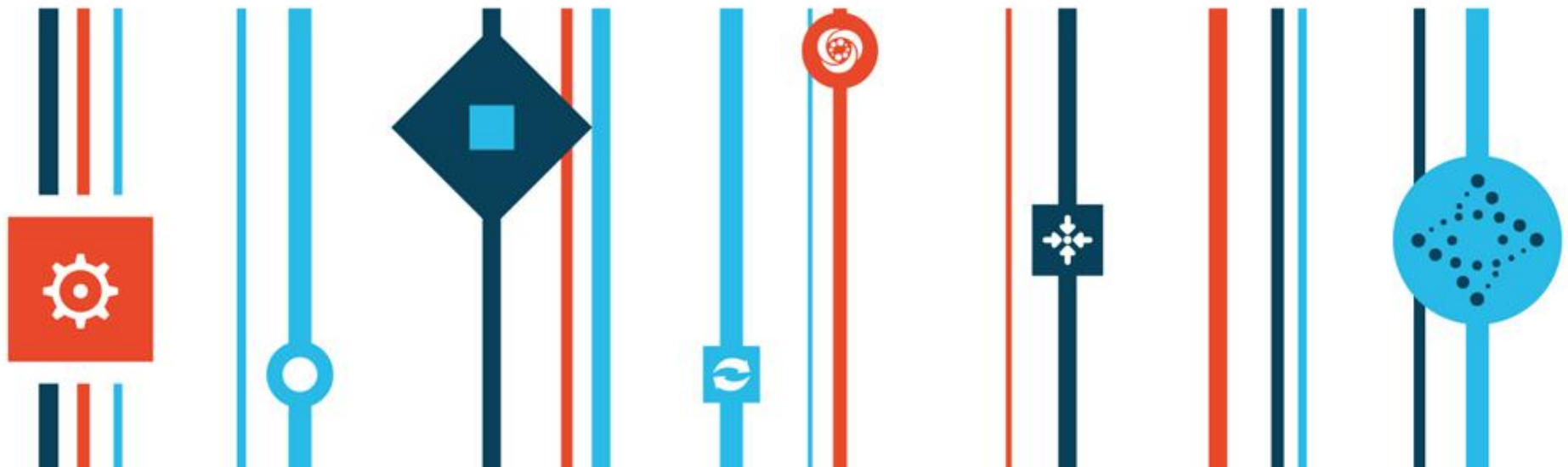


# 基于云计算模式的商业智能分析

李 鹏

IBM软件部工程师



# New Voice of the CIO

*Business intelligence 是企业竞争力的关键*



CIO responses to: What kind of visionary plans do you have for enhanced competitiveness?



## BI 仍是CIO的优先考虑

BI 投资的不断增长, 不受经济环境影响  
IT预算受到更严格的审查, 特别是如果经济继续放缓  
但是更加倾向BI

- 从零碎跨部门的部署移动到更广泛的企业级
- 用更少的钱和IT资源做更复杂的BI系统

## BI 标准化

一种降低成本和最大限度地发挥现有的技能和技术的潜在途径

## BI应用更加深入

继续向操作型BI发展

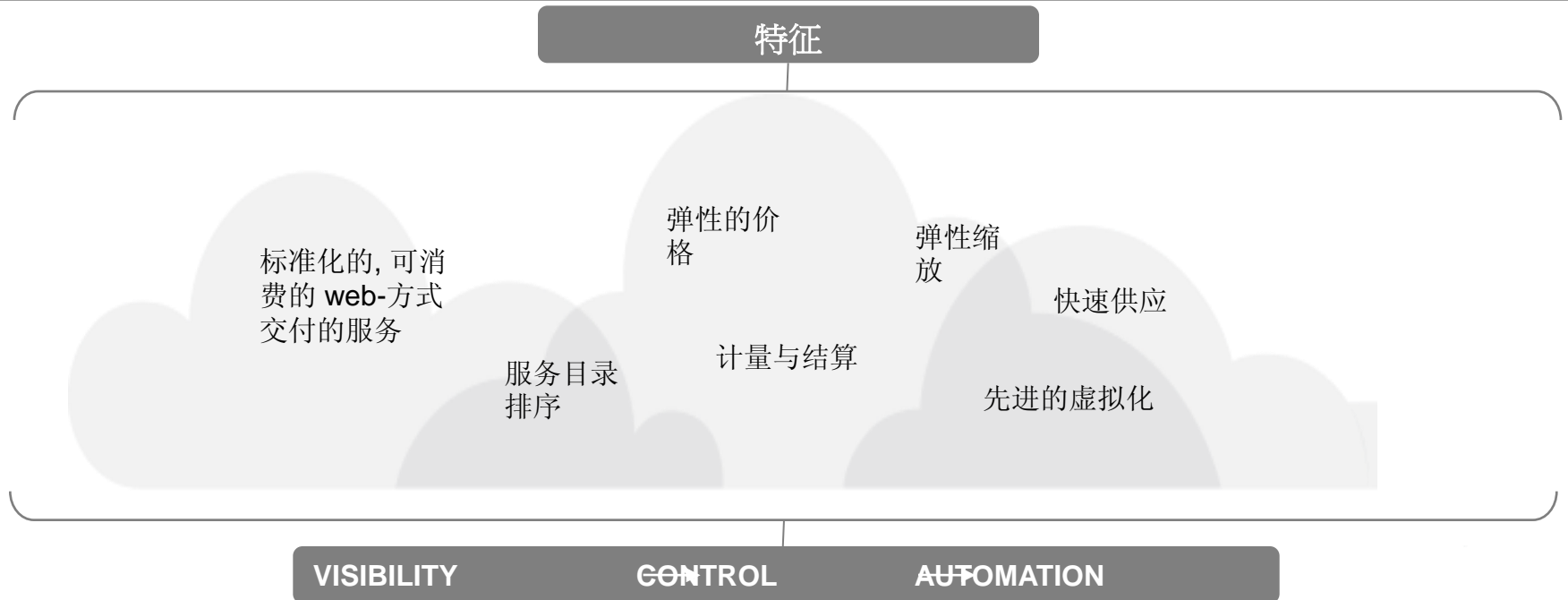
- 面向更多的用户, 增加部署  
自助服务 - 权力转移给用户

## 中心处理能力

中心部署能力将上升  
达到商务智能的成熟度是成功的关键

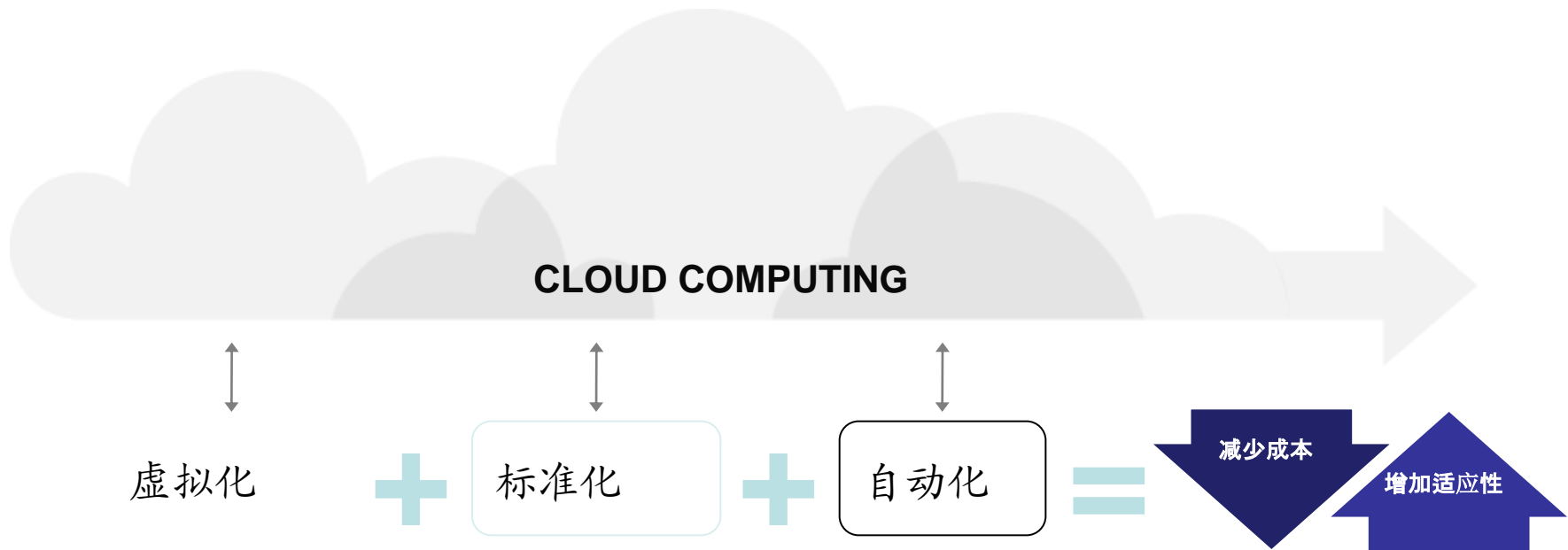
## 云计算是一种商务智能的部署选项

“云”是一个新兴的消费和交付模式,面向IT为基础的服务,用户在其中只看到服务,并不需要了解低层的技术或工具



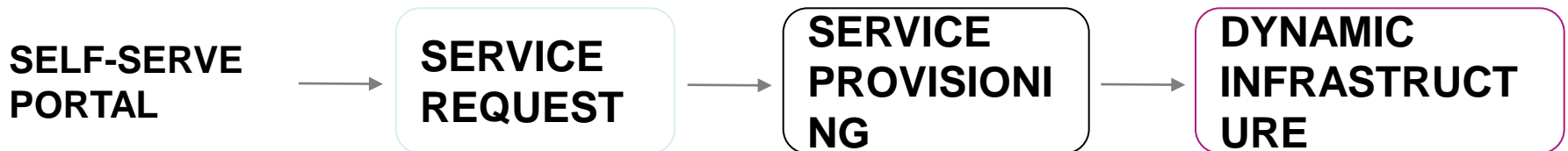
....service oriented and service managed

一个有效的云计算部署是高度优化的，做到事半功倍...

