



爱开发 重创新 更智慧

**Innovate2011**

IBM Rational 软件创新论坛



Software. Everywhere.

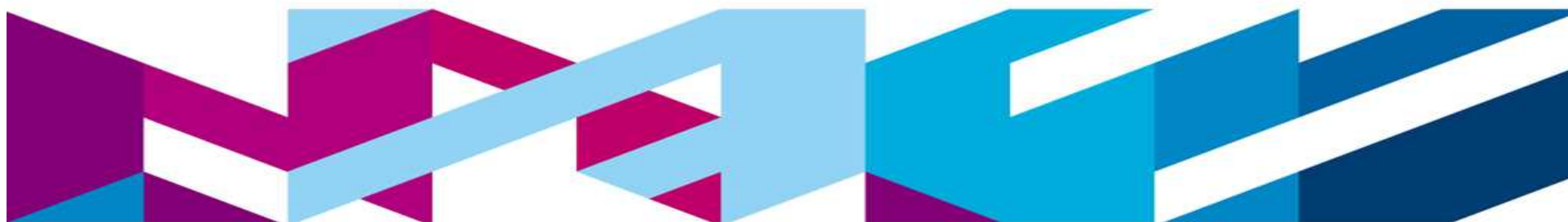


# 云计算助力中国系统和软件交付创新

DJ Ning

大中国区技术总监

*IBM Software, Rational*



