

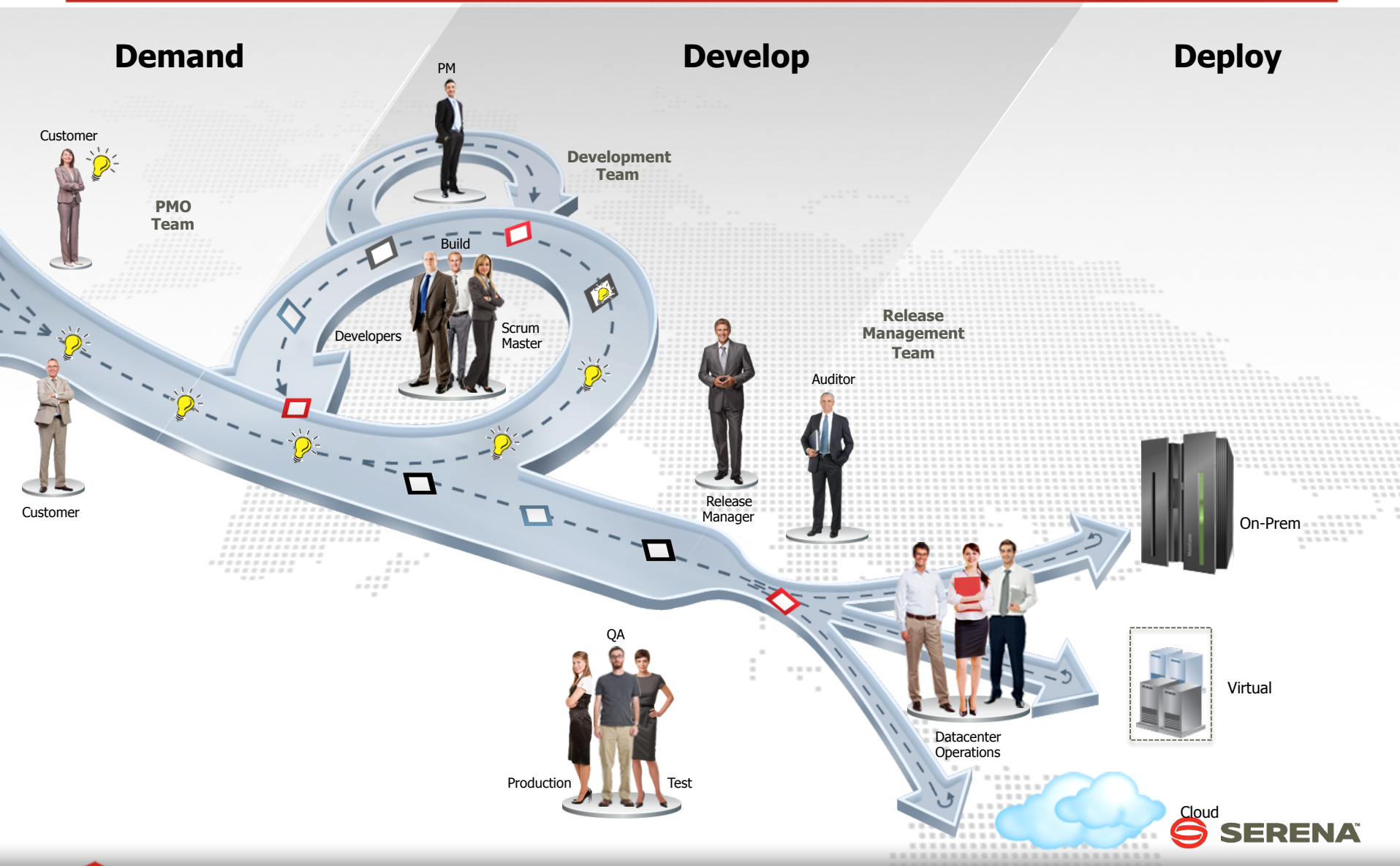


# **Bridging Development and Operations: The Secret of Streamlining Release Management**

*Mark Levy, Product Manager – Serena Software*

**Deploy application changes into  
production without disrupting  
the business**

# Application Release Stakeholders



# Application Release Challenges

Demand

Develop

Deploy

## Release Volume Increasing

- Increasing demand from business
- Agile dev producing more releases

## Audits, Audits, Audits

- Time consuming
- People-intensive

## Release Quality

- Manual processes and scripts
- Production downtime
- Increased costs
- ITIL v3

## Coordination Issues

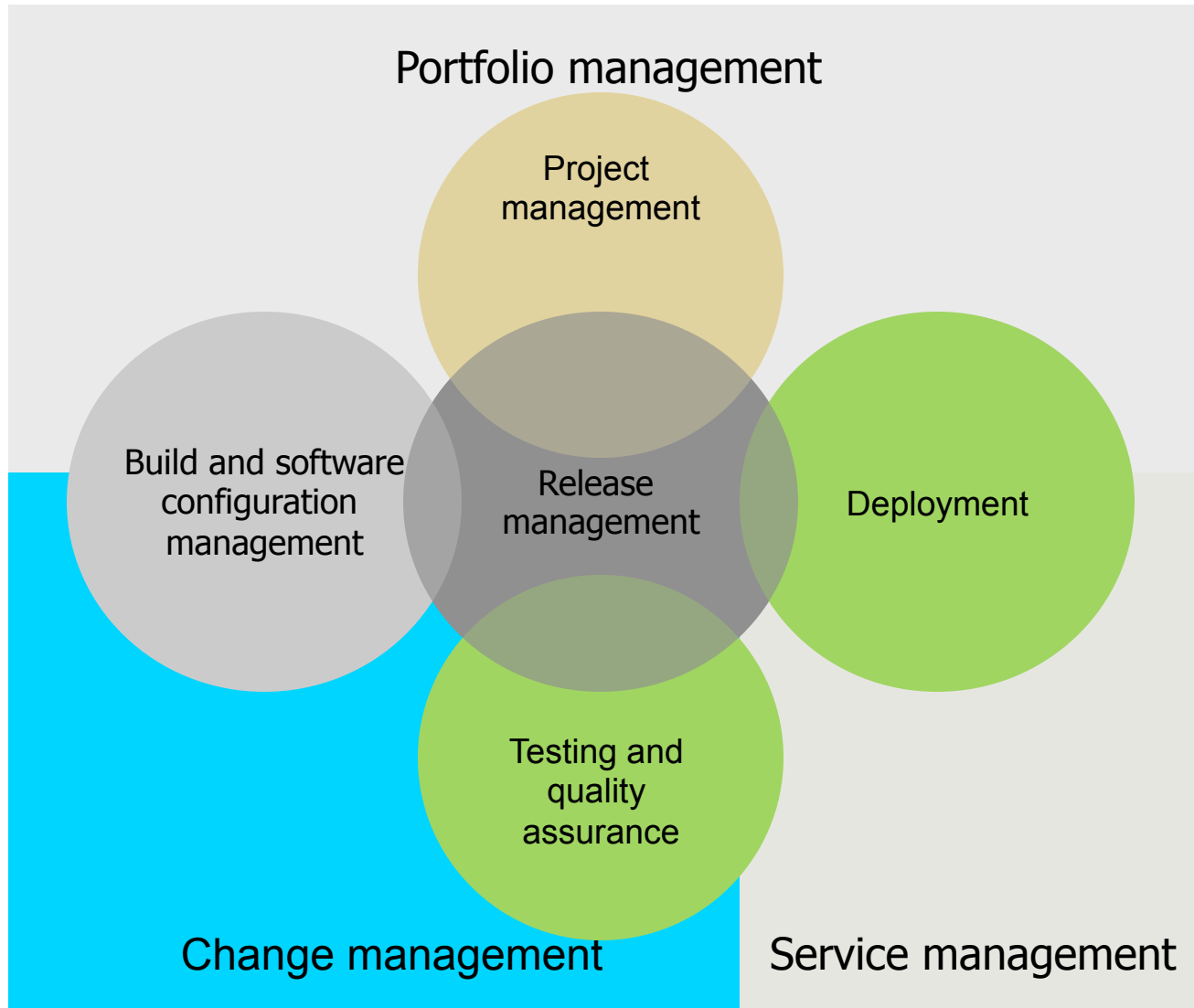
- Poor visibility into status
- Untimely information to stakeholders
- Ad-hoc and inefficient meetings
- Unauthorized changes

