



IBM Rational Software Unified Process – Enabler for higher Software Maturity

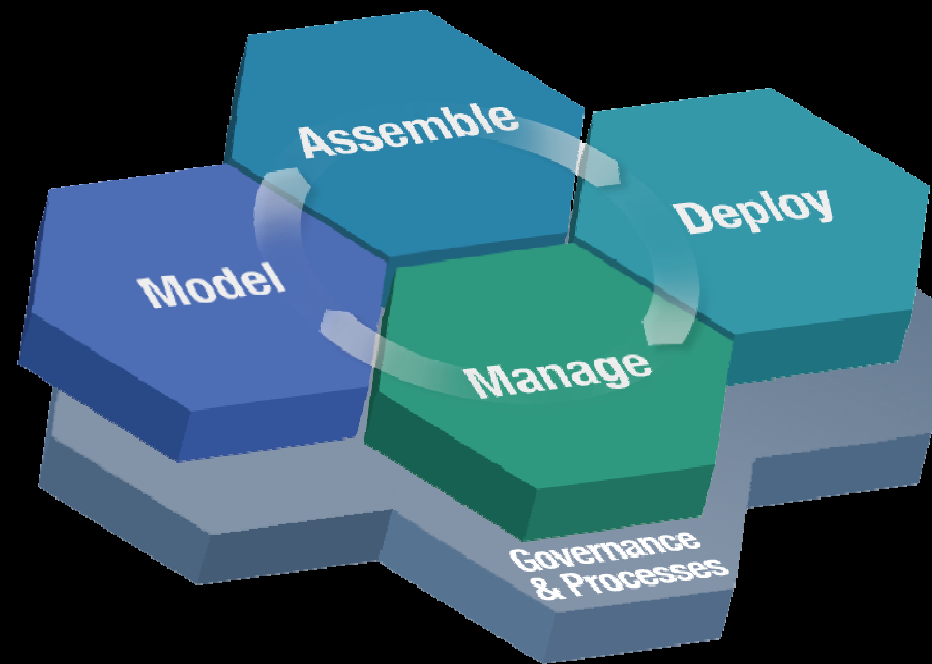
(Prozeßoptimierung mit Websphere und den Produkten von Rational)

Ralf Bucksch (IBM)

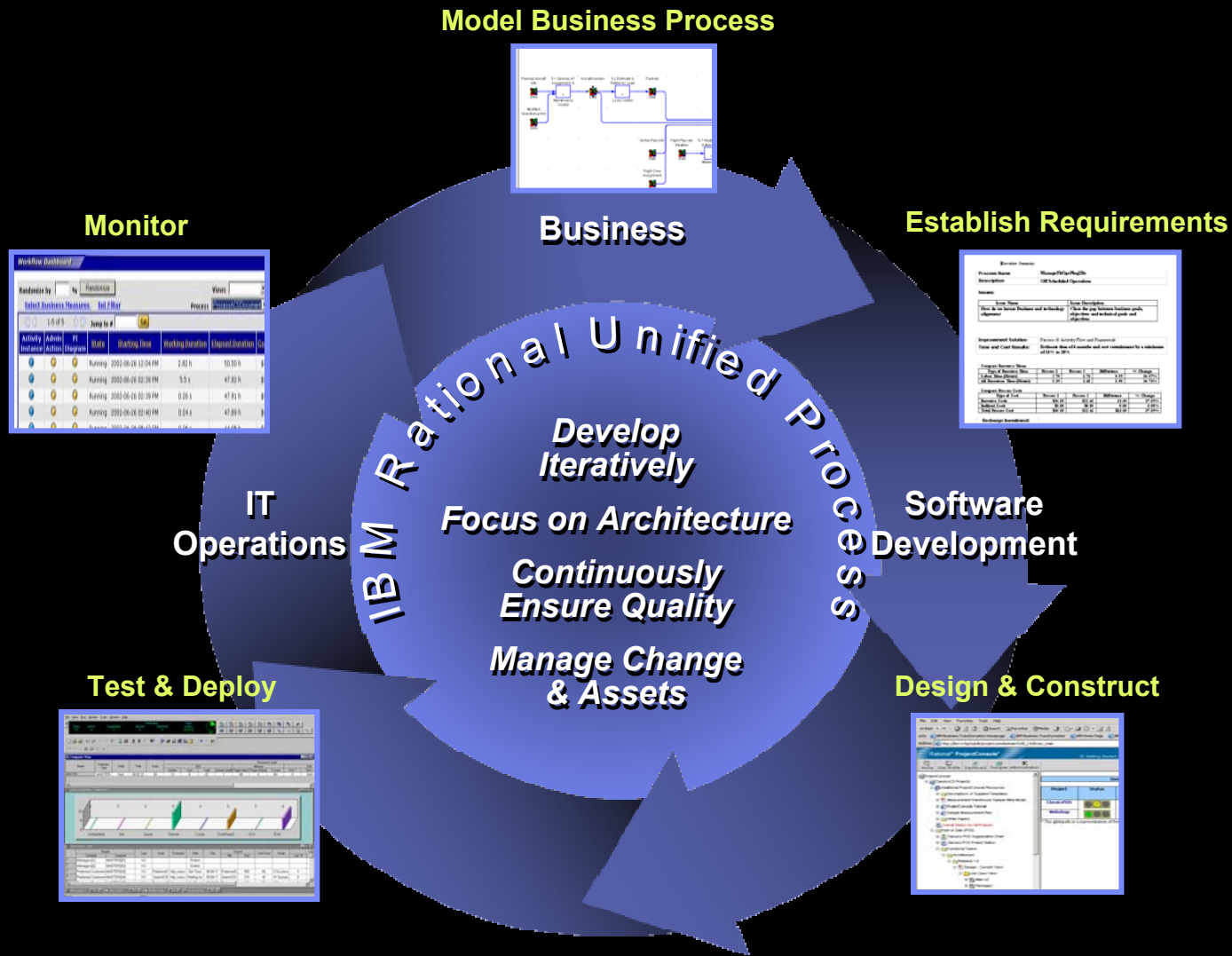
Agenda

- ◆ Introduction
- ◆ Rational Unified Process (RUP)
 - ◆ Background
 - ◆ Best Practices
 - ◆ RUP Architecture
- ◆ Prozeßautomatisierung mit Websphere und Rational
- ◆ Conclusion, Questions and Answers

