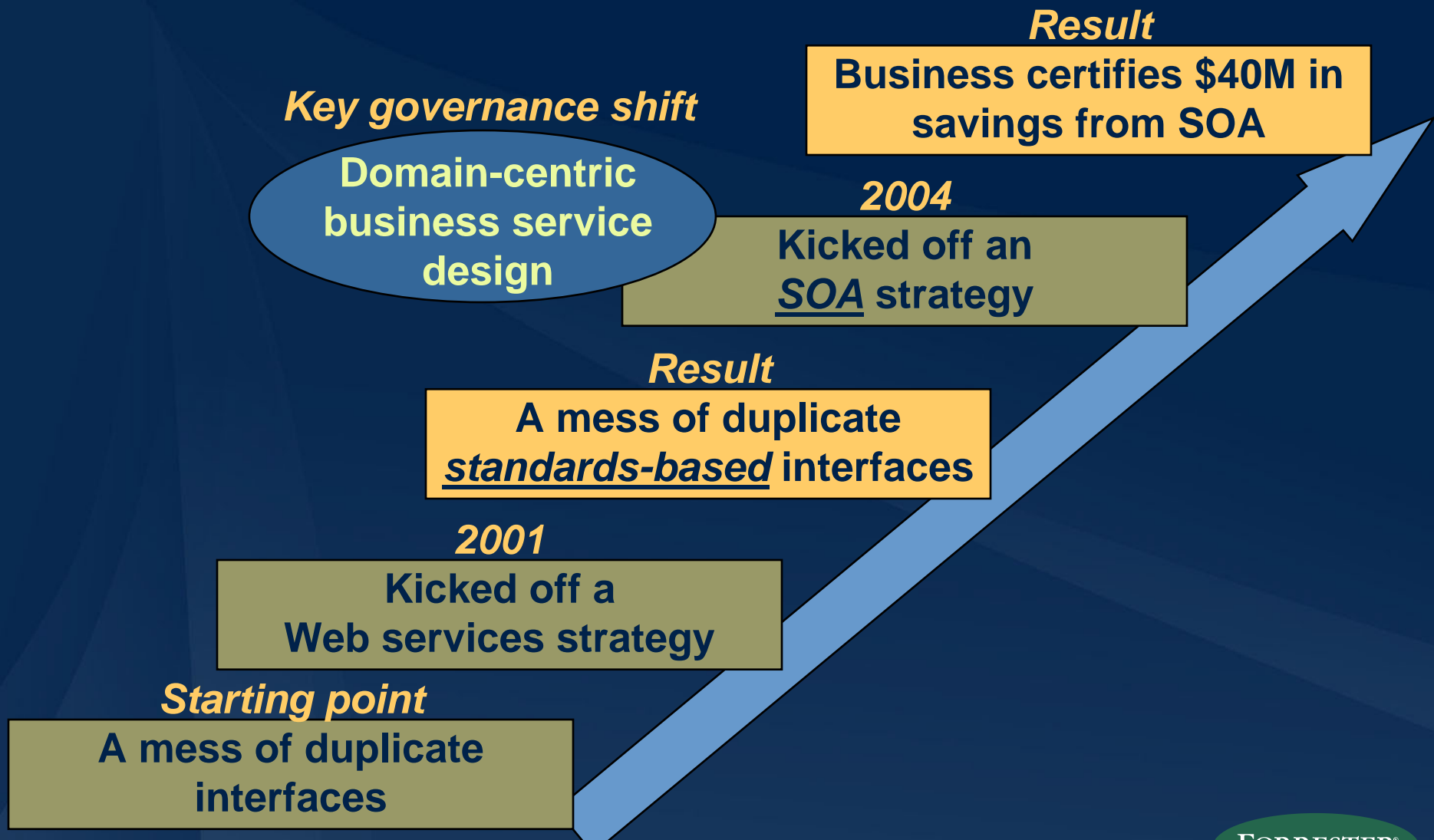# SOA: The Foundation For Deep Business-IT Transformation

