

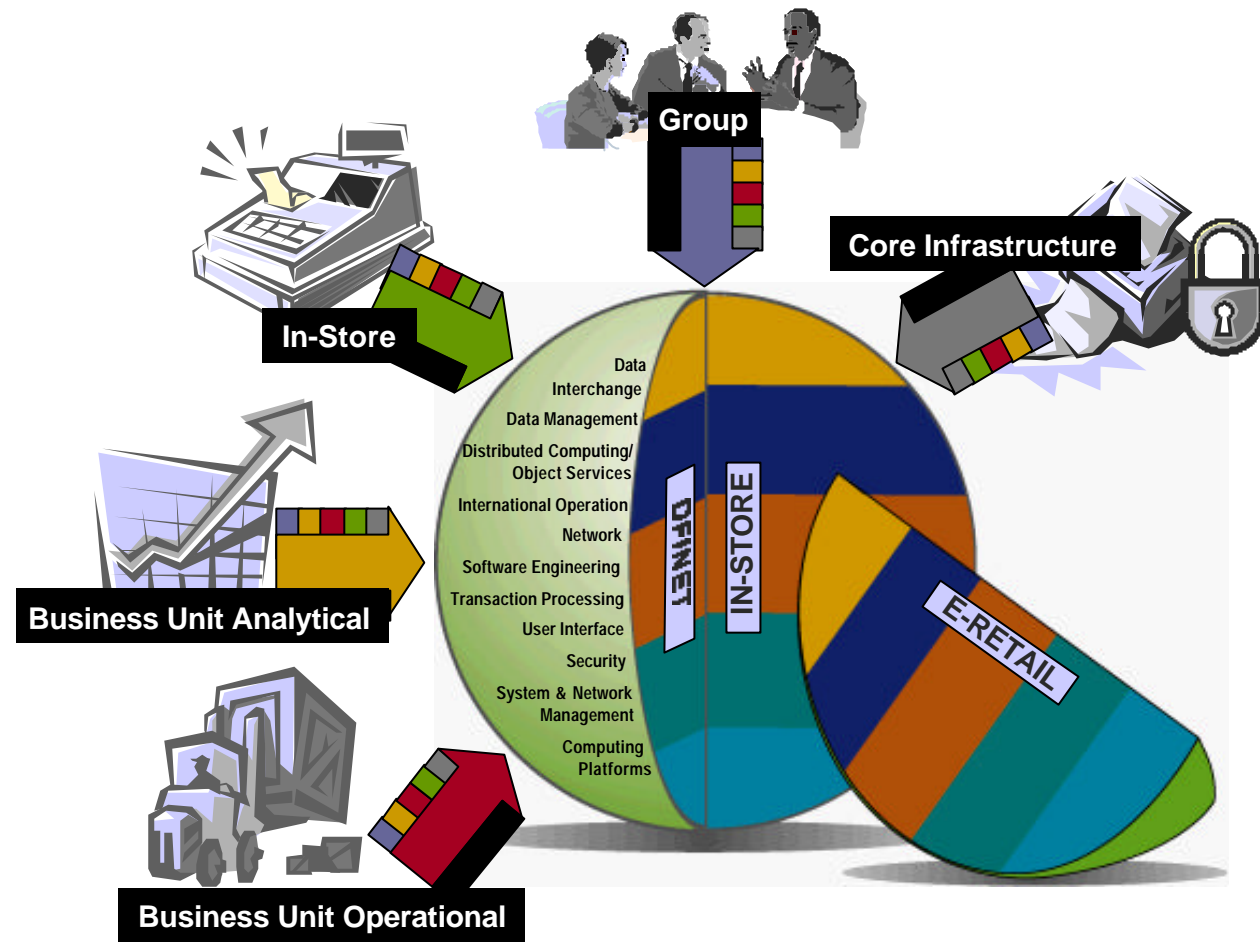
THE *Open* GROUP

CFOS

Geoff McClelland

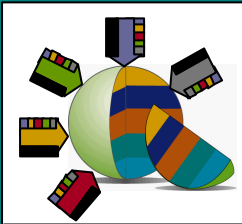
Director

Centre For Open Systems



TOGAF in practice

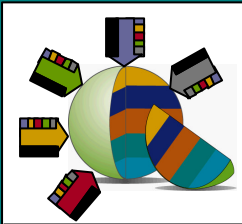
gmcclelland@cfos.com.au



The IT Challenge

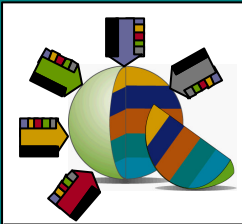
Dairy Farm TECHNICAL ARCHITECTURE

- **The IT environment must support distributed information systems of unlimited size and complexity.**
- **This requires an IT infrastructure that provides transparent communication, security, scaling, software portability, manageability, and international operation.**
- **IT users cannot continually invest in new technologies to keep up with infrastructure requirements: they require stable, open systems that can easily grow and evolve.**
- **No single company can or should control the IT infrastructure.**



Today's Corporate IT Problems

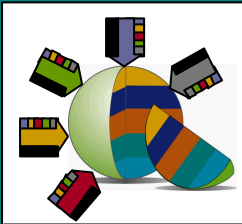
- **Growing use of IT - sheer scale of the problem.**
- **Growing complexity of IT infrastructure.**
- **Growing demands from business units for IT that provides competitive business advantage.**
- **Rationalizing existing technologies.**
- **Identifying solutions to link technologies together.**
- **Protecting investment in heritage technology.**
- **Developing a migration path to tomorrow's technology.**



Disparate Architectures - a challenge for management

Dairy Farm TECHNICAL ARCHITECTURE

- Stand alone projects which empowered the business but which now represent islands of functionality which must be integrated
- Customer Relationship Management (CRM) applications and Data Warehouses requiring access to multiple systems in near real time
- Intranet, extranet and Internet oriented eCommerce applications requiring tight integration with your existing heritage systems
- Widely varying views on the way forward; from your information systems staff, your IT vendors, your consultants and your business units.



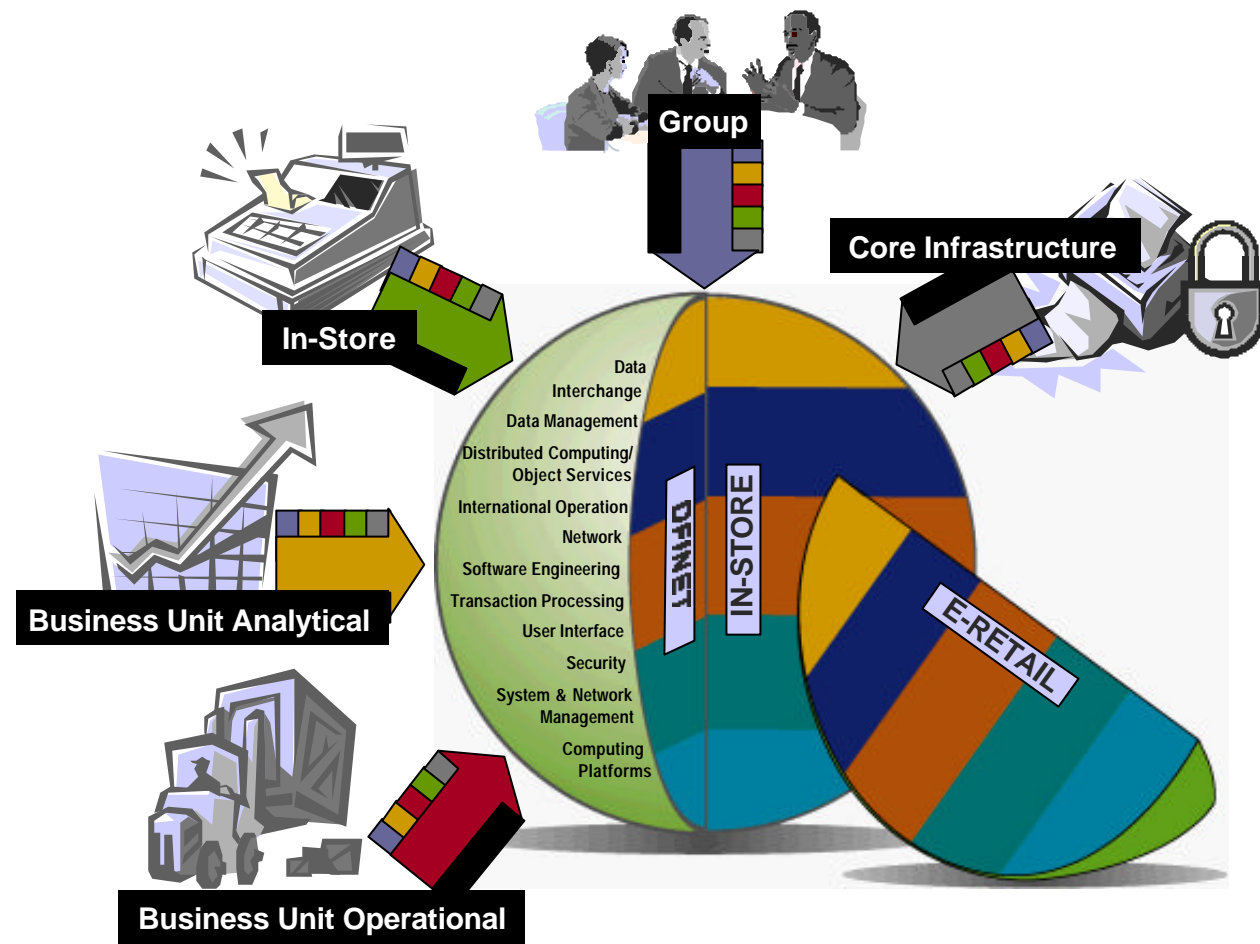
TOGAF - an architectural framework not an architecture

- **Presents a set of:**
 - services, standards, design concepts, components and configurations to guide the development of specific architectures
- **Correct use of TOGAF should lead to:**
 - the use of common principles, assumptions and terminology within your teams and across your systems architectures
 - the development of information systems with better integration and interoperability especially with respect to whole of enterprise issues such as directories, security and systems management

Dairy Farm

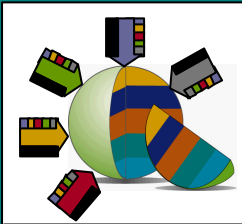
Nick Price
Group Technical
Architect

Geoff McClelland
Director
Centre For Open Systems



DFG Technical Architecture

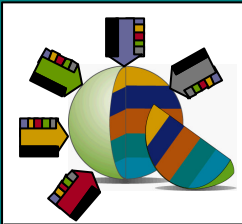
Designing for the future



Agenda

Dairy Farm TECHNICAL ARCHITECTURE

- **DFG—Introduction to the Company**
- Why develop an Architecture?
- DFG TA Development Process
- DFG TA Structure
- What has changed in the last 3 years?

