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# Telecom Italia
# Data Retention Project
# Case Study

## ISS - Prague

October 2nd 2008

# The Scenario

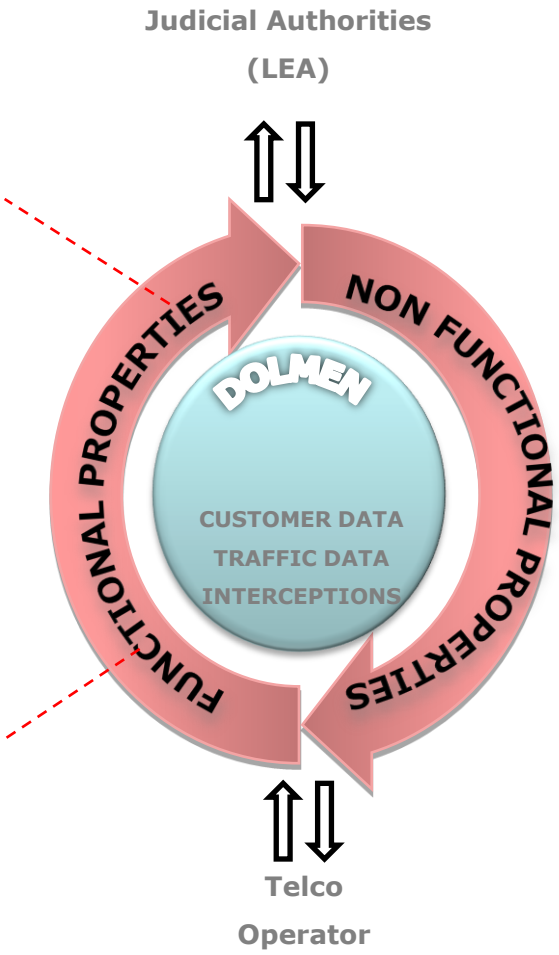
- **2006-2007** – TI Mobile and Fixed Departments merging

- **5 different law enforcement systems**– for a better service and cost control (several, different, distributed environments) TI started a consolidation process for defining a unique system: DOLMEN.

- **New Regulatory**– the system must assure current services and must be compliant to the latest law constraints:
  - ✓ Directive 2006/24/EC of the European Parliament and of the Council of 15 March 2006 for Data Retention
  - ✓ Italian Authority for Privacy

# Telecom Italia Dolmen Program

**The new Telecom Italia information system "DOLMEN", represents an integrated solution to manage both internal and external requests for judicial purposes.**




## Complex Functional Properties

The system must handle/ manage:

- Internal (i.e. company's operators) and external (i.e. Judicial Authorities) requests;
- Different kind of communication protocols (e.g. e-mail, http, etc.);
- Heterogeneous data coming from customer databases, interception systems and traffic data sources.

## Non Functional Properties

The system must satisfy the following non functional properties:

- Modularity: adding features as independent modules to guarantee high levels of scalability;
- Maintainability;
- Availability;
- Reliability;
- Security.

