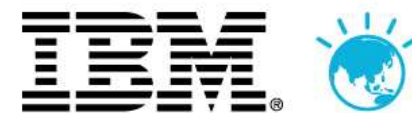


IBM Rational 软件创新论坛

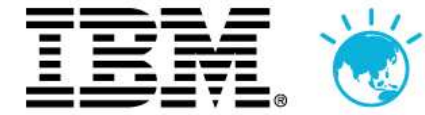


Let's **build** a  
smarter planet.

开发有道  
创新“智”造

Innovate**2010**





# 需求管理过程

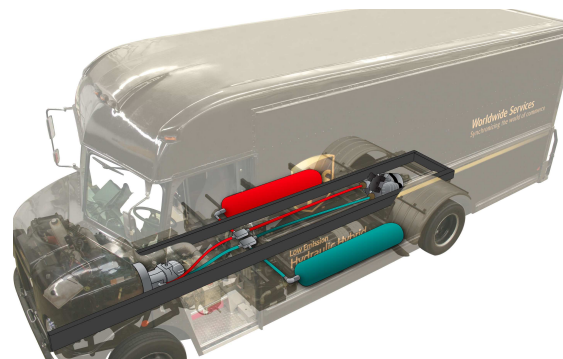


**Innovate2010**

# 议程

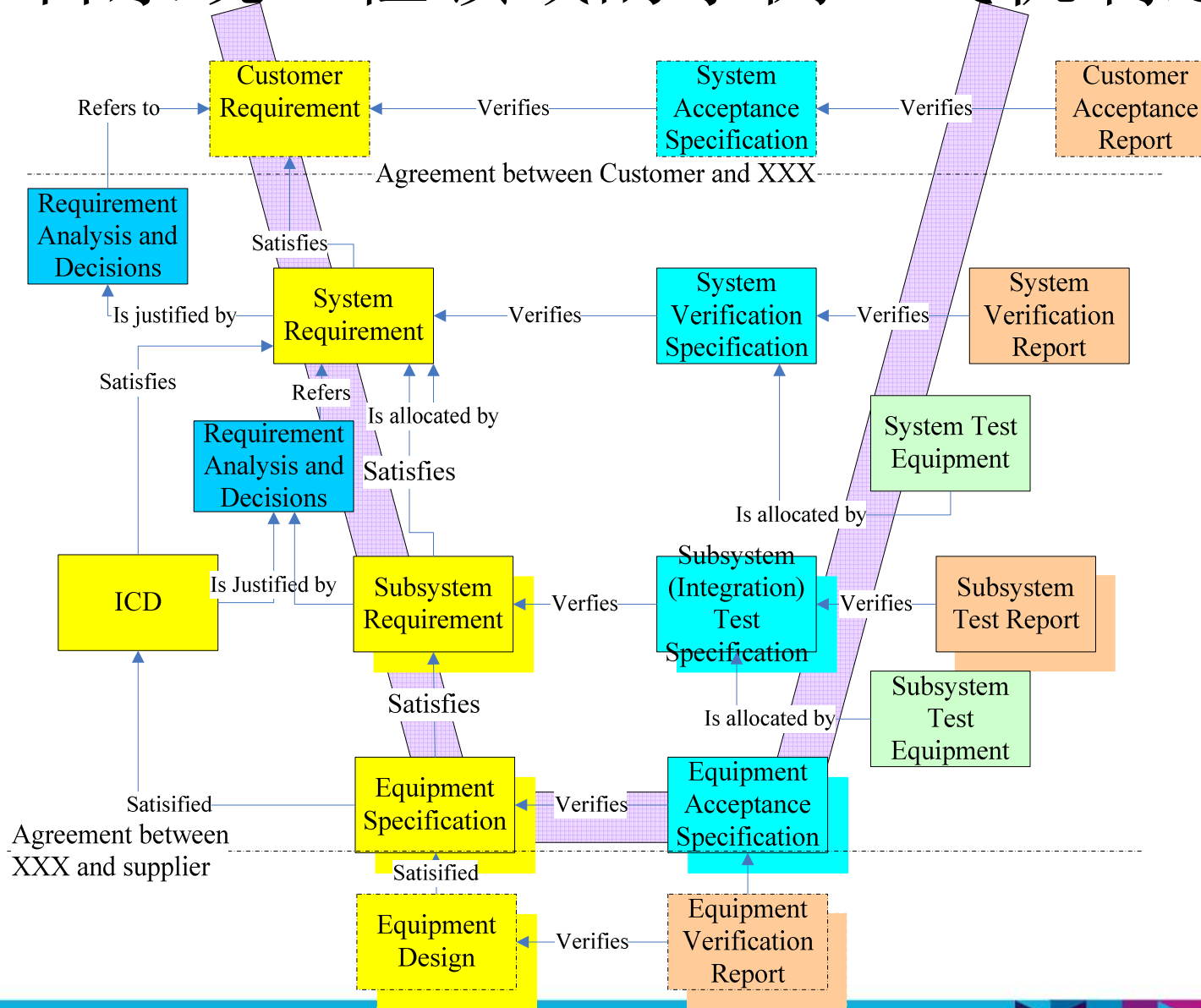
- 通用的需求管理过程
  - 需求和模型
  - 需求和测试
- 需求实现过程（演示）
- 需求变更管理（演示）