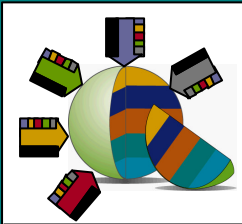


Dairy Farm—Mission

Dairy Farm TECHNICAL ARCHITECTURE

*To be the Leading Food and Drugstore
Retailer in the Asia Pacific Region in terms of
sales and long-term shareholder value
creation.*

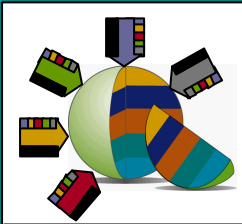




Dairy Farm TECHNICAL ARCHITECTURE

The Dairy Farm Group (as at 31 Dec 2000)

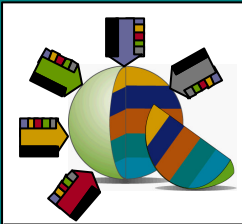
- Operated 2,200 outlets, principally supermarkets, hypermarkets, convenience stores and drugstores
- Employed some 79,000 people in nine territories and had sales of US\$6.6 billion in 2000
- Operates under well-known local brands, including:
 - Supermarkets - Wellcome in Hong Kong and Taiwan, Franklins in Australia, Woolworths in New Zealand, Cold Storage in Singapore, Giant in Malaysia, Hero in Indonesia, and Foodworld in India;
 - Hypermarkets - Giant in Malaysia and Singapore
 - Drugstores - Mannings in Hong Kong, Guardian in Singapore, Malaysia and Indonesia, and Health and Glow in India; and
 - Convenience stores - 7-Eleven in Hong Kong, Mainland China and Singapore.



Dairy Farm—the company

TECHNICAL ARCHITECTURE

- **New CEO (Ronald J. Floto, ex Kmart) appointed June 1997**
- **Significant changes took place**
 - **Moved from a federation of companies to a Group**
 - **Created centres of excellence to leverage competencies across the group**



DFI Business Evolution

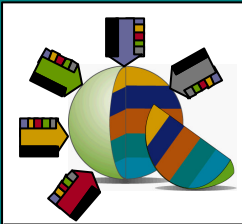
Dairy Farm TECHNICAL ARCHITECTURE

OLD

- De-centralised
- Federation
- Retailer push
- Large inventories
- Manual processes
- Buying / Selling
- Mass consumers

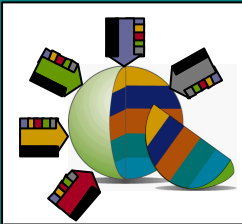
NEW

- Group
- Cohesion
- Customer pull
- Just in time
- Automatic processes
- Category Management
- Individual customers



Architecture development rationale

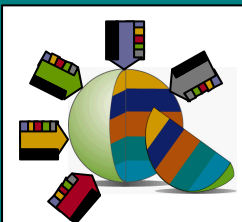
- **Competition from US/European retailers—requires rapid response**
- **Historic under-investment in IT. Now a one time chance to 'get it right'**
- **Facilitate migration from Federation to Group (i.e. Regional Hubs, Central buying etc.)**
- **Business moving so fast, BU IT can't catch up**
- **Need to minimise large \$\$\$ risk**



Agenda

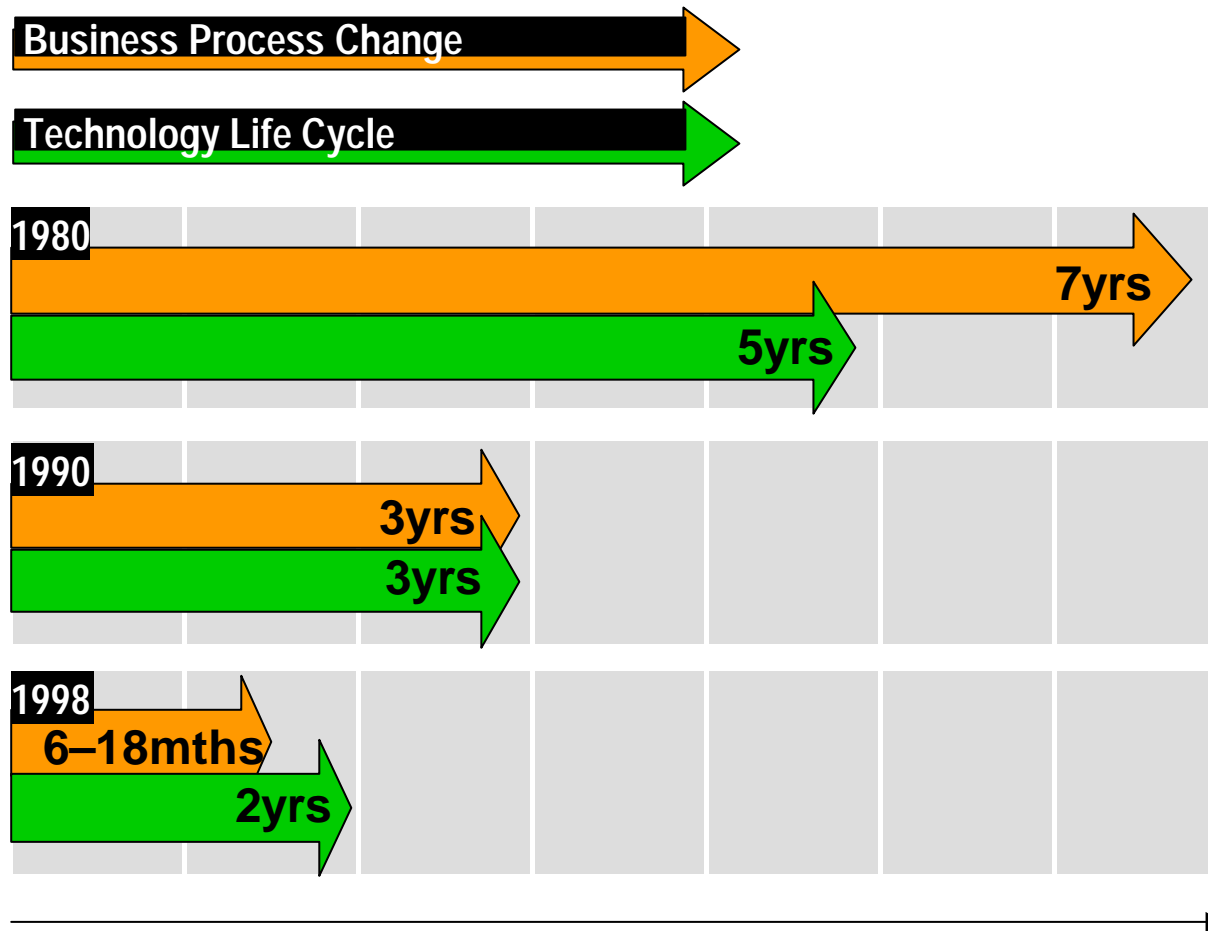
Dairy Farm TECHNICAL ARCHITECTURE

- DFG—Introduction to the Company
- **Why develop an Architecture?**
- DFG TA Development Process
- DFG TA Structure