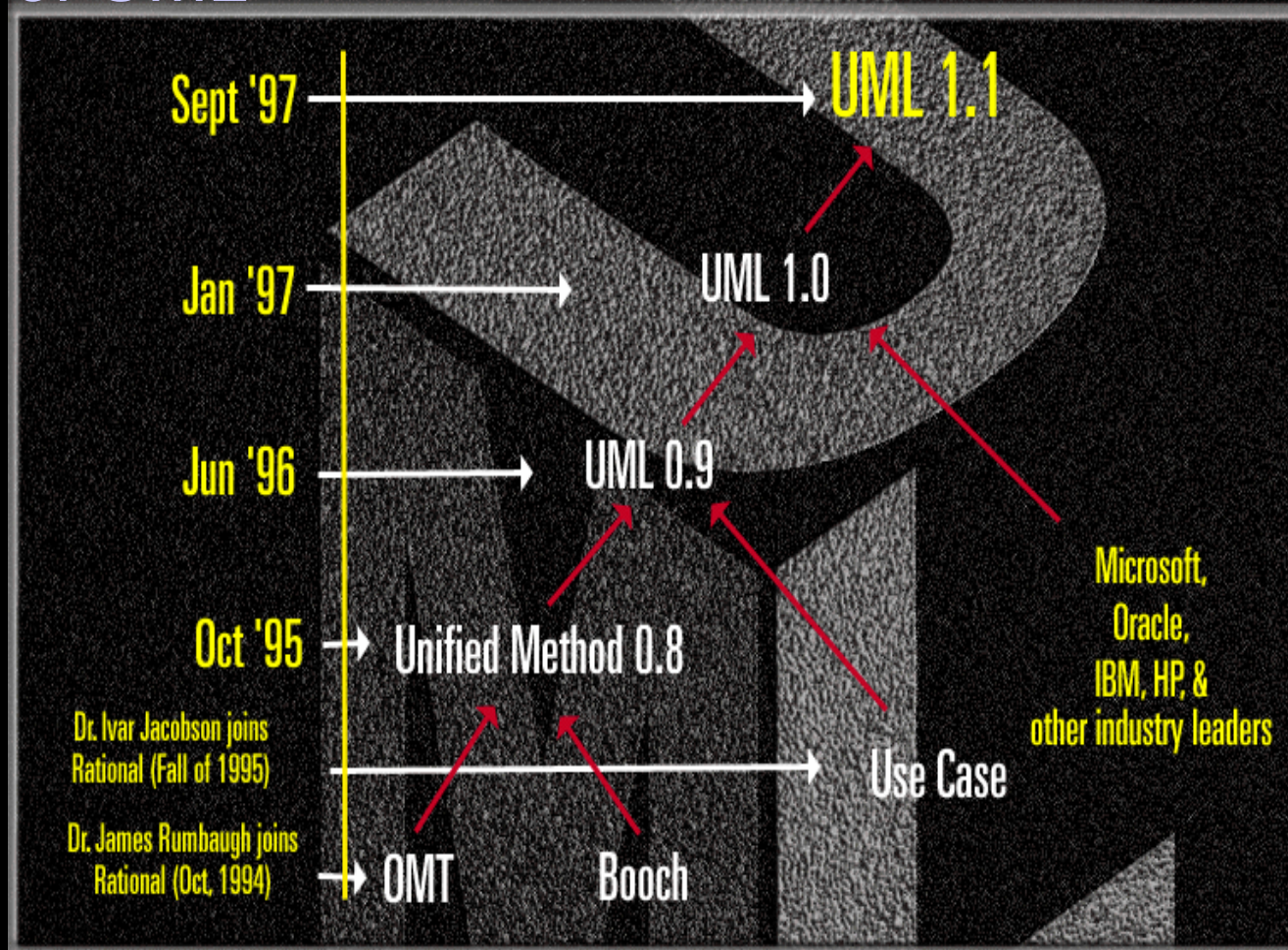
The Business Driven Development Process



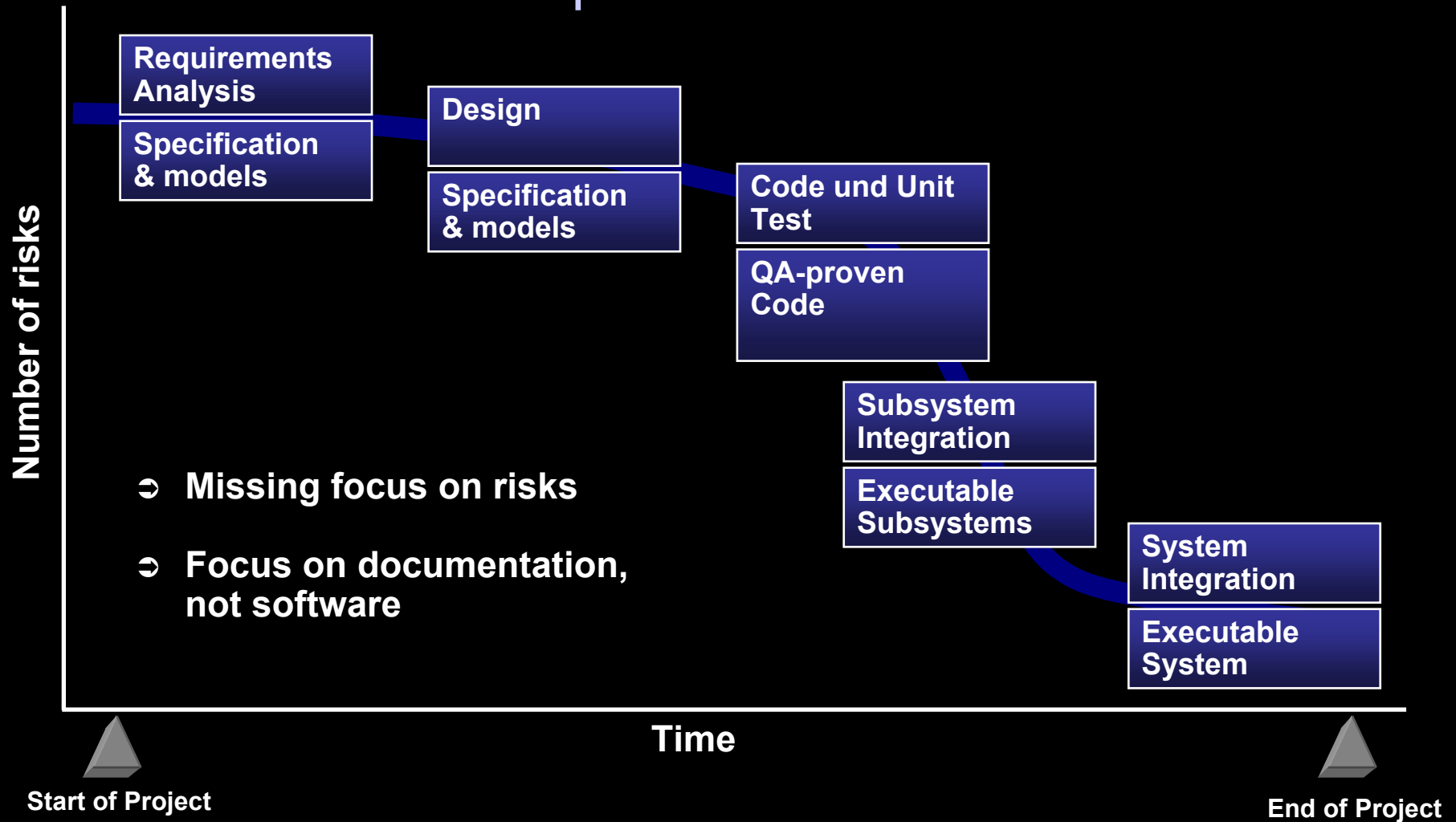
The Business Driven Development Process



History of UML



The conventional risk-profile



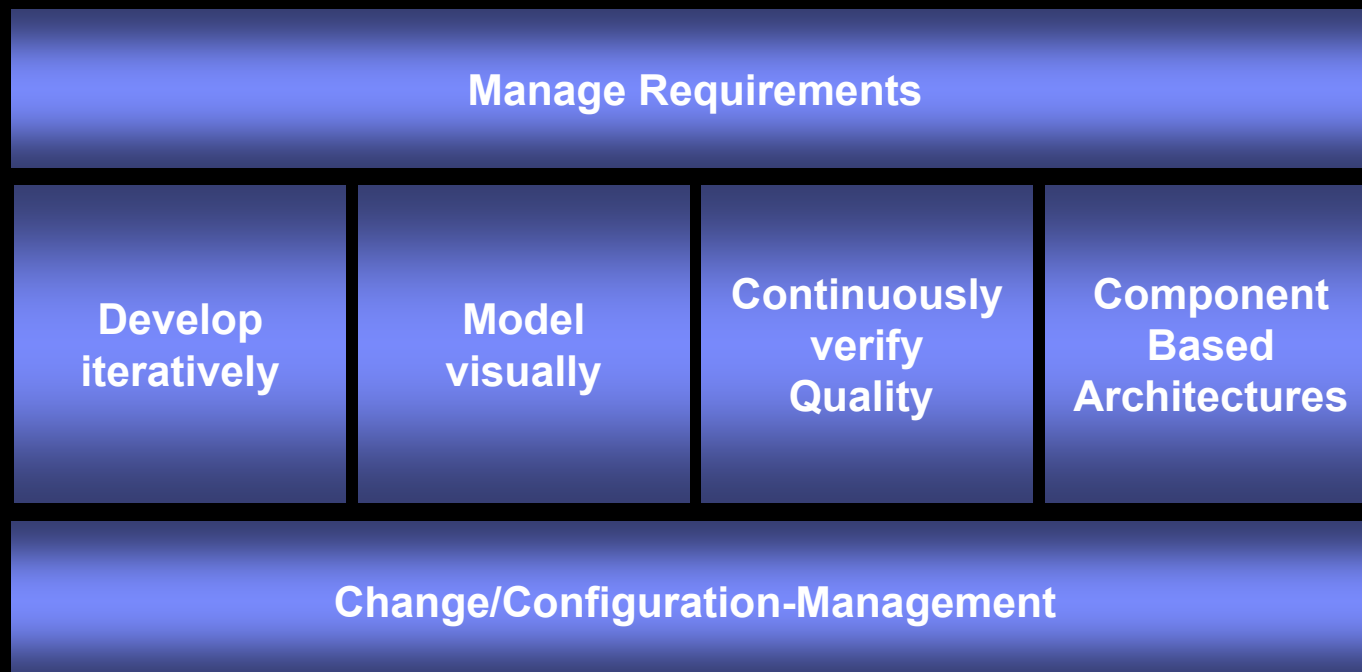
Why do Software-Projects fail? (a negative Analysis)

