



Cisco IT Technology Tutorial Large Enterprise Application Releases



Sachin Kulkarni

Enterprise Release Management Organization

May 2009

Produced by the Cisco on Cisco team within Cisco IT

Large Application Rollouts Agenda

1



Early Lessons Learned

2



Release Management Best Practices Used Today

3



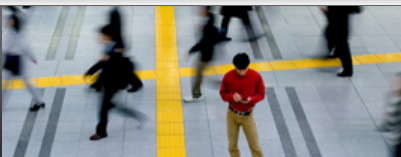
Looking Forward

4



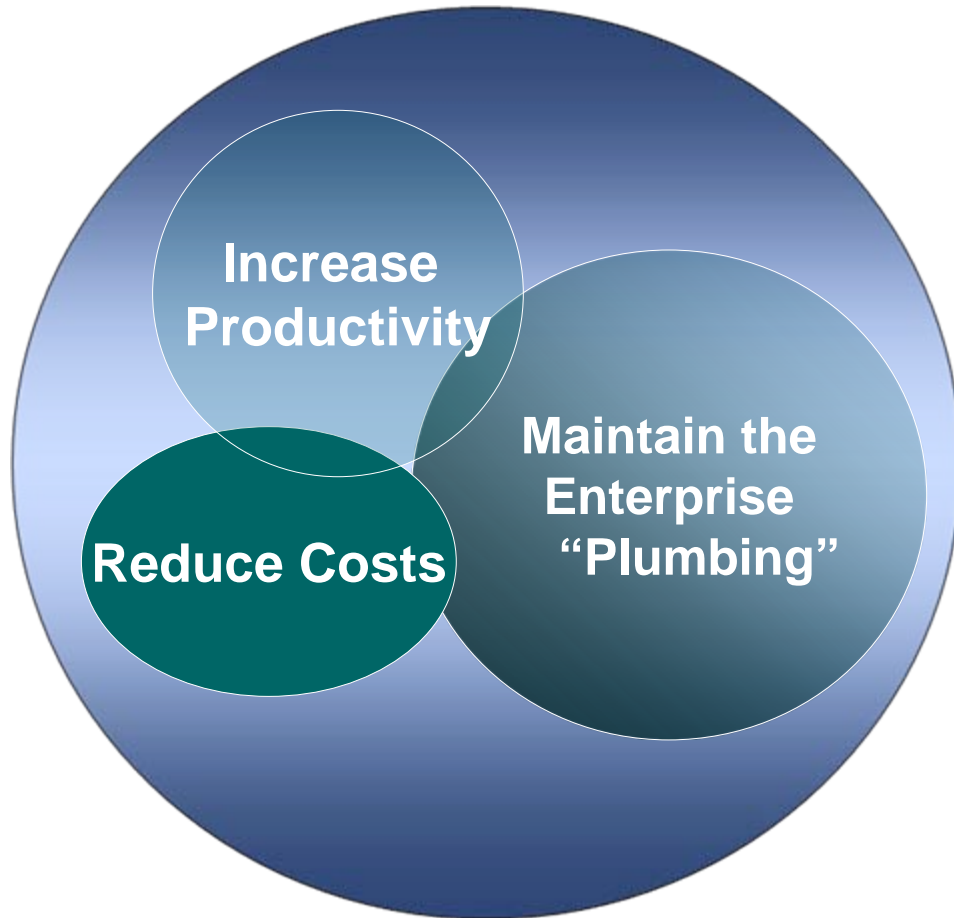
Key Lessons

5



Q & A

Traditional Role of IT



Foundational Releases Become a Necessity

Market Dynamics

- Growing recognition and appreciation for the power of **cross-functional partnerships**
- Greater demand for **external collaboration** with:
 - Suppliers
 - Distributors
 - Partners and customers
- Enhanced ERP systems support for **e-business** models

Internal Drivers

- Different Oracle versions
- Service logistics / call center system replacement
- Total cost ownership
- **Outdated** technology platform
- Too many customized applications, legacy systems, ordering systems

Historical Growth of Release Complexity

	August 2005	December 2006	March 2009
Number of users impacted	10,000+	53,900	75,000
Amount of data migrated	<1 TB	60 GB	~8 TB
Number of test cases executed	10,540	~10,000	55,000
Number of people working on release	750	500+	1,000+
Duration	15 months	10 months	11 months



Enterprise-wide Release Management

- As infrastructure systems, software development processes, and resources become more distributed, they invariably become more specialized and complex
- Applications are typically in an ongoing cycle of development, testing, and release
- With the growing complexity of the platforms on which these systems run, hundreds of moving pieces must fit together seamlessly to guarantee the success and long-term value of a project
- This is where enterprise-wide release management comes in



Cisco Release Management Best Practices

1



Structure and Governance

2



Release Planning

3



Release Management

4



Transition

5



Business Integration

Cisco's Enterprise Release Management Organization Supports IT Strategic Imperatives:

- Manages **large scale, cross-functional implementations**
- Brings IT and business organizations together to **drive decision-making** at the right time and right place
- Improves the **functionality, efficiency** of vital operational **systems, processes**
- Manages **risks by reporting to affected stakeholders**