## Release Bottleneck

- Long release times
- Limited operational agility
- Complexity

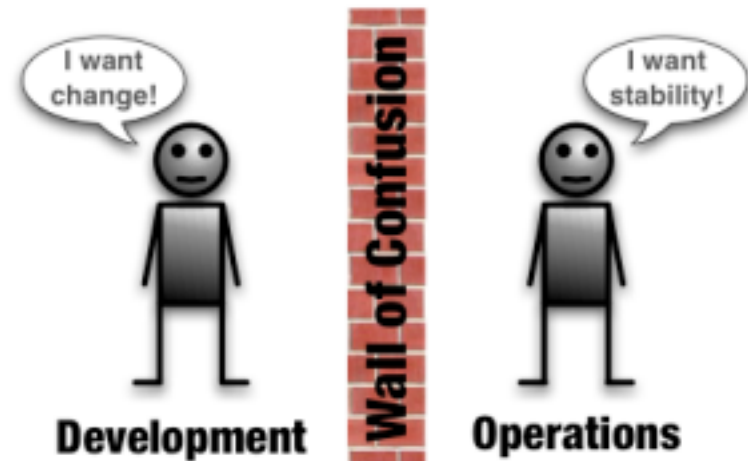


# Revisiting Release Management

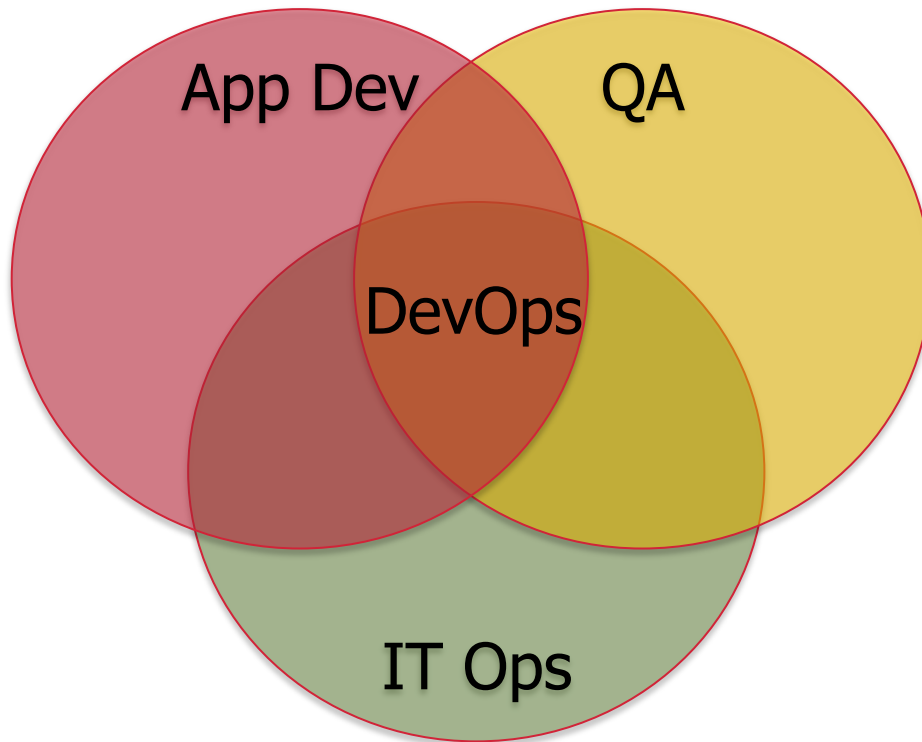


# What really is DevOps?

- Emerging set of principles, methods and practices for communication between Appdev and Ops
- Developed in response to growing awareness to the disconnect between apps and ops
- Owns project success
- Highly technical role



