BUDAPEST
November 6-7, 2013

BI FORUM

Drivers to support the growing business data demand for Performance Management solutions and BI Analytics

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EXIT 83B
ntral Ave
JEDOX, PLEASE TAKE THE NEXT EXIT
Jedox Ave
ACCIDENT
SITE

Facts about Jedox AG

2002	44,9
1018	1


Gartner® 2013
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Is there a difference between Analytics and Performance Management ?

Business Intelligence, Analytics & Performance Management

Business Intelligence

Business intelligence (BI) is an umbrella term that includes the applications, infrastructure and tools, and best practices that **enable access to and analysis of information** to improve and optimize decisions and performance

Business Analytics & Performance Management

Business Analytics is comprised of solutions used to build analysis models and **simulations** to create **scenarios**, understand realities and **predict future** states.

Performance Management is the combination of methodologies and metrics that enables users to **define, monitor and optimize** outcomes necessary to achieve organizational **goals and objectives**.

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Business Intelligence, Analytics & Performance Management

Business Intelligence

Business Analytics & Performance Management

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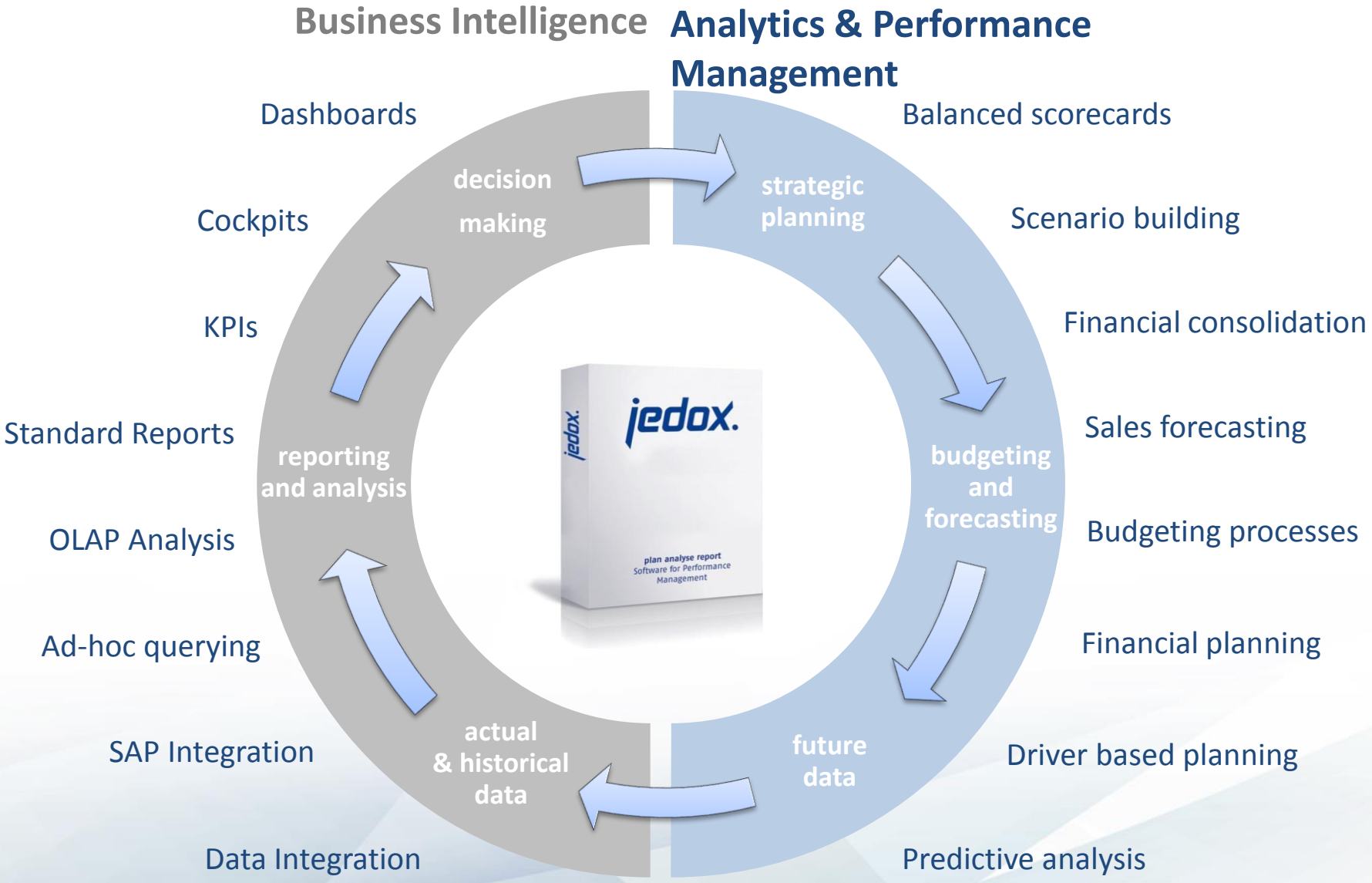
Jedox Business Intelligence, Analytics & Performance Management

Business Intelligence, Analytics & Performance Management

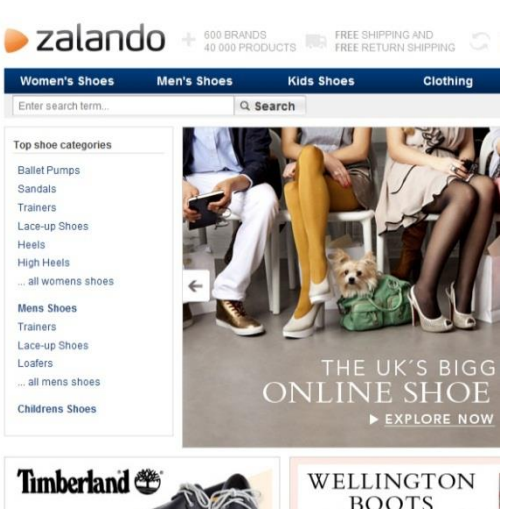
Jedox Business Intelligence & Analytics

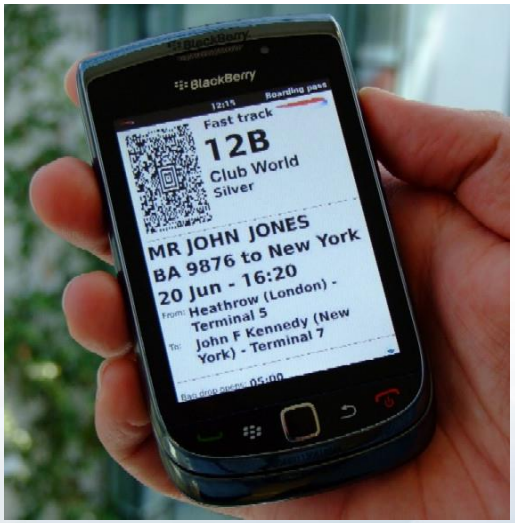


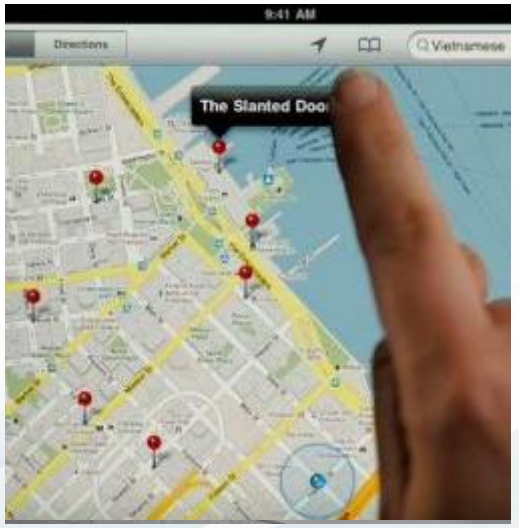
Can Self Service BI be the answer ?

Do you remember this?

How Self Service changed our life…







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Why Self Service?