# 议程

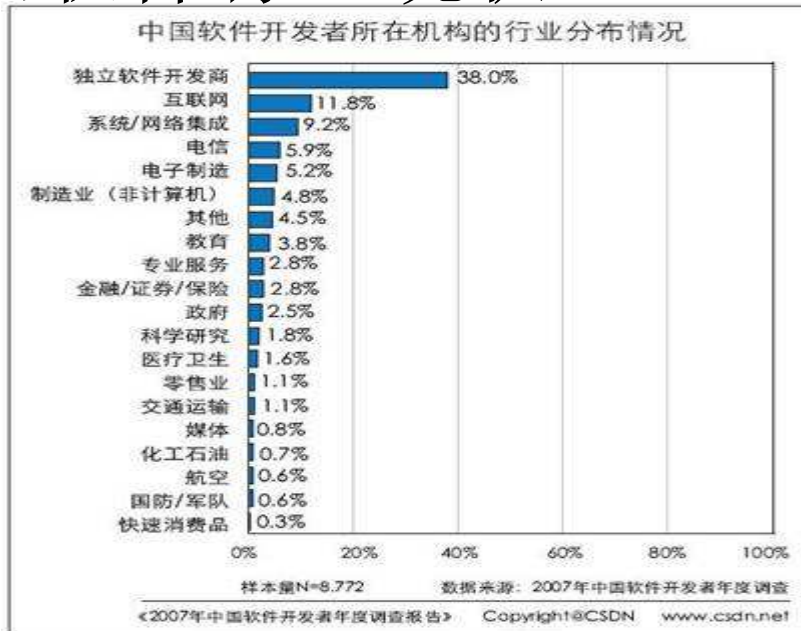
➔ 中国软件行业发展现状

云计算带给我们的创新

云计算助力企业系统和软件交付创新



# 中国软件行业现状



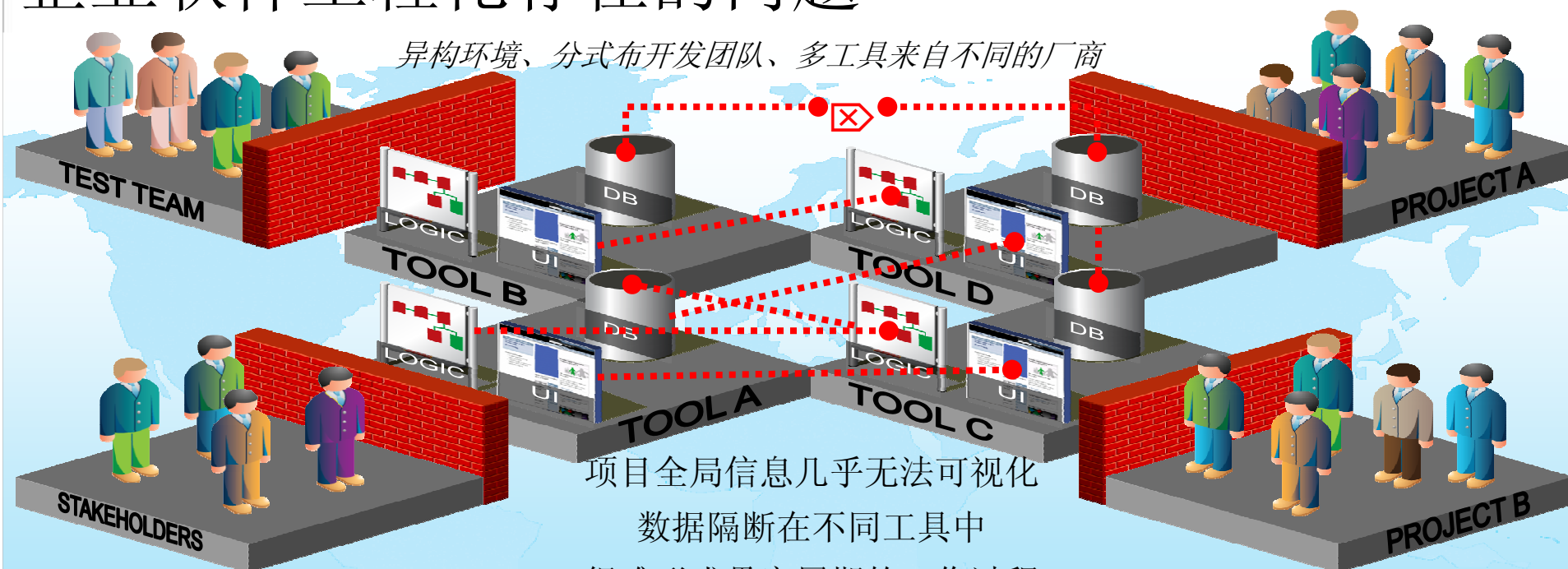
资料来源: CSDN 网站  
 2010年敏捷联盟《国内外敏捷软件开发发展现状与展望》