- Requirements Management as ad hoc issue
- Inconsistency between Requirements, Design and Implementation
- Uncontrolled Change Mechanisms
- Incomplete Automation
- Imprecise Communication
- Brittle Architectures
- Uncontrolled Complexity
- Insufficient Tests
- No Focus on project risks
- Subjective, non measurable project status

Source:
Chaos-Report,
Standish-Group

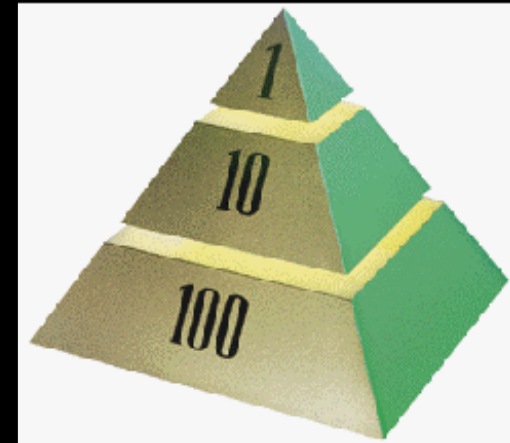
„Best Practices“? (a positive Analysis)

- Best Practices are commercially proven methodes in Software Engineering, which adress the main aspects for software project failure (www.spmn.com)



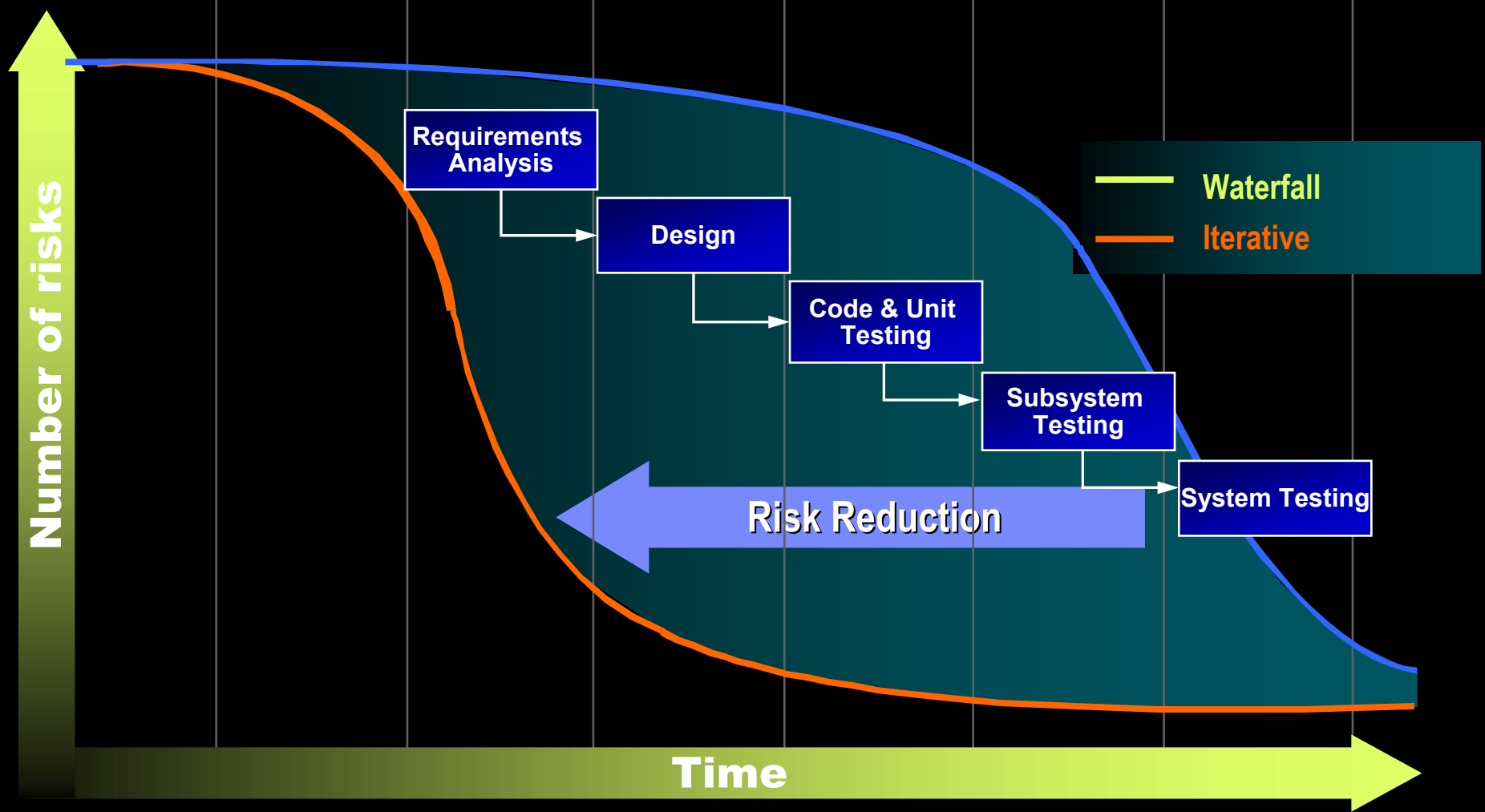
Practice 1: Manage Requirements

- A systematic approach for
selecting
organizing
documenting
and managing
the (changing) requirements of
a software application



