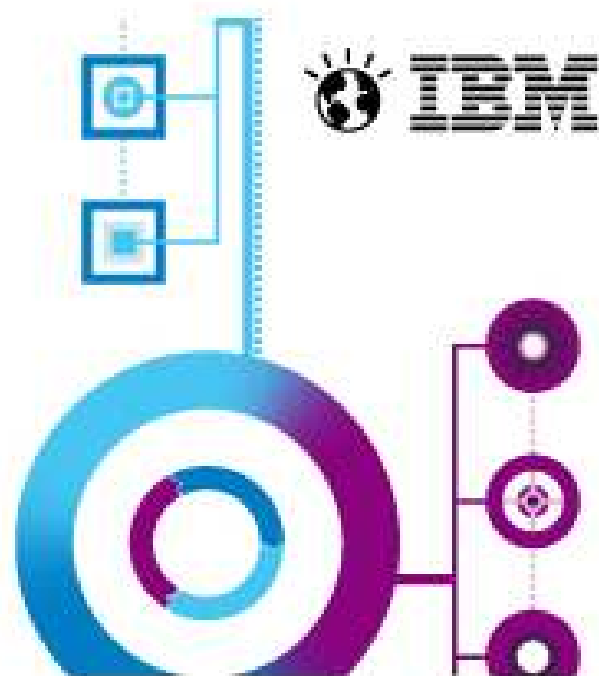# Desarrollo de software en época de crisis

21 de febrero de 2013

Torre Espacio
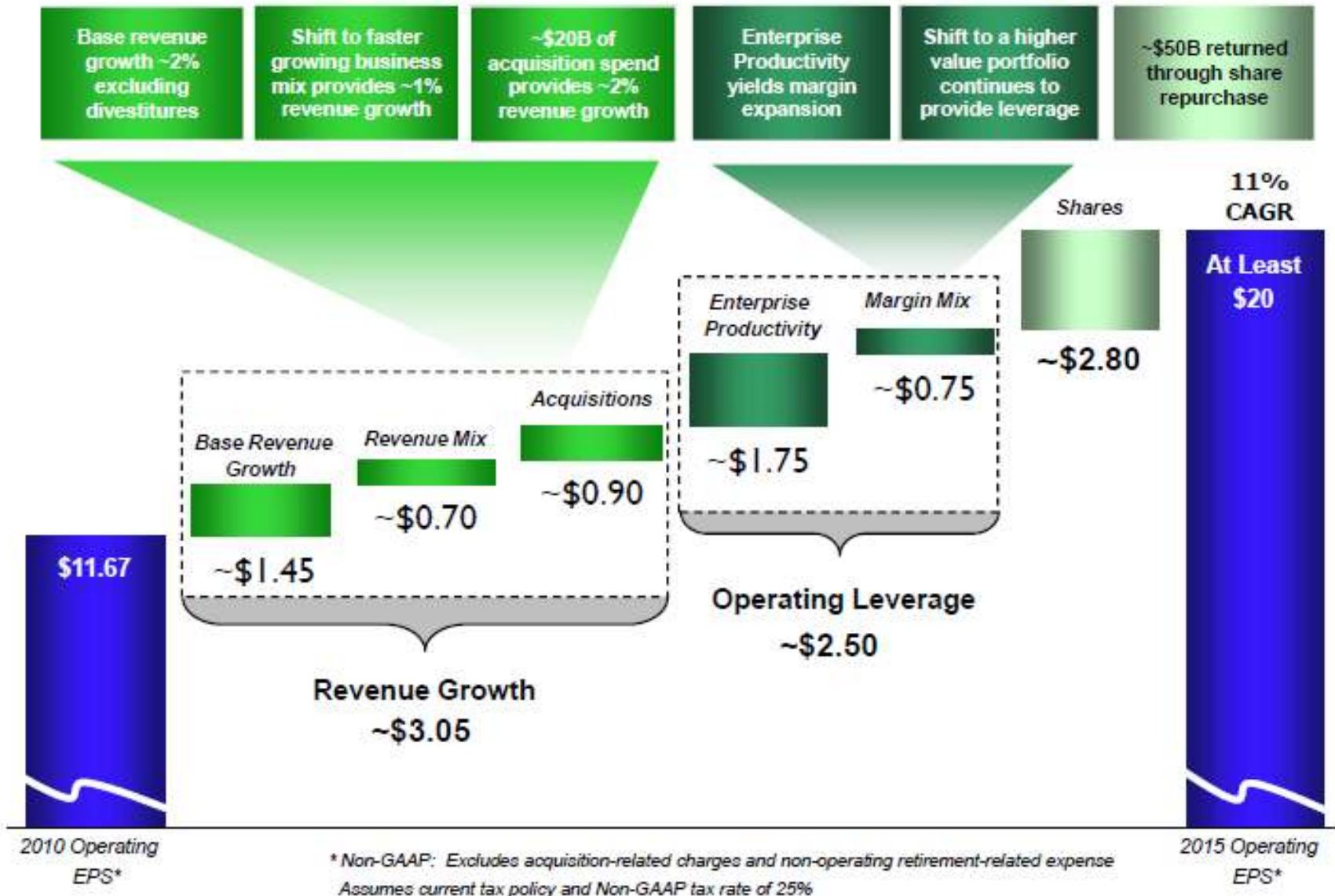
Paseo de la Castellan, 259 D – Planta 18