Lower Cost	Anytime, Anywhere	Faster Service
Anonymity	More Convenience	Less miss-communication
More control	Independence	Higher Flexibility

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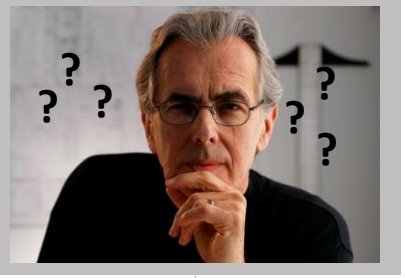
The typical situation for Business Intelligence & Analytics Solutions

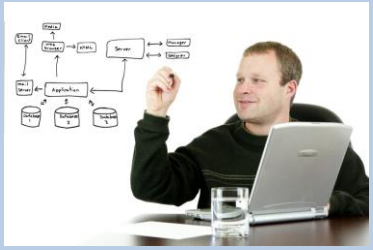
Requirement Gathering

Change Requests

Review Results



System Design



Development

Data Sources

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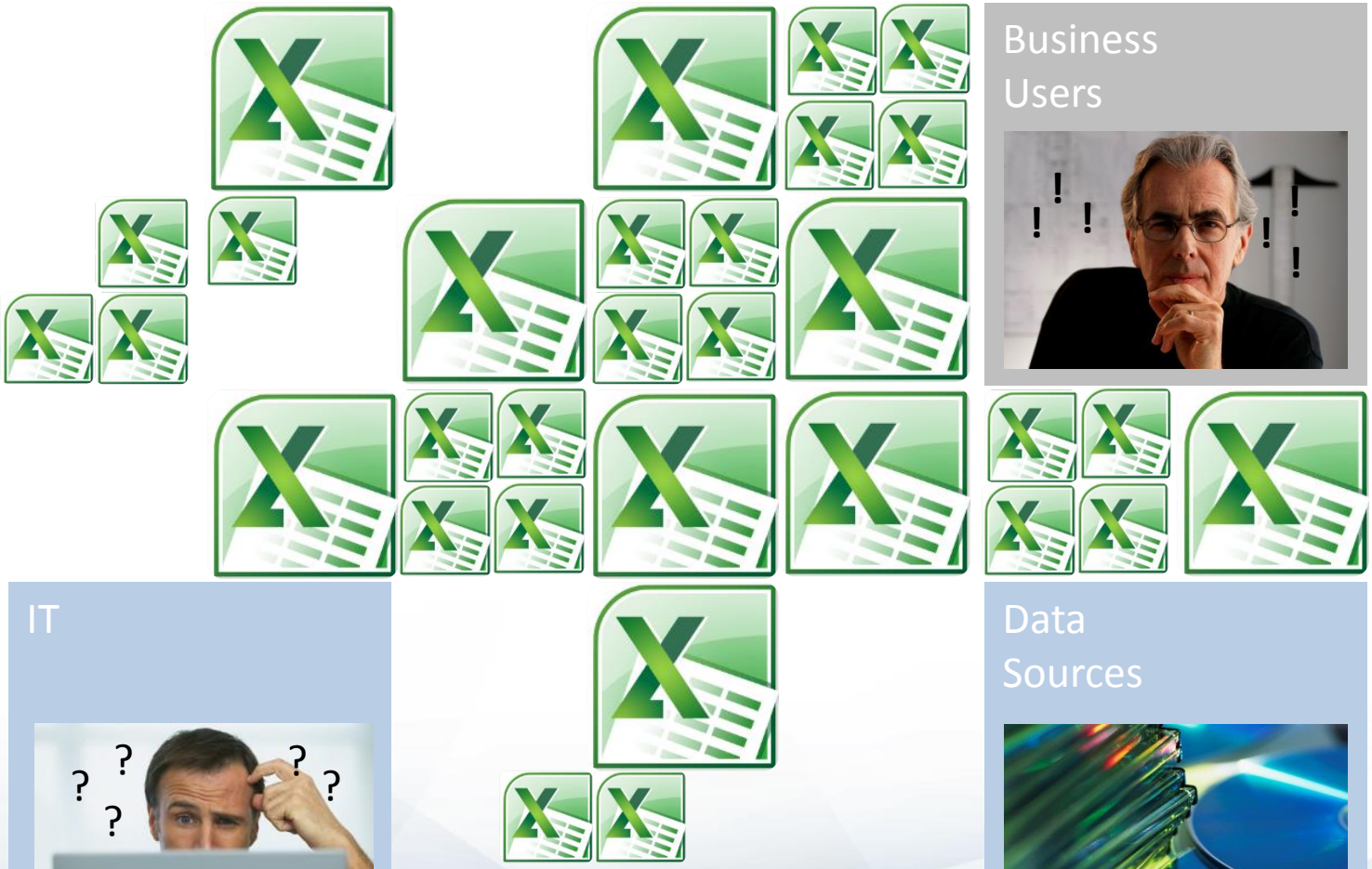
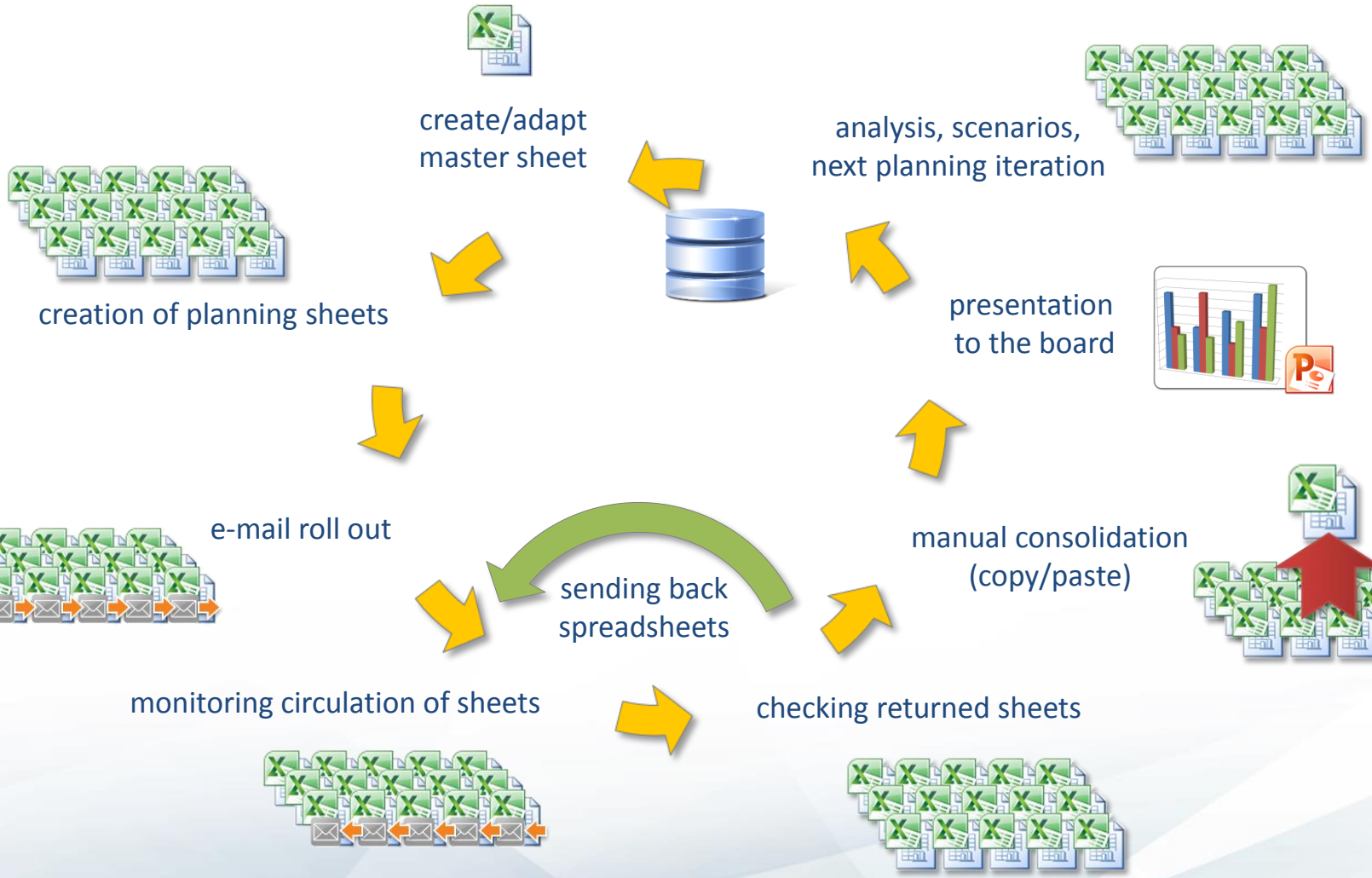
Self Service out of control…



Do you know this?