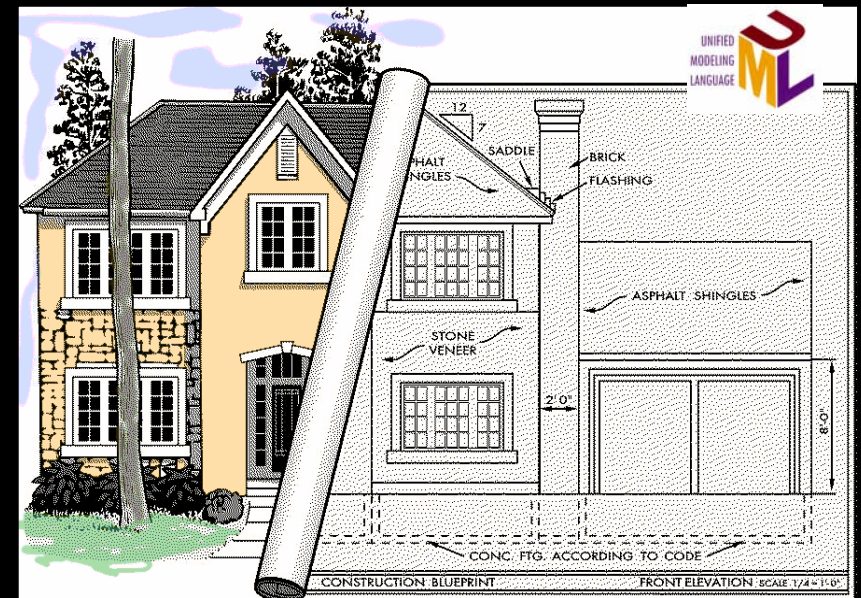
Dynamic of requirements

Practice 2: Develop Iteratively

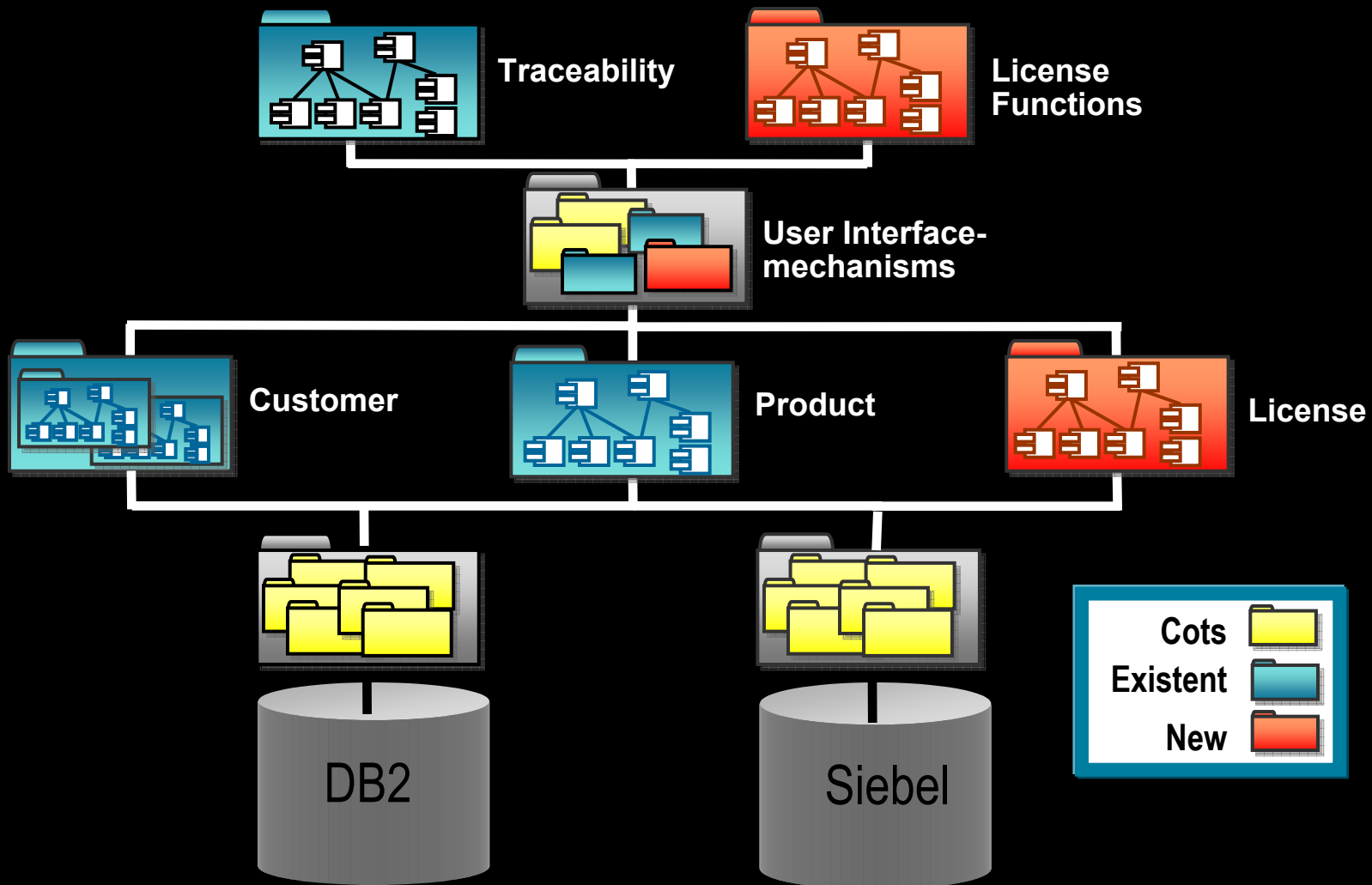


Practice 3: Model Visually

- Problem-Understanding
- Communication with Stakeholders
- Early failure detection
- Simulation of complex behaviour
- Planing of Design and Generation of Source Code
- Conquerering Complexity



