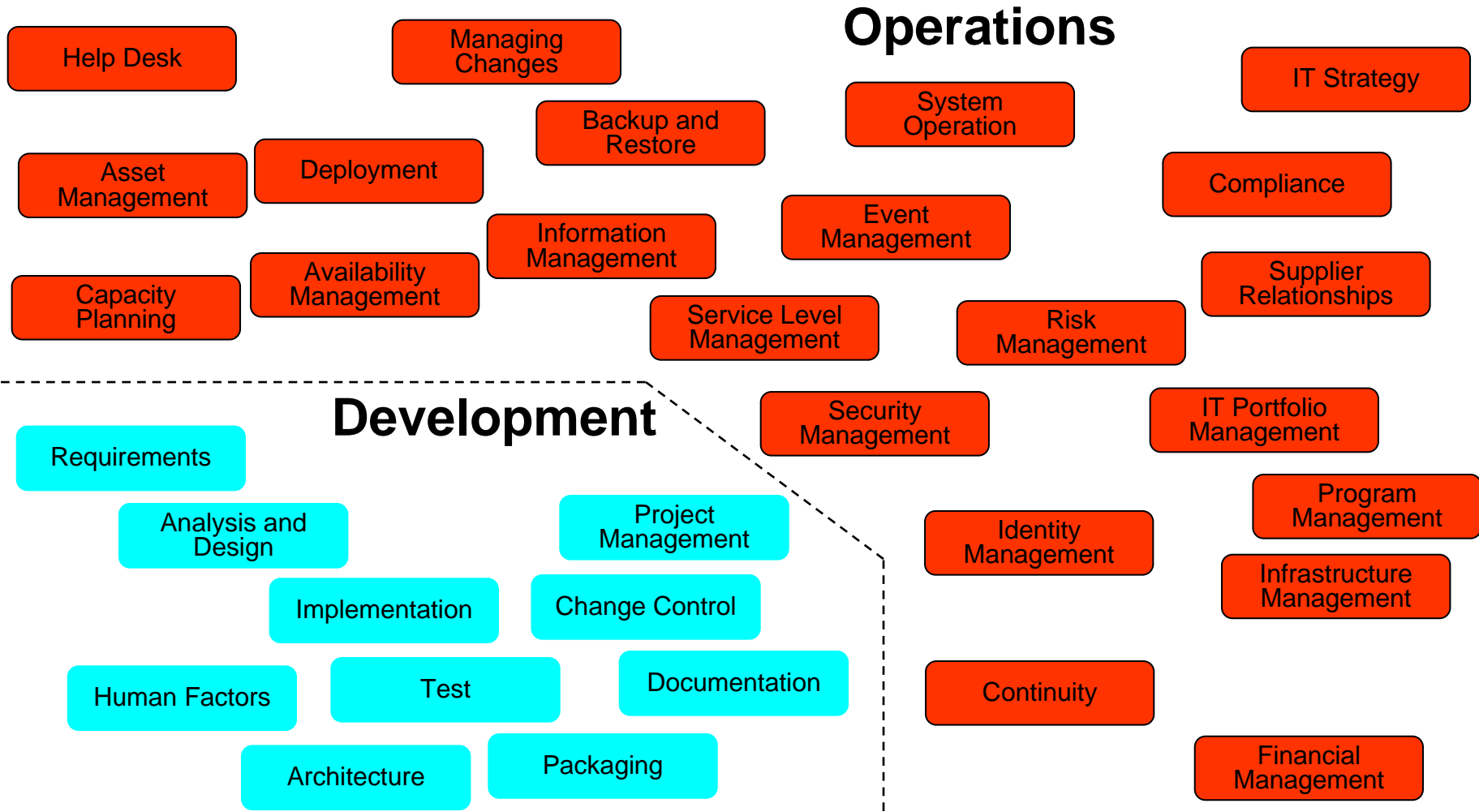
*Sometimes development tends to underestimate IT operations*

