Let’s Build a Smarter Planet together

Be Smarter With Software

SW Day 2009, Vilnius - Markus Houben, IBM Software Group, CEE
Unprecedented amounts of new information are being generated—presenting both a challenge and an opportunity for organizations seeking insight.

- Internet-based communications
- Ever-rising adoption of digital content
- The businesses based on storing and sharing data
- Increased use of electronic banking and finance
- Digital records
- Emails, photos, voice files, and videos
- Data from sensors
- Consumer-created content
Information is exploding:

**In volume.**

15 petabytes

Amount of new information being generated every day, 8x more than the information in all U.S. libraries.

200 billion

More than 200 billion emails are sent every day.

988 exabytes

Amount of digital information that will exist in 2010—equivalent to a stack of books from the sun to Pluto and back.

**In variety.**

$5.7 million

For every 1,000 knowledge workers it employs, a company loses $5.7 million annually in time wasted reformatting information between applications.

80%

New data growth that is unstructured content, generated largely by email, with increasing contribution by documents, images, video and audio.
Information is exploding:
but less and less of the information available is being applied effectively

Organizations must improve their ability to turn that information—especially information generated in real time—into insight to optimize performance.

1 in 3
Business leaders frequently make major decisions with incomplete information or information they don't trust.

1 in 2
Business leaders don't have sufficient information from across their organizations to do their jobs.

3 in 5
Organizations don't share critical information with partners and suppliers for mutual benefit.
Let’s build a smarter planet: Smarter Cities

We now have the ability to measure, sense and monitor the condition of almost everything

30 billion
By 2010, 30 billion RFID tags will be embedded into our world and across entire ecosystems.

1 billion
By 2010, there will be more than 1 billion camera phones in existence.

85%
Nearly 85% of new automobiles will contain event data recorders by 2010.
People, systems and objects can communicate and interact with each other in entirely new ways

**2 billion**

Internet Users

There will be an estimated 2 billion people on the internet by 2011.

**4 billion**

Mobile Phones

There are an estimated 4 billion mobile phone subscribers worldwide.

**1 trillion**

Connected Devices

Soon, there will be 1 trillion connected devices in the world, constituting an “internet of things.”
The new leadership requirements:

Collaboration
Standards
Openness and innovation

These three elements are key to your long-term strategy and road-map to success.

Issue: Limited Resources
Smarter Solutions for a Smarter Planet

Instrumented
Interconnected
Intelligent
SMART TRAFFIC

Intelligent congestion / road charging systems imposing a graduated toll, makes it obvious when traffic will be the worst, so drivers who trek in during peak hours know they'll pay more for what will probably be a maddening experience. As a result, people seem to be cutting out unnecessary trips. Reducing traffic isn't about building more roads, it's about providing better information and choices.

ROAD USER CHARGING

ELECTRONIC FARE MANAGEMENT

TRANSPORTATION INFORMATION MANAGEMENT
SMART UTILITIES

Seeing real-time usage data on the electric meters, along with options for cheaper times of day will encourage us to stop hogging peak kilowatts. The power supplier will be likely to overbuild highly polluting power plants.

SMART GRID
WATER MANAGEMENT
INTELLIGENT BUILDINGS
SMART HEALTH CARE

Keeping all patient records online and link them with clinical applications allow you to analyze and better understand patterns and trends among patients with similar symptoms or illnesses, to help determine how to better serve their patient community.

HEALTH INFORMATION EXCHANGES
CONSUMER PORTALS
DISEASE SURVEILLANCE
Business intelligence software along with mapping and visualization tools, officers and analysts in the center can detect crime patterns as they are forming, enabling precinct commanders to take proactive measures to keep ahead of these trends. Crime Information Solution, the system collects data from calls to the police, crime reports and other sources, and lets police cross-check them in a variety of ways that previously have been difficult to accomplish.
Building a bridge between store cash registers and the retailer's data warehouse allow you to see improved accuracy of sales records giving you a greater visibility into customer buying habits, helping them improve overall business performance.
SMART DATA / IT CENTERS

Software solutions with intelligent and automated workload management automatically allocate workloads in real time to higher- and lower-performing systems, as well as all necessary resources such as storage, to ensure that business goals are met while impressive cost reductions and performance increase can be achieved.