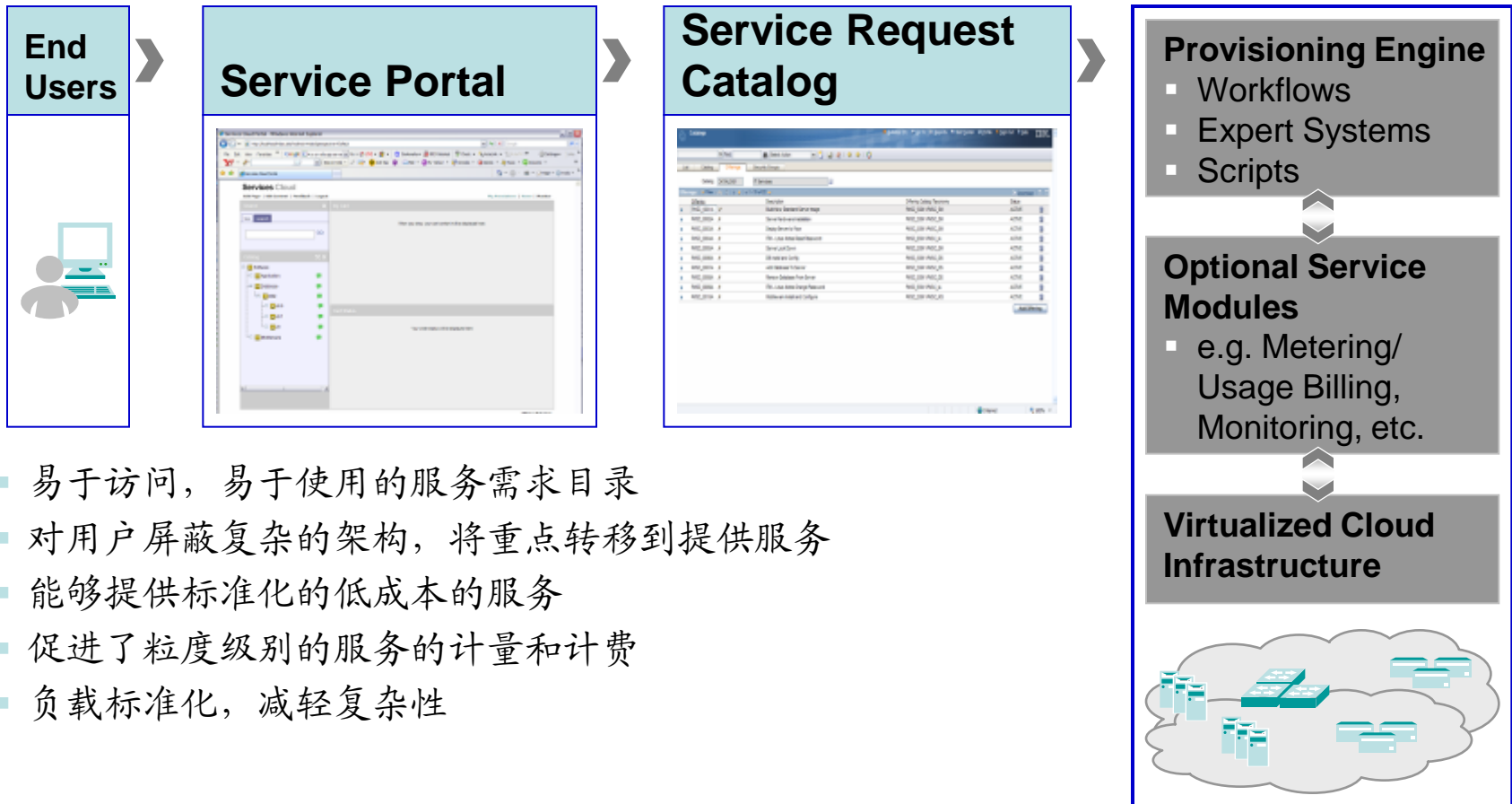


... 平衡虚拟化，标准化和自动化，释放新的投资上花费的业务预算。

“自助服务”的云 驱动降低成本，开启了更有效的提供商业智能的生产力

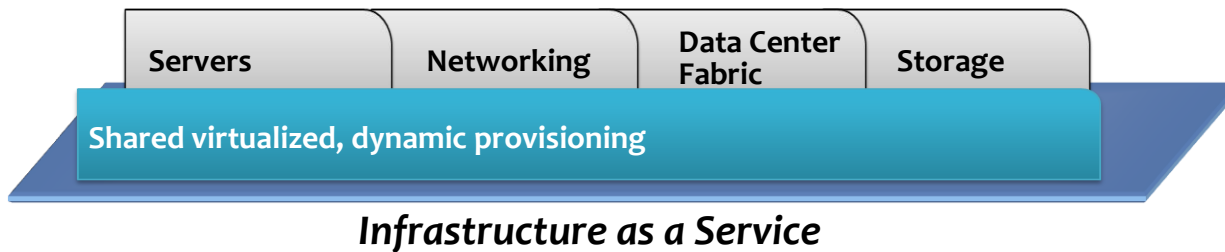
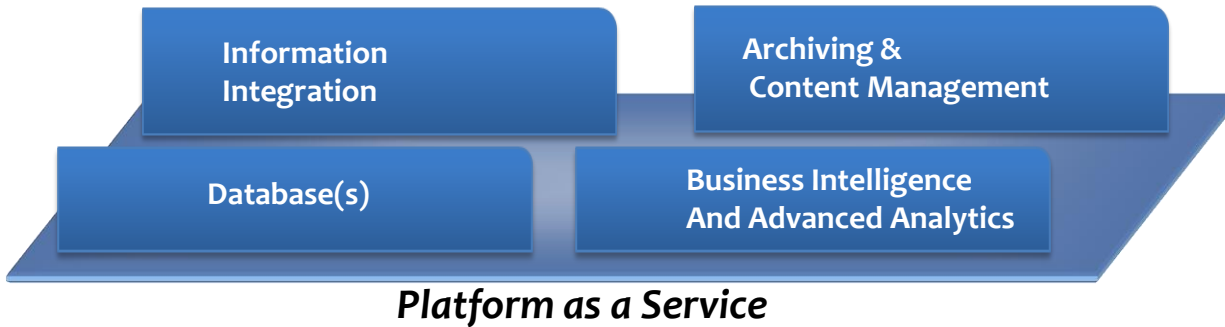
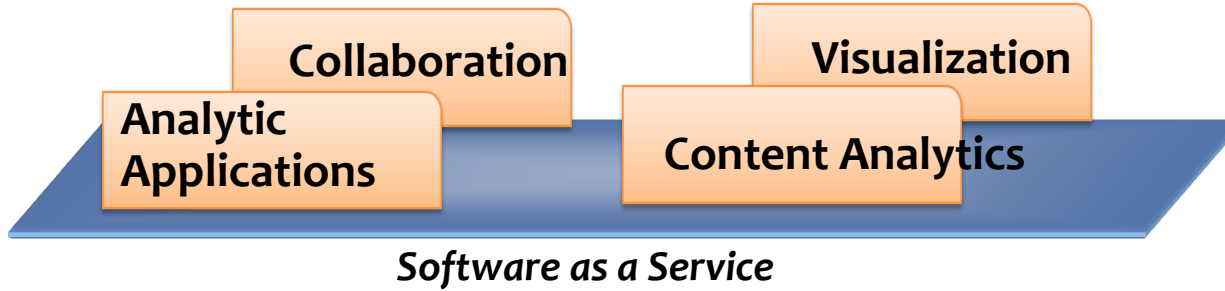