# 每个系统都独一无二

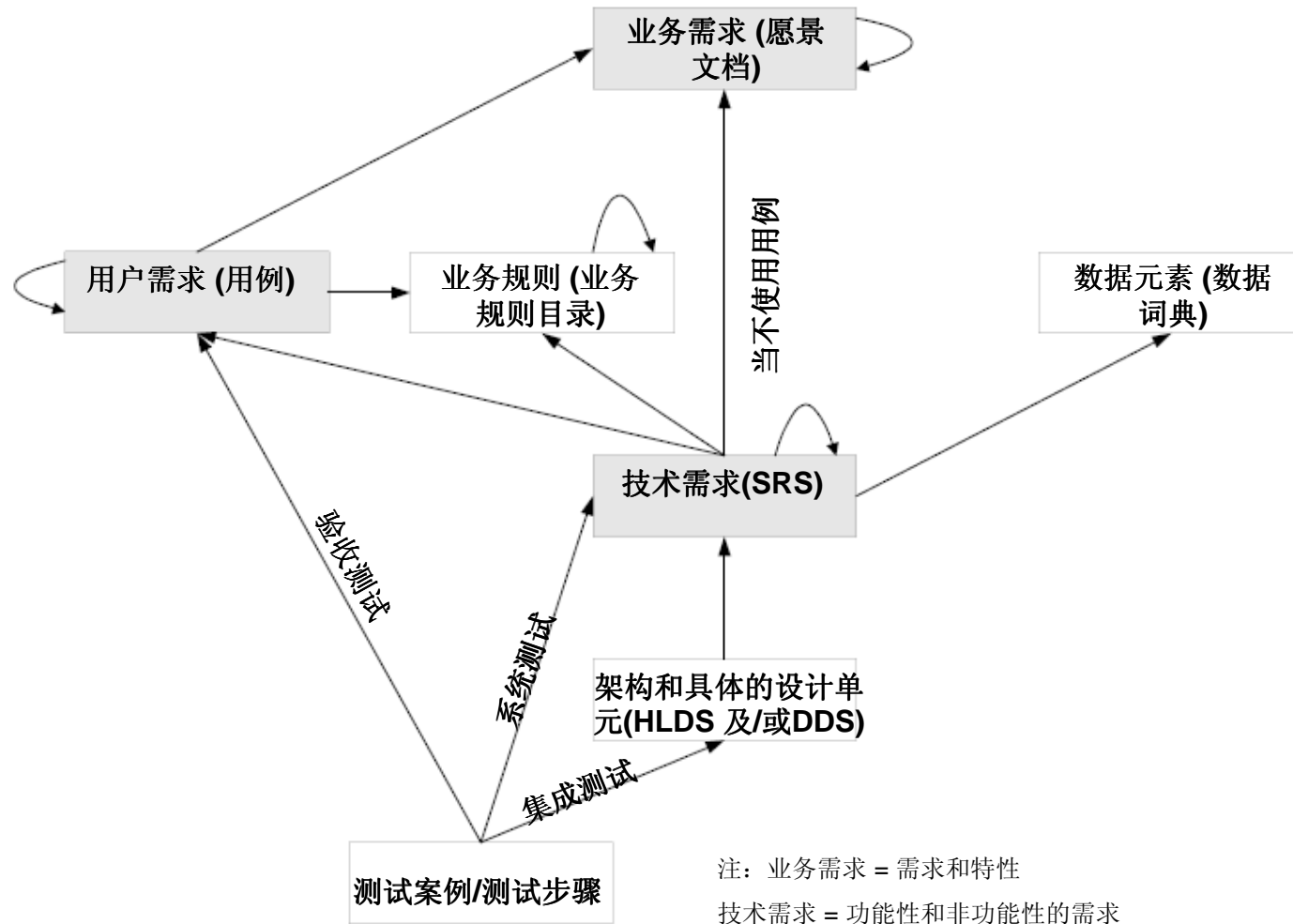


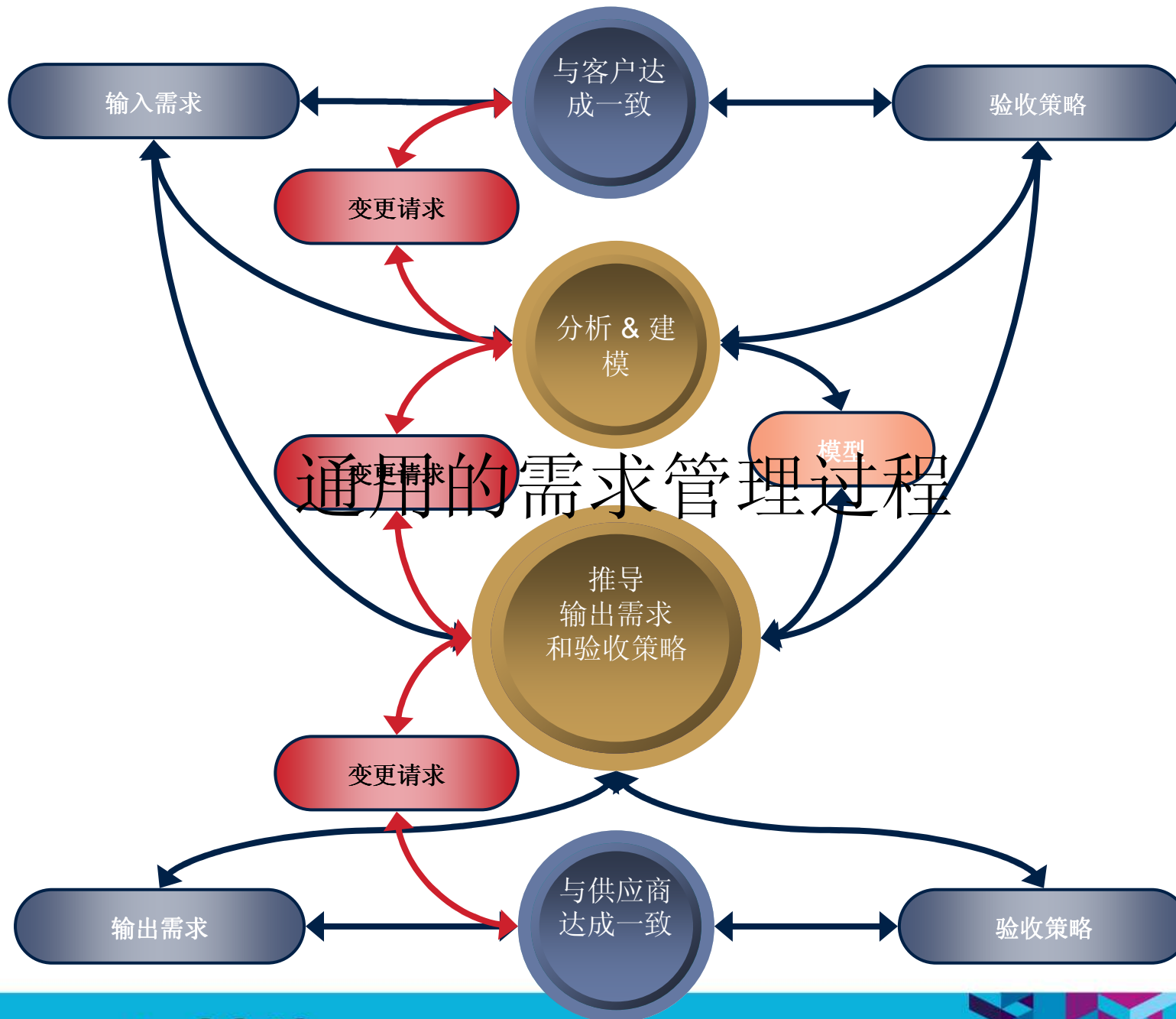
需求管理过程有没有共性呢?

# 来自系统工程领域的示例（飞机制造）