Randy Heffner
Vice President
Forrester Research

December 5, 2006

SOA governance was the key AT&T's $40M savings

Result
Business certifies $40M in savings from SOA

Key governance shift

Domain-centric business service design

2004
Kicked off an _SOA_ strategy

Result
A mess of duplicate _standards-based_ interfaces

2001
Kicked off a Web services strategy

Starting point
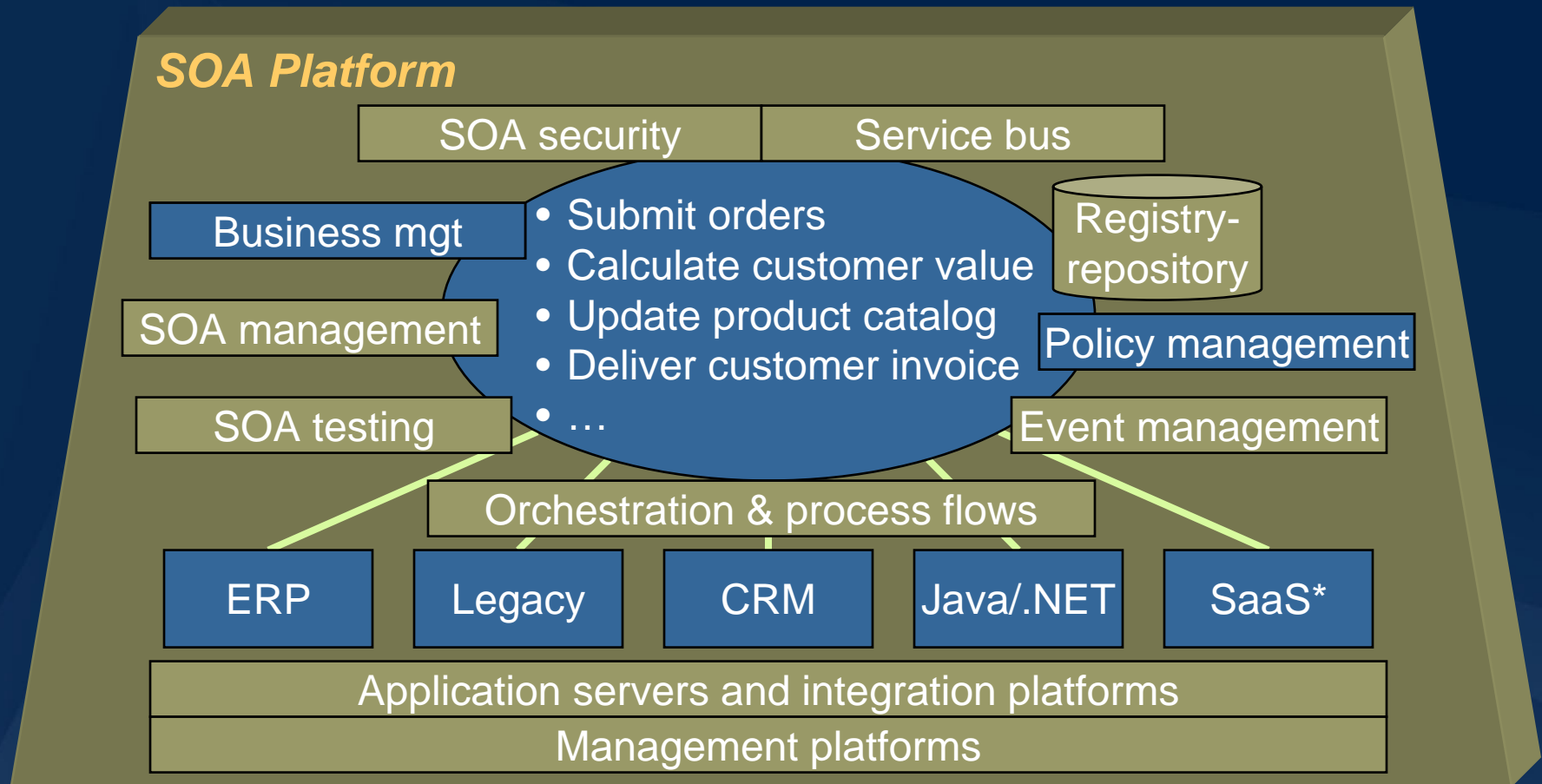A mess of duplicate interfaces