# How does cloud computing work?



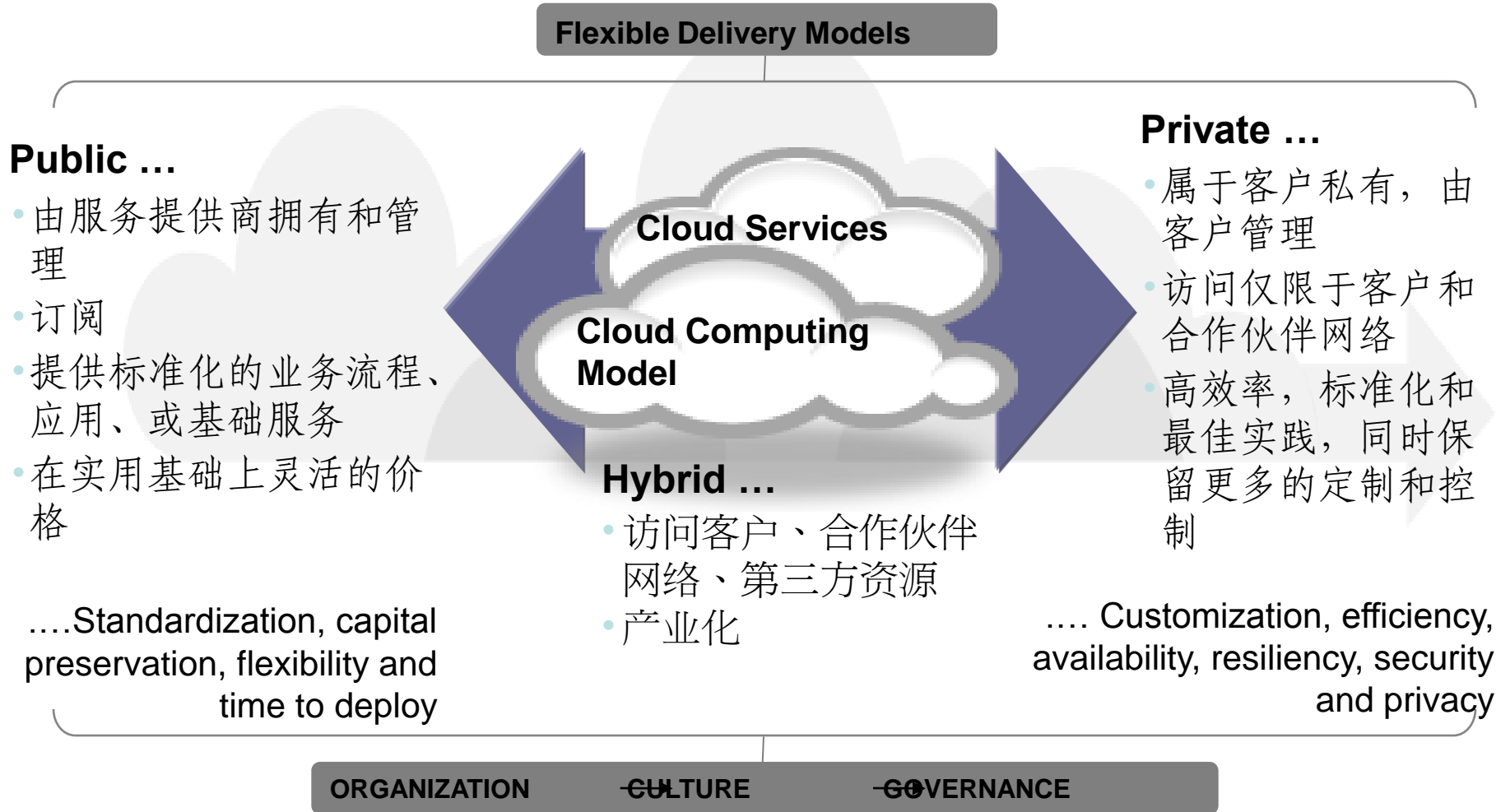
- 易于访问，易于使用的服务需求目录
- 对用户屏蔽复杂的架构，将重点转移到提供服务
- 能够提供标准化的低成本的服务
- 促进了粒度级别的服务的计量和计费
- 负载标准化，减轻复杂性

# Information Management: Investments in Cloud





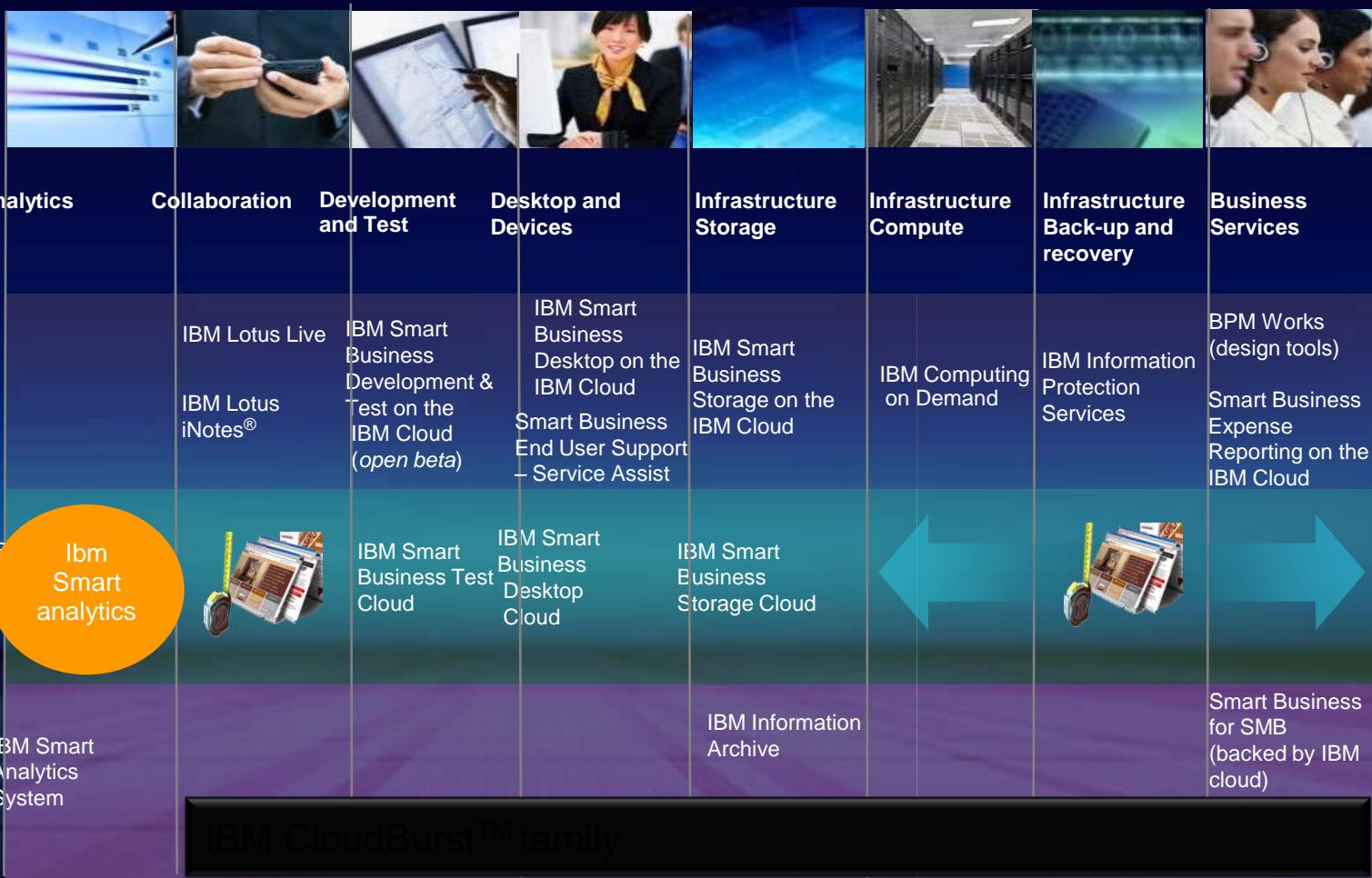
# What are the delivery models for cloud?



## 云计算的机会



- BI是公认的战略资产，不同的部门组织会争抢管理权
- 给各部门提供BI是非常复杂的建设过程
- 商业智能基础设施的建设和增加可能需要高昂的成本
- 保持企业对BI的控制是困难的，但也是需要的
- 许多企业没有建立企业的BI战略或最佳实践



→ More info at <http://www.ibm.com/ibm/cloud/>



## the Smart Analytics Cloud

智揽云海 云领未来  
2010 IBM 云计算高峰论坛



Smart Analytics Cloud

...为大型企业客户提供商业智能  
和分析优化的云计算解决方案

Learn more: <http://www.ibm.com/systems/z/solutions/cloud/smart.html>



我们作出明智的决策的承诺促使我们考虑通过私有云提供Cognos(via System z)功能,它使在5年之内节省2000万美元成为可能.

-IBM CIO Office

*“What IBM has done is come up with a perfect application for a private cloud.”*

*-- John Webster, CNET, Nov. 18, 2009*

### Blue Insight:

IBM部署了世界上最大的用于为商业智能和分析的私有云, 将授权世界各地的IBM员工使用信息和业务洞察力作出更明智的决策 - 无论数据保存在哪里

### IBM Smart Analytics Cloud:

一个解决方案, 可以使大型企业与客户建立易于使用的商业智能服务、系统、软件的自己的私有云环境

### IBM Blue Insight results:

- 合并了超过20个不同产品的部门BI部署, 到Cognos 8 BI的System z系统上
- 实现从60 多个不同的数据源访问IBM超过1PB数据的数据价值
- 为我们全球各地200000提供私有云自助服务 (到2010年年中12万用户, 到2011年扩大到20万)
- 每用户成本节约56% (伴随着数量的增长)
  - \$7, 775, 767 - 节约基础设施成本-利用Z10技术
  - \$2, 558, 525 - 商业智能竞争力中心(BICC)的成本节约
- 弹性--在支持SLAs的共享服务器模式下, 提高了实现数据价值的速度和减少资本支出 (26周到2周)

# Introducing the Smart Analytics Cloud

*A private cloud optimized for analytic services in large enterprises*

Defined as ...

Smart Analytics Cloud

IBM Smart Business – 用行业领先的软件、硬件提供服务

To create...

一个BI和分析的私有云计算解决方案

That delivers ...