# The Logical Architecture

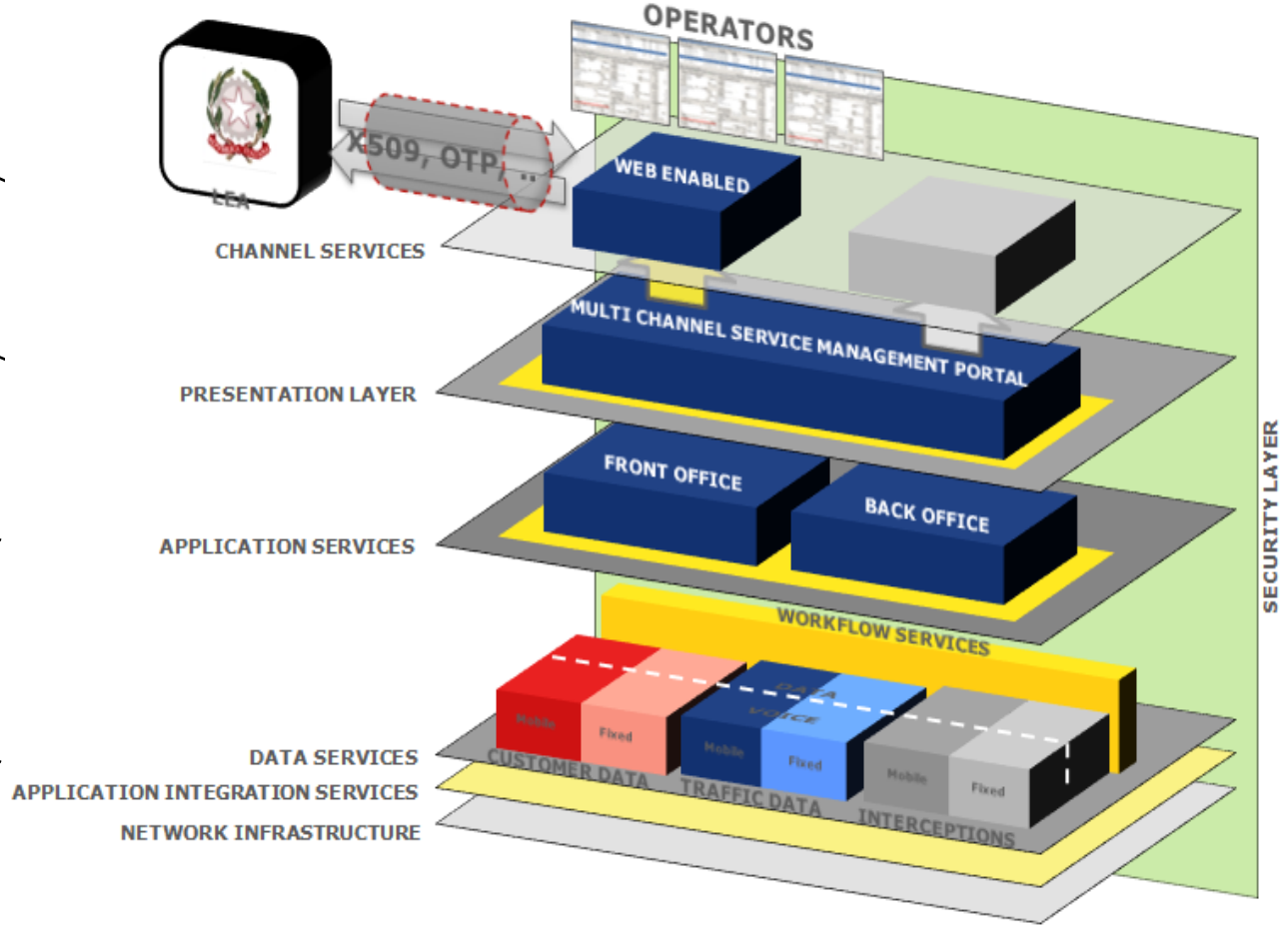
**The reference architecture model of a modern data-centric and SOA-based platform follows, de facto, the industry standards based on the presentation layer, business logic and data layer.**

The **channel services** represent the different ways to access the system, e.g. web, palm, etc.

The **presentation layer** segregates the user interface from business logic.

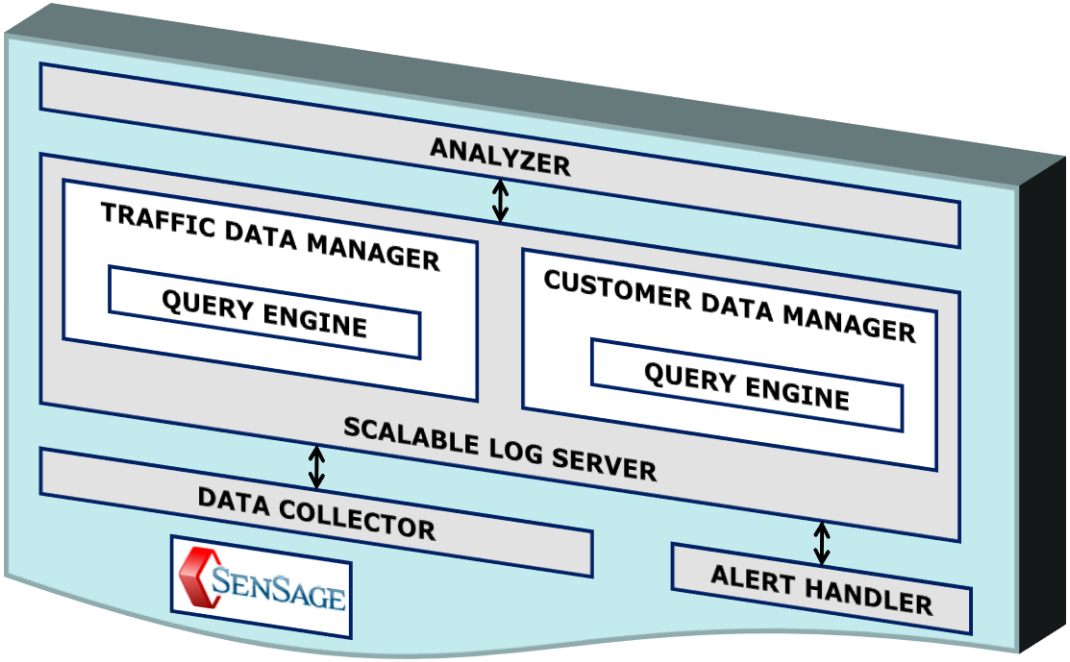
The **business logic** represents the core of the system transforming inputs into desired outputs.