WORKLOAD BALANCING
COST REDUCTIONS
PERFORMANCE INCREASE
SMART WORK

Collaboration and productivity: employees leverage real time communication and collaboration and social software (Web 2) to tap into the passion and expertise of colleagues/partners/clients/suppliers, and their digital breadcrumbs.

PRODUCTIVITY INCREASE
EMPLOYEE SATISFACTION
REALTIME COMMUNICATION
Smarter Financial Services: 90% of FS executives believe the returns of the past are over, and will be more sustainable.

Collecting data in a single format, storing them in a database and perform analytics on them at rest is a method of the yesterday. Smart financial institutions are turning to a new business intelligence approach that can make sense of data in any format, in any volume, in real time.

GET REAL-TIME BUSINESS INSIGHT
Using anonymized data and advanced mathematics to harness the shared experiences of financial institutions and improve risk quantification. Having the right mix of pattern detection and preventive measures to proactively deal with financial crimes and fraud.

STREAMLINE OPERATIONS and CONSOLIDATE COMPUTING RESOURCES
To achieve faster time to market with new offerings and lower IT costs. To reduce manual touch points — cutting processing errors and required remediation.

PROVIDE CONSUMER EXPERIENCE TO TECH-SAVY CLIENTS
Achieving growth and deeper penetration of new markets through seamless self-service experience.

Large US Retail Bank: Identified potential to reduce fraud by $18 million on an annual basis. By sampling a statistically significant subset of 56,000 records out of a 3 million card base, a bank improved on its initial fraud detection and was able to shut down additional fraudulent accounts.
SHIFTING FROM REACTION TO REAL-TIME RESPONSE AND PREDICTION

in business

&

in public services

DRIVES OUR SOFTWARE STRATEGY
<table>
<thead>
<tr>
<th>Company</th>
<th>Value (USD)</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micromuse / Netcool</td>
<td>862 million</td>
<td>2006</td>
</tr>
<tr>
<td>Filenet</td>
<td>1.61 billion</td>
<td>2006</td>
</tr>
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<td>Datamirror</td>
<td>161 million</td>
<td>2007</td>
</tr>
<tr>
<td>Telelogic</td>
<td>750 million</td>
<td>2008</td>
</tr>
<tr>
<td>Cognos</td>
<td>4.9 billion</td>
<td>2008</td>
</tr>
<tr>
<td>ILOG</td>
<td>340 million</td>
<td>2009</td>
</tr>
<tr>
<td>SPSS</td>
<td>1.2 billion</td>
<td>2009</td>
</tr>
</tbody>
</table>

Micromuse / Netcool (USD 862 million) 2006:
Netcool helps manage IT network for banks, teleco carriers, governments and retailers.

Filenet (USD 1.61 billion) 2006:
Filenet helps companies simplify business processes.

Datamirror (USD 161 million) 2007:
IBM Information Server allows customers to better exploit operational data by capturing and delivering real time information.

Telelogic (USD 750 million) 2008:
Model, build and test complex systems such as aircraft radar and ABS.

Cognos (USD 4.9 billion) 2008:
Cognos infuses intelligence into the business. BI is one of the fastest growing segment on the SW market.

ILOG (USD 340 million) 2009:
ILOG helps customers improve their management of business decisions through powerful tools related to rules, optimization and visualization.

SPSS (1.2 billion USD) 2009:
Predictive analytic capabilities that can help customers predict future events and proactively act upon that insight to drive better business outcomes.
Thank you for your attention
Software Acquisitions
## IBM Solutions Portfolio for Cities

### Public Safety
- Crime information warehouse
- Emergency response
- Digital surveillance

### Intelligent Transportation
- Road user charging
- Fare management
- Transport info management

### Government Services
- Citizen-centered design
- Integrated service delivery
- Permits and licenses
- Land registries

### Energy & Utilities
- Smart grid
- Building efficiency assessments
- Water management

### Telecommunications
- Broadband expansion

### Healthcare
- E-medical records
- Home health services
- Payment systems

### Education
- Smarter Classroom
- Smart Administration
- Innovation in Research

### Government Accountability – Results orientation and Openness

#### Analytics
- Assessing overall health of the community vs. national indicators
- Establish goals and priorities

#### Municipal Dashboards
- Measuring progress against goals
- Identifying improvement areas

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