EVOLUTION of Cisco's Enterprise Release Management Organization



FY2007

Create Value—
Foundation/
solidification
of ERMO



FY2008

Deliver Value—
Drive proven
methodologies
beyond ERMO



FY2009

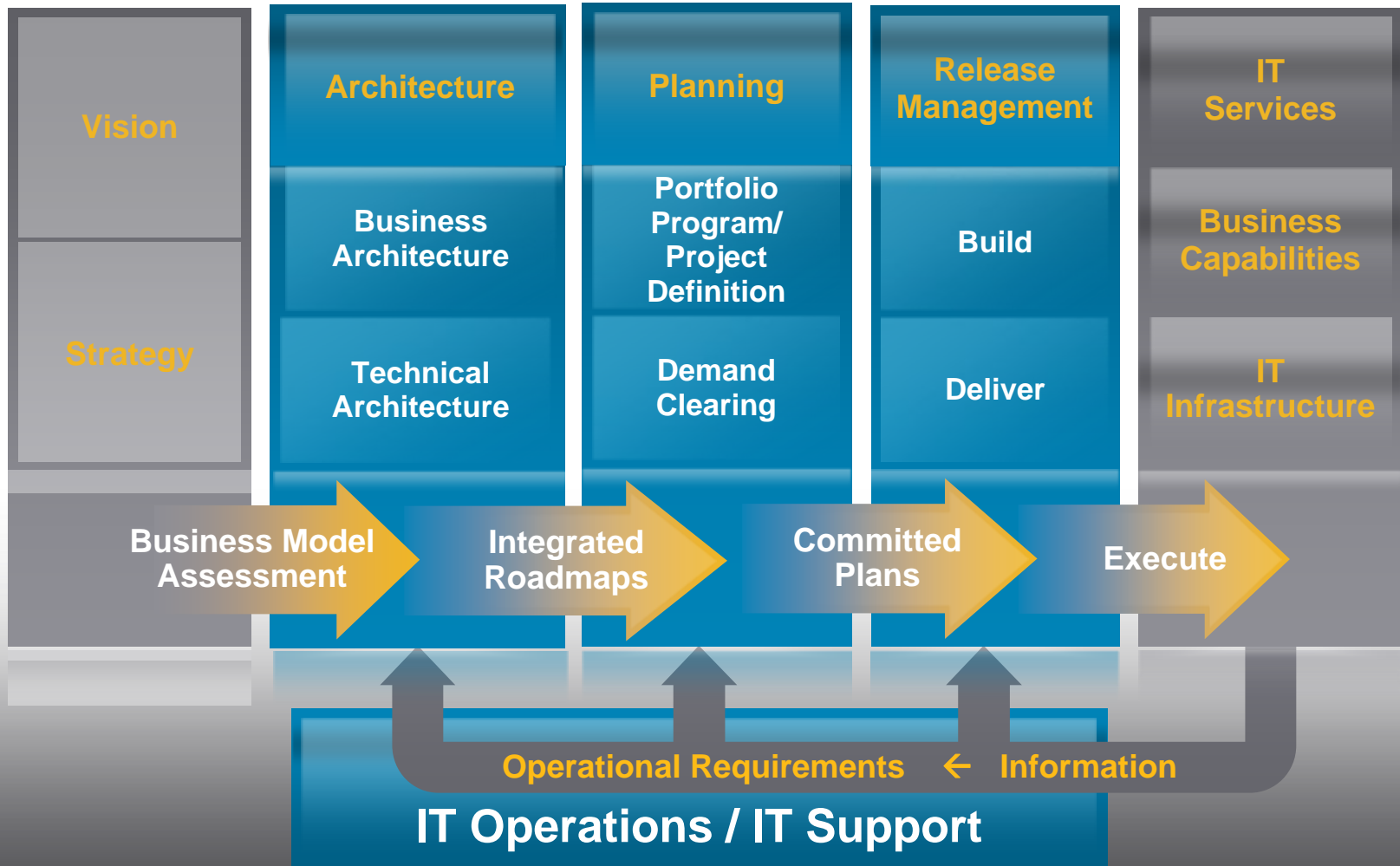
Ensure Value—
Take firmer
stand on
enforcement of
policies,
methodologies



FY2010

Grow Value—
Balance
value/risk
process/results

IT Operating Model



ERMO 2009 VSE

VISION

Promote **Excellence** at Cisco through World-Class **Change Management**

STRATEGY

ERMO as **Center of Collaboration Excellence**

- **Partner** with Business and IT teams
- Demonstrate value of **standardized processes**
- Provide **release scheduling** and **delivery leadership**
- Drive **risk management best practices** to enhance user experience

EXECUTION

- Minimize negative impacts to business teams
- **Implement ERMO Globalization plans**
- Drive governance and apply enforcement of RLC and common methodologies
- Maintain 24-Month roadmap/schedule