为整个企业提供业务智能服务的解决方案

## IBM software

**Cognos 8 BI**  
全面的BI功能



开放的企业级BI平台

## IBM hardware

**IBM System z**  
集中, 虚拟化 & 简化 BI 架构



## IBM Services

- 创建商务智能的意识并且理解整个组织的商业智能战略需要
- 完成准备评估, 以确定该解决方案的范围和优先级
- 将Cognos 8 BI for Linux on System z 部署为一个 private cloud
- 提供管理与扩充商业智能私有云部署的技术

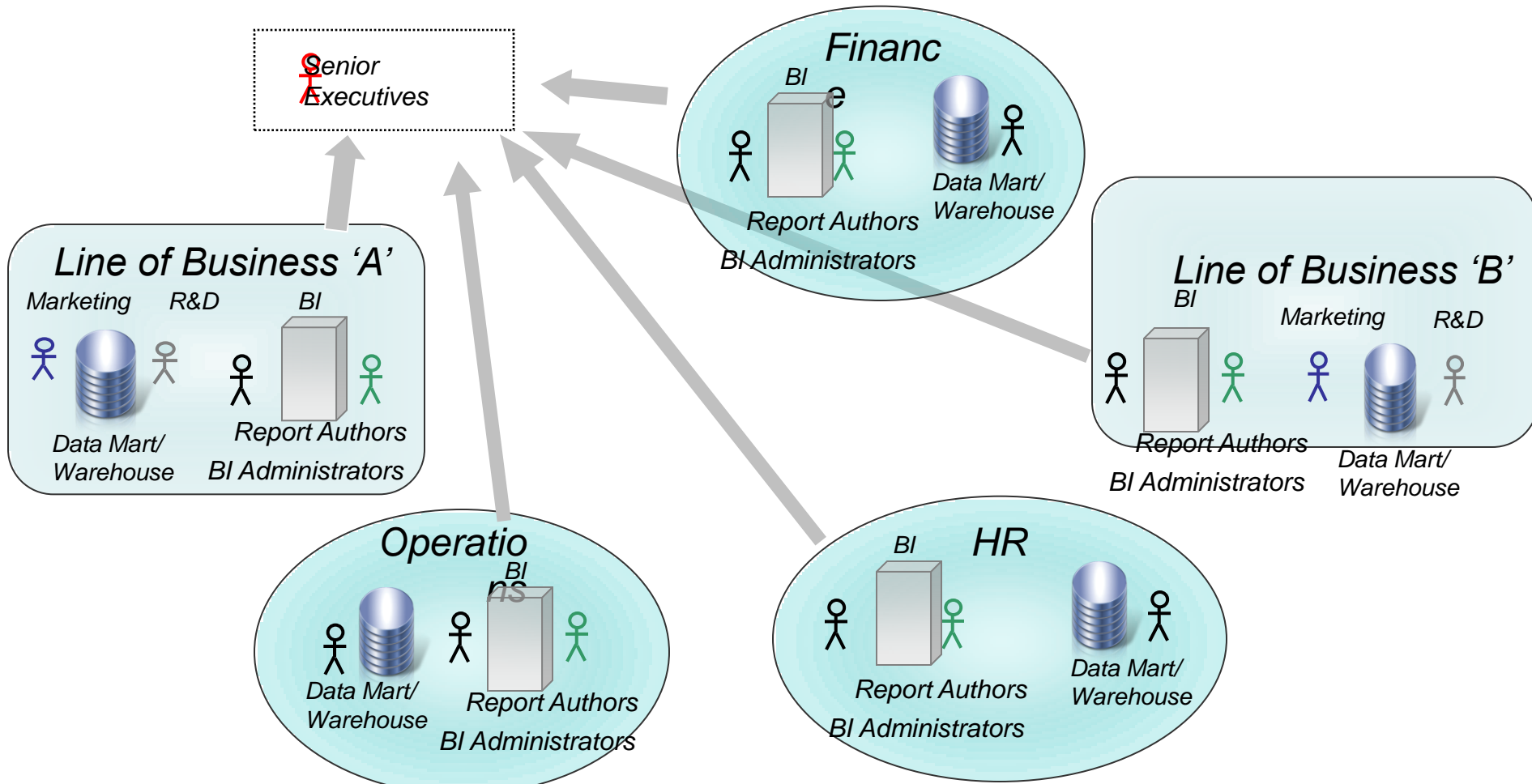


## 大型企业应用BI面临的挑战

- 整个企业内不断增加的商务智能和绩效管理工具和部署的需求往往造成多种工具和众多的系统部署
- 部门级的商业智能解决方案在大型企业客户中是普遍存在的
- 在大量不同的部门级BI系统存在的情况下，维护和遵守一套标准和规章是很困难的。
- 增加了提供商业智能/分析/绩效管理功能的成本，因为每个系统都需要持续维护成本加初始搭建成本，包括硬件、开发设置、软件等
- 缺乏一个整体的商业智能/分析/绩效管理战略
- 当同时有许多正在运转的系统时，不能有效的利用最好的技术力量。



Delivering BI to the executives who need it most is a challenge  
*Information must be aggregated from a series of departmental BI deployments*



Each BI deployment is a silo and slightly different than every other BI deployment.



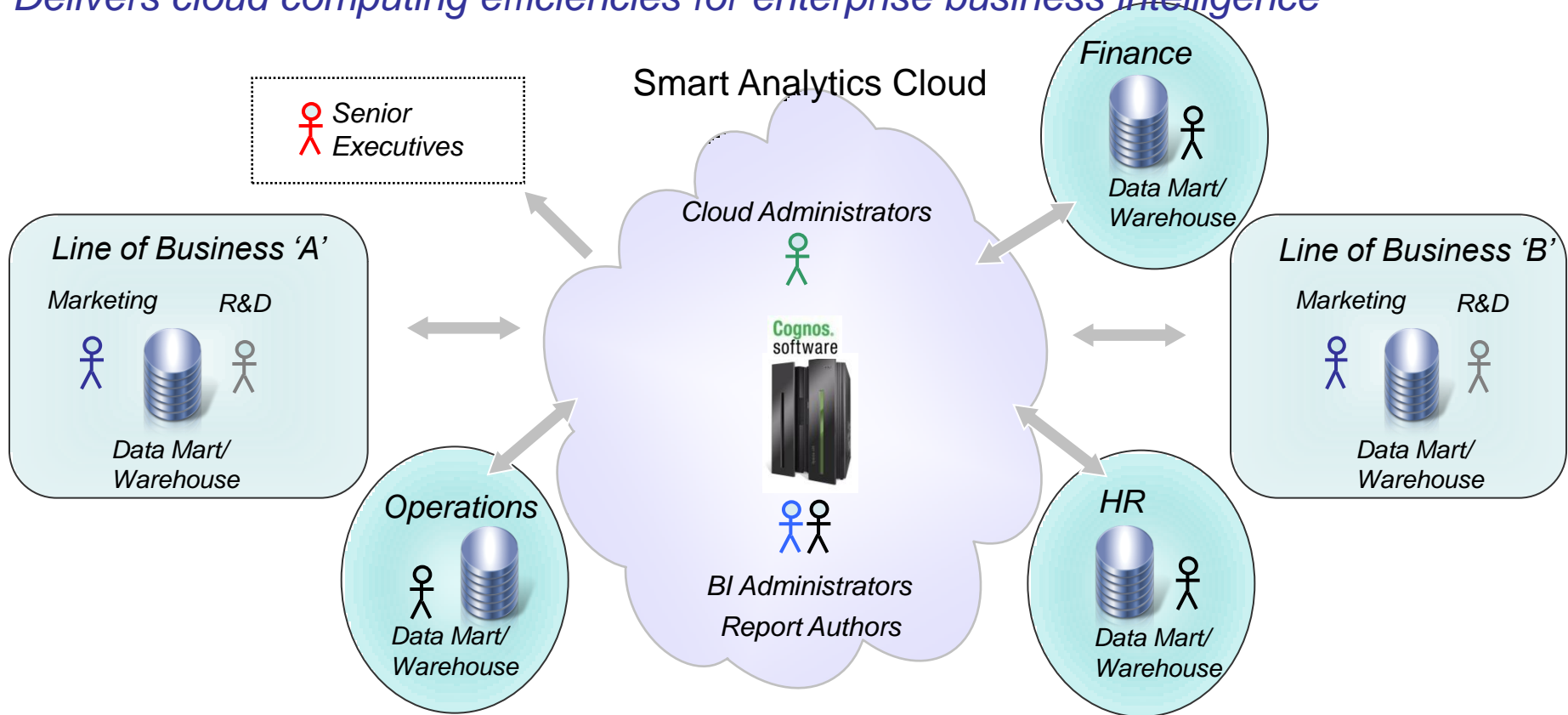
## The Smart Analytics Cloud helps to overcome BI challenges

所提供的价值:

- 一个企业级范围的**BI**战略，搭建在在公司最高级别的支持下的云计算平台上
- 使核心的商务智能服务标准化，由**LOB**控制拥有和管理自己的端到端的**BI**解决方案
- 一个集中的商业智能战略，支持更容易的企业监管标准，包括安全和认证过程
- 一种订阅模式，使部门预算可以覆盖更多的用户
- 降低成本同时提高营运效率，基于总体经济基础的集中的服务战略
- 通过集中的服务策略更有效地利用了企业的**BI**技术力量

# Smart Analytics Cloud for large enterprise private cloud adoption

*Delivers cloud computing efficiencies for enterprise business intelligence*



This offering transforms the delivery of business intelligence and performance management into a service that is readily available and affordable to corporate users.