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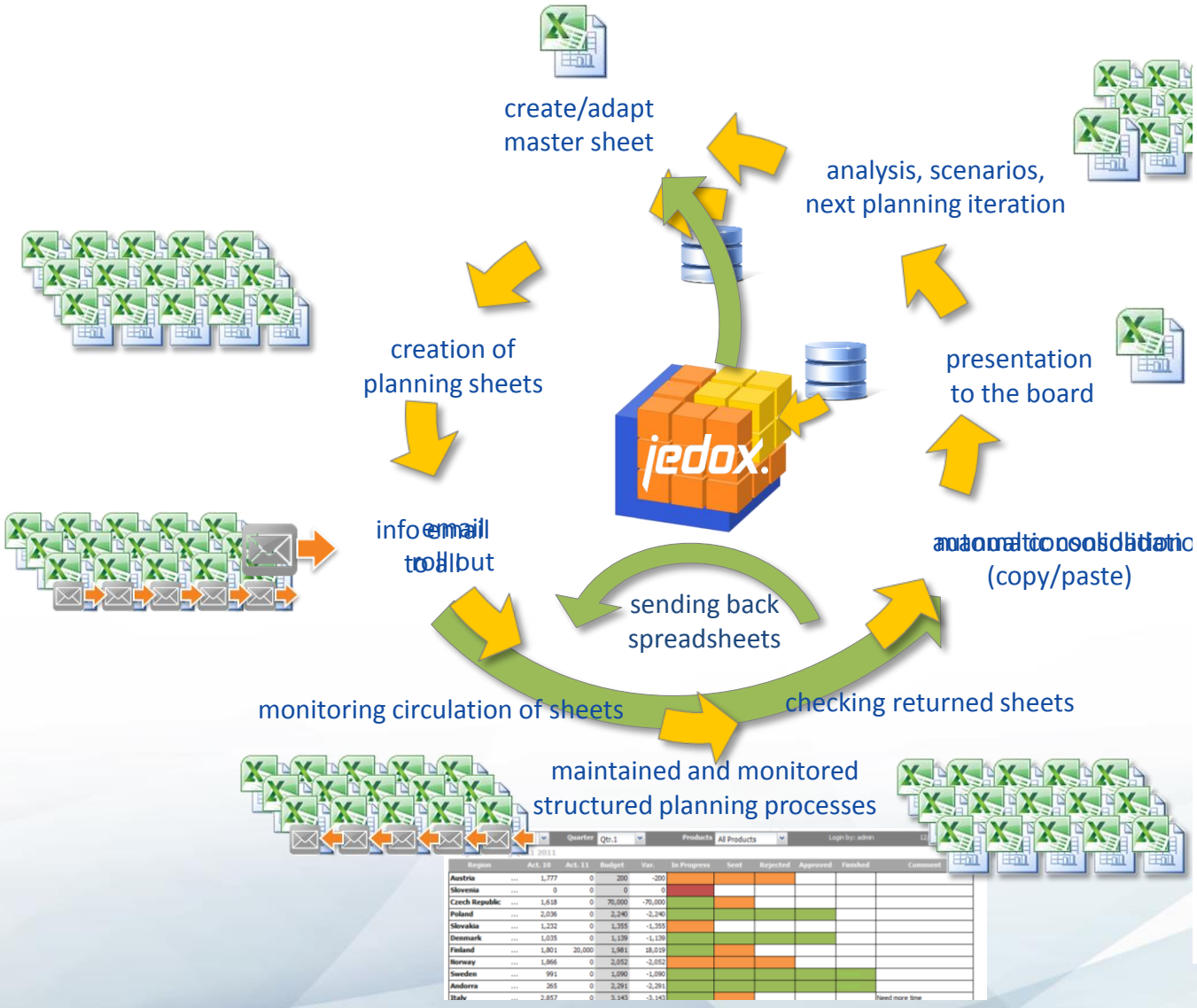
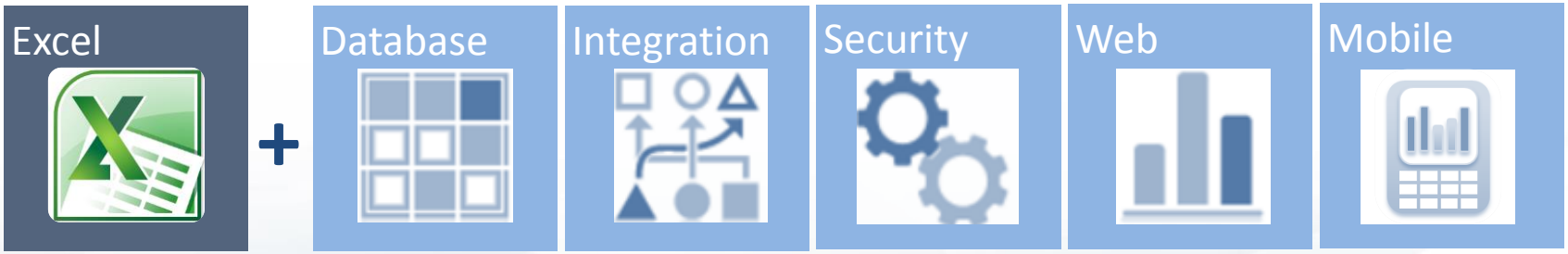
… that's how it looks with Jedox!



Jedox Mission Statement

"We turn the most used Business Intelligence & Analytics tool into the most useful Business Intelligence & Analytics tool."

Jedox Founder & CEO - Kristian Raue



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Excel: where Users feel well

In fact, most BI products on the market today include an ***"export to Excel" function*** *as a standard feature, and end users report that the ability to* ***export data to Excel is among the top solution selection criteria*** *when it comes to the purchase of BI technology"*

AberdeenGroup

„No matter what you try to do, don't think you can get away from Excel."

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1 Week

Jan van de Grint |
Business Process Manager

„Without any training, I was able to **come up with a draft solution within one week**. All I used was the manual.“

16 Weeks
27 Countries

Bacardi rolled-out Jedox for budget consolidations across Asia Pacific.

