

Quality assurance in an Agile delivery method



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April 2006

Agenda

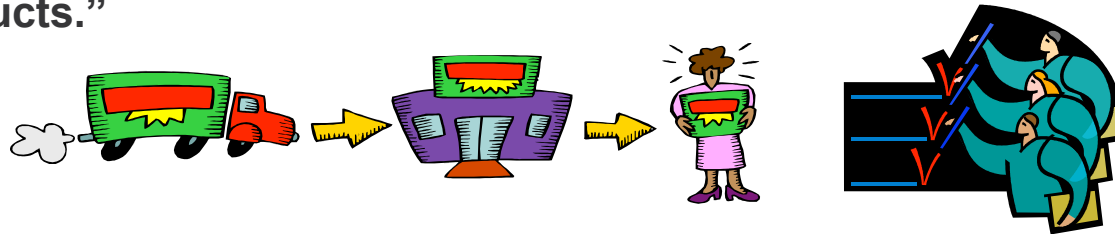
- ◆ The Challenges to Quality Assurance
 - CMMi
 - Agile
- ◆ What is DSDM ?
- ◆ The Solution for Quality Assurance
- ◆ The Implementation
- ◆ Conclusion



The Challenges - CMMi

◆ CMMi Maturity Level: 2 PROCESS AND PRODUCT QUALITY ASSURANCE

“The purpose of Process and Product Quality Assurance is to provide staff and management with objective insight into processes and associated work products.”



Process and Product Quality Assurance involves the following:

- Objectively evaluating performed processes, work products, and services against the applicable process descriptions, standards, and procedures
- Identifying and documenting noncompliance issues
- Providing feedback to project staff and managers on the results of quality assurance activities
- Ensuring that noncompliance issues are addressed

The Challenges - CMMi



◆ Specific and Generic Goals

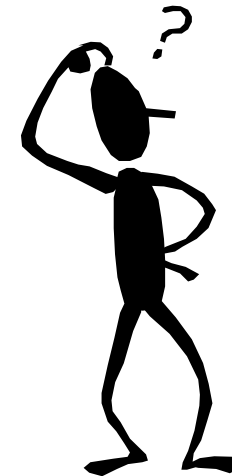
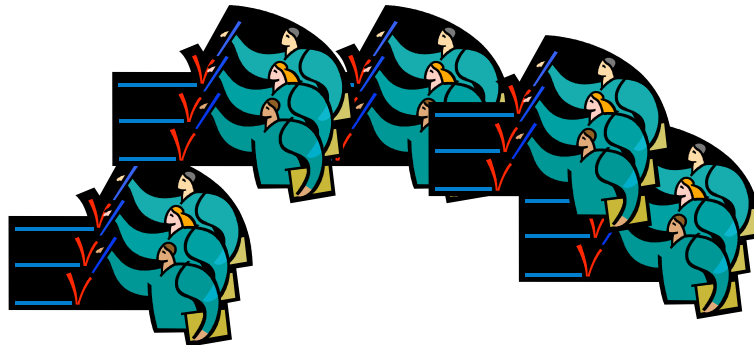
- **SG 1 Objectively Evaluate Processes and Work Products**
 - *Adherence of the performed process and associated work products and services to applicable process descriptions, standards, and procedures is objectively evaluated.*
- **SG 2 Provide Objective Insight**
 - *Noncompliance issues are objectively tracked and communicated, and resolution is ensured.*
- **GG 2 Institutionalize a Managed Process**
 - *The process is institutionalized as a managed process.*
- **GG 3 Institutionalize a Defined Process**
 - *The process is institutionalized as a defined process.*

The Challenges - Agile

- ◆ Ensuring that quality assurance is maintained and not compromised when
 - An Agile development method is employed (DSDM)



- ◆ Ensuring that an Agile approach to development is not compromised by
 - A cumbersome, time consuming quality approach



What is DSDM?

Dynamic Systems Development Method

- ◆ DSDM Consortium established in 1994

- ◆ Not-for-profit organisation

- ◆ De facto standard for agile delivery
 - Based on proven agile best practice

- ◆ Track record of success for all business models
 - Large, international corporates / SMEs
 - Privately owned / local government & civil service
 - Internal IT / external 3rd party supplier
 - On-shore / offshore development

Dynamic Systems
Development Method



What are the benefits of DSDM?