Practice 4: Use Component Architectures



Practice 5: Test Each Iteration

UML Model and Implementation

Iteration 1



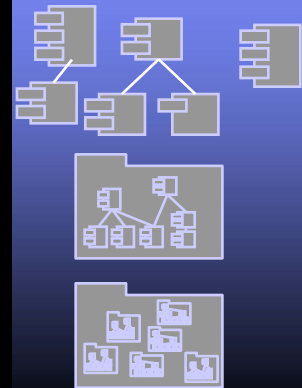
Iteration 2



Iteration 3



Iteration 4

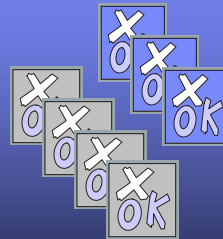


Tests

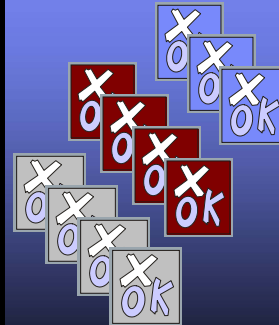
Test Suite 1



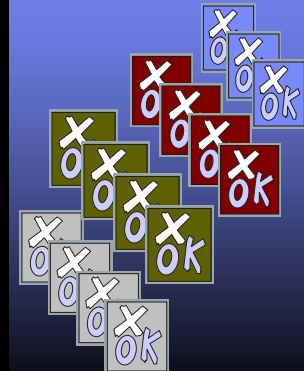
Test Suite 2



Test Suite 3

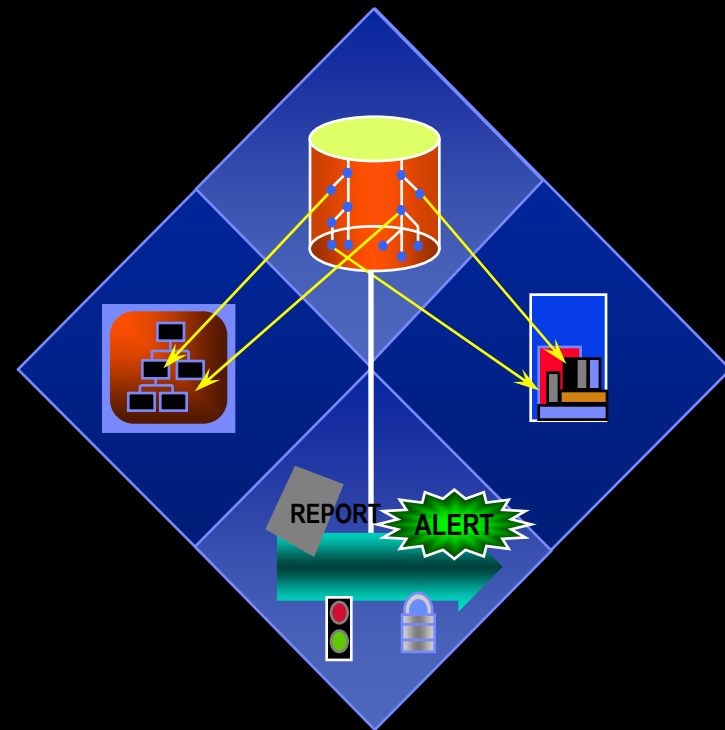


Test Suite 4

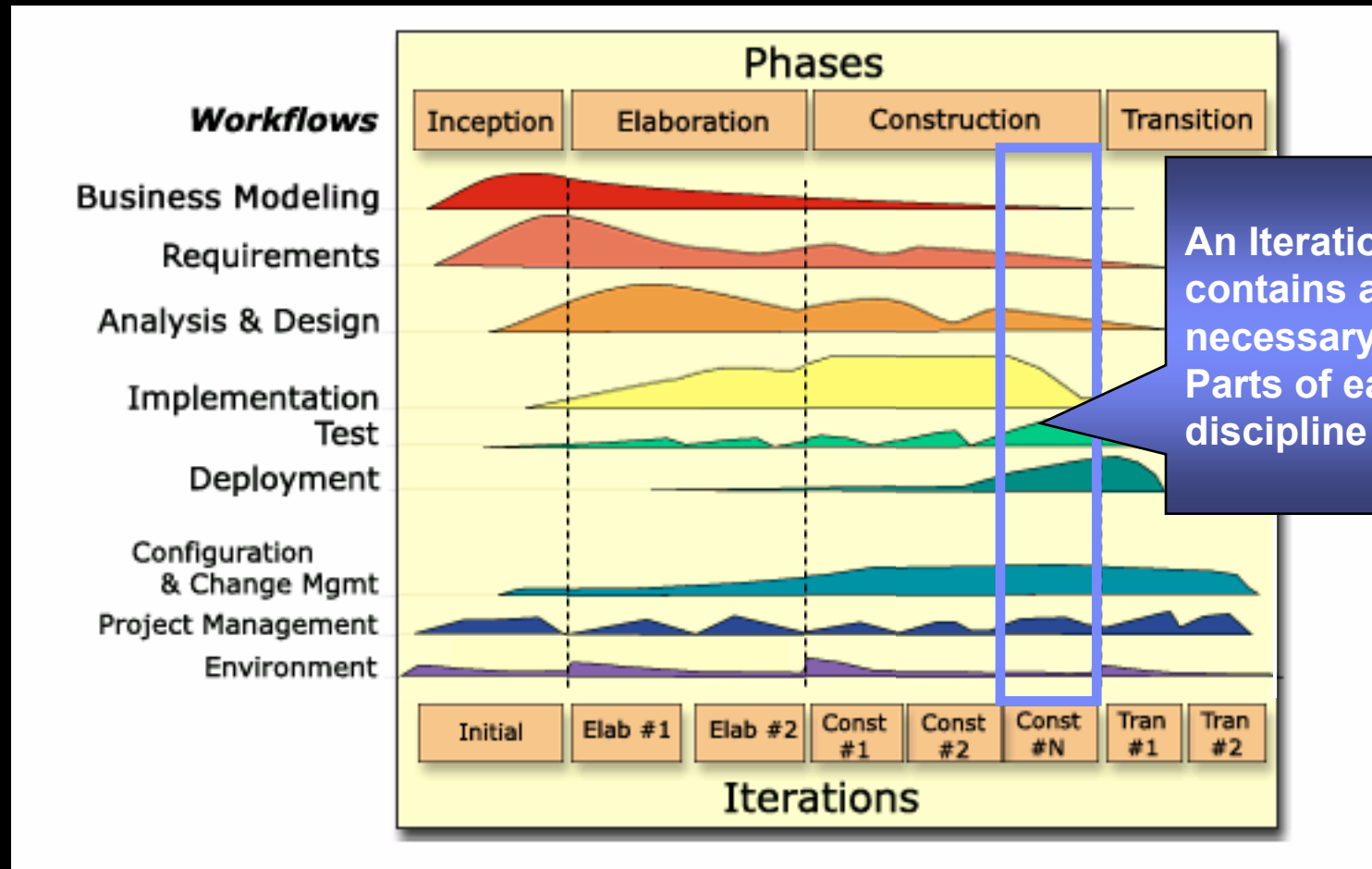


Practice 6: Control Changes

- Change Management, to establish iterative development
- Secure Workspaces for each developer
- Automated Integrations- and Build-Management
- Parallel Development
- CM is more, than just Check-In/Check-Out

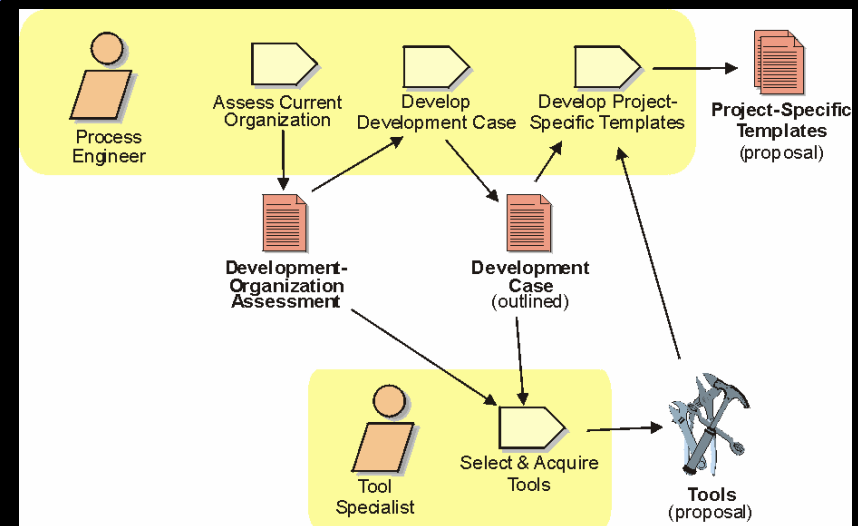
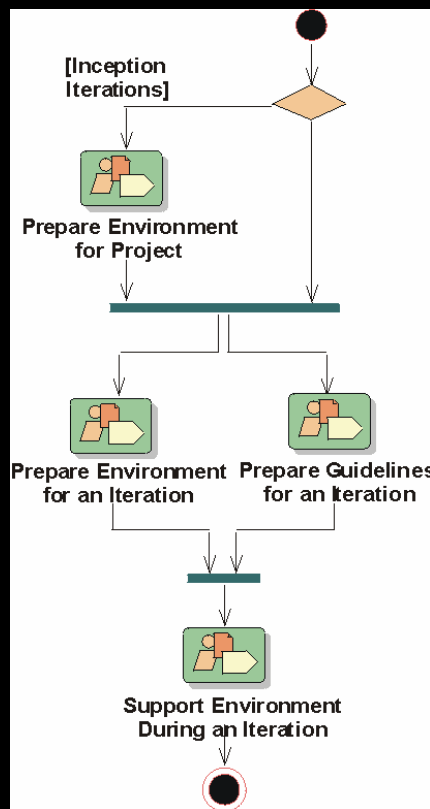


RUP-Architecture, Disciplines

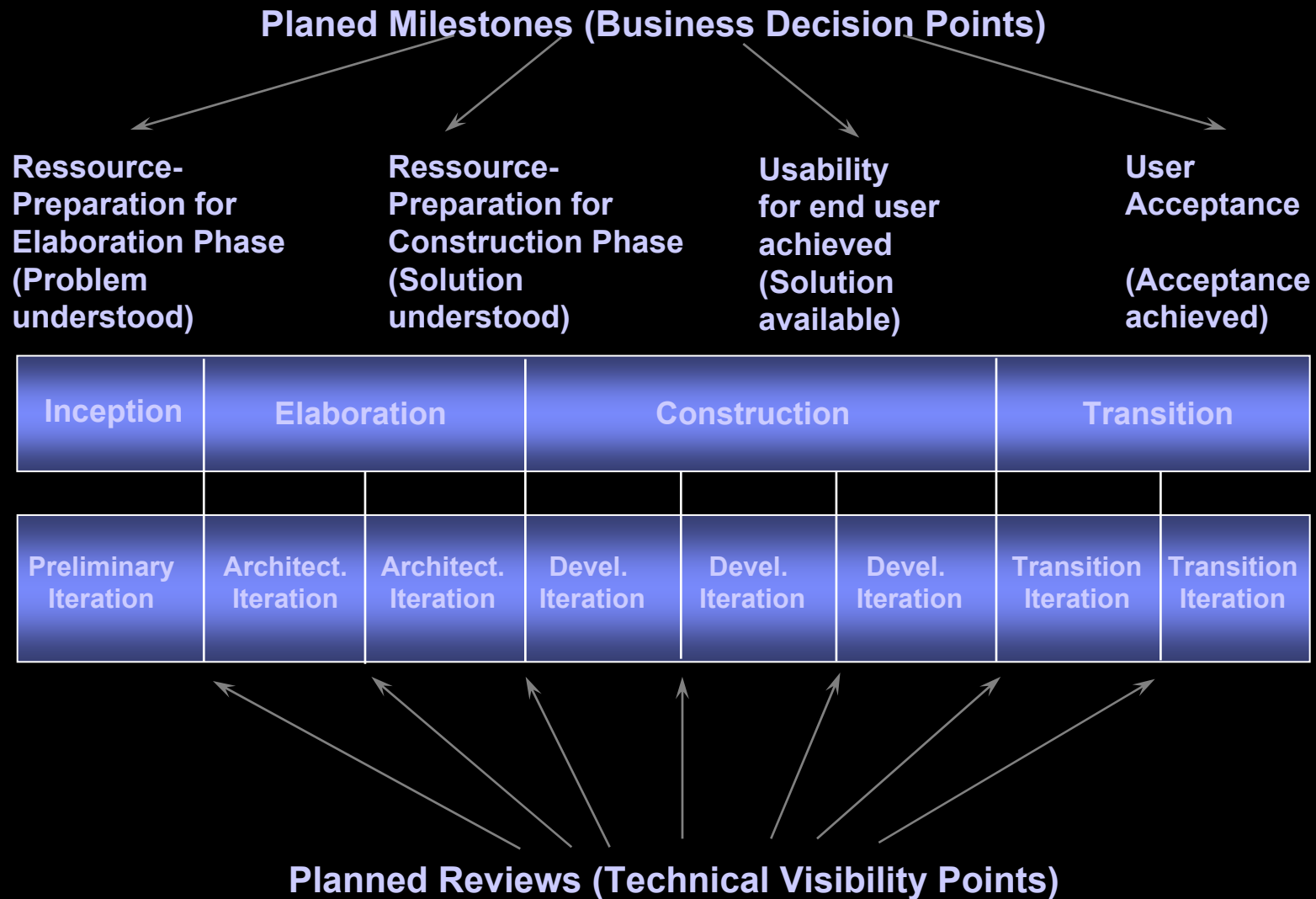


RUP-Architecture, Discipline Detail

- Describes a group of logical dependent activities and related information, which will be exchanged



Dependency of Phases and Iterations?



