telenor

Road to the real time decision support at Telenor

Challenges and possibilities

Zoltan Veress

2011.11.22

Agenda

Telenor Group

BI universe

BI architecture, areas/functions

Real time DWH basics

Challenges

Real time at Telenor Hungary

Future plans

Possible benefits

Summary

Telenor Group mobile operations

Nordic

Norway

Sweden

Denmark

Central and Eastern Europe

Hungary

Serbia

Montenegro

Asia

Thailand

Malaysia

Bangladesh

Pakistan

India

Telenor Group wide
Business Intelligence Competence Center
in Hungary since 2006

VimpelCom Ltd.

Russia
Ukraine
Italy
Kazakhstan
Georgia
Uzbekistan
Tajikistan
Armenia
Kyrgyzstan
Cambodia
Vietnam
Laos
Pakistan
Bangladesh
Algeria
Zimbabwe
Burundi
Namibia
Central African Rep.
Canada

Telenor Group holds 31,7% of the economic ownership in VimpelCom Ltd.
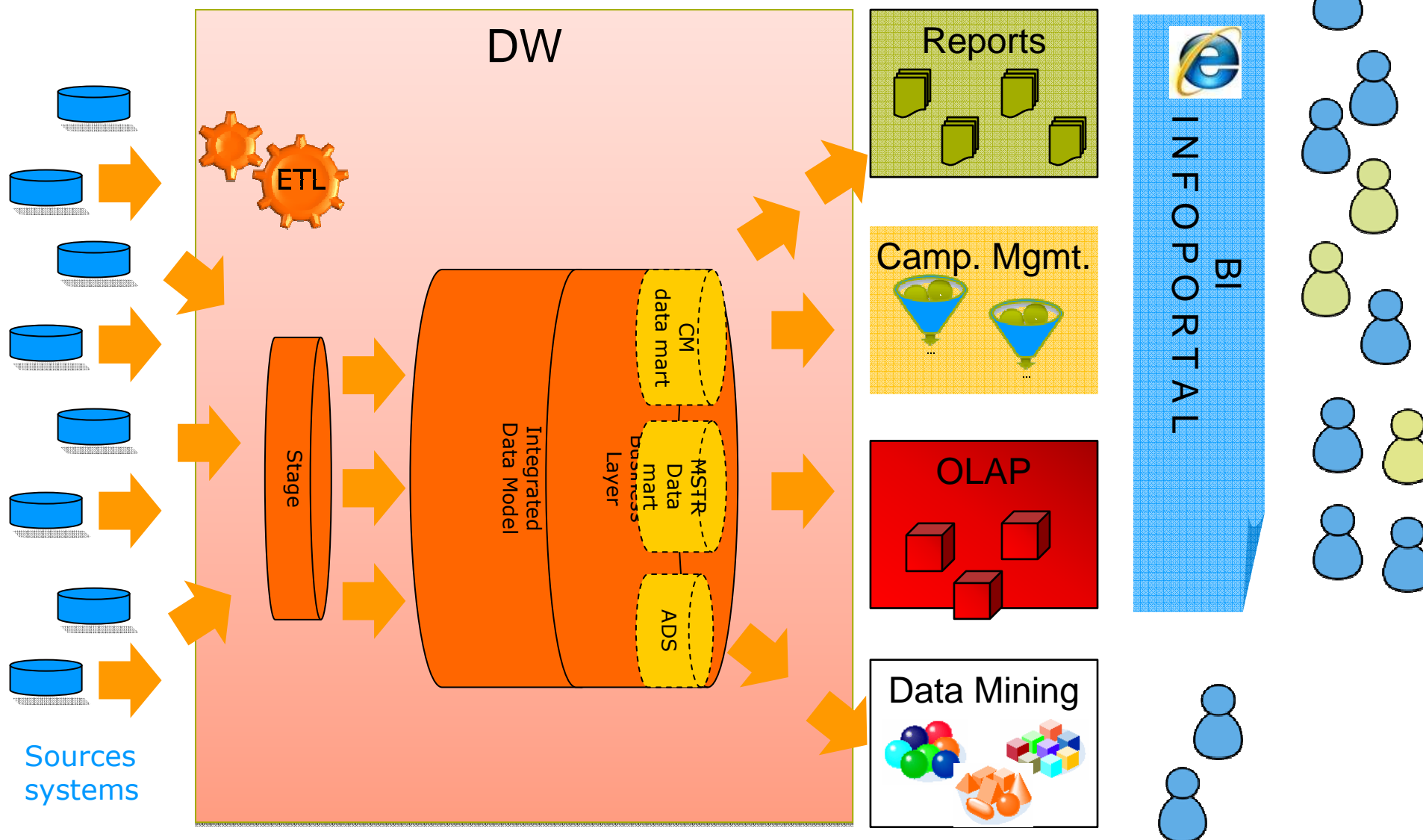
telenor

