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Seven ERP Systems in 18 months

Implementing the Tesco Operating Model
at Fresh & Easy

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Structure of this talk

- What did Tesco set out to achieve

- What did we start with

- How did we plan and architect the solution

- What we deployed

- Challenges and Lessons Learned

An Enterprise Architects Viewpoint

Who is Tesco plc?

Turnover 2007: £46bn

- A world-leading international retailer
  - UK Market leader
  - 30 million customers per week
  - 3,300 Stores world-wide
  - Employs circa 420,000 world-wide
  - Non-food sales 15% of total
  - Formats: Hyper, Full Service Grocery, City Centre grocery, Convenience (with & without fuel)

- Worlds largest .com grocery retailer
  - by deliveries, turnover, profit

Long journey from one market stall in 1919

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Tesco Across the Globe

International Growth is part of Tesco's strategy for overall business growth

1. Czech Republic
2. Hungary
3. Poland
4. Ireland
5. Slovakia
6. UK
7. Turkey
8. China
9. Japan
10. Malaysia
11. South Korea
12. Thailand
13. USA …

The team's mission in the USA

- Open a functioning, scalable grocery business in about 18 months

    - Starting from a deliberately small team and almost no IT systems in country

    - Needs to quickly achieve maturity similar to our most mature businesses (e. g UK)

        Mission Impossible?

With willing hearts and skilful hands,
the difficult we do at once;
the impossible takes a bit longer.

(Variously quoted and attributed)

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What it's all about

- Delivering a fresh&easy shopping trip which is simple to operate and gets things right first time

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How did we know what to do?

- We had started on a playbook:
  The Tesco Operating Model

- Parts of the operating model were deployed in 2005 onwards to other countries

- But we needed to review and extend what we had deployed previously

"It took us 5 years to be an overnight success"

(well known and often quoted cliché)