中国软件开发行业的特点: 发展迅速, 规模小, 尚处于“产业积聚”阶段

- 只有9.1% 组织的开发人员超过1000人
- 57.9%组织的开发人员小于50人
- 截止2010年5月, 48家软件企业达到CMMI 5级

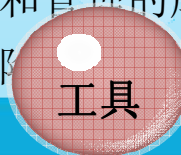
# 企业软件工程化存在的问题

异构环境、分布式开发团队、多工具来自不同的厂商



项目全局信息几乎无法可视化  
数据隔断在不同工具中  
很难形成贯穿周期的工作过程  
维护和管理的高成本

一直存在的不同团队、不同组织结构的壁垒



# 议程

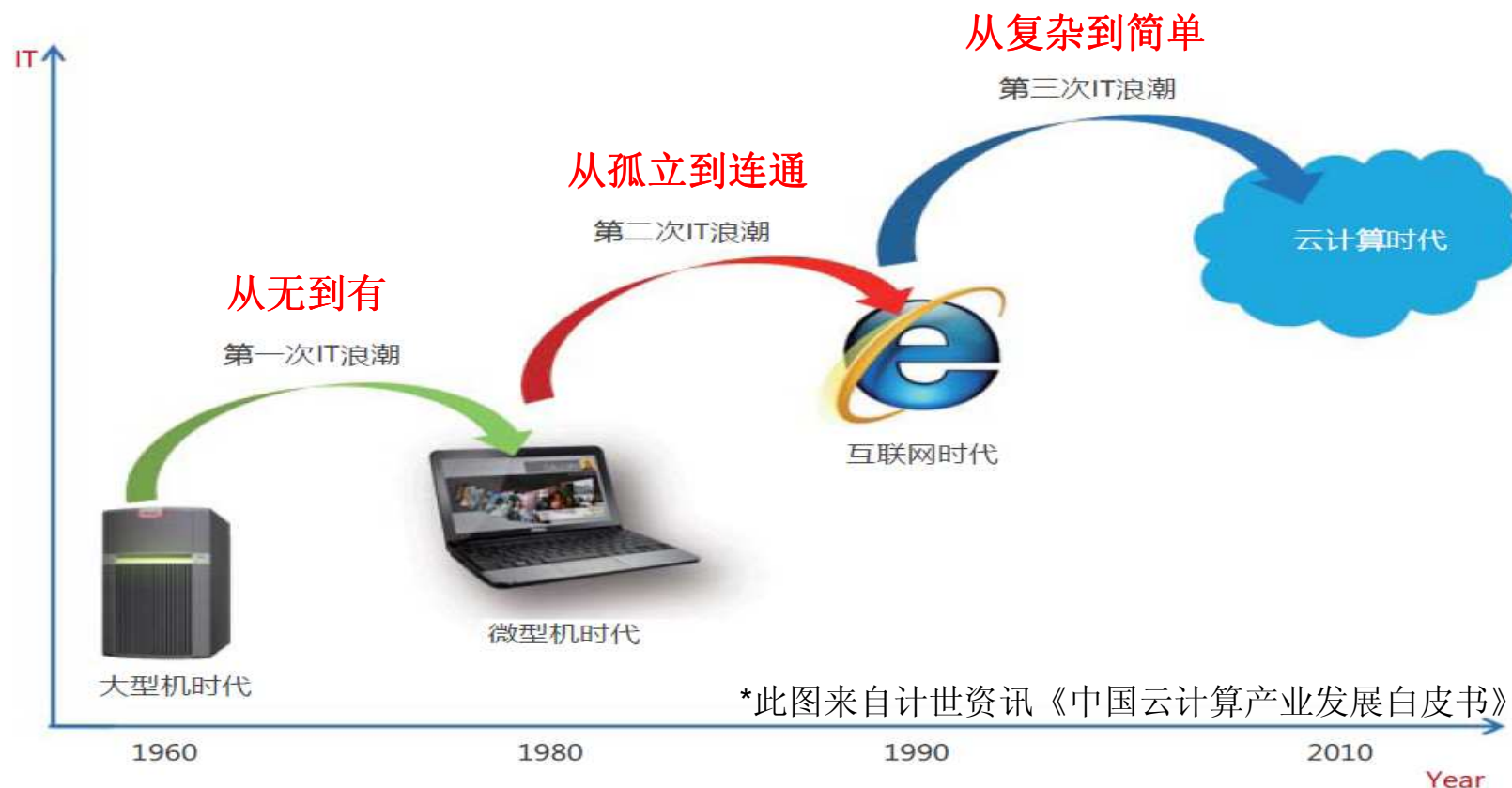
中国软件行业发展现状

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云计算助力企业系统和软件交付创新

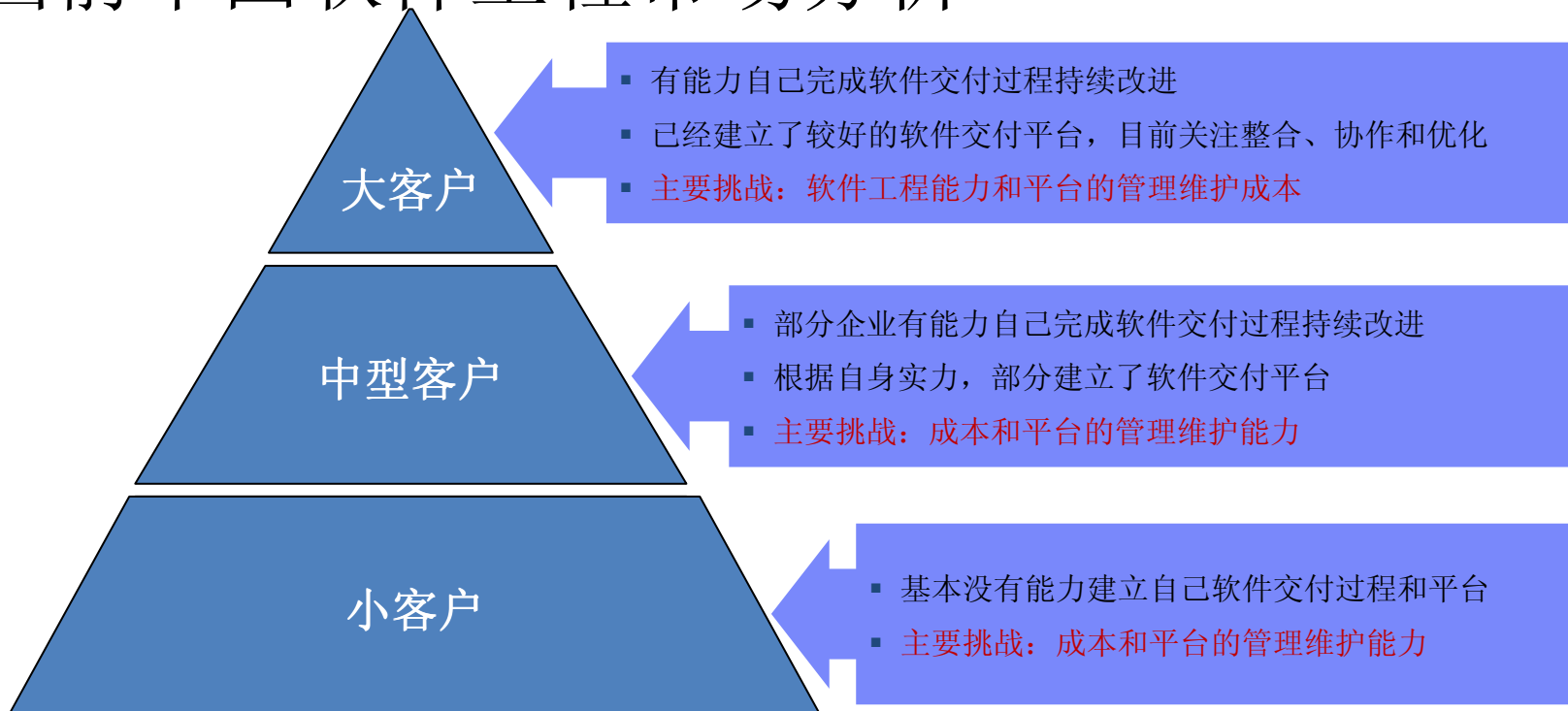