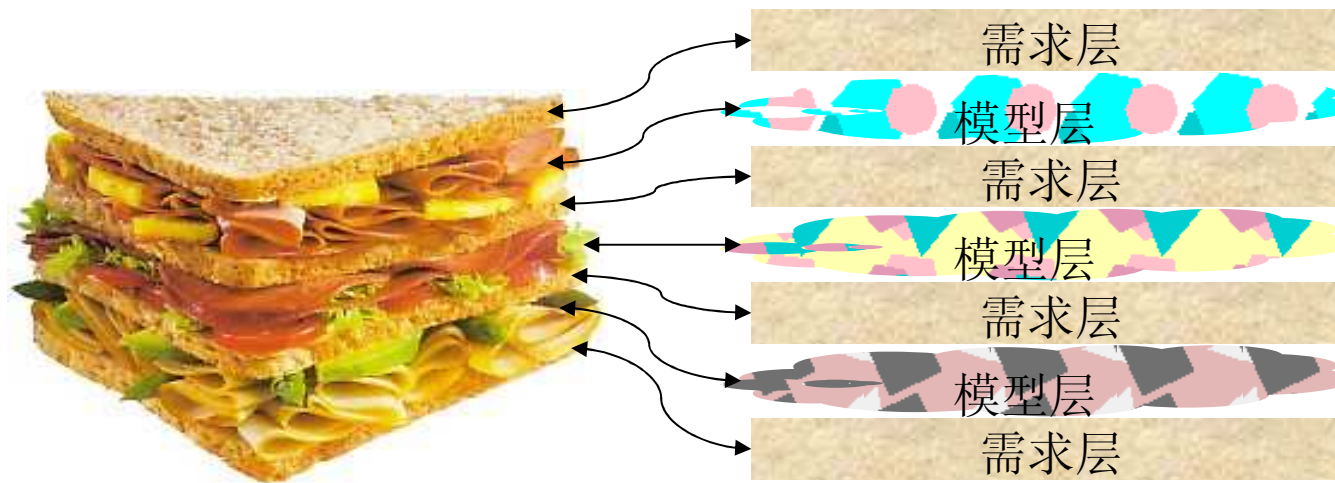
# 软件应用领域的示例（某金融企业）





# 通用的需求管理过程

# 需求和模型



- 需求信息是开发过程的主体——“面包和黄油”.
- 模型是需求层之间的填充物、馅料
- 面包和馅料组成三明治.