# DevOps for Enterprise IT



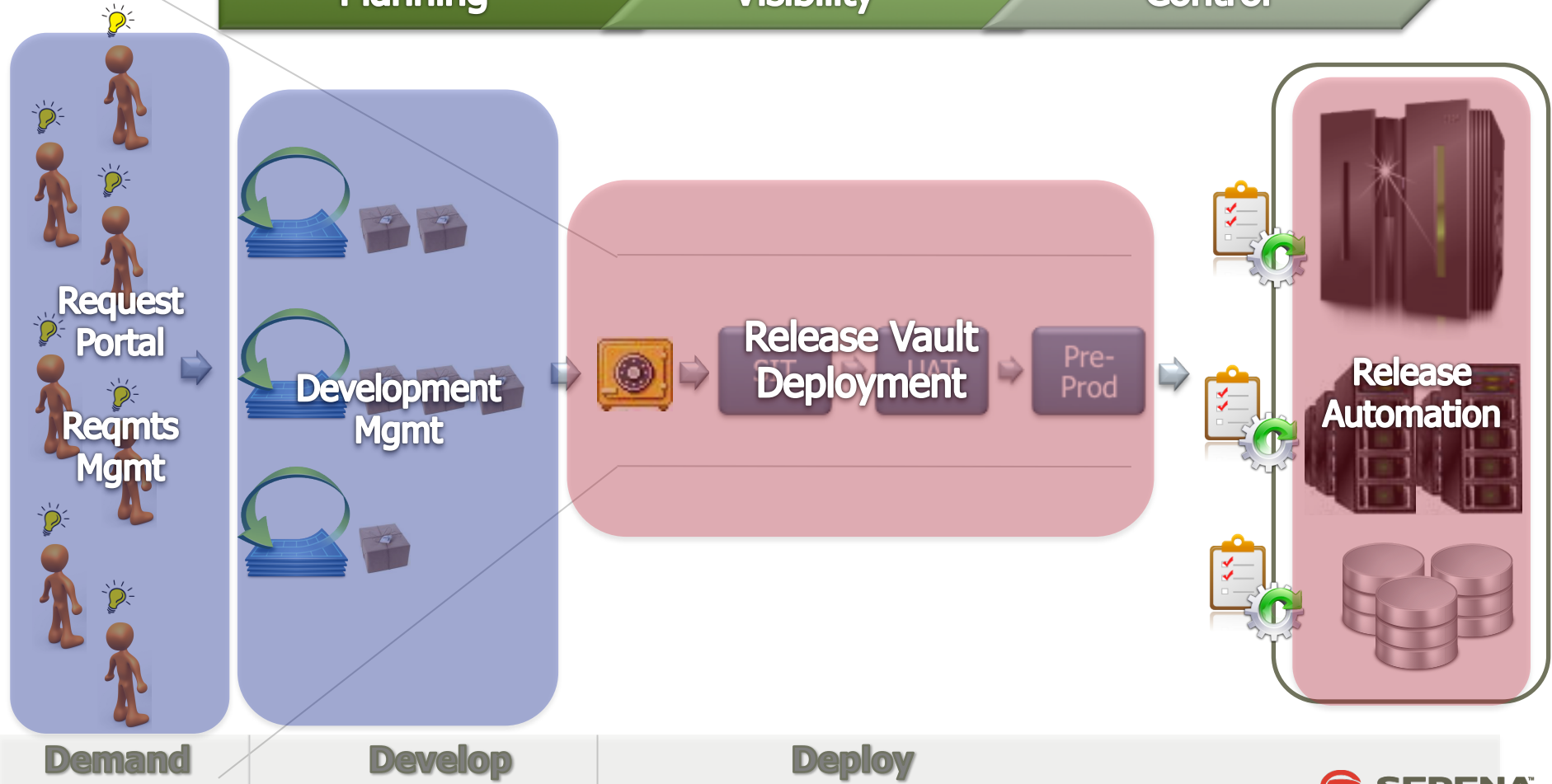
- Less risk from implementing more and smaller changes
- Developers have better view of the environment
- Giving infrastructure more application-centric understanding
- Clearly articulating simple processes
- Automating as much as possible
- Increasing collaboration between Dev and Ops

# Conducting the Flow of Change



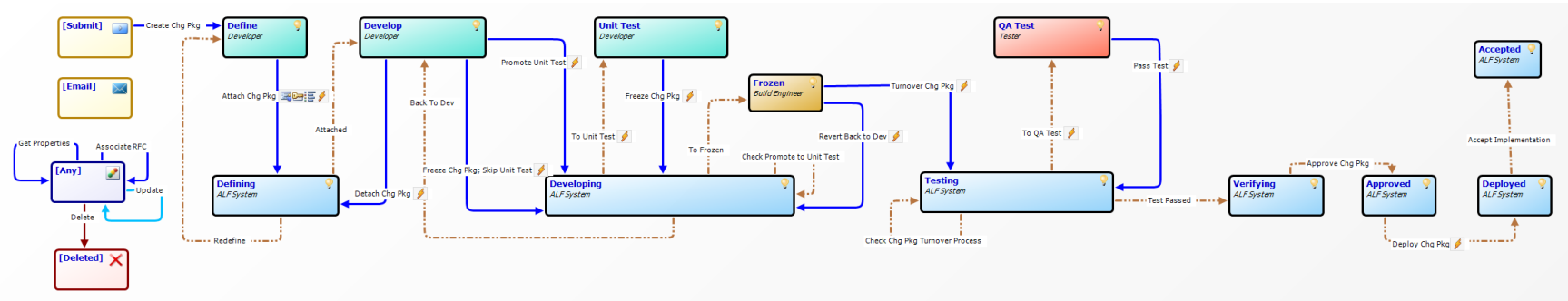


# Release Management Solution



# Release Planning and Control

# Policy and Process Centric



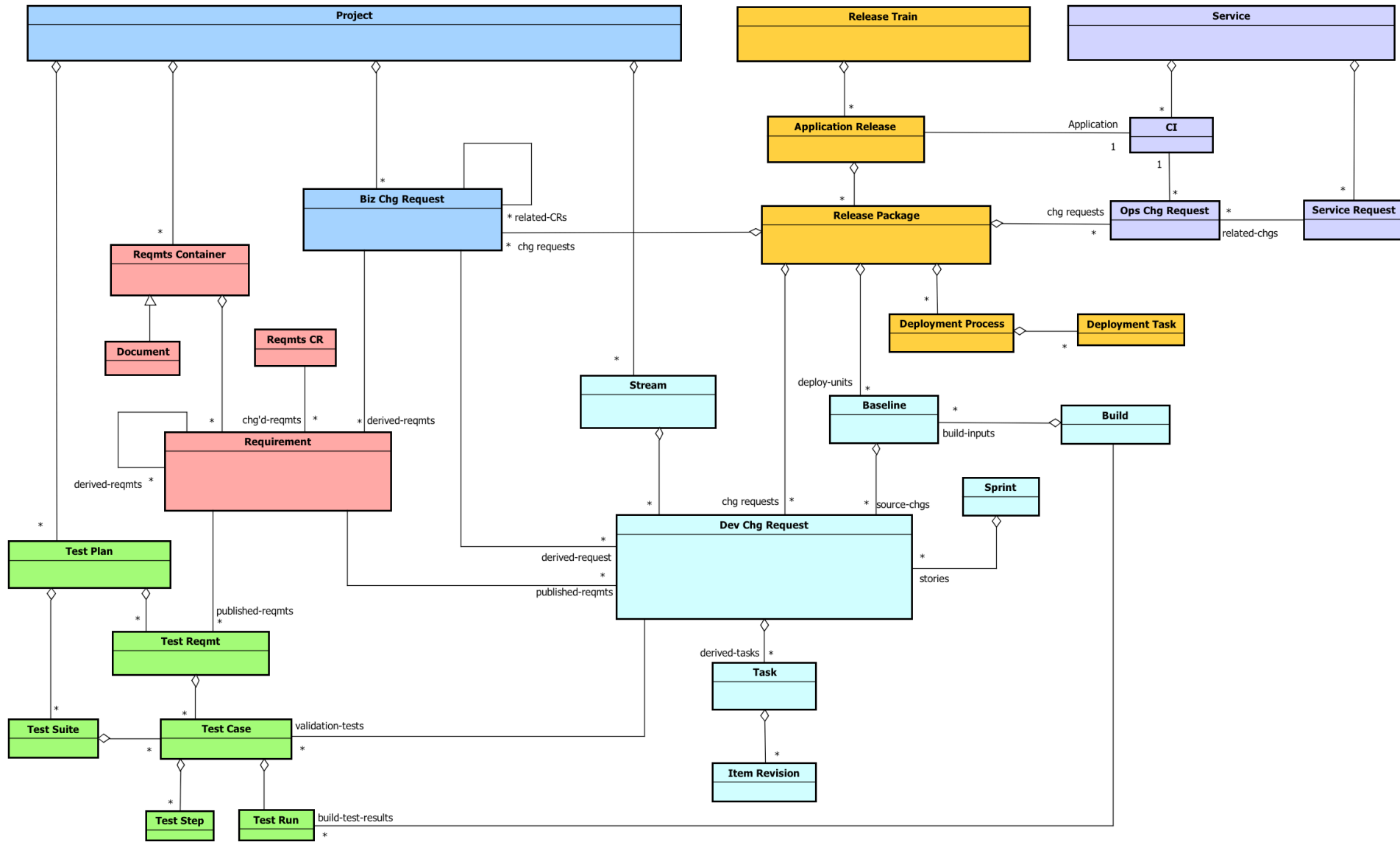
- Start with policy and process
- Support the entire release management process
- Provide support for the agreed levels of traceability
- Use tools to federate and automate across the release management process rather than defining a process which fits the tools