Tesco operating model-pre USA
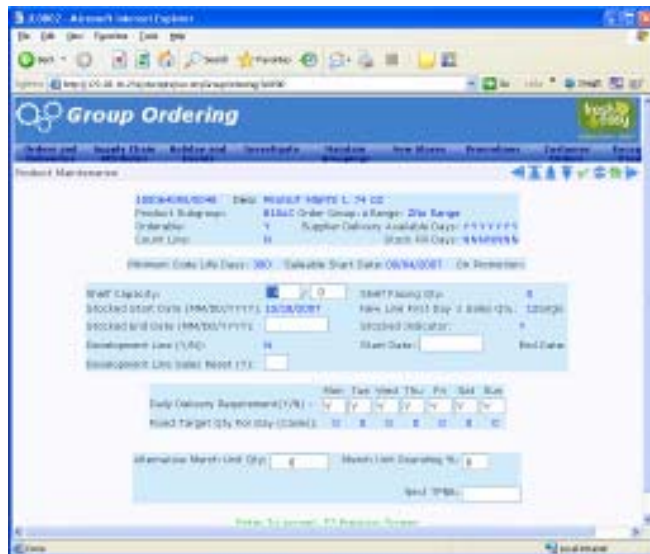

Japan

Turkey

China

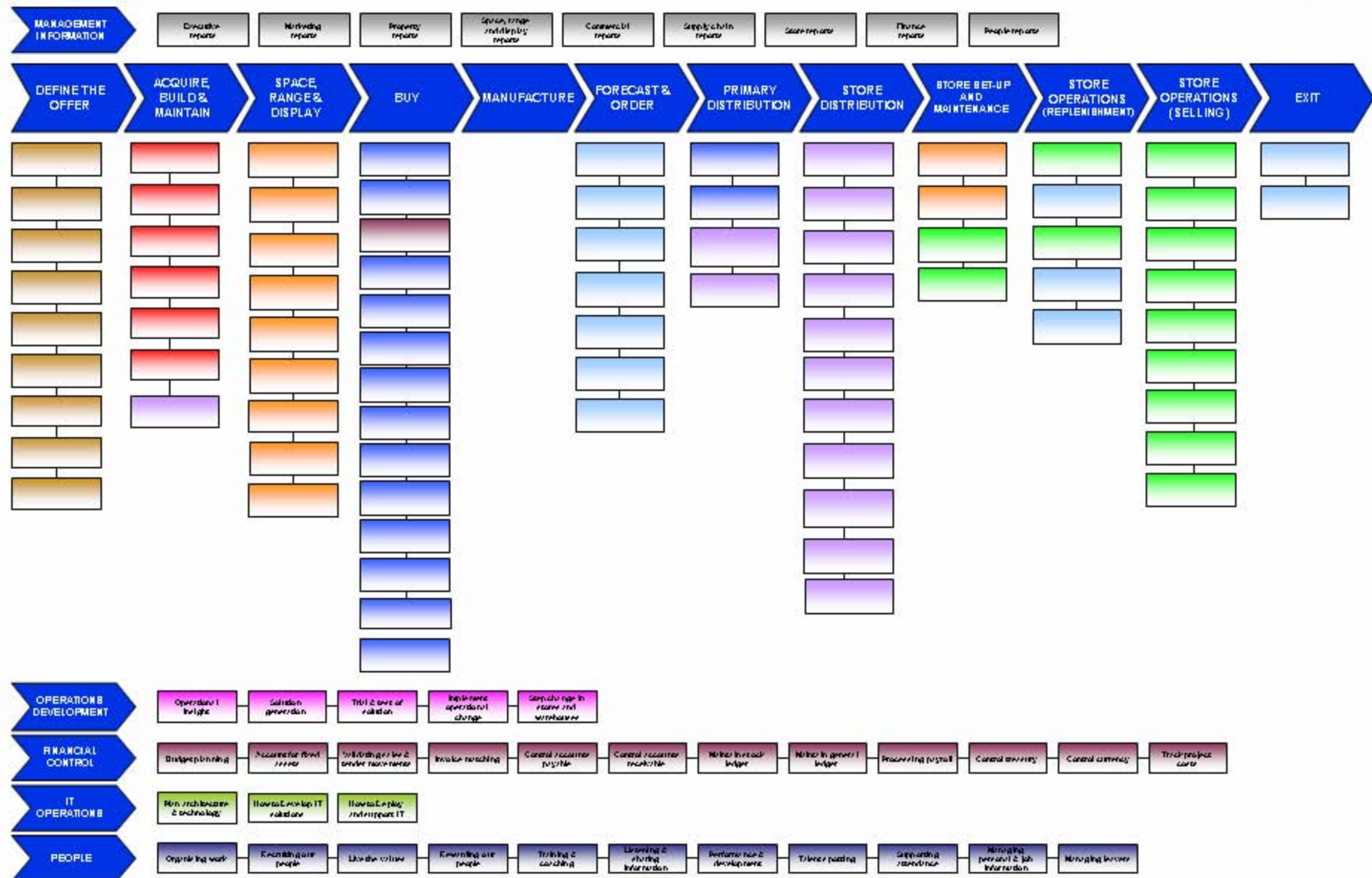**TESCO** | *Every little helps*

Utilising our Tesco expertise

- Fresh food ordering system and processes

- Space, range and merchandising tools

- Point of sale software

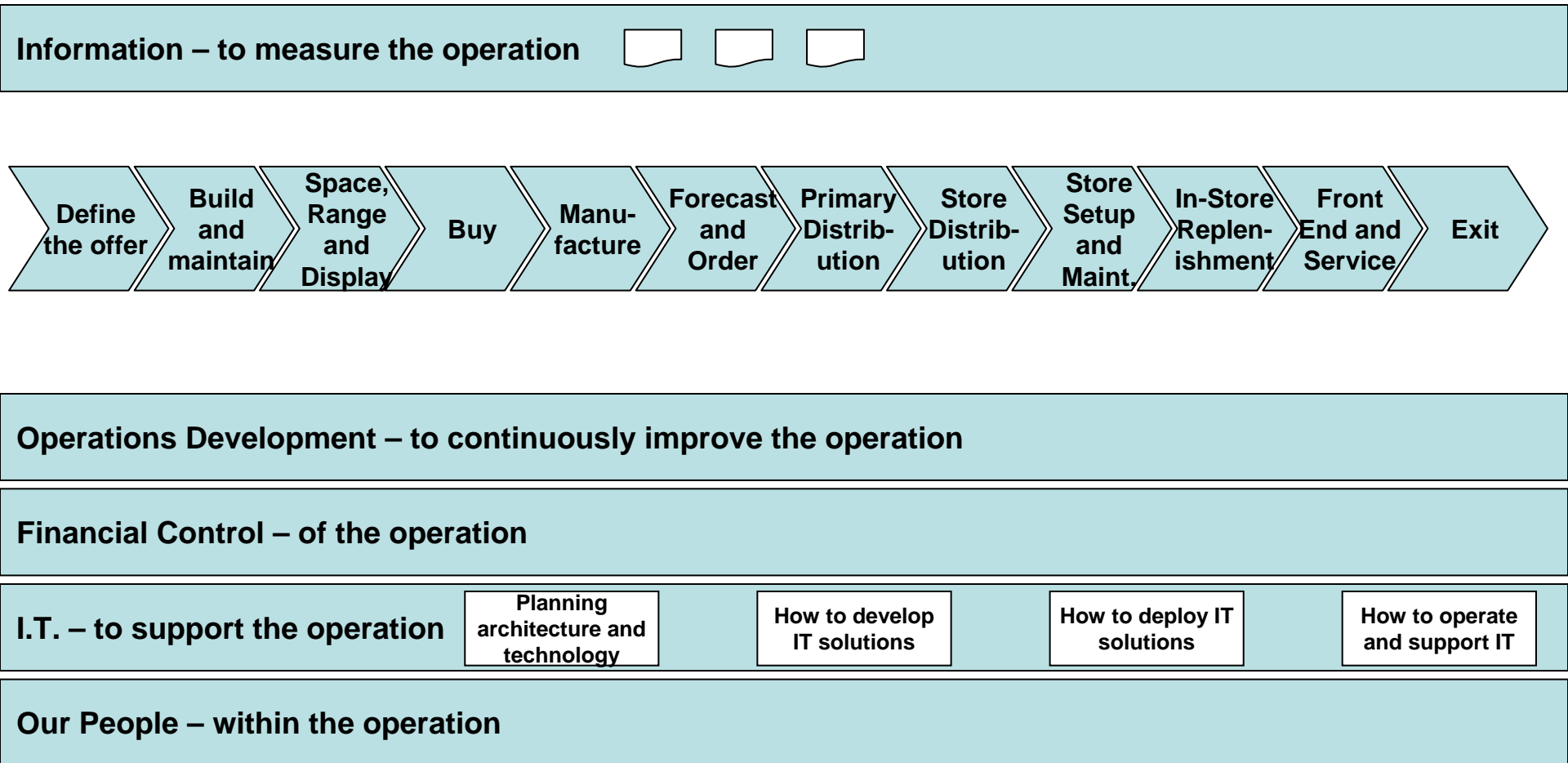- Warehouse management and distribution systems

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The Operating Model v1.27

Operating Model (summarised)

Information – to measure the operation

Define the offer | **Build and maintain** | **Space, Range and Display** | **Buy** | **Manu-facture** | **Forecast and Order** | **Primary Distrib-ution** | **Store Distrib-ution** | **Store Setup and Maint,** | **In-Store Replen-ishment** | **Front End and Service** | **Exit**

Operations Development – to continuously improve the operation

Financial Control – of the operation

I.T. – to support the operation

| Planning architecture and technology | How to develop IT solutions | How to deploy IT solutions | How to operate and support IT |

Our People – within the operation

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fresh&easy operating model

- Based on Tesco operating model

- Mature set of systems and processes

Tailoring the fresh&easy model

- Tesco operating model was refined to:

  - Ensure legally and fiscally correct

  - Remove complexity built in for running multi-format, large SKU businesses

  - Add kitchen systems to run food

Tailoring the fresh&easy model

- Goal of being a 21st century retailer and good neighbor:

  - Internet to attract and recruit our people

  - Automated administration processes

  - [cedures]

Lots of packages in the model

- Oracle Retail ORMS/ORPM (Commercial-area)