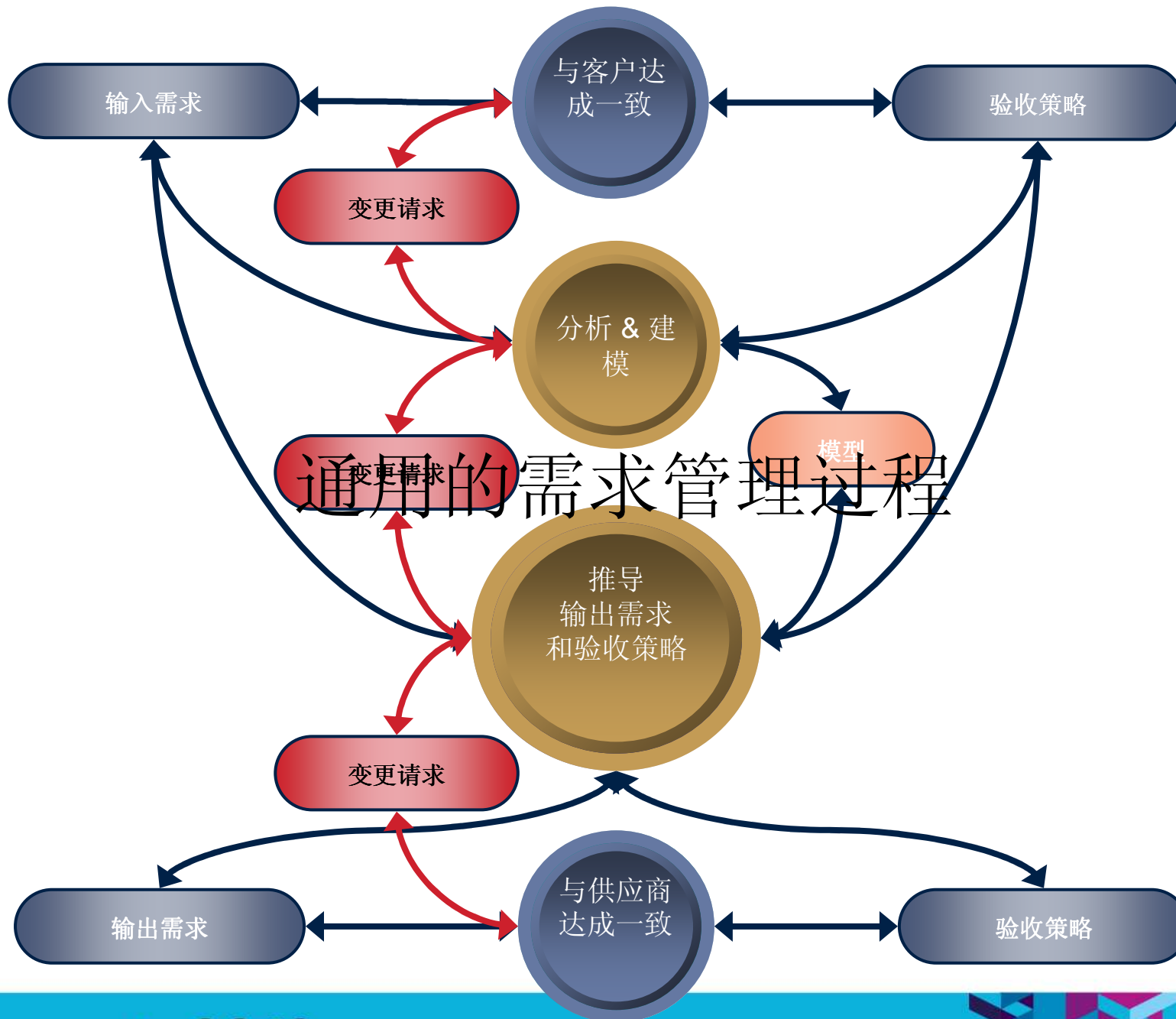


# 模型在各层需求之间建立桥梁



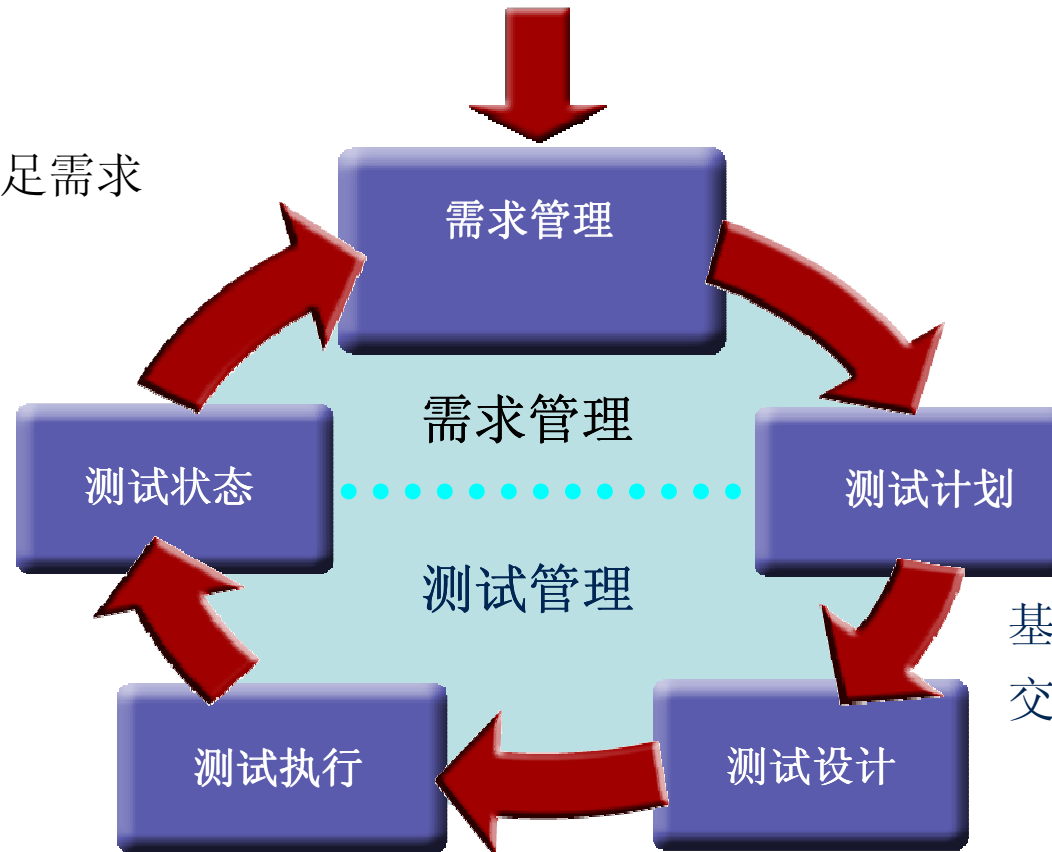
# 需求和模型的互补

- 需求管理:
  - 捕获需求条目、追踪管理
- 建模:
  - 检查需求的一致性，完整性和正确性
  - 帮助推导下一层的需求
- 模型不是需求
  - 非功能的需求往往不能通过模型表示
  - 模型一般不能成为合约的依据



# 需求和测试

质量就是满足需求



基于需求的测试确保  
交付物满足用户期望

过程自动化和关注于需求  
测试团队工作在正确的需求集上

# 需求驱动测试的最佳实践

- 尽早计划测试
  - 在需求编写时对每个需求的测试进行计划
- 尽早引入测试
  - 在开发过程中尽早地执行测试
- 关联测试到需求
  - 追溯测试到其所检查的需求
- 关联缺陷到需求
  - 追溯缺陷到不被满足的需求

# 需求驱动测试的价值

- 提供了一种需求管理和测试管理的集成方法，使得：
  - 需求分析师能够交付包含全部验证标准的可测试需求
  - QA 或测试人员能够根据一致的需求集进行测试开发
  - 发布管理能够基于需求质量度量而进行，而不是基于测试通过或失败的统计

# DOORS如何帮助测试活动？

- 保证需求和测试的可追踪性
- DOORS作为一个通用的存储平台
- 市场上有专用的测试管理平台
  - 使用DOORS还是专用的工具？

# 在DOORS进行测试管理

- 在DOORS中管理test case

- 建立测试

- 自动生成

- 比较不同

- 提供基础

- 检查需求

The screenshot shows the DOORS software interface. The main window displays a table of test cases with the following columns: Test Number, Must Test After, Expected Test Result, Actual Test Result 1, Test Engineer 1, and Test Status 1. The table contains several rows of test cases, with a yellow highlight on the first row. A secondary window titled 'T3 (0.3) Edit Test Case - DOORS' is open, showing details for test case 390. The details include: Test Number (390), Object Text (Users shall be able to be aware of any malfunction that affects the ability of the equipment to meet the statutory regulations within 1 second of that malfunction occurring), Expected Test Result (Malfunction should be displayed within 1 second. A 1 second tolerance will be permitted.), Actual Test Result 2 (Display time was 3 seconds.), Test Engineer 2 (EM), and Test Status 2 (Fail). The interface also shows a menu bar with options like File, Edit, View, Insert, Link, Analysis, Table, Tools, User, Test Tracking, and Help. The status bar at the bottom indicates 'Username: Paul Raymond' and 'Exclusive edit mode'.