Telenor Hungary BI Universe
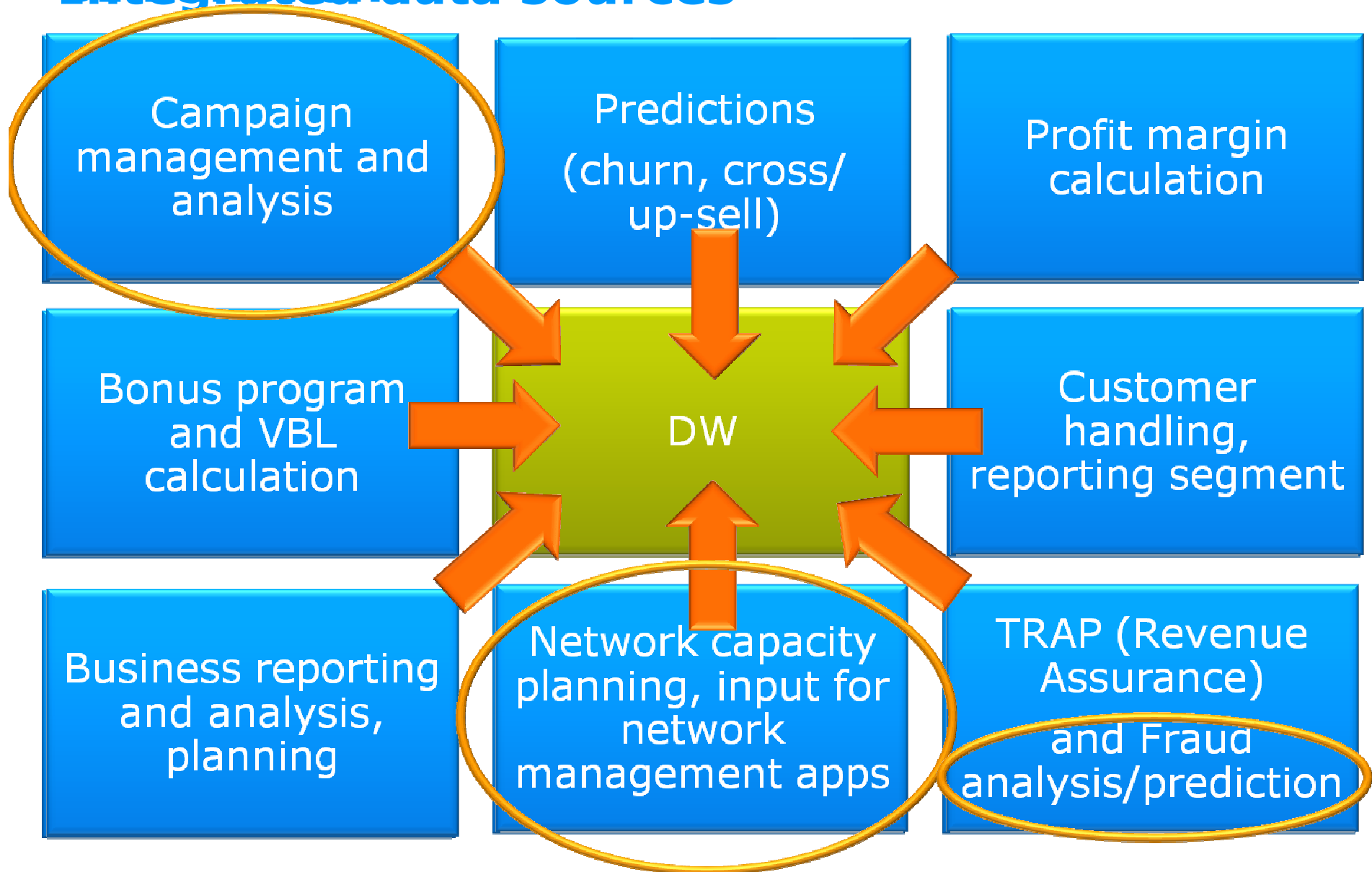
Early adaptors:
DWH 2000
OLAP 2001
CM   2003