Madrid

Agenda

- **09:00 Recepción y café de bienvenida**

- **09:30 Introducción**
  Etienne Bertrand, Director de Soluciones de Software Supply Chain, IBM

- **09:45 Casos prácticos ROI**

- **10:15 Demostración en entomo cloud**
  Sonia Batanero, Directora Técnica de Software Supply Chain, IBM

- **10:45 ALM en el Corte Inglés**
  Jesús Hernando, Responsable de Ingeniería de Software, El Corte Inglés

- **11:15 Pausa para café 11:45 El salto a la tercera plataforma y sus implicaciones en el desarrollo de software**
  Fernando Maldonado, Research Manager, IDC

- **12:15 Requirements Management & Verification in Fusion For Energy with DOORS & IRDRMFAO (ponencia en inglés)**
  Ivan Bénilan, Requirements Management & Verification Manager, Fusion For Energy

- **12:45 Conclusiones**

- **13:00 Cóctel**

IBM's 2015 Roadmap: at least $20 of Operating EPS

| Base revenue growth ~2% excluding divestitures | Shift to faster growing business mix provides ~1% revenue growth | ~$20B of acquisition spend provides ~2% revenue growth | Enterprise Productivity yields margin expansion | Shift to a higher value portfolio continues to provide leverage | ~$50B returned through share repurchase |

11% CAGR

Shares

At Least $20

~$2.80

Enterprise Productivity   *Margin Mix*

~$0.75

Acquisitions

Base Revenue Growth   *Revenue Mix*

~$1.75

~$0.90

~$0.70

~$1.45

Operating Leverage
~$2.50

$11.67

Revenue Growth
~$3.05

2010 Operating EPS*

2015 Operating EPS*

* Non-GAAP: Excludes acquisition-related charges and non-operating retirement-related expense
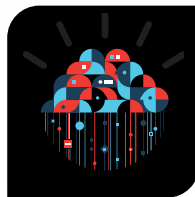*Assumes current tax policy and Non-GAAP tax rate of 25%*

Common answers for diverse needs

Seize new marketplace opportunities on a smarter planet
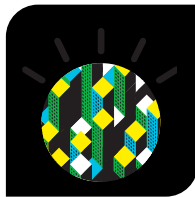
Smarter
analytics
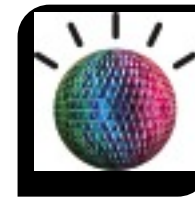
Cloud and IT
optimization

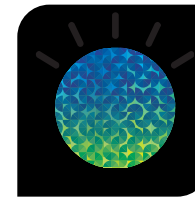Social
business

Security

Smarter
cities

Product and
service
innovation

Business
agility and
mobility

Smarter
commerce

IBM software helps you do it.

A transformed software portfolio
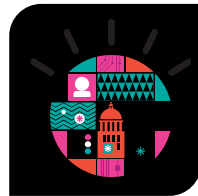## IBM meets clients' business and IT needs by industry and role

Industries

Banking	Energy	Government	Healthcare	Education	Transportation	Retail	Communi-cations

Functions/roles

Marketing CMO	Finance CFO	Human resources CHRO	Supply chain CSCO	Executive CEO	IT CIO

Business and IT needs

CEO Study 2012

Liderar en un mundo hiperconectado

Conclusiones de
"The Global Chief Executive
Officer Study"

IBM

CEO Study 2012
64 paises 18 industrias
1700 CEO
- *Personas que llevan mas de 6 años de media en su puesto*

CEO Study 2012 conclusiones

Potenciar al empleado
a través de los valores

Gestionar la relación con el
cliente de forma individualizada

Fomentar la innovación
colaborativa

Especializarse en lo que importa

Los CEO dicen que deben exhibir:

61%
Obsesión por el cliente

60%
Liderazgo inspiracional

58%
Liderazgo en equipo

71 % de los CEO piensan que hay que potenciar al empleado a traves de los valores es la prioridad nº1
73% de los CEO piensan que hay que gestionar la relación con el cliente de forma individualizada

- Mecanismos para interaccionar con los clientes
  - Presencial de 75% hoy a 65% de 3 a 5 años
  - Redes sociales de 23% a 67%

74% Fomentar la innovación colaborativa
- Asociarse de manera intensiva con otras organizaciones

CEO Study 2012 conclusiones

2004	2006	2008	2010	2012	
1	1	1	1	1	Factores tecnológicos (71%)
2	2	2	2	2	Conocimiento de los empleados (69%)
3	3	3	3	3	Factores de mercado (68%)
4	4	4	4	4	Factores macroeconómicos
5	5	5	5	5	Aspectos regulatorios
6	6	6	6	6	Globalización

Figura 1

La tecnología sube al primer puesto. De todas las fuerzas externas que podrían afectar a sus organizaciones en los próximos tres a cinco años, los CEO consideran que el cambio tecnológico es la más crítica.

Organizations who effectively leverage software delivery outperform their competitors… *yet few are able to execute effectively*

The importance of software development:
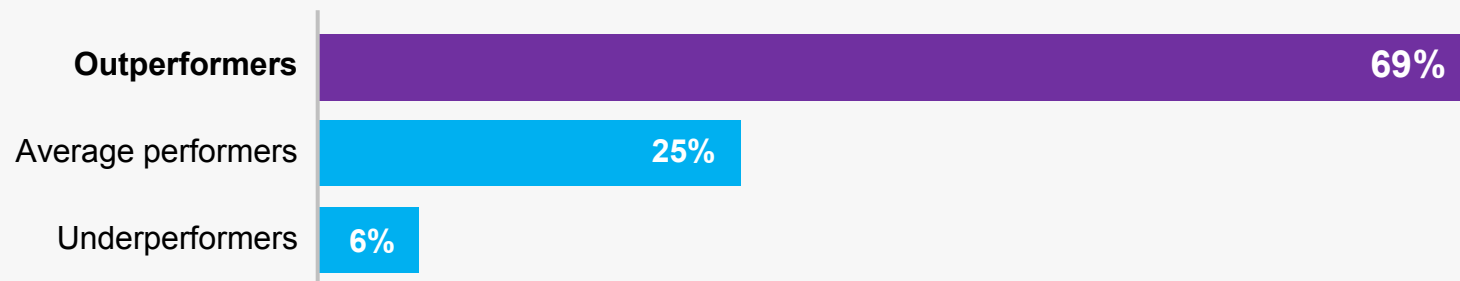
54 **%**
believe it's critical

