The Final Quality Gate: Software Release Readiness

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Aligning Capabilities with Business Priorities

- **Kaslen Group is a Chicago-based consulting firm established in 1996**
- **Specializing in project, process, and quality management**
- **Expert staff and practical, proven solutions**

Project Solutions

Program Management Office
Project Management
Project Health Checks
Testing
IV&V
Project Certification

Process Solutions

Strategic Planning
Quality Management
Process Management
Measurement
Surveys
Assessments
Testing

Staffing Services

Project Management
Business Analysis
Process Re-engineering
Quality Assurance
Internal Controls and Audit
Software Testing
Measurement

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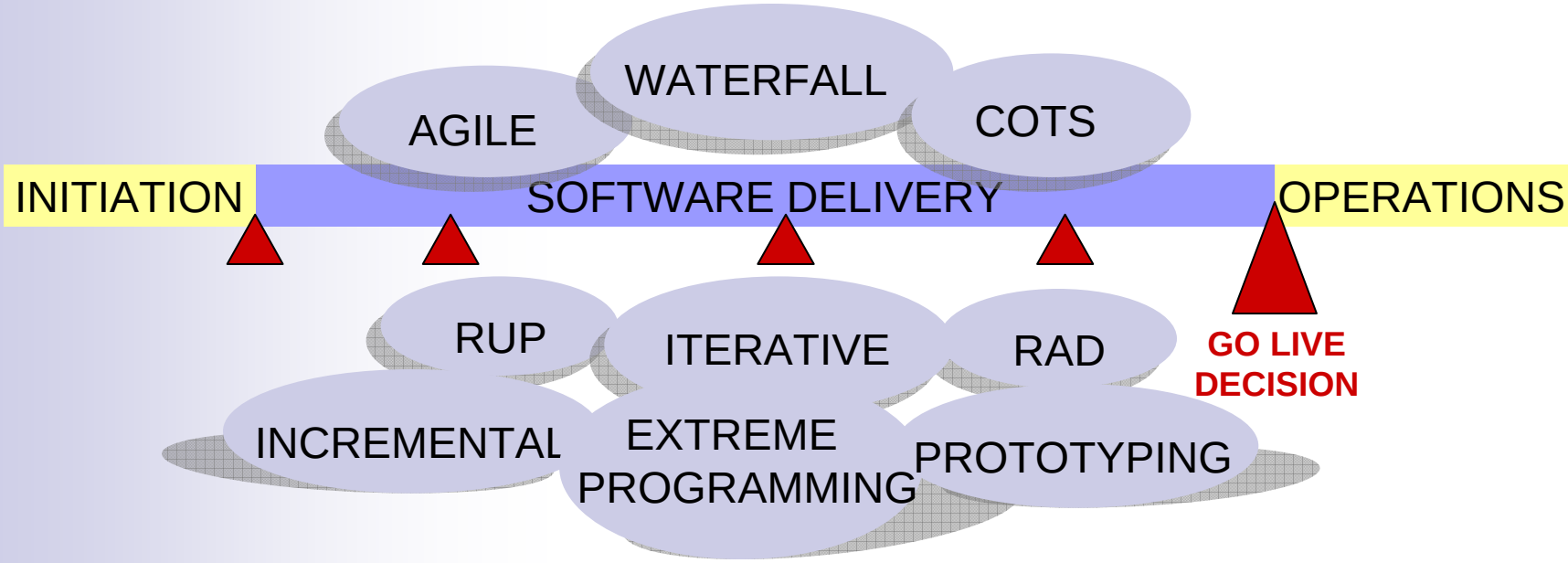
Software Engineering & Quality Gates Dichotomy



Software Engineering View - the best method to build software

Quality Management View - ways to prevent and find defects (QA/QC)

Governance View - gates to measure progress *(time, cost, and quality)*
- independent assessment *(project health check)*

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Final Quality Gate: How is the GO LIVE decision made?