# IT Operation's view of Development



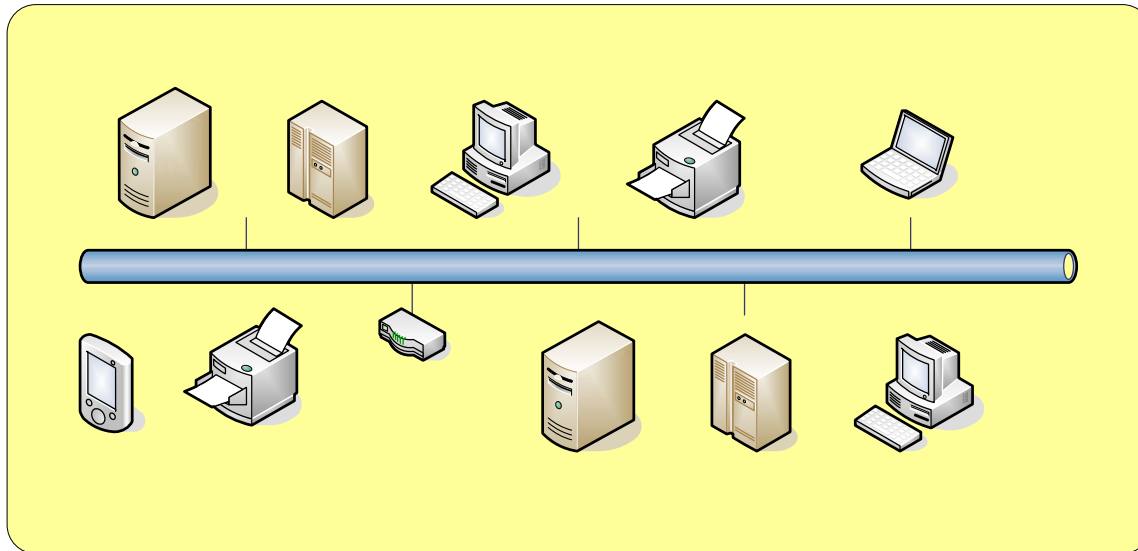
*Sometimes IT operations tends to underestimate development*