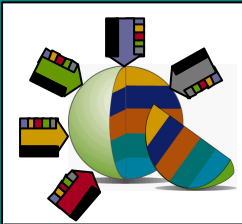
Technology/Business Cycle Times

Dairy Farm TECHNICAL ARCHITECTURE



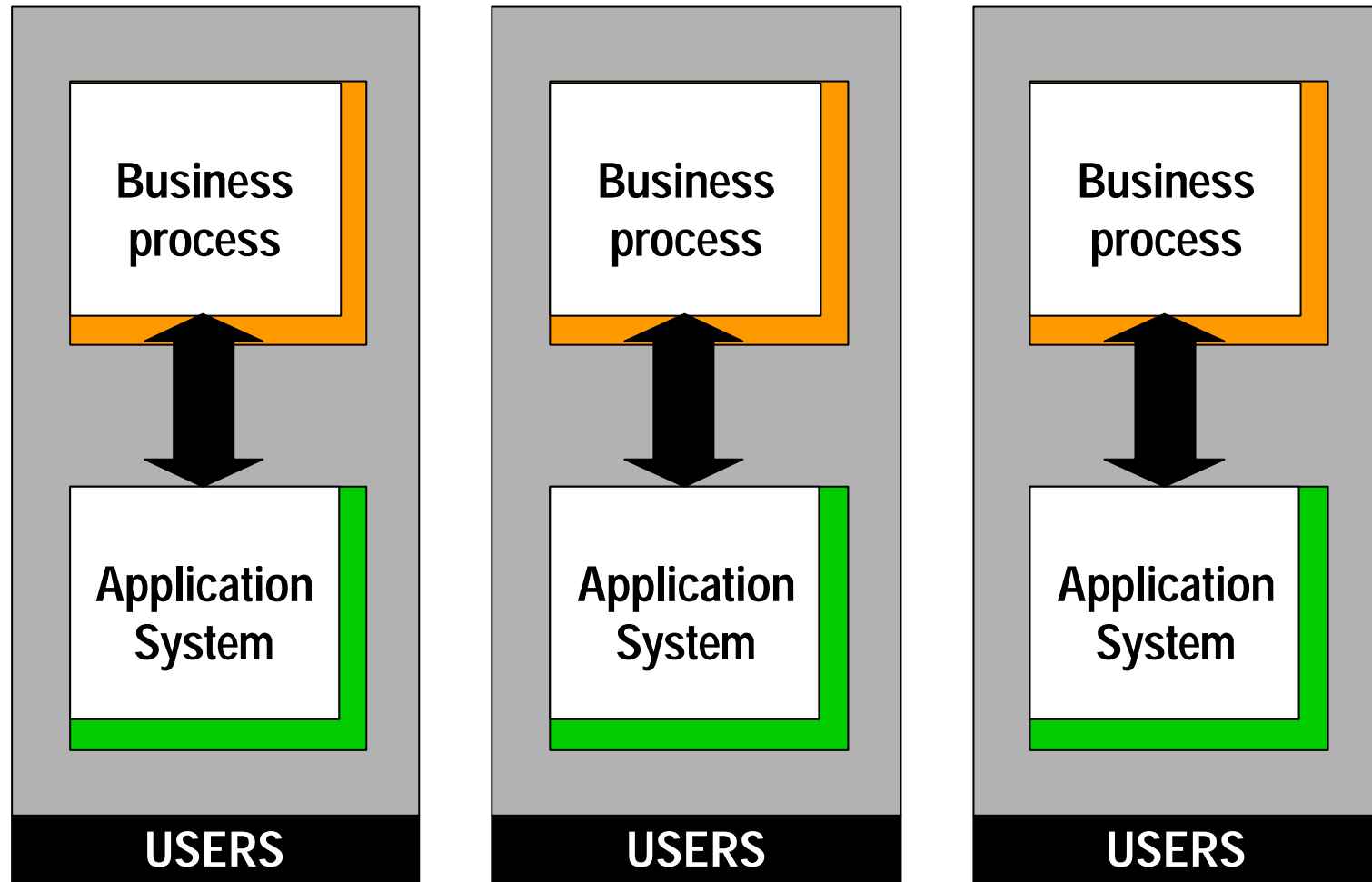
Source: Meta Group

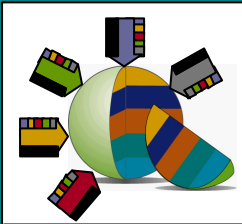
Elapsed time



Vertical Business Processes

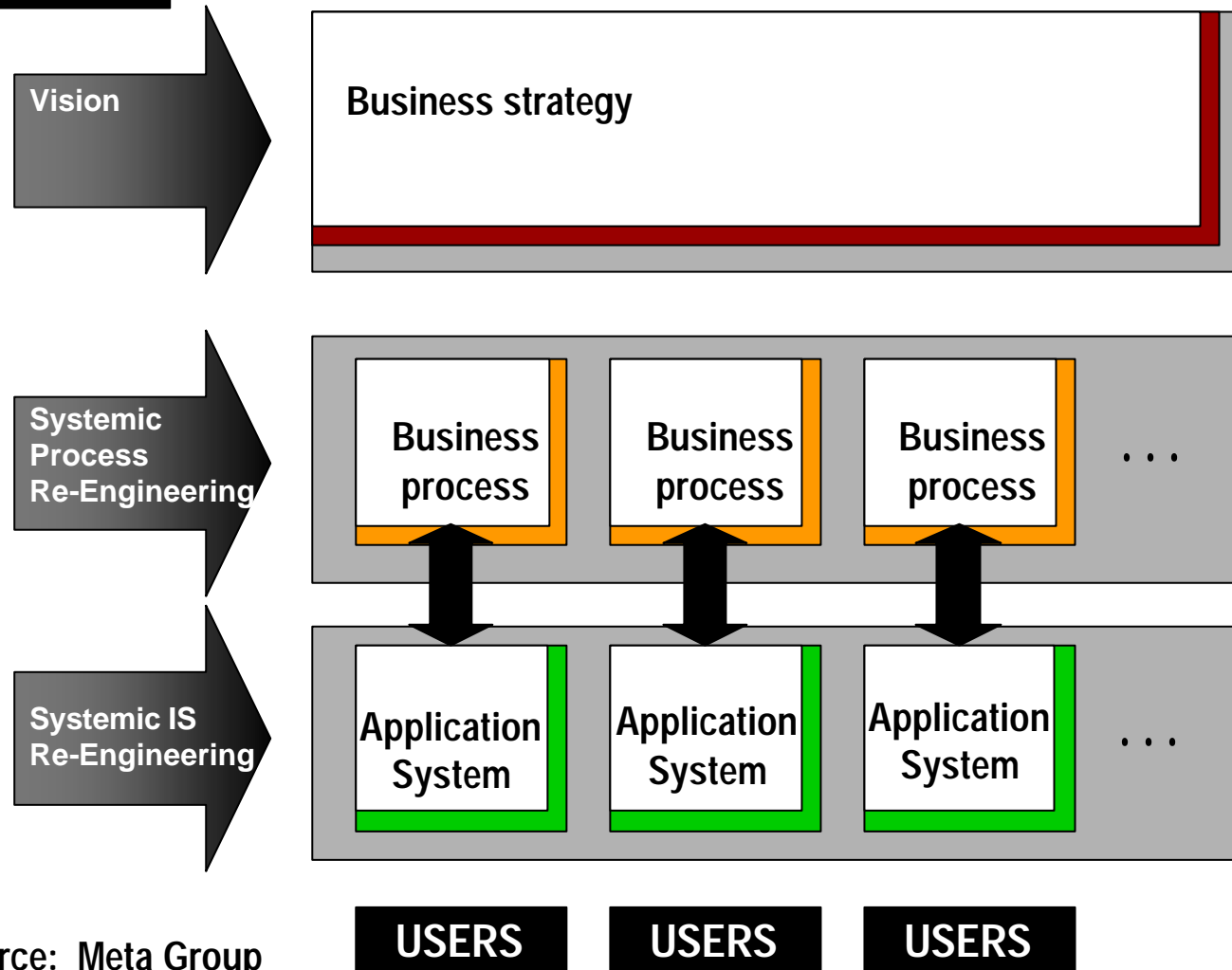
Dairy Farm TECHNICAL ARCHITECTURE



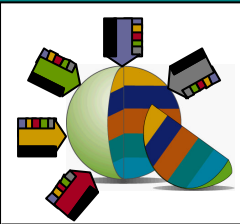


Value Chains

Dairy Farm TECHNICAL ARCHITECTURE

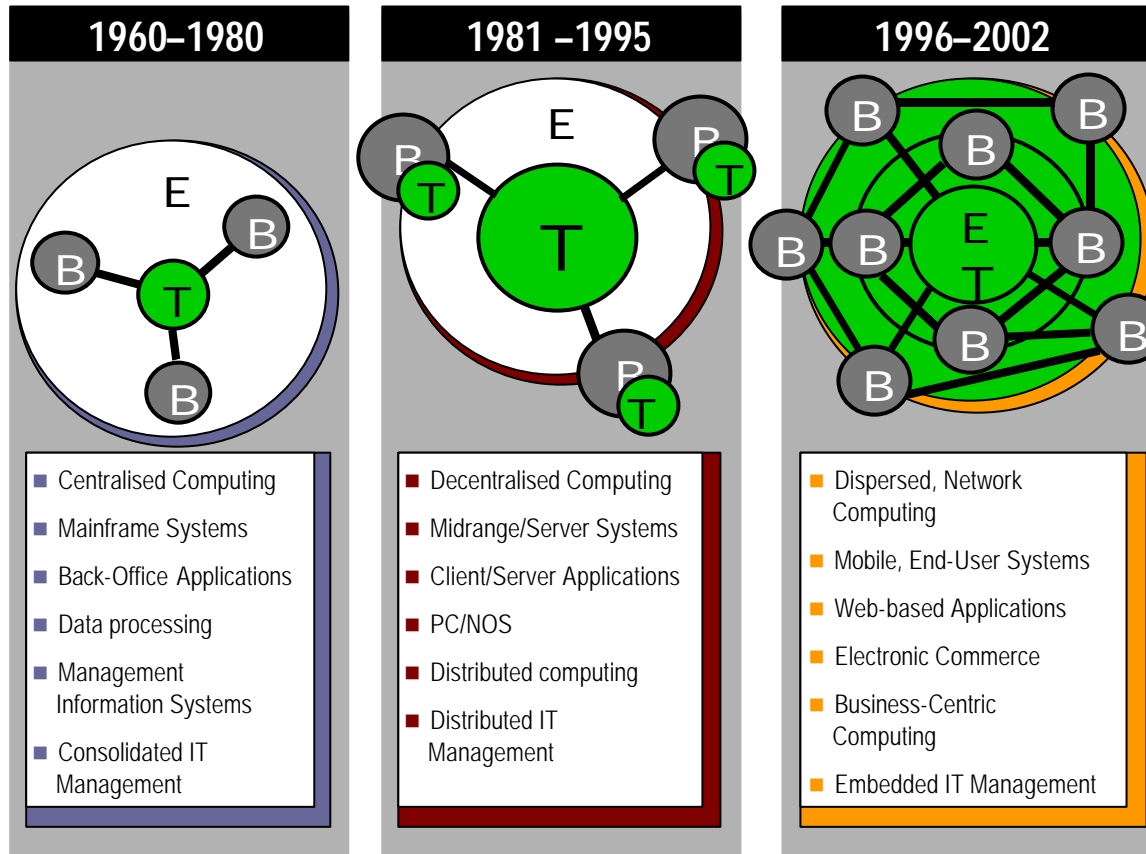


Source: Meta Group



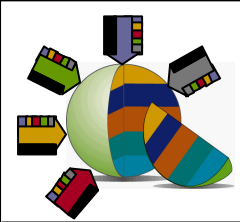
The Changing Nature of IT

Dairy Farm TECHNICAL ARCHITECTURE



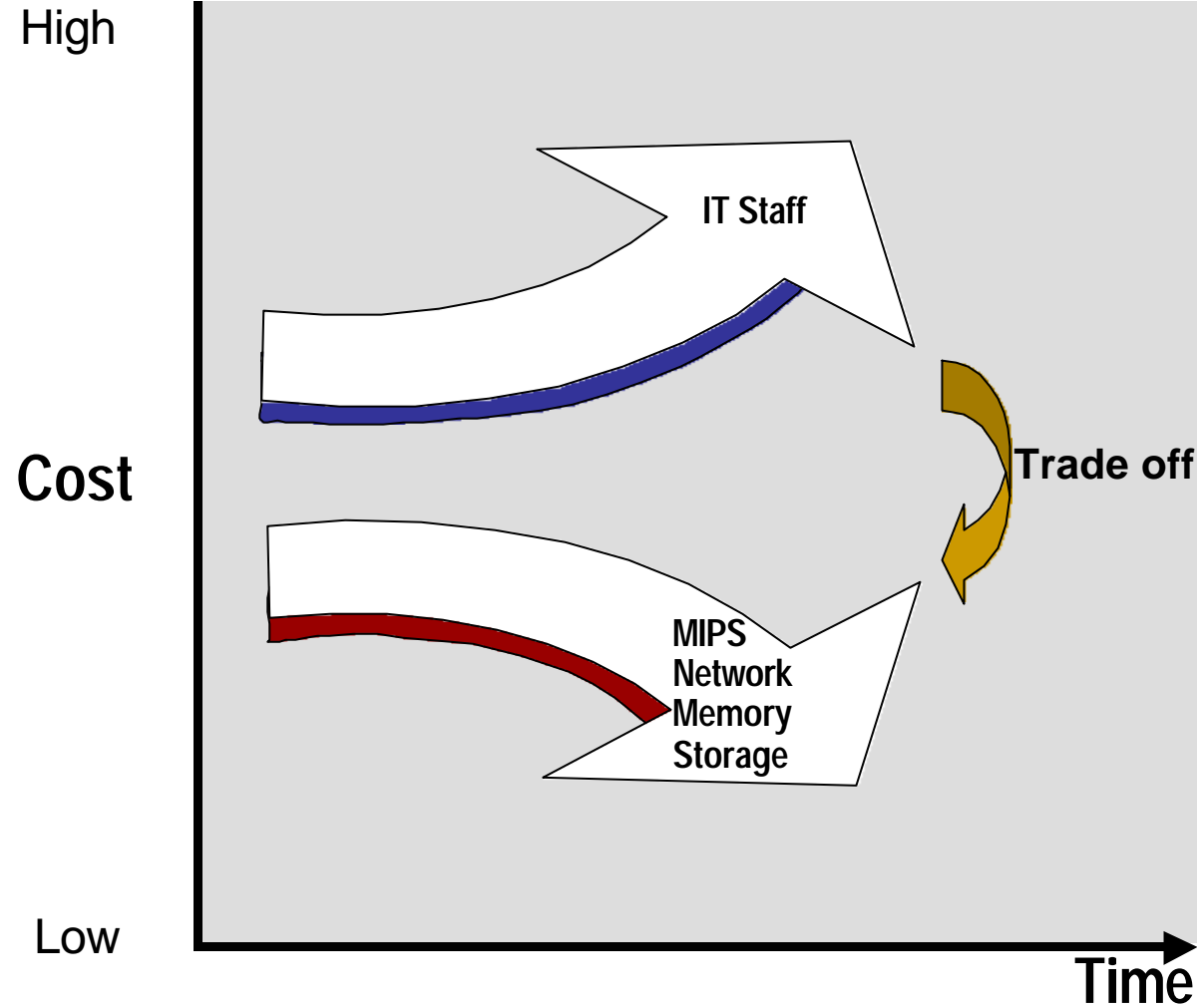
E = Enterprise Domain
 T = Technology Domain
 B = Business Domain (Functions/BU)