# Release Management Principles

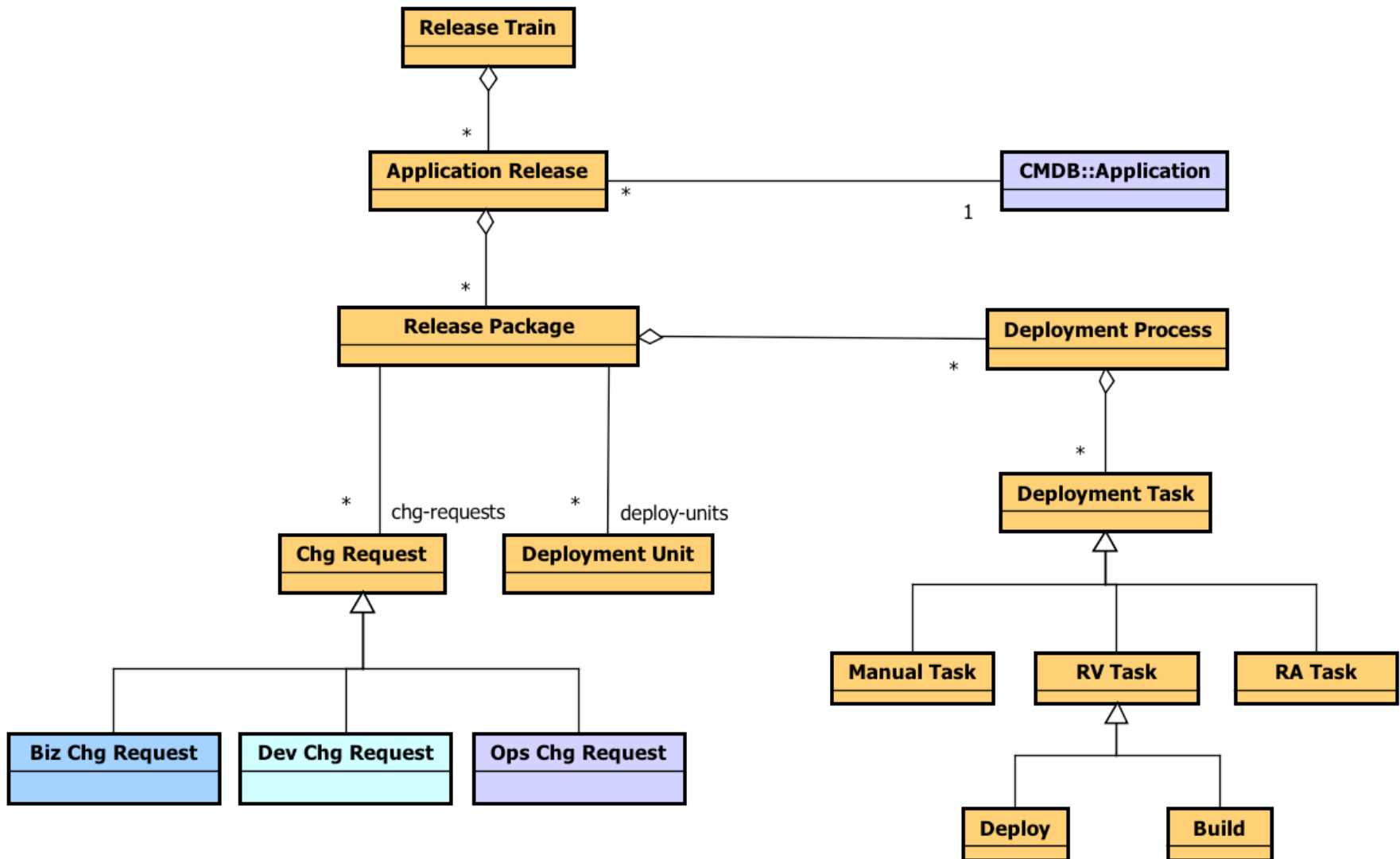
- Release Policy - agreement with the business and all relevant parties
- Release needs to be well planned in advance
- Emergency releases are managed in line with the emergency change procedure
- Risk of backing out or remediating a failed release are assessed and managed
- Success and failures of releases is measured with the aim of improving effectiveness and efficiency while optimizing costs.

