Enterprise Integration @ Carrefour

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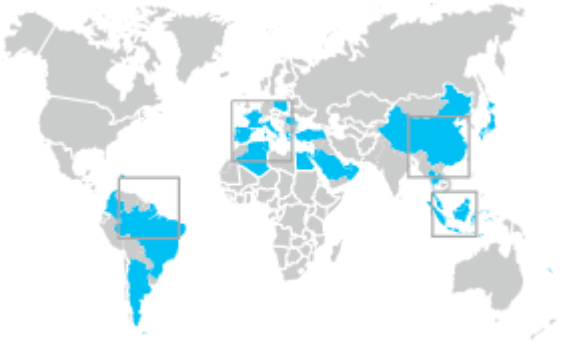
Carrefour Group – Quick Facts

- $160 bn Annual Revenues (2007)
- 1st retailer in Europe (2007)
- 2nd largest retailer worldwide (2007)
- 14,991 stores in 30 countries (2007)
- 16,899,020 m² selling surface (2007)
- 490,000 employees (2007)
- 3 bn clients served annually (2007)
- Largest retailer in Argentina, Belgium, Brazil, France, Greece, Indonesia, Spain
- Global presence: Algeria, Colombia, China, Israel, Japan, Thailand, Qatar, Saudi Arabia, Poland, Portugal, Turkey, Tunisia



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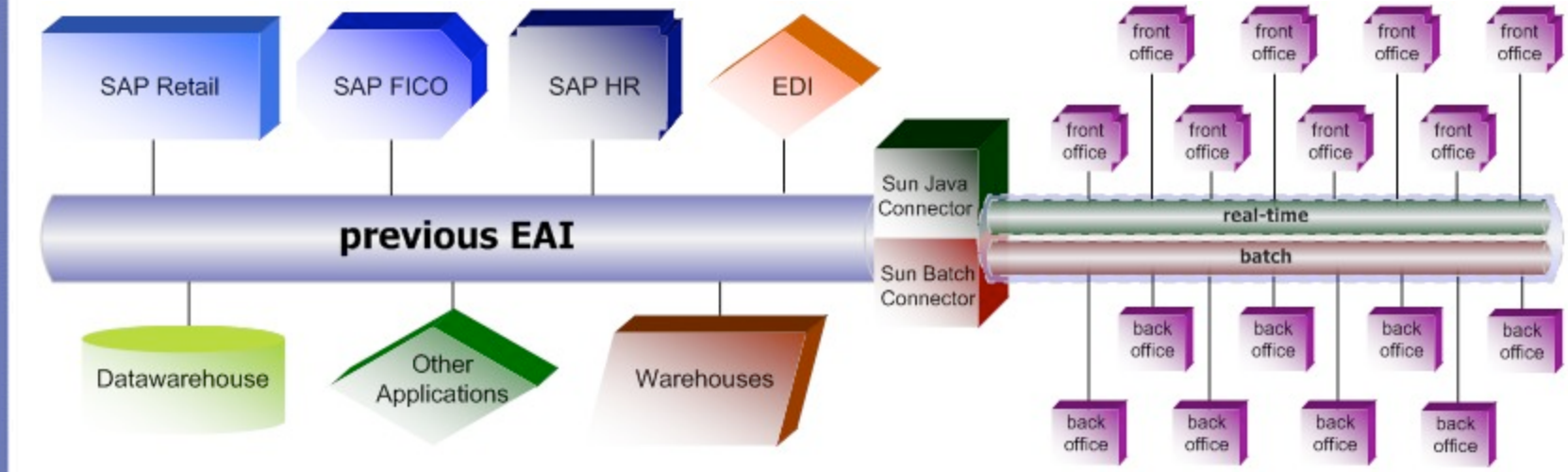
Carrefour Enterprise Integration Facts & Figures

- ***Pioneering*** with the largest EAI implementation in Europe since 2001.
- ***EAI Backbone*** hosts all data exchanges between applications.
- ***EAI Factory*** methodology industrializes and streamlines development process with outsourcing on going.
- ***Figures*** that speak for themselves:
  - + 700,000 real-time transaction per day
  - + 1,000,000 batch transaction per day
  - + 15,000 batch flows
  - + 3,000 processes
  - 64 CPUs / 320 GB RAM on Windows environment with our in house GRID
  - + 50 GB per day