Governance Structure for Releases

ERMO Steering Committee
Executive Support from all Business and IT Operations

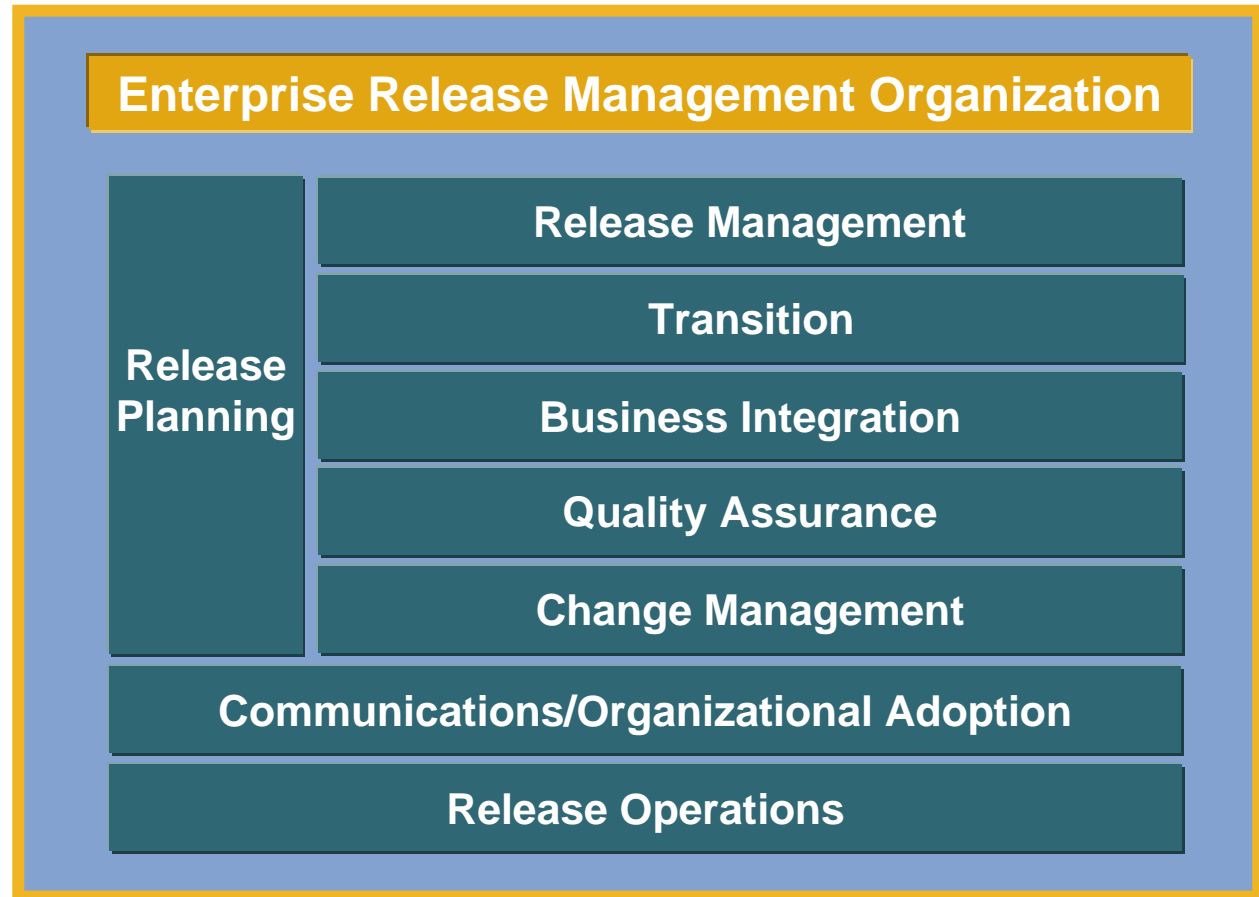
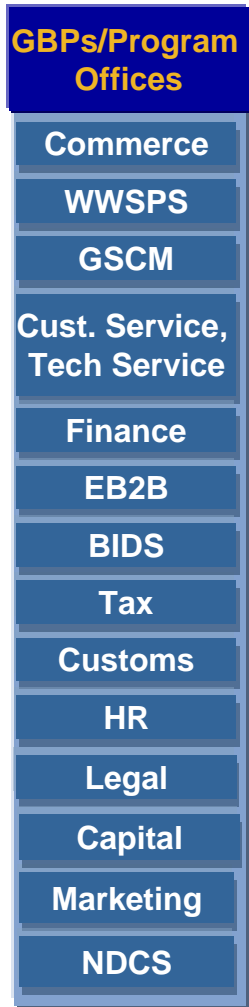
ERMO Leadership Team
Representation from all Functional Areas and ERMO Management Team (Under a Process Flow Structure)

ERMO Release Manager



Infrastructure includes: DBAs, System Administrators, Network Services, Storage, Information Security and IT Operations

ERMO Enables Integrated Release Management



System Performance Management

Environment Services (Infrastructure)

ERMO Major Functions

Release Planning



- Consolidates enterprise release roadmaps to enable business capabilities
- **Success criteria:** Early visibility into release project pipeline, right-sizing releases

Release Mgmt



- Release management from Release Assessment through Normalization
- Management reporting and escalations
- **Success criteria:** Issues/risk mitigation, minimal production defects

Transition



- Manage systems cutovers and practice runs (TTx, FPR)
- Partner with infrastructure teams for environment readiness
- **Success criteria:** Transitions occur as planned (especially system downtime)

Bus. Integration



- Prep business for cutover and post Go-Live activities
- Determine downtime window tolerance and impact to tools
- **Success criteria:** Communications and contingency plans in place - Normalization support provided

Change Mgmt



- Drive the assessment and approval process for release-level change requests that impact the official plan of record
- **Success criteria:** CRs closed by required date; Change Approval Board members can focus on value-added activities

Quality Assurance



- Manage test execution to ensure all projects meet exit criteria
- Collect and provide release-level visibility into QA metrics
- **Success criteria:** Projects meet exit criteria in each cycle

Release Operations

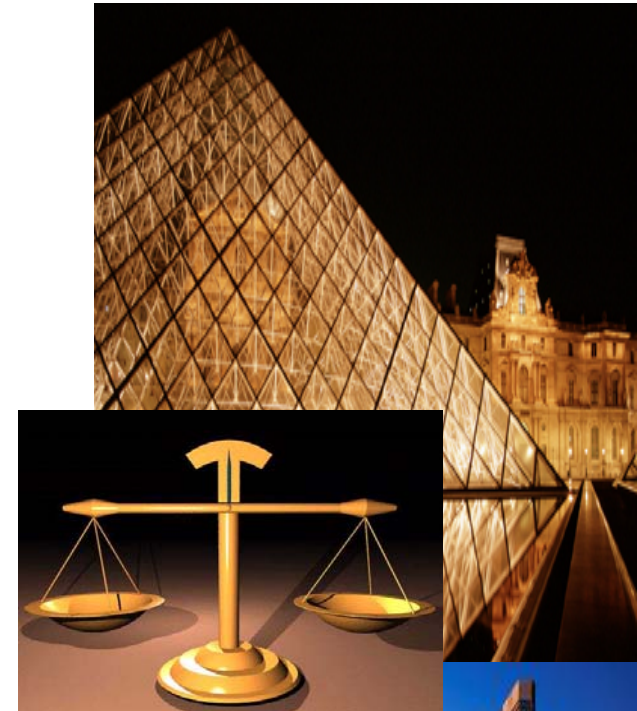


- Operational management from Release Planning to Go Live
- Drive use of PROPEL for issue/risk management, CRs
- **Success criteria:** Smooth release with minimal operational issues

Planning for Optimal Release Throughput

Thorough, advance planning:

- Aligns cross-functional, complex, transformational roadmaps with enterprise execution capacity leading to prioritization across multiple Cisco organizations
- Matches demand (business capabilities) to supply (shared resource capacity) within ERMO standard process framework
- Generates 18-24 month enterprise level release pipeline and release schedule

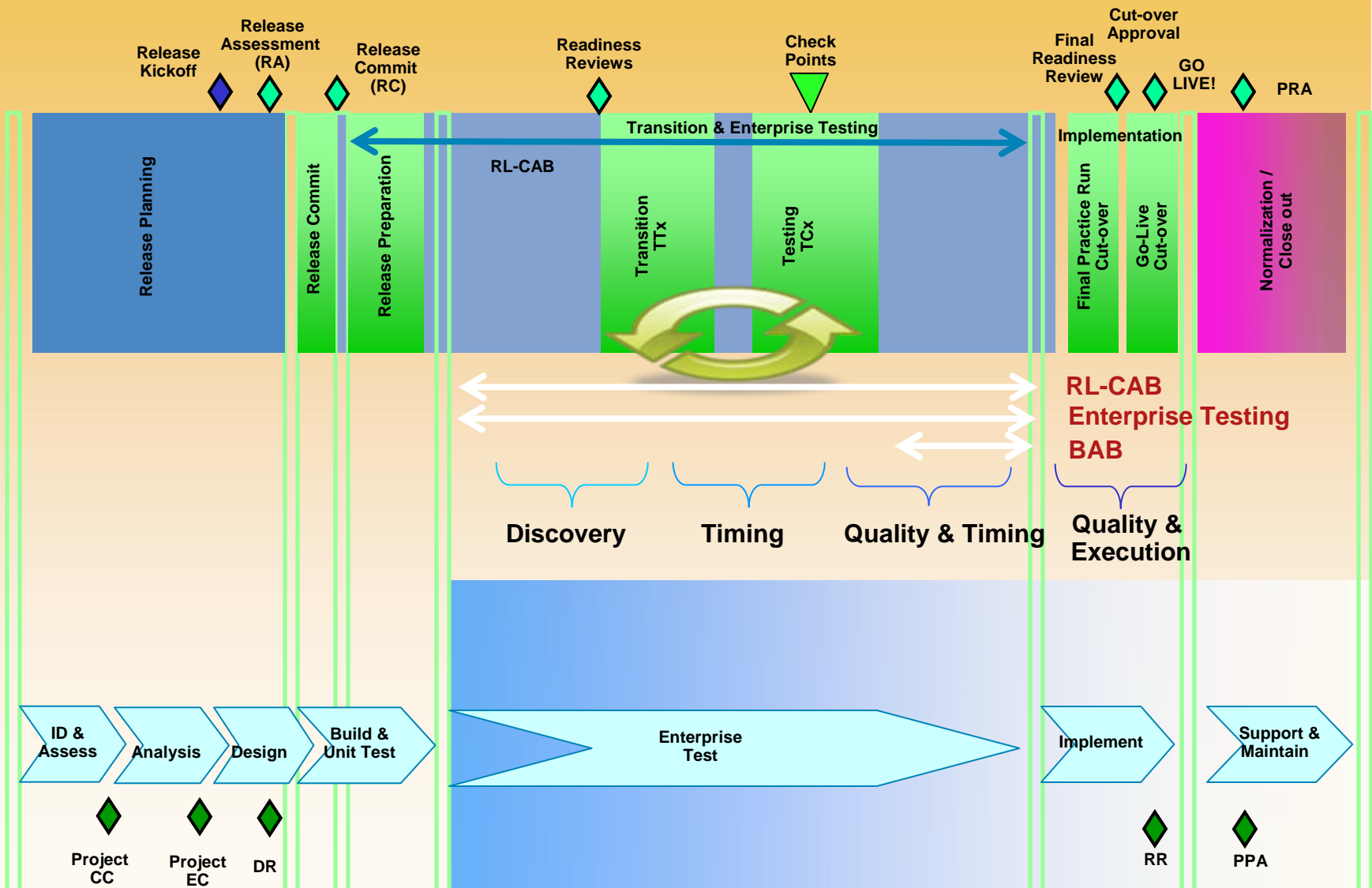


Drives these results:

- Fewer “diving catches”
- Better prioritization of resources
- More predictable downtime windows
- Fewer major defects, increased release quality
- Improved customer and employee experience



Alignment of PLC (Project Life Cycle) to the RLC (Release Life Cycle)