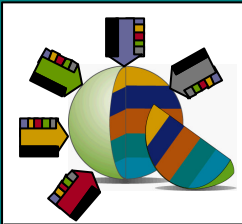
Source: GartnerGroup



IT Staff Negative Price Performance

Dairy Farm TECHNICAL ARCHITECTURE

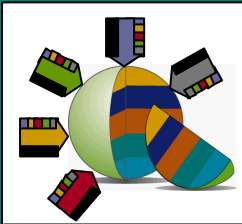




Agenda

Dairy Farm TECHNICAL ARCHITECTURE

- DFG—Introduction to the Company
- Why develop an Architecture?
- **DFG TA Development Process**
- DFG TA Structure

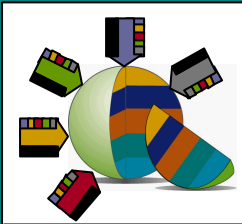


Technical Architecture Program Group

Dairy Farm TECHNICAL ARCHITECTURE

Charter

*To conceive, design, populate, publish
and continually improve a Technical
Architecture for the Dairy Farm Group*



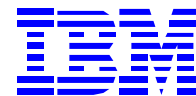
Technical Architecture Program Group

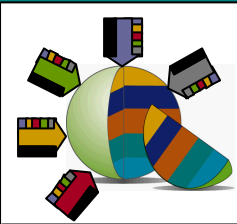
Dairy Farm TECHNICAL ARCHITECTURE

- **DFG Technical Architects**
- **Industry Consortia Consultants**
- **DFG Vendors**

Membership

*Mike Aikins
Shawn Davies
Paul Hickey
Ronald Fons
Paul King
Frank May
Geoff McClelland
Nick Price
Tim Redhead*

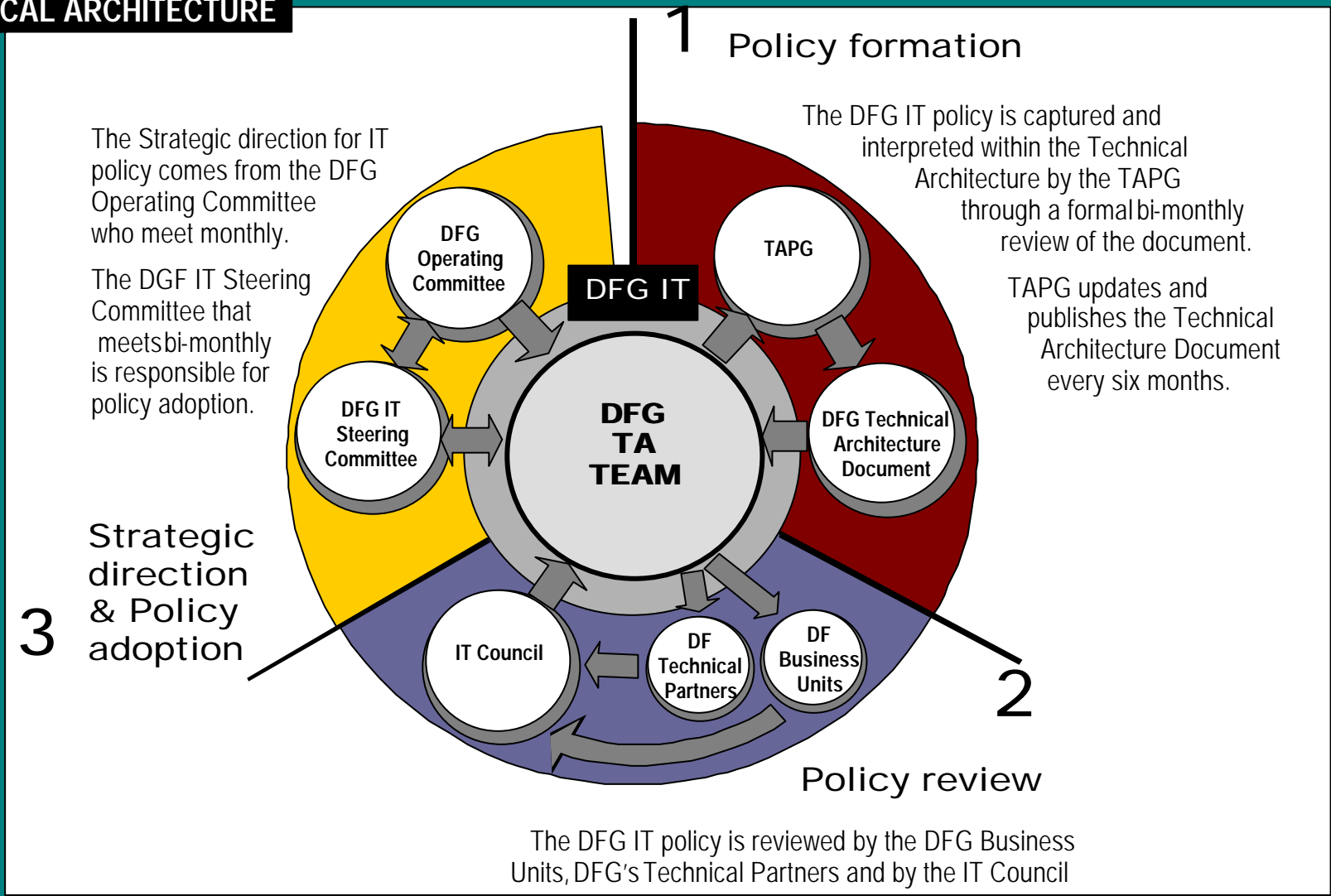


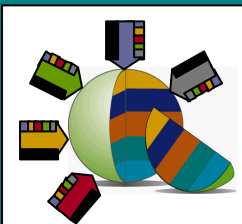


Dairy Farm

TECHNICAL ARCHITECTURE

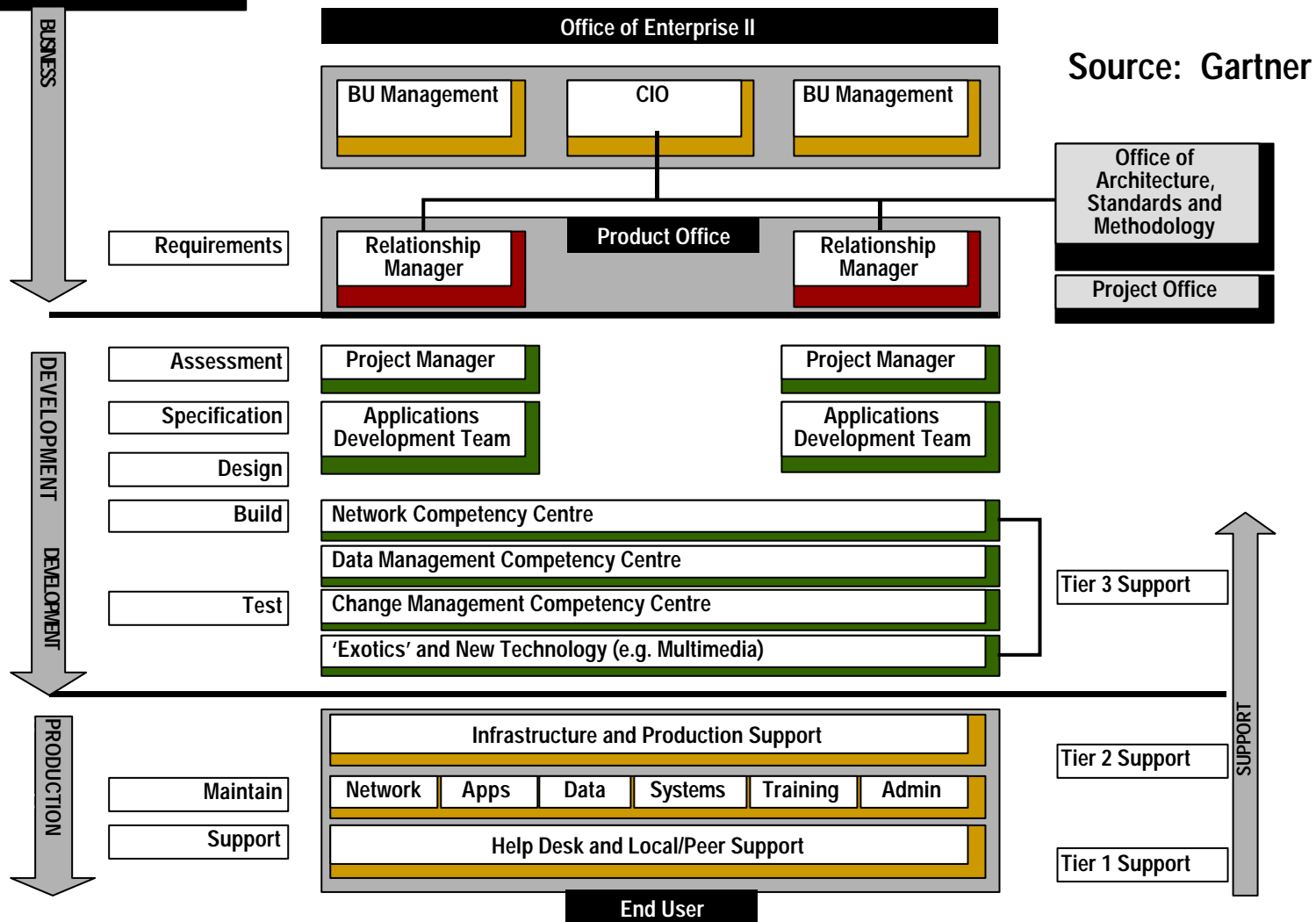
DFG Technology Planning Process

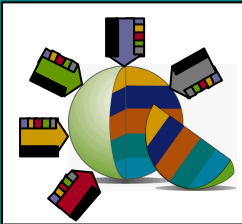




IM Governance

TECHNICAL ARCHITECTURE

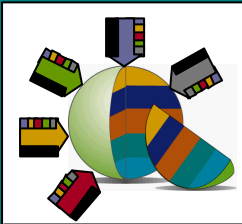




Dairy Farm TECHNICAL ARCHITECTURE

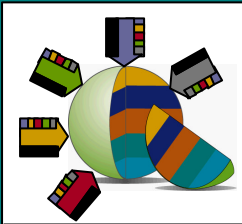
DFG Architectural Principles

- **Customer Focus**
- **Infrastructure Investment**
- **Total Cost of Ownership**
- **Open Vendor Neutrality**
- **Innovation**
- **Single Systems Architecture**
- **Endorsed Architectures**
- **Reuse then Buy rather than Build**
 - Build for Competitive Advantage,
 - Buy for Competitive Parity
- **Core attributes**



What is the DFG TA?