- ◆ Business focused development
 - Business drive the requirements and priorities

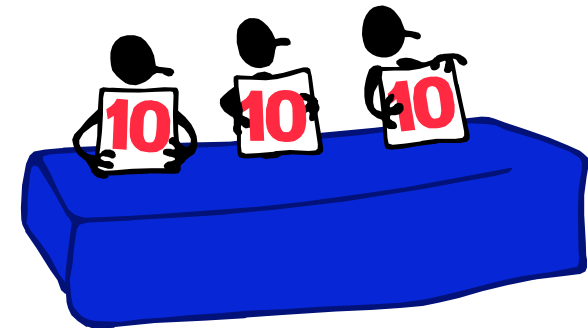
- ◆ Faster delivery
 - Focus on important things first

- ◆ User involvement and commitment
 - Ownership of problem and solution

- ◆ Systems that are “fit for purpose” – solutions work on Day 1

- ◆ Flexible build process

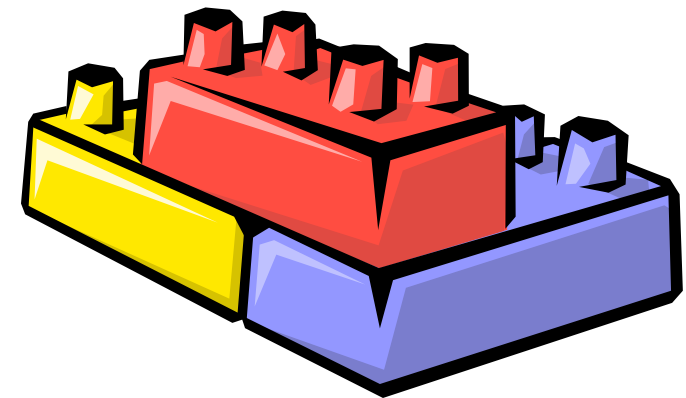
- ◆ Efficient use of resources



DSDM – Building Blocks

How does DSDM work? – the DSDM building blocks

- ◆ Principles – “the way we work”
- ◆ Process – “the stages we follow”
- ◆ Products – “what we produce, and when”
- ◆ People – “who we involve”
- ◆ .. plus various techniques



Principles – “the way we work”

- ◆ The underlying philosophy
- ◆ What is needed to reduce risks to DSDM

“Active user involvement is imperative”

“DSDM teams must be empowered to make decisions”

“Focus is on frequent delivery of products”

“Fitness for business purpose essential criterion for acceptance”

*“Iterative and incremental development
to converge on an accurate business solution”*

“All changes during development are reversible”

“Requirements baselined at high level”

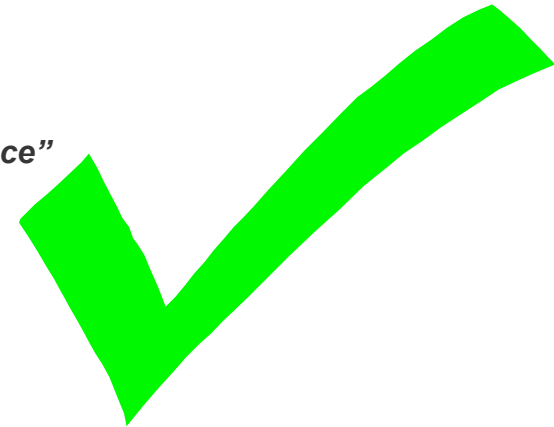
“Testing integrated throughout lifecycle”

“Collaborative, co-operative approach between all stakeholders”