## Smart Analytics Cloud offering overview（定义云的范围及7个关键属性）

### Cloud scope

该解决方案包含**IBM**硬件、软件和服务，建立一个防火墙之后由客户拥有和管理的私有云。

### Operator

云的经营者是购买了**IBM**相关产品去创建和组装云的客户

### Ownership

云的所有者是购买了**IBM**相关产品去创建和组装云的客户

### Revenue model

基于创建工作消耗的时间和材料，提供合适的价格。

### Location

各种资产位于客户的场所。

### Access

云可以通过企业内网或**VPN**访问。

### Consumer

云服务的消费者是一个企业、集团、一组企业。

### Asset use

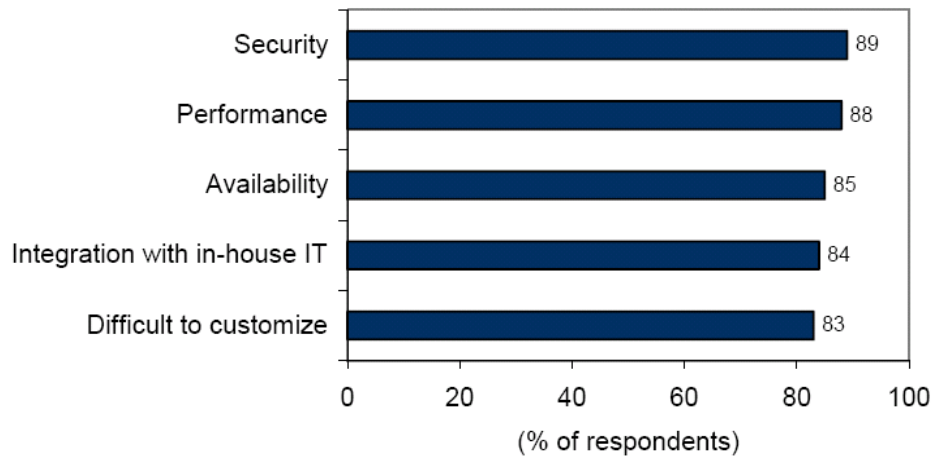
云资产用于单个企业的使用，也可能与其他可以信任的企业共享。

# System z and private cloud computing

## *The right answer for the large enterprise*

### Enterprises must overcome obstacles to adopt cloud computing ...

Cloud Computing Implementation Challenges Described as "Significant"



Note: Multiple responses were allowed.

Source: IDC's Enterprise Panel, 2008

...and System z can help.



**Virtual** – a “share all” approach to system resources for efficiency



**Secure** - a multi-tenant design point with EAL 5 certification



**Available** - 24x7x365 operations with zero data loss recovery



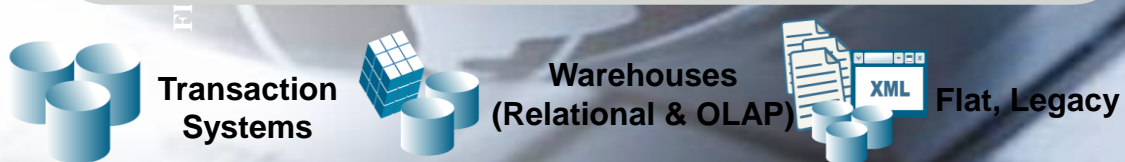
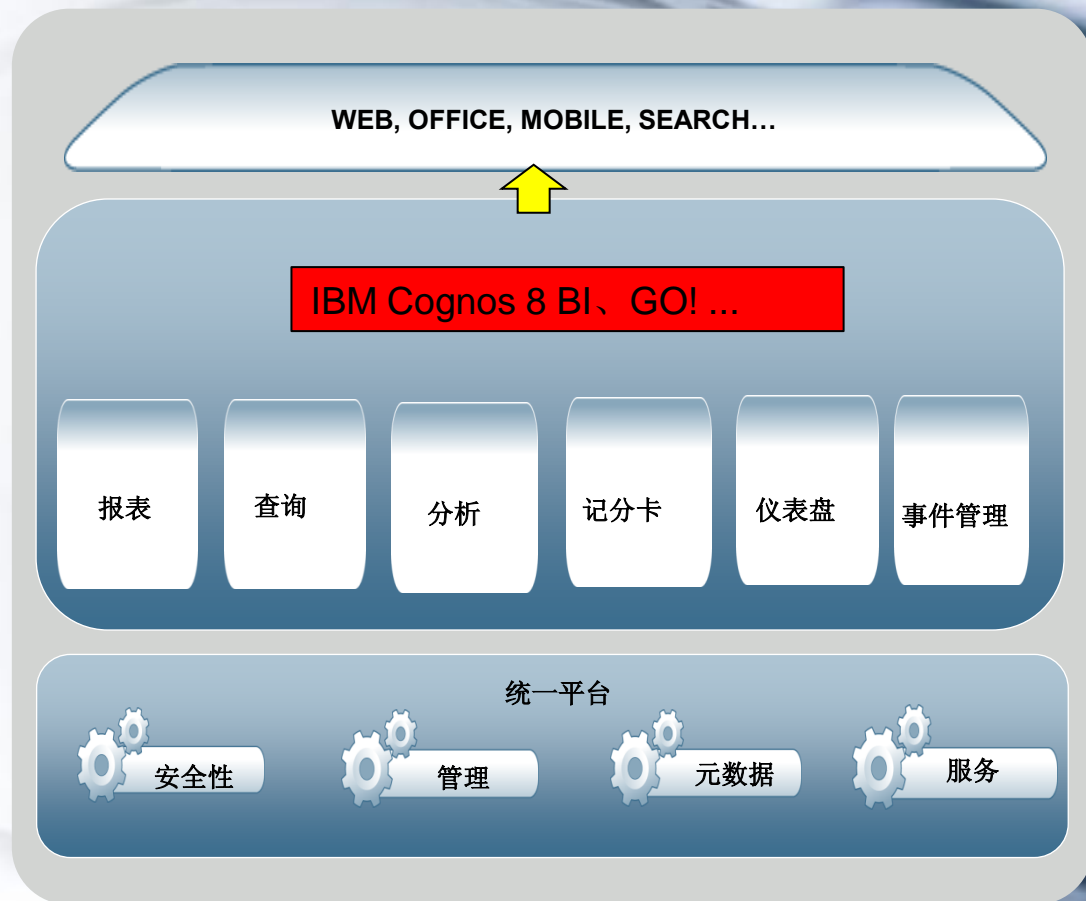
**Efficient** - consuming 80% less energy than distributed solutions



**Scale** - ability to meet massive demands from users and data

## 先进的平台

- 统一平台，SOA架构，一个产品提供所有BI的服务
- 共享式的单一元数据
- 单一安全性
- 集中布署、配置
- 集中管理



## Query, Reporting:

### Ad-hoc Query

- 自助式查询
- 可以访问任何数据; 通过拖拽和点击创建查询
- 容易的排序、过滤、计算、汇总、格式化
- 保存为模板, 输出为各种文件格式
- 与他人共享



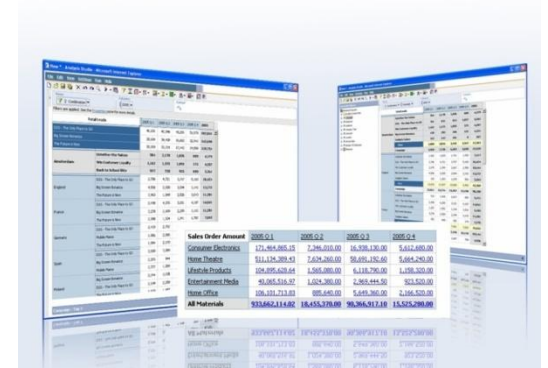
### Reporting

- 提供完整范围报告类型
- 通过多种类型的报表输出, 交付可靠的信息
- 可订制的和对象化的, 对象可重用
- 浏览器环境, 允许用户的协作, 计划调度, 分发
- 提供邮件, 门户, office, 搜索引擎和移动设备的访问
- 可以访问数据lineage, glossary, annotations



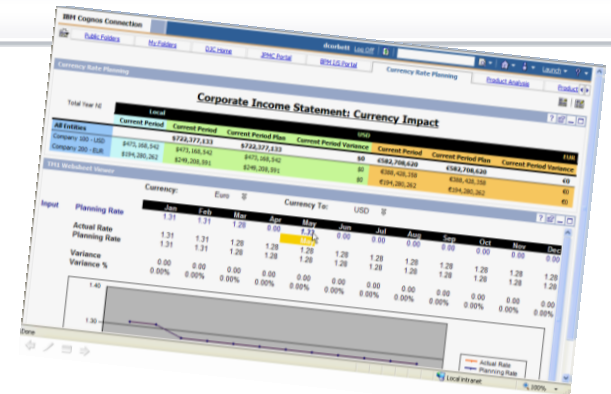
## Exploration and Analysis

- 在Web 和 Excel 中进行复杂分析操作
- 通过多维组合分析提供探查能力
- 从汇总到细节的穿透钻取
- 秒级响应,连贯工作
- 混合粒度,复合过滤,子集等



## 'What-if' Scenario Modeling

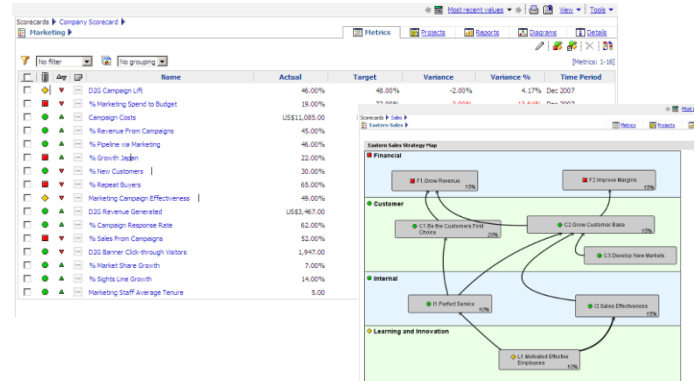
- 通过模型模拟业务场景
- 在Web 和 Excel 中进行复杂分析操作
- 可以编辑或修改数据,并得到由此产生的业务变化结果
- 提供预测功能
- 整合Cognos TM1 和Cognos 8 BI技术