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AT&T's problem: Lowercase "soa" is short-sighted

- Lowercase "soa":
  - » "s" stands for any old network callable service
  - » soa = "request-reply messaging", so event management requires a separate architecture
  - » It's all about Web services technology and products

- Uppercase "SOA":
  - » "S" stands for your Business ➔ business services
  - » SOA = many styles of access to your business
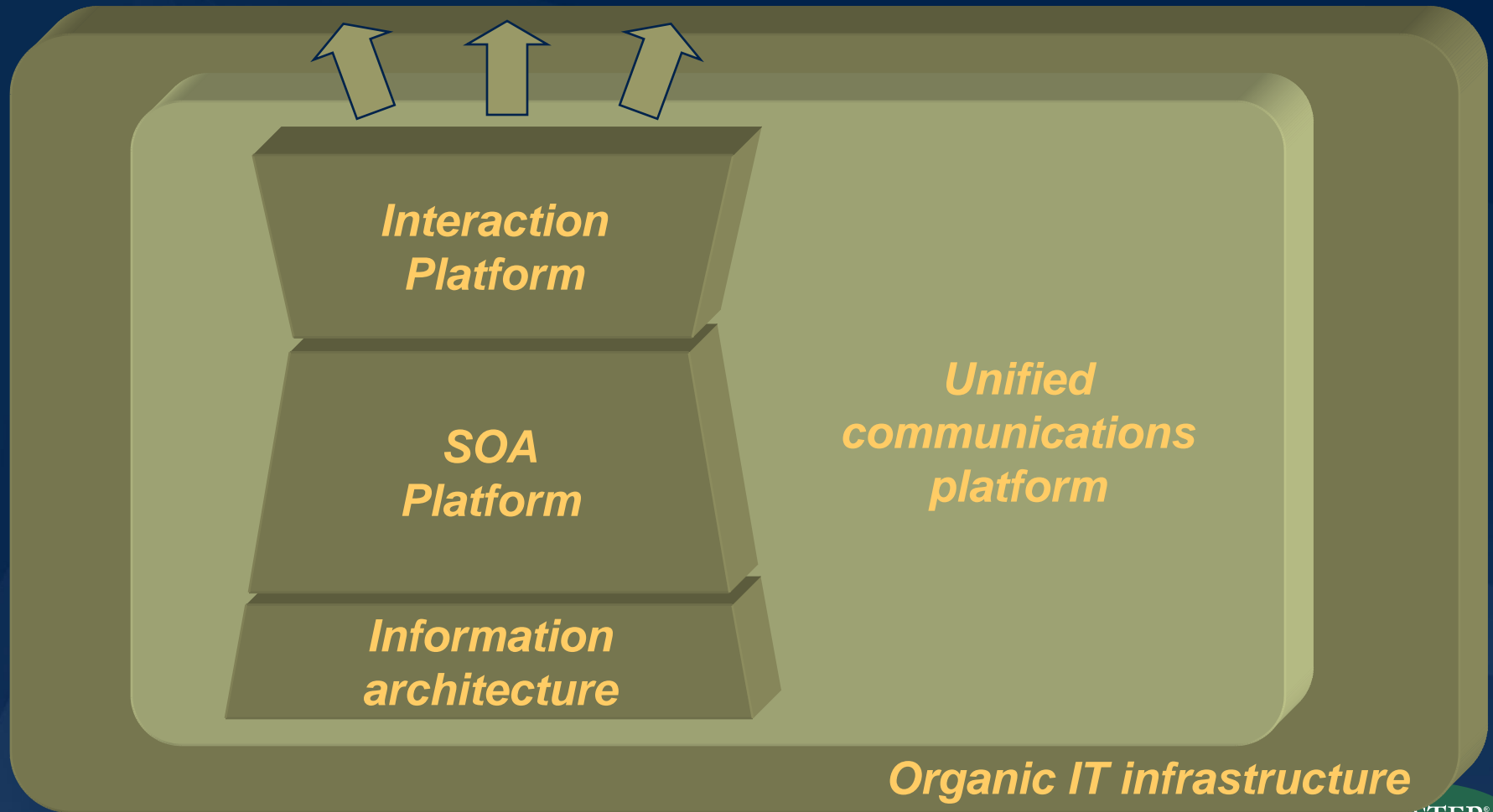 - » SOA is all about the architecture of your business