Dynamic Systems Development Method

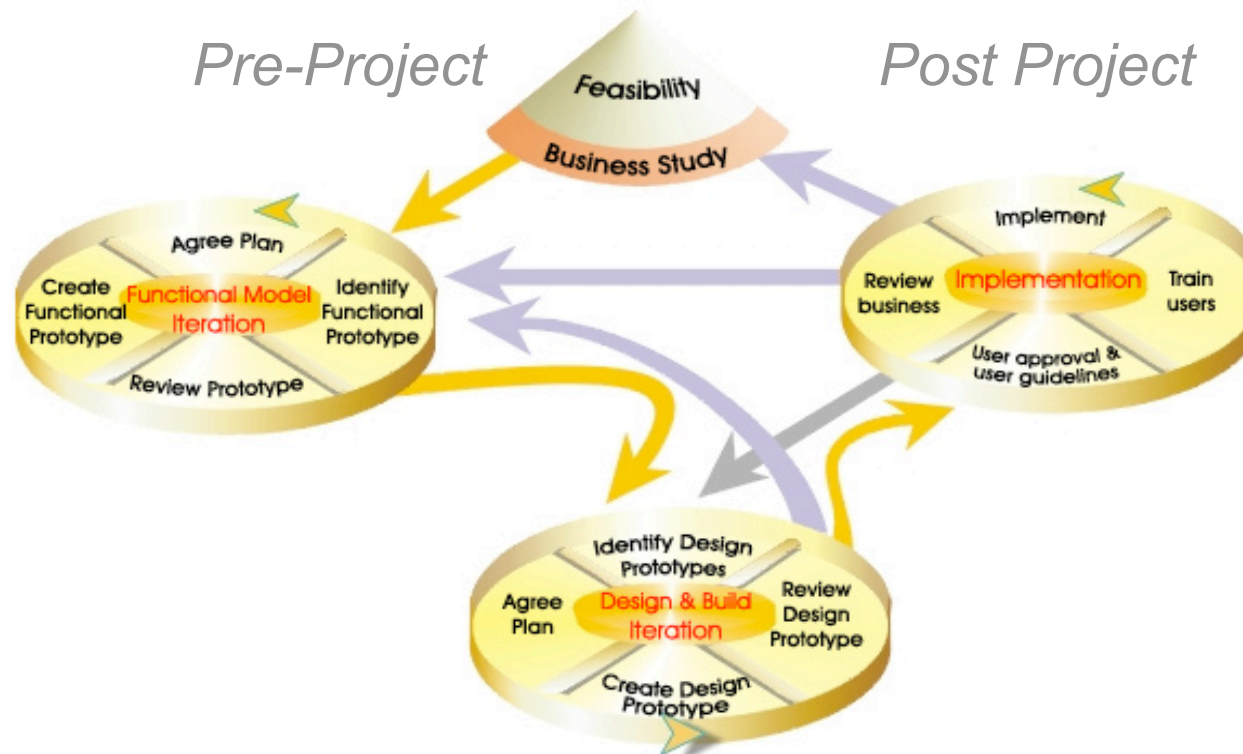


DSDM
consortium



Process – “the stages we follow”

- ◆ Flexible lifecycle provides the framework



Products – “what we produce and when”

- ◆ Focus is on delivery (not just activity)
- ◆ Producing the right things at the right time
 - Clearly defined set of products for each lifecycle stage
- ◆ Enough to move safely forward
- ◆ Ensures quality, auditable process



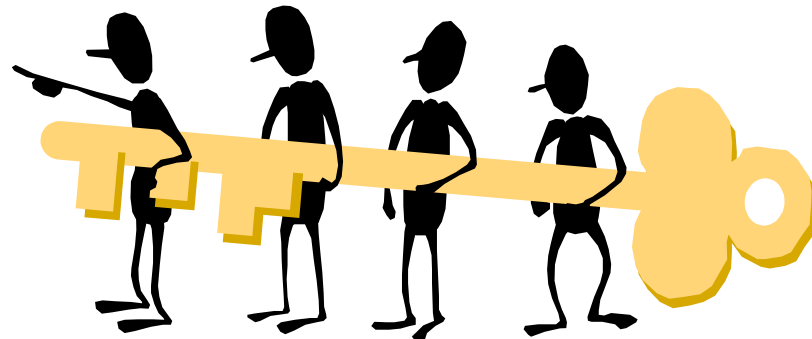
People – “who we involve”

- ◆ Clearly defined roles and responsibilities

- ◆ The right people at the right time

- Roles are associated to products

- Who should produce it
- Who should contribute
- Who should review it
- Who should accept it