But only…

25 **%**
leverage it effectively today

Those who leverage it effectively outperform those who don't

Outperformers	69%
Average performers	25%
Underperformers	6%

Source: IBV Study 2012.
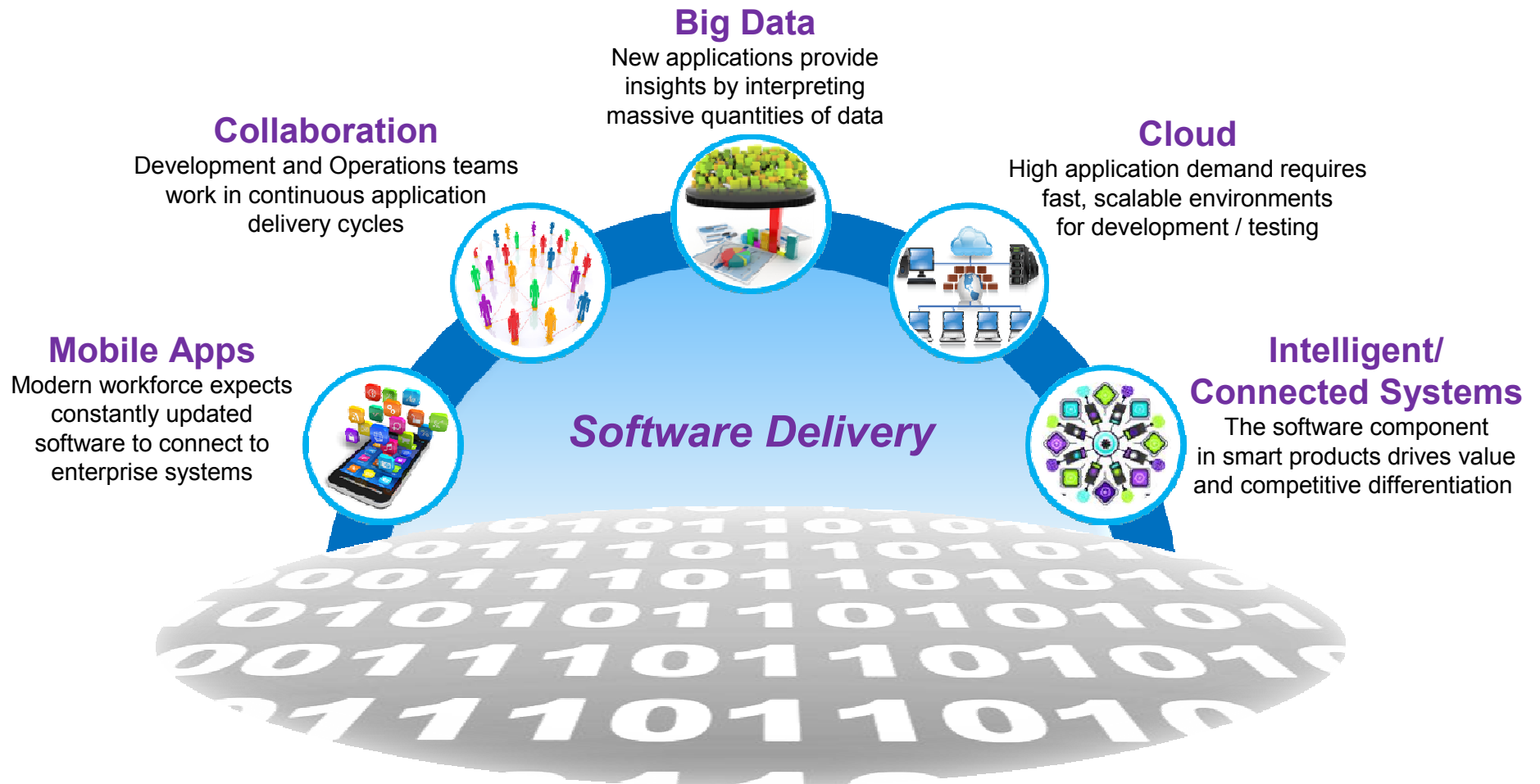
Software Supply Chain: los retos

The world is becoming more connected and complex at every level

Economic uncertainty adds to the complexity

- **EVERYTHING** relies on software

- **EVERYONE** wants customizations

- **ANYONE** can participate

- **EVERYBODY** wants access **EVERYWHERE, ANYTIME**

We must accelerate cost-effective delivery with innovation and quality

# Software delivery is at the heart of today's top technology trends

Big Data
New applications provide insights by interpreting massive quantities of data

Collaboration
Development and Operations teams work in continuous application delivery cycles

Cloud
High application demand requires fast, scalable environments for development / testing

Mobile Apps
Modern workforce expects constantly updated software to connect to enterprise systems

Software Delivery

Intelligent/ Connected Systems
The software component in smart products drives value and competitive differentiation
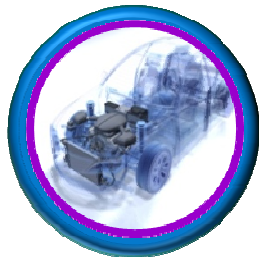
The next generation of smarter products

Aerospace and Defense
Today's F35 has 10 million lines of code on board, twice the amount on the F-22, another stealth fighter.[1]
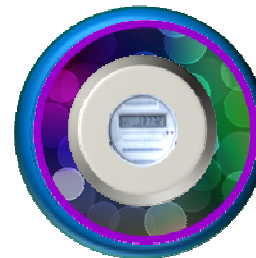
Energy and Utilities
Smart meters for water utilities will lead to $29.9 million in sales by 2017 compared with $10.3 million in 2011.[4]

Automotive
Electronics drives 80 percent of the automotive industry's functional innovation —software is the key to most of it.[2]
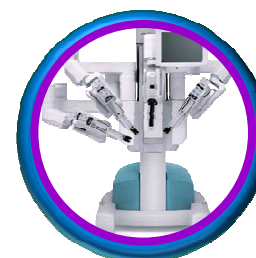
Telecom
Between 2012 - 2016, mobile data traffic will multiply tenfold, with video content acting as the biggest driver.[5]

Electronics
By 2014, 230 million Smart TVs will be installed with 57 million homes watching web-based streams over broadband.[3]

Medical Devices
The da Vinci S surgical robotic system:
• 1.4 million lines of code
• Computing power of 7 laptops
• 10,000 individual parts[6]