- Oracle Retail ORWMS (Supply Chain)

- Retalix Storeline (Retail) with NCR Self Service hardware

- Oracle Financials (Finance)

- Peoplesoft including Oracle Time & Labour (People)

- JDA Intactix (Space, Range & Display)

- Oracle E-Business Process Manufacturing (Manufacturing)

- Tesco Group Ordering (Supply Chain-clone of UK systems, common code base)

Lots of <u>new</u> packages in the model

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Many Supporting Applications

- Oracle Retail OReSA, OReIM

- ITS-TIMS (supplier communication)

- Tesco Ranging applications

- Tesco Group MIS

- Tesco Group Operational Reporting
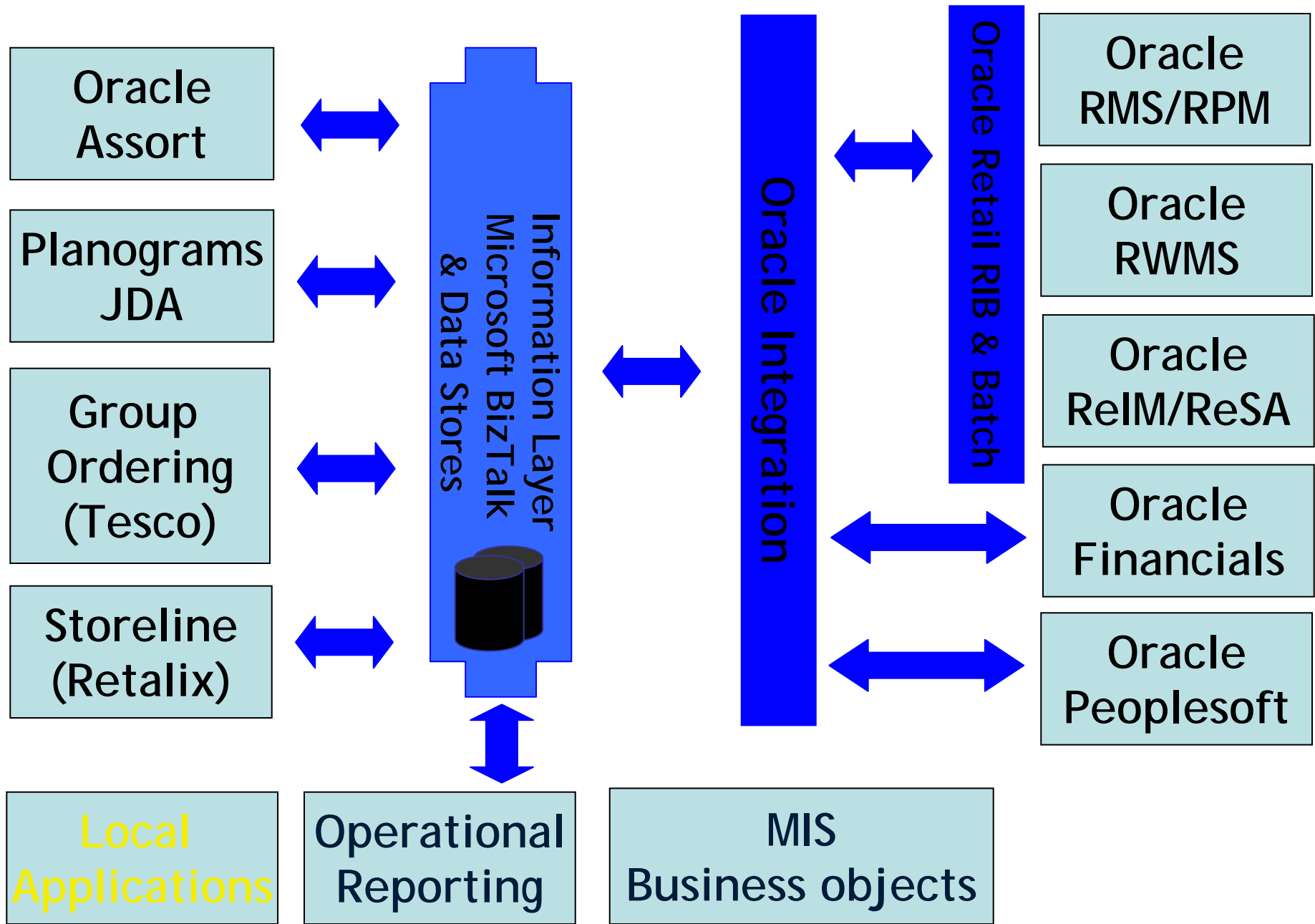
- Tesco-developed integration