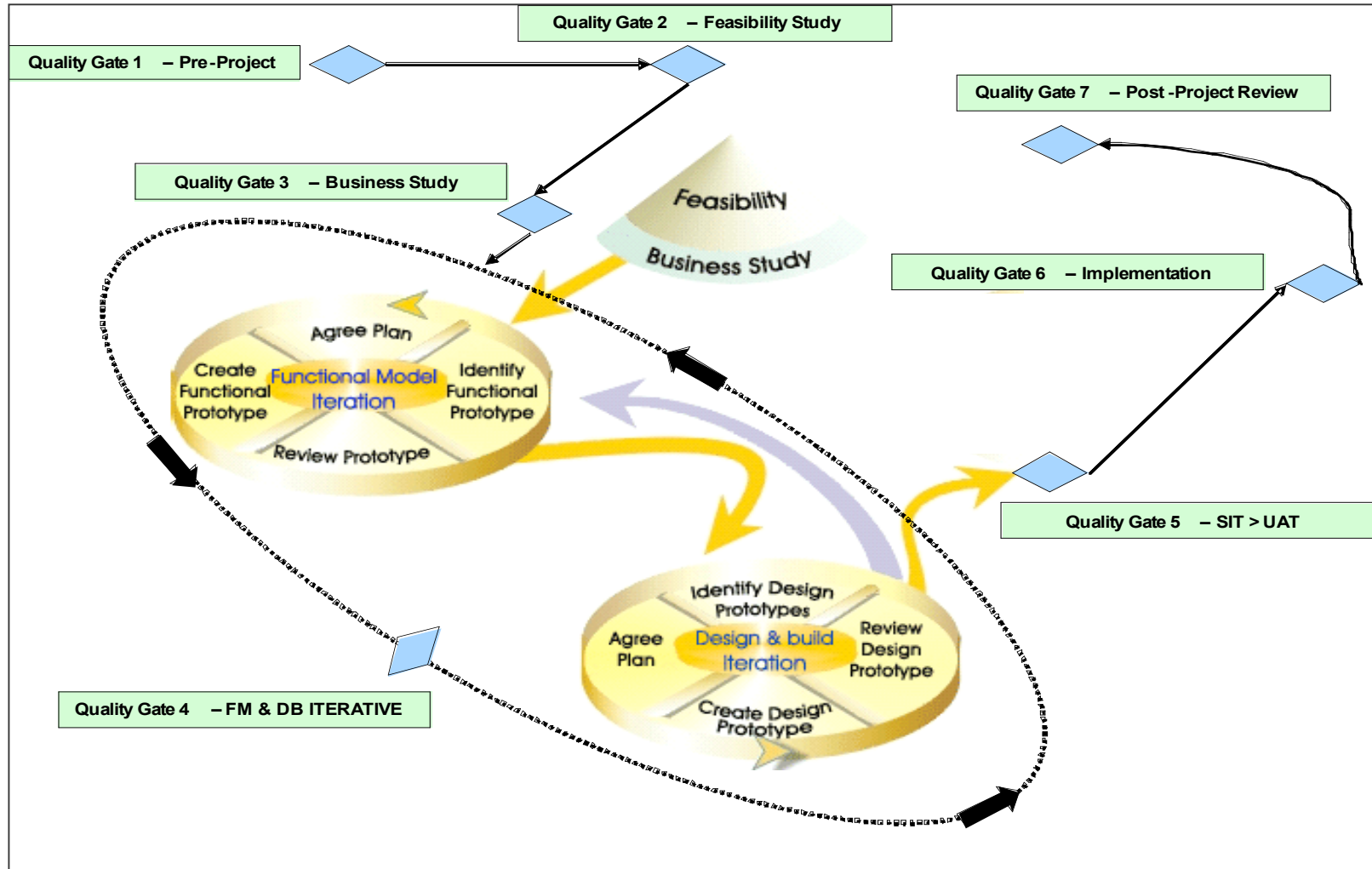
The Solution – for Quality Assurance

- ◆ To succeed, the solution needed to be:
 - Holistic
 - Practical
 - Pragmatic
 - Flexible - Can be tailored
 - Repeatable
 - Methodology and project type independent
 - Quantitative
 - Objective - Produces results