- 52 source systems
- 5 Terabyte Integrated Data
- 3,5 million subscription
- 120 million Loaded Records pro Day
- ~500 BI Users (direct/indirect)
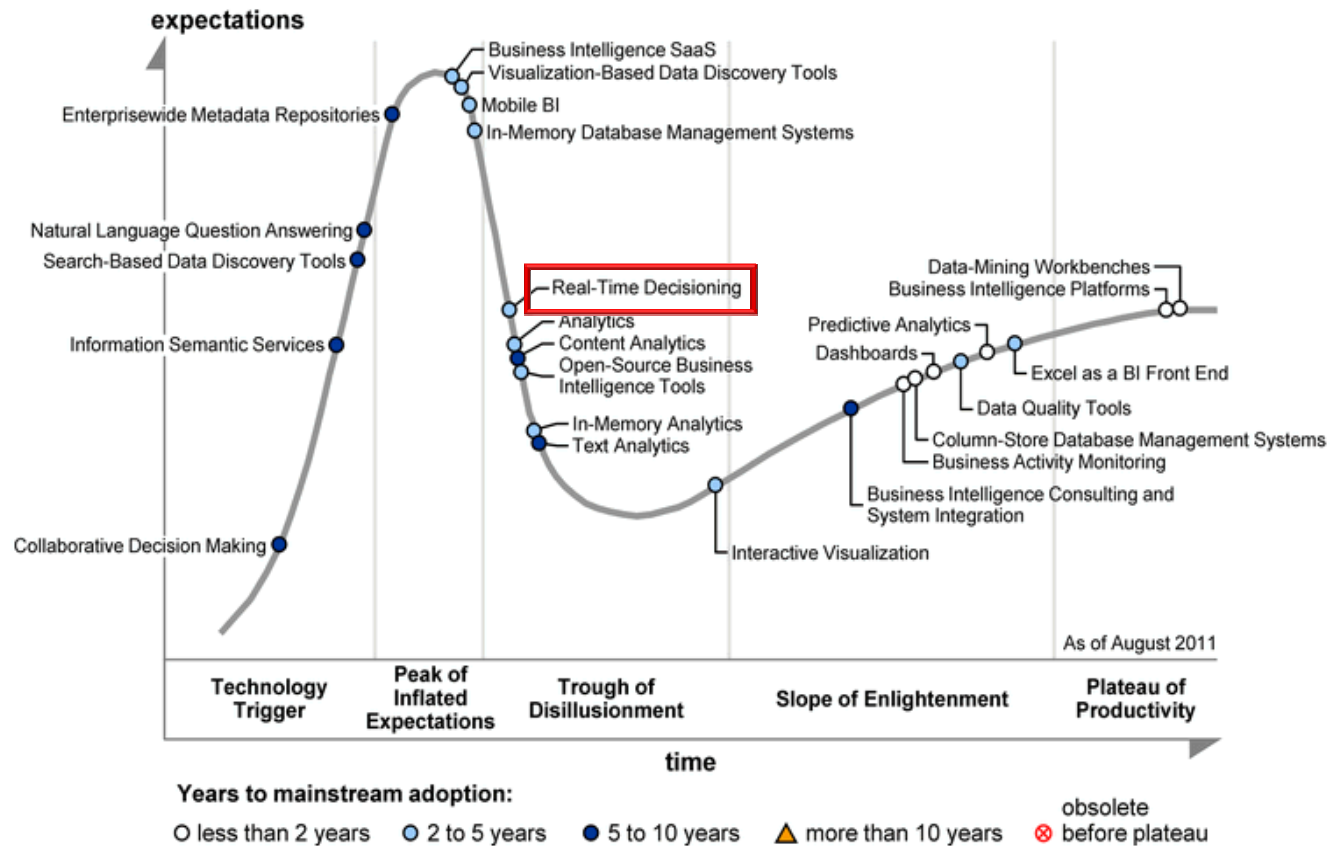- 180 000 running of reports in a year (regular, standard, ad-hoc)

telenor

Telenor Hungary's BI Architecture

BI Integrated data sources

Campaign management and analysis

Predictions (churn, cross/ up-sell)