- Time runs out
- Based on testing defect reporting
- Project manager says the project is ready
- Developer moves the change into production
- User acceptance testing or pilot is completed
- Change Review Board
- Factual, risk-based readiness determined by all stakeholders

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Case Study #1: Financial Services Firm

Go Live Decision Process (Current State)

- **Change Review Board – Operations**
- **Project Manager explains plans to go live**
- **Change Review Board questions project manager**
- **Eleventh hour surprises cause project delays**

Trigger for Change

- **Too many highly visible production problems**
- **CIO wanted a better way to determine readiness**

Case Study #2: Printing Company

Go Live Decision Process (Current State)

- **Project Manager reviews open defects with Client Services**
- **Disagreement on severity of defects and client impact**
- **Client Services feels unprepared to support the release in the field and at the Help Desk**
- **Project manager under pressure to get the release in**

Trigger for Change

- **Go live meetings are battle grounds dreaded by participants**
- **VP Client Services wanted objective decision making**

Common Challenges

- **Managing the risk of applications and technology changes (hardware and infrastructure) impacting business stability**
- **Ensuring compliance to regulatory requirements, Sarbanes-Oxley, HIPA, security/privacy, etc.**
- **Ensuring governance and control through risk-based internal standards**
- **Achieving stakeholders' participation throughout projects to avoid eleventh hour surprises**
- **Making a factual, risk-based readiness decision to 'go live' from all stakeholders' viewpoints**

Final Gate Gap Analysis

- **Inability to quantify the risk and impact of open defects on customers**
- **Inability to quantify the cumulative effect of open defects on customers**
- **Insufficient customer representation in the ‘go live’ decision**
- **Pressure to meet a project’s target date takes priority over readiness**
- **Participants do not feel that they can cast a vote honestly due to pressures**
- **Lack of responsibility and accountability for the ‘go live’ decision**
- **Lack of objective criteria used to evaluate readiness**
- **Lack of consistency in the process for determining readiness**

Multi-Dimensional Views of Readiness

Producer's View

Does it work?

Testing

Recipients' View

Does it work?
Can I use it?
Can I deploy it?
Can I run it?
Can I recover it?
Can I support it?
Will it perform?
Is it secured?
Does it comply?
Can I sell it?

Testing + Readiness Certification

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Final Gate and Certification

Certification is a process that allows all business and technical staff the opportunity to collectively assess and certify the readiness of application and technology changes prior to implementation.

The Analogy

Would you rather buy a Certified Used Car that passed a 100 point checklist?

Would you rather deploy Certified Software that passed a ‘X’ point checklist?

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Business Stakeholders' Readiness Criteria

A checklist of readiness criteria addresses the business stakeholders' view of readiness

External Customers
Internal Business Units
Finance/Accounting
Marketing
Product Development
Operations
Human Resource
Audit/Compliance
Legal

Sign-off status on readiness criteria drives decision making at the final gate

- ✓ **Business Requirements**
- ✓ **Functions and Features**
- ✓ **External Interfaces**
- ✓ **Internal Interfaces**
- ✓ **Business Workflows**
- ✓ **Processing Deadlines**
- ✓ **Application Availability**
- ✓ **On-line Response Time**
- ✓ **User Documentation**
- ✓ **Information Access**
- ✓ **Training**
- ✓ **Pilot Results**
- ✓ **Legal Requirements**
- ✓ **SOX/COBIT**
- ✓ **Business Resumption**
- ✓ **Data Retention**
- ✓ **Data Conversion**
- ✓ **Balancing and Controls**
- ✓ **Etc…..**

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Technology Stakeholders' Readiness Criteria

A checklist of readiness criteria includes the IT stakeholders' view of readiness

IT Operations
Network and Communications
Servers Administration
Help Desk
Security Administration
Systems Administration
Systems Software
Database Administration
Disaster Recovery Coordinator
Application Maintenance/Support
Program Management Office
Testing
Process/Standards (SEPG)

All IT organizations have a voice at the final gate based on criteria sign-off.