The Solution – Quality Gates

◆ Quality Gates



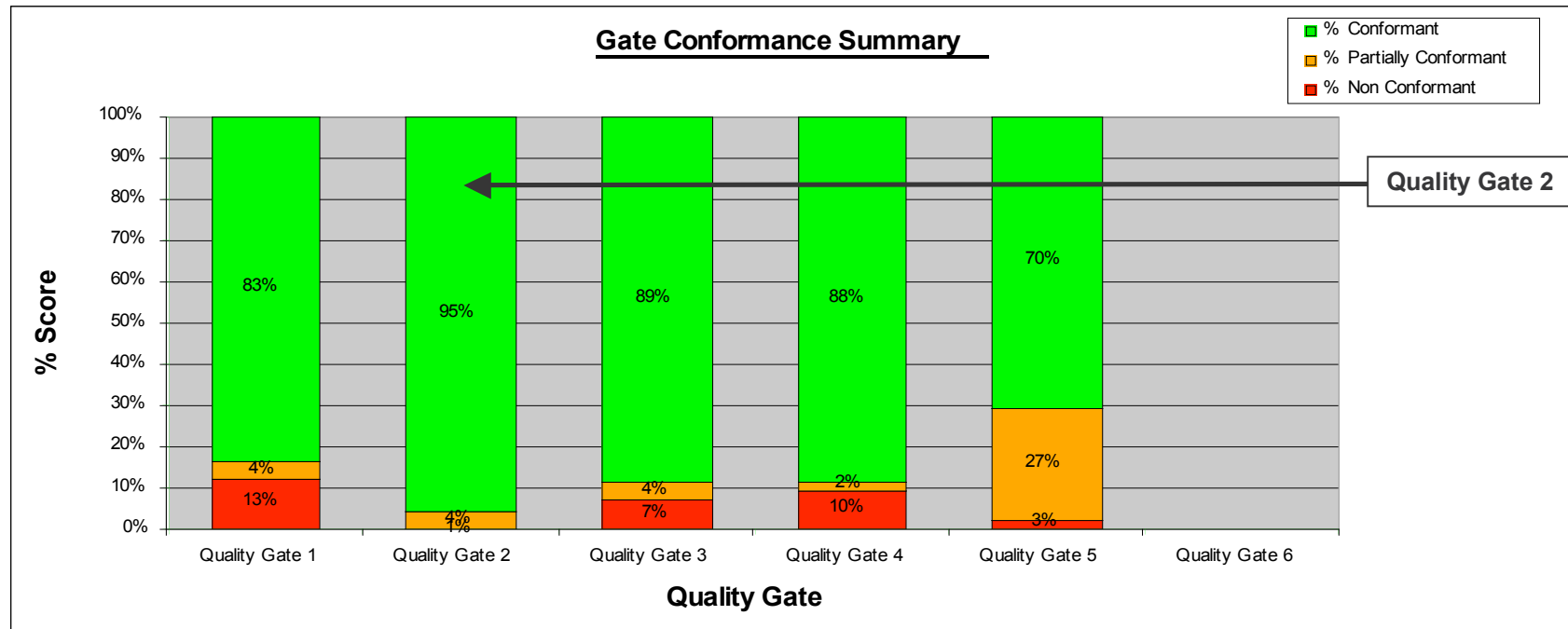
The Solution – Quality Gates

Quality Gate 2: Business Study		Quality Gate				
No	Criteria	Score	Weighting	Weighted Score	% Complete	Responsibility
Business Study			10			
1	Business Area Definition (BAD) is created & contains sufficient level of detail as in DSDM manual: <ul style="list-style-type: none"> Refined & Re-evaluated Business Case Costs estimates refined (Best case, worst case, baseline projection or GOC approval) Expected Return On Investment (ROI) evaluated or GOC approval Total Cost of Ownership (TCO) projection considered or GOC approval Identify changed Business Processes System interfaces identified Stakeholders / User classes identified High level requirements identified High level acceptance criteria Business System Test Model 	2	5	10		Team Leader
2	Business Area Definition (BAD) is reviewed	2	10	20		Visionary, Ambassador User, Project Manager
3	Business Area Definition (BAD) is agreed	2	7	14		Project Manager, Visionary, Executive Sponsor
4	System Architecture Definition (SAD) is created & contains sufficient level of detail as in DSDM manual: <ul style="list-style-type: none"> System Architecture Test Model Hardware Infrastructure described Server Architecture described Desktop Architecture described Network Architecture described OS Architecture described 3rd Party Software described Development & Target platforms described Security Design Review (IT Security) 	2	5	10		Technical Co-Ordinator, ITD
5	System Architecture Definition (SAD) is reviewed	2	10	20		Technical Co-Ordinator, Team Leader, Tester, Developer
6	System Architecture Definition (SAD) is agreed	2	7	14		Technical Co-Ordinator, Project Manager, Operations Co-Ordinator
Overall Weighted Score for Agreement to start Functional Model - Design & Build Iteration			1.75	8.8		
			148	286		
Quality Score	1.9		Quality Summary			
% Breakdown	1%		Quality			
	4%					
	95%					