- Defined for one or more services/applications
- Naming conventions
- Types of releases
- Expected frequencies
- Building the test environment
- What are the backout plans?
- Gate review criteria
- Approach for grouping and prioritizing changes
- Roles and responsibilities
- Entry and exit criteria for each process transition state

# Domain Model



# Release Mgmt

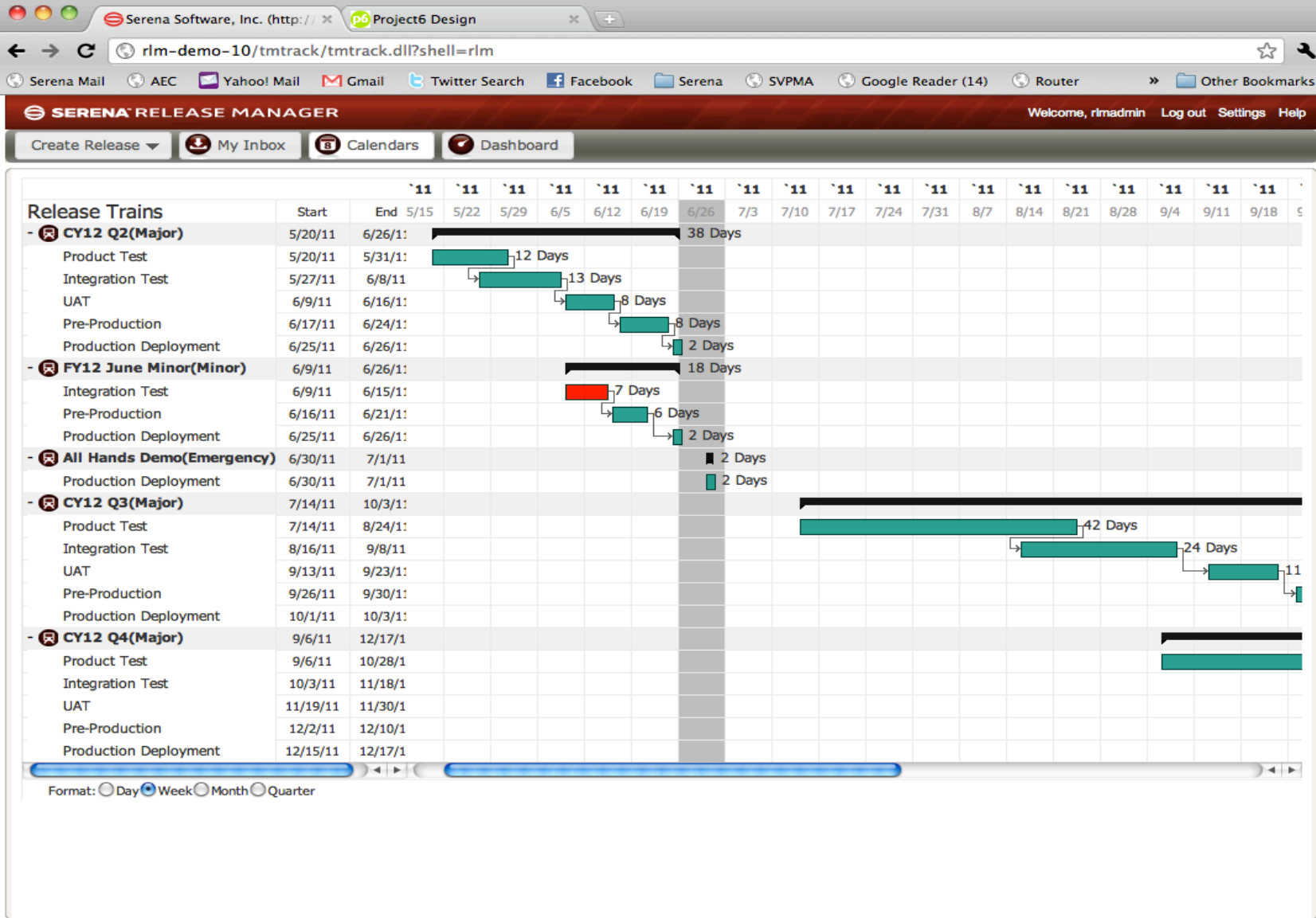


# Release Planning – The Release Calendar

- Composed of state names and date/time fields.
- Should be tied to a release type.
- Types might be major, minor, emergency..etc.
- Associated with specific high level workflows.
- Information for enforcement, notification and reporting



# Release Calendars



# Planning and Control Best Practices

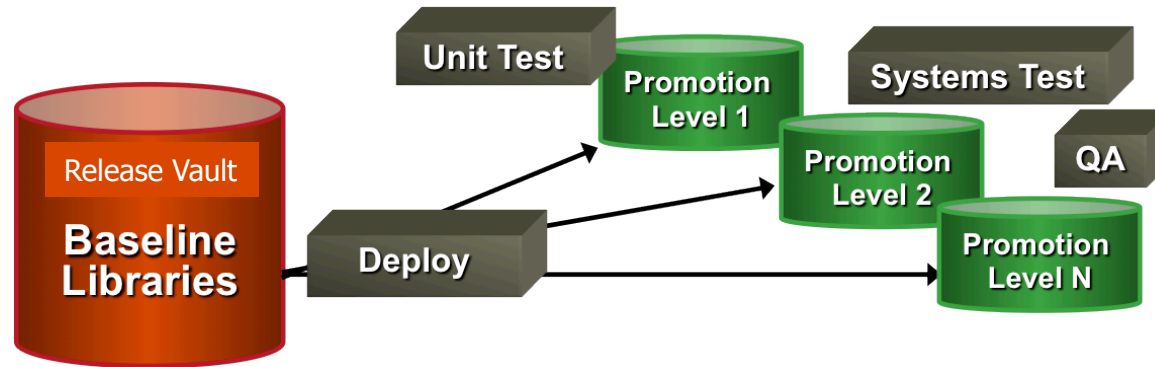
- Ensure Demand, Change and Configuration Management is robust!
- Establish a release policy
- Publish a release calendar
- Get business sign off and provide stakeholder visibility
- Agree on KPIs up front (release policy)
- Calculate impact analysis, providing visibility into interdependence tasks

# Planning and Control Best Practices

- Coordinate activities of individuals who are involved in making that release happen
- Identify and approve list of tasks and activities required to deploy releases into environment
- Design and plan out the process flow to enable all the tasks to be performed/approvals to be obtained in the correct order within the allotted time window
- Provide real-time status alerts and updates on those activities
- Build a common library of repeatable tasks and processes to speed future release processes

# Release Vault Path to Production

# Release Vault



- Safely stores your code until you are ready to deploy into a production or pre-production environment
- Maintain compliance with automated processes and the ability to trace all changes from source code to production
- Responsible for ensure the right baselines get securely deployed to the right targets
- Provides added security by enforcing the separation of roles and responsibilities, such as denying development staff access to production releases.