Systems: SAP, Oracle

In-Memory Computing as driver to support Self Service

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Query Performance: speed matters…

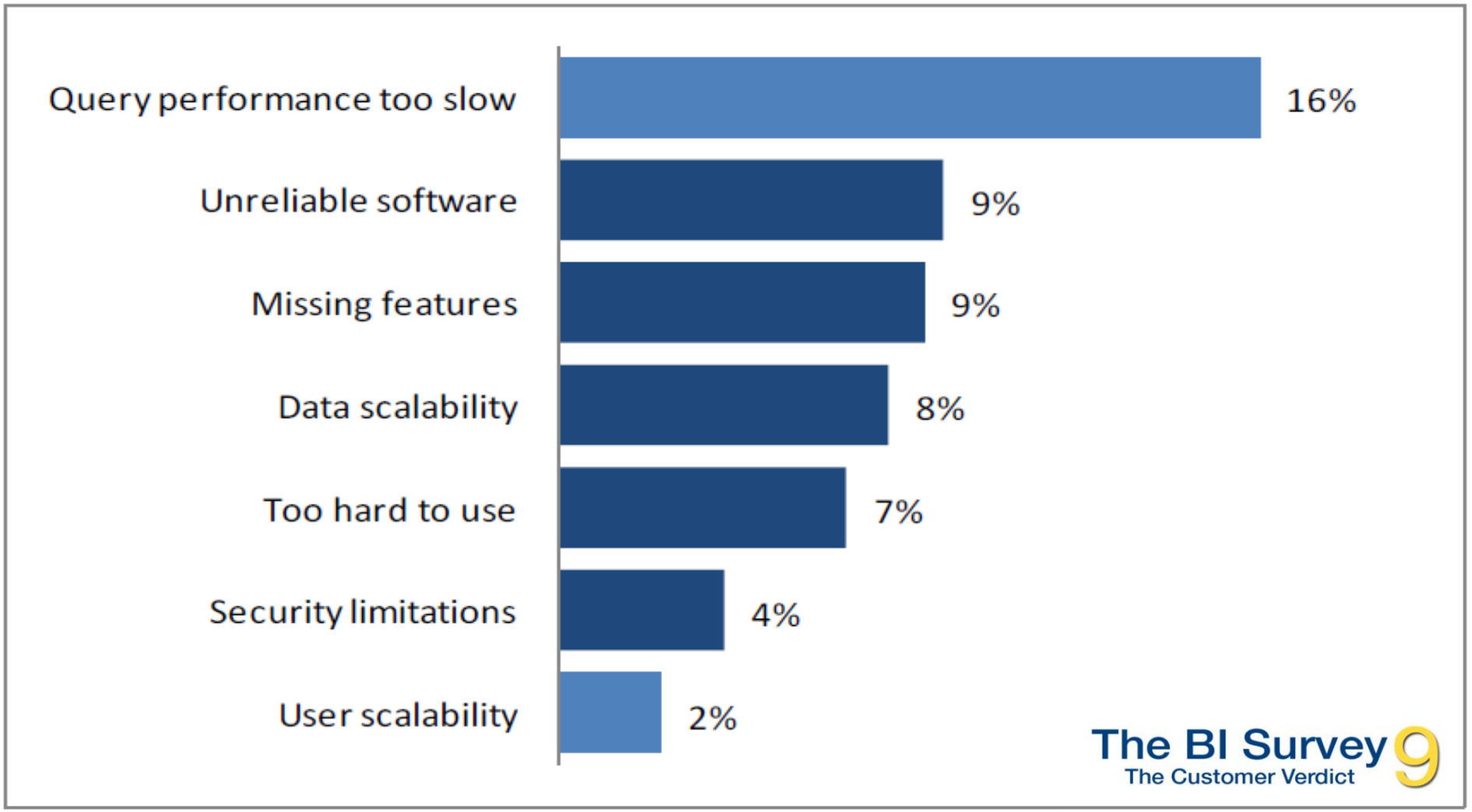
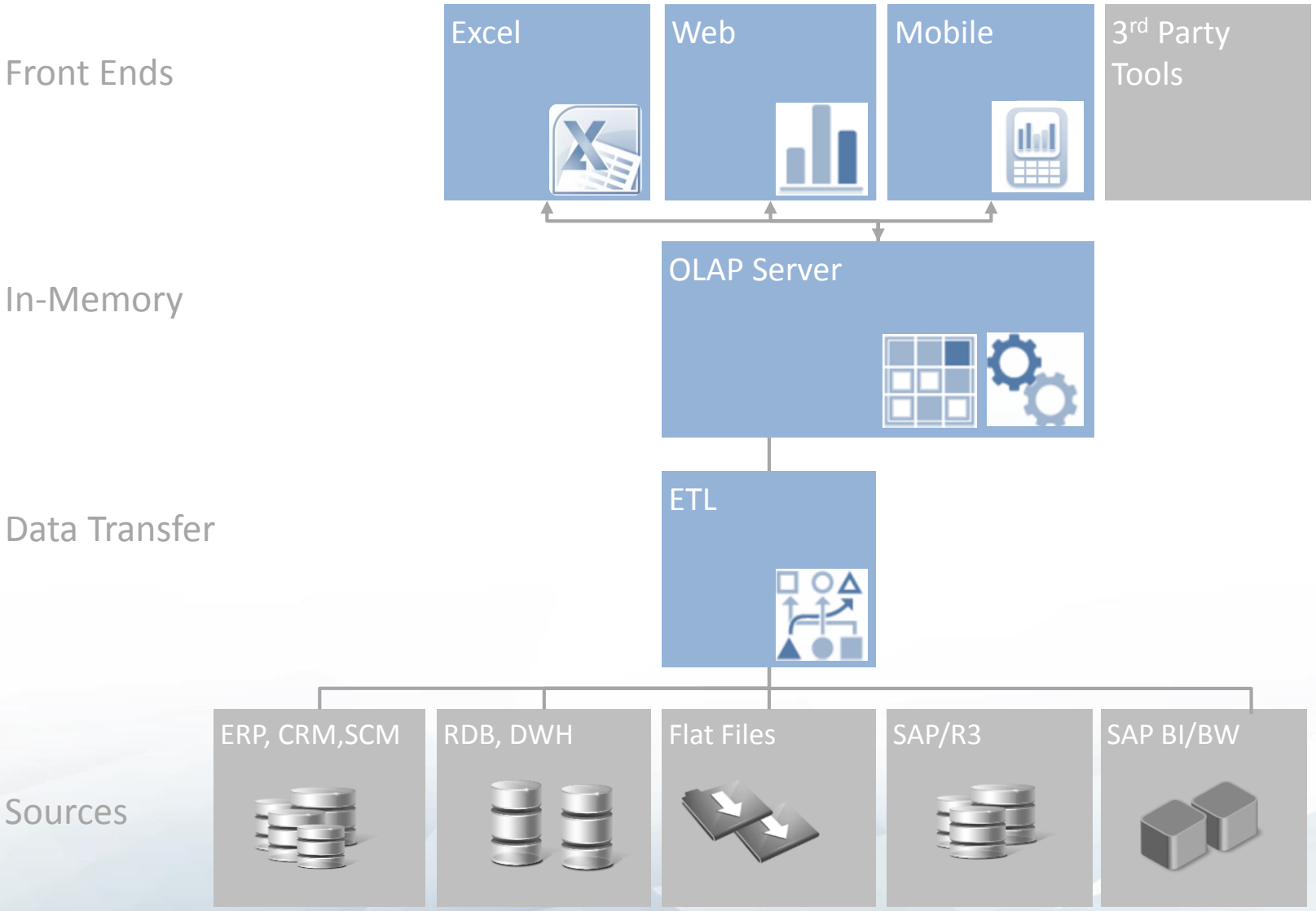


Figure 150: Performance problems (in lighter blue) compared to other product-related problems