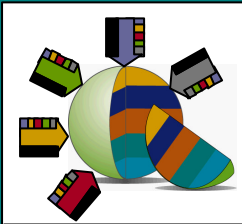
- **A process not a document**
- **A business led technology plan**
- **A mechanism to ensure technology convergence (technologies, suppliers, system re-use etc.)**



Technical Architecture Definition

An expression of IT strategy embodied as a logically consistent set of principles that:

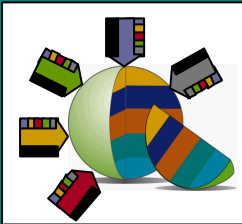
- *Are derived from business requirements*
- *guide engineering of IT systems across underlying component architectures*
- *are understood and supported by senior management and LOB's*
- *take into account the full context in which the TA will be applied*
- *enable rapid change in business processes and the applications that enable them*



DFG TA Purpose

Dairy Farm TECHNICAL ARCHITECTURE

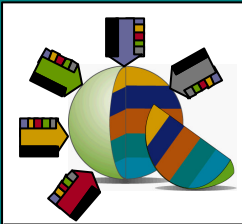
1. To enable rapid change in DFG business processes and systems by providing a clear definition of:
 - *DFG Endorsed technology standards*
 - *Technologies and products for use within DFG*
 - *Policies that govern the use of technology within DFG*



DFG TA Purpose

Dairy Farm TECHNICAL ARCHITECTURE

2. To present to planners and strategists within DFG and its technology partners a clear view of DFG technology strategy over a three-year time horizon

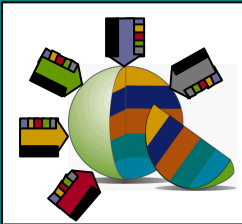


DFG TA Challenges

Dairy Farm TECHNICAL ARCHITECTURE

Three challenges to successful implementation:

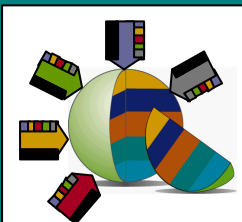
- *Must be seen to be continually 'actionable and affordable'*
- *Senior management must understand how the TA enables the business to achieve its objectives*
- *Design decisions must be demonstrated to link to DFG business requirements*



Agenda

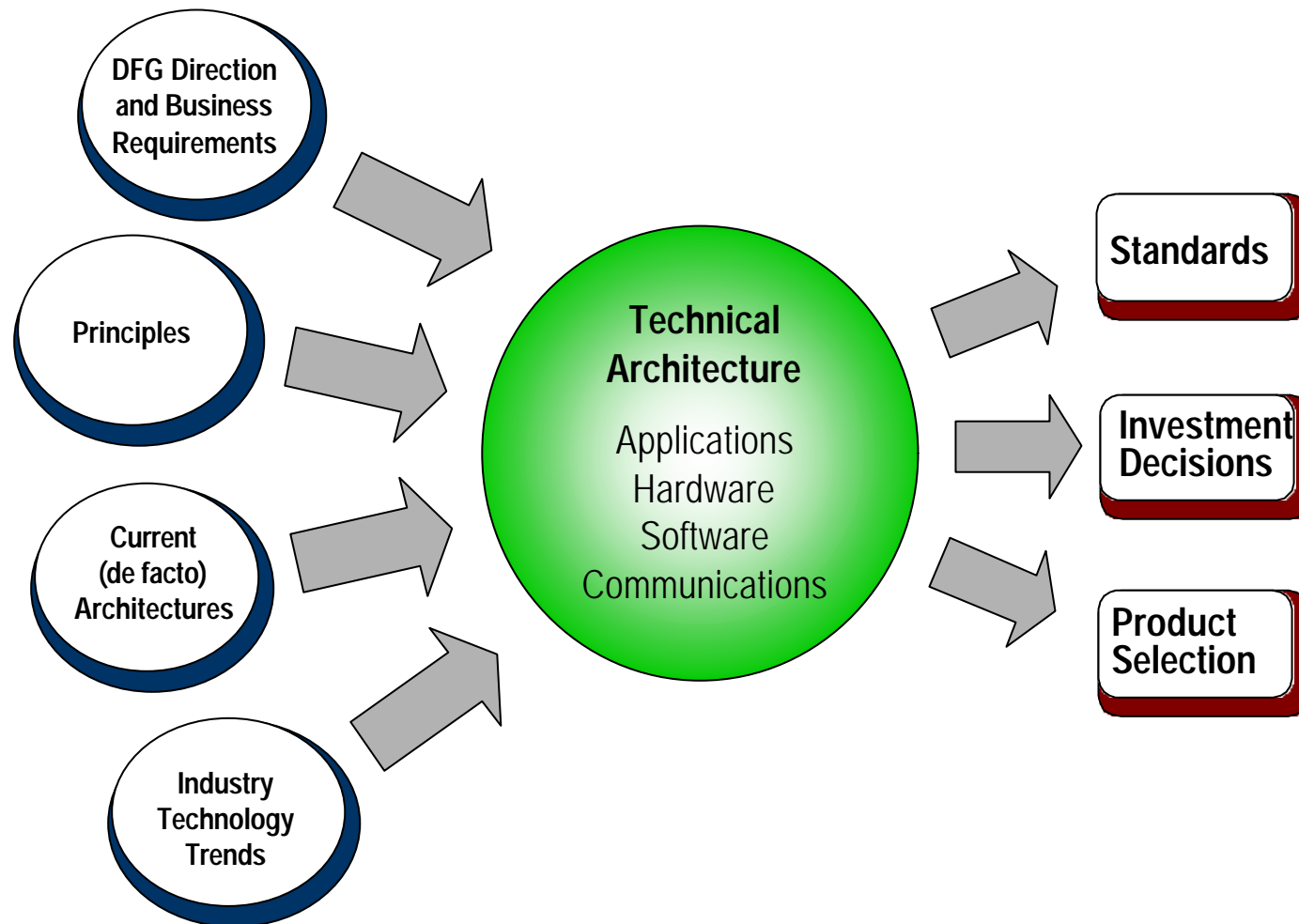
Dairy Farm TECHNICAL ARCHITECTURE

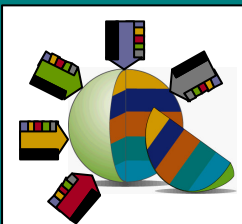
- DFG—Introduction to the Company
- Why develop an Architecture?
- DFG TA Development Process
- **DFG TA Structure**