- ✓ **Processing Flow & Schedule**
- ✓ **Onsite/Offsite Backup/Recovery**
- ✓ **Input/Output Handling**
- ✓ **Training**
- ✓ **Implementation Support**
- ✓ **Production Set-Up**
- ✓ **Production Migration Plan**
- ✓ **Contingency Plan**
- ✓ **Data Center Standards**
- ✓ **On-line Response Time**
- ✓ **Data Transfer Performance**
- ✓ **Desktop & Server Compatibility**
- ✓ **Computer & Network Capacity**
- ✓ **Computer Efficiency**
- ✓ **Application Documentation**
- ✓ **Programming Standards**
- ✓ **Process Standards**
- ✓ **Security**
- ✓ **Etc.**

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Readiness Certification Checklist

Purpose: Establishes overall criteria for evaluating software quality, customer, deployment, compliance, operations, security, and support readiness. Relevant readiness criteria for a project are selected and used for the final 'go live' decision.

	Readiness Criteria				Certification Status		
ID	Certifiable Item	Sign-Off Criteria	Deliverable/ Evidence	Delivered By	Certified By	Weight	Score

Internal Needs & Standards

Industry Standards

Business Stakeholders

Technology Stakeholders

Certification Checklist can range from 40 to 100 certifiable items based on the company's size, complexity, and level of detail desired.

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Value of the Readiness Certification Checklist

- **Readiness criteria are in the words of the business and technology stakeholders. They own the criteria and have 'buy-in' for project participation.**
- **Readiness criteria provide knowledge transfer from the stakeholders to the project team in specialty domains.**
- **Single repository of all internally defined standards, compliance requirements, and readiness needs.**
- **Checklist can incorporate external industry risk-based standards.**
- **Deliverables/evidence associated with readiness criteria will**
  - reinforce the SDLC, if a formal methodology exists
  - reinforce the need for a SDLC, if one does not exist
- **Checklist approach assists with project chartering and estimating as a reminder of potential stakeholders and deliverables to be included.**

Readiness Criteria Examples

Category	Certifying Organization	Certifiable Item	Sign-Off Criteria *	Deliverable/ Evidence
Product	QA/Testing	Existing Functionality	Still works	Regression Tests
Product	Database Administration	On-Line Response Time	Response time meets SLA	Performance Tests
Product	Business Unit	Open Product Defects	Customer impact & workarounds known	Product Defect List
Customer	Business Unit	Notification	Accurate, clear, complete, timely	Change Bulletin
Customer	Business Unit	Business Workflows	Modified or in place	Business Process Documentation
Deployment	Deployment Unit	Roll-Out Plan	Documented, understood, ready	Roll-Out Plan
Deployment	Deployment Unit	Deployment Support Coverage	Staff available and prepared	Staffing Schedule
Support	Maintenance Team	Code Lock Down	Code under version control	Change Mgt Audit

** Abbreviated version of actual criteria for example purposes*

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Readiness Criteria Examples

Category	Certifying Organization	Certifiable Item	Sign-Off Criteria *	Deliverable/ Evidence
Support	Help Desk	Technical Briefing	Accurate, clear, complete, timely	Release Documentation
Operations	Data Center Operations	Backups	Backup capabilities In place	Backup Tests
Operations	Network Operations	Network Capacity	Network bandwidth handles workload	Load Tests
Security	Network Support	Firewall Access	In place	IP Addresses
Security	Security Admin.	Information Access Authorization	Access established	Access verified
SOX Compliance	Business Unit	User Participation	Participation Occurred in SDLC	Formal Approvals
CMMI Compliance	SQA Team	Software Engineering Standards	Standards followed	SQA Audits
SOA	Enterprise Architecture	Services	Services are fit for re-use	Services Review Against Standards