[1] *The Australian Software Acquisition Management Course*, Defense Systems Management College, March 2000.
[2] Jürgen Mössinger (2010), *Software in Automotive Systems*, IEEE Software, March/April 2010.
[3] http://www.uievolution.com/mobileconnect/Mobile_Connect_June_2011.pdf
[4] http://www.ecoseed.org/business/us/12199-smart-meters-for-water-utilities-valued-at-29-9-million-by-2017
[5] http://www-05.ibm.com/de/events/innovate/pdf/Conquer-complexitiy_Crisp-Schedl.pdf
[6] http://surgrob.blogspot.com/2009/02/da-vinci-s-robot-2.html

The nemesis of product innovation is complexity
Complexity increases overhead

- Organizations are faced with increasingly difficult problems to solve

  - The **explosion in software** creates opportunities to innovate faster but quality must be preserved

  - Products and systems require **multiple engineering disciplines** to collaborate

  - Smarter products are part of a larger, even more **complex system of systems**

- Addressing these challenges requires

  - **Integrating** lifecycle data

  - **Collaborating** across disciplines

  - **Optimizing** decisions
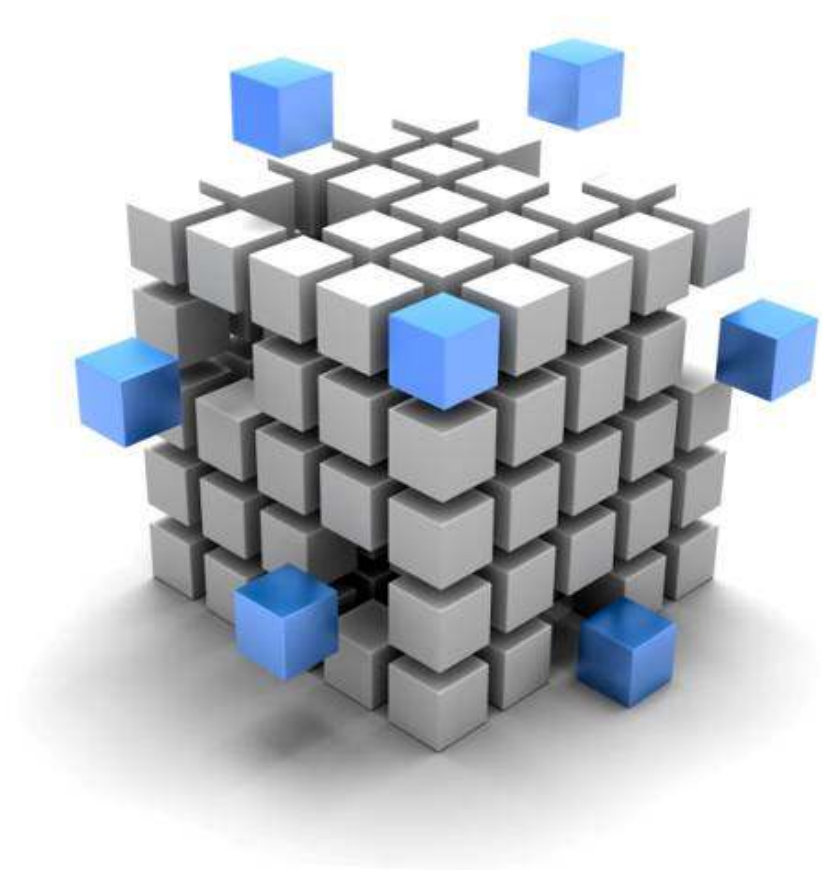
Continuous delivery: *Customer and market drivers*

Significant pressure on business to:

- Integrate with transactional systems
  - *Systems of Record*

- Innovate to create new business value by employing cloud, mobile and social channels and leveraging big data
  - *Systems of Engagement*

- Balancing speed, risk and cost while achieving compliance

Continuously deliver software-driven innovation and business value

Desde IBM ¿Cómo ayudamos ?

Software delivery lifecycle: *Emerging — DevOps*

Ideas
Portfolio Changes

Application and
Virtual Prototypes

Delivery

Continuous Monitoring

Customers

Line of Business

Software Development

Operations/ Manufacturing

Continuous Portfolio Planning

Continuous Integration & Testing

Collaborative Development

Continuous Deployment

Continuous Optimization

Continuous Delivery

Target run-time:

Application Server, Cloud, Embedded Processor, Mainframe, Mobile, Power, PureSystems, etc.