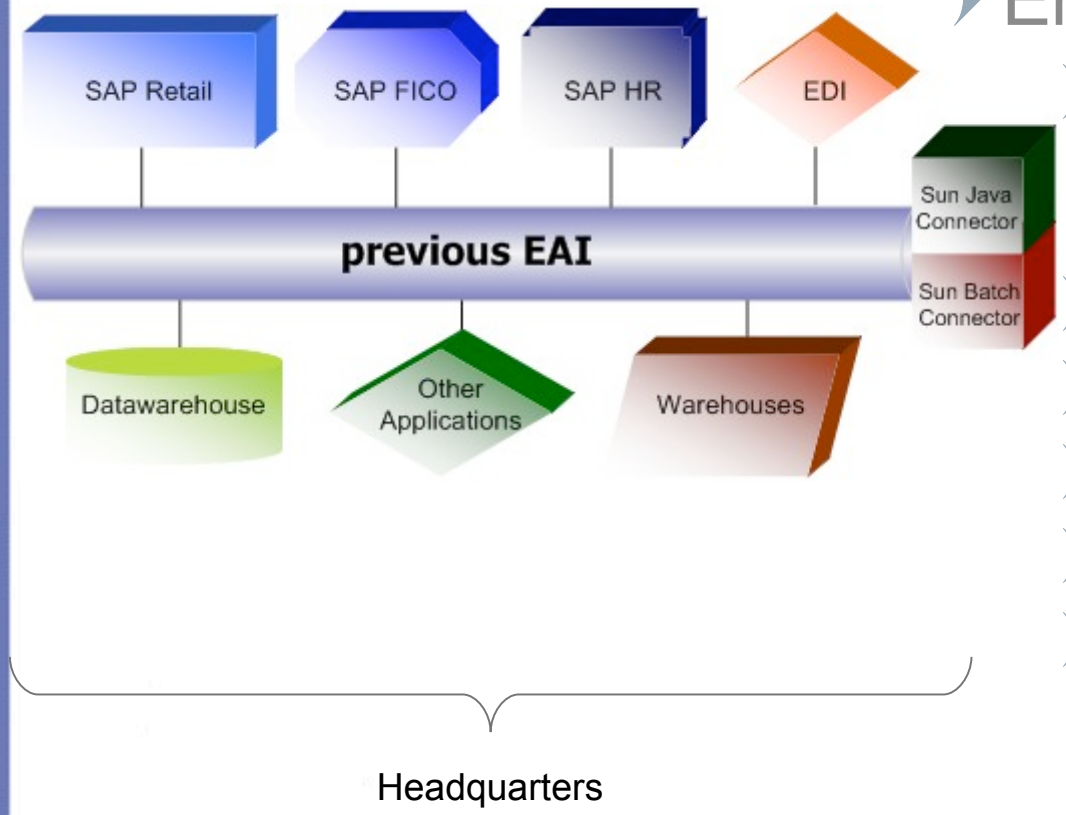
Carrefour Previous Proprietary EAI Backbone
(2001-2007)



Headquarters

Stores

Carrefour Previous Proprietary EAI Backbone
(2001-2007)