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Business is the center of a strategic SOA platform

Business services are the core of your Digital Business

SOA Platform

| SOA security | Service bus |

Business mgt

SOA management

SOA testing

- Submit orders
- Calculate customer value
- Update product catalog
- Deliver customer invoice
- …

Registry-repository

Policy management

Event management

Orchestration & process flows

| ERP | Legacy | CRM | Java/.NET | SaaS* |

Application servers and integration platforms

Management platforms

* SaaS = Software as a Service

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SOA is the foundation for a digital business platform

Customers   **Partners**   **Suppliers**   **Governments**

Employees   **Physical devices**   **Investors**

Interaction Platform

SOA Platform

Unified communications platform

Information architecture

Organic IT infrastructure

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Future of IT: Digital Business Architecture

- **Web 2.0**
- **RFID**
- **Interaction platform**

- **SOA**
- **Information architecture**

PERVASIVE INTERACTIONS

BUSINESS SERVICES

UNIFIED COMMUNICATIONS

BUSINESS METADATA CORE processes, policies, structure, etc.

ORGANIC IT

Voice
Mobile
Transactions
Data
Video
Collaboration
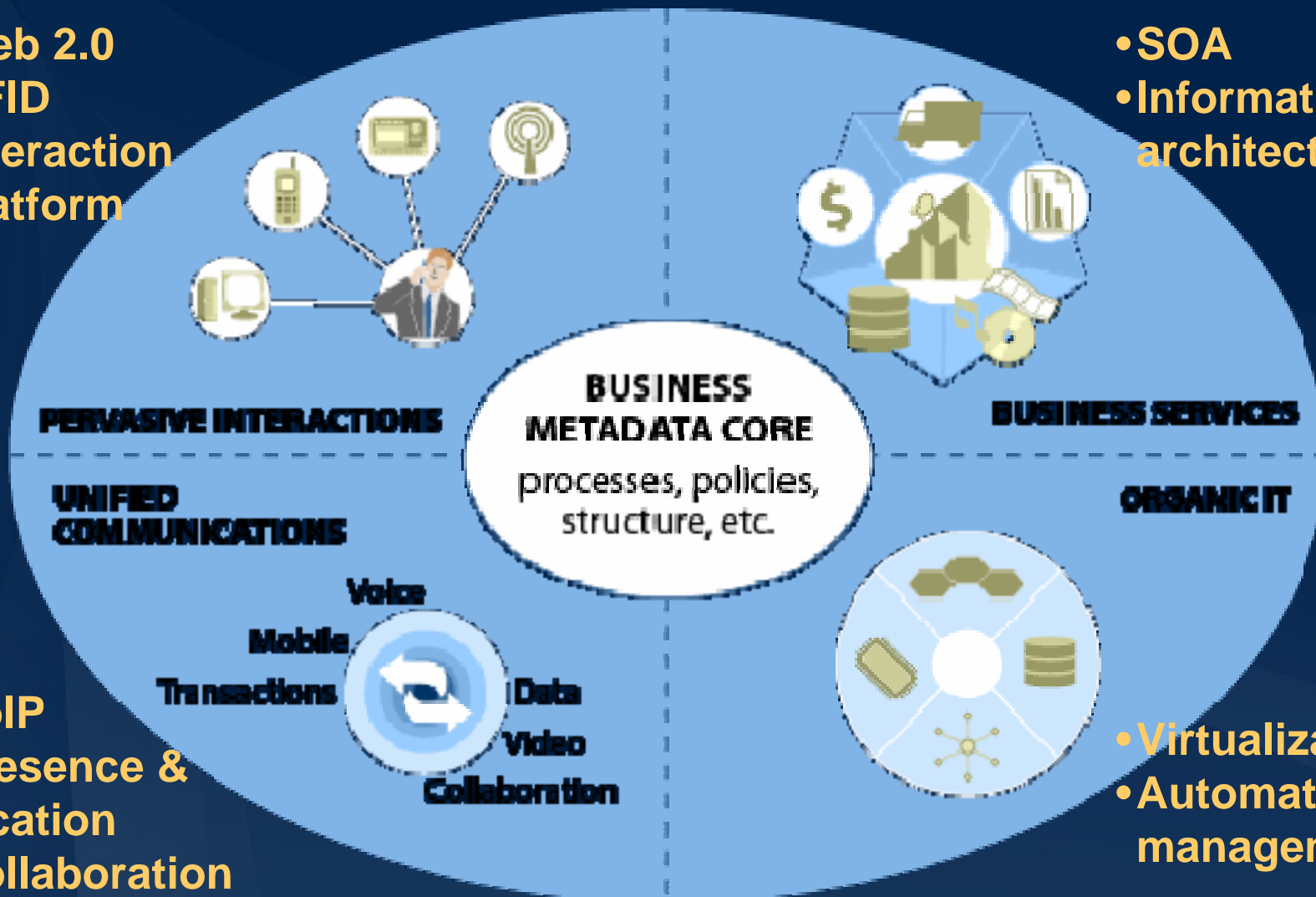
- **VoIP**
- **Presence & location**
- **Collaboration**