## Scorecards

- 随时了解指标相对于目标或基准的绩效情况
- 有效的理解战略、策略，提高战略执行的主动性
- 支持计分卡方法论
- 帮助确认所有权和责任
- 广泛的 portlet 支持，展现结果可以方便集成



## Dashboards

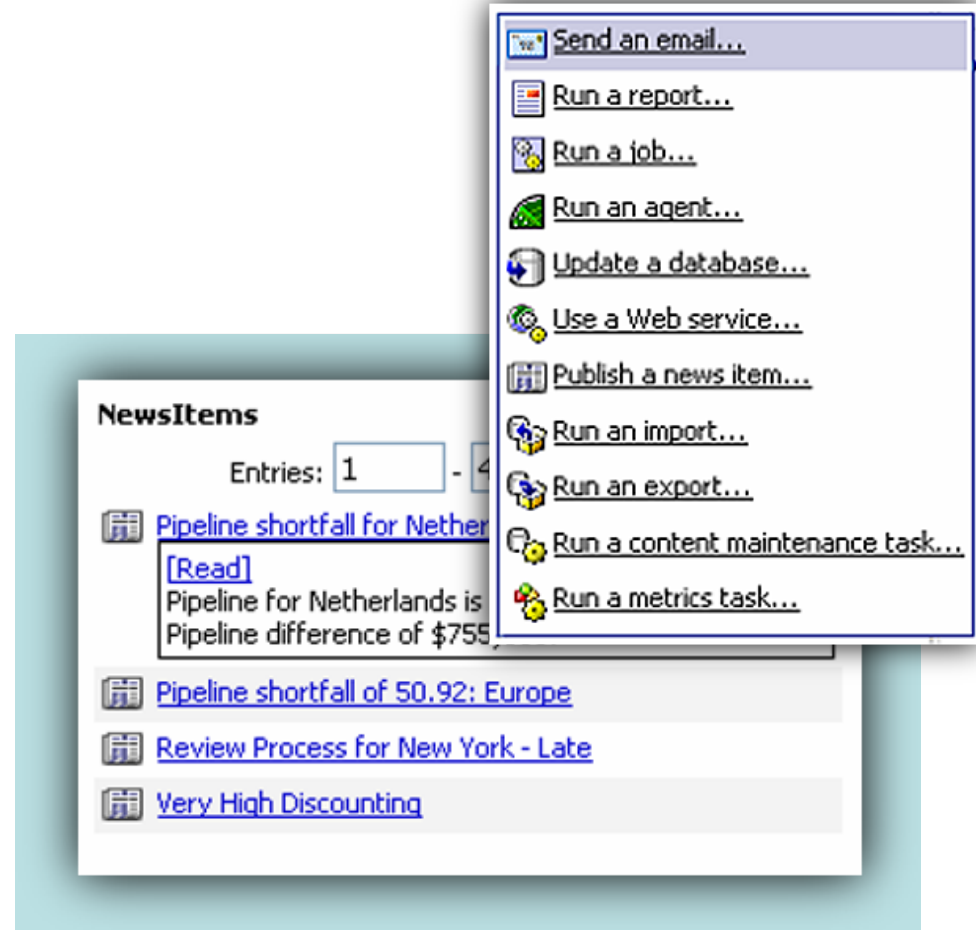
- 全面的dashboard 类型, 提供个性化、自助组合Flash效果视图的能力
- 为复杂信息提供了一目了然、重点突出的视图
- 具有很强的视觉感受和直观性
- 有利于快速将重点定位到需要注意的问题上，及时采取行动
- 组合多种来源的信息





## 高级的业务事件管理

- 自动监控和管理
- 适时提醒
  - 通过门户和Email等
- 自动启动业务处理
- 条件事件发生，任务执行，事件生命周期，形成闭环
- 和 BPM应用集成



提供焦点，缩短执行时间

灵活的信息访问方式:

- Go! Office – 在Excel、PowerPoint、Word中刷新BI报表的内容
- Go! Search – 立即响应和查找相关内容的能力。
- Go! Mobile – 随时随地访问BI报表。



# 云计算的机会



*Why BI for public clouds ?*

**Private Cloud**

**Standardize & share costs**

**Managed Cloud**

**Reduce risk & capital expenditure**

**Community Cloud**

**Share IP and assets**

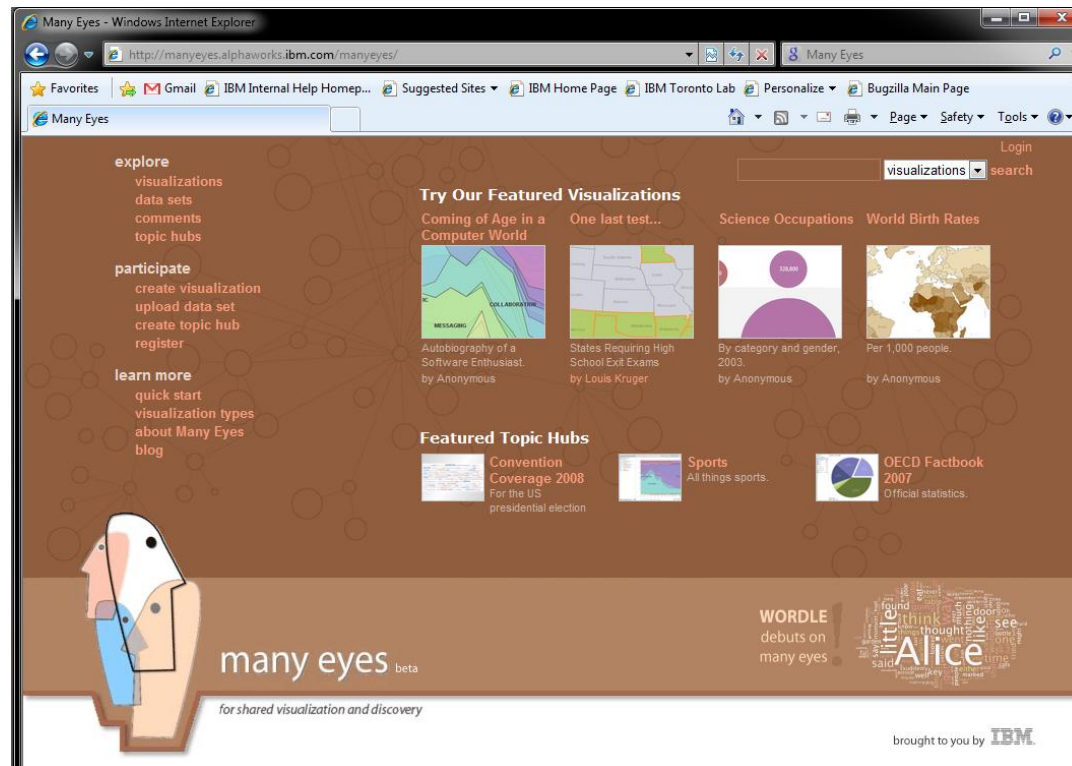
**Public Cloud**

**Provide software on demand**

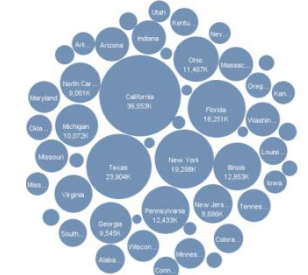


## IBM Cognos Many Eyes On Demand

# Many Eyes <http://manyeyes.alphaworks.ibm.com/manyeyes/>



# Community Based BI Simplicity for Business Users to Visualize, Explore, Collaborate



Product Line	Product Type	Production Cost	Expected Volume
Consumer Electronics	Computer Accessories	\$6,125.00	14,886
	Computers	\$7,415.00	22,077
	MP3	\$4,433.00	12,432
	MP4	\$40,480.00	88,190
	Router	\$204,720.00	185,149
	Consumer Electronics	\$27,767.69	91,925
Department Store	CD Audio	\$7,760.00	91,925
	DVD Video	\$1,548.00	91,925
	Entertainment Accessories	\$11,813.40	328,028
	Game Console	\$54,360.00	123,394
	Software	\$33,948.00	123,394
	Subscription Media	\$14,562,715.40	824,911
Home Office	Chairs	\$71,000.00	276,770
	Desks	\$110,000.00	200,075
	Office Accessories	\$402.44	75,254
Home Theater	Home Office	\$148,902.44	573,807
	Big Screen TV	\$200,560.00	79,707
	Speakers	\$110,200.00	132,365
	Standard TV	\$107,760.00	20,502
Lifestyle Products	Home Theater	\$87,660.00	190,085
	Exercise	\$7,200.00	42,200
	Refrigerators	\$9,468.00	62,250
	Washers	\$9,000.00	62,250

many eyes

CHOOSE A DATA SET | CHOOSE A VISUALIZATION | CUSTOMIZE & PUBLISH

**Create a visualization in 3 easy steps:**

- 1 CHOOSE A DATA SET**  
First things first. Choose the data set that you would like to visualize.
- 2 CHOOSE A VISUALIZATION**  
Then choose the kind of visualization you would like to use.
- 3 CUSTOMIZE & PUBLISH**  
Customize what your visualization will look like when others visit. Then publish it.