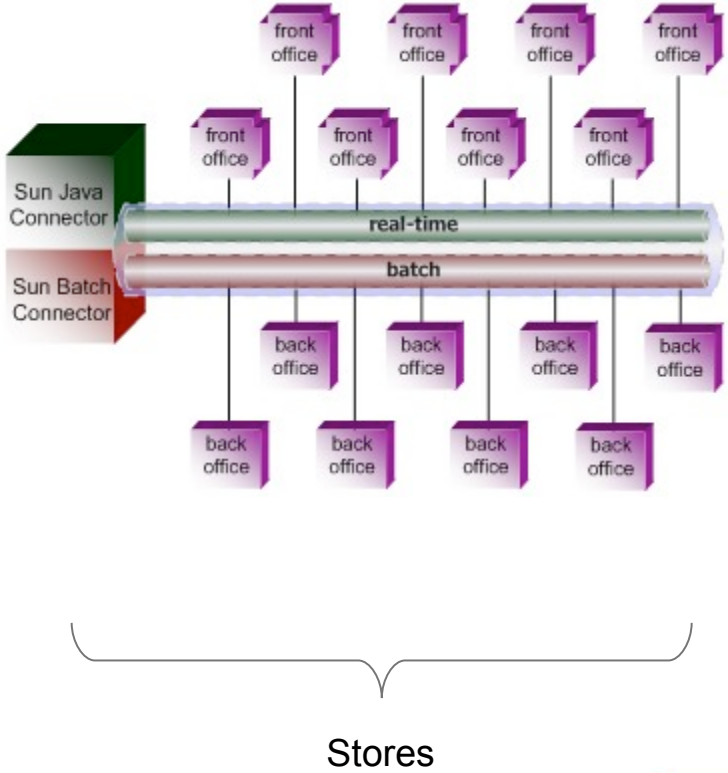


- Enterprise Integration
  - Effective enterprise integration through EAI for all application
  - high volume treatment
  - high performance
  - high redundancy
  - mostly batch oriented
  - central management

Carrefour Stores EAI Backbone (2001-2007)

- Store Integration
  - NO integration inside the stores itself, data exchange was point to point from back office to front office
- Central-Store exchanges
  - Real-time: front offices are connected to Headquarter EAI with a Java homemade connector for real-time loyalty and eTop-up* transactions
  - Batch: EAI's transmission module (FTP transfers)

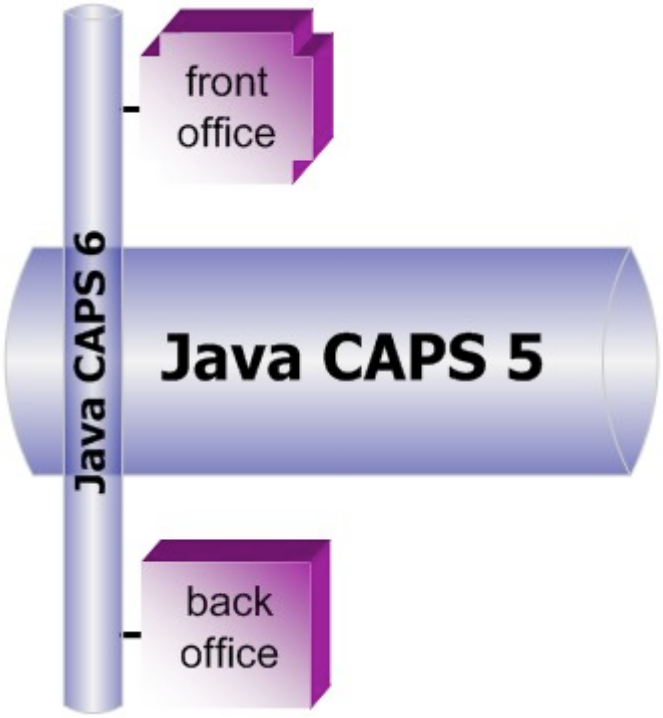
* eTop-up = dematerialized product purchase (airtime, recreation tickets, iTunes, …)



Store Integration Needs

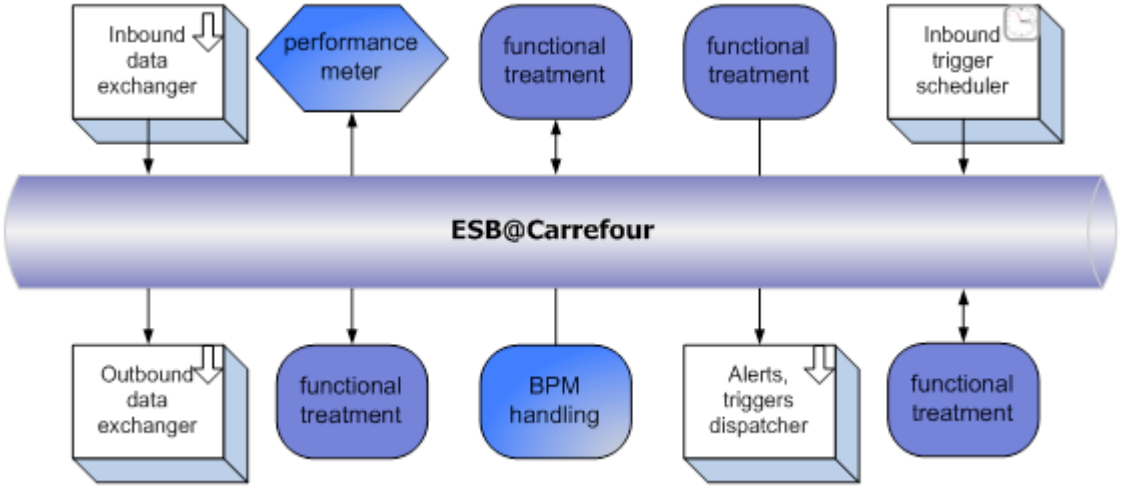
- Project Abacus
  - Introduce new enterprise-wide front office system
    - all formats (hypermarket, supermarket, convenience)
    - first pilot store in 2007
    - stores remain open during the migration
  - Standardize integration in stores
    - isolate front office from back office
    - reusable solution for all countries Carrefour Group
  - Near real-time store sales figures report & analysis
  - Improve time to market for new business opportunities