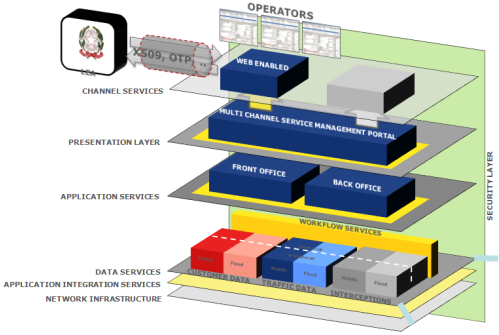
The **data layer** indentifies all the data sources of the system.

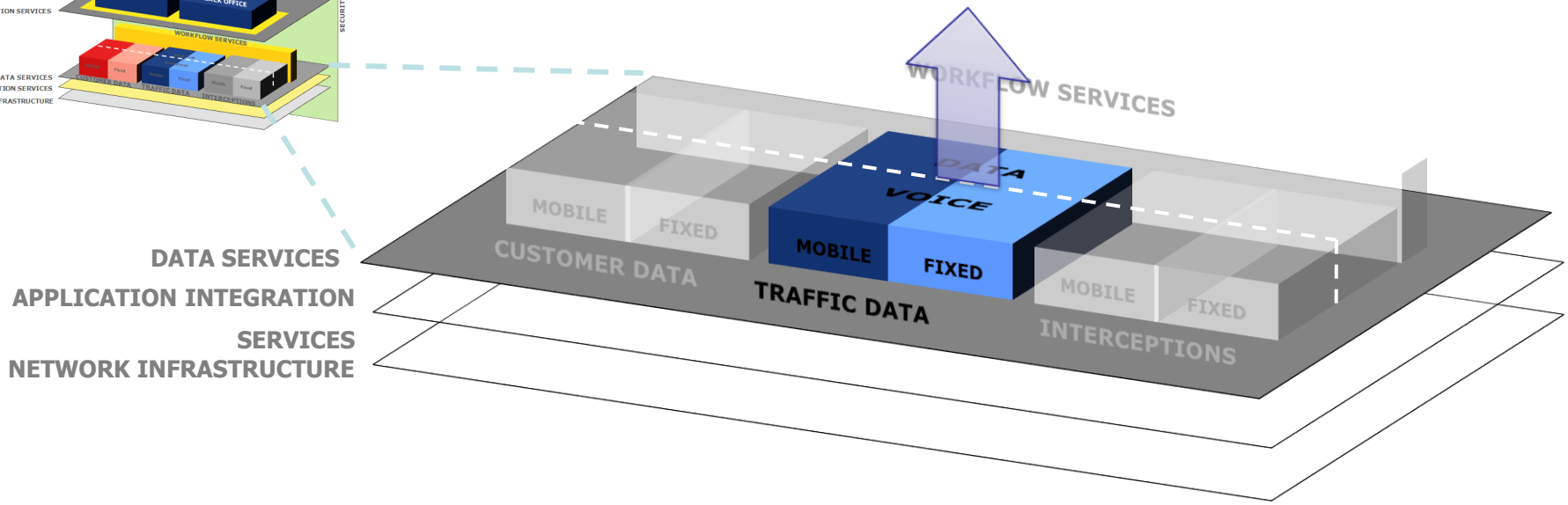


# Data Retention Unico

**DRU** (Data Retention Unico) is the **DOLMEN** component for data traffic management.



# Key evaluation parametres

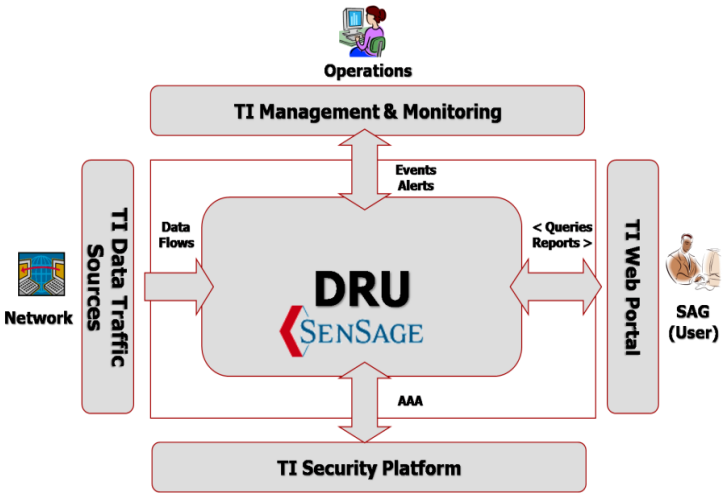
- ***Scalability***: DRU at full configuration will manage around 500GB per day

- ***Flexibility***: New services will implied new data flow to manage ➔ collection must take a place as soon as possible. DRU will provide a fast way for answering to "*unplanned*" report.