In-Memory BI Architecture



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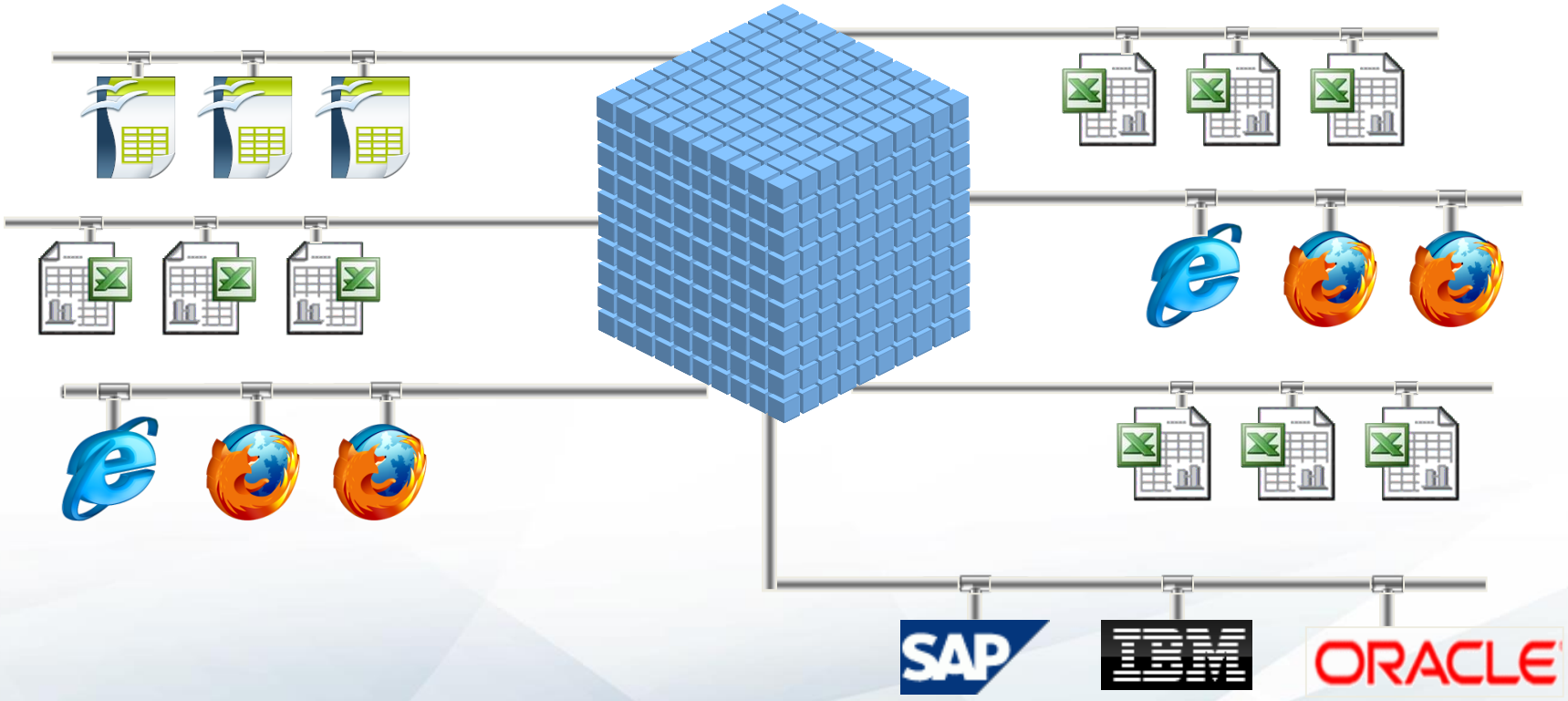
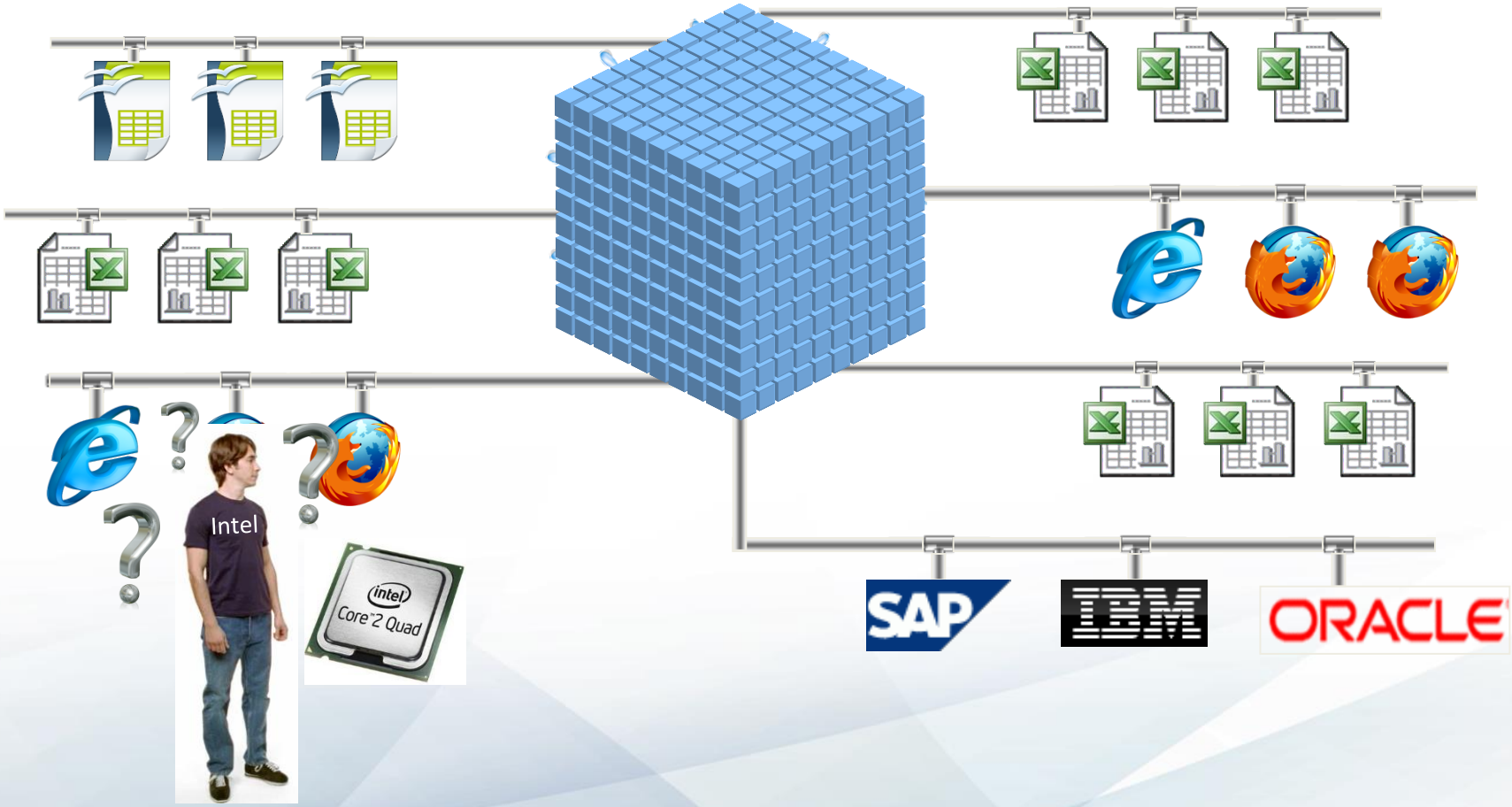
In-Memory database get‘s the new bottleneck



Extended Hardware necessary



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In-Memory „2.0“ - In-Memory GPU

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A simple analogy

	OLAP cube	**City**
	Base cells	Homes 
3.14	Cell contents	Newspapers 
	Threads / Processors	Delivery vehicles 
	Aggregation: collect values from a subset of base cells	Collect recyclables from a subset of homes
	Splashing: distribute values to a subset of base cells	Deliver newspapers to all subscriber homes
	Find and visit all relevant base cells efficiently	Find and visit all relevant homes efficiently