The DFG Technical Architecture Inputs

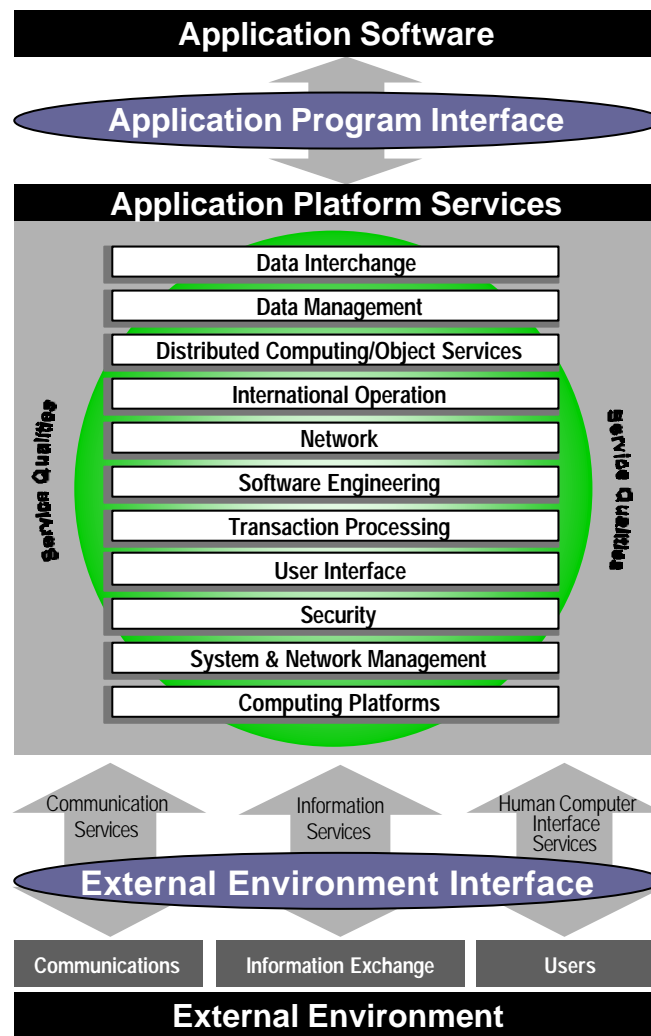
Dairy Farm TECHNICAL ARCHITECTURE

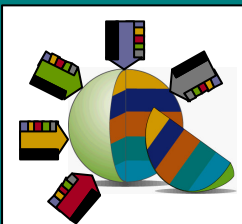




Detailed Technical Reference Model

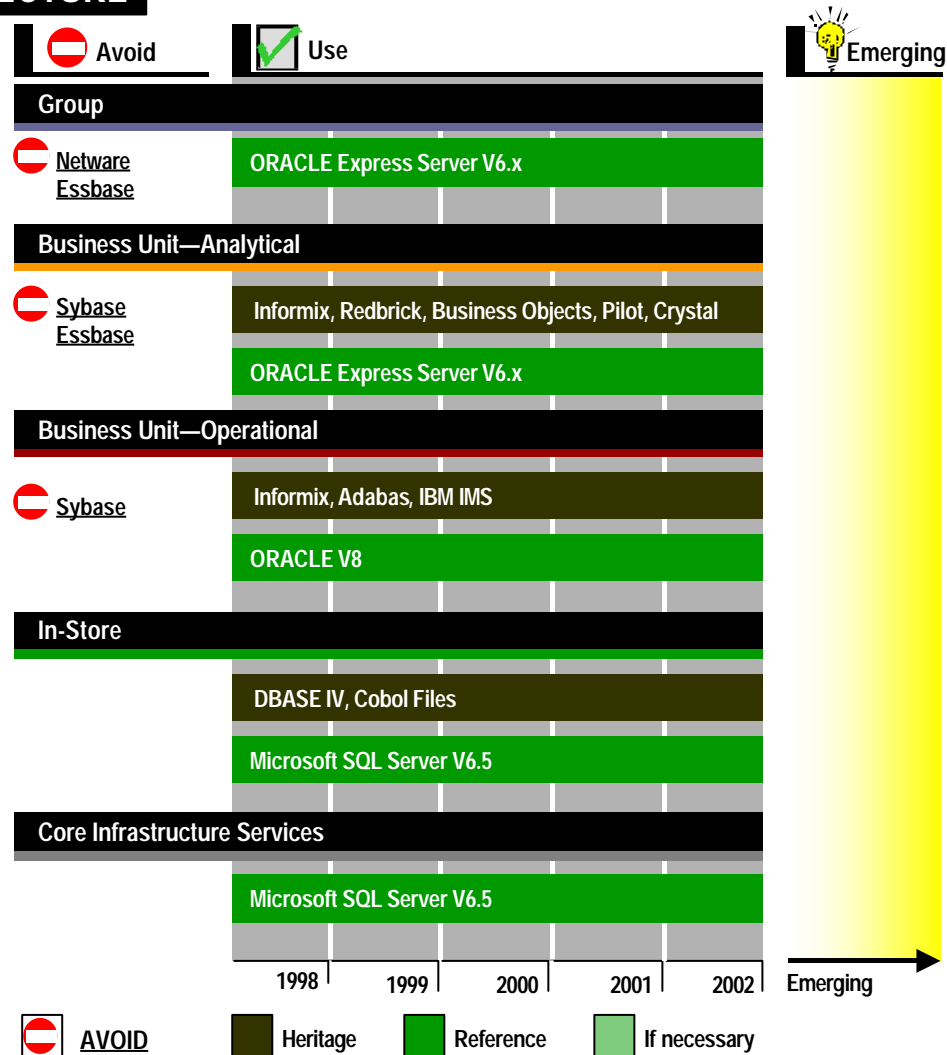
Dairy Farm TECHNICAL ARCHITECTURE

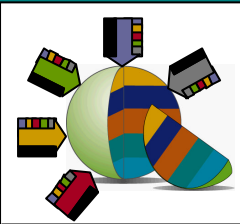




Deployment Table - Data Management

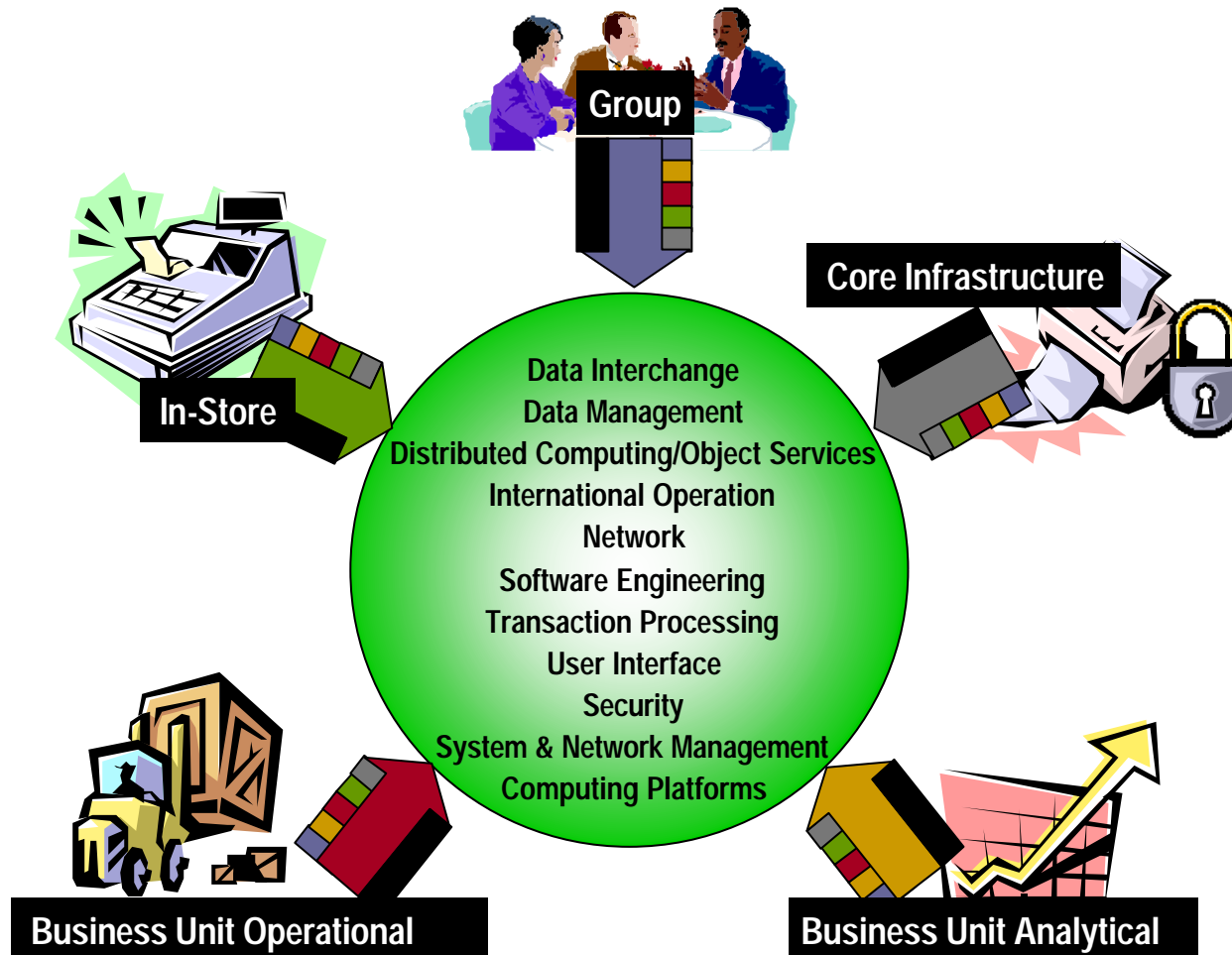
Dairy Farm TECHNICAL ARCHITECTURE

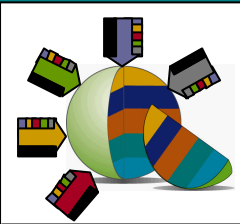




Business Domain Views

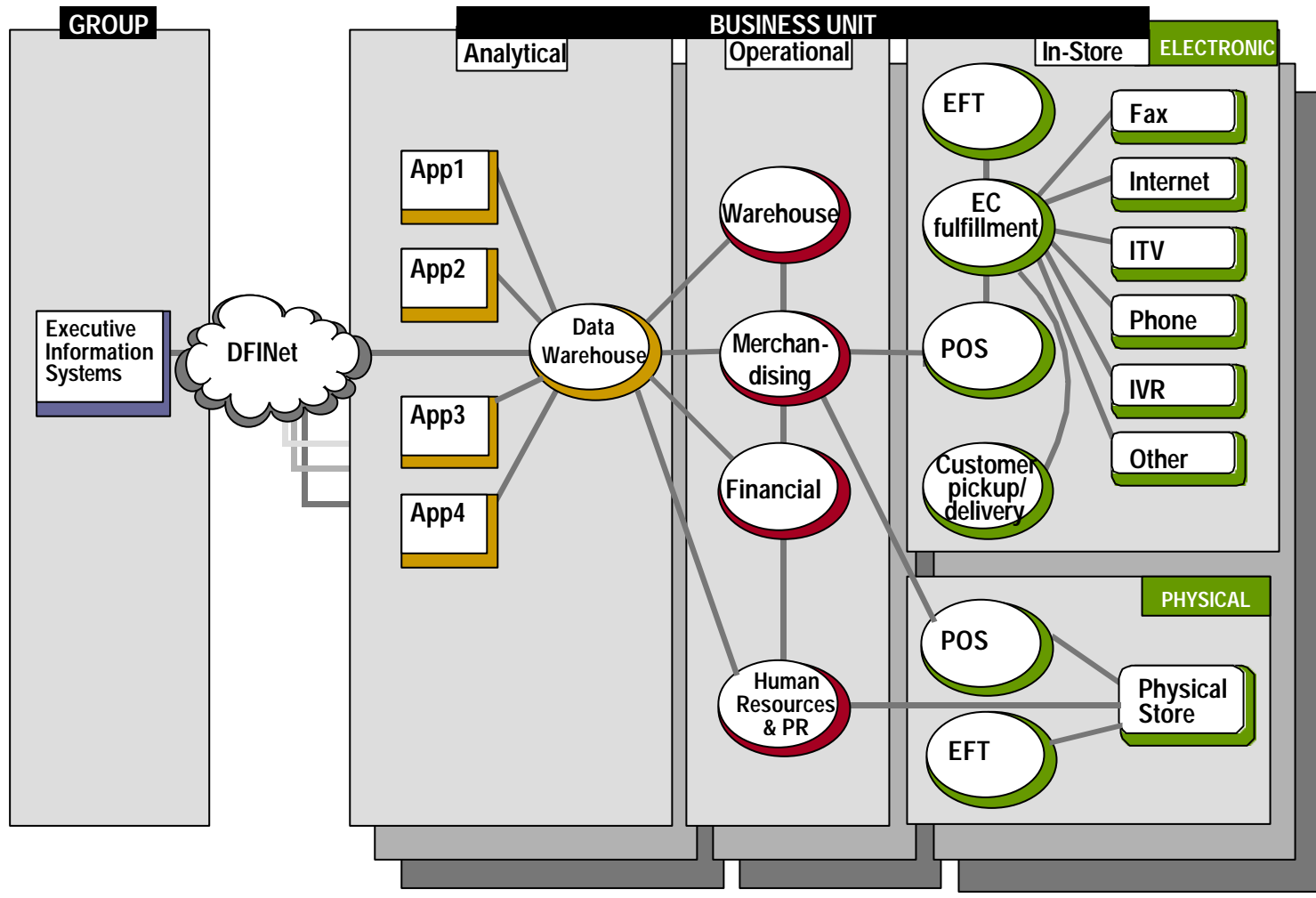
Dairy Farm TECHNICAL ARCHITECTURE

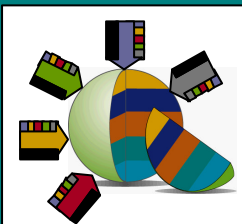




Scope of the DFG TA

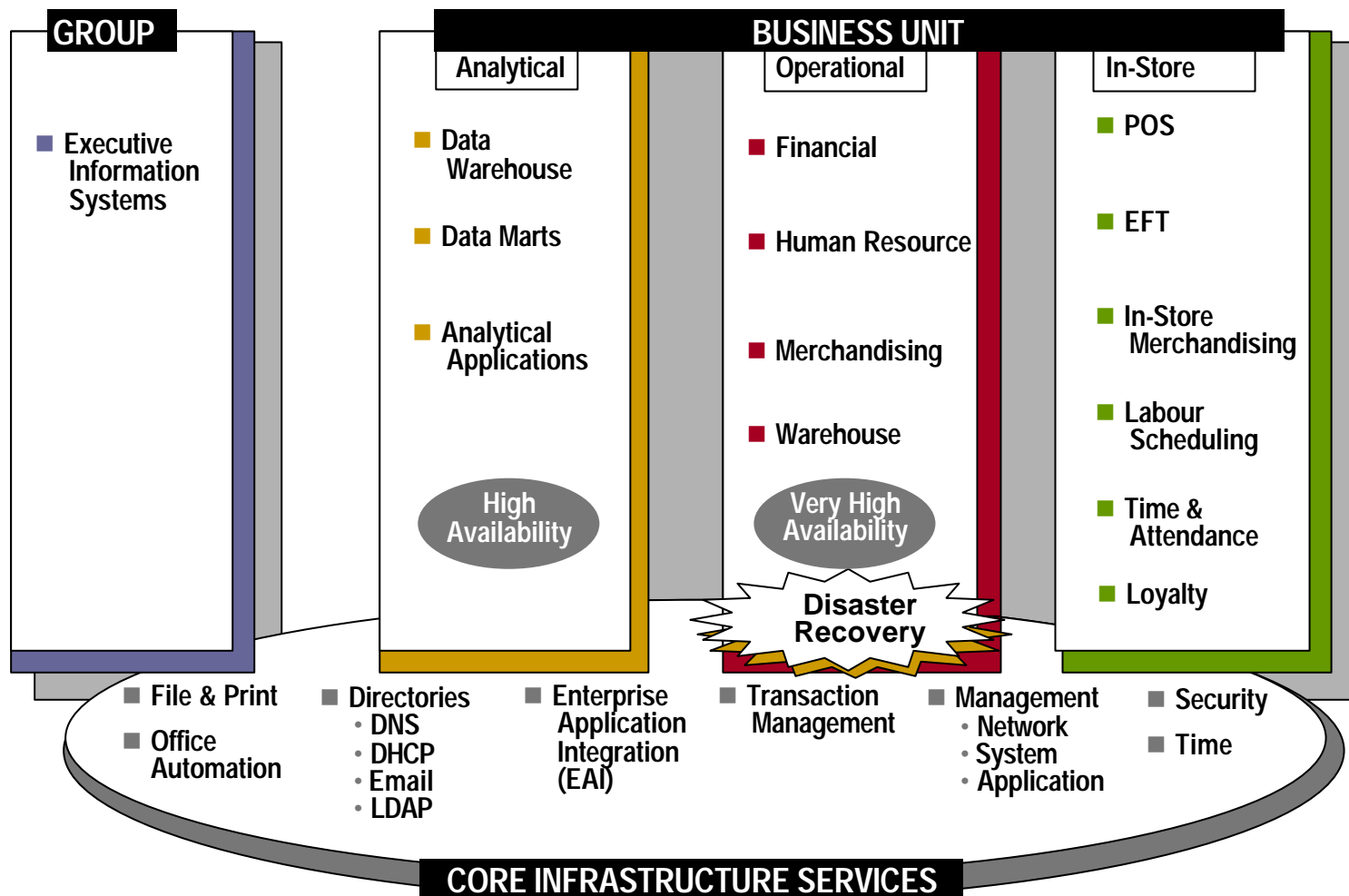
Dairy Farm TECHNICAL ARCHITECTURE

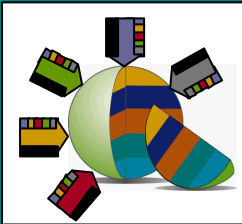




Business Process Domains

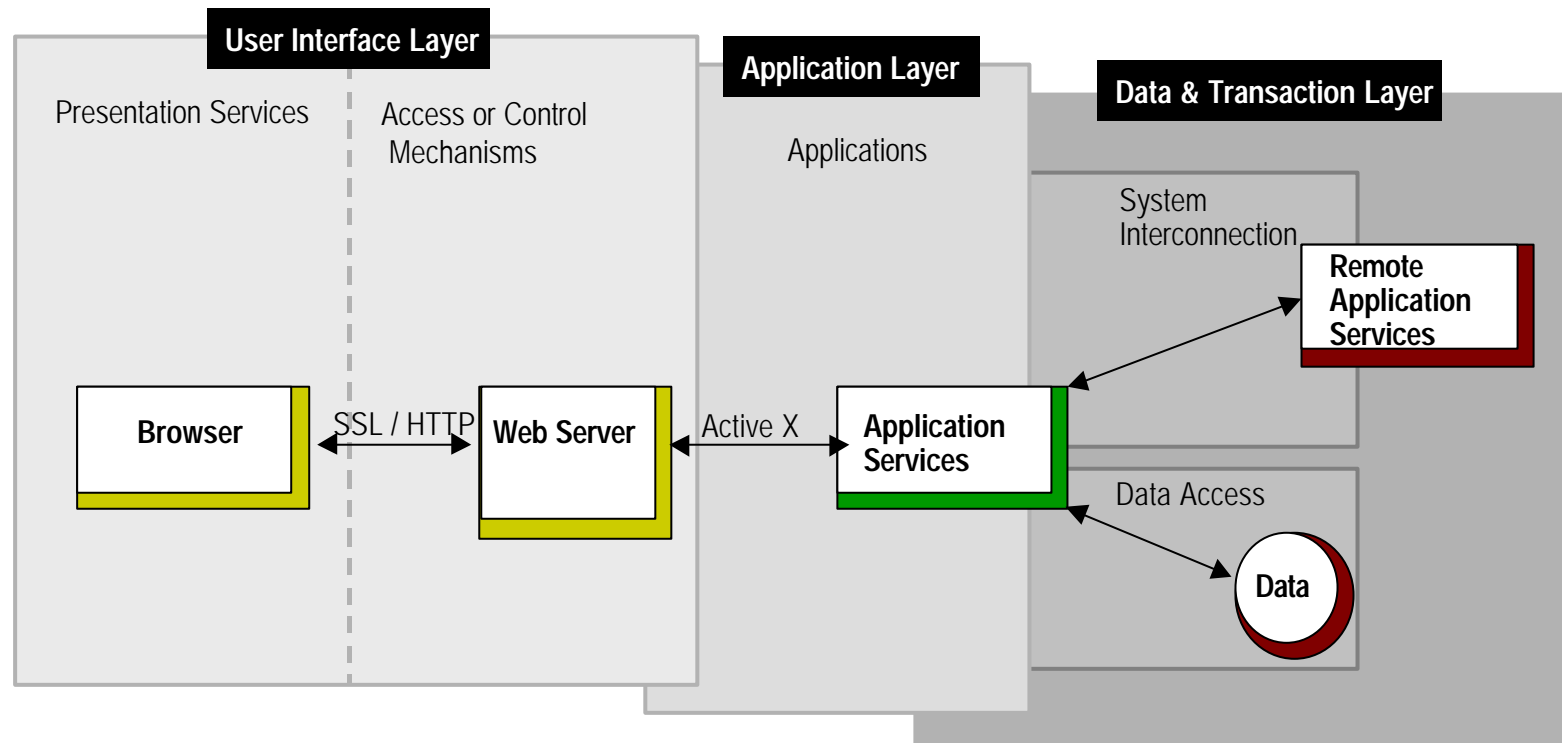
Dairy Farm TECHNICAL ARCHITECTURE

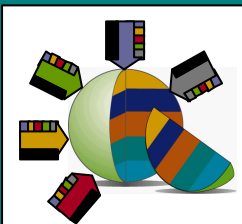




Application Logical Partitioning for E-RETAIL

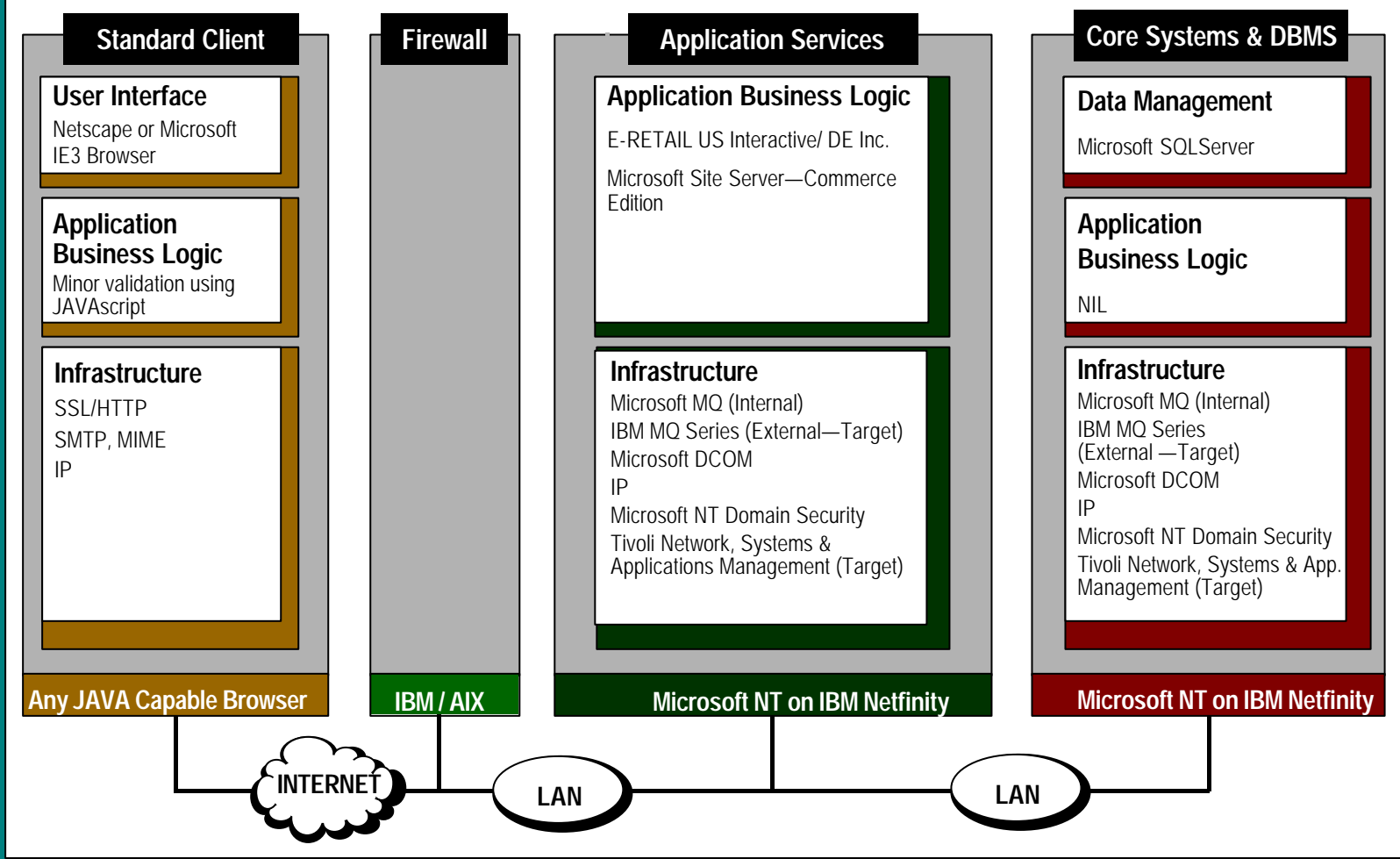
Dairy Farm TECHNICAL ARCHITECTURE