Teamsport – now including management

Analyst



**WebSphere
BI Modeler
& Monitor
Rational
Software
Modeler**

Architect



**Rational
Software
Architect**

Developer



**Rational
Application
Developer**

**Rational
Web
Developer**

WDz

Tester



**Rational
Functional &
Manual
Tester**

**Rational
Performance
Tester**

Operator



**Tivoli
Configuration
Manager**

**Tivoli
Monitoring**

ECLIPSE



**Project
Manager**

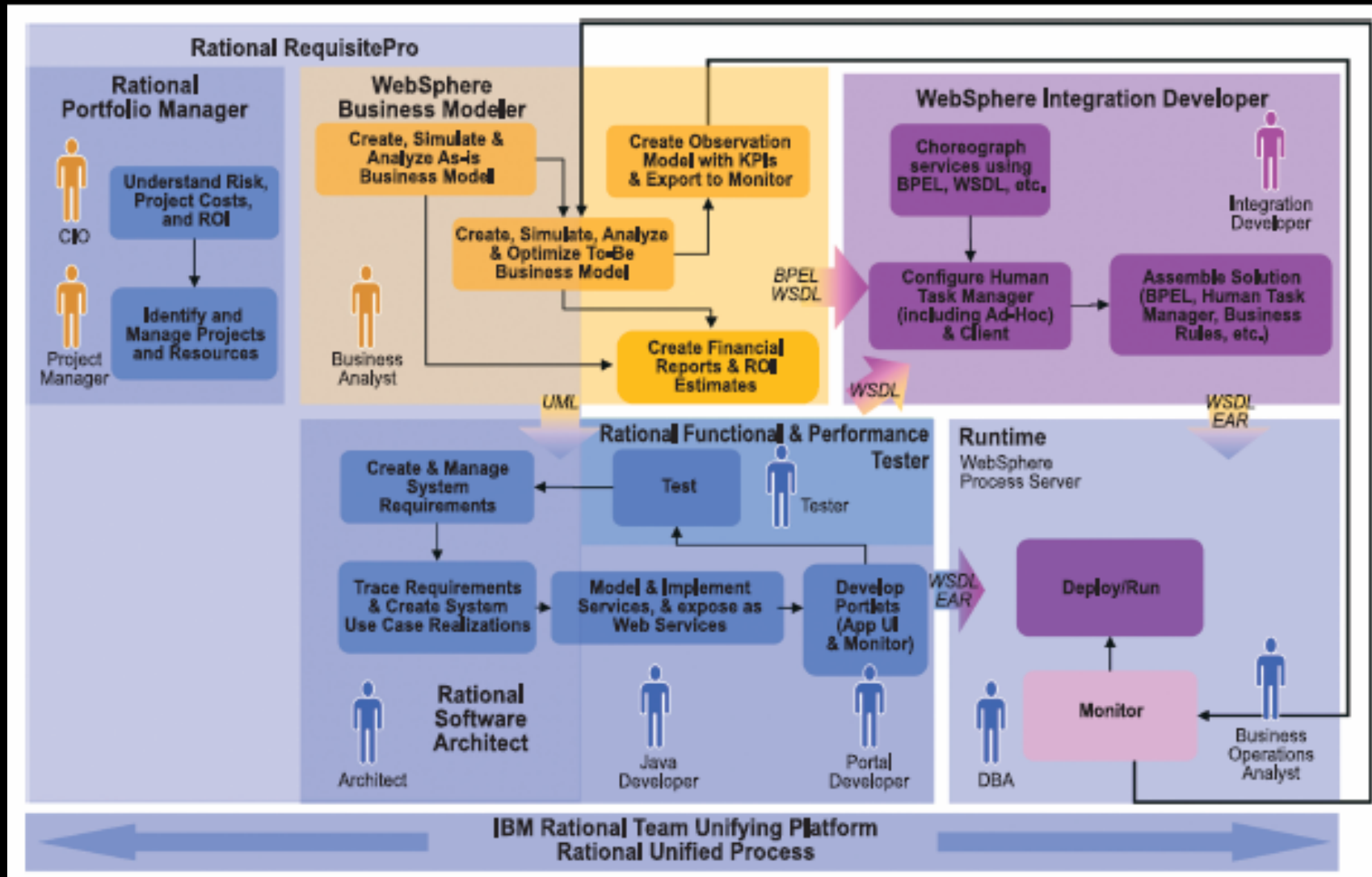
- Rational Team Unifying Platform



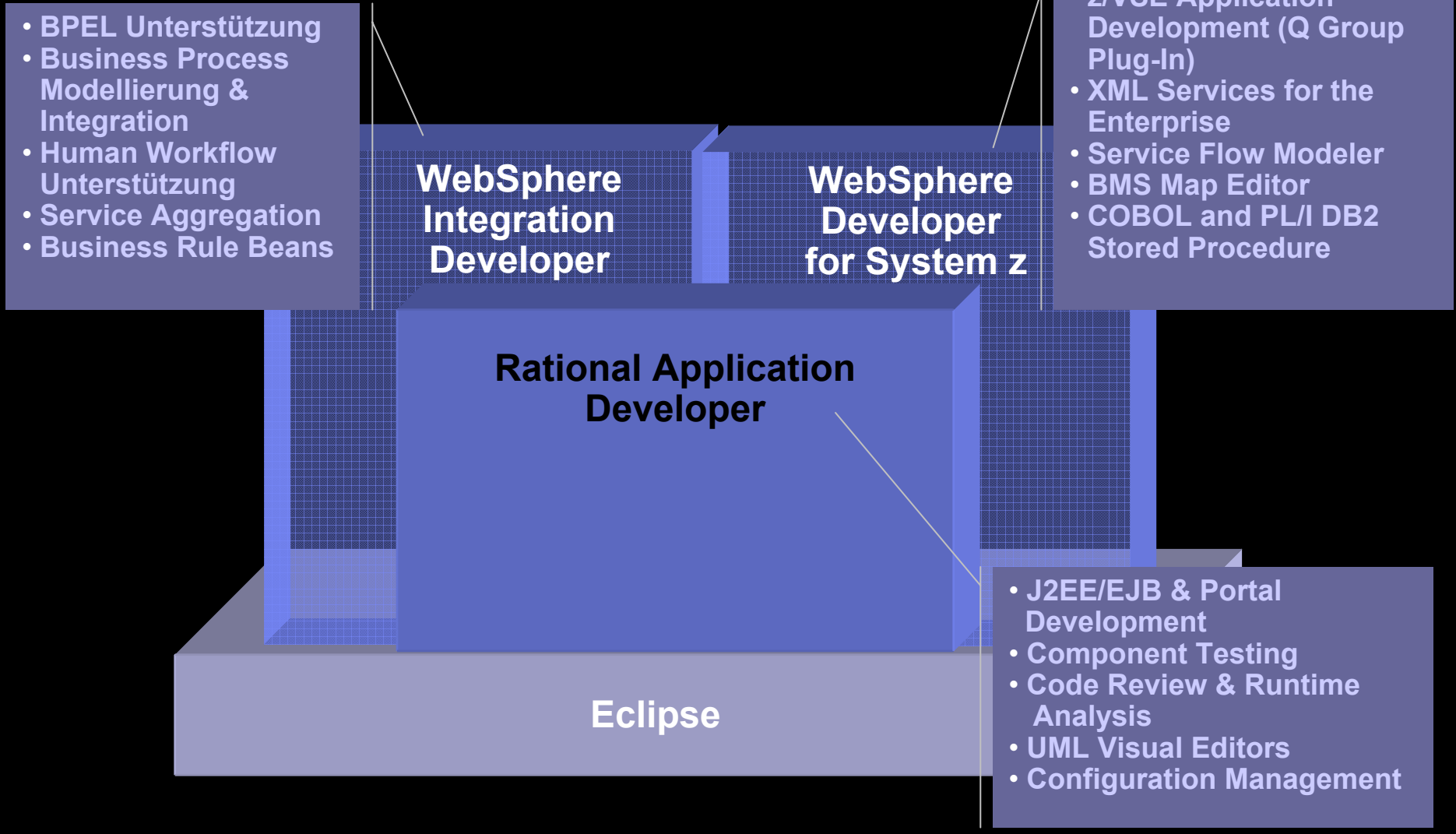
Executive

- Rational Portfolio Manager

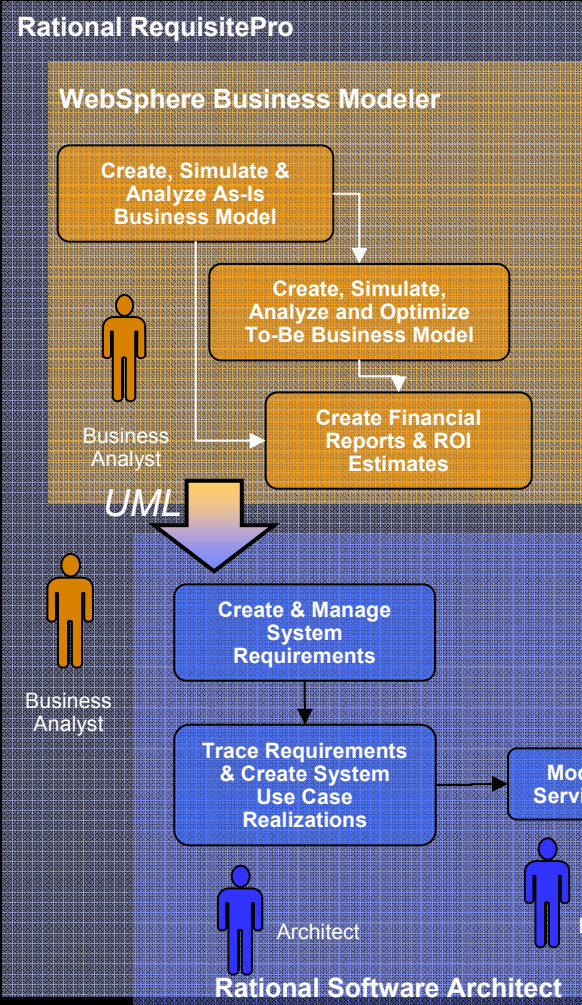
Business Driven Development – Roles and Tools



Developer tools



Model the business (& identify the services)



Rational RequisitePro - WBI-ReqPro - [BUC: All Business Use Cases]

Requirements	Priority	Status	Assigned To	Unique ID	Location	Package	Auth
BUC11: Apply For Loan	Medium	Approved		30	Apply For Loa	Apply For Loan	pat
BUC11.1: Applicant Information	Medium	Approved		20	Apply For Loa	Apply For Loan	pat
BUC11.2: Applicant Interview	Medium	Approved		21	Apply For Loa	Apply For Loan	pat
BUC11.3: Check Application	Medium	Approved		22	Apply For Loa	Apply For Loan	pat
BUC11.4: Financial Information	Medium	Approved		23	Apply For Loa	Apply For Loan	pat