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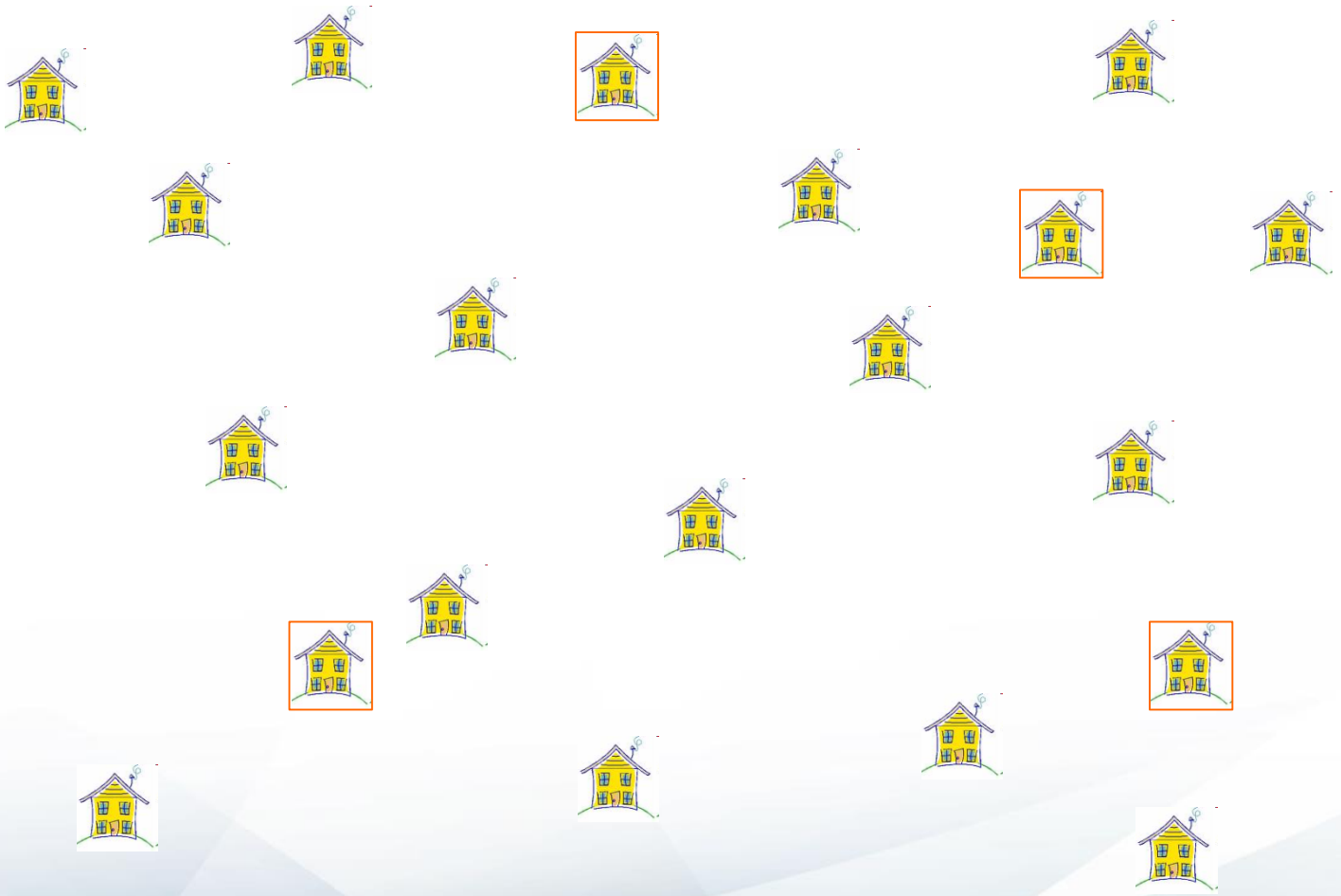
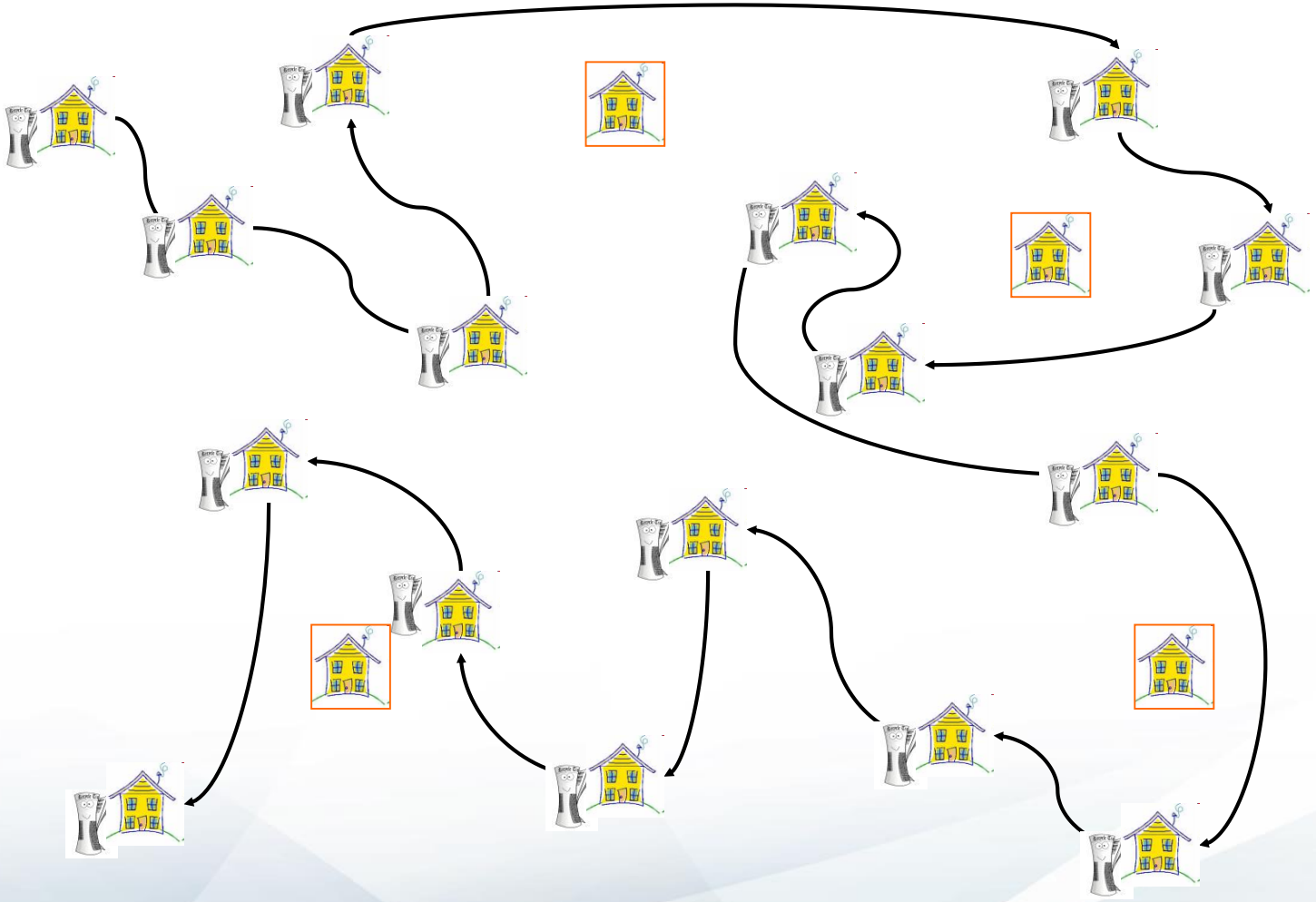
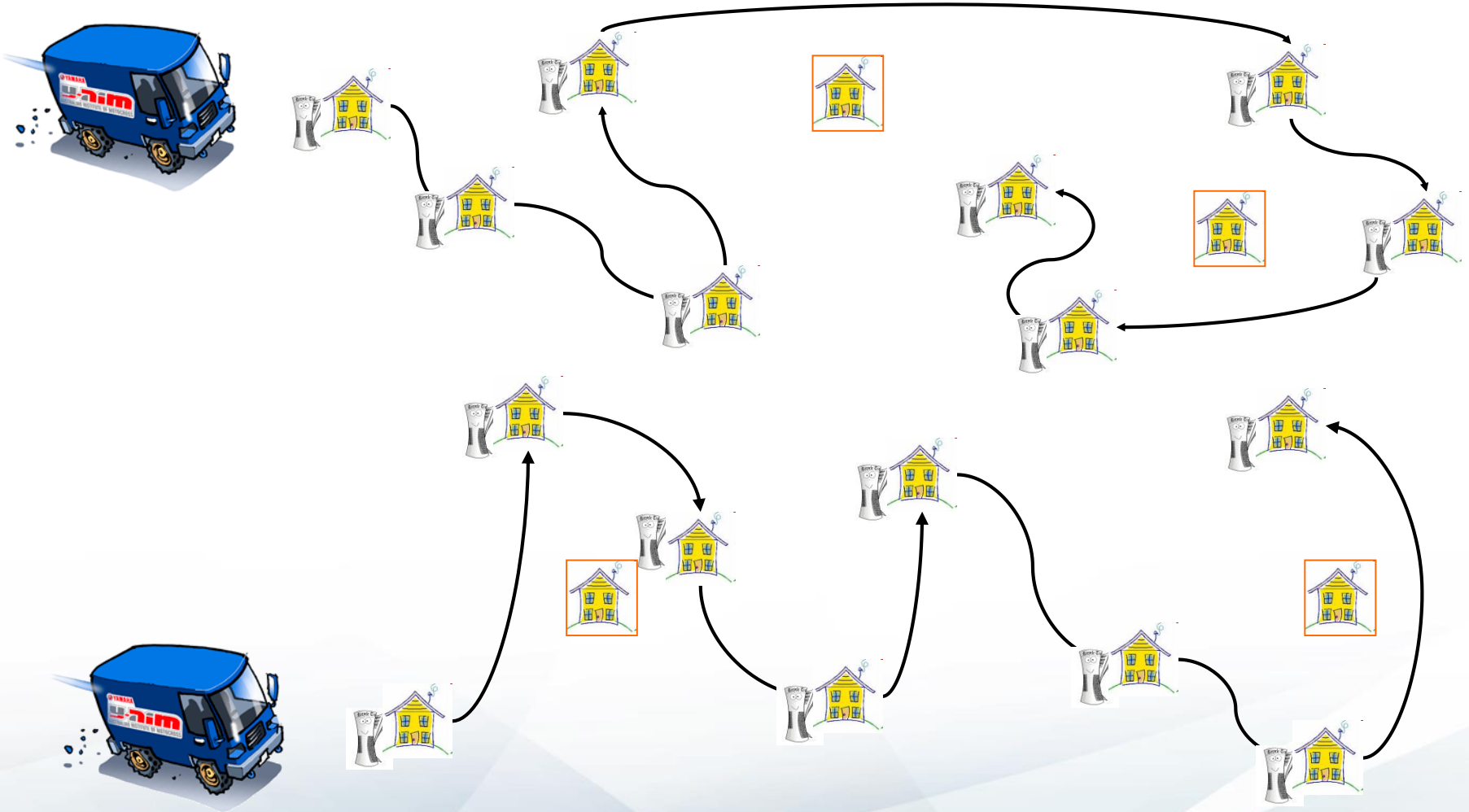
City with newspaper subscribers