Carrefour Store Integration



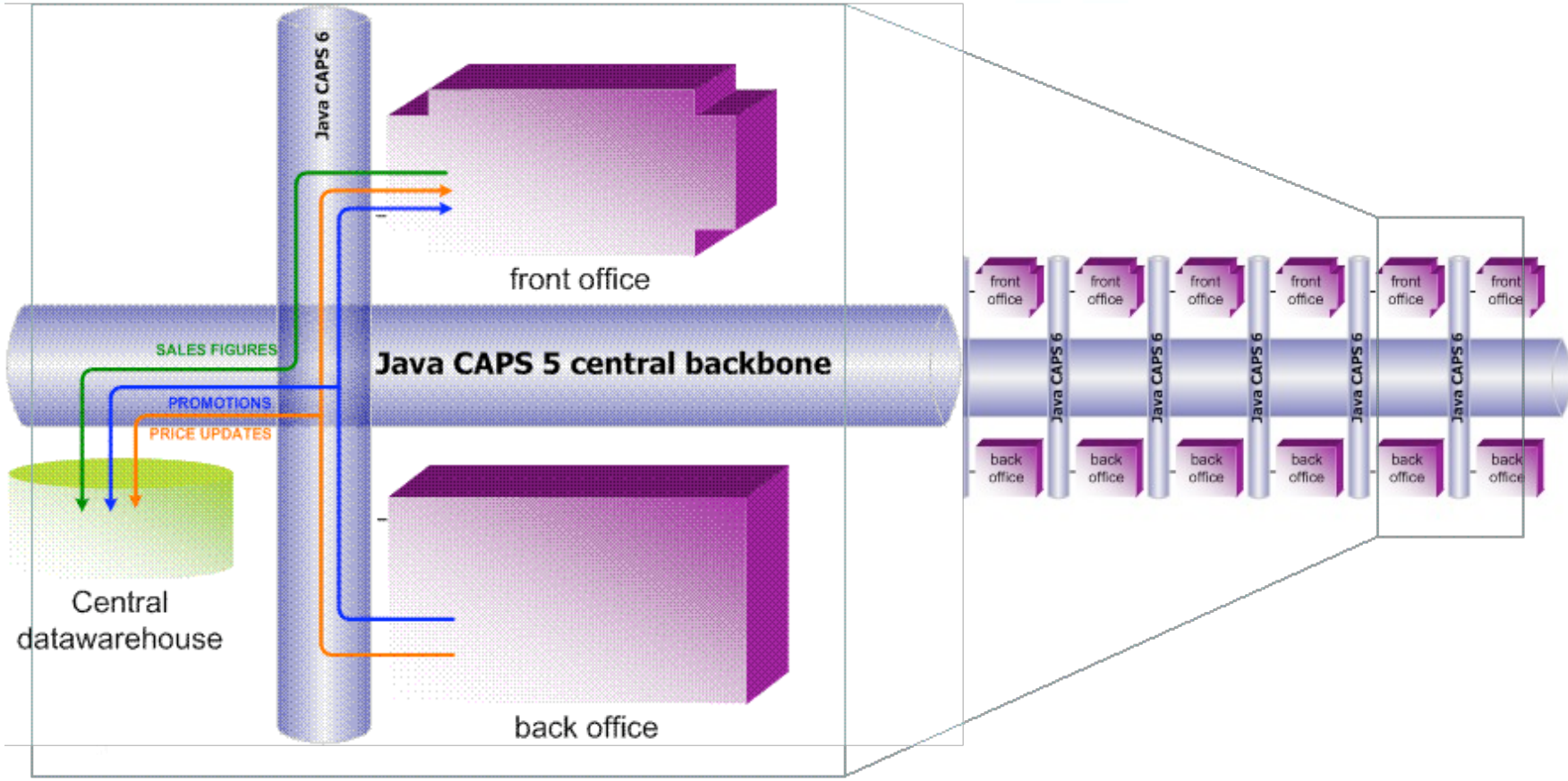
- By introducing EAI in stores
  - Treat stores' front- and back-office as any other application: integrated with an EAI
  - *Java CAPS 6 in store* is part of the enterprise-wide EAI application