# 云计算被认为是第三次IT浪潮



\*此图来自计世资讯《中国云计算产业发展白皮书》

# 当前中国软件工程市场分析





# 最终用户期望 IT 更快部署、更简单也更便宜

## 对软件工程平台的期望

更容易部署  
更容易使用  
更便宜  
可适应的流程



云的通用特性  
快速部署  
资源抽象和标准化  
按用量收费  
弹性伸缩

“  
*Computing Clouds: vast, amorphous, delocalized  
nebulae of processing power and storage*

”  
The Economist, June 2008

Source: IBM Corporate Strategy

9



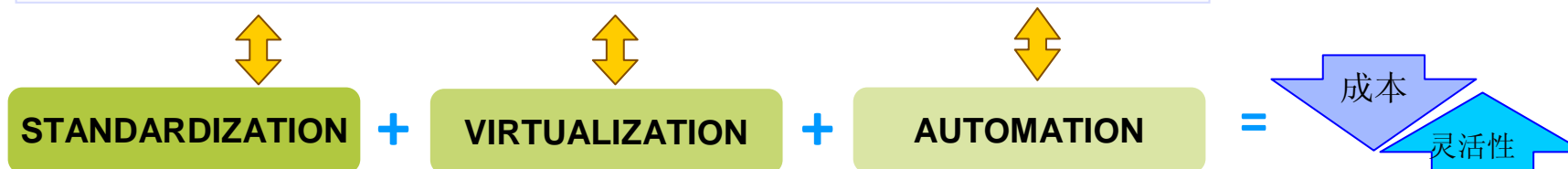
Software. Everywhere.