Paper delivery (CPU)



Paper delivery (CPU multi-core)



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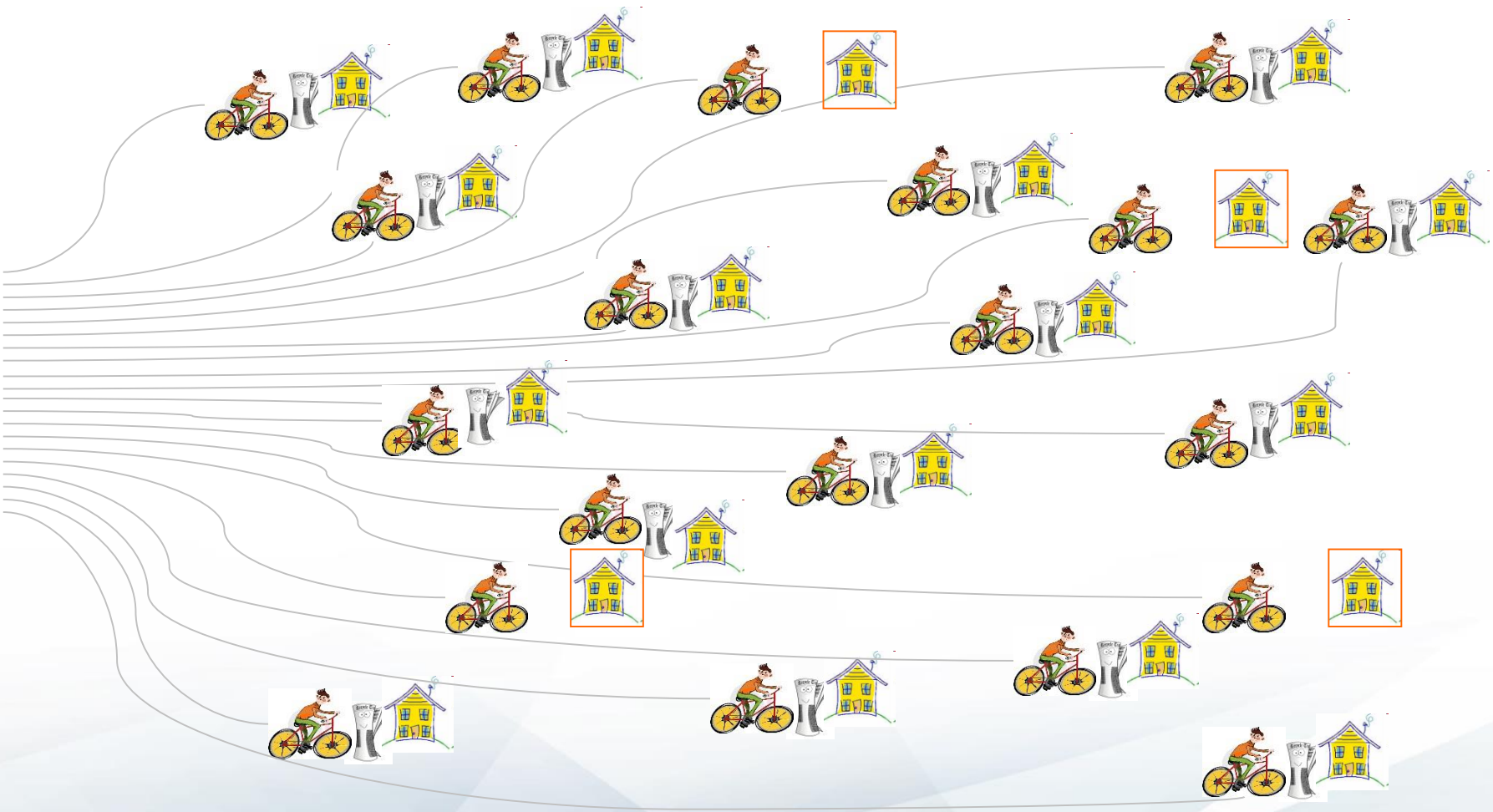
Paper delivery (GPU many-core)