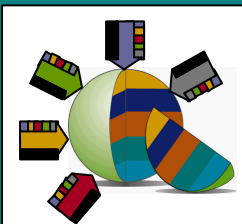




Application Physical Topology for E-RETAIL

Dairy Farm TECHNICAL ARCHITECTURE





Service Qualities: Security

Dairy Farm TECHNICAL ARCHITECTURE

Management, Audit & Control

- Policy
- Procedures
- Reporting
- Audit
- Administration

Functional Interface—Security API



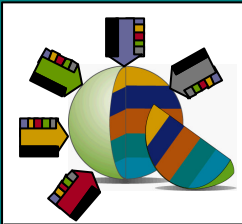
Services

Principal Authentication	Access Control	Confidentiality	Integrity	Non Repudiation
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Mechanisms

<ul style="list-style-type: none"> ■ Passwords ■ Tokens ■ Smart Card ■ Biometrics 	Access Control Information	Encryption/Decryption	Message Authentication	Digital Signatures
	Engineering Mechanisms		Modification Detection	

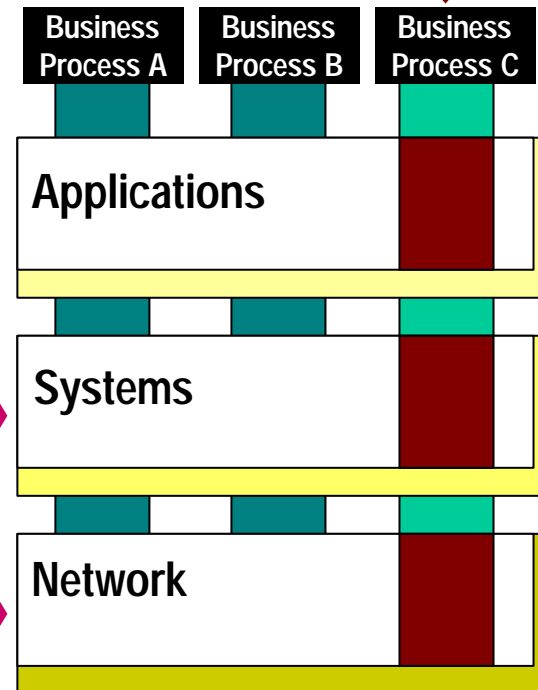


Service Qualities: Systems and Network Management

Dairy Farm TECHNICAL ARCHITECTURE

DFG's Business Process Approach

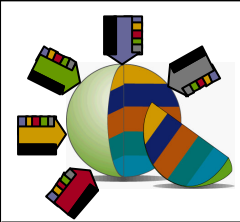
Management applied holistically to critical processes.