Many New Supporting Applications

- Oracle Retail OReSA, OReIM

- ITS-TIMS (supplier communication)

- Tesco Ranging applications

- Tesco Group MIS (new areas)

- Tesco Group Operational Reporting

- Tesco Developed integration

Completely New Integration

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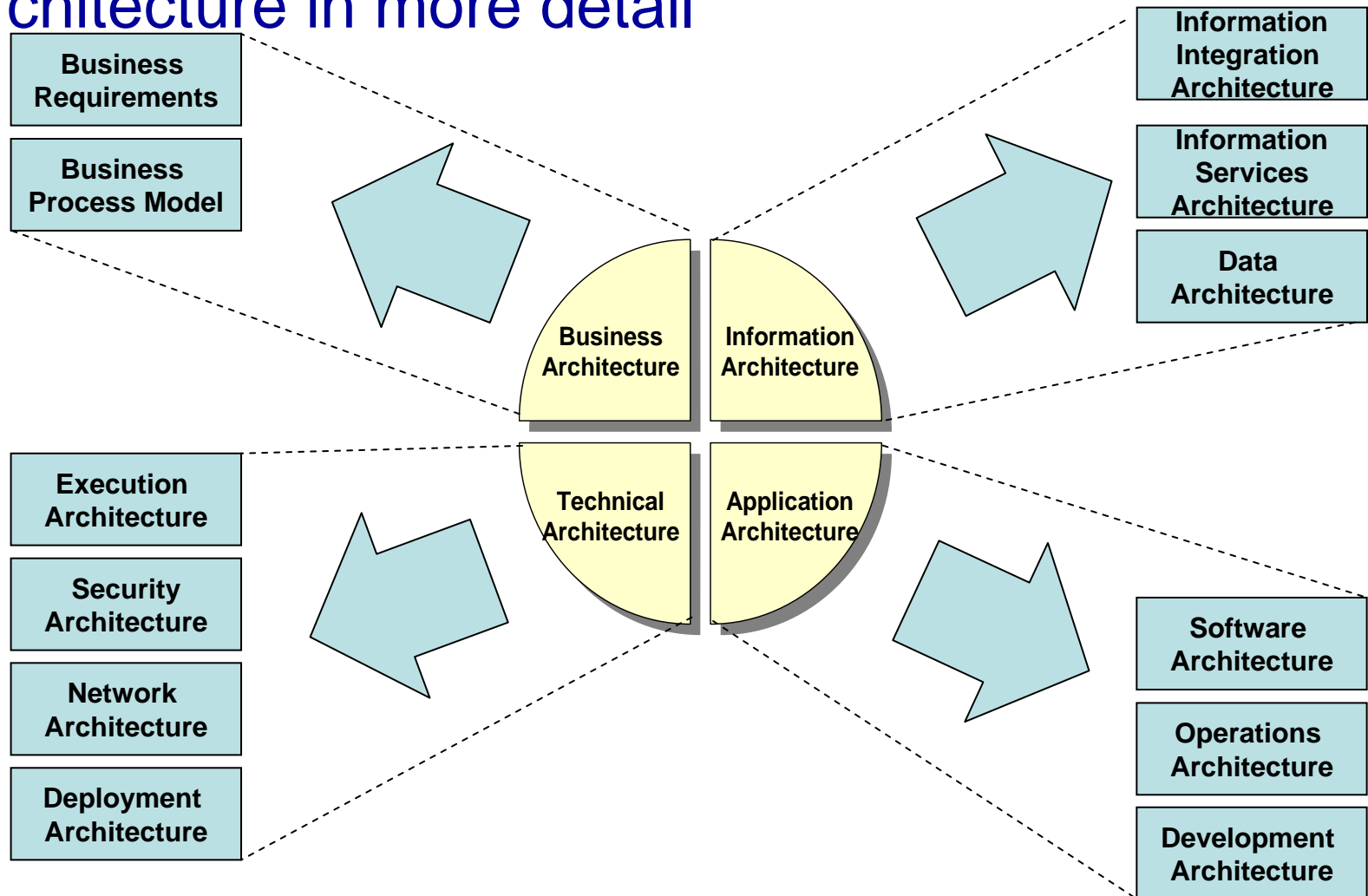
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How could we manage the complexity