Test Number	Must Test After	Expected Test Result	Actual Test Result 1	Test Engineer 1	Test Status 1
349		1 Equipment malfunction			Undetermined
349		Ensure malfunction notification by using system code 182 to induce a failure.	Malfunction should be displayed.		
318	349	Check display for location indicator.	Display should indicate error in region W2.		
350	349	Time the response of malfunction notification by using system code 182 to induce a failure.	Malfunction should be displayed within 10 seconds. A 1 second tolerance will be permitted.		
356		Ensure malfunction notification by using system code 185 to induce a failure.	Malfunction should be displayed.		
320	356	Check display for location indicator.	Display should indicate error in region W6.		
357	356	Time the response of malfunction notification by using system code 185 to induce a serious failure.	Malfunction should be displayed within 5 seconds. A 1 second tolerance will be permitted.		
389		Ensure malfunction notification by using system code 202 to induce a failure.	Malfunction should be displayed.		
322	389	Check display for location indicator.	Display should indicate error in region W4.		
390	389	Users shall be able to be aware of any malfunction that affects the ability of the equipment to meet the statutory regulations within 1 second of that malfunction occurring	Malfunction should be displayed within 1 second. A 1 second tolerance will be permitted.		



# Rational Quality Manager

## 集中的业务驱动软件质量管理平台

通过协作规避项目风险

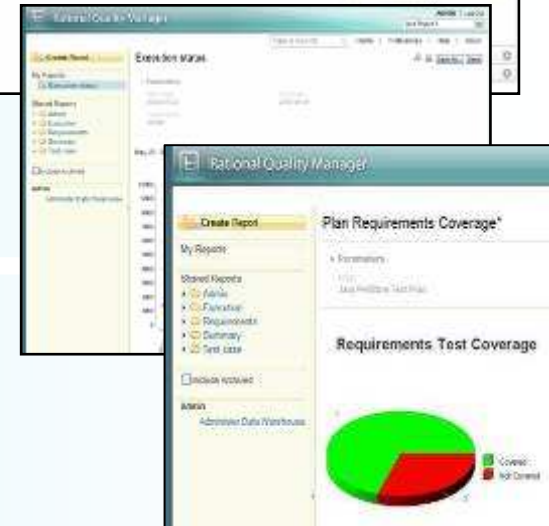
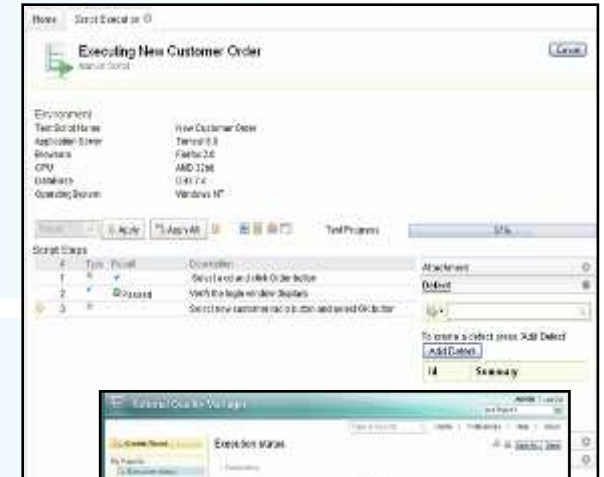
- ✓ 基于团队协作的测试计划
- ✓ 强制的流程管理
- ✓ 全面的质量管理