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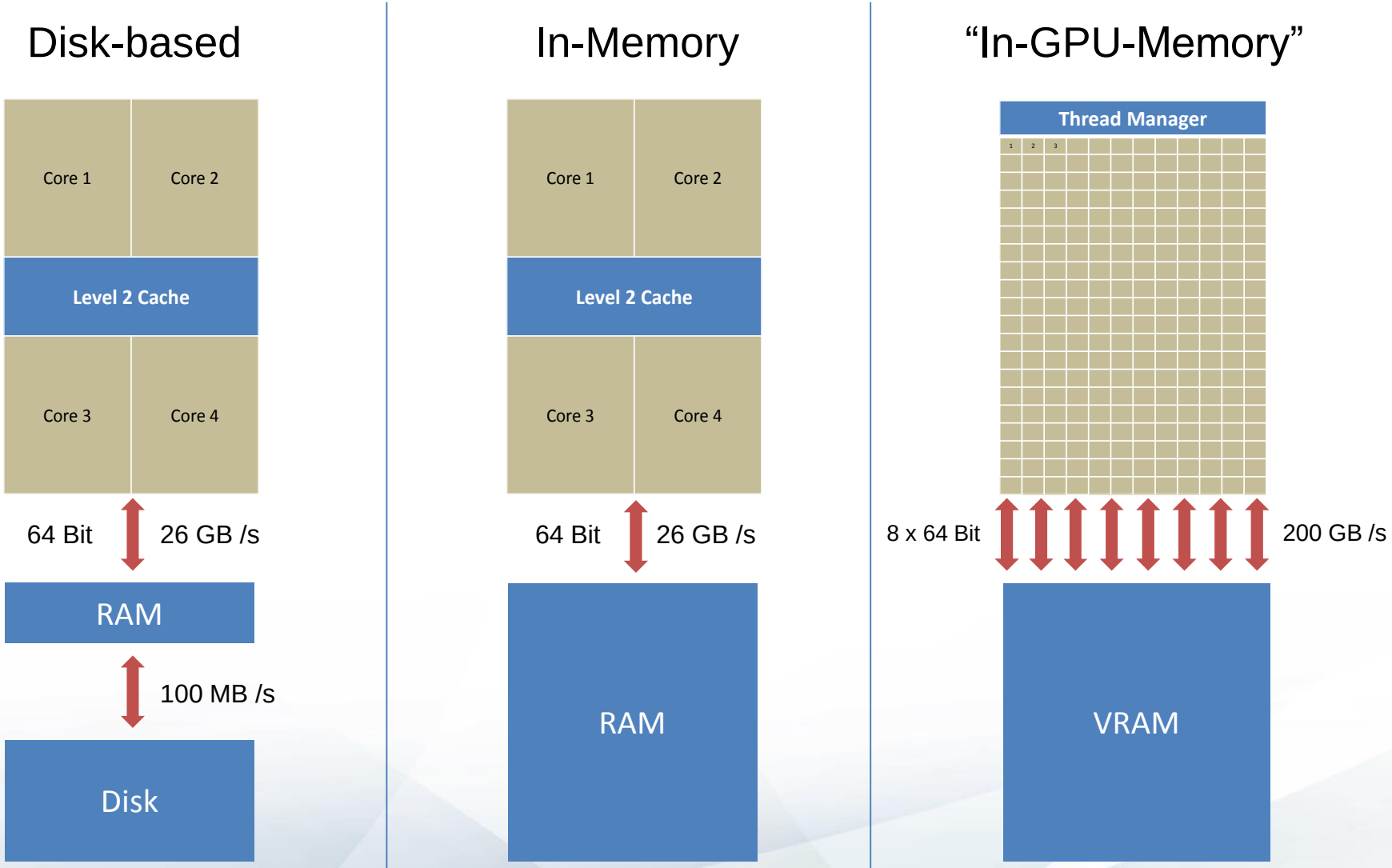
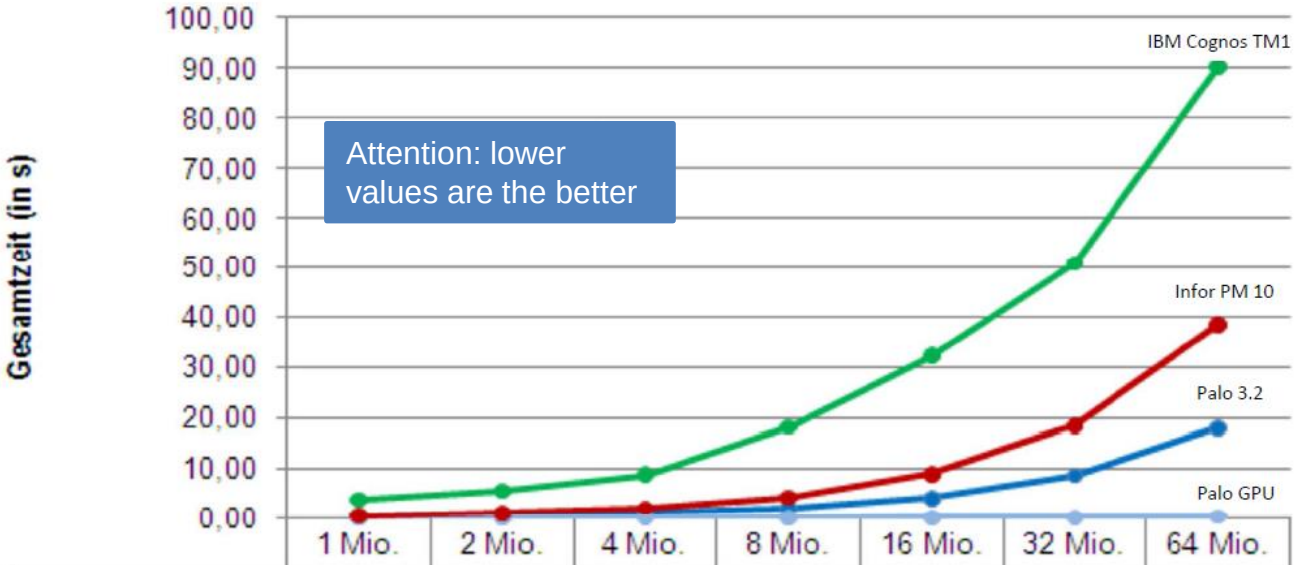
Data management and memory types



Jedox GPU is the fastest In-memory Database

Hochschule Karlsruhe
Technik und Wirtschaft
UNIVERSITY OF APPLIED SCIENCES



	1 Mio.	2 Mio.	4 Mio.	8 Mio.	16 Mio.	32 Mio.	64 Mio.
Palo	0,43	0,72	1,10	2,14	4,07	8,60	18,13
Palo GPU	0,10	0,12	0,13	0,14	0,17	0,22	0,36
Infor PM 10	0,51	1,03	2,13	4,33	8,91	18,51	38,54
Cognos TM 1	3,82	5,55	8,83	18,17	32,27	50,80	90,34

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General effects of GPU technology

- Better Performance (query and load performance)
  - Faster computing power through massively parallel processes/processors and data management in main memory of the GPU with fast access times
- Better user scalability
  - GPU technology offers better scalability, even for large scenarios with many concurrent users.
- Project methodology
  - Due to the fast processing speed even complex models can be tested quickly. Thus, iterative/agile development methods can be supported very well and more realistic models can be validated.
- “Green BI”
  - GPU technology offers lower power consumption and hardware requirements with same performance compared to conventional technology, especially in more complex and larger data models.

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Potential scenarios for using GPU technology(1)

- More detailed planning
  - Planning e.g. in retail, in greater detail (on item level) with extensive aggregations, calculations and data distribution as well as larger amounts of data.
- More complex planning
  - Planning of more complex models with many dependencies between parameter, e.g. in the areas of logistics and production. Rapid calculation of alternative scenarios that can be compared, bill explosions, etc.
- Forecasting and Simulation
  - Faster forecasting and extensive simulation with scenario comparison, for example in finance / investment banking (Monte Carlo simulation), trading, stock broking. Real-time segmentation, real-time rankings, real-time scoring.

Potential scenarios for using GPU technology(2)

- Real-time web analysis, online modeling and personalization
  - Real-time web analysis / mining for online customer segmentation with personalized web pages or CR; (pricing, next best offer, website content, website advertising, website structure, etc.) Real-time analysis of web pages according to user behavior (clicking behavior).

- Real-time monitoring
  - Real-time monitoring of key performance indicators or metrics with fast load and query times, eg. Dashboards of operational processes (production, logistics)

- Mobile BI
  - Improvements of query performance in mobile BI because of server-side computing model for mobile applications. Especially for querying highly aggregated data and scalability for large numbers of users.

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Promising developments

Cluster GPU Instances for Amazon EC2

Intel® Xeon Phi™ Coprocessor

Key Takeaways

- Don’t fight against Spreadsheets
- Spreadsheets are the important part of a self service BI architecture
- In-Memory technology is state of the art and reliable
- New Hardware architectures improving performance
- Manycore/multithreaded applications required

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THANK YOU VERY MUCH!

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