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Capabilities for accelerated software and systems delivery

Application Lifecycle Management

Collaborative Lifecycle Management

- Integrated software design, broader collaboration, traceability and impact analysis accelerates time to market
- Mobile Lifecycle Management Solution
- **Client experience: International bank reduced build and deployment times by 55%[1]**

Test Virtualization Server and SmartCloud Continuous Delivery

- **Client Experience: Computer services company cut costs to create and maintain test environments by up to 80%[2]**
- Automate continuous integration, provisioning and deployment to improve delivery throughput and quality
- Streamline agile testing
- **Client Experience: Computer services comp. reduced testing time from 2 weeks to 3 days[3]**

Lifecycle Integration Adapters

- Integrations to third party solutions from Rational CLM solution
- Facilitate deployment in existing customer environments

See speaker notes for sources.

Complex and Embedded Systems

Industry Accelerators

- Industry tailored guidance facilitates faster time to value

Visualize, analyze and organize

- New RELM integrations support design, test, simulation, and industry solutions
- Lower variance in costs/schedule performance
- DOORs Next Gen providing requirements management for product management on Jazz Platform

Enterprise Modernization

Integrated Solution Accelerators

- Renew and re-architect existing applications through impact analysis, and application flow capabilities
- **2012 study found that automated test, virtualization and reporting capabilities reduced test cycles from months to weeks[4] and reduce defects by up to 90%[5]**

Compilers for System z and Power Systems

- **Benchmarking found application performance boosted by 20% -60% by exploiting the latest IBM middleware and hardware[6]**
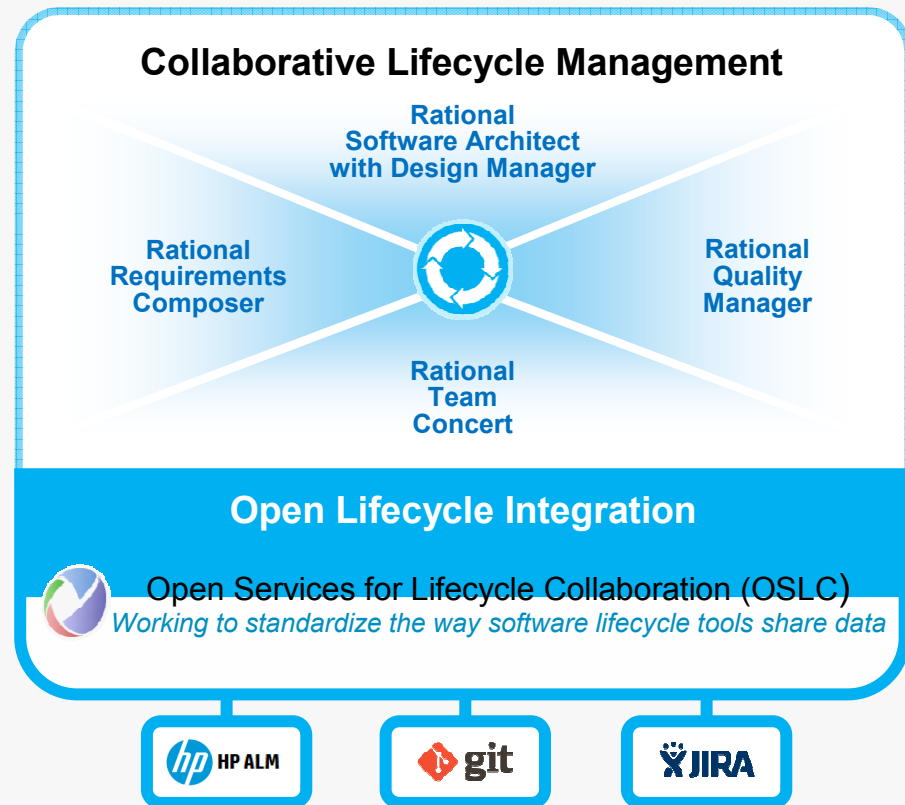
We have the strongest portfolio in the industry!

In 2012

82 products with 45 major releases 49 service offerings and 32 commercial assets

Key new capabilities extend collaborative lifecycle management and continuous delivery for IT

NEW

- IBM SmartCloud Continuous Delivery

- IBM Rational Governance of Application Development Outsourcing

- IBM Rational Integrated Solution for Application Portfolio Management

- IBM Rational Planning for Compliance Solution for Financial Services

- IBM Mobile Development Lifecycle Solution

- Agile Assessment

- IBM solution for Collaborative Lifecycle Management with integrated design

- IBM Rational Lifecycle Integration Adapters

- IBM Quality Management and Testing

- IBM Planning Services Offerings

Collaborative Lifecycle Management

Rational Software Architect with Design Manager

Rational Requirements Composer

Rational Quality Manager

Rational Team Concert

Open Lifecycle Integration

Open Services for Lifecycle Collaboration (OSLC)
Working to standardize the way software lifecycle tools share data

