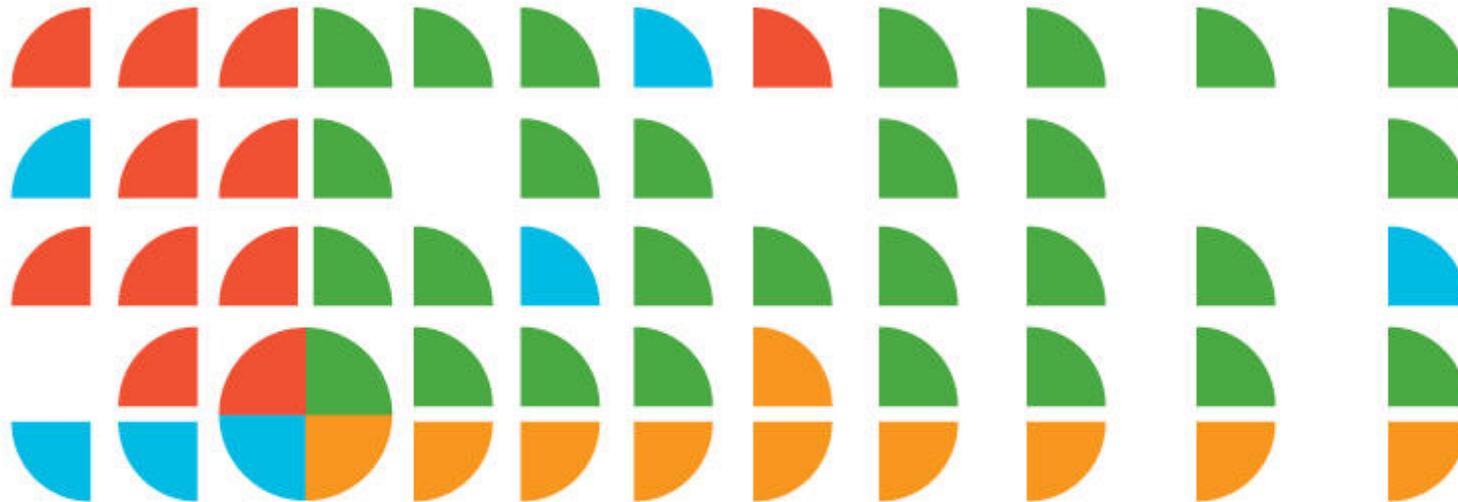


IBM® Enterprise Architecture Seminar



Turning Business Insight into Foresight

John MacLeod, Senior Consultant

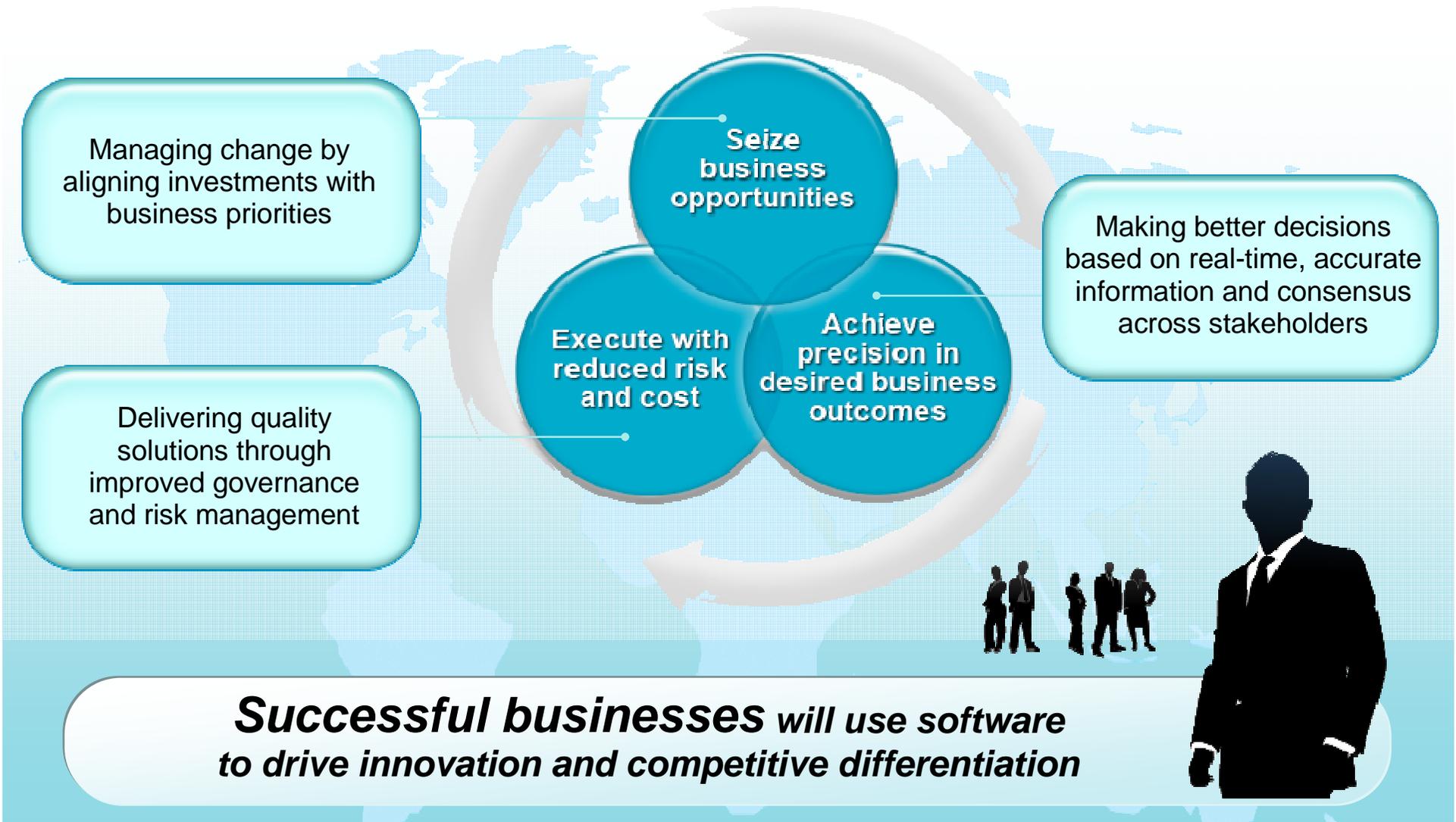
Nov 2010





IBM Rational software

Delivering greater value from your investments in software



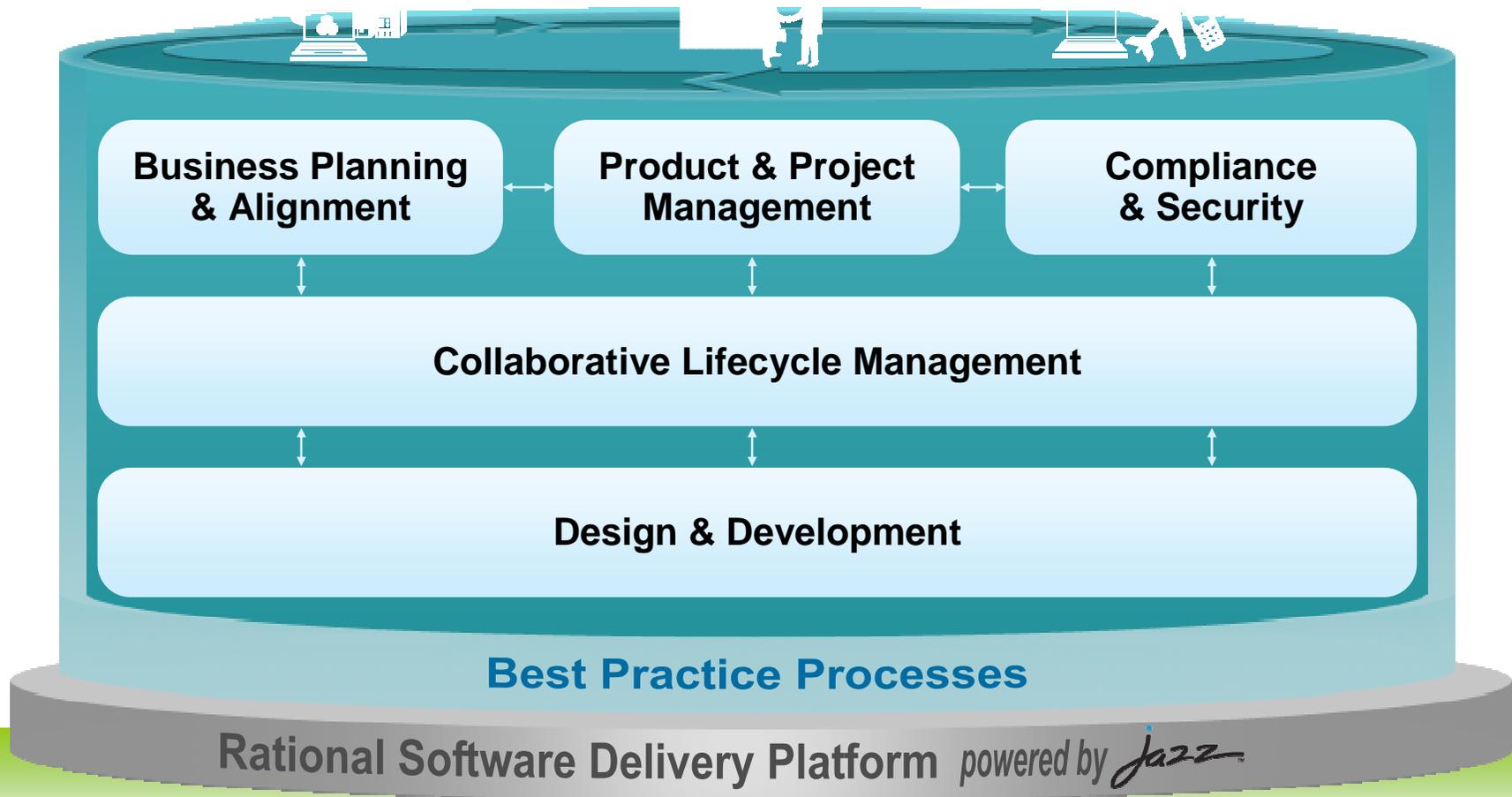


Enabled by the Rational Software Delivery Platform & ecosystem

Modernise
Enterprise Assets

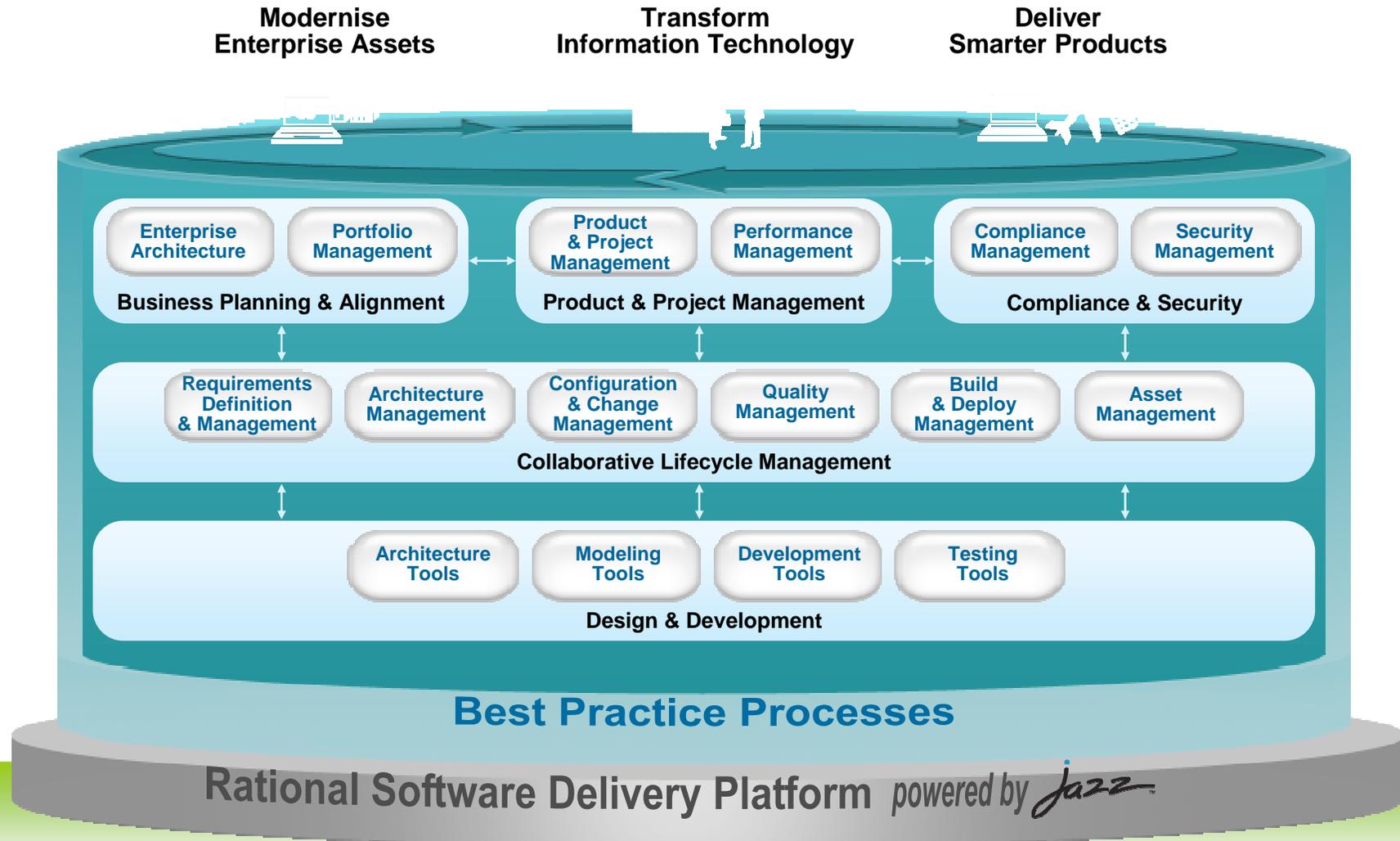
Transform
Information Technology

Deliver
Smarter Products





Delivered through a rich set of software delivery capabilities





The New Order

Organisations must recognise that they are no longer making IT investments – they are investing in IT enabled change in the overall business system.

John Thorp – The Information Paradox



Winners!

Winners in the global marketplace have been firms that can demonstrate ***timely responsiveness*** and ***rapid and flexible product innovation***, coupled with the management capability to effectively coordinate and redeploy internal and external competences.

...companies can accumulate a large stock of valuable technology assets and still not have many useful capabilities.

Business Reality #1:

Volatility, Consolidation & Competitive Threat

*Demand strategic planning to reshape the business and manage MAD**



- CIOs who said they were aligned with the business, enabled a new revenue stream more than twice as often as those who were not
(24 % versus 11 %) **
- Aligned CIOs said they had used IT to create a competitive advantage
(38 % versus 23 %) **



Execution Mandates

- **Corporate Strategy:** What are the strategic goal and objectives of the business
- **Inventory:** What technology, Application and solutions do we have?
- **Innovation:** Do we need to change to achieve our enterprise goals? ...and How?
- **Impact:** What impact will these changes have on our customers, the business and our shareholders?
- **Integration:** How will we integrate these organisational and technological changes into the business without disrupting operations?

**CIO Magazine: "State of the CIO Survey" 2007

*Mergers, Acquisitions & Divestitures

Business Reality #2:

Shifting customer & business preferences