** Abbreviated version of actual criteria for example purposes*

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Readiness Scoring and Status Alternatives

Certification Scoring

Readiness Criteria	Weight	Score	Weighted Score	Weighted Goal
A	**1**	**3**	**3**	**3**
B	3	2	6	9
C	3	1	3	9
D	2	0	0	6
E	2	3	6	6
	Total		18	33
	% Goal		54%	

Score:
3 = Certified
2 = Conditionally Certified
1 = Not certified

Weight:
3 = High Risk
2 = Medium Risk
1 = Low Risk

Status without Scoring

Total # Criteria	# Not Scored	# Not Certified	# Conditionally Certified	# Certified
5	1	1	1	2

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Project Governance and Tracking Readiness

Certification Scorecard provides stakeholders continuous insight into the status of projects' readiness. It is used for making the 'go live' decision along with supporting detailed information on the readiness criteria.

			Readiness Certification Scorecard					
Project	Go Live Decision Date	Project Target Date	Total Certifiable Items	# Not Scored	# Not Certified	# Conditionally Certified	# Certified	% Goal
Project A	mm / dd	mm / dd	30	1	2	15	12	65%
Project B	mm / dd	mm / dd	10	0	0	0	10	100%
Project C	mm / dd	mm / dd	15	0	0	10	5	77%
Project D	mm / dd	mm / dd	55	0	1	4	50	96%

Are these projects ready to go live?

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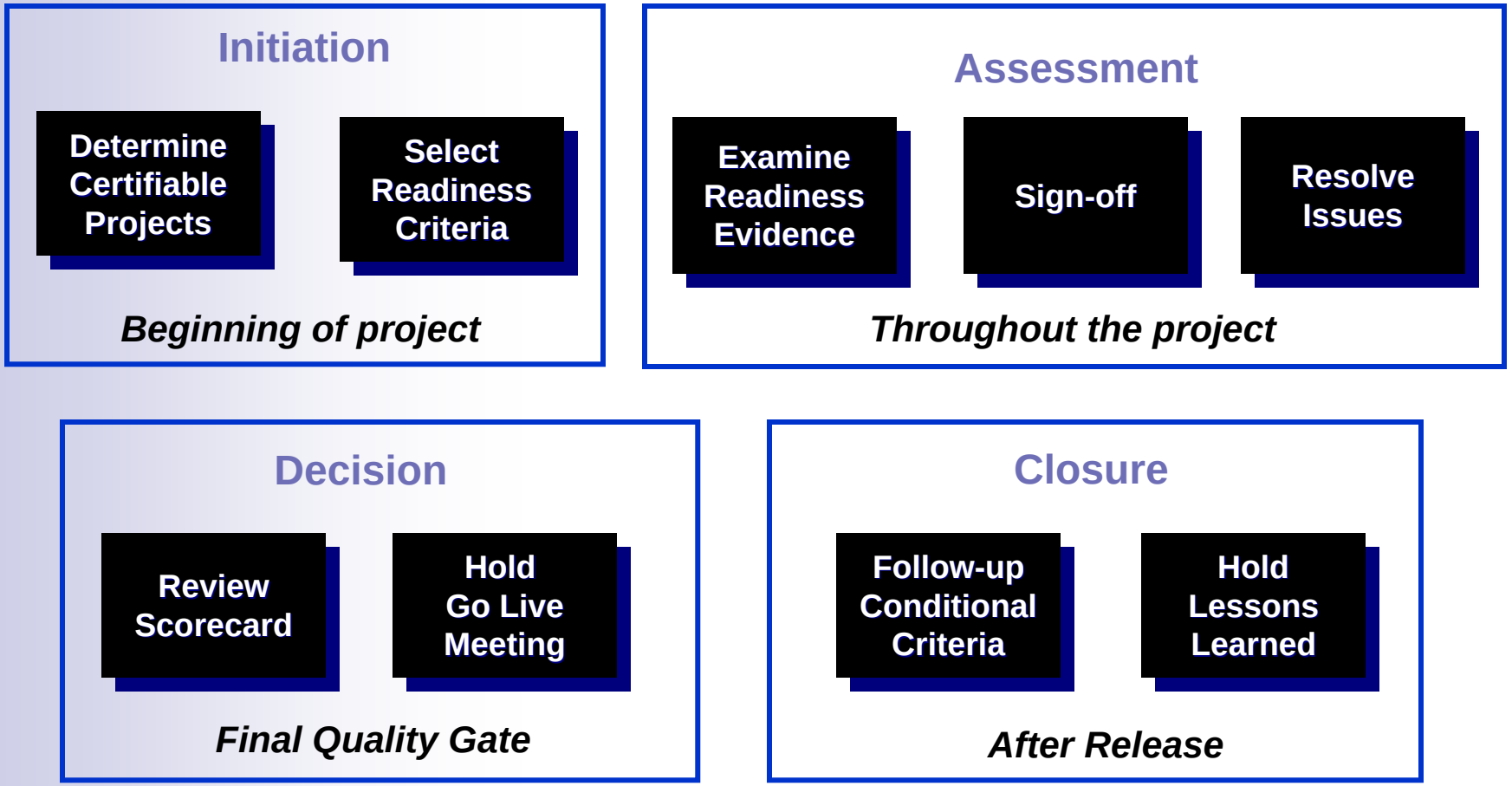
Readiness Certification Process