# 云计算助力系统和软件交付创新



更低的成本  
更快地部署  
更专业的管理和维护



# 什么是云计算?

一种 用户体验 和 业务模式

- 标准化的服务
- 快速部署
- 灵活的价格
- 容易获取

一种 基础架构管理 和 服务交付方法

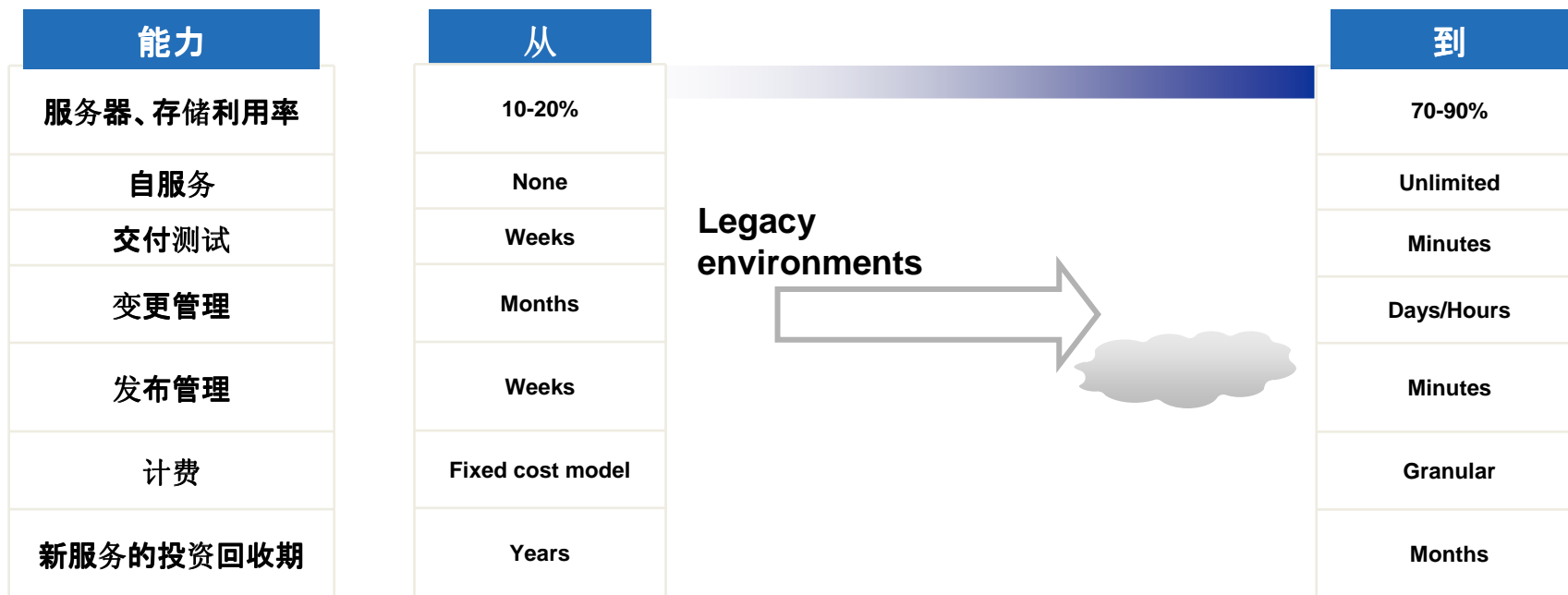
- 虚拟化的资源，单一且大量
- 弹性地交付服务

和银行的ATMs 和自动售货机类似，云服务可以：

- 自服务
- 规模经济



# 云计算带来的创新



# 议程

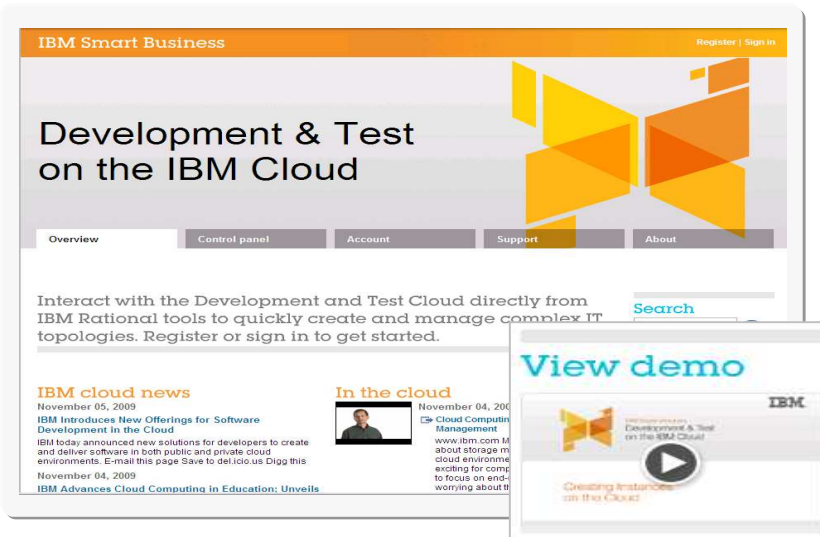
中国软件行业发展现状

云计算带给我们的创新

➔ 云计算助力企业系统和软件交付创新



# IBM SmartCloud Enterprise



## 特性和功能:

- 选择虚拟的服务器配置
- 从服务列表中选择预配置的软件镜像 (images) :
  - ▶ Linux® operating systems; Red Hat and Novell SUSE
  - ▶ Windows
  - ▶ IBM Lotus®, WebSphere®, DB2® and Informix® stacks
  - ▶ IBM Rational® Application Lifecycle Management
  - ▶ Tivoli® Monitoring software
- Virtual Private Network (VPN/VLAN) services
- Premium support options; 24\*7 by phone