- ***On-line Data***: Years of data on-line accessible for query regardless of the oldness of the data.

# Why Sensage

- A Proof of Concept demonstrated a linear scalability in collection & query performance
- TCO reduction (No-RDBMS, Data compression, large data volume management ➔ single platform)
- Integrability inside the complex TI operational environment
- About SenSage three different TI departments agreed

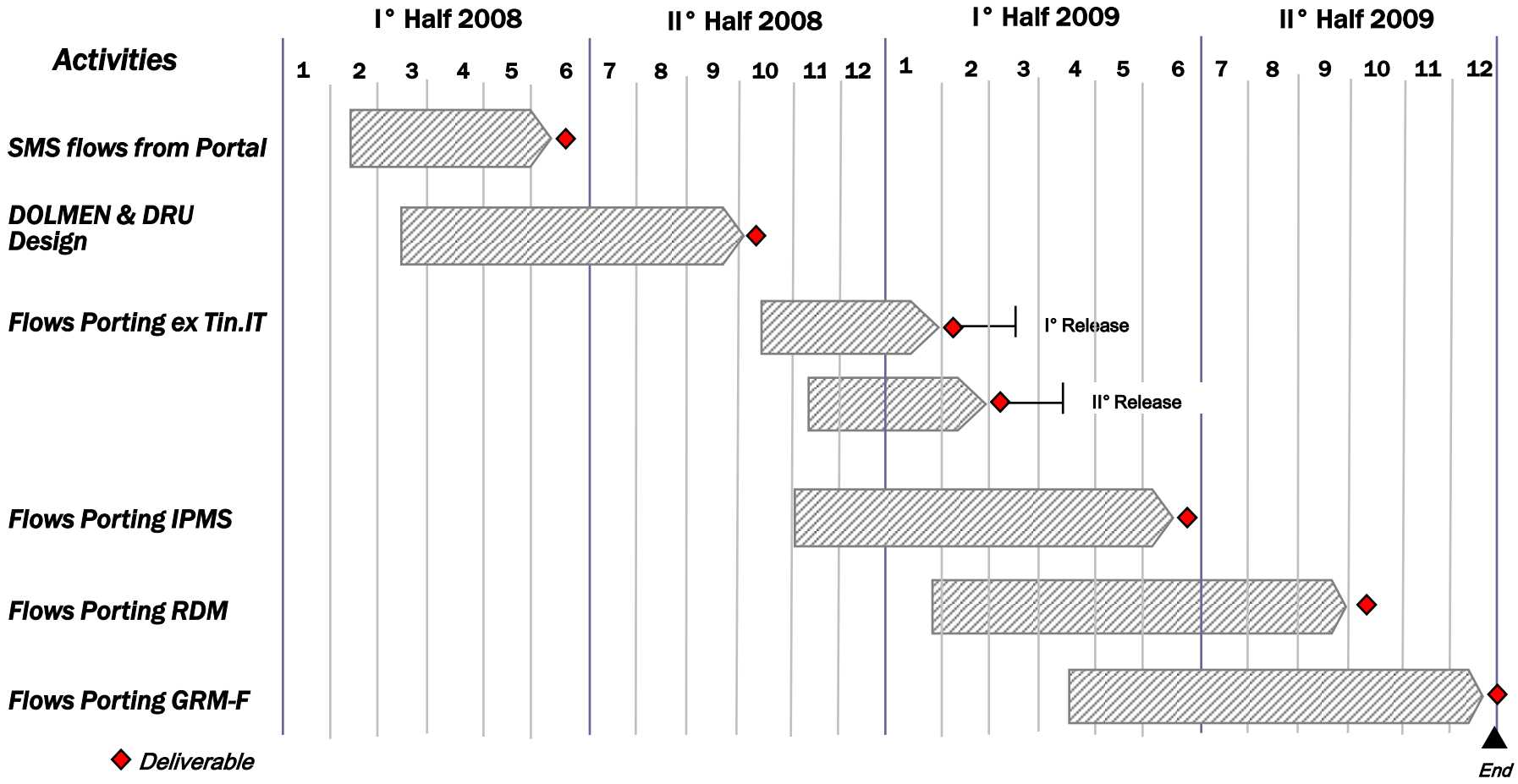


# Target Numbers

- > 500GB of data traffic per day
- > 650 requests per day
- > 160TB of data repository
- > 70 different sources
- SenSage components:
  - ✓ 12 Collectors
  - ✓ 80 SLS nodes

# TI / Sensage Roadmap

**Plan 2008/2009: all the systems collecting Data Traffic (Fixed & Mobile) and Phone Calls (Fixed & Mobile) will be consolidated in DRU based on SenSage platform.**



# Thank you!