FY09 Roadmap

FY08 Q1
Aug -Oct

FY08 Q2
Nov-Jan

FY08 Q3
Feb- Apr

FY08 Q4
May-Jul

FY09 Q1
Aug-Oct

FY09 Q2
Nov-Jan

FY09 Q3
Feb-Apr

FY09 Q4
May-Jul

Go Live

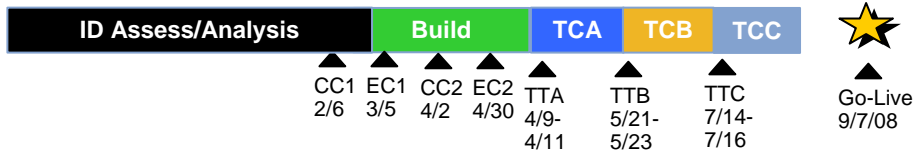
9/7/08

11/9/08

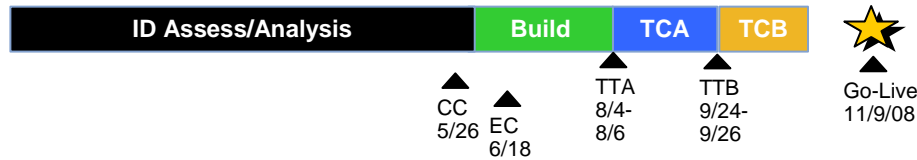
3/1/09

5/10/09

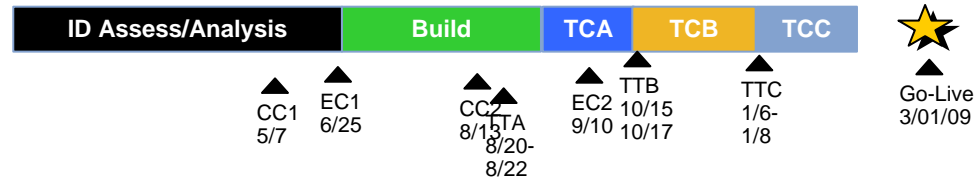
FY09 Q1



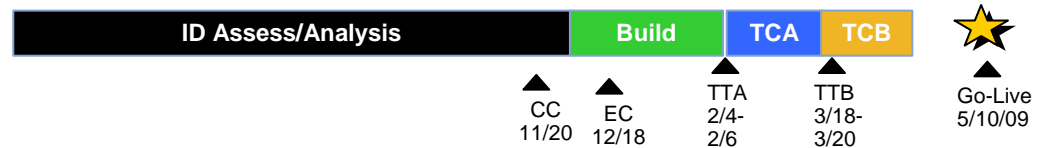
FY09 Q2



FY09 Q3



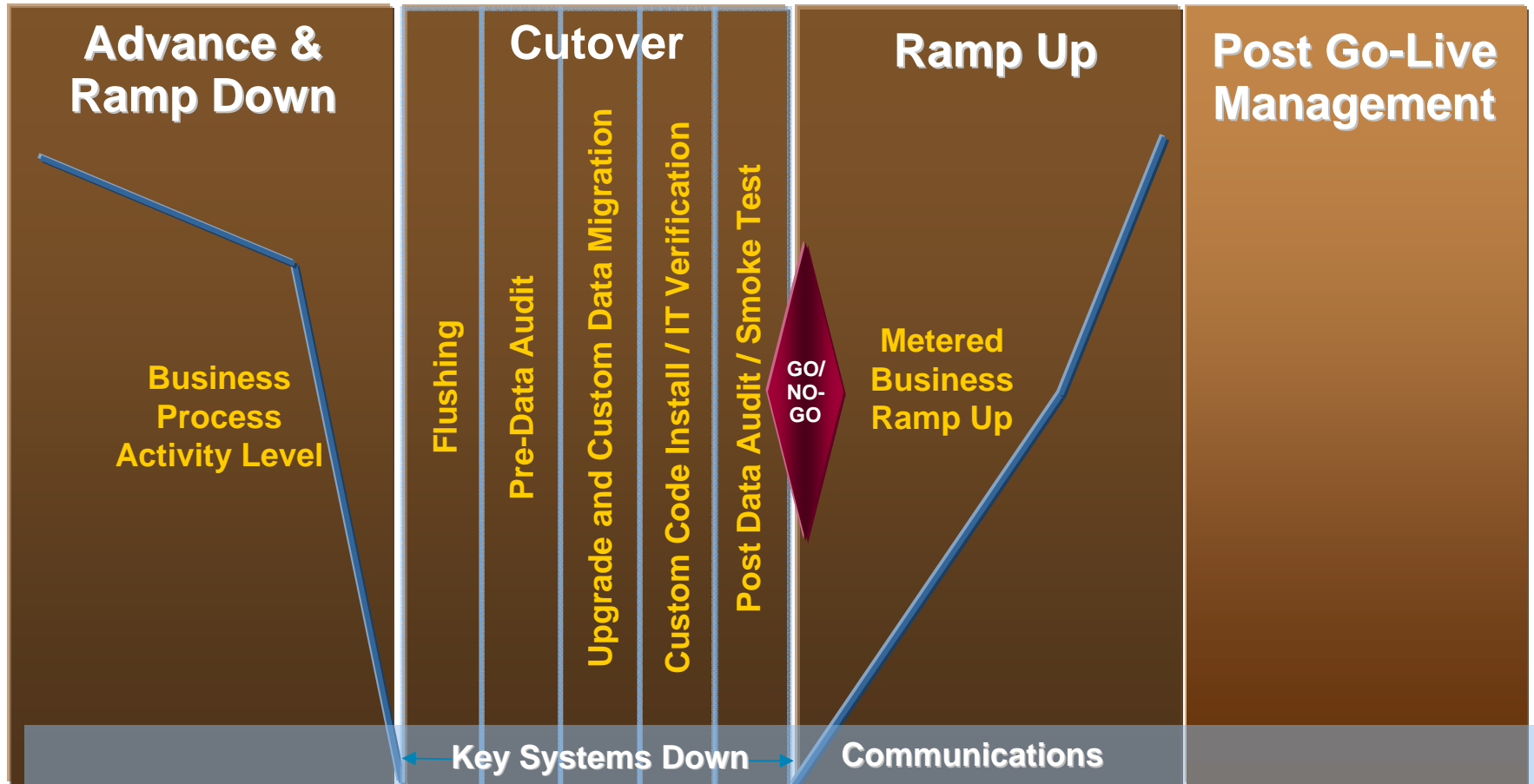
FY09 Q4



Test Cycle Pass and Defect Exit Criteria

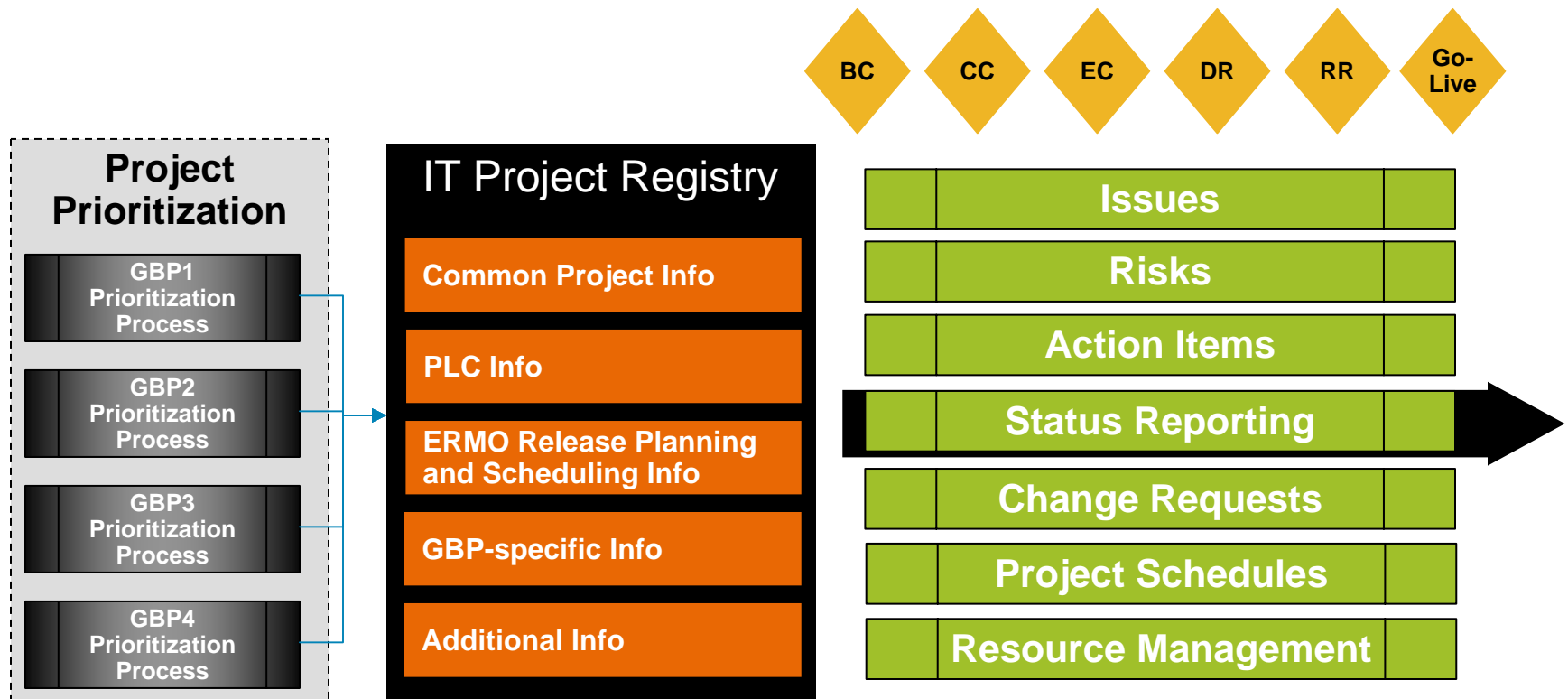
Test Cycle				
Test Cycle Goal		TC-A	TC-B	TC-C
		Discovery	Discovery, Quality & Stability	Quality & Regression
		<ol style="list-style-type: none"> Exercise all code and data (both new data and converted data) for each sub-cycle Uncover the maximum number of defects Retest for defects found in TCA 	<ol style="list-style-type: none"> Exercise all code and data Regression test fixes for defects uncovered in TCA Uncover defects 'hidden' or 'blocked' in TCA Fix maximum number of defects to increase quality of code and data Retest fixes for bugs found in TCB 	<ol style="list-style-type: none"> Exercise all code and data Stabilize the code base and data Regression test fixes for bugs uncovered in TCA and TCB Fix maximum number of bugs to increase quality of code and data w/o destabilizing the code base and/or data Retest fixes for bugs found in TCC Regression test to ensure bug fixes didn't cause defects in other areas Certify system is ready for Go Live