Profit margin calculation

Bonus program and VBL calculation

DW

Customer handling, reporting segment

Business reporting and analysis, planning

Network capacity planning, input for network management apps

TRAP (Revenue Assurance) and Fraud analysis/prediction

telenor

Hype cycle for BI (by Gartner)

Source: Gartner, Hype Cycle for Business Intelligence, 2011 August

Real time DWH basics

⇨Data immediately analyzed, classified, and related to information that is already warehoused from previous transactions;

⇨Traditionally: daily refresh;

⇨What is real time: relative;

⇨Overhead procedures take time (data capture, ETL) -> „near-time"

⇨Technical term to achive real-time synchronization: CDC (change data capture)

⇨Near time: microbatch

telenor

Real time DWH challenges

➡ First implemented using daily batch updates significant redesign might later be necessary (for log based CDC)

➡ Can no longer be performed in off-peak hours

➡ Danger of inconsistency

➡ Differentiate between:

  ➡ "must-be-real-time",

  ➡ "nice-to-have-real-time„

  ➡ "not-at-all-real-time"
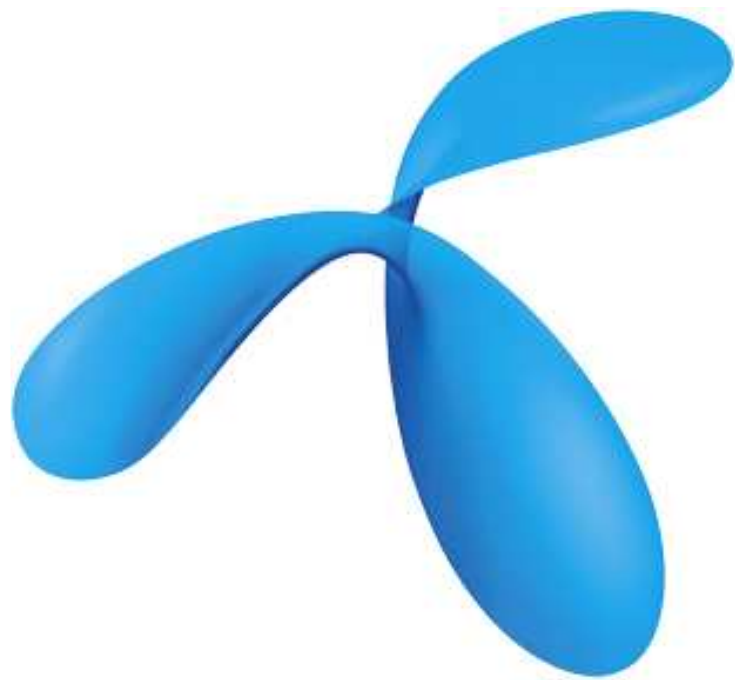
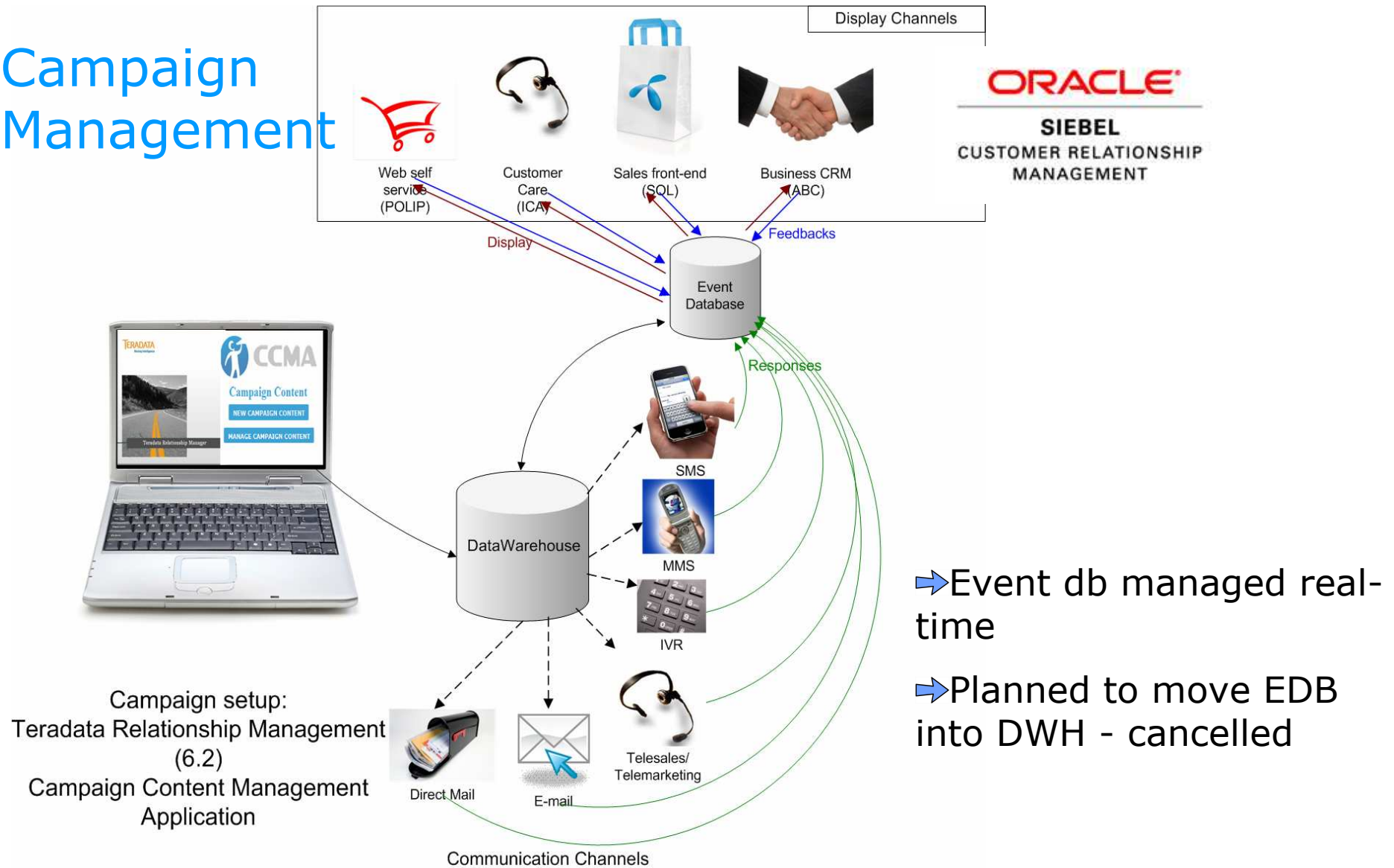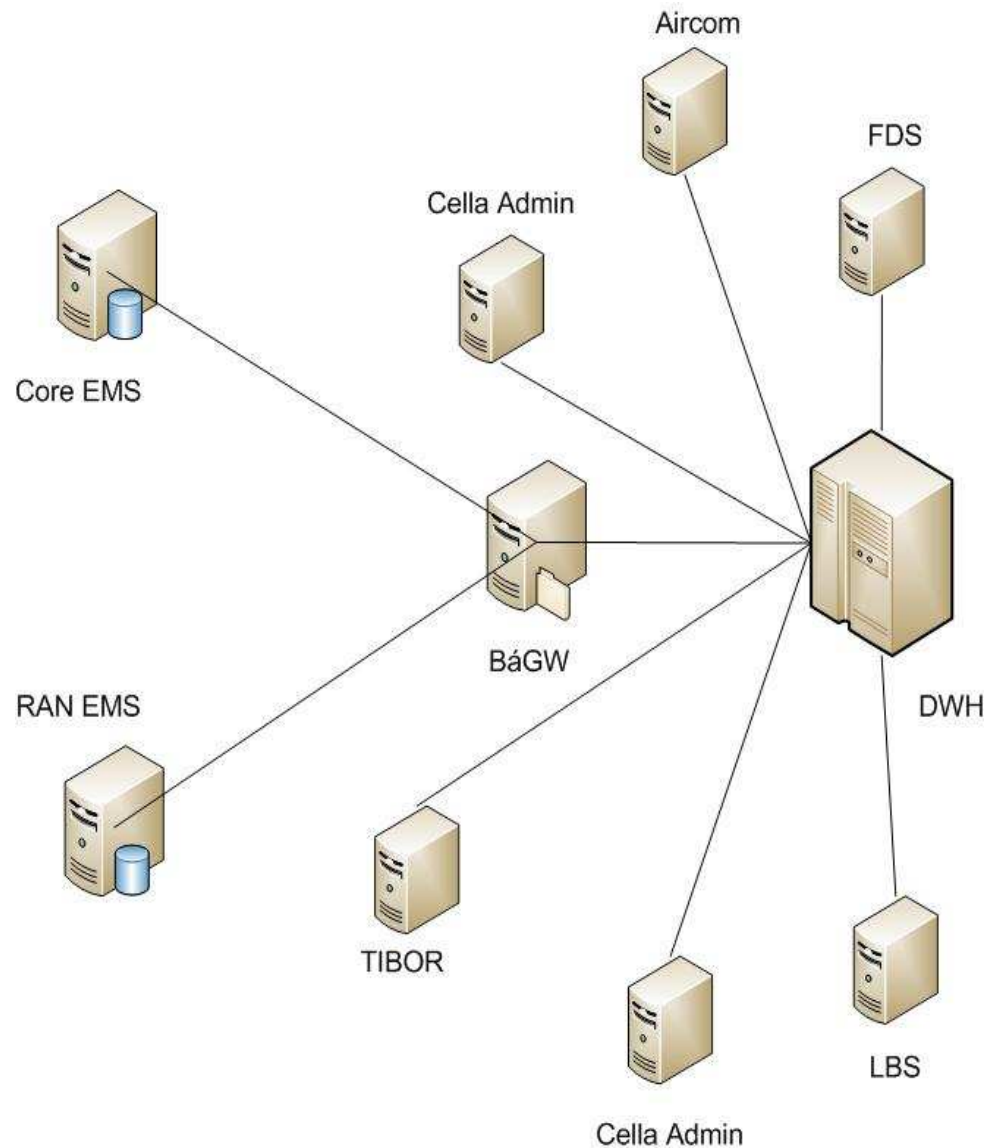telenor