Carrefour Composite Application Framework



- EAI in store
  - Benefit from all central EAI aspects (framework, reusability, scalability, simplification, reduce costs & support …)
  - Must be able to work off-line from central
  - Must integrate stores peculiarities (smaller hardware sizes, different constraints…)

Carrefour ESB Java CAPS 6 (2008 -)



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Java CAPS 6 – Adoption Benefits for Carrefour

- ***Simplifying*** the complexities of integration.
- ***Increasing*** business opportunity and value creation.
- ***Reducing*** the Time to Market by incrementing the IT flexibility and reactivity.
- ***Lowering*** IT costs drastically by pursuing reusable, template-based approaches to development.
- Make ***better*** business decisions ***faster***.
- ***Broad*** support for multiple computing platforms and databases.
- ***24/7 availability*** of key databases and applications.
- Enabling ***faultless migration*** of applications and EAI versions

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JCAPS 6 Migration – Why ?

- ***GlassFish v2***
  - Strong community
  - Performance, scalability, reliability
  - Java EE 5
- ***NetBeans v6.x***
  - Single IDE for all our Java developments
  - Strong community
  - Compatibility with 5.1.x
- ***Management / deployment scripting***
  - Crucial when handling +650 remote sites

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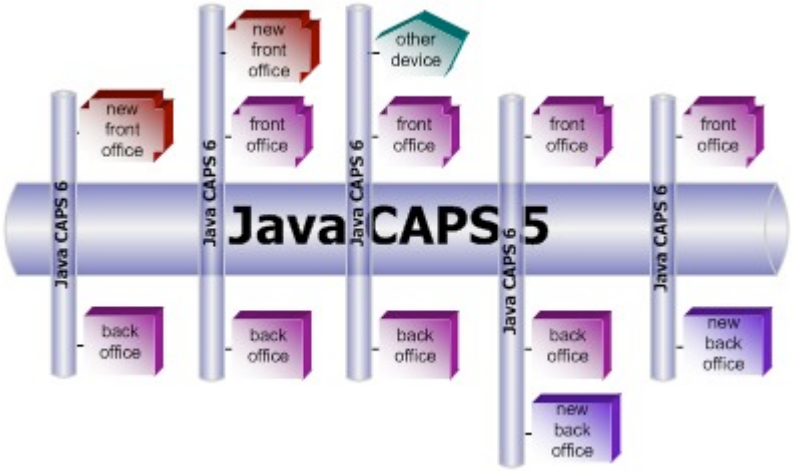
Java CAPS 6 – Non-Proprietary ESB

- ***JBI - Technical opportunities***
  - BPEL 2.0
  - Intelligent Event Processing → BAM
  - ETL
  - Binding Components…
- ***Ease of incorporating our previous EAI into Java CAPS***
  - Upgrade connectivity components in Java CAPS → new standards and increased performance
  - Preserve business components → reliable, too expensive to rewrite
  - One single view & point of control

Carrefour Future Benefits



- Allows for ***faultless migration*** of stores applications
  - replace front-office
  - replace back-office
  - introduce new devices
- Enables **near real-time** sales figures analysis
- Works in a **virtualized** configuration

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- Thank you!