# Release Package

- Generally associated with an application or project
- Associated with a release type (maj,min,emer)
- Release type determines the workflow/process

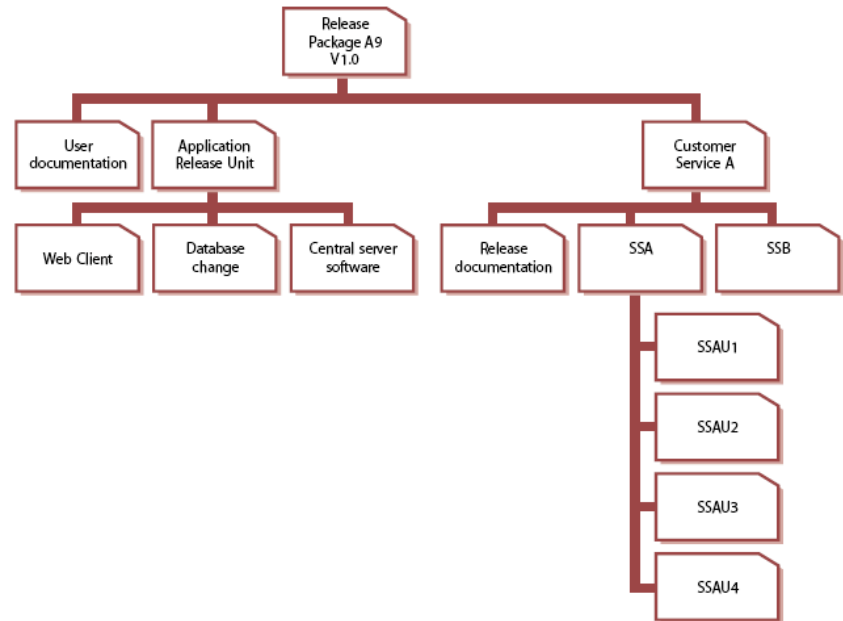
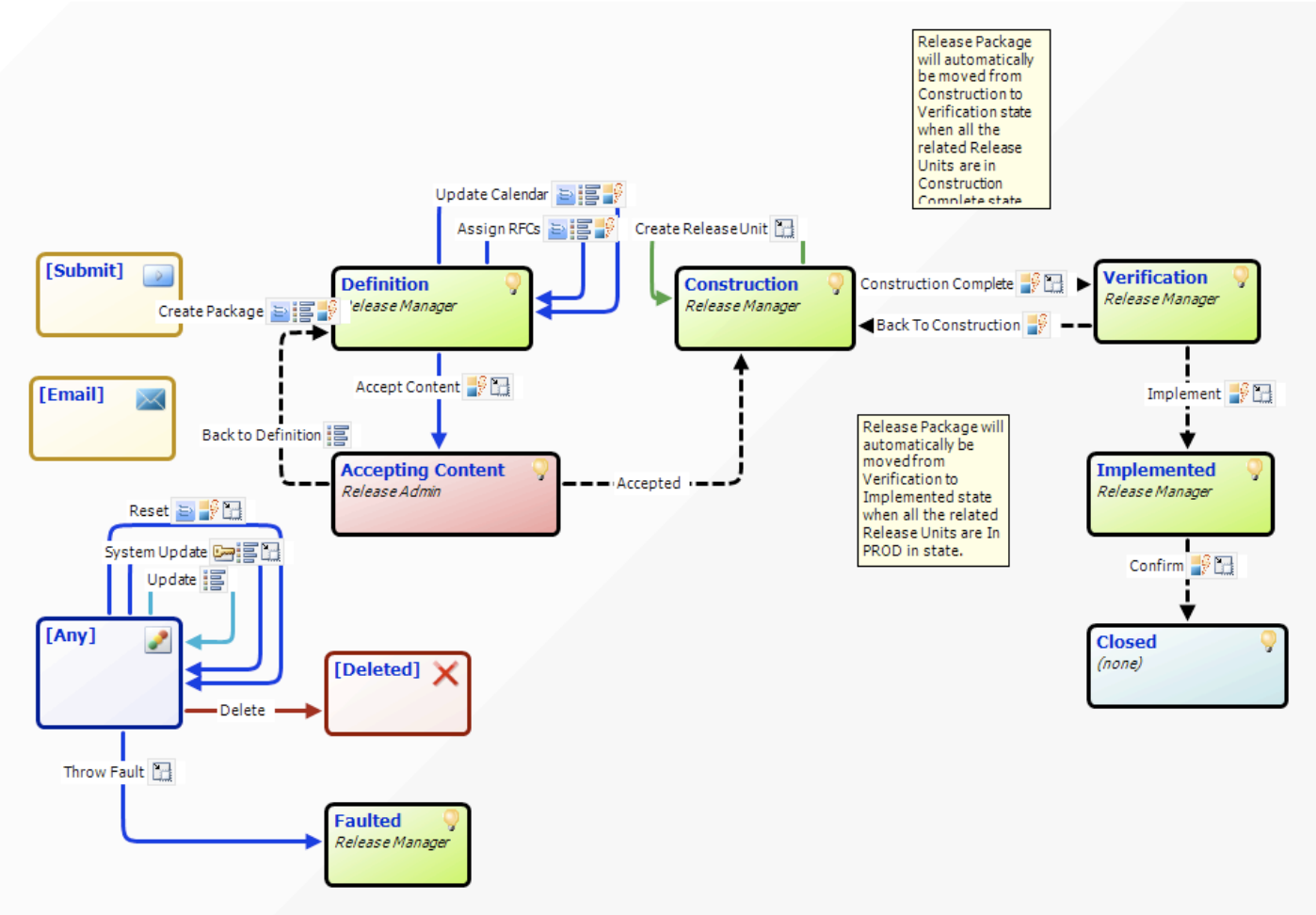


Figure 4.19 Example of a release package

# Release Package Process

## Graphical view of Project: Wealth Management



# Deployment/Release Units

- Describes a portion of a service or IT infrastructure that it normally released together.
- Unit may vary, depending on the type(s) or item(s) of service assets
- Helps further isolate changes within a release.