- Shape the complexity through architecture

- Break through application & team silo's by holding end to end process walkthroughs
  - Led by a joint design and architecture team
  - Major processes like Move to Sell

- Application and Enterprise Architectures

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Architecture in more detail

Business Requirements

Business Process Model

Information Integration Architecture

Information Services Architecture

Data Architecture

Business Architecture

Information Architecture

Technical Architecture

Application Architecture

Execution Architecture

Security Architecture

Network Architecture

Deployment Architecture

Software Architecture

Operations Architecture

Development Architecture

- Not enough time to do everything we should

# Example end to end flow (BPMN style)

Operating Model End to End Process : Move and Sell

The process of replenishing stock of merchandised goods to the shelf to meet customer demand & display requirements.

Assumptions
- Product is not on Promotion
- Product is not internationally sourced / exported
- Dot.Com is out of scope
- Coupons and Gift Vouchers are not within this process
- Loyalty Card is out of scope
- Deliveries to Store from DC will be accepted as correct

- Supplier is already set up on the system , Item – Supplier relationship already set up
- Locations (DC & Store) are built and set up on the system
- Planogram and Range have been produced and approved
- Product is Fresh, delivered through DC and Picked By Line
- Shelf Edge Label & Point Of Purchase material is already produced and on display
- People have been recruited , trained & scheduled within both DC & Store
- Till receipt already designed
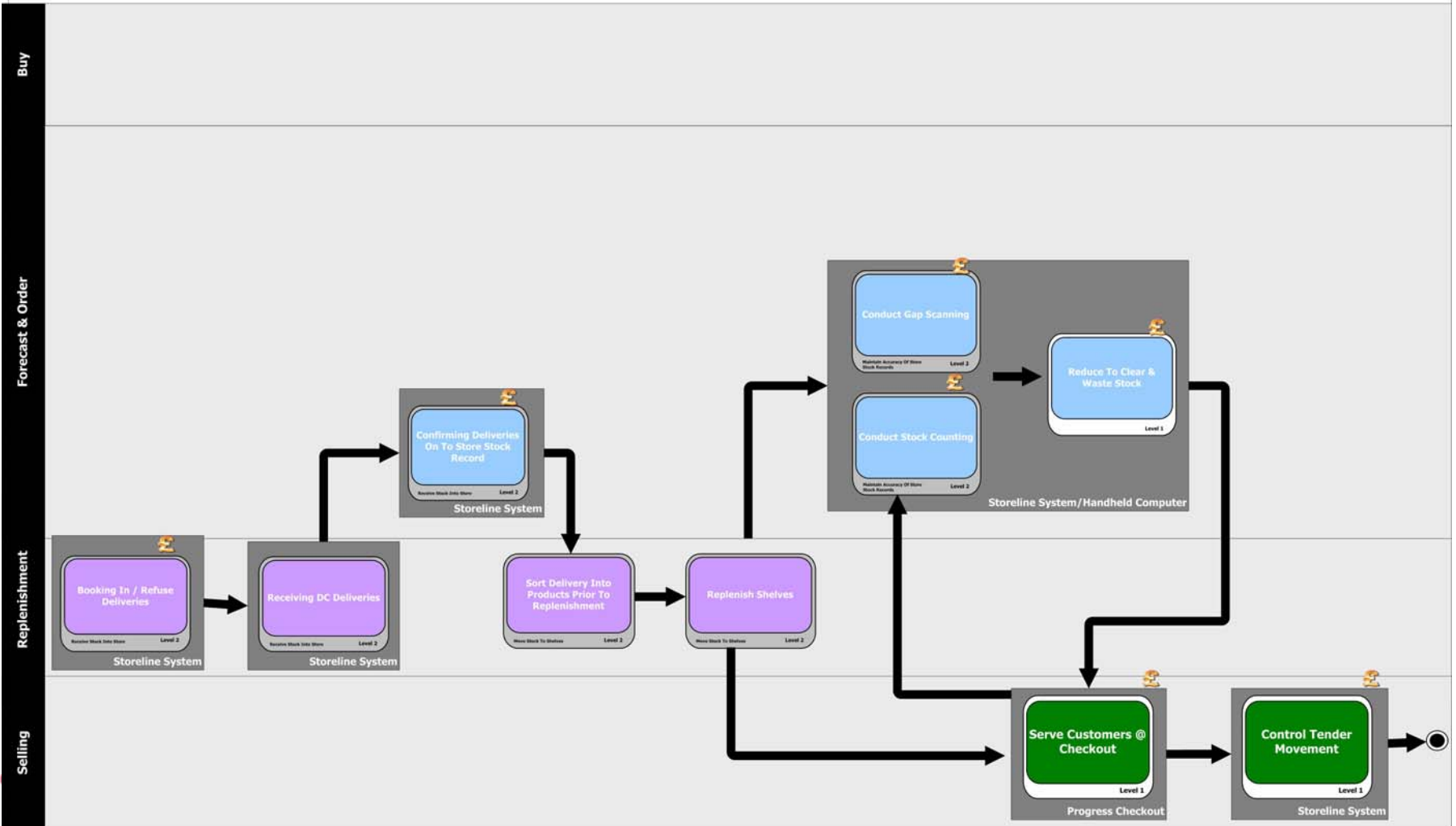
The application and integration architecture
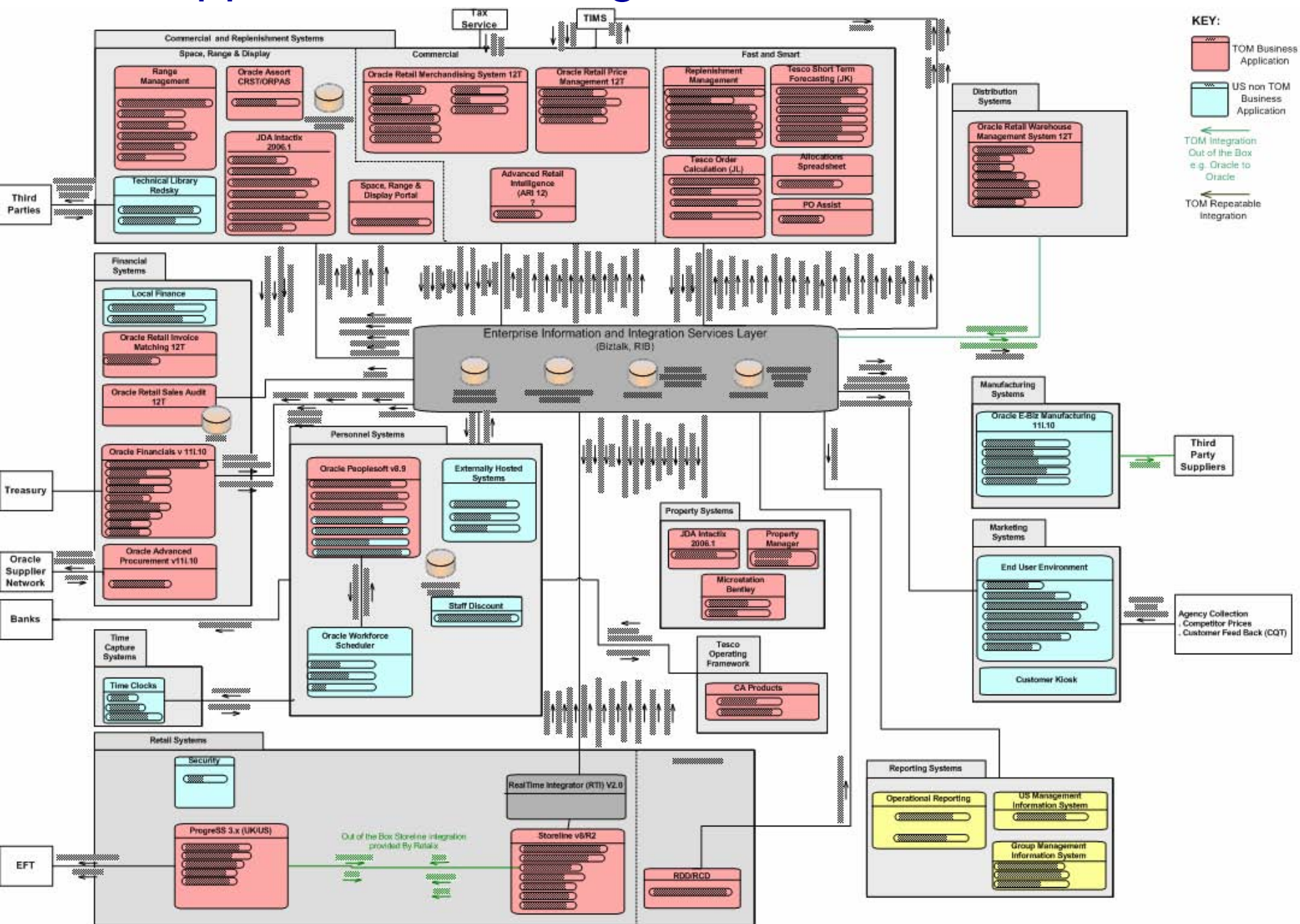
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What we deployed