Exit Criteria	Test Case Execution	Goal = 100%	Goal = 100%	Goal = 100%
	Test Case Pass Rate	Goal = 85% SOX and High Priority Test cases 90%	Goal = 90% SOX and High Priority Test cases 95%	Goal = 95% SOX and High Priority Test cases 100%
Exit Criteria Project Level	Open S1 Defects	<= 3	<= 2	Zero
	Open S2 Defects	<= 6	<= 4	Zero
	Open S3 Defects	<= 9	<= 6	<= 2
	Open S4 Defects	<= 12	<= 8	<= 4
	Open S5 Defects	<= 15	<= 10	<= 8

Cutover Managed in Distinct Phases



Project and Portfolio Management Tool

- Single source of IT project information for more informed decision making
- Increased visibility of project status to manage projects more effectively
- Repeatable process that reduces human error of project consolidation and improves the project quality
- Saves compliance costs by keeping a clear audit trail of all project information



Promoting Change Management Excellence

Strategy

- Ensure release and production stability of critical IT business systems by minimizing risk associated with planned changes to enterprise
- Encourage business flexibility and agility while ensuring associated change to plan of record is both systematic and controlled

Execution

- Streamline and standardize the change control process for documenting, assessing, and approving change requests
- Ensure release-level change requests are both relevant and visible to appropriate stakeholders for consideration