HP ALM   git   JIRA

Continuous Delivery

We are best positioned to give the market place what it needs

Expertise and ecosystem

- Solutions based on over **25 years** of proven best practices – **60K+** users in IBM

- **1,800+** Rational software developers & **1,300+** field technical specialists worldwide, **40+** industry-recognized experts

- **1,500+** business partners representing leading worldwide system integrators and solution providers

- **+200%** YtY Systems partners, **+13%** YtY ISVs, **+20%** YtY partner solutions, and **130K+** Jazz.net members (**+34%**); OSLC collaboration with **40** organizations across **12** domains

Extensive worldwide client base – 33,000+ clients worldwide and 8000+ are in Europe; nearly 500 new customers worldwide and 100 are in Europe

- 9 of the Fortune Top 10, 45 of the Fortune Top 50, 93 of the Fortune Top 100 companies use Rational

- All 10 Top Companies in each of Aerospace and Defense, Automotive Manufacturing, Smart Phone Manufacturing. Medical Devices, Semiconductors, Energy and Utilities, Communications Service Providers and Network Equipment Providers use Rational

Analyst recognition

- #1 in Gartner's 2011 WW Application Development Software market share (Gartner Inc. Market Share: All Software Markets Worldwide, March 2012)

- #1 in Evans Data User's Choice Survey for Software Development Platform, 2012

- Highest scores in Forrester Wave for ALM and Leader in Integrated SOA, 2012

- A leader in Gartner Magic Quadrant for EA Tools, SOA, and ALM, 2012

- A leader in IDC MarketScope and rated #1 in IDC WW SCM 2012-2016 Forecast

- Best of breed Ovum Tech Assessment, 2012

- A leader in the combined enterprise and embedded agile market, and Requirement Managements for SSE, VDC, 2012

- A leader in Worldwide Modeling and Architecture Tool 2011 Vendor Shares, IDC

Exitos de clientes

IBM

IBM client successes

Cut deployment time from four hours to 10 minutes

"Rational products give us an end-to-end solution, because Rational has dedicated solutions for specific domains in the software development lifecycle."

Tansu Dasli
Middleware Development Manager, Avea

Increased development productivity by 30 percent

"IBM Rational Team Concert is the backbone of Danske Bank's agile development process and is adjusted to the special needs of the bank."

Peter Rasmussen
Senior VP, IT Development Processes and Tools, Danske Bank Group

Reduced software validation time by 90 percent

"Historically, it could take us three days to root cause an issue, by putting the upfront efforts into tool set design, that's done in 30 seconds automatically with no human intervention."

Matt Jones
Senior Technical Specialist, Infotainment V.P. GENIVI, Jaguar Land Rover

Accelerated time to market by 20 percent

"To enhance competitiveness to achieve business target, and drive projects successfully, it requires not only tool's functionality, but also maximization total power of team… and we did it."

Hirozumi Eki
JTEKT Corporation

Note: The benefits noted here are specific to each individual client. Other client experiences may differ depending on use case.

Avea
Cuts deployment time from four hours to 10 minutes

The need:
Avea, a leading communications service provider in Turkey, needed to improve its time to market and increase software quality for its mobile communications applications by implementing a standard set of integrated development tools for the entire organization.

The solution:
Avea standardized on IBM® Rational® Requirements Composer and IBM Rational Team Concert™ software, helping eliminate the issues caused by separate, disparate development tools.

The benefits:

- Decreased versioning and deployment problems by approximately 30 percent*

- Reduced deployment time for middleware services from four hours to ten minutes*

- Helped the company deliver higher quality software more quickly

"Rational products give us an end-to-end solution, because Rational has dedicated solutions for specific domains in the software development lifecycle."

Tansu Dasli
Middleware Development Manager, Avea

Solution components:
- IBM® Rational® Requirements Composer
- IBM Rational Team Concert™

* The benefits noted here are specific to this client. Other client experiences may differ depending on use case.

Communications service provider
Increased test team efficiency by 300 percent

The need:

This communications service provider needed to revamp its manual approach so that it could decrease testing time and increase the quality of its applications.

The solution:

The provider engaged IBM consultants to help it create a detailed design document. The team then defined an initial test to determine the level of achievable automation.