# A more complete view of IT – and of the problem

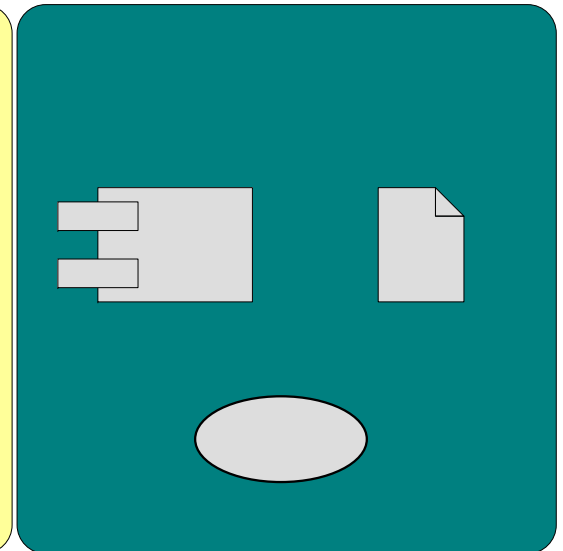


# RUP versus ITIL: Different Perspectives on What is Managed

*Configuration Items*



Operations manages the IT infrastructure



**IT Organization**  
Development manages project artifacts





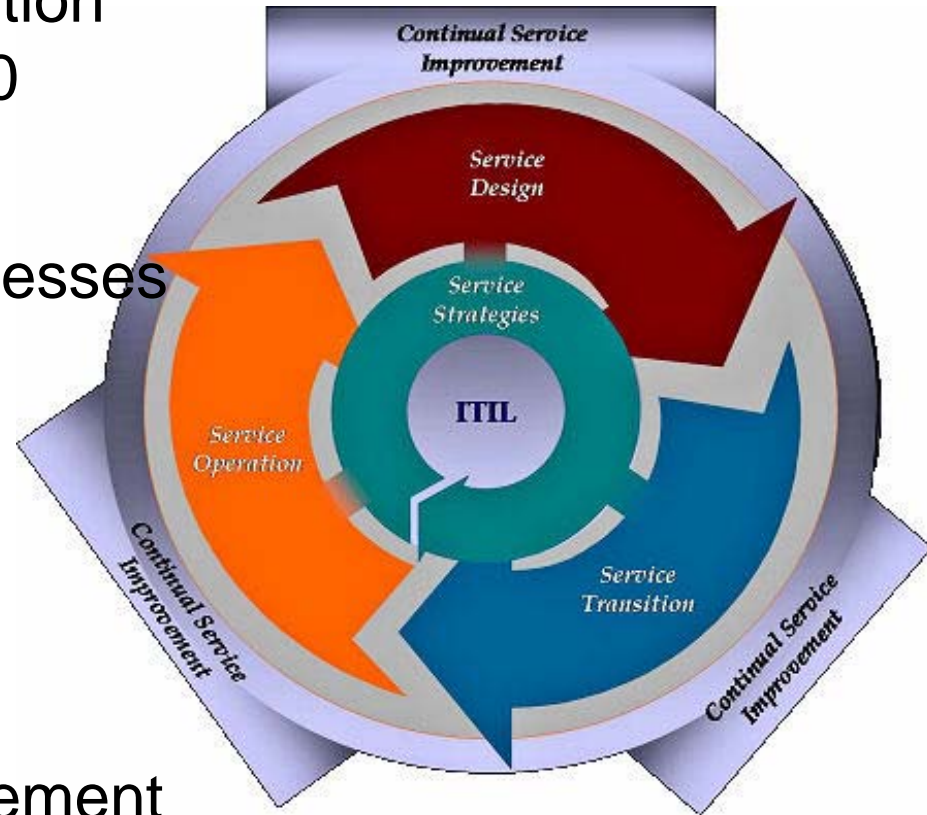
# ITIL is the most well known of many different perspectives on IT service mgmt

- Many unique perspectives on IT
- While the trend is towards convergence...
- ... today organisations must integrate best practices from multiple sources into their management system



# ITIL v3

- Major rewrite and reorganization
- Retains and enhances the 10 “service mgmt foundation” processes
- Increases from 10 to 34 processes
- Organizes processes into a “Service Lifecycle”
  - Service Strategy
  - Service Design
  - Service Transition
  - Service Operation
  - Continual Service Improvement



# Process Applicability Matrix

Process Area		ITIL	RUP	CMMI	Six Sigma	SWEBOK
Program and Portfolio Mgt.				○	○	
Project Execution	Build	○	●	○		●
	Buy and Implement	○	○	○		
	Extend	○	●			●
	Maintain	○	○			●
Support	Availability Mgt.	●				
	Change Mgt.	●	●			
	Configuration Mgt.	●	○			●
	Incident / Problem Mgt.	●				
	Release Mgt.	●	○			○
Delivery	Capacity Mgt.	●				
	Service Continuity Mgt.	●				
	Service Level Mgt.	●				
Infrastructure Mgt.		○	○			
Financial Mgt.		●		●		
Human Resource Mgt.		○	○	●		
Security		●	○			
Enterprise Perf. and Business Process Mgt.				○	●	
		○ - partial coverage		● - full coverage		

# What is RUP

RUP has proven to be a successful and repeatable software development process

- RUP Best Practices:

- Develop Iteratively

- Manage Requirements

- Use Component Architecture –Model Visually (UML)

- Continuously Verify Quality

- Manage Change

- RUP uses workflows, roles, activities, and artifacts to make these Best Practices actionable.

# ITIL And RUP Integration Points

- Impacts both products
- Traceability from requirements to deployment
- Round trip to operations
- Hand off points in RUP to operations
  - Requirements to SLA and capacity planning
  - Design to capacity and configuration
  - Deployment
- SLA / Problem to maintenance workflow

# ITIL And RUP Integration Points

## Availability Management

- Connected to application development through the areas of reliability, maintainability, security and serviceability (supplementary reqs) as these are elements that must be considered when designing system architecture and/or application functionality.
- Give and take between current availability and planned availability needs for applications and the availability promised in SLAs.
- Application teams should understand the costs of downtime. Also they should design for maintenance (maintenance slots shouldn't affect businesses, outside service hours) and monitoring (to monitor service parameters and business process supported by apps).

# ITIL And RUP Integration Points

## Capacity Management

- Will integrate with RUP's Supplementary Requirements to ensure that adequate processing and storage resources are online to support existing apps and those in development.
- Also, connects closely to business goals and plans, which may drive new projects.

## Financial Management

- Determines how much \$ is allocated for IT application projects.
- IT may need to manage invoices and payments from projects depending on Financial Management approach. .

# ITIL And RUP Integration Points

## Services Continuity Management

- Values in the SCM Plan need to be congruent with any SLAs and any application design decisions.