Require a balancing Innovation, Value and Risk in current and future work



Execution Mandates

- **Accelerate intelligent innovation**
 - Increase innovation speed and improve market accuracy
 - Accelerate time-to-market and extend time-in-market
 - **Improve the end-to-end innovation process**
 - Make smart, data-driven decisions and make them faster
 - Full traceability across entire innovation lifecycle
 - **Improve decision confidence – end analysis paralysis**
 - Assure fit-to-market, fit-to-customer and fit-to-strategy
 - Transparency, accountability, timeliness, objectivity
-
- 38 % Improperly value opportunities
 - 37 % Decision process not based on objective information
 - 25% Poorly defined portfolio decision criteria
 - 21% Unwillingness to stop projects underway



Business Reality #3:

Limited resources & ever shrinking budgets

Dictates accurate delivery, forecasting and nimble execution



Execution Mandates

Deliver first time, on-time & within budget

- Continually adjust delivery based up on shifting demands

Manage Risk

- Identify execution risk and recommend mitigations

Provide Transparency

- Identify “at risk” projects before they are a problem
- Leverage frameworks and reporting standards

Create Repeatability

- Examine and triage both success and failures



"High project failure means you're wasting money, and there's even less tolerance for that in a down economy,"

(Margo Visitacion, VP Forrester Research)



Need for Improved Governance of IT Projects

- Are your IT investments not supporting the business strategy or providing expected value?
- Do you have too many projects, resulting in inefficient use of resources?
- Are projects often delayed, run over budget, and/or do not provide the needed benefits?
- Is there is an inability to cancel projects when necessary?
- Do your projects need to ensure compliance to industry or governmental regulations?

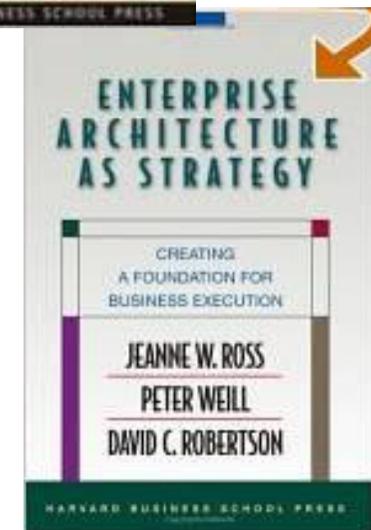
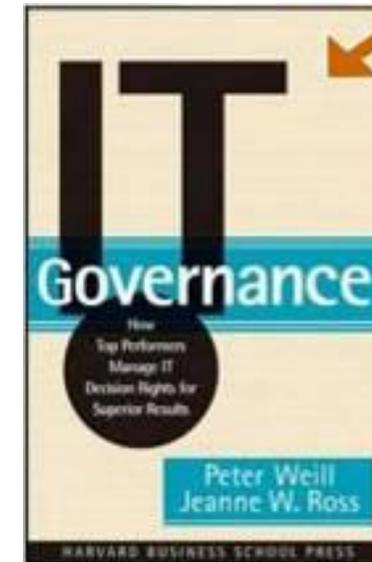




What you really need is an approach that aligns the strategic goals of the business and the IT strategy, in a financially viable manner.



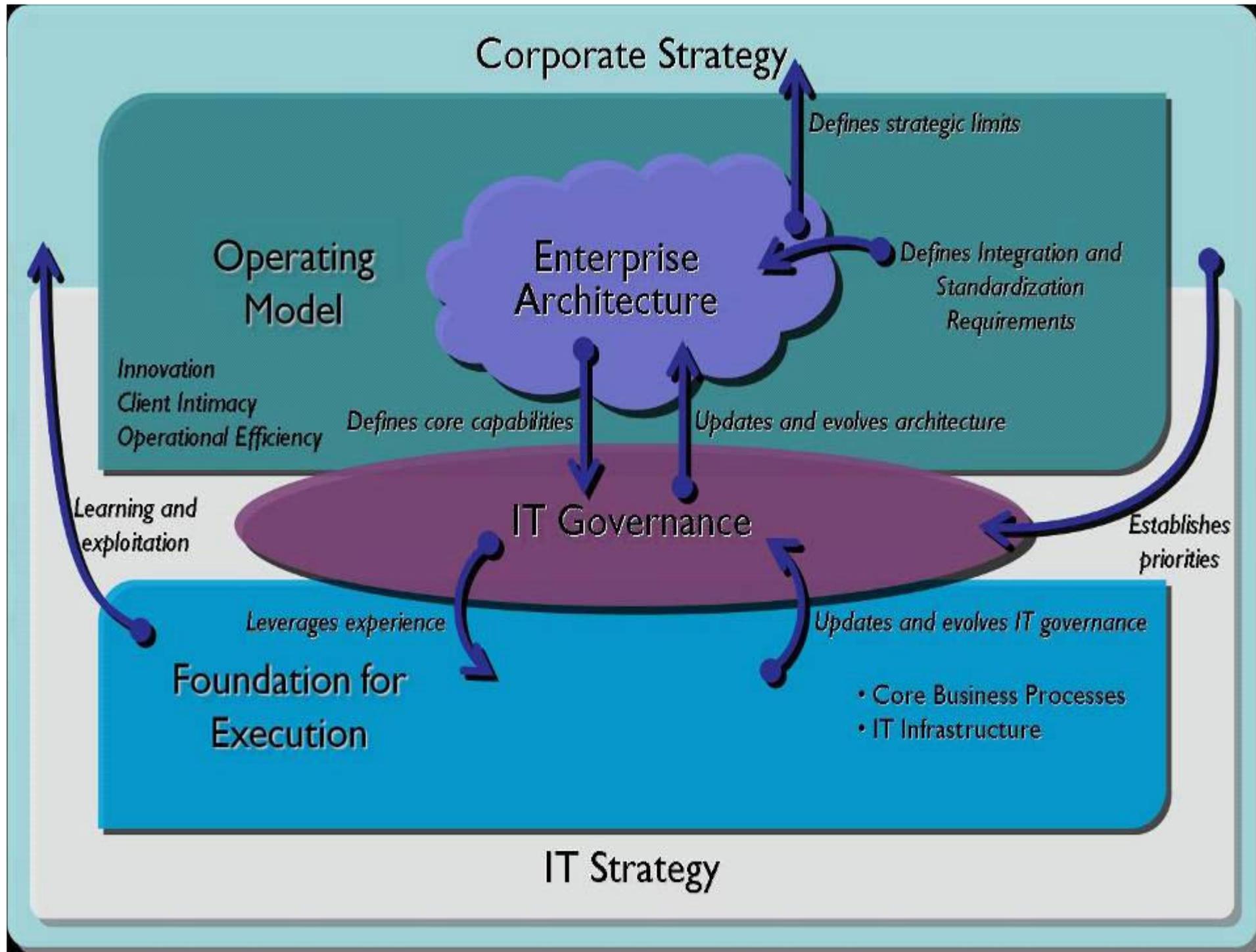
What is missing is a structured and integrated approach.