The benefits:

- Increased team efficiency by 300 percent, reducing a typical testing cycle from four weeks to less than one week*

- Decreased test completion timeframe, allowing for test conclusions in 25 percent to 40 percent of the original estimated time*

- Established future uses of the software, in the company's development process and for performance and regression testing

"Once the initial test was complete and the results were verified, our testing team was easily able to define additional tests from scratch or to reuse pre-defined tests."

Communications Service Provider

Solution components:
- IBM® Rational® Test Workbench

* The benefits noted here are specific to this client. Other client experiences may differ depending on use case.

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Danske Bank Group
Adopts agile development practices and reduces time to market

The need:

Danske Bank Group wanted to deliver new services faster. It sought to reduce time to market from approximately 14 months to nine months and increase IT development efficiency by 10 percent.

The solution:

The bank adopted agile development methods supported by IBM Rational Team Concert software to improve the quality of deliveries and to achieve work processes that come more naturally to employees.

The benefits:

- Reduced time to market from 14 months to 9 months and improved quality through an iterative development model and processes.*

- Increased IT development efficiency by 10% with more team collaboration and transparency across geographically distributed teams.*

- Supported flexible agile development methods that are customized to meet the needs of the company.

"IBM Rational Team Concert is the backbone of Danske Bank's agile development process and is adjusted to the special needs of the bank."

Peter Rasmussen
*Senior Vice President,
IT development processes and tools,
Danske Bank Group*

Danske Bank

Solution components:
- IBM® Rational® Team Concert™

* The benefits noted here are specific to this client. Other client experiences may differ depending on use case.

IBM

Jaguar Land Rover cuts software validation time by 90 percent

IBM Rational software helps manage near-real-time requirements updates for 6,000 developers worldwide

The need:

Jaguar Land Rover plc wanted to implement a standard requirements methodology that would enable it to manage increasingly complex requirements and speed new features to market.

The solution:

The company implemented a suite of IBM® Rational® software to create a new requirements management and modeling system.

The benefits:

- Reduces the time required to fully validate software by more than 90 percent, from six to eight weeks to only three days*

- Decreases bug-cause detection time by more than 99 percent, from three days of human intervention to 30 seconds*

- Accelerates time to market for in-vehicle entertainment systems and helps increase innovation

"Historically, it could take us three days to root cause an issue, by putting the upfront efforts into tool set design, that's done in 30 seconds automatically with no human intervention."

Matt Jones
Senior Technical Specialist, Infotainment
Vice President GENIVI
Jaguar Land Rover

Solution components:

- IBM® Rational® ClearCase®
- IBM Rational ClearQuest®
- IBM Rational DOORS®
- IBM Rational Rhapsody®

* The benefits noted here are specific to this client. Other client experiences may differ depending on use case.

smarter planet IBM **software**

IBM

Gestión Centralizada de la Configuración
Organismo de Sector Público

Problemas en el desarrollo y despliegue de aplicaciones
Equipos de desarrollo de 600 personas

Situación antes:
- Entregas defectuosas a Pre-Producción
- Ninguna trazabilidad en los artefactos en el ciclo de vida de desarrollo
- Poca fiabilidad de estar trabajando con versiones correctas
- Sistemas heterogéneos de gestión de la configuración
- Detección de defectos dificultosa

Situación después:
- Entregas planificadas a pre-producción
- Seguimiento mediante work items en todos los pasos del desarrollo (edición, compilación…)
- Mismos procedimientos de trabajo con un sistema de gestión de configuración común para todos los miembros del equipo de desarrollo
- Sistema centralizado de gestion de configuración para todos las tareas y lenguajes
- Posibilidad de seguimiento y tratamiento automático de defectos

Solución: Rational team Concert Enterprise para System z y distibuido
Rational developer for System z para desarrollo Cobol y Java

Beneficios:
- Coordinación entre los equipos de desarrollo, preproducción y producción
- Fiabilidad en la entrega de aplicaciones de desarrollo a Pre-Producción
- Ahorro de tiempos en la puesta en producción de las aplicaciones con un sistema de promociones entre los distintos entornos rápido y fiable.
- Mejora en la calidad de las aplicaciones al tener menos errores en tiempo de desarrollo, incluidos costes de mantenimiento.   25% de ahorro > 5M€ anuales
- Eficiencia en el desarrollador al tener un entorno colaborativo eficaz   20% de ahorro en productividad. >4.5M€ anuales

ation

Y todos juntos ¿Qué hacemos?

….. ayudar nuestras organizaciones a transformar la innovación en resultados de negocio, mediante una Supply Chain de Software cada día más eficiente.

Potenciar al empleado a través de los valores

Gestionar la relación con el cliente de forma individualizada

Fomentar la innovación colaborativa