- **Virtualization**
- **Automated management**

7

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ISO New England: Metadata drives real-time control

BusinessMetadata Core

- Process definition metadata
- Process control metadata
- Process reporting metadata

Customer inquiries and service

Ongoing process analysis and optimization

Process dashboard

Incoming business service requests (trading, electricity grid changes, etc.)

Process status and alerts

Process history

Process automation engine

Service requests and process flow

- Service adapter
- Customer system
- Service adapter
- Trading system
- Service adapter
- Electricity grid system
- Service adapter
- Security system
- Service adapter
- Other

Process execution events and exceptions

Process control engine

Automated event handling

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Services firm: Policy-based, process-driven portal

New world   Evolution   **Old world**

Business Metadata Core

- Process metadata
- Policy metadata
- Service definitions

User interaction tier

- Custom Web UIs
- Custom mobile UIs
- Workflow/BPM

Business service tier

- Enterprise service bus/BPM
- Rules-based policy engine
- Business service interfaces

Traditional Web UIs

Packaged and custom apps

- Master data
- Operational data
- Historical data

Data integration technologies

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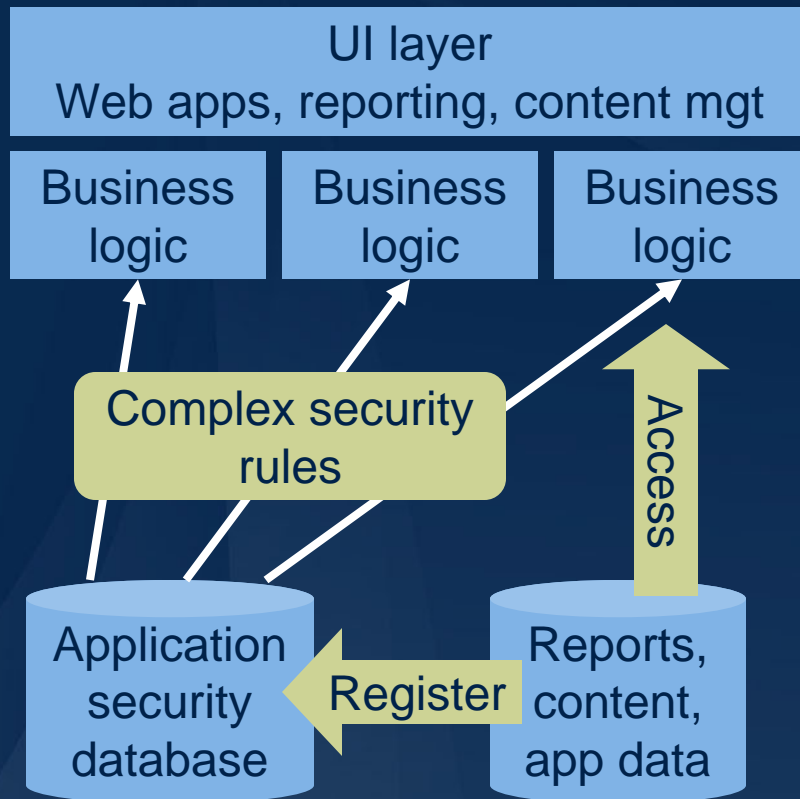# Logistics firm: Flexibility starts with business models