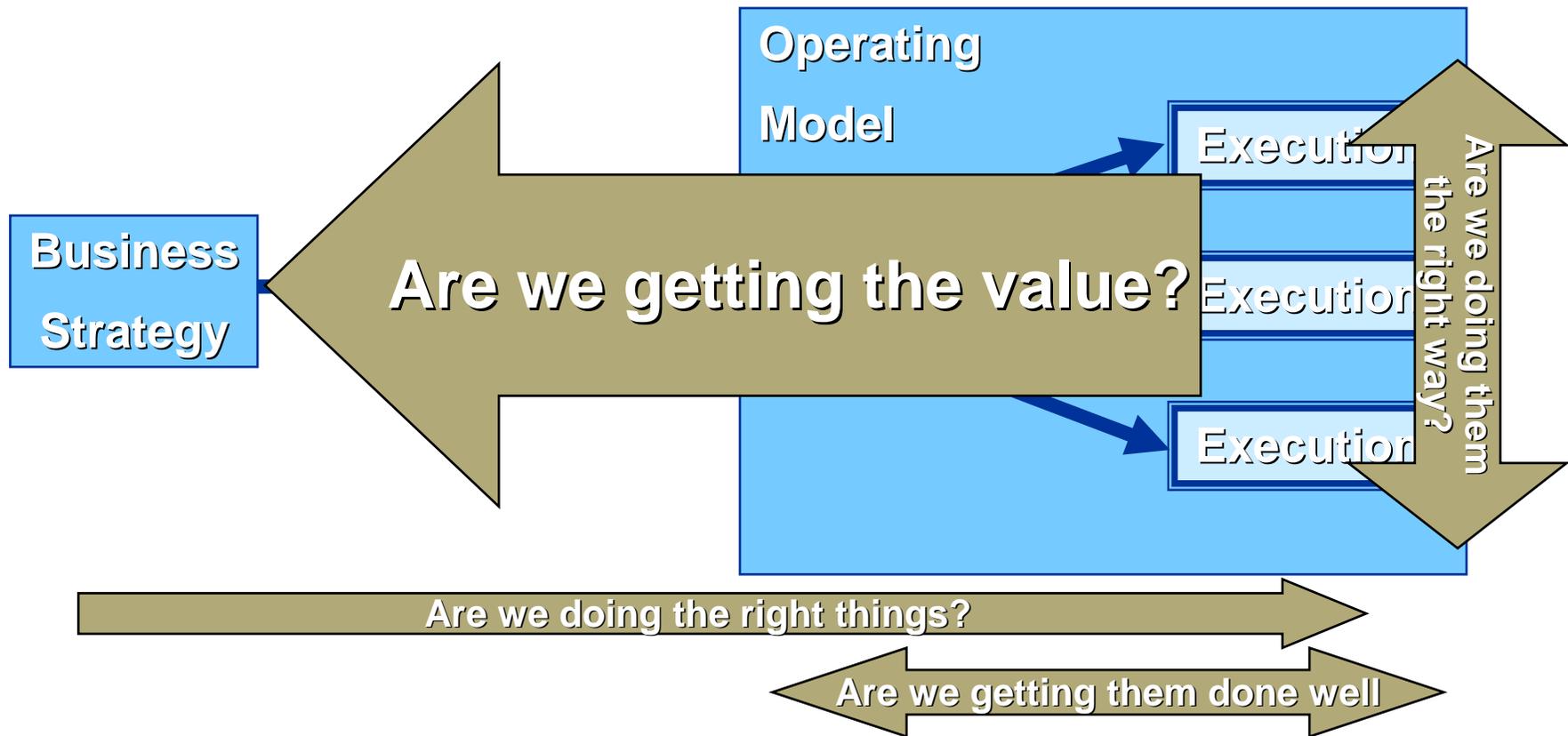
What is the payoff from a structured approach?

MIT Center for Information Systems Research (CISR) found

Firms with focused strategies and above-average IT governance capabilities had more than 20% higher profits than other firms following the same strategies.

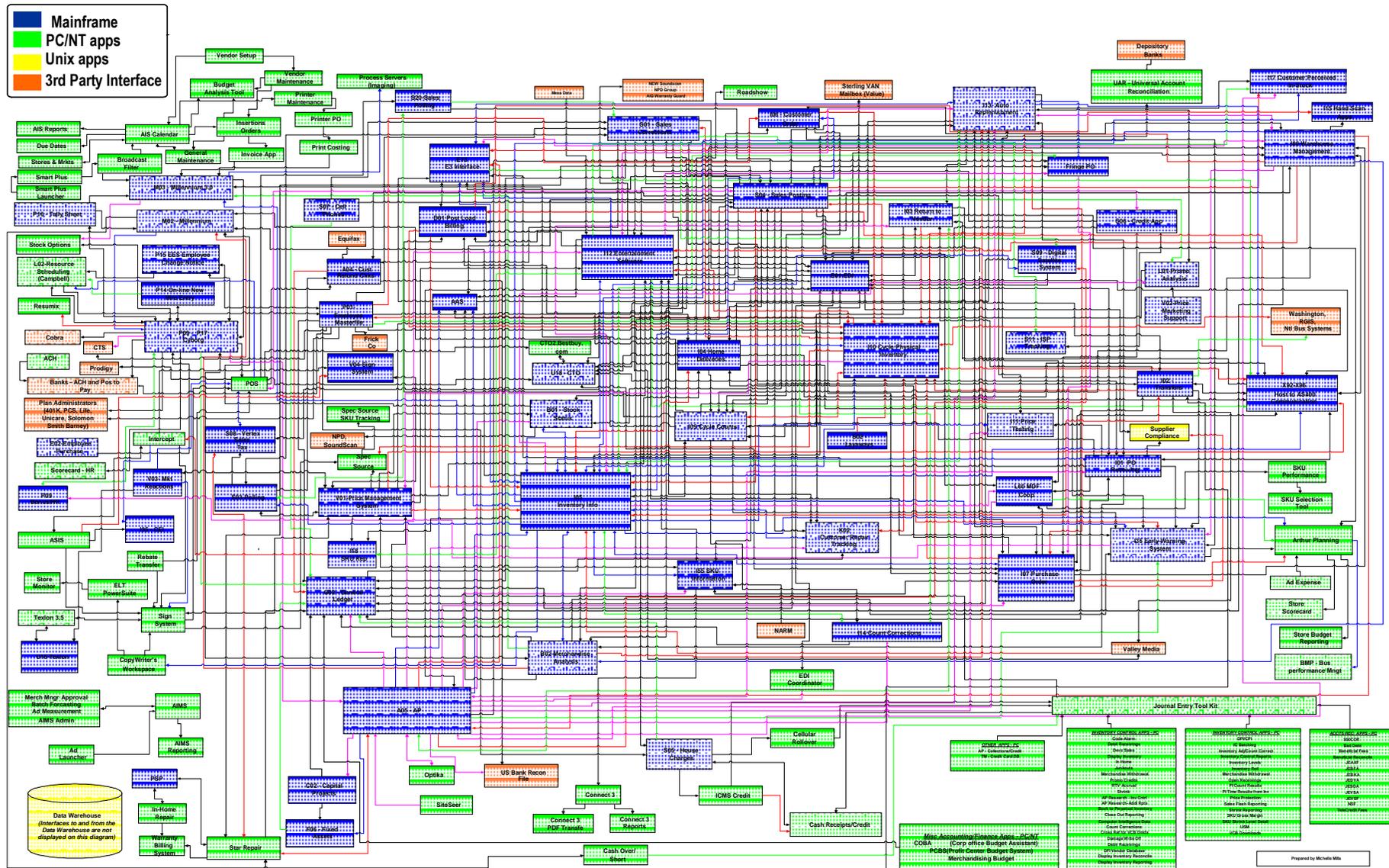


Coordinated vs. Fractured Execution



Organisations need strong governance and communications processes to ensure strategic alignment of both architecture and requirements

The Problem is ...you're dealing with this



Integrated Enterprise Architecture & Portfolio Management is recognised industry wide by organisations like:



Val IT allows business managers to get business value from IT investments, by providing a **governance framework** that consists of a set of guiding principles, and a number of processes conforming to those principles that are further defined as a set of key management practices.

The major domains are:

1. Value Governance (VG prefix)
2. Portfolio Management (PM prefix)
3. Investment Management (IM prefix)

The TOGAF Architecture Development Method (ADM) provides a tested and repeatable process for developing architectures. All of these activities are carried out within an iterative cycle of continuous architecture definition and realisation **that allows organisations to transform their enterprises in a controlled manner in response to business goals and opportunities**



The Seven Principles of Val IT™



IT-enabled investments will:

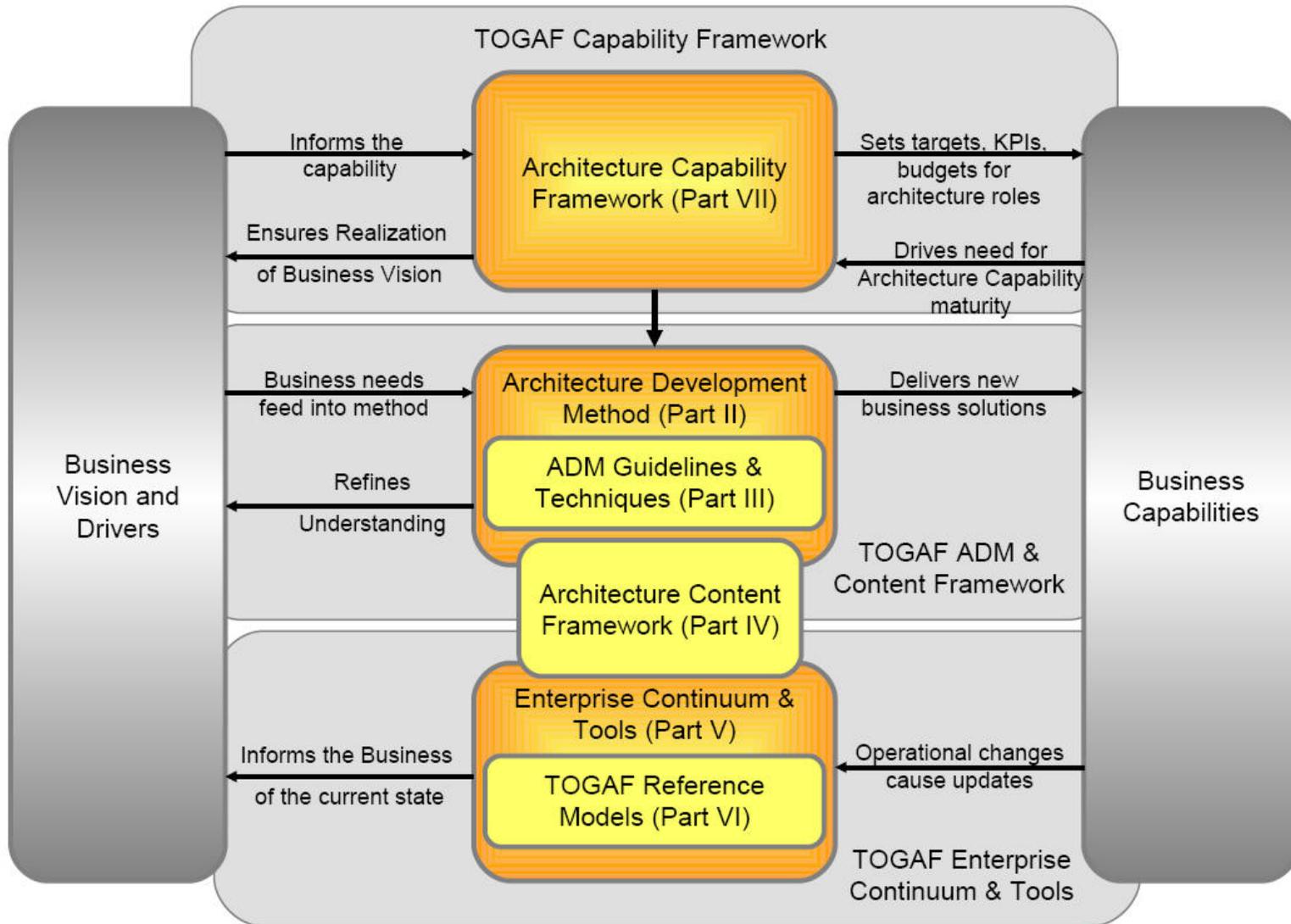
1. Be managed as a **portfolio** of investments
2. Include the **full scope** of activities required to achieve business value
3. Be managed through their **full economic life cycle**