**Start with a Data Set:**  
You have two choices:  

- use one of the **existing data sets** on the site, or
- **upload your own data set**

 After visual

**explore**  
visualizations  
data sets  
comments  
topic hubs

**participate**  
create visualization  
upload data set  
create topic hub  
register

**learn more**  
quick start  
visualization types  
data format & style  
about Many Eyes  
FAQ  
blog

**contact Us**  
contact  
report a bug

**legal**  
terms of use

**Comments (30)**

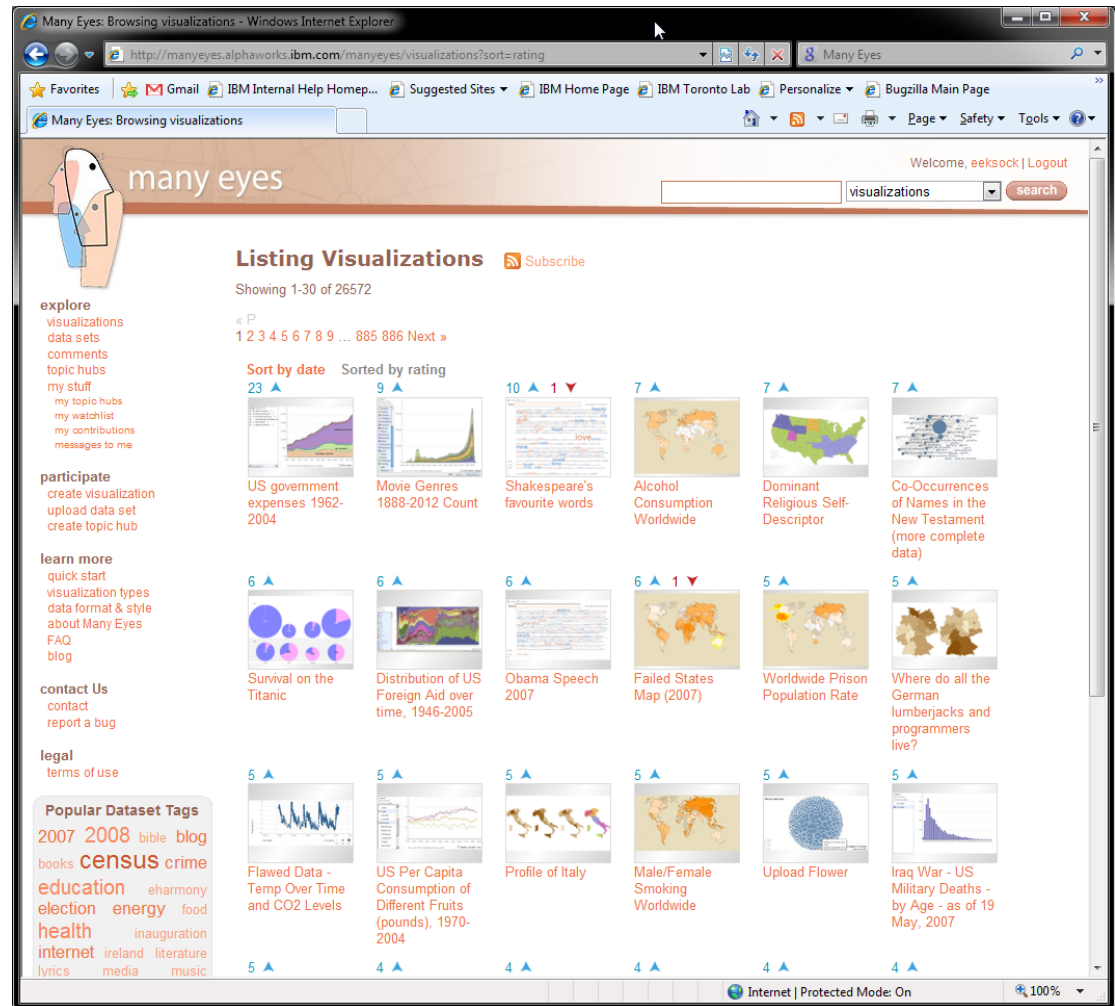
**Anonymous says:**  
What is this spike in housing assistance?  
Posted Wednesday January 10, 8:34 PM | [edit](#) | [delete](#) | [see view for this comment](#)

**Anonymous says:**  
Huge variability... is this politics-driven or weather-driven?  
Posted Wednesday January 10, 8:34 PM | [edit](#) | [delete](#) | [see view for this comment](#)

**Anonymous says:**  
This visualization has 18 positive ratings

Be part of these topic hubs:  
[Example](#)  
[Being watched by...](#)  
[MSA/average...](#)

- Rapid social, collaborative visualizations
- A bet on the power of human visual intelligence to find patterns
- “Democratize” visualization
- Social data analysis



Many Eyes: Browsing visualizations - Windows Internet Explorer

http://manyeyes.alphaworks.ibm.com/manyeyes/visualizations?sort=rating

many eyes

Welcome, eeksock | Logout

visualizations search

### Listing Visualizations

Showing 1-30 of 26572

Sort by date Sorted by rating

Rating	Visualization Title
23	US government expenses 1962-2004
9	Movie Genres 1888-2012 Count
10	Shakespeare's favourite words
7	Alcohol Consumption Worldwide
7	Dominant Religious Self-Descriptor
7	Co-Occurrences of Names in the New Testament (more complete data)
6	Survival on the Titanic
6	Distribution of US Foreign Aid over time, 1946-2005
6	Obama Speech 2007
6	Failed States Map (2007)
5	Worldwide Prison Population Rate
5	Where do all the German lumberjacks and programmers live?
5	Flawed Data - Temp Over Time and CO2 Levels
5	US Per Capita Consumption of Different Fruits (pounds), 1970-2004
5	Profile of Italy
5	Male/Female Smoking Worldwide
5	Upload Flower
5	Iraq War - US Military Deaths - by Age - as of 19 May, 2007

Internet | Protected Mode: On 100%



Self-serve  
simplicity

many eyes: Upload Data

Welcome, eeksock | Log

## Upload Data

Before you upload data, please understand that **anything you upload will be available to everyone with access to Many Eyes**. That means you can share with your friends and collaborators, but it also implies that you should think carefully before you upload. Please refer to our use agreement for more details.

### 1] Prepare your data.

First, find the dataset that you want to put into Many Eyes. For now, there is a size limit of 5 megabytes.

#### Data Tables

If your data is a list of values, first format it into a table with informative column headers. If your columns have different units of measure, be sure to include the units in the headers. Use Microsoft Excel™ or a text file where columns are separated with tabs. If this is your first upload, read the format guidelines and watch the step-by-step tutorial. If you have a specific visualization in mind, take a look at its explanation page for additional information.

#### Free Text

If your data is free text (such as an essay or a speech), open the data in a word processor or web browser, select the text, and copy it to the clipboard by typing control-C (Windows) or command-C (Macintosh).

	A	B	C	D
1	Mountain	Height/Feet	Height/Meters	
2	Everest	29035	8850	
3	K2	28250	8611	
4	Kanchenjunga	28169	8586	
5				

	A	B	C	D
1	Mountain	Height/Feet	Height/Meters	
2	Everest	29035	8850	
3	K2	28250	8611	
4	Kanchenjunga	28169	8586	
5				

### 2] Paste the data:

click the rectangle below, and type control-V (Windows) or command-V (Macintosh). For files of a megabyte or more, there may be a delay while reading the data.

### 3] Check that we understood.

After Step 2, the rectangle below will show a preview of your data, along with a guess about whether it is a table or free text. You can

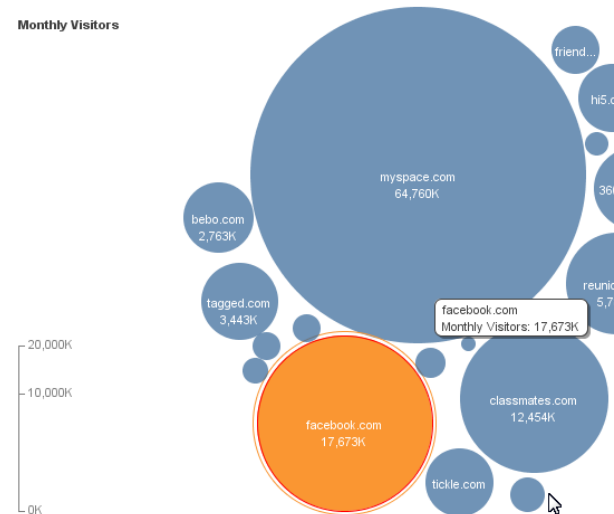


- Selection
- Zoom in/out
- Filtering
- Fonts, colors
- Tooltips

## Visualizations : Social Network Monthly Visitors

Creator: Anonymous  
Tags:

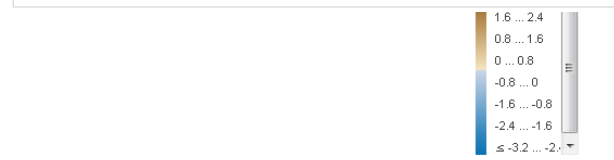
Monthly Visitors



Search:

Color:

Data file: Social Network Size By Monthly Visitors (April 2007) Data source: Compete.com