Real time at Telenor Hungary

⇒ Early adaptors, not real time

⇒ No business case to convert entirely to real-time

⇒ Teradata v13 – active data-warehouse capable

⇒ Campaign management events managed real time

⇒ Network configuration and performance data near time

⇒ Fraud detection real time

⇒ Other events – where real time matters – could be managed within the source system

telenor

Campaign Management

Display Channels

Web self service (POLIP) · Customer Care (ICA) · Sales front-end (SQL) · Business CRM (ABC)

ORACLE
SIEBEL
CUSTOMER RELATIONSHIP MANAGEMENT

Display · Feedbacks · Event Database · Responses

CCMA
Campaign Content
NEW CAMPAIGN CONTENT
MANAGE CAMPAIGN CONTENT

DataWarehouse

SMS · MMS · IVR · Telesales/Telemarketing · Direct Mail · E-mail

Campaign setup:
Teradata Relationship Management (6.2)
Campaign Content Management Application

Communication Channels

➡ Event db managed real-time

➡ Planned to move EDB into DWH - cancelled

telenor

NW config and performance data

➡ Configuration and performance data loading redesigned in 2008

➡ From daily to 15min or 1hour (near time)

➡ Functions:

  ➡ Near time source for several systems

  ➡ Management reports

  ➡ Ad-hoc problem detecting/reporting

  ➡ NW swap supporting

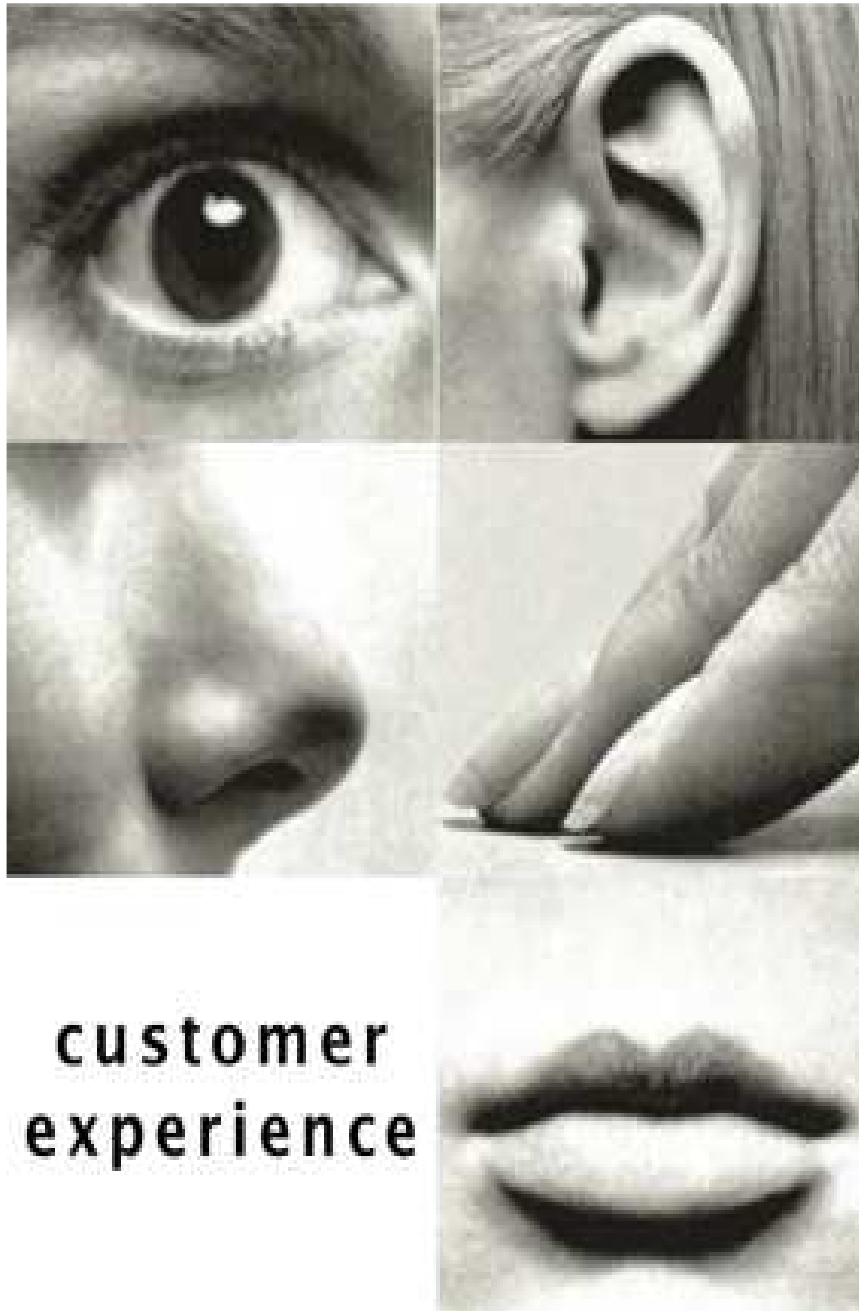telenor

Future real/near time plans

(Near) Real-time event based campaigns

ESB implementation and connection with DWH in a long term

telenor

Possible benefits of real/near time in Telco

➡ Event based campaigns:

➡ Change in the usage patterns (sudden balance decrease, large or increased frequency of top-up)

➡ Prepaid balance change (high)

➡ Location change (roaming)

➡ Smart-phone usage patterns

➡ Real time answers in case of network problems (customer loyalty)

customer experience

➡ Fraud detection

customer experience

telenor

Summary

⇨Think twice before changing totally to real/near time

⇨Ask for business case from BUSINESS

⇨Differentiate between must be/nice to have/not at all REAL TIME

⇨Apply real/near time where ROI is justified

telenor

Thank You!

zveress@telenor.hu

telenor