Value delivery practices will:

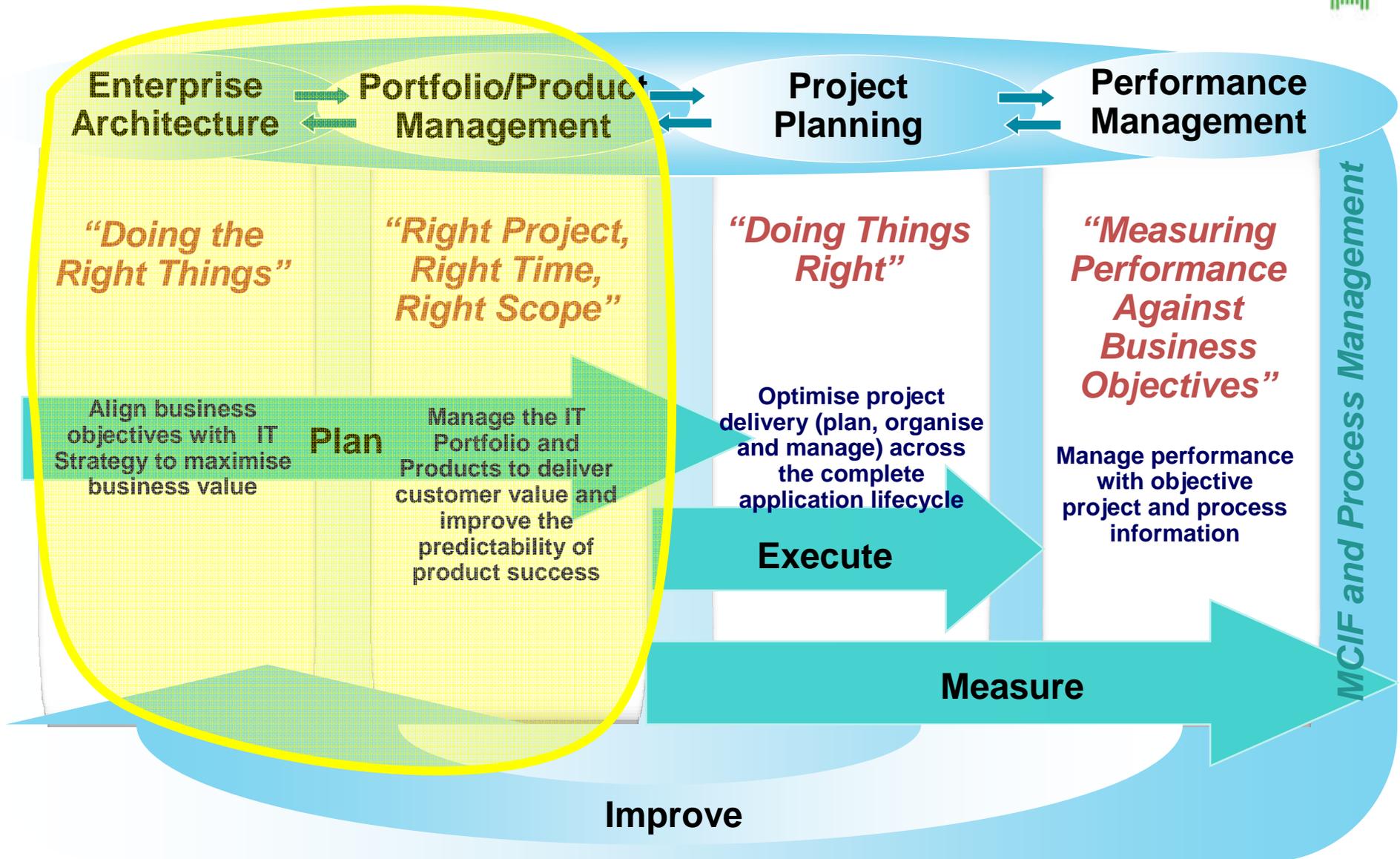
4. Recognise **different categories** of investments to be evaluated and managed differently
5. **Define and monitor key metrics** and respond quickly to any changes or deviations
6. Engage all stakeholders and assign **appropriate accountability** for delivery of capabilities and realisation of business benefits
7. Be **continually monitored, evaluated and improved**



TOGAF - Translating Business Drivers into Capabilities



Keys to optimising software and systems investments





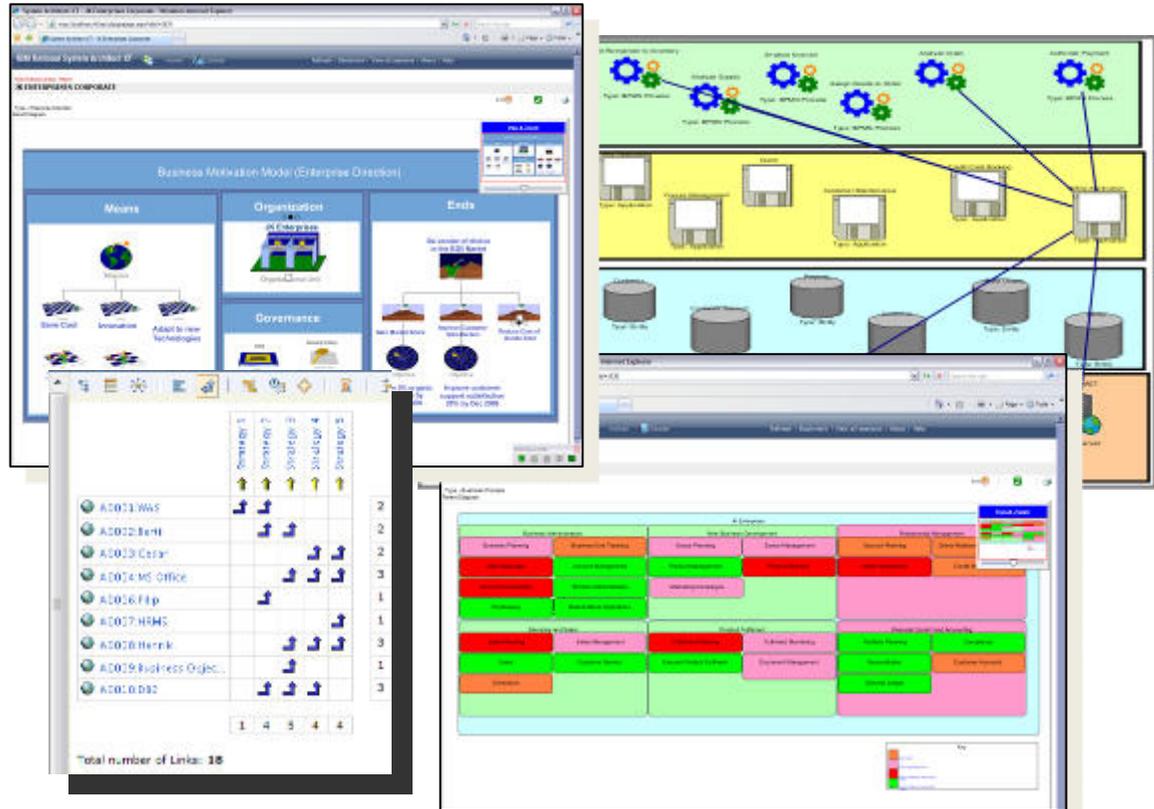
Align business objectives with IT Strategy

Understanding the complexities and inter-relationships of various stakeholders and technologies



The Innovation:

Enterprise architecture management solutions allow organisations to model the current and future state across multiple business and technology dimensions, interconnect them, and understand the impact of change



Map
Strategic Objectives to IT Resources and Solutions



Model
Develop and analyse scenarios of future states.