通过自动化提高测试的效率

- ✓ 测试环境有效利用
- ✓ 优化测试覆盖
- ✓ 测试生命周期管理

借助易用的报表来作出正确决定

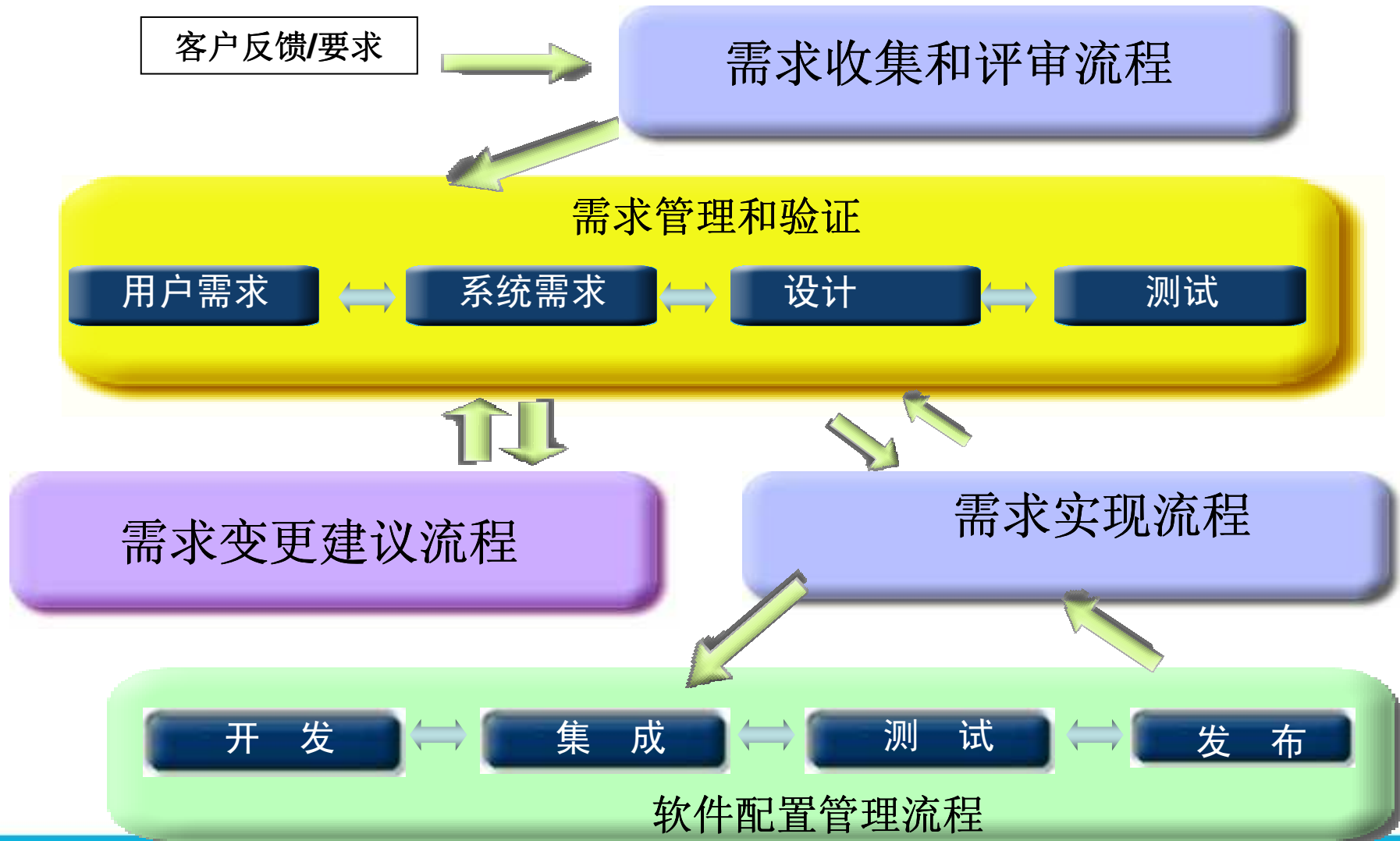
- ✓ 报表分析和流程改进
- ✓ 风险评估和管理
- ✓ 更好的预测结果



# 议程

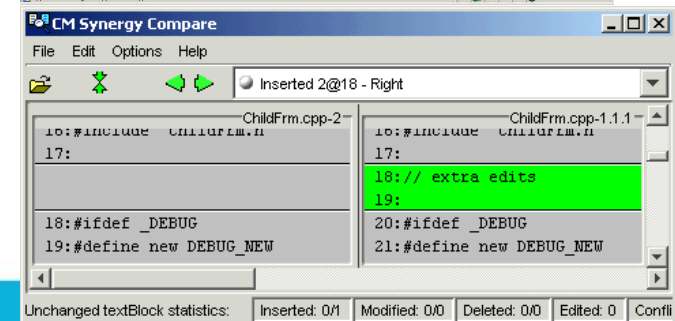
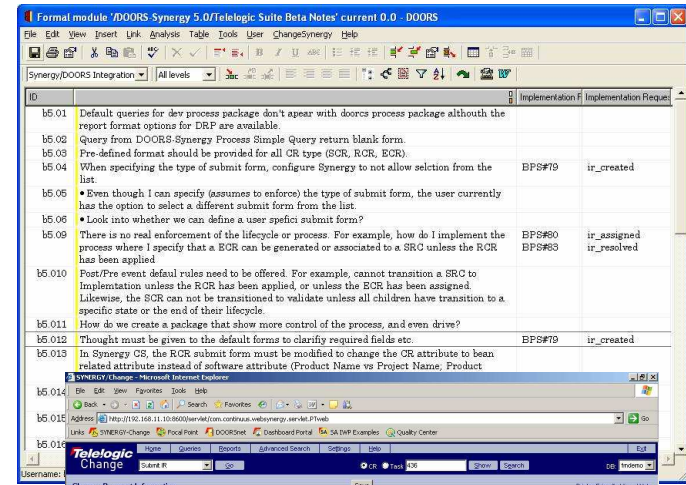
- 通用的需求管理过程
  - 需求和模型
  - 需求和测试
- 需求实现过程（演示）
- 需求变更管理（演示）