## Service Level Management

- New applications must consider what levels of service the customers expect.
- SLAs are better instruments when they don't promise more functionality/service than the applications that they represent can provide.



# ITIL And RUP Integration Points

## Configuration Management

- Must integrate with development and testing teams to coordinate hardware for maintaining adequate development and testing environments/DBs.
- Determines the infrastructure that will support all deployed applications. .

## Change Management

- May integrate with Application Change Process.
- A change to an application may impact IT Configuration and vice versa.

# ITIL And RUP Integration Points

## Problem Management

- Integrated with application change process.
- The solution for an IT problem may lie in an application (which is a Configuration Item) and spawn a change request for that application to fix the problem.
  -
- Known Error database contains inputs from development team.
- CHM approval for implementation (review test results and all the deliverables).
  -
- Coordinates implementation (scheduling, approval, business not-critical time, avoiding IT stuff overloading).

# ITIL And RUP Integration Points

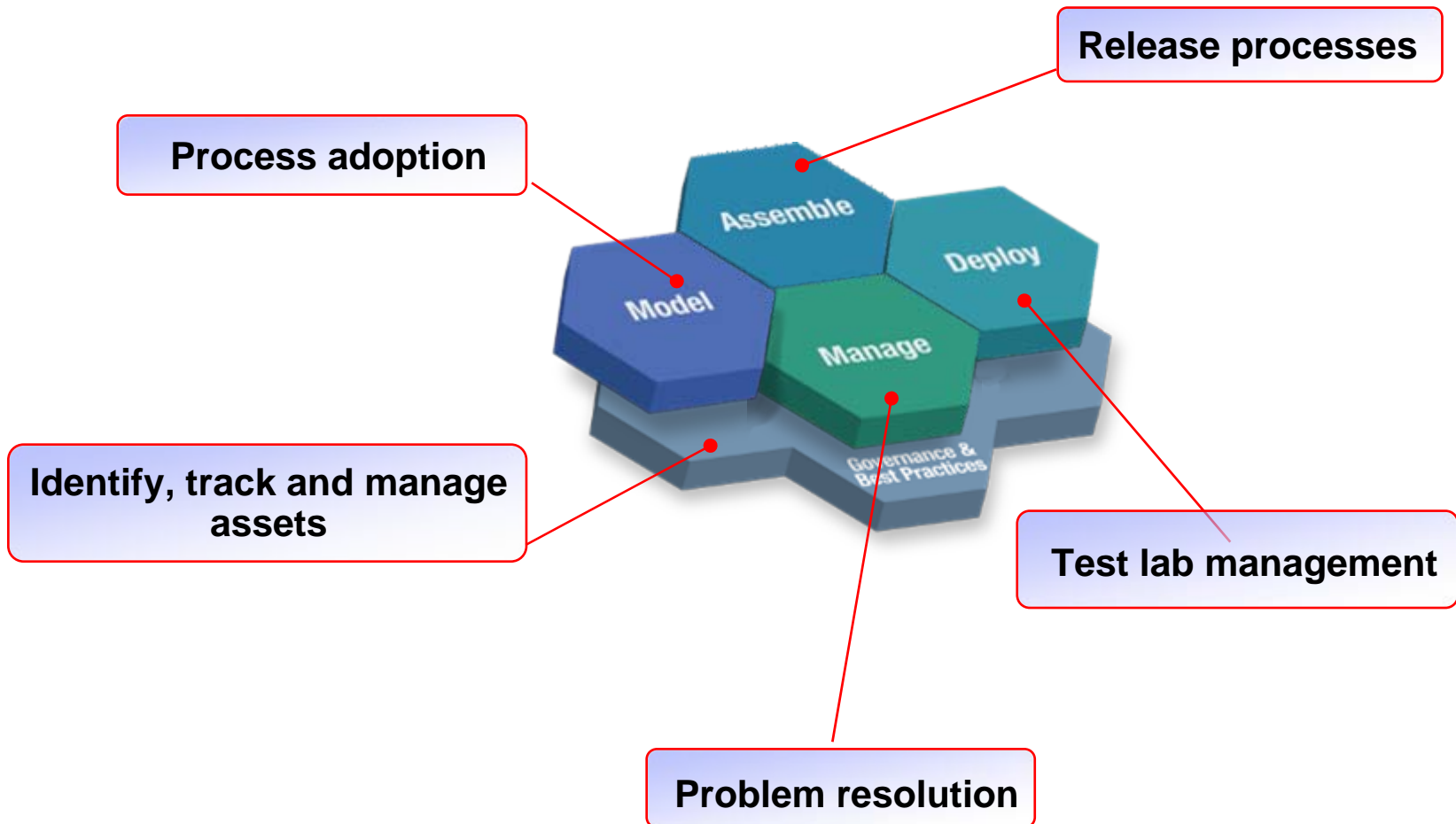
## Service Desk

- Integrated with application deployment/training.
- Must be familiar with the applications that they will (potentially) be receiving calls about.
- Informs users on new releases.

## Release Management

- Must integrate with application (and documentation) deployment.
- IT Release Policy must be adhered to by development teams.
- Back Out plan may affect the releasability of an in-house developed application.

# High heat areas for collaboration – or conflict



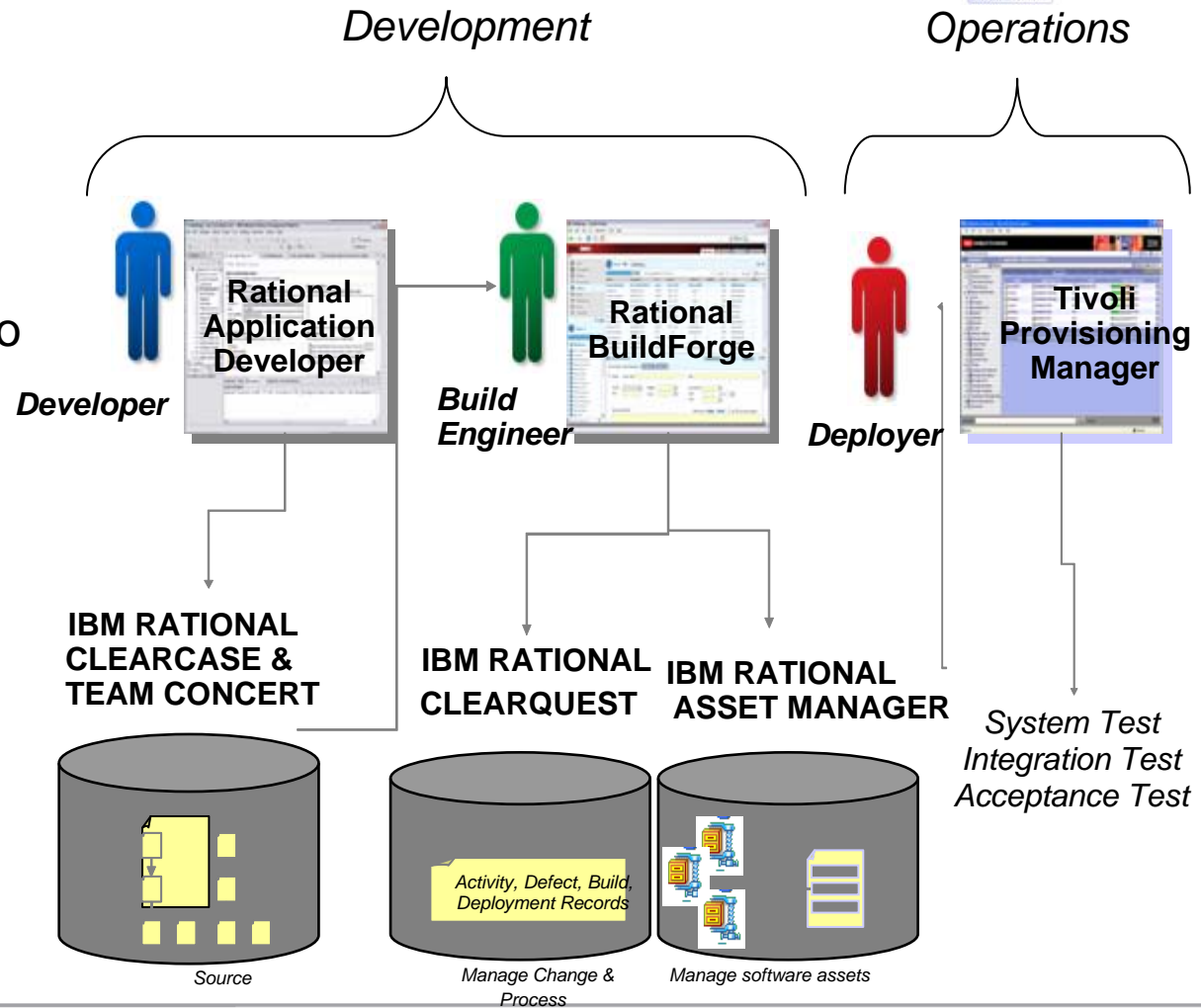
# Release processes



Repeatable process and early fault detection:

- Adaptive build and release management
- Automated “handoff” of assets from development to operations
- Automated server provisioning

**Full audit trail** of all changes from development through deployment



# Dynamic Infrastructure

*Maximizing business and IT assets for real business value*



- **IMPROVE SERVICE**

Gain visibility into the health and performance of business services and processes and understand the impact of underlying assets & infrastructure on service level commitments.

- **REDUCE COST**

Automate manual tasks and process workflow, and consolidate tools, infrastructure and management for improved efficiency and reduced capital and operational expense.

- **MANAGE RISK**

Control, secure and manage your assets, infrastructure and services across organizational boundaries and respond more quickly to changing market and regulatory requirements.

***Capabilities that help bridge the gap between Development & Operations across the delivery cycle are critical to realizing these benefits***

# How do I gain business advantage?

## *Delivering High Quality Services in Less Time*

Trace problems  
from operations  
into development

Improve  
Service



Automate  
lifecycle delivery  
process and  
testing

Reduce  
Cost



Synchronize  
development and  
operational data

Manage  
Risk



# How do I gain business advantage?

***Meet customer expectations for dynamic access to innovative new services***

## Meet Customer Demand

Ensure customer satisfaction with fine tuned application performance

Improve  
Service



- Leverage operational data to identify application performance bottlenecks
- Provide quality assurance teams with live monitoring data to identify the root cause of performance problems
- Made possible by integration of
  - Tivoli Composite Application Manager
  - Rational Performance Tester
  - Rational Application Developer



# How do I gain business advantage?

***Contain operational cost and complexity, achieve breakthrough productivity***

## Accelerate Market Delivery

Accelerate application validation through re-use of IT operation tools

Reduce  
Cost



- **Leverage IT provisioning automation during application testing**
- Discover and catalog test systems automatically
- Provision test systems with applications and data required to run tests
- Made possible by integration of
  - Tivoli Provisioning Manager
  - Tivoli Application Dependency Discovery Manager
  - Rational Test Lab Manager

# How do I gain business advantage?

## *Integrated end-to-end resiliency*

### Unified development and deployment

Manage complexity with a seamless flow of information between development and operations

Manage  
Risk



- **A complete view of asset and configuration and change impact**
- Ensure operation teams are aware of the latest assets produced in development
- Ensure development has all the latest deployment configuration information
- Made possible by information sharing integration of
  - Tivoli Change and Configuration Management Database
  - Rational Asset Manager
  - Rational Buildforge

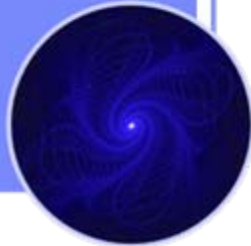
# How do I gain business advantage?

## *Integrated end-to-end resiliency*

### **Unified development and deployment**

Manage complexity with a seamless flow of information between development and operations

**Manage  
Risk**



- **A single path to problem resolution**
- Ensure operation teams are aware software defects that impact production systems
- Ensure development is aware of problems found in production systems
  
- Made possible by information sharing integration of
  - Tivoli Service Request Manager
  - Rational ClearCase
  - Rational ClearQuest

# One Possible Solution

- Utilize RUP and ITIL best practices
- Make ITIL actionable by Adopting RUP
- Bridge the gap between RUP and ITIL
- Create tool mentors
- Build an adoption road map
- Automate

**Improving Process Drives Efficiency  
Automation Drives Productivity but  
We Need to Look Into Both Sides of Equation to  
Achieve Results**

# Thank YOU

## Learn more at:

- [IBM Rational software](#)
- [IBM Rational Software Delivery Platform](#)
- [Accelerate change and delivery](#)
- [Deliver enduring quality](#)
- [Enable enterprise modernization](#)
- [Ensure Web site security and compliance](#)
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