Monitor
Changes and effects during execution

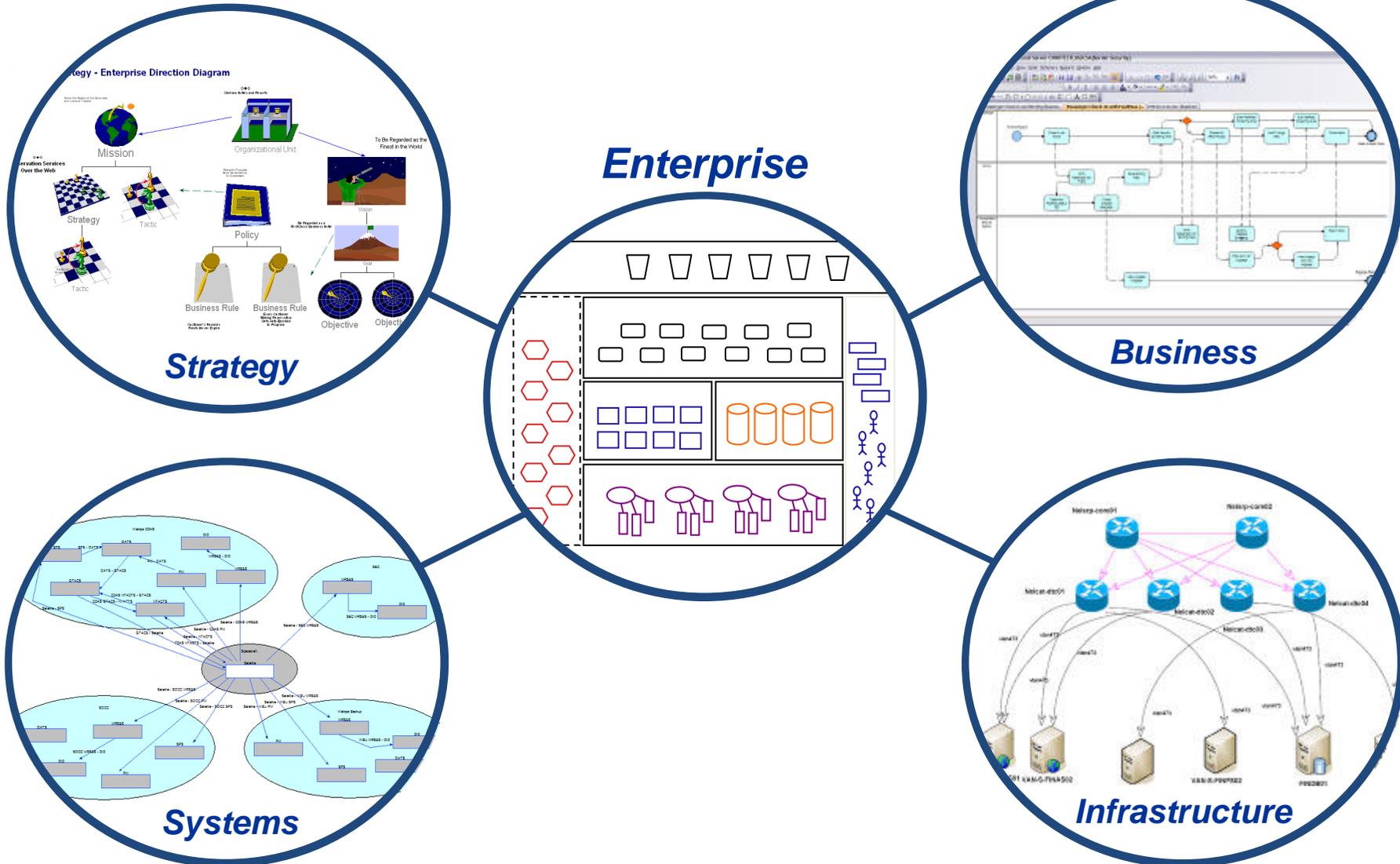


The Benefits:

- Faster, better-informed, strategic and tactical decisions
- Improved risk management of transformation
- Increased efficiency and reduced cost through consolidation



Enterprise Architecture





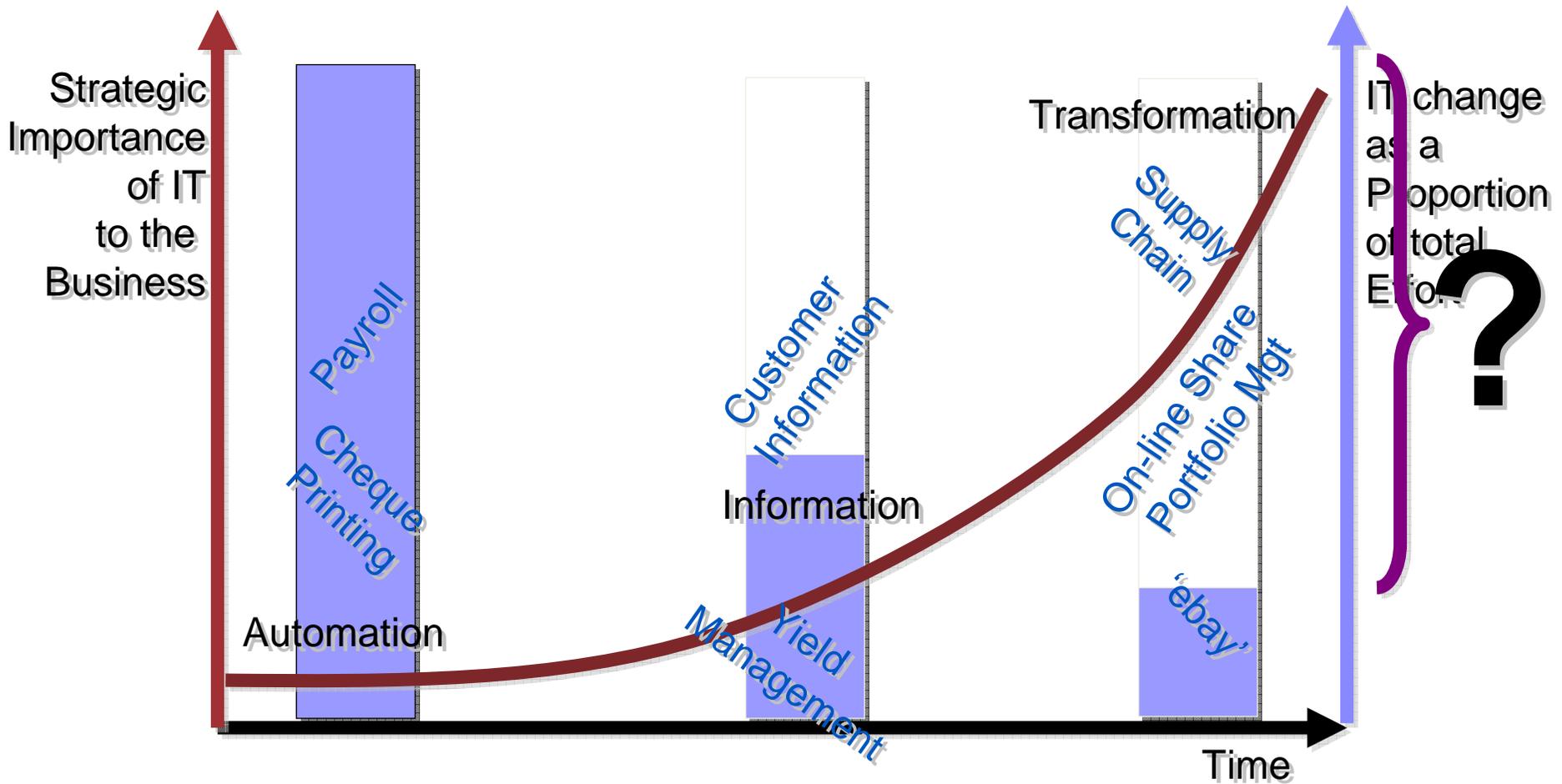
Where Does Value Come From?

- Value is not inherent in the technology itself
- Technology only provides a capability
- Value is realised when things are applied and managed in concert
 - Business Strategy
 - Business Processes
 - Organisational Structure
 - Technology
- So, the application is only part of the solution
 - Changes to many parts of the enterprise must be modelled, planned and documented