- Phased Deployment—what we needed, when we needed it
  - Red Queen's Race to keep up
  - Heavy reliance on partner companies

- Early Phase Deployments
  - Network (trusted by Tesco UK, links to our IT & business process unit in Bangalore)
  - Email & Initial Office
  - Hosted Oracle Financials
  - Hosted Peoplesoft

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What we deployed

- Later Phases
    - Repatriation of hosted systems (Financials & People)
    - Commercial Systems (Oracle Retail)
    - Manufacturing (Oracle e-Business)
    - Ordering (Oracle Retail & Tesco)
    - Retail Systems (Retalix)
    - Space, Range & Display (JDA Intactix & Tesco)

- End to End and User Acceptance in USA (with some duplication in Bangalore)

A collaborative effort

- Tesco people from eight countries

- Partnered with IBM, Oracle, NCR and Retalix

- 18 processes and systems – 7 new to Tesco

- Tesco service center (HSC) to support finance, HR and IT back office

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Challenges

- We had a design for a highway, but did not have a design for the on-ramp.

    - Although we had systems and processes for a running business, we didn't have interim processes to support the business as they started up (to cover unfilled job roles, incompletely deployed systems etc).

    - Cutover design & planning is as important as design for the end game, although there is little lasting benefit (unless you have more than one business!)

- Many packages, many different representations for the same data object=complex integration

- Never manufactured our own products (in a central factory) before

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More Challenges

- Tesco has never initiated a business as mature and automated as Fresh & Easy
  - Automated store ordering, 100% electronic communications with suppliers for order & invoice
  - A large number of "moving parts" that needed to be tested together, end to end.

- Needed to allow time and effort to pilot applications in a test-bed country (two deployments in rapid succession)

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Lessons Learned

- Complex deployments can be done quickly
  - If you have packages for "commodity" functionality
  - And if you have well-documented processes
  - And you have a strong integration toolset and people skilled in that toolset and local design patterns

- Get into end to end testing as soon as you can
  - But try to do more than "happy path" straight through testing, identify common exceptions & errors (e. g. deletion of partially set up items)

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What's next?

- Retrofit further developments of the operating model to the USA
  - Version upgrades, additional functionality
  - Remove the remaining interim "on-ramps" and "temporary diversions".

- Refine the operating model
  - Further tailoring for the market
  - Move additional processes to Bangalore.

- Support ongoing expansion
  - DC's, Manufacturing, Stores.

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Questions?

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