Traditional Approach

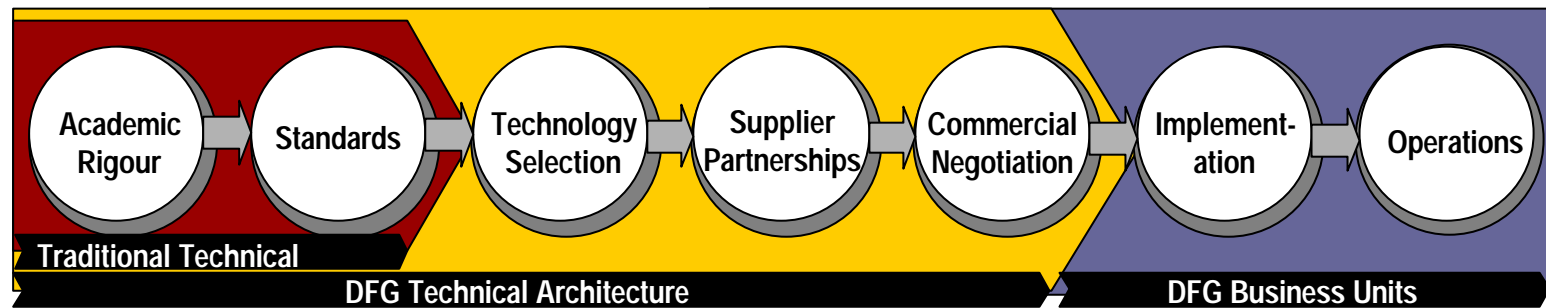
Management applied separately to technology domains.

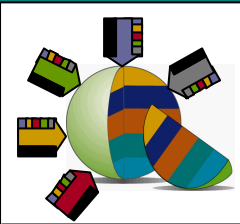




Depth of the Technical Architecture Process

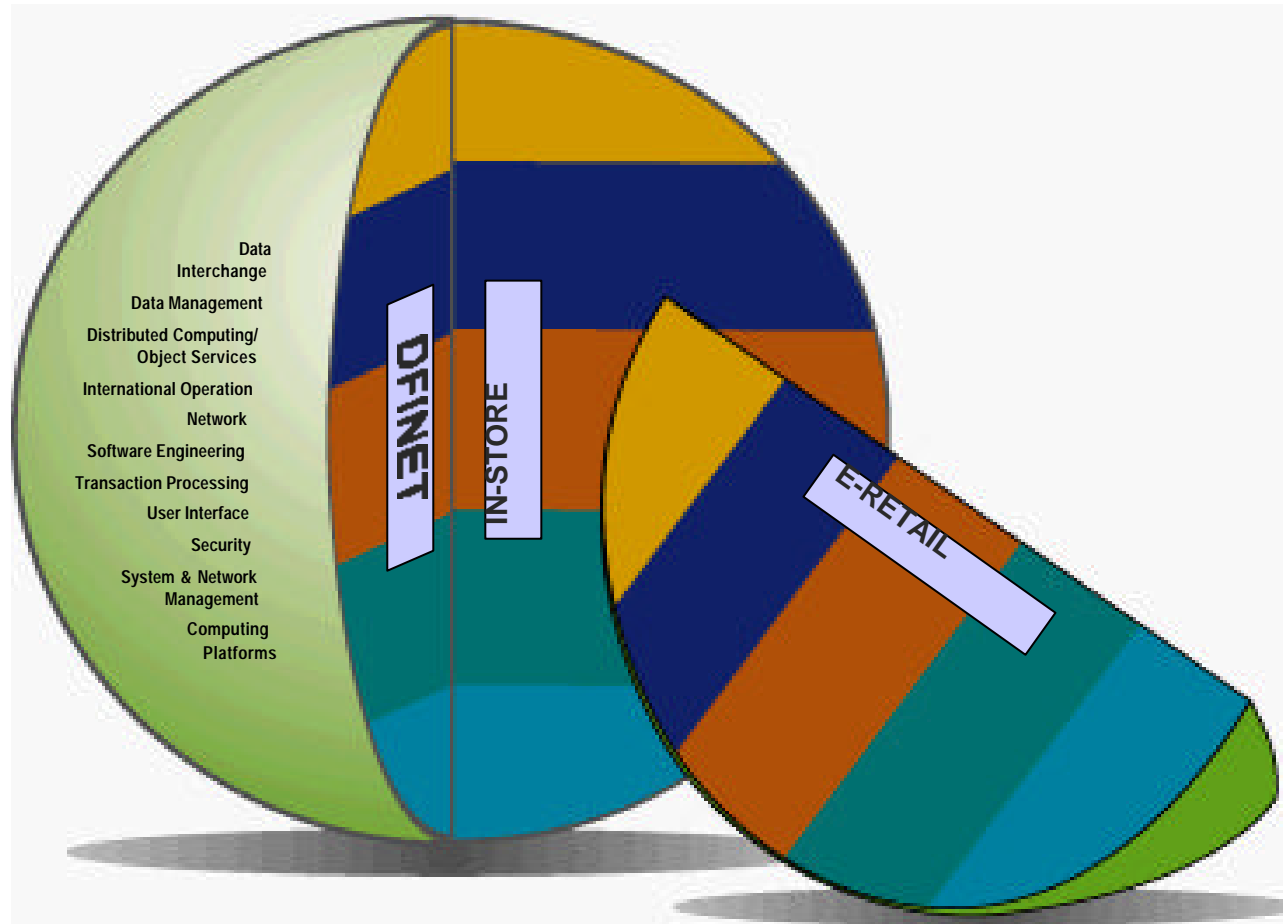
Dairy Farm TECHNICAL ARCHITECTURE

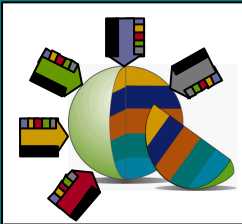




Slices

Dairy Farm TECHNICAL ARCHITECTURE

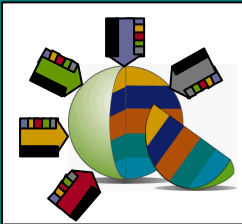




What has changed over the last three years since we started this process?

Dairy Farm TECHNICAL ARCHITECTURE

- Many of the IT people and the senior management team
- Business have been brought and sold
- The Asia meltdown has largely run its course
- The effects of the NASDAQ meltdown is still being felt
- Technological change has continued apace
- Supply chains have been reengineered but not as fast as many thought
- Several major planned initiatives couldn't substantiate a business case
- We learnt that in Asia even with good corporate discounts, "one size doesn't fit all"
- We still weren't able to move as fast as we needed to

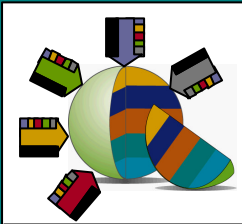


What has changed? – Cont'd

Dairy Farm TECHNICAL ARCHITECTURE

- To be more responsive to each marketplace, Dairy Farm is shifting back to more autonomy at a country level
- The business and the IT have moved a lot closer together after some pretty rough moments
- We have done a lot more on IT Governance and have much more control over IT spend

The Technical Architecture V1.1 is still in use, the strategies are still being pursued and can genuinely thought to have largely stood the test of time.



Summary

Dairy Farm TECHNICAL ARCHITECTURE

- **DFG—Introduction to the Company**
- **Why develop an Architecture?**
- **DFG TA Development Process**
- **DFG TA Structure**
- **What has changed in the last 3 years?**

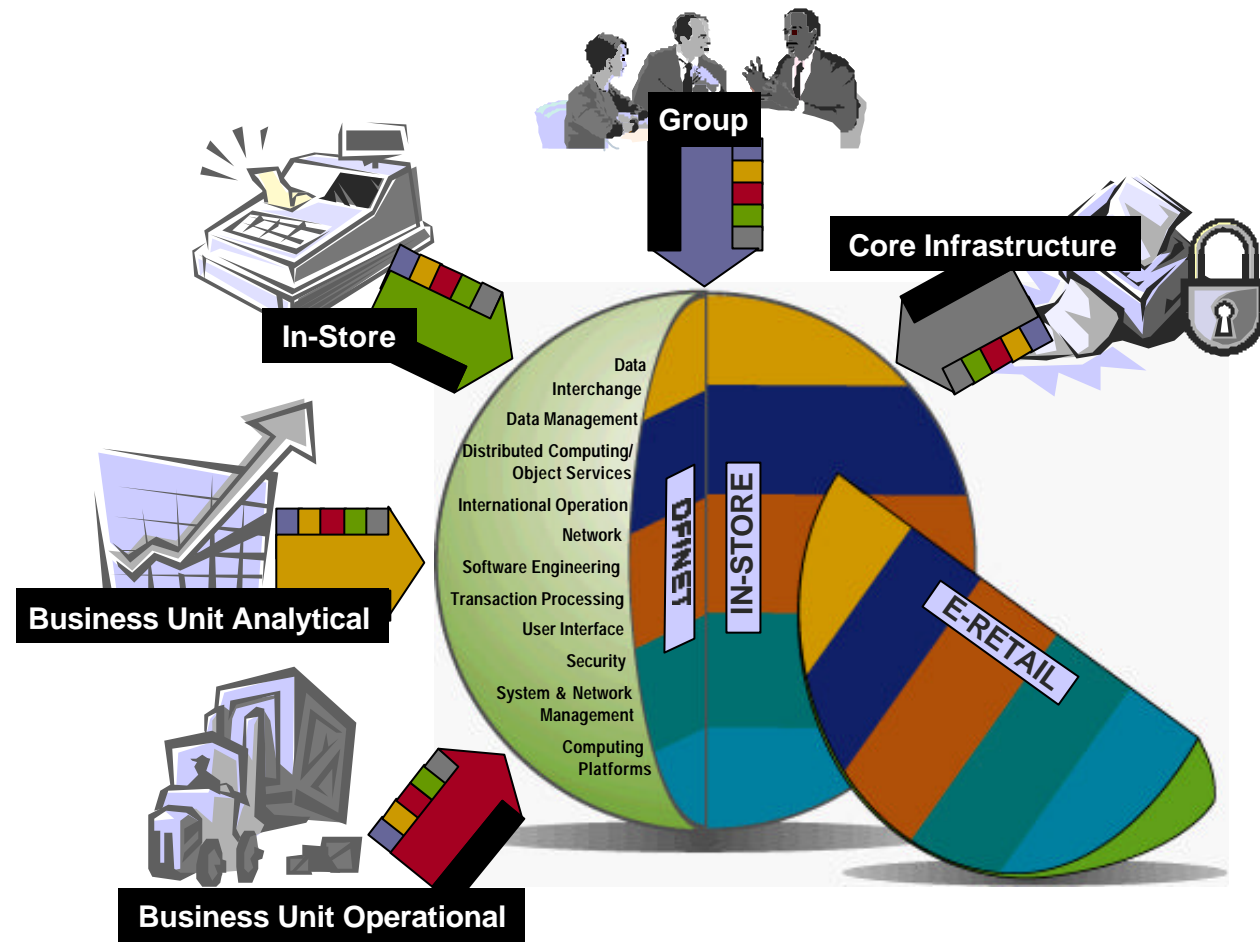
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Questions & Answers