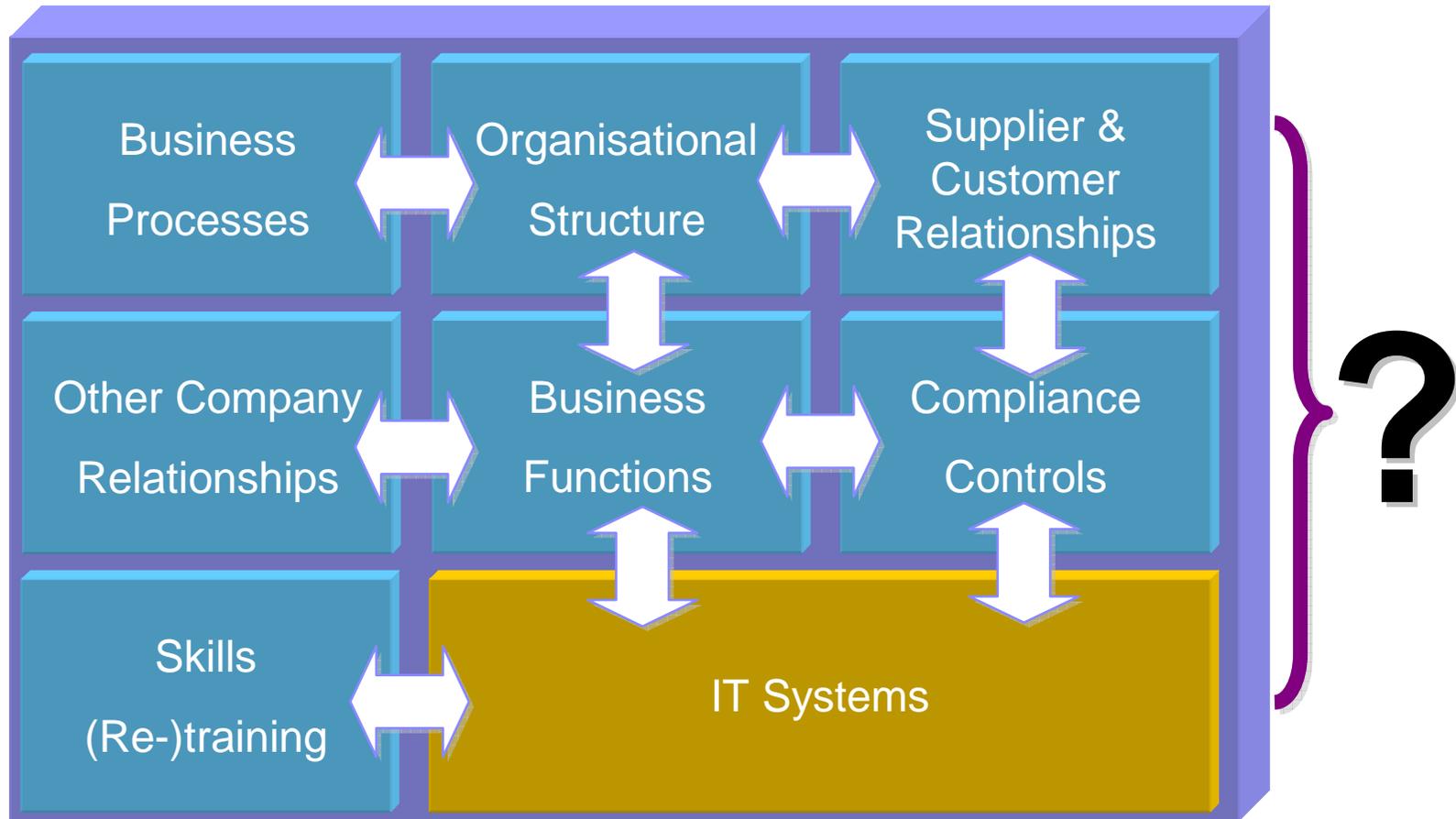


The Evolving Role of IT





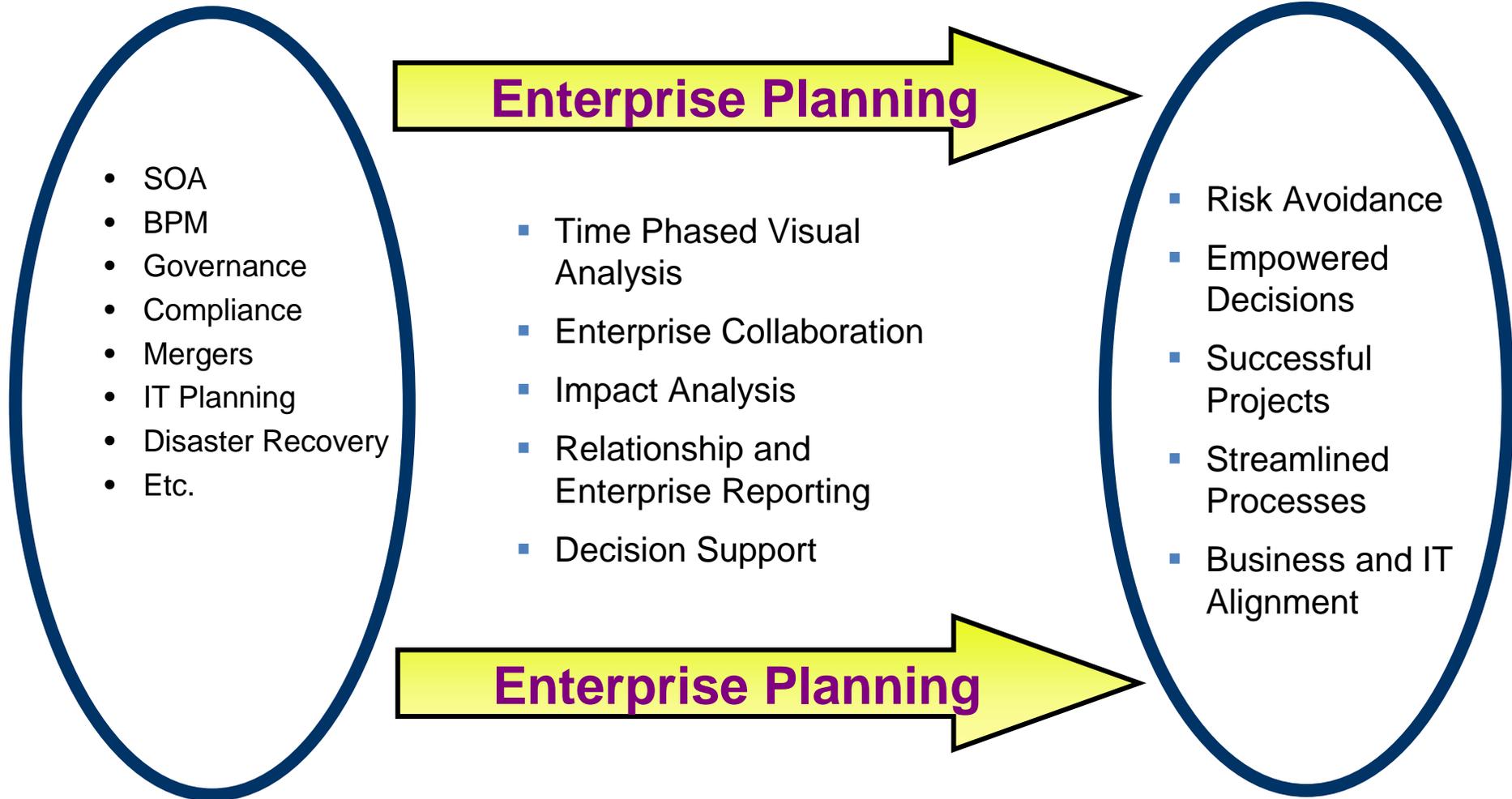
Organisational Transformation



Enterprise Architecture



Enterprise Architecture Gets You There With Confidence





Why Enterprise Architecture? *Enabling Change*

- Knowing that your infrastructure supports your business
 - People
 - Process
 - Applications/Systems
 - Technology
- Knowing how your infrastructure supports your business
- Enabling business change
 - Putting your business on the web
 - Exposing your business processes
 - Mergers and acquisitions
 - Compliance
 - Portfolio management
- Effective communication between all stakeholders



Why Enterprise Architecture?

Answering Hard Questions

- What existing systems provide a particular capability, and how might we reuse them to implemented new initiatives?
- Which applications support which over-the-counter business processes?
- What is the impact on particular business processes if a server or platform is down?
- How can we reduce the operating risk to the business relating to the unforeseen impact of changes on systems (and therefore business processes)?
- How can I conduct a definitive impact analysis on the current environment affected by current change programmes?



Why Enterprise Architecture?

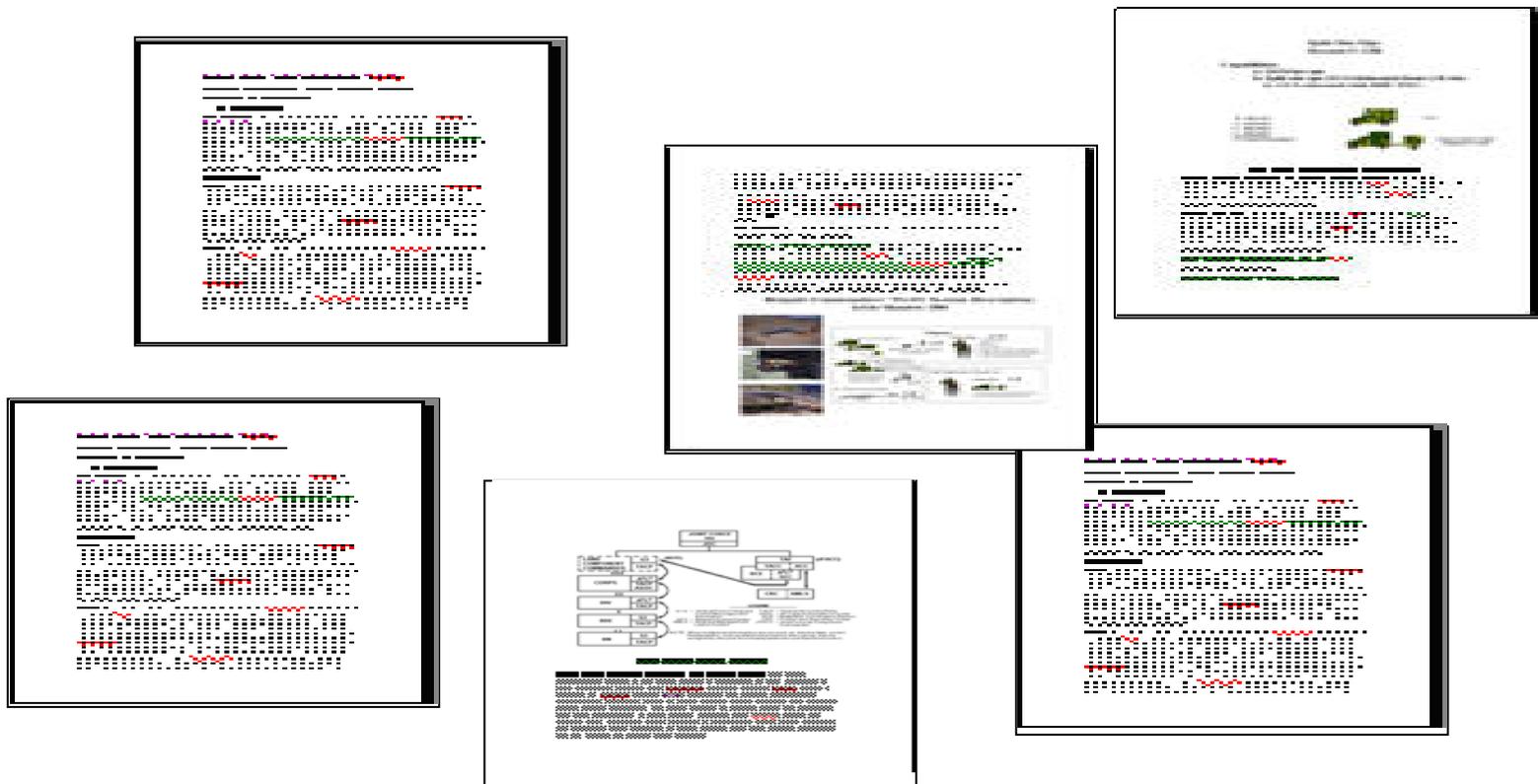
Addressing Inefficiencies

- Systems and applications are being maintained but support no business process.
- Business Processes exist with no technology to support them.
- Systems and applications are being built that don't meet end users needs.
- Data that could be centralised in one system or application is being replicated across several systems and applications.
- Systems that should interoperate do not.
- Compliance with Sarbanes Oxley, BASEL II