BUC11.5: Borrowing Calculation	Medium	Approved		24	Apply For Loa	Apply For Loan	pat
BUC11.6: Locate Loan	Medium	Approved		25	Apply For Loa	Apply For Loan	pat
BUC11.7: Provide lender list	Medium	Approved		26	Apply For Loa	Apply For Loan	pat
BUC11.8: Select Lender	Medium	Approved		27	Apply For Loa	Apply For Loan	pat
BUC11.9: Submit Loan	Medium	Approved		28	Apply For Loa	Apply For Loan	pat
BUC11.10: Document Loan	Medium	Approved		29	Apply For Loa	Apply For Loan	pat
				empty	Database	None	pat

BUC11.4: Financial Information
The applicant enters the dollar amount of the proposed loan and the total dollar value that will be used for a down payment.

Ready 11 requirements

Rational RequisitePro - WBI-ReqPro - [BUC: GOAL: Business Goal Coverage]

Relationships
direct only

BUC11: Apply For Loan

BUC11.1: Applicant Information
The Processor form requires the

BUC11.2: Applicant Interview
The applicant fills out the form

BUC11.3: Check Application
The applicant enters the dollar

BUC11.4: Financial Information
The applicant enters the dollar

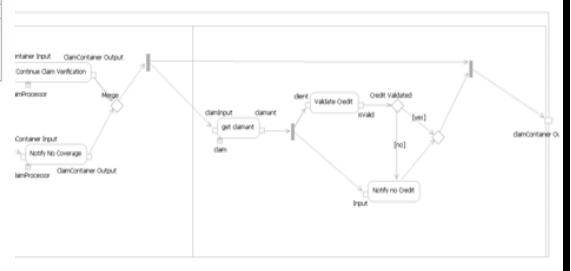
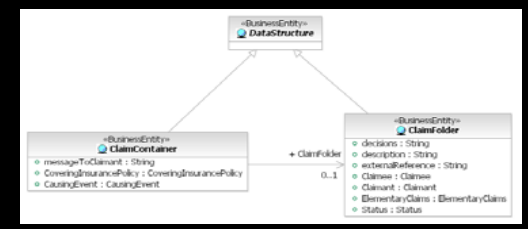
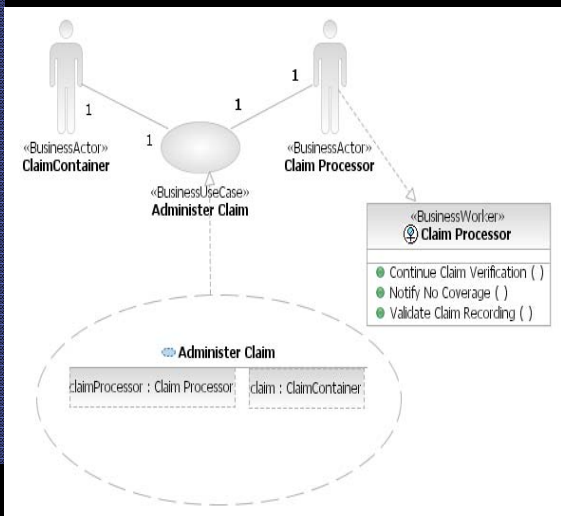
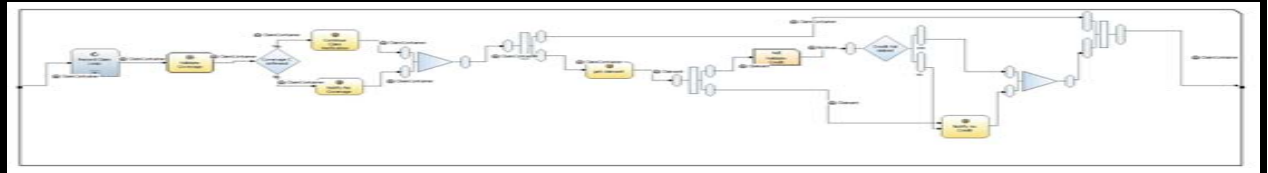
BUC11.5: Borrowing
The Processor calculates the