The production site is at

<http://www.ibm.com/cloud/enterprise>

More information on the offering landing page

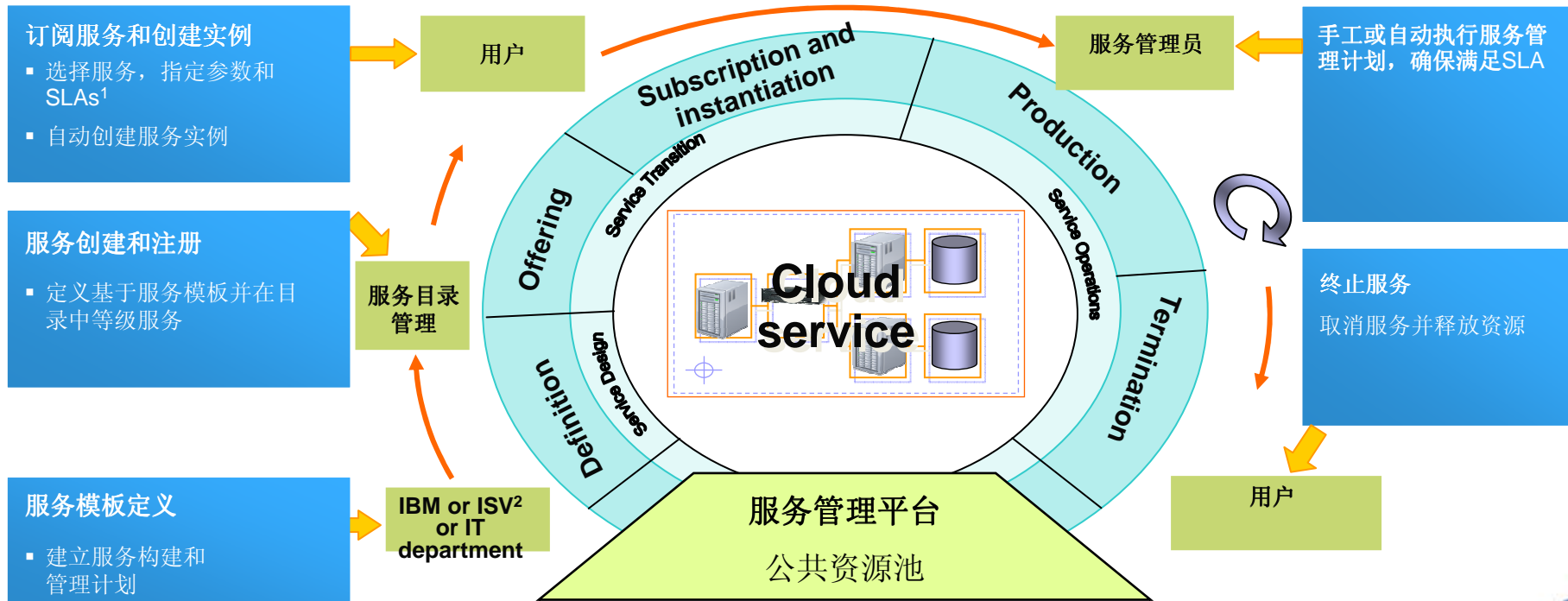
<http://www.ibm.com/cloud/solutions/development>

SmartCloud Enterprise 中包含大量高质量的镜像:

- 基于Rational工具的镜像COE开发大量的高质量镜像



# 云服务的生命周期



# IBM云，你可以一小时内建立开发和测试环境

通过易用的子服务门户，用户自服务地完成环境的建立



**Select Image**

- Rational Build Forge (1)  
Rational Build Forge Management Console
- Rational Build Forge Agent (2)  
Rational Build Forge Agent
- Rational Quality Manager (5)  
Rational Quality Manager Demo
- Rational Team Concert (6)  
Rational Team Concert Express with Sample Data
- Rational Team Concert and Rational Quality Manager (8)**  
Rational Team Concert and Rational Quality Manager
- Rational Application Developer (9)  
Rational Application Developer v7.5.2
- Rational Software Architect (10)  
Rational Software Architect v7.5.2

Next Cancel

**Add Instance**  
Step 1 of 3: Select Image Configuration

Image Name: DB2 Express-C  
Image Description: DB2 Express-C is an entry-level edition of the DB2 database.  
Request Name: Anthony Dasari  
Quantity: 25  
Platform:  32bit  64bit  
Server Size (#CPU/RAM/HDD):  
 Bronze: 2/4GB/850GB  
 Silver: 4/8GB/1024GB  
 Gold: 8/16GB/1024GB  
 Platinum: 16/16GB/2048GB  
 Expires On:  
 DB2 user passwords(s): db2cloud  
 Image Id: 37

Previous Next Cancel

**Development & Test on the IBM Cloud**

Instances Images

Name	ID	Address	Host Name	Created At	Status	Action
Candice Gilzean	...	...	...	Oct 19, 2010	Provisioning	...

Candice Gilzean (change name) Expires in 7 Days (Balance)

Details: ID, IP, Hostname, CPU, Memory, OS, Created On, Billing for

Access:  Refresh Instance  Delete Instance  Create Image

Instance Tags:

1 Choose a service

2 Choose a configuration

3 Image is provisioned



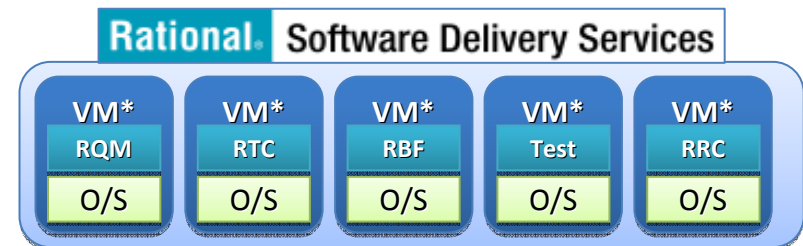
# 智慧的Rational软件交付云

## 私有云、公有云或混合云按需应变

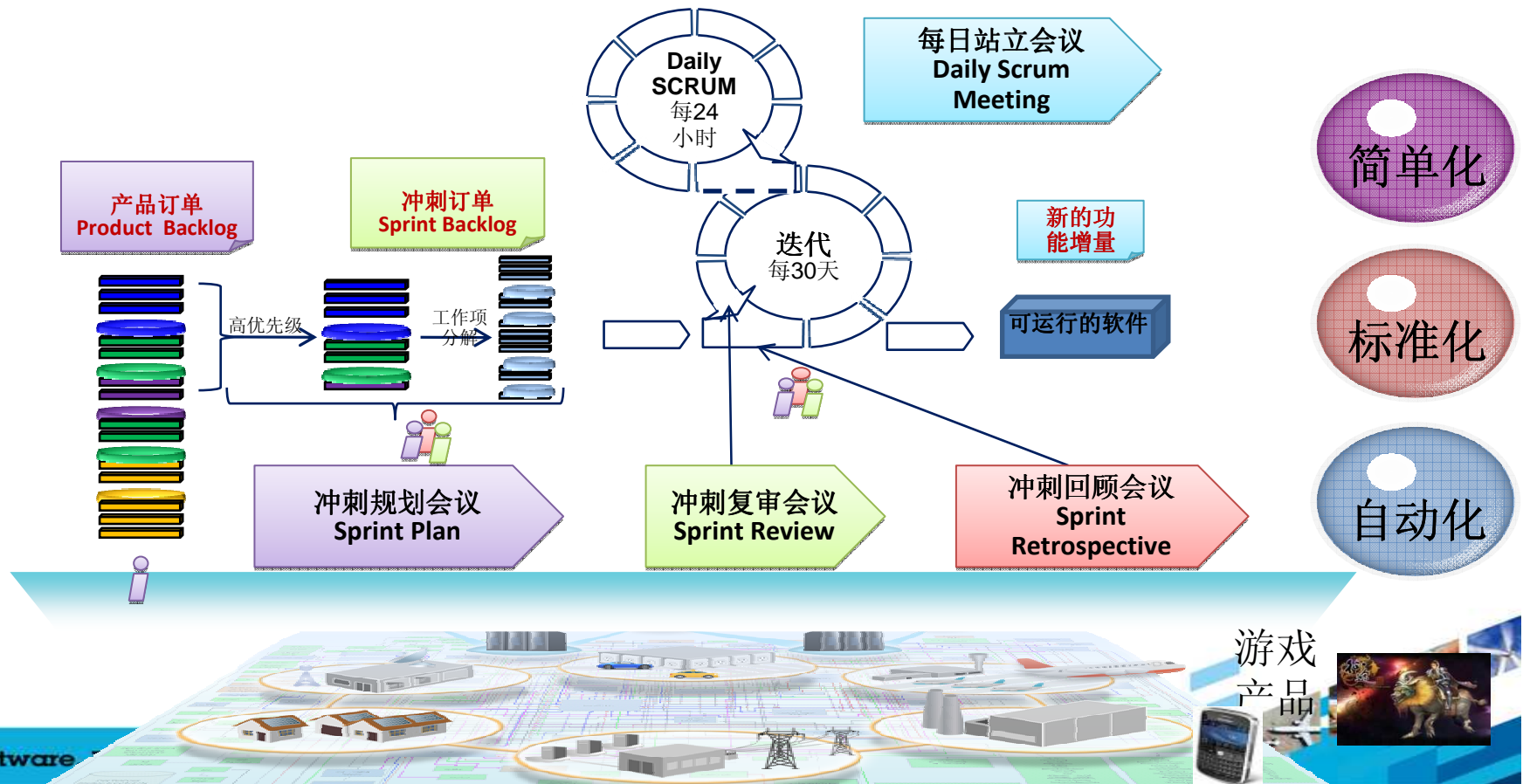
- 有经验的部署专家**快速**提供所需服务
- 使软件工程环境更**简单**和更**便宜**
- 内置标准化但可定制的**开发过程**
- 支持敏捷团队协作、自动化和透明开发
- 提供**测试云**和持续集成所需的**构建云**
- 将云环境纳入企业的软件交付业务流程
- 灵活控制云环境，加速的回报

*"Cloud is a major innovation in testing. We are eager to reap these opportunities, together with IBM Rational's market-leading technologies"*