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Key Roles and Responsibilities

Project Sponsor(s)

- **Commit stakeholders (business and technology) to perform their role as a certifier and hold them accountable to performing their roles**

Project Manager

- **Uses the Certification Checklist to identify relevant certifiable items and stakeholders for the project**
- **Makes deliverables and evidence required for sign-off available to stakeholders as part of the project's activities**
- **Drives obtaining sign-off and resolution of issues preventing sign-off**
- **Resolves conditional readiness items prior to closing the project**

Key Roles

Stakeholders (Certifiers)

- **Agree to relevant readiness criteria for the project**
- **Perform their assessment and report results in a timely manner**

Go Live Decision Makers

- **Use the Certification Scorecard and supporting information to make their decision objectively**
- **Do not bypass the process**

Tool Support

- **Makes the process easy to use**
- **Eliminates perception of extra paperwork**
- **Ease of selecting relevant readiness criteria from certification checklist and scoring**
- **Centralized database of all readiness status and scoring across projects**
- **Up-to-date 'real time' information on readiness and issues preventing sign-off**
- **Historical audit trail for compliance**
- **Build or buy tool to support certification, as well as other quality gates**
  (e.g. Calibra Project Intelligence)

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Critical Success Factors

- **Secure senior leadership sponsorship**
- **Create a custom certification checklist that fits your company**
- **Tap industry standards for readiness criteria and standards to raise your organization's capabilities**
  (e.g. CMMI, COBIT, IEEE, ISO, PMBOK)
- **Fit the certification process to your project life cycle(s)**
- **Engage your business and technology stakeholders in defining the checklist and process for ownership**
- **Make the process flexible to expand to all types of projects and not just software releases**
- **Begin using readiness certification on upcoming projects; Avoid retrofitting to current projects or running pilots**

Results and Benefits

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Industry Results of Implementing Processes & Controls

$1 spent on appraisal costs will reduce failure costs threefold; and each dollar spent on preventive costs will reduce failure costs tenfold. (COQ)

Performance Category	Median	Number of Data Points	Low	High
Cost	20%	21	3%	87%
Quality	50%	20	7%	132%
Productivity	62%	17	9%	255%
Schedule	37%	19	2%	90%
Customer Satisfaction	14%	6	-4%	44%
Return on Investment	4.7 : 1	16	2 : 1	27.7 : 1

http://www.sei.cmu.edu/cmmi/results.html