BUC11.6: Locate Loan
If the applicant's borrowing power

BUC11.7: Provide lender list

BUC11.4: Financial Information
GOALS: Customer Convenience

Ready 11 requirements

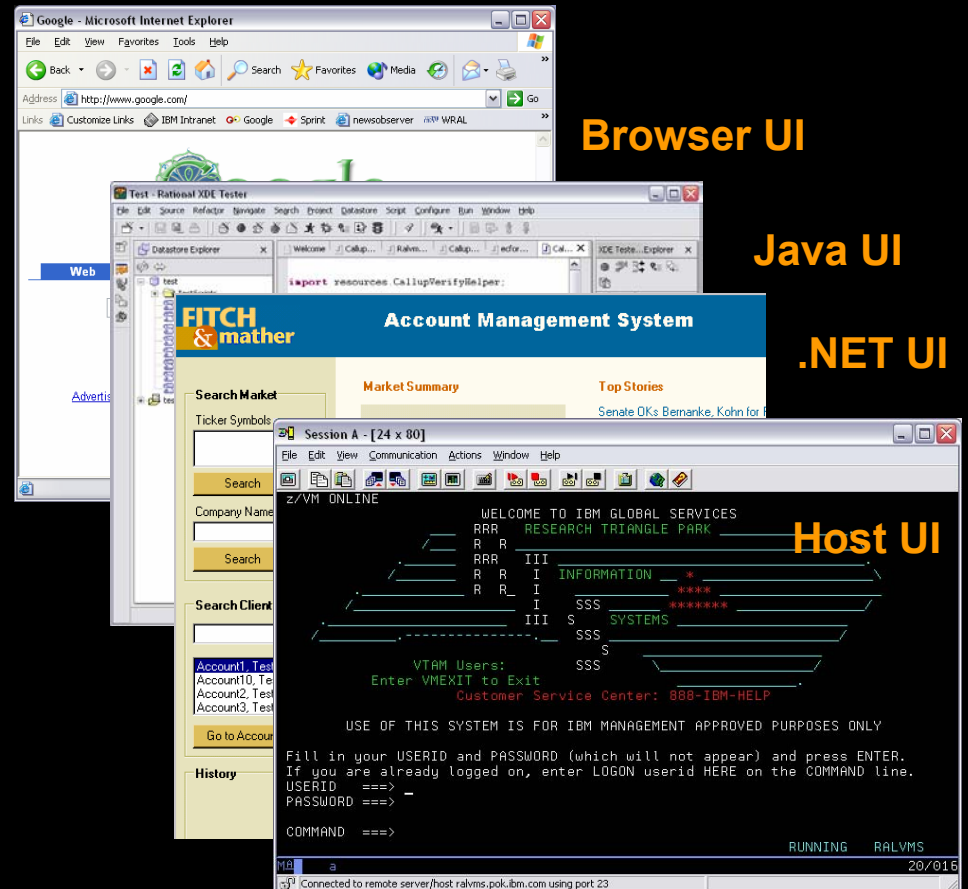


Rational Functional Tester

Functional Testing for Web/Java and 3270/5250 Host applications

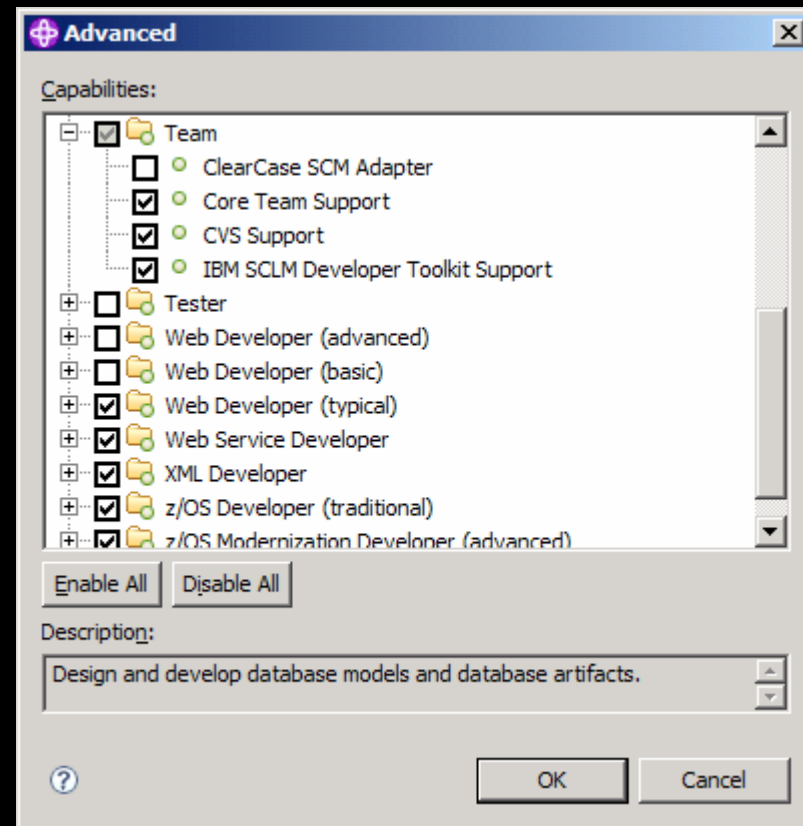
- **IBM Rational Functional Tester Extension for Terminal-based Applications**
 - Integrate traditional and mixed workload function testing
 - Single point of control to manage testing of legacy applications & web front-end components
 - Single solution to manage development and testing across mainframe and distributed platforms

- **Key Product Differentiators**
 - Supports TN3270/5250 host applications
 - Leverages Rational solution
 - Based on Eclipse or .Net

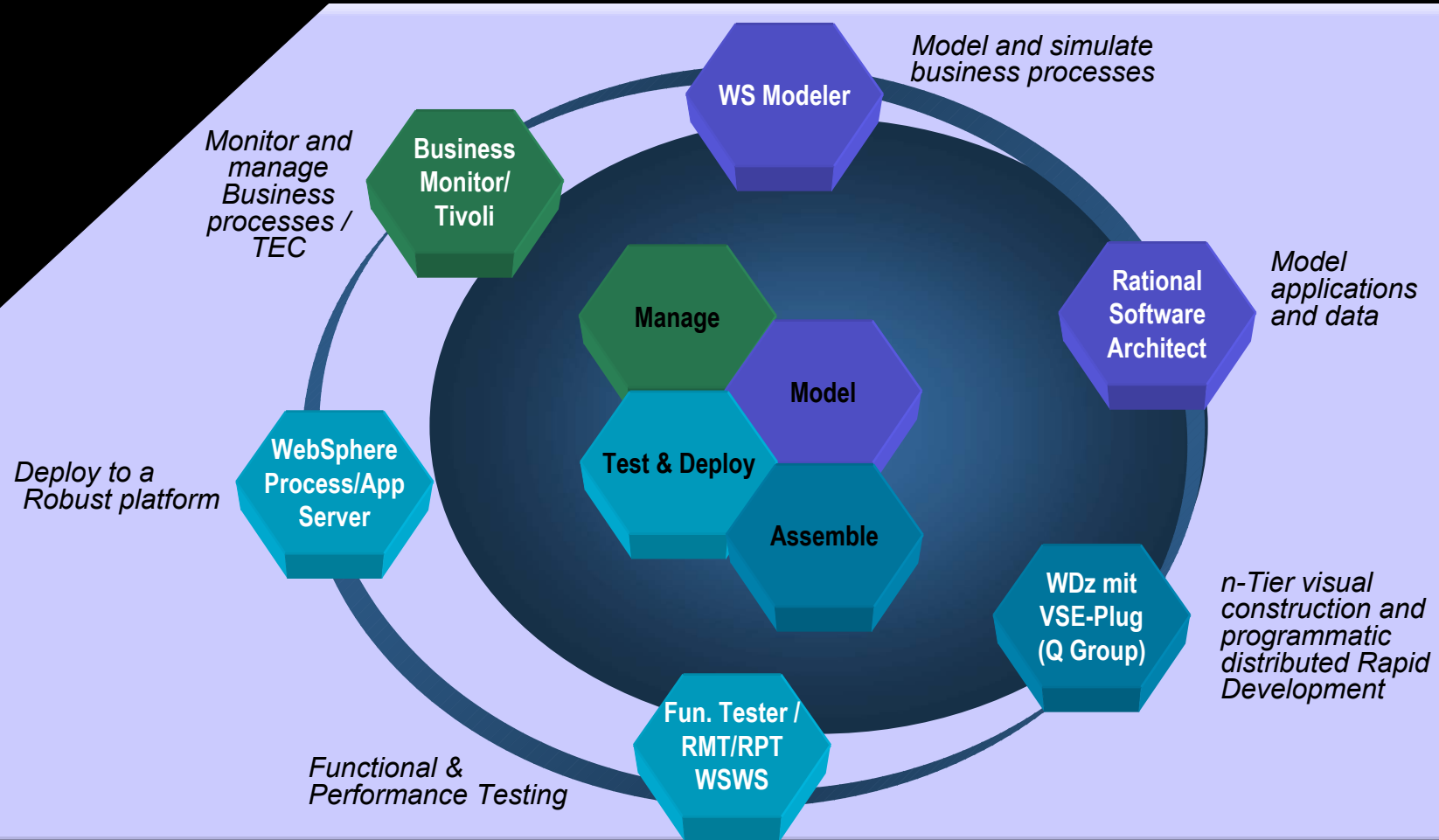


Software Configuration Management

- Rational ClearCase SCM adapter plug-in
- SCM adapter for Concurrent Versions System (CVS)



z/VSE Application Lifecycle



Common Process and Guidance – ReqPro, ClearQuest, Rational Method Composer

Software Configuration Management – ClearCase, ClearQuest, SCLM

Questions