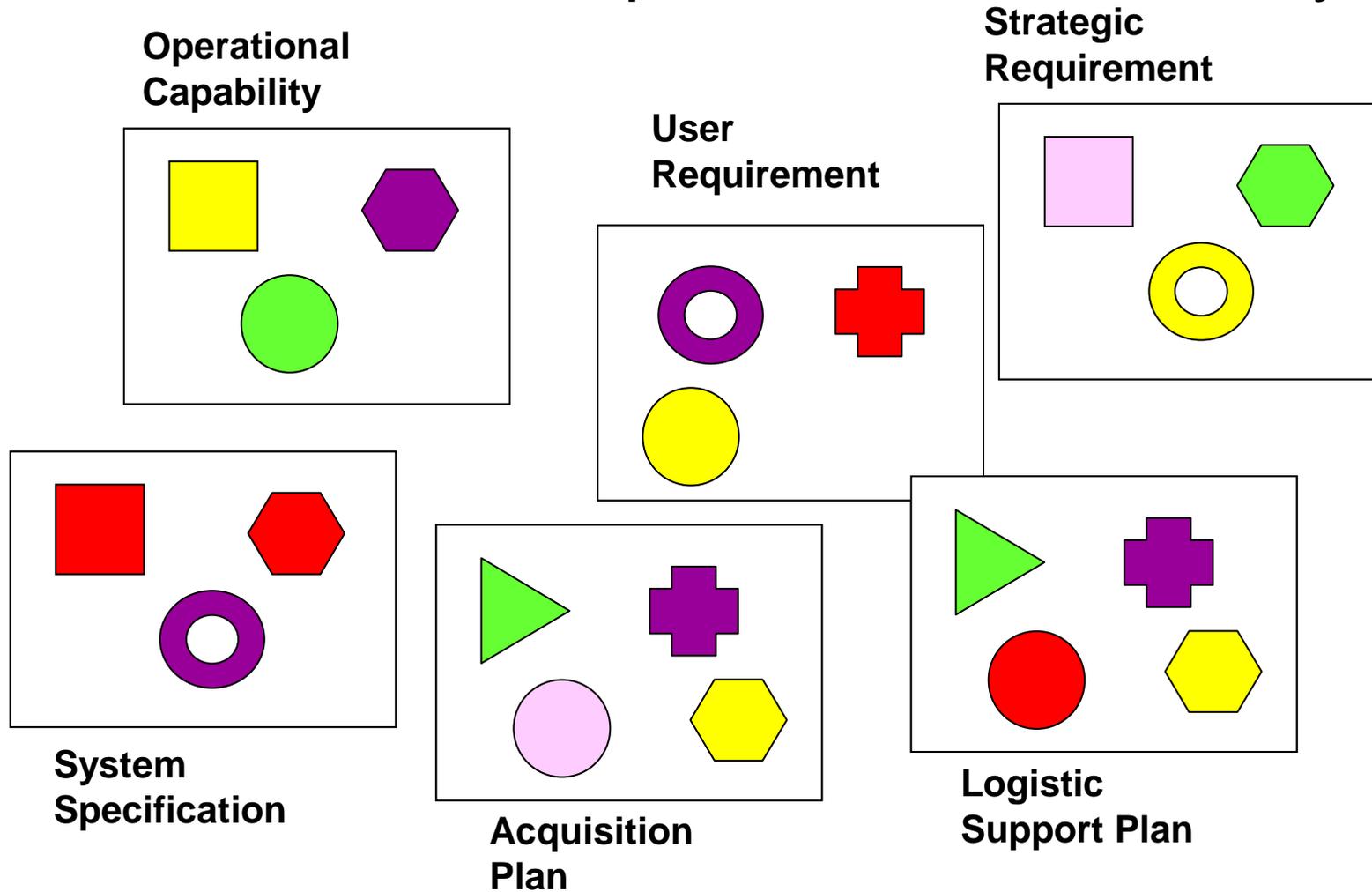


Stand-alone documents often mix model elements and viewpoints in different ways





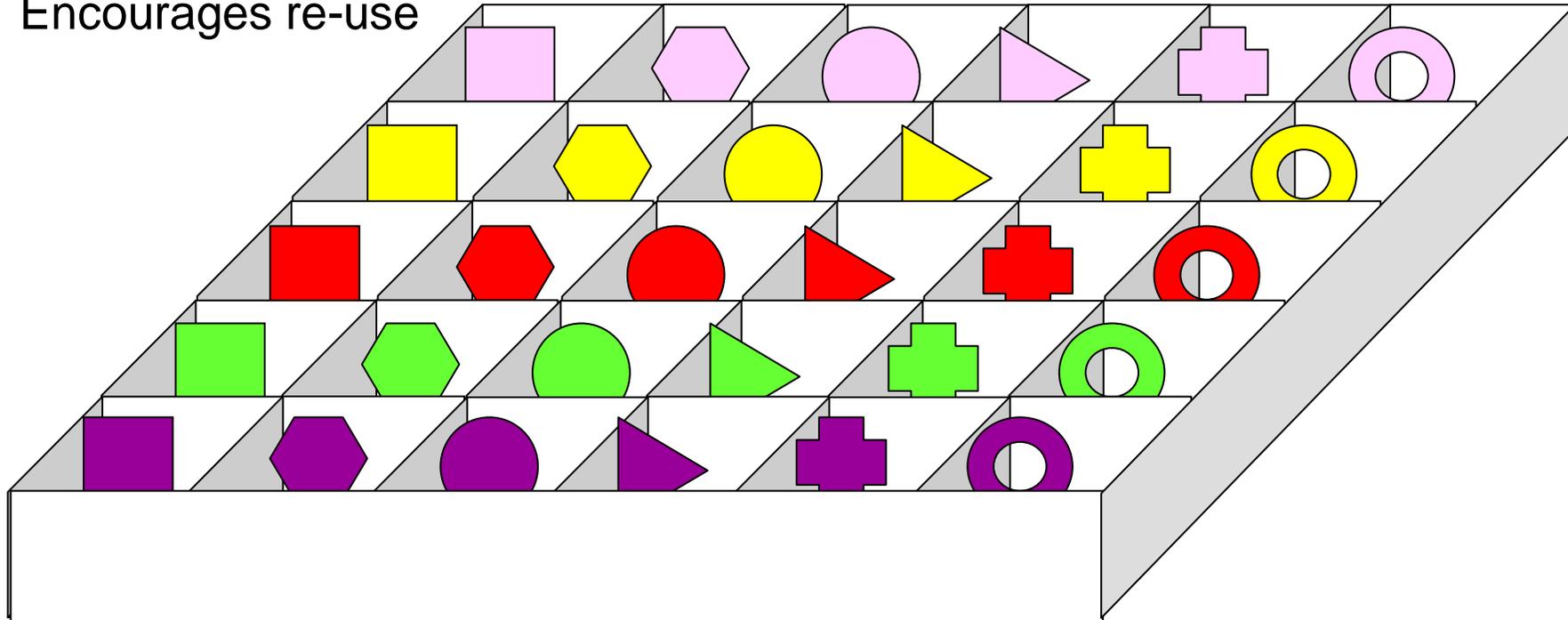
Stand-alone documents often mix model elements and viewpoints in different ways





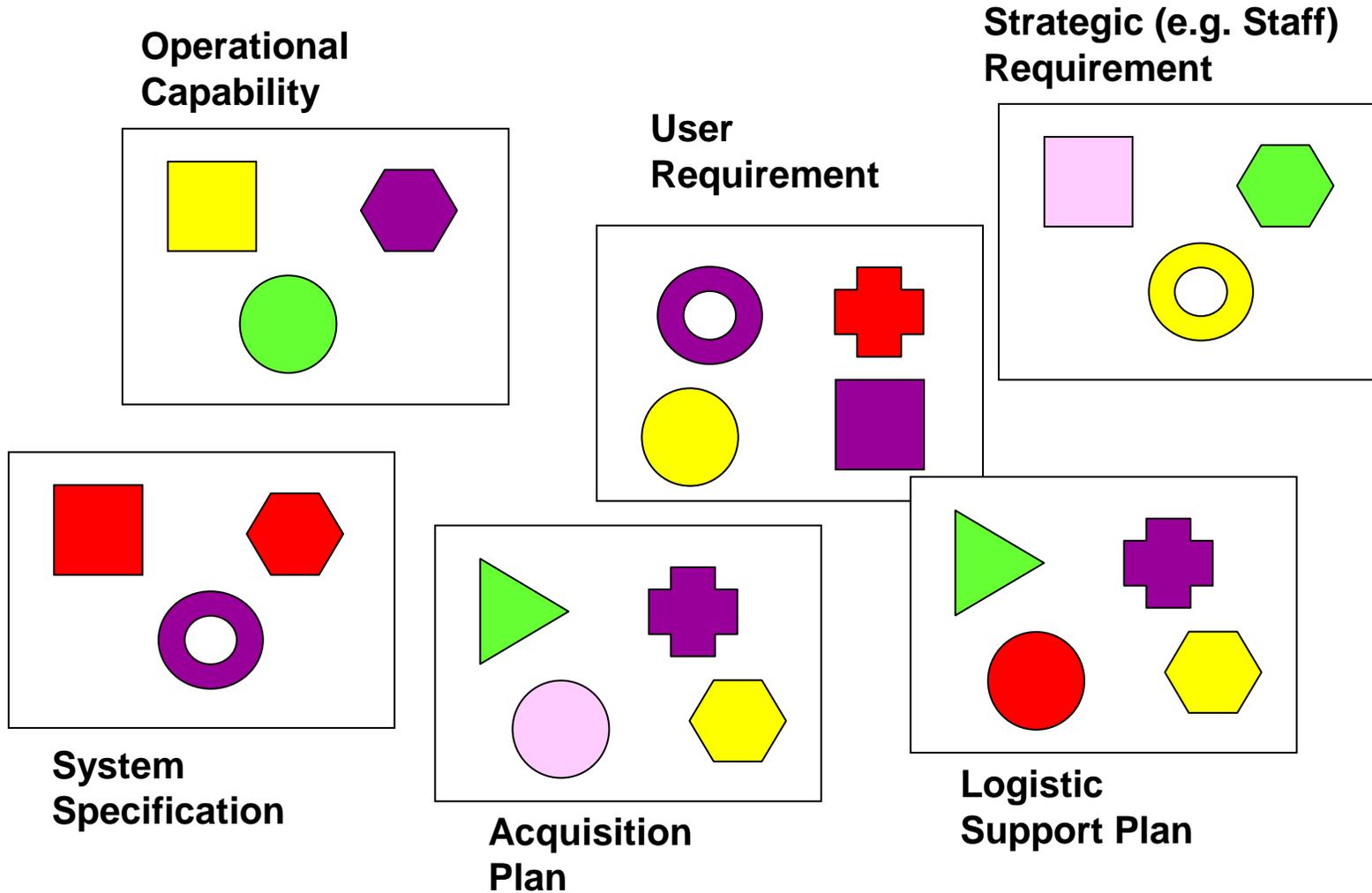
A Framework provides a standard way of categorising model elements

- Helps to identify overlaps, gaps, conflicts
- Encourages re-use





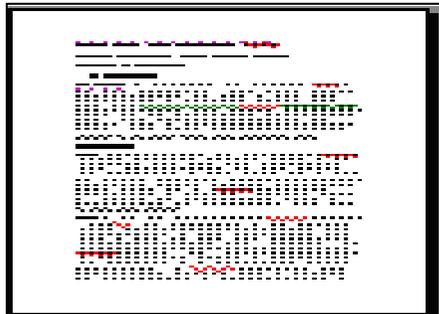
Consistent documents can be generated from a Framework-based architecture