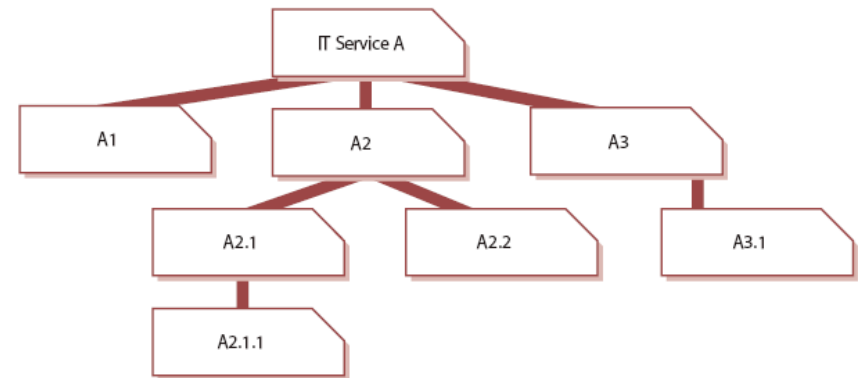


Figure 4.15 Simplified example of release units for an IT service



# Gate Reviews

Overall Application Release Status	Project ID	Project Description	Dimension Packages	Requirements Completion date 02/13/08		Code Completion date 04/30/08		Functional/Systems Testing Completion date 06/04/08		Person Providing Sta
				Gate Status	Current Status	Gate Status	Current Status	Gate Status	Current Status	
no projects										
◆										
	RXC340300620	Vaccine Variable Admin	A34030002 A34060001	◆ ◆	◆ ◆	◆ ◆	◆ ◆	◆ ◆	◆ ◆	SDAVIS
	RXC340600620	RxClaim Benefit Info in						◆	◆	NKOSMICKI
	RXC341210620	First Script PA 5.0 Input	A34121001	◆	◆	◆	◆	◆	◆	SDAVIS
	RXC341210620	First Script Modify 850	A34121002	◆	◆	◆	◆	◆	◆	SDAVIS
	RXC341210620	GAP 132 - Operating E	A34121006	◆	◆	◆	◆	◆	◆	DADAMS
	RXC342010620	RxClaim P2P - Pharmad	A34201001	◆	◆	◆	◆	◆	◆	AATHERTON
	RXC350960620	Pharmacy Reversals of	A35096001	◆	◆	◆	◆	◆	◆	NKOSMICKI
	RXC350980620	RxClaim Transition Fill	A35098001	◆	◆	◆	◆	◆	◆	KBISHOP
	RXC350990620	RxClaim Transition Fill	A35099001	◆	◆	◆	◆	◆	◆	KBISHOP
	RXC351150620	New Generics coming o	A35115001	◆	◆	◆	◆	◆	◆	DTHOMPSON
	RXC351160620	Pharmacy Specific & Dr	A35116001	◆	◆	◆	◆	◆	◆	DTHOMPSON
	RXC361690620	Integrated Pharmacy Sv	A36169001 A36280001	◆ ◆	◆ ◆	◆ ◆	◆ ◆	◆ ◆	◆ ◆	EFARISH
	RXC326800620	Med D - Automated Tr						◆	◆	PHAYDEN
	RXC362790620	Med D - EOB Enhancem	A36373001	◆	◆	◆	◆	◆	◆	EFARISH
	RXC363730620	Med D - 2008 CMS ED	A36373001	◆	◆	◆	◆	◆	◆	EFARISH
	RXC61061030620	CPP Correction	H06106103	◆	◆	◆	◆	◆	◆	AATHERTON
	RXC61061600620	Transfer In CPP Correc	H06106160	◆	◆	◆	◆	◆	◆	AATHERTON
	RXC610616060620	Med D EOB's Missing	H61061606	◆	◆	◆	◆	◆	◆	EFARISH
	RXC353790620	Add Provider ID and Q	INC005320	◆	◆	◆	◆	◆	◆	SDAVIS
	RXC363370620	RxC PDE Reporting to QL	PRJ002730	◆	◆	◆	◆	◆	◆	AATHERTON
	RXC341210620	Cards on Demand (SEI)	PRJ004364	◆	◆					
◆	RXC33080170620	SBO Prior Auth errs	H03308017	◆	◆	◆	◆	◆	◆	APERDREAUVILL
	RXC60937010620	Claims not passing bac	H6093701	◆	◆	◆	◆	◆	◆	APERDREAUVILL

# Gate Review Criteria

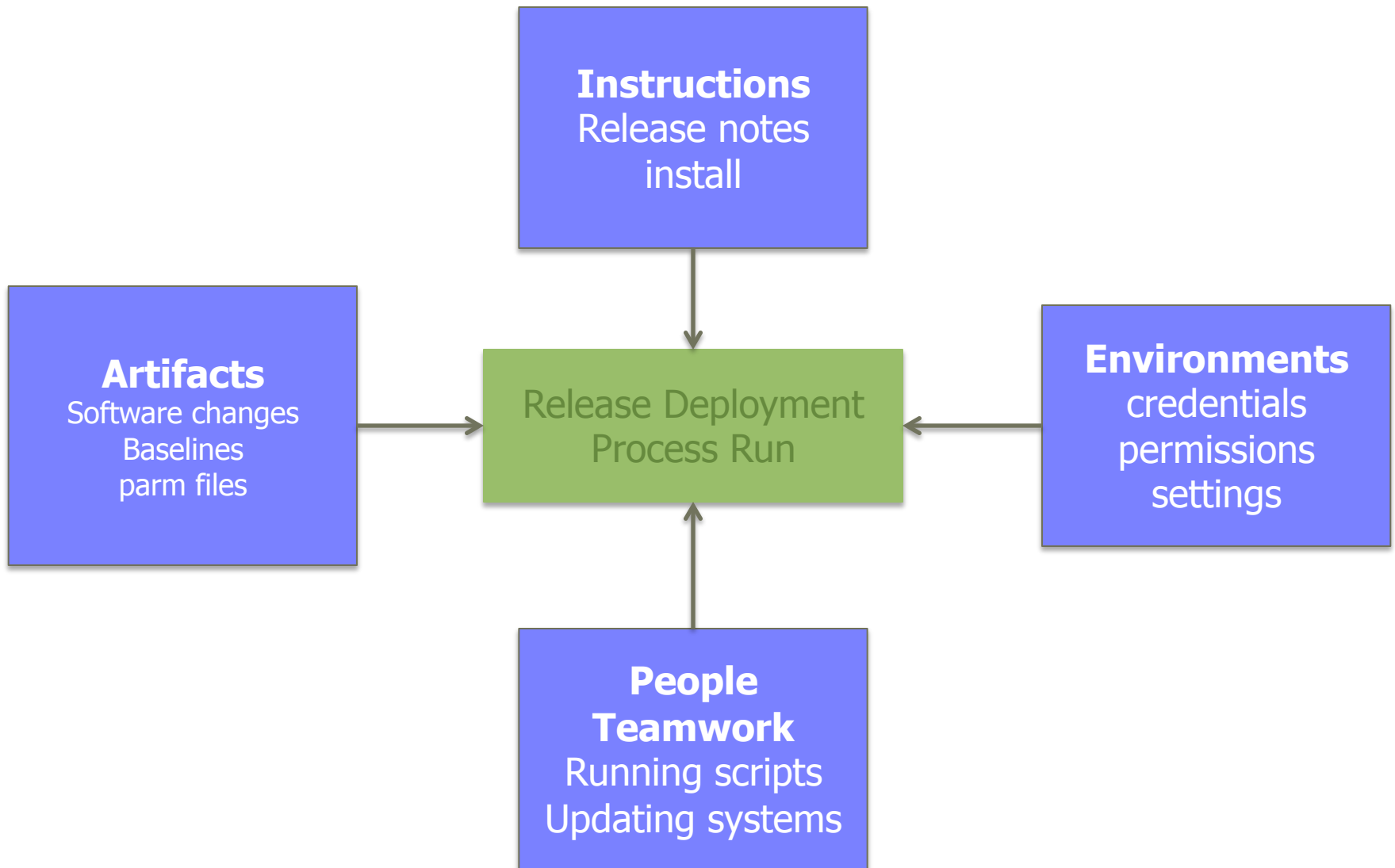
Gate	Green	Action Plan	Owner
Requirements	Requirements approved by Project Mgr	<ul style="list-style-type: none"><li>• Create mitigation plan to get back on track</li><li>• App team sign off on impacts</li></ul>	Business Analysts
Code Complete	<ul style="list-style-type: none"><li>• All code and unit testing complete</li><li>• No code in "dev" status</li><li>• QA able to test</li></ul>	<ul style="list-style-type: none"><li>• Mitigation plan</li><li>• QA Mgr Sign off</li></ul>	Development Manager
Functions Testing Complete	<ul style="list-style-type: none"><li>• All testing done and signed off</li><li>• Ready for regression testing</li></ul>	<ul style="list-style-type: none"><li>• Testing complete and signed off</li><li>• Obtain signoffs from group leads</li></ul>	QA Manager
Regression Testing Complete	<ul style="list-style-type: none"><li>• 100% of new code regression tested</li><li>• User sign off</li></ul>	<ul style="list-style-type: none"><li>• Ensure all code 100% regression tested</li><li>• Obtain user approval</li><li>• Or Senior Mgmt Approval of risk</li></ul>	QA Manager