Quality Gate Score

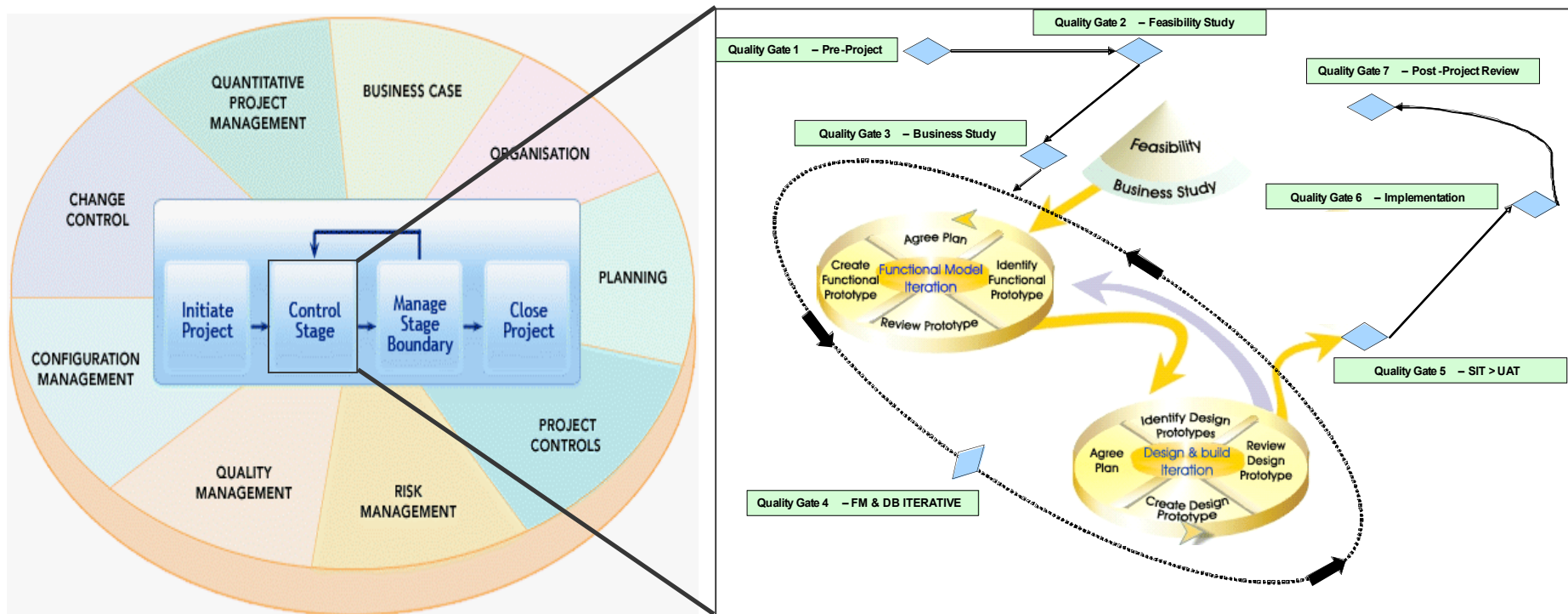
The Solution – Quality Gates

Gate		% Non Conformant	% Partially Conformant	% Conformant
Quality Gate 1	Pre-Project	13%	4%	83%
Quality Gate 2	Business Study	1%	4%	95%
Quality Gate 3	Functional Model / Design - Build Iterative	7%	4%	89%
Quality Gate 4	Testing - SIT > UAT	10%	2%	88%
Quality Gate 5	Implementation	3%	27%	70%
Quality Gate 6	Post-Project	0%	0%	0%



The Implementation

- ◆ Quality Gates are fully institutionalised within Fidelity
 - As the principal quality assurance control
 - Centralised within Fidelity’s standard Project Management Methodology



The Implementation

- ◆ The results of the Quality Gate reviews are used to support:


- Key senior management decision making information

- during the control stages of a project
 - and at Stage Boundary reviews

- ◆ DSDM has been implemented

- As the agile method

- Fully integrated with the “Quality Gate” process and the Project Management Methodolgy



Has given senior management the confidence that focus on Quality has been maintained in the drive to use Agile processes

Conclusion

-  ◆ Ensuring that quality assurance is maintained and not compromised when an Agile development method is employed
-  ◆ Ensuring that an Agile approach to development is not compromised by a cumbersome, time consuming quality approach
-  ◆ **SG 1 Objectively Evaluate Processes and Work Products**
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Who was that ?

◆ Guy Nelson

- 7 years of experience with Fidelity International, including roles as Project Manager, Configuration Management and Testing Team Manager and in the last 18 months Quality Assurance Manager and co-author of the Fidelity Project Management Methodology.



◆ Barbara Roberts

- An independent accredited DSDM Consultant and an elected Director of the DSDM Consortium. She has helped many organisations align DSDM with their quality methods, and has also taken organisations successfully through ISO9001 accreditation with DSDM.