Service Oriented Business Intelligence
Knowledge objectives

1. Explain need for BIaaS
2. Explain characteristics of BIaaS
3. Distinguish between BIaaS and BI using services
4. Enumerate the four layers of cloud services
5. Distinguish the four layers of cloud services
6. Explain how tools at each of the four layers can help to provide BI
The needs of organizations

What are your organization's main reasons for implementing self-service BI and analytics?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users are requesting to do more on their own</td>
<td>67%</td>
</tr>
<tr>
<td>IT cannot keep up with changing business needs</td>
<td>58%</td>
</tr>
<tr>
<td>Users are going rogue and IT needs a comprehensive solution</td>
<td>38%</td>
</tr>
<tr>
<td>Current BI processes cannot adapt to “test-and-learn” analytic processes</td>
<td>32%</td>
</tr>
<tr>
<td>IT lacks adequate BI/analytics expertise</td>
<td>31%</td>
</tr>
<tr>
<td>Lack of IT budget or need to reduce IT’s BI/DW budget</td>
<td>28%</td>
</tr>
<tr>
<td>Users need access to unstructured data sources and content</td>
<td>27%</td>
</tr>
<tr>
<td>We do not have a self-service BI initiative</td>
<td>23%</td>
</tr>
<tr>
<td>Poor quality of data in IT-managed BI reports</td>
<td>18%</td>
</tr>
</tbody>
</table>

*Figure 3. Based on answers from 377 respondents; respondents could select more than one answer.*

*TDWI Best Practices Report, “Achieving Greater Agility with Business Intelligence,” First Quarter 2013*
The right sweet spot for BI

Software development methods have increasing relevance in this direction, where IT builds semantic models and/or reports.

Information Consumers

Centralized/Controlled

Static Reports Interactive Reports

Self-Service BI

The Dull Side

Power Users

Decentralized/Autonomous

Ad Hoc Query/OLAP Data Discovery Data Dump in Excel/Access

The Dark Side

Software development methods are increasingly irrelevant here, as the developer and users are one in the same.
New trends

- Self-Service reporting strategy
  - Remove the IT bottleneck from BI
- Semantic layer based BI platforms
  - Provide data discovery
- Organizational model
  - Agility and strong governance
Self-service BI

- **Definition**
  "Enabling the business user community to create their own reports and analyses from scratch."
  R. Kimball

- **Requirements**
  - Multidimensional model
  - User support
    - Documentation
    - Metadata
    - Training
    - Assistance
    - Standard reports
  - Analysis tools
BI 2.0

- Simplicity
- Universal access
- Real-time insight
- Collaboration
- Operational intelligence
- Connected services
- Agility and speed of analysis

Neil Raden, Information Week
BI as a Service

- Enable users to build their own reports
- Enable users to build their own analytical views
- Use data discovery functionalities
- Promote consistency of KPI
- Certify content (for distribution)
- Blend IT and business skills
- Balance central and de-central BI delivery
Service layers

- Business Process as a Service
- Software as a Service
- Platform as a Service
- Infrastructure as a Service
Examples per layer
Responsibility

Packaged Sw
- Application
- Runtime
- Security
- Integration
- Databases
- Servers
- Virtualization
- Server Hw
- Storage
- Networking

IaaS
- Application
- Runtime
- Security
- Integration
- Databases
- Servers
- Virtualization
- Server Hw
- Storage
- Networking

PaaS
- Application
- Runtime
- Security
- Integration
- Databases
- Servers
- Virtualization
- Server Hw
- Storage
- Networking

SaaS
- Application
- Runtime
- Security
- Integration
- Databases
- Servers
- Virtualization
- Server Hw
- Storage
- Networking

September 2013 Alberto Abelló & Oscar Romero
Relationship between Cloud and BI

- Consultants say three quintillion bytes of data are created every day.
- It comes from everywhere. It knows all.
- According to the book of Wikipedia, its name is “Big Data.”
- Big Data lives in the cloud. It knows what we do.

- In the past, our company did many evil things.
- But if we accept Big Data in our servers, we will be saved from bankruptcy.
- Let’s pay.
- Is it too late to side with evil? Shhh! It heard you.

- Let’s implement cloud computing so I have something to talk about at the executive meeting.
- Tell them we’re evaluating it. That way neither of us needs to do any real work.
- I like it when you do real work.
- Sorry, I thought you were leading by example.
Activity

- **Objective:** Understand the stack of services

- **Tasks:**
  1. **(10’) Read separately the corresponding document**
  2. **(35’) Share knowledge**
  3. **Hand in a summary of each layer with something original**
  4. **(15’) Class sharing**

- **Roles for the team-mates during task 2:**
  a) Explains his/her material
  b) Asks for clarification of blur concepts
  c) Mediates and **controls time**
Infrastructure as a Service

- Amazon EC2
- IBM SmartCloud
- Google app engine
- Etc.
Platform as a Service

- Google BigTable
- Amazon SimpleDB
- Microsoft SDS
- FanthomDB
- Aster DB
- Vertica
- K2 Analytics
- etc.
Software as a Service

- Salesforce.com
- Cloud9
- Oco
- RightNow
- Microstrategy
- Quantivo
- Oracle on Demand
- etc.
Business Process as a Service

- IBM WebSphere
- Oracle SOA suite
- webMethods
- Apache ServiceMix
- Microsoft Connected Services Framework
- Open ESB
- etc.
Pizza as a Service

- **Traditional On-Premises (On Prem)**
  - Dining Table
  - Soda
  - Electric / Gas
  - Oven
  - Fire
  - Pizza Dough
  - Tomato Sauce
  - Toppings
  - Cheese

- **Infrastructure as a Service (IaaS)**
  - Dining Table
  - Soda
  - Electric / Gas
  - Oven
  - Fire
  - Pizza Dough
  - Tomato Sauce
  - Toppings
  - Cheese

- **Platform as a Service (PaaS)**
  - Dining Table
  - Soda
  - Electric / Gas
  - Oven
  - Fire
  - Pizza Dough
  - Tomato Sauce
  - Toppings
  - Cheese

- **Software as a Service (SaaS)**
  - Dining Table
  - Soda
  - Electric / Gas
  - Oven
  - Fire
  - Pizza Dough
  - Tomato Sauce
  - Toppings
  - Cheese

**You Manage**

**Vendor Manages**
Virtualization analysis

- Benefits in the provider
  - Resource usage
  - Management
  - Consolidation
  - Energy consumption
  - Less space required
  - Emergency planning

- Benefits in the consumer
  - Dynamic behavior
  - Availability
  - Access

- Drawbacks
  - Operation of the virtualization layer consumes resources
  - More systems need to be managed
Summary

- BIaaS
- Stack of cloud services
  - IaaS
  - PaaS
  - SaaS
  - BaaS
Bibliography

- Gartner Reports. G00232650, G00175593, and G00219131