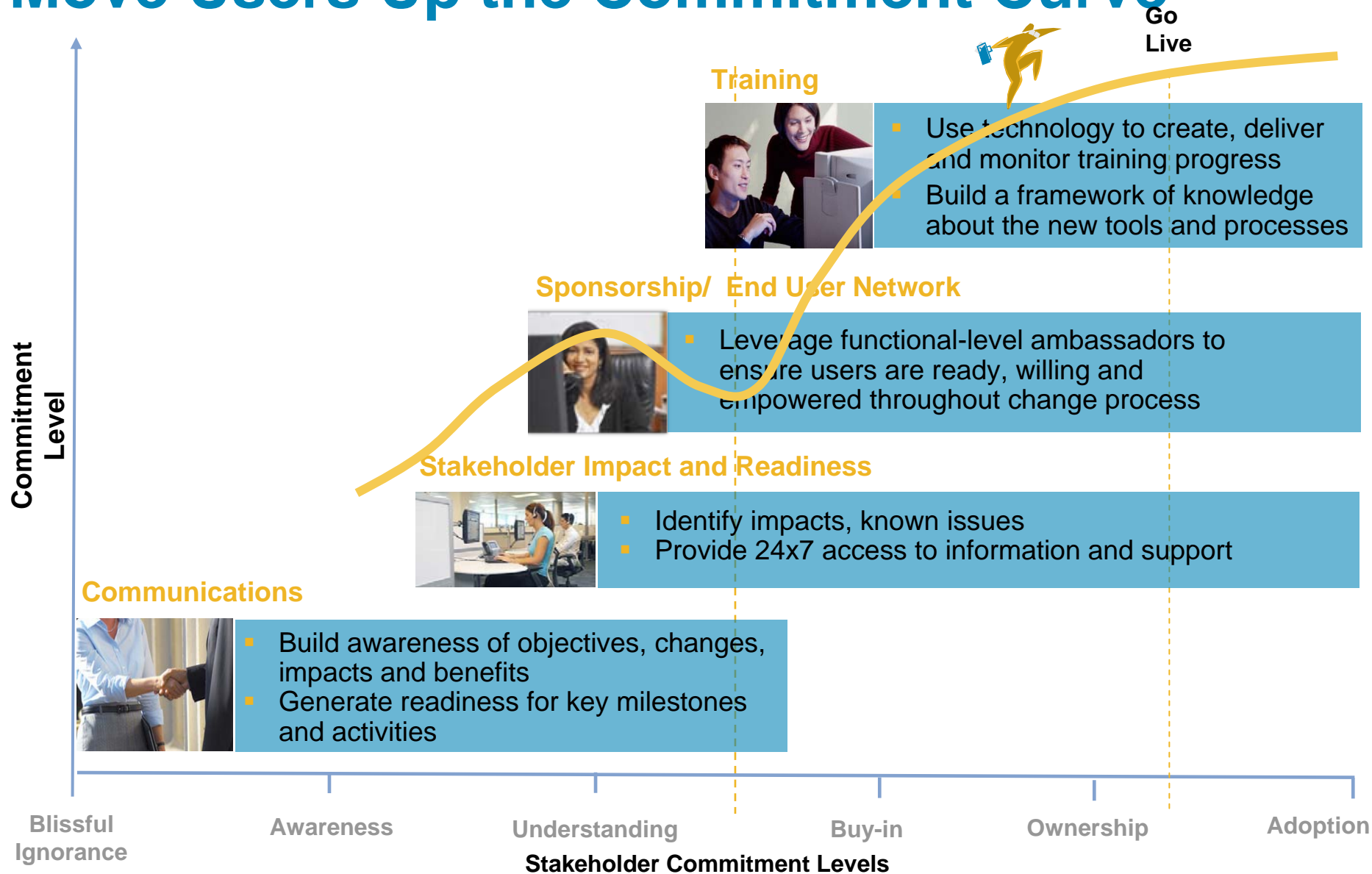
Business Integration Best Practices

Business Integration includes activities required to prepare Cisco's impacted businesses for a **successful implementation** resulting in **minimal disruption** to customers, vendors, suppliers, and employees

- Executive sponsor participation is critical for business groups to understand how they're impacted by changes
- Templates drive consistent Business Integration plans to monitor/correct course while progressing through transition stages
- Business Normalization metrics define "normal" so the business and project teams have an understanding of success criteria
- Coordinate closely with Organizational Adoption teams

Organizational Adoption Best Practices

Move Users Up the Commitment Curve



Release Management Center of Excellence

- All necessary information for successful ERMO release participation in one location
- Three easy-to-navigate options: by Release Life Cycle, Release Function, or Templates
- Access all tools and templates to complete the primary ERMO release activities

The screenshot displays the Cisco Release Management Center of Excellence website. At the top left is the Cisco logo. The header includes a navigation bar with links for "Log In", "Cisco Sites", "Navigation Tools", "Emergencies", a search box with a "Go" button, and a "Directory" link. Below the header, the main title "Release Management Center of Excellence" is prominently displayed. A large banner image shows a blurred train at night with a green traffic light in the foreground. Below the banner, the text reads "Driving release excellence through standards and best practices." The left sidebar contains a menu with categories like "Cisco Employee Connection", "About Cisco", "Cross-Functional Initiatives & Teams", "Enterprise Release Management Organization", "About ERMO", "ERMO Services", "Release Management Center of Excellence" (expanded to show "Release Functions", "Release Life Cycle (RLC)", "Releases", "Stakeholders and Governance", "System Performance", and "ERMO Glossary and Acronyms"), "Stakeholders and Governance", "System Performance", and "ERMO Glossary and Acronyms". The main content area features a tabbed interface with "Overview" selected, followed by "Release Life Cycle", "Release Functions", and "Templates and Tools". Under the "Overview" tab, the "Getting Started" section provides introductory text. On the right, a "Related Items" section lists tools such as "ERMO Livelihood", "PROPEL Tool", "TransIT Tool", and "Quality Center Tool".

Log In Cisco Sites Navigation Tools Emergencies Search Go Directory

Enterprise Release Management Organization

Release Management Center of Excellence

Cisco Employee Connection

About Cisco

Cross-Functional Initiatives & Teams

Enterprise Release Management Organization

About ERMO

ERMO Services

Release Management Center of Excellence

Release Functions

Release Life Cycle (RLC)

Releases

Stakeholders and Governance

System Performance

ERMO Glossary and Acronyms

Driving release excellence through standards and best practices.