# 需求实现流程



# 需求实现过程

- 直接从需求创建实施请求和工程任务
  - 影响分析
  - 沟通
- 从需求到代码的完整追踪
  - 确保你在做正确的事情
  - 实时的进度报告和覆盖报告

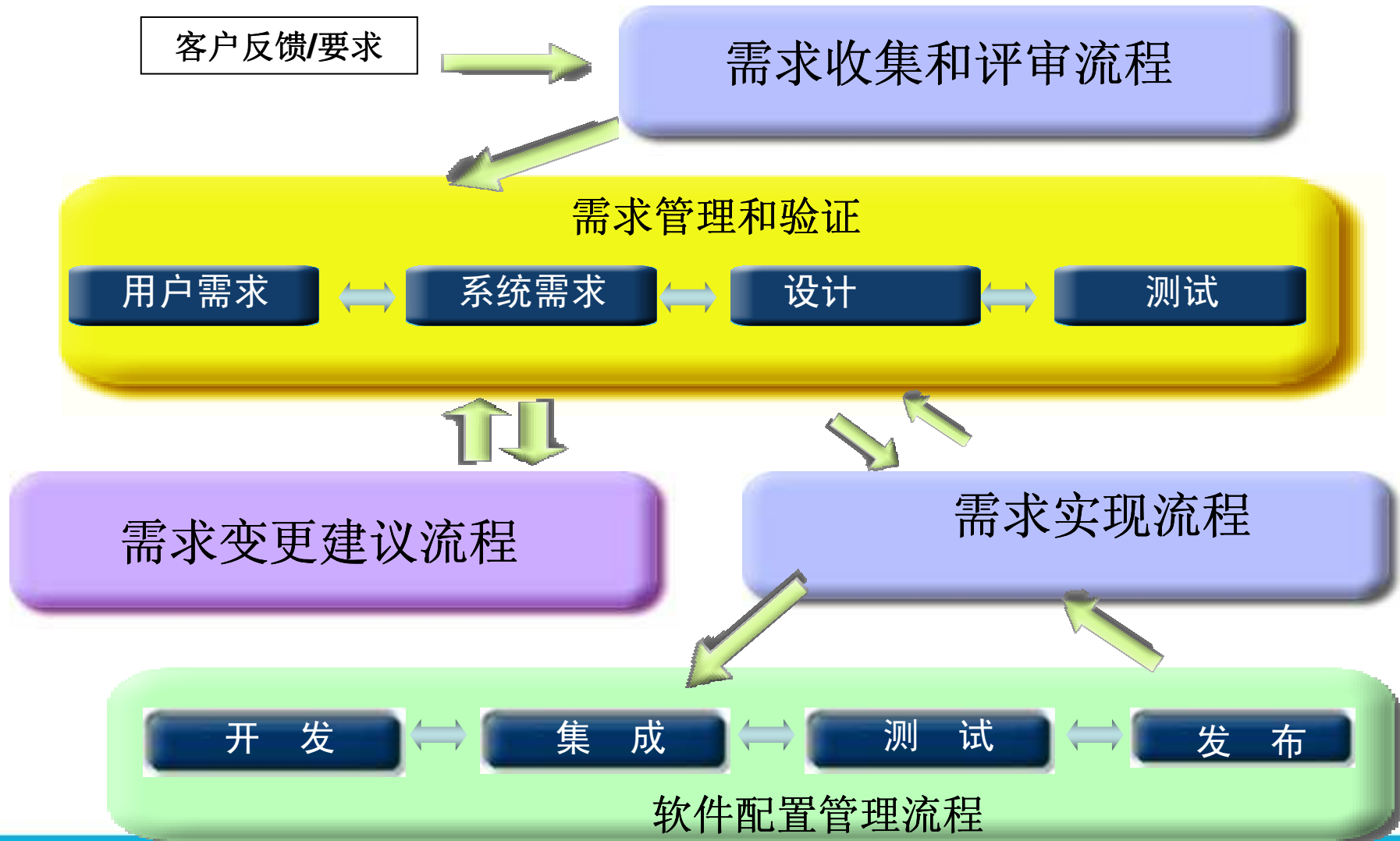


# 无论您选用了何种IBM Rational的CCM 方案

- Rational Change
- Rational ClearQuest
- Rational Team Concert
- IBM（将）提供一致的需求实现方案
  - 直接从需求触发工作任务单
  - 双向可视

# 需求实现管理 Demo

# 需求变更流程



# 需求变更管理

- 为 **DOORS** 用户提供完全的需求变更控制
- 在需求变更决策过程中可以包含所有相关用户
- 集中化地管理变更审批，并集成变更管理
- 跟踪需求和变更度量
- 可定制的需求变更管理工作流
- 管理需求变化内容，并评估它们对最终产品的各种影响
- 自动化需求变更工作流管理



# 无论您选用了何种IBM Rational的CCM 方案

- Rational Change
- Rational ClearQuest
- Rational Team Concert
- IBM（将）提供一致的变更管理方案
  - 变更流程基于 Web 的提交、迁移、分析历史和报告
  - 所处理的需求在 DOORS 中进行

# 需求变更管理 Demo





© Copyright IBM Corporation 2007. All rights reserved.

The information contained in these materials is provided for informational purposes only, and is provided AS IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, these materials. Nothing contained in these materials is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software. References in these materials to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in these materials may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way.

IBM, the IBM logo, the on-demand business logo, Rational, the Rational logo, and other IBM products and services are trademarks of the International Business Machines Corporation, in the United States, other countries or both. Other company, product, or service names may be trademarks or service marks of others.

**Innovate2010**

Let's build a smarter planet.