# Path to Production Best Practices

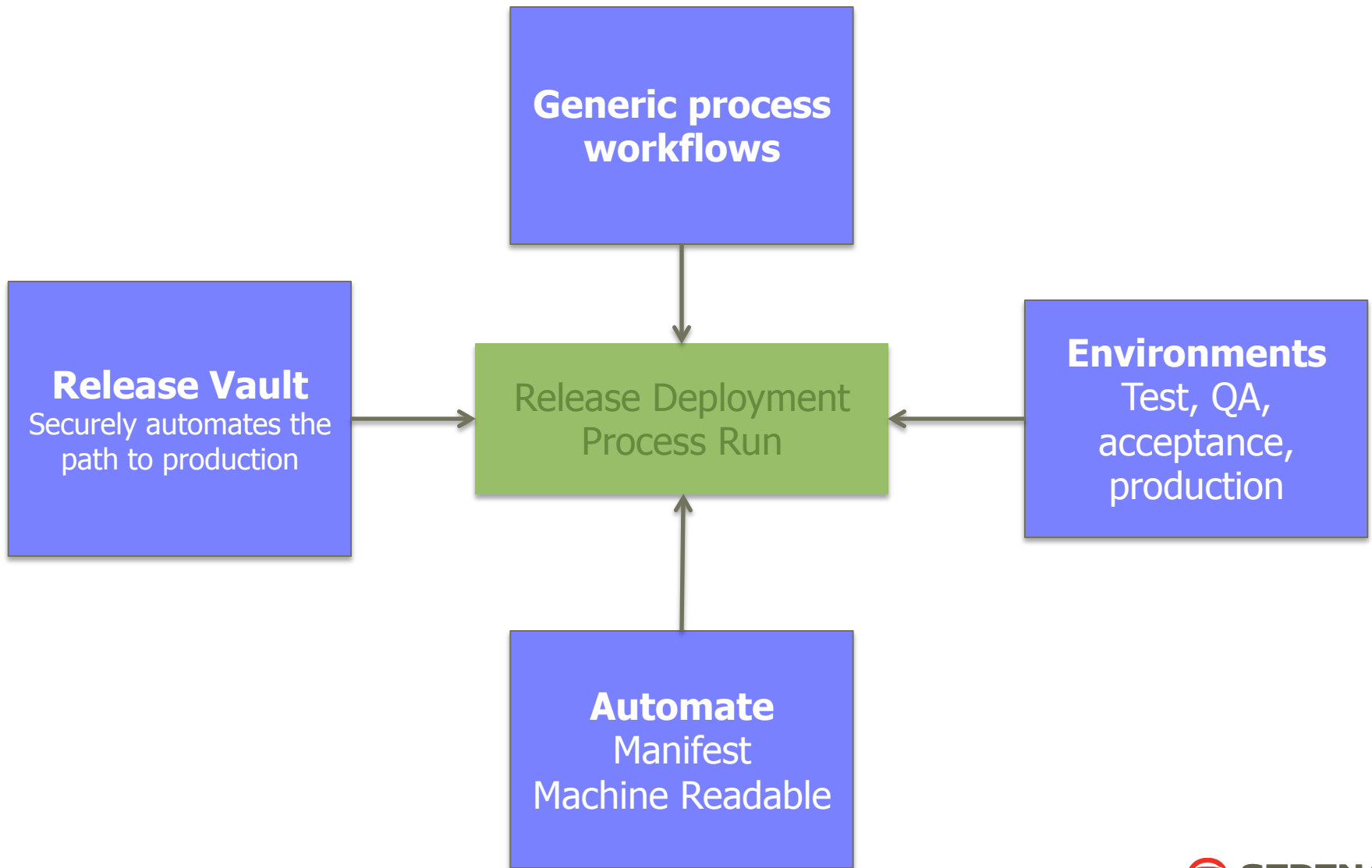
- Create a release vault
- Create a secure path to production
- Set up release gates with entrance and exit criteria
- Ensure integrity by setting up a path of authorizations and QA activities
- Capture information on process to create a repeatable auditable process so that the steps of release can be re-traced in the event that the environment needs to be rebuilt, even without the original staff

# Release Automation

# What Makes up a Release Deployment?



# Automating Release Deployments



# Metric Reporting and Dashboards



# Release Management Metrics

- Number of RFCs raised
- Percentage of emergency releases (Submission rate)
- Number of changes made by the release team
- Number of successful installations
- Number of builds/deployments aborted
- Percentage of installs performed on schedule
- Number of failed or backed out releases
- Number of unauthorized changes deployed to production
- Resource cost per release
- Service time lost due to release activity
- Number of defects per state, team, release unit, release
- Percentage of gates missed per team
- Average time in process state



# Release Management Summary

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Focus on Process and Policy First

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Leverage ITIL

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You don't have to "Rip and Replace"

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Automate and optimize where possible

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Ensure 'end to end' traceability

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Measure, manage and report

**Thank You**