**Hans van Waayenburg,**  
CEO Sogeti Europe, and Head of Capgemini Global Testing



# 融合敏捷开发的智慧



# 提供敏捷开发的基本能力

## 敏捷式计划管理

- 迭代计划和执行的一体化
- 迭代计划的拖拽编辑
- 现成可直接使用的敏捷流程模板

## 实时透明的项目数据

- 基于Web的可定制的项目仪表盘
- 实时的度量数据和报表，无需人工干预
- 项目里程碑的追踪和状态

## 简捷的配置管理

- 简单明了的流管理和视图
- 自动化的检入和检出操作
- 代码变更集与工作项集成
- 代码变更集的查询和回滚
- 代码变更集的冲突发现和合并
- ClearCase和SVN的连接

## 灵活的工作流管理

- 需求、开发任务和测试项的属性和状态定制
- 需求、开发任务、代码变更集、编译和测试项的关联和追踪
- 快速搜索和结果共享
- 审批和讨论区

## 扩展的持续集成

- 需求、开发任务、代码变更集、编译和测试项的关联和追踪
- 本地或远程编译服务器
- 支持Ant和任何具有命令行的编译服务
- 个人编译和集成编译

## Jazz Team Server

- 项目资产(项目、需求、任务和代码)的单一数据源
- 支持各种团队的组织架构
- 根据角色赋权
- 开发过程的定制和执行
- 基于人员和项目资产的团队内和团队间协同
- 项目模板、过程和数据的继承

RTC(Rational Team Concert)包含的主要功能模块

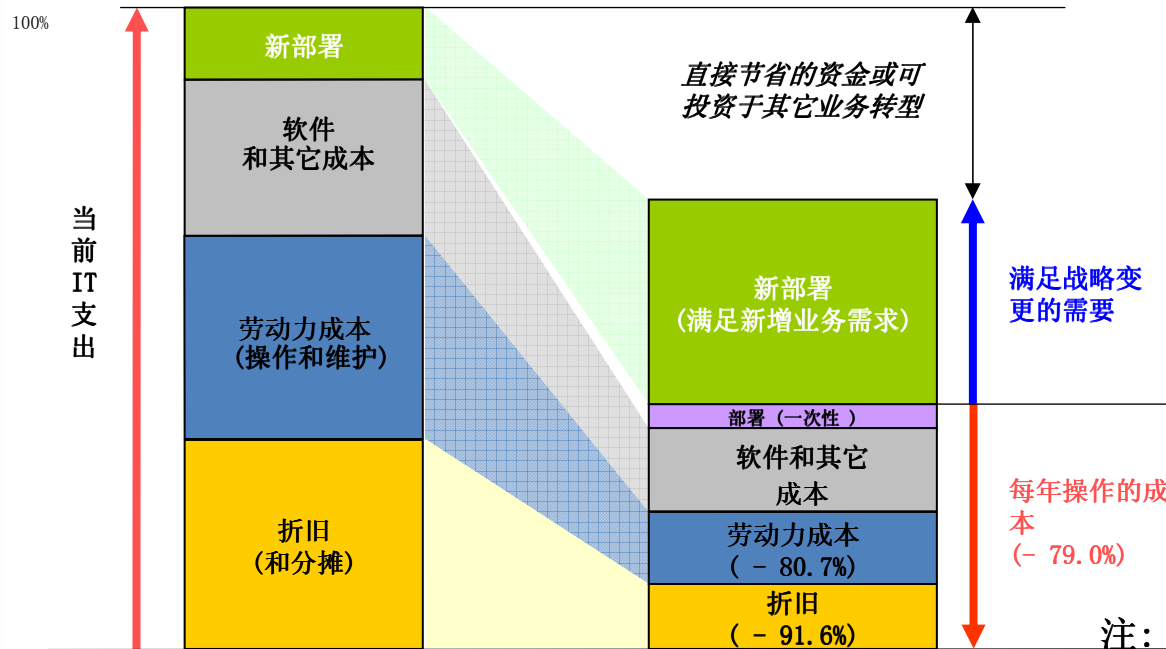
# 云应用的交付平台



# IBM 内部的云计算部署 - TAP

Without Cloud

With Cloud



## 运作的商务结果

每年节省: \$2.35m (-79%)     \$3.4 m to \$1.03 m

投资回收期: 53 days

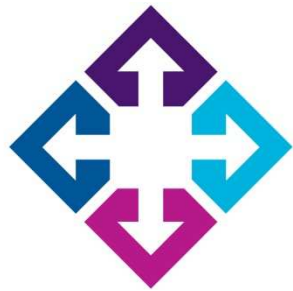
净现值 Net Present Value (NPV): \$3.17mil

内部收益率 Internal Rate of Return (IRR): 206%

投资回报率 Return On Investment (ROI): 700%

注: 5年的折旧期, 5%的折旧率

TAP - Technology Adoption Program - IBM 驾驶技术创新的新模型



Software. Everywhere.





[www.ibm.com/software/rational](http://www.ibm.com/software/rational)

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