Overview Release Life Cycle Release Functions Templates and Tools

Getting Started

Whether you're an active release participant or new to the ERMO process, the Release Management Center of Excellence (RMCoE) site quickly directs you to the information you need to successfully fulfill your role in a release. The simple tabular structure organizes details by:

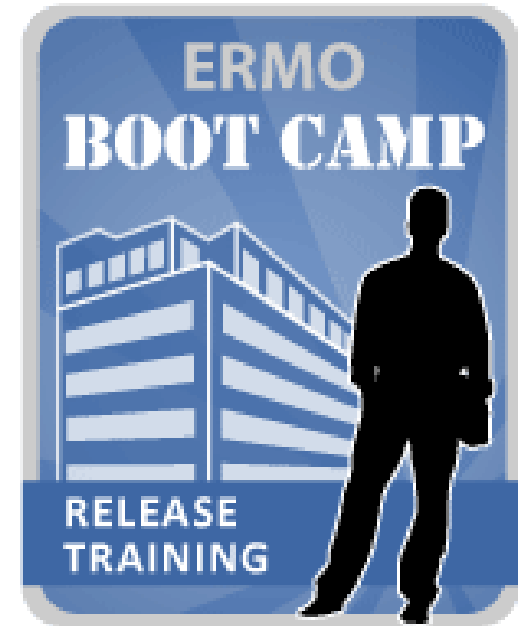
Related Items

Tools

- [ERMO Livelihood](#)
- [PROPEL Tool](#)
- [TransIT Tool](#)
- [Quality Center Tool](#)

ERMO Boot Camp Training

- Boot camp sessions offered quarterly (4 – 8 sessions each quarter)
- 40 – 90 attendees each session
- Topics focus on functional areas, tools, and Release Lifecycle
- Survey results:
 - 95% of survey respondents rated the sessions as “Very Useful” and 100% would recommend ERMO Boot Camp to their co-workers



“Trying to do any mass communication session to people with varying business needs is always very difficult, but the team did quite well. The topics selected were very useful and helped us get a good understanding of ERMO tools and processes. Overall, job well done and thank you.”

“The ERMO Boot Camp should be mandatory attendance for all Program/Project resources that work to provide support for ERMO releases. I wish I would have had the opportunity to attend ERMO Boot Camp a year ago for March 08 Release.”

Large Application Releases Going Forward

1



The Network as the Platform

2



Changing Market Drivers

3



Changing Role of IT

4



Key Messages

5



Q & A

The Network as a Platform...

“Cisco’s strategy is a story based on change—the market transitions that affect our customers. Through multiple transitions in the last decade and over the next 3–5 years, the network will evolve from the plumbing of the Internet—providing connectivity—to the platform that enables people to experience life.”

**John Chambers,
Chairman and CEO, Cisco**



Changing Market Drivers

Market Dynamics

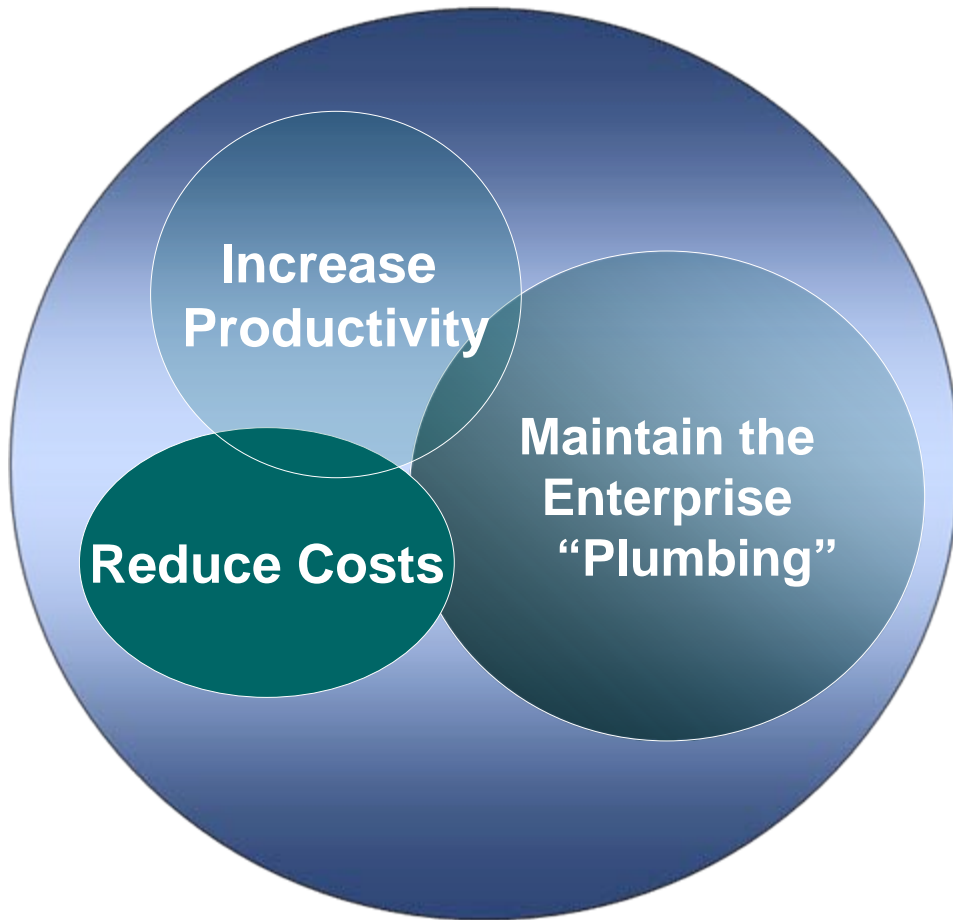
Customers demand better services and new business capabilities—more quickly and more frequently

Internal Drivers

Major business process transformational programs occurring concurrently



Traditional Role of IT



Changing Role of IT



Cisco's Unique Value Proposition

Business Architecture

IT Strategic Imperatives

Technology Architecture

GOALS

INITIATIVES



Enable **Every** Move We Make with IT



IT Value Proposition



Release Management Lessons Learned

- Central release management organization is essential for bringing together teams with different business processes
- Advance planning is key
- Need flexibility in process to address business needs
- Risk management is critical: delicate balance between IT risk and business value
- Consistent adoption of tools and processes by all teams increases efficiency



Key Messages

Meaningful governance; candid, open conversations

Enforce process, but process itself should provide agility

Use metrics as framework to drive decisions

Involve your customers, stakeholders

Collaboration is how we get better

To learn more about real-world
Cisco IT deployments, visit
www.cisco.com/go/ciscoit



CISCO