- The firm's future is based on the need for flexibility

  » Each customer requires an "instance of one" product

- CIO sees the need to restructure IT for flexibility

  » Business flexibility is intertwined with IT flexibility

  » New IT base must build from a business model

- Business and IT jointly model:

  » Core business capabilities

  » Process and transaction flows

- SOA services are the implementation of the model

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Investment firm: Security via business metadata
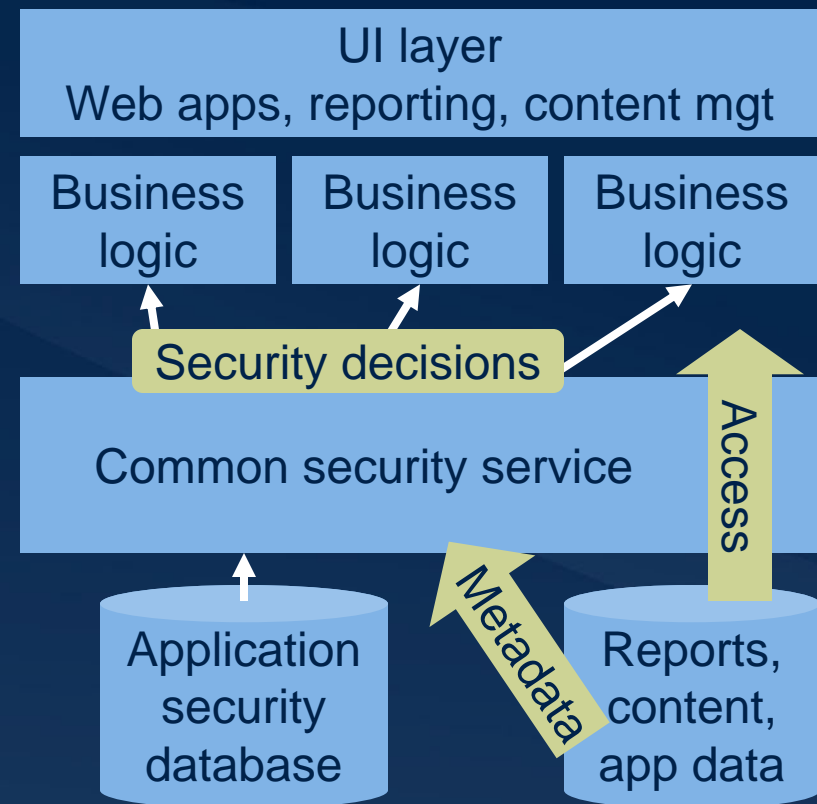
OLD

Common security rules, but:
- No common enforcement
- Each asset individually registered

UI layer
Web apps, reporting, content mgt

Business logic | Business logic | Business logic

Complex security rules

Access

Application security database

Register

Reports, content, app data

NEW

Unified security service with:
- Central decisions and auditing
- Dynamic, metadata-based entitlements

UI layer
Web apps, reporting, content mgt

Business logic | Business logic | Business logic

Security decisions

Common security service

Access

Application security database

Metadata

Reports, content, app data

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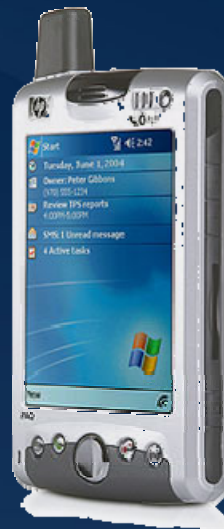
Realtor firm: Structuring an unstructured process

Building a pervasive, content-infused, collaborative business process

2

During house-hunting trip:

- Take pictures
- Take videos
- Take notes — text + audio

Record

3

After house-hunting trip:

- Upload to personal page
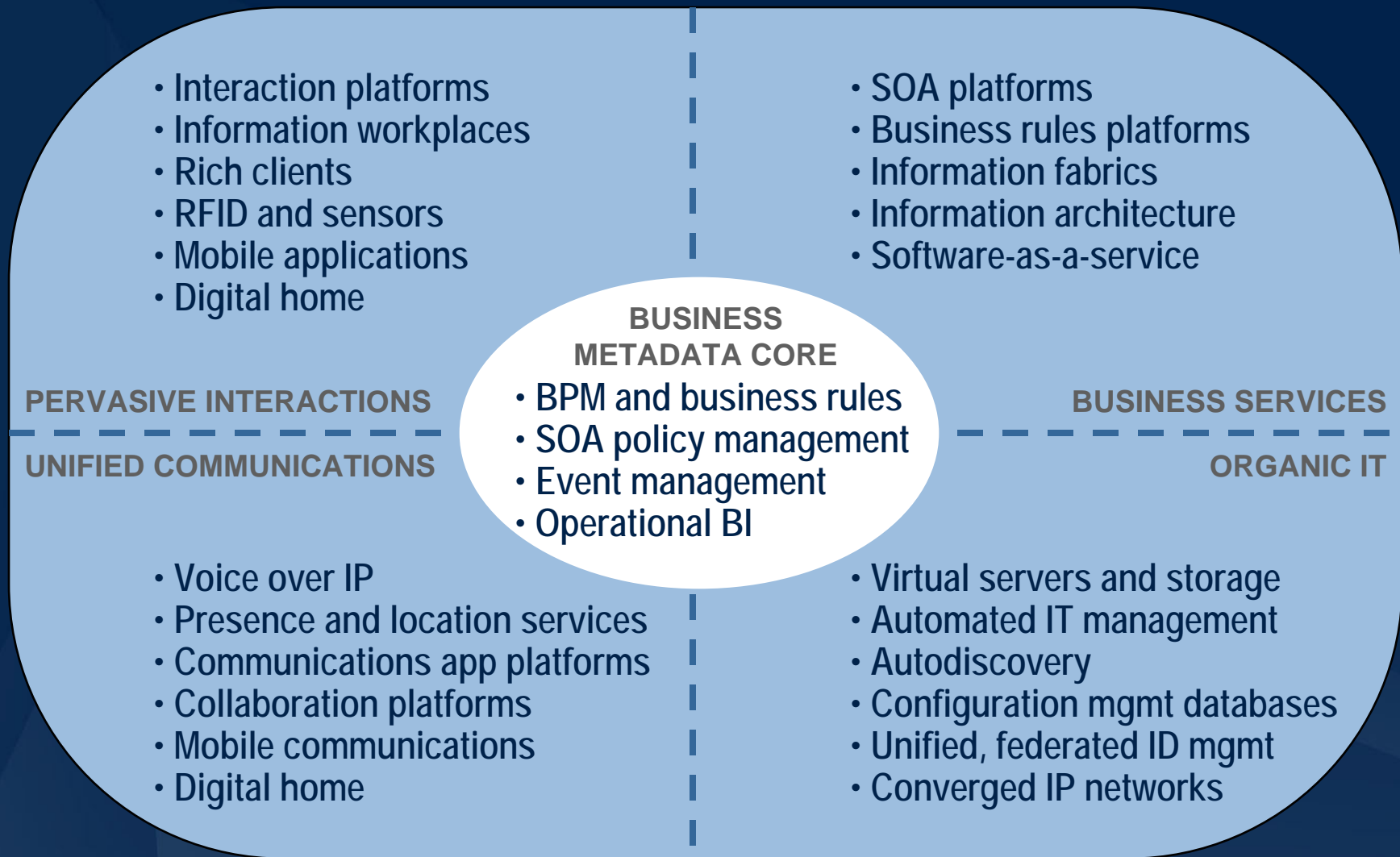- Send link to friends and family
- Collaborate, participate

1

Before house-hunting trip, download:

- Addresses
- Directions
- Points of interest

Download

Upload & collaborate

Windows-based phone

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Enablers for deep business optimization

BUSINESS METADATA CORE
- BPM and business rules
- SOA policy management
- Event management
- Operational BI

PERVASIVE INTERACTIONS
- Interaction platforms
- Information workplaces
- Rich clients
- RFID and sensors
- Mobile applications
- Digital home

BUSINESS SERVICES
- SOA platforms
- Business rules platforms
- Information fabrics
- Information architecture
- Software-as-a-service

UNIFIED COMMUNICATIONS
- Voice over IP
- Presence and location services
- Communications app platforms
- Collaboration platforms
- Mobile communications
- Digital home

ORGANIC IT
- Virtual servers and storage
- Automated IT management
- Autodiscovery
- Configuration mgmt databases
- Unified, federated ID mgmt
- Converged IP networks

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Core competencies for the future of IT

- Deep integration of business and technology savvy

  » Cross-functional focus on business design

- Architecture visioning and strategy

  » Vision + implementation = street-level strategy

  » Multilevel investment strategy: Strategic, soft dollar, hard dollar

- Portfolio management

  » Road map for your business to position and justify investments

- Project-level architecture governance

  » Incremental build-out against architecture strategy

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Related Forrester reports

- "Digital Business Architecture: IT Foundation For Business Flexibility" November 7, 2005, Forrester Big Idea

- "Implementing Your Digital Business Architecture" September 5, 2006, Trends

- "EDA, SOA 2.0, And Digital Business Architecture" September 1, 2006, Trends

- "Survey Data Says: The Time For SOA Is Now" April 14, 2006, Trends

- "How Composite Apps Will Change Enterprise Application Development" July 20, 2005 Trends

- "The Big Strategic Impact Of Organic Business And Service-Oriented Architecture" June 18, 2004, Trends

- "Organic IT 2004: Cut IT Costs, Speed Up Business" May 18, 2004, Trends

- "Unified Synchronized Communications Arrives" February 24, 2004, Trends

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Thank you

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Supplementary material

The mental model shifts of Digital Business Architecture

Major IT domain	Old design model	New design model
Overall approach to business technology solutions	First, design your business; then, design systems to support it	Concurrently design your business and its embodiment in the technology that runs it
Business Metadata Core Important business decisions captured in declarative form	Metadata is simply a side effect and artifact of various and sundry technology	Your collection of business metadata adds up to a digital model of your business
Business Services A firm's core business capabilities in digital form	Write (or buy) application code to serve dedicated business functions	Build a business foundation by creating (or acquiring) digital business capabilities ready to deliver to any business process
Pervasive Interactions User interfaces, sensors, and other ways of initiating business activities from the physical world	Design a user interface for an individual business function	Optimize physical world endpoints, integrating users and devices — and the resources they need — into managed end-to-end business processes
Unified Communications Channels for human communication and collaboration	Find the right network on which to deliver a message to someone	Do multichannel, cross-channel, context-aware human collaboration on a unified, converged network
Organic IT The IT infrastructure and network on which a firm's business runs	Install an application on a server and manage IT infrastructure	Use business policy to manage operation of an allocate resources to business processes

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Essential business goals for each domain

Domain	Essential business goal
Business Metadata Core	Enable rapid, intelligent, and efficient change to the operation of the business
Business Services	Provide open access to an organization's digital business capabilities
Pervasive Interactions	Optimize operation of business process endpoints in the physical world
Unified Communications	Increase productivity by deeply integrating human communication and collaboration into business processes
Organic IT	Direct constrained IT resources to deliver the highest value and service to the business

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What do you with SOA & Digital Business Architecture?

STOP	START
STOP writing requirements documents for IT.	START joint business-IT analysis of business problems.
STOP delivering applications for targeted functions.	START building SOA-ready digital business capabilities.
STOP designing user interface screens.	START optimizing business process endpoints.
STOP burying key business decisions in application code.	START building the control room for your digital business.
STOP treating business and IT as two different worlds.	START cross-boundary process governance, including IT.
STOP using architecture merely for cost-saving standardization.	START using architecture for strategic business flexibility.

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