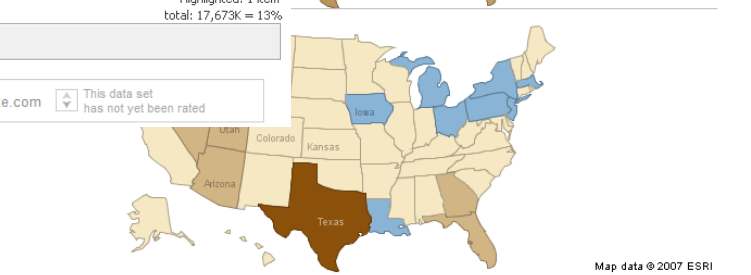
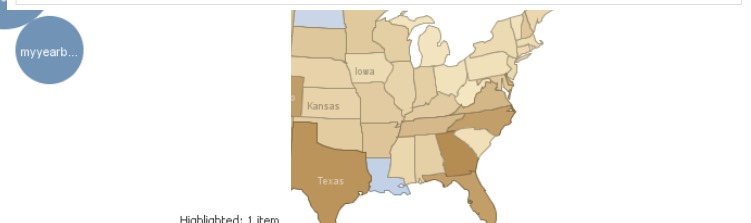
## Visualizations : Obama's 2008 Acceptance Speech

Creator: K.Lansing  
Tags:

Edit Language Font Layout Color



Data file: Obama's 2008 Acceptance Speech Data source: [dropdown] This data set has not yet been rated



Data file: Projected Changes in House Delegations based on Population Changes 2000-2008 Data source: US Census Bureau Election Data Services

- Comments
- Data set and visualization ratings
- Topic hubs

ment expenses 1962-2004

1,500K  
1,000K  
500K  
0K

1962 1965 1968 1971 1974 1977 1980 1983 1986 1989 1992 1995 1998 2001 2004

HUMAN RESOURCES  
NET INTEREST  
NATIONAL DEFENSE

Click or ctrl-click to highlight points on graph. Percentage

Data file: US Budget, \$Millions, 1962-2004 (Y2000\$) Data source: Office of Management and Budget (OMB)

This data set has 1 positive and 0 negative ratings.

full image share this add to topic hub rate this

**Comments (33)**  
currently showing

Frank van Ham says:  
Where have your tax dollars gone?  
Posted Wednesday January 10 2007, 10:23 AM  
see view for this comment

Anonymous says:  
What is this spike in housing assistance?  
Posted Wednesday January 10 2007, 08:34 PM  
see view for this comment

Anonymous says:  
Huge variability...is this politics-driven or weather-driven?  
Posted Wednesday January 10 2007, 08:51 PM  
see view for this comment

This visualization has 23 positive and 0 negative ratings.

Part of these topic hubs  
Examples

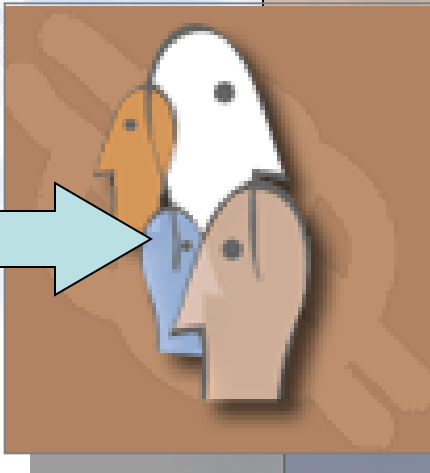
Being watched by  
Irene  
ruoyang  
MBAbright  
fire  
LogosSeeker  
jingui  
anandesh  
ohlumos

# IBM Cognos Many Eyes On Demand Simplicity for Business Users to Visualize, Explore, Collaborate

**Visualizations : Comparison of 7 North American Airlines**

**Visualizations : Obama Speech in Cairo - Focus on "WE"**

Many Eyes Visualizations



Many Eyes UI  
is the entry  
point

**Comments (30)**

**Topic Hub : Convention Coverage 2008**

Shared Collaboration, Data Set Access

Transformer



Cubes

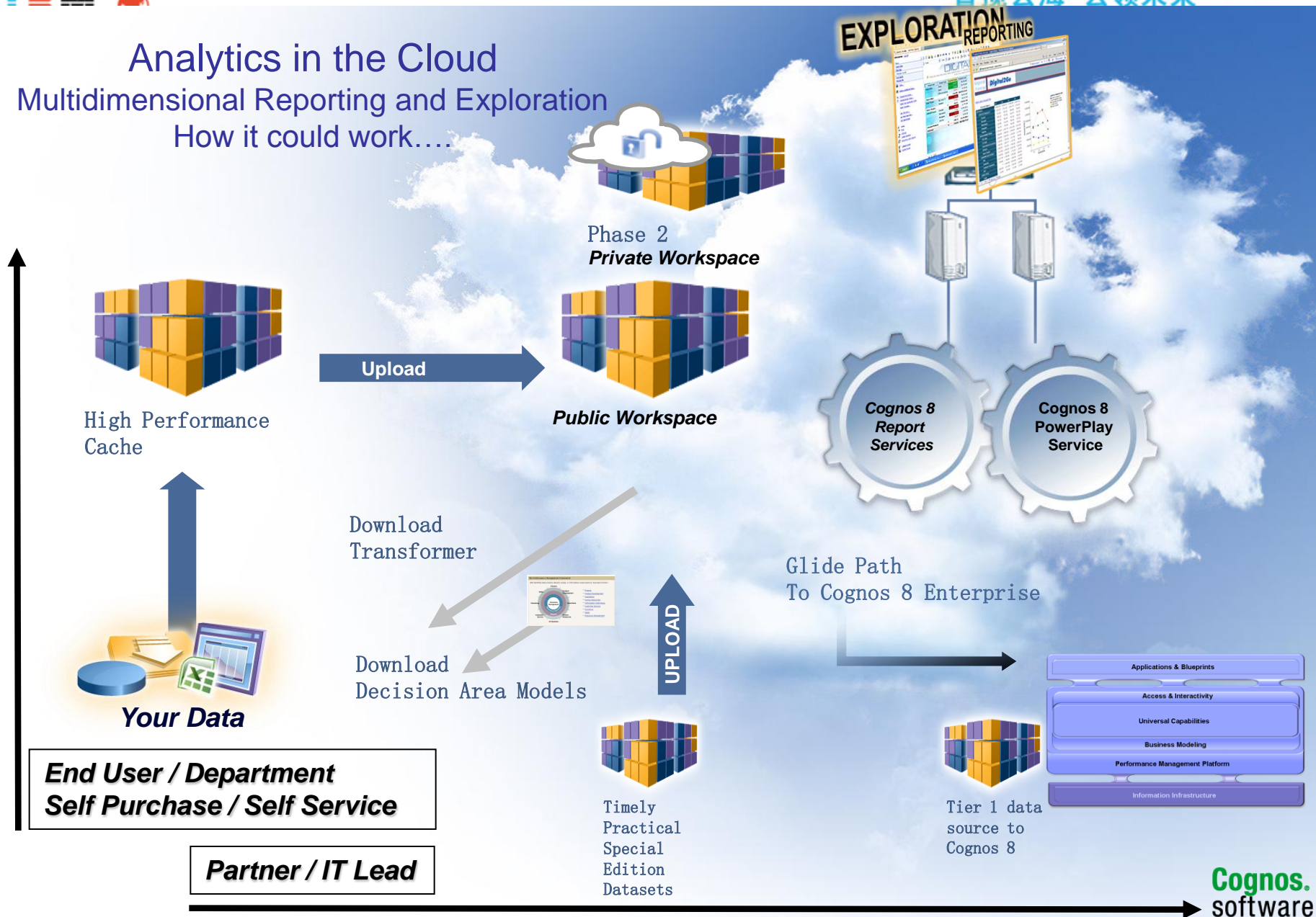
SalesRevenue	2007 Q 1	2007 Q 2	2007 Q 3	2007 Q 4	2007
Netherlands	\$2,603	\$4,003	\$0	\$11,658	\$18,264
Italy	\$23	\$6,600	\$10	\$34,386	\$41,019
Finland	\$11	\$8,329	\$760	\$1,074	\$10,174
Spain	\$8,947	\$639	\$860	\$699	\$11,145

Analysis

# Analytics in the Cloud

## Multidimensional Reporting and Exploration

How it could work....



# Cognos Many Eyes On Demand – More Capabilities

- Simplified data upload process
- Integration with Google and LotusLive
- Live export to presentation software
- Improved invitation process
- Administration

The screenshot shows the Cognos Many Eyes interface. At the top, there's a header with the 'many eyes' logo and a navigation menu. Below the header, there are controls for selecting a sheet to visualize (currently 'Atlantic') and highlighting a range to visualize. A table of Winter Olympics medal counts is shown, with columns for Team, W, L, PCT, and GB. Below the table, there's a 'Google docs' section with the title 'All-Time Winter Olympics Medal Count by Country' and a timestamp 'Autosaved on 1:35 P'. The main part of the screenshot shows a Google Docs spreadsheet with columns for Rank, Country, Gold, Silver, Bronze, and Total. A 'Gadget' window is open, showing the range 'Medals!B1:E6' and the visualization type 'Stack Graph'. A preview of the visualization is shown at the bottom right, with a legend for Gold, Silver, and Bronze medals.

Team	W	L	PCT	GB
Boston	10	4	0.714	0
Toronto	7	8	0.467	3.5
Philadelphia	5	9	0.357	5

Rank	Country	Gold	Silver	Bronze	Total
1	Norway	98	98	84	280
2	USA	78	80	68	216
3	USSR	78	57	59	194
4	Germany	58	59	41	158
5	Austria	51	64	70	185
6	Sweden	43	31	44	118
7	Finland	41	58	52	151
8	Germany	39	36	35	110
9	Canada	38	38	43	119
10	Switzerland	38	37	43	118
11	Italy	36	31	34	101
12	Russia	33	24	19	76
13	The Netherlands	25	30	23	78
14	France	25	24	34	83
15	South Korea	17	8	6	31
16	Federal Republic of Germany	13	15	13	41





Thank  
You