Consistent documents can be generated from a Framework-based architecture

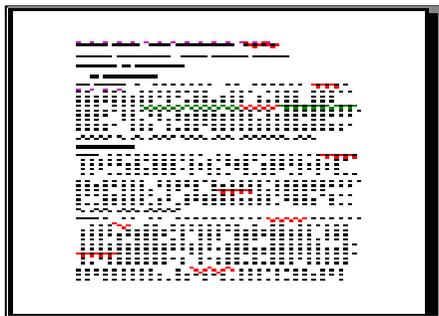
Operational Capability



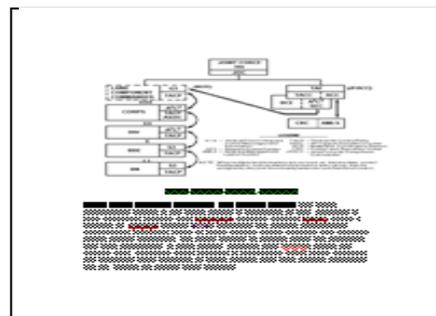
Strategic (e.g. Staff) Requirement



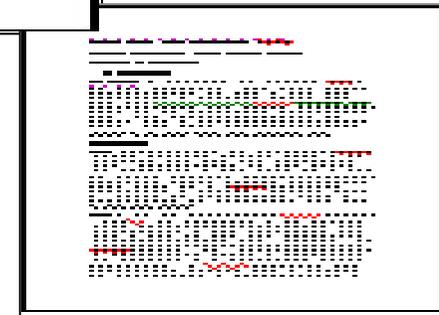
User Requirement



System Specification



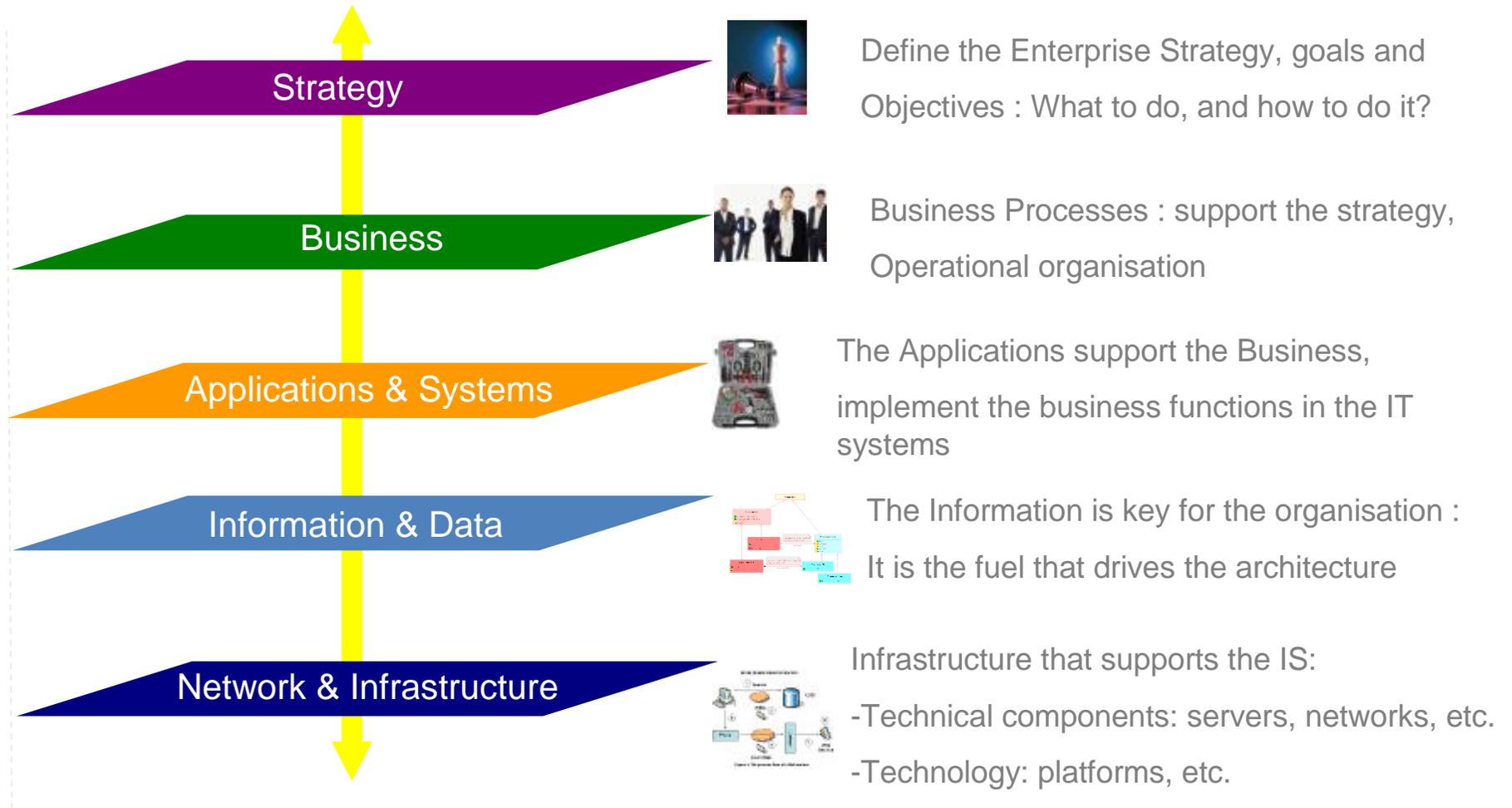
Acquisition Plan



Logistic Support Plan



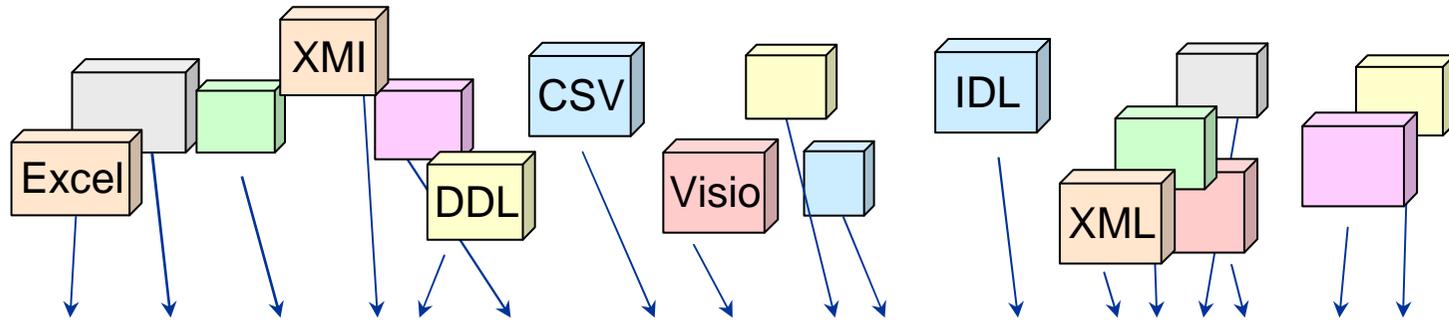
Enterprise Architecture



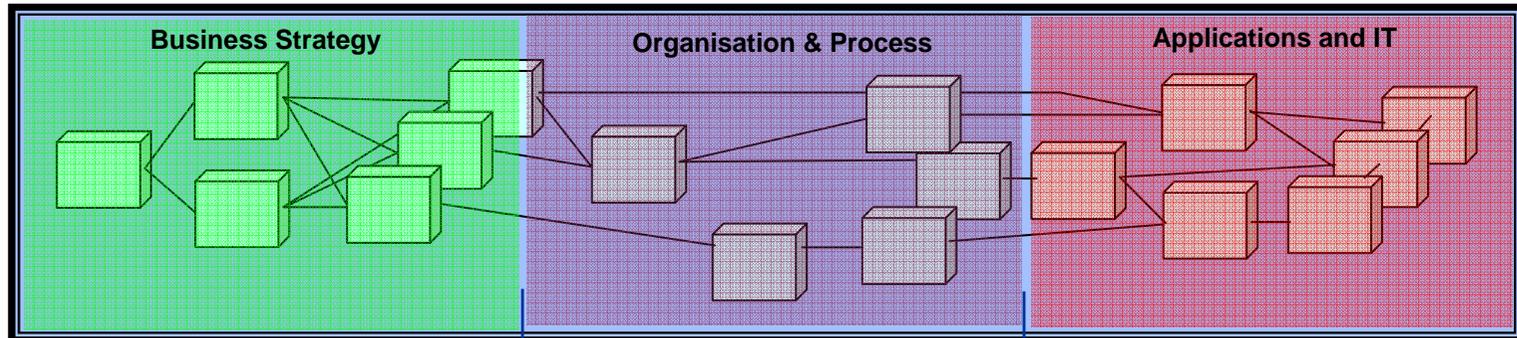


The System Architect Lifecycle

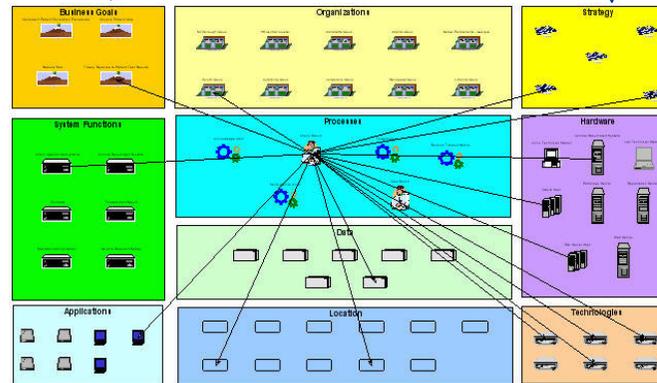
Disparate
Data
is Imported,



Structured,
Linked and
Traced,

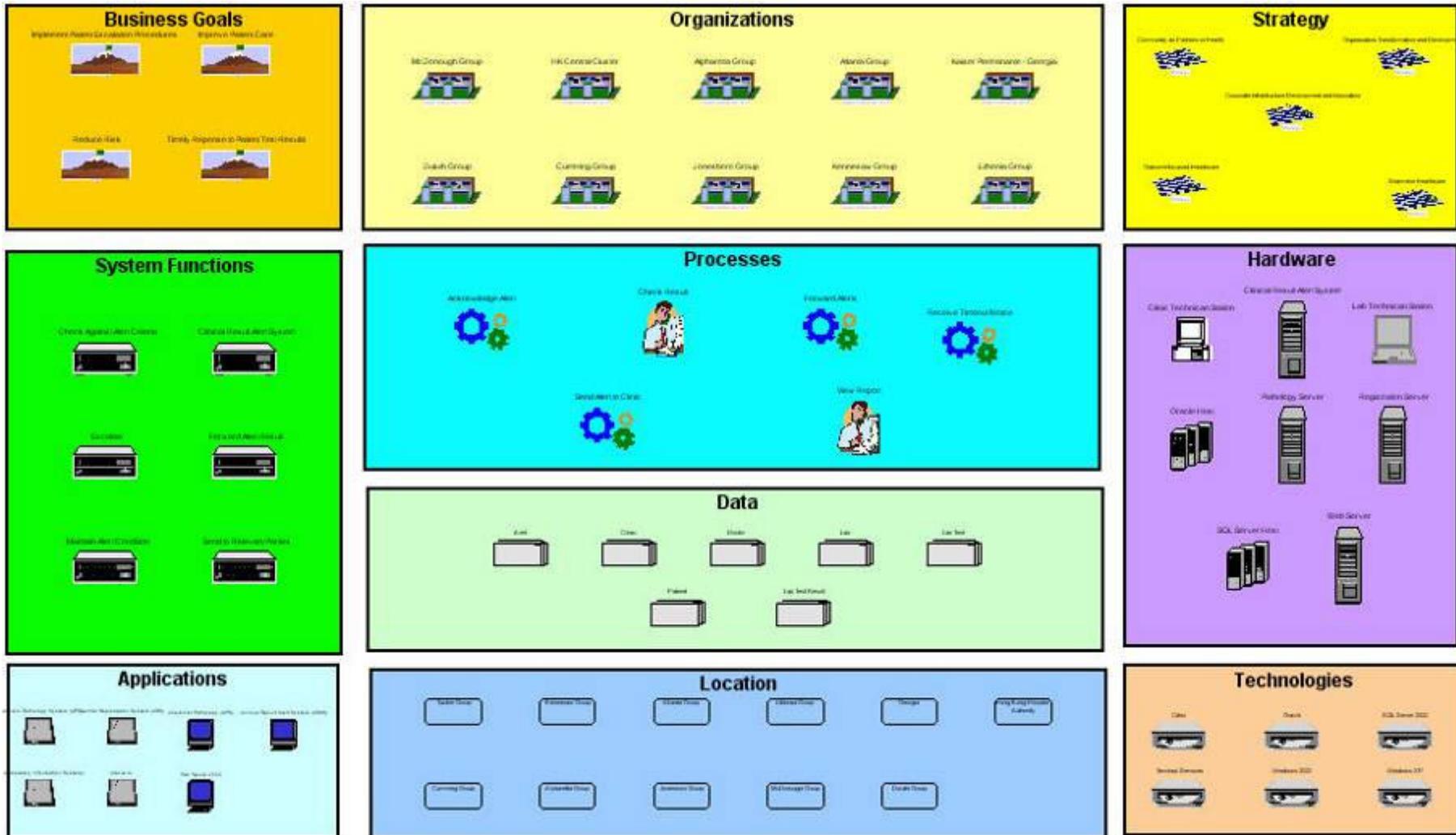


To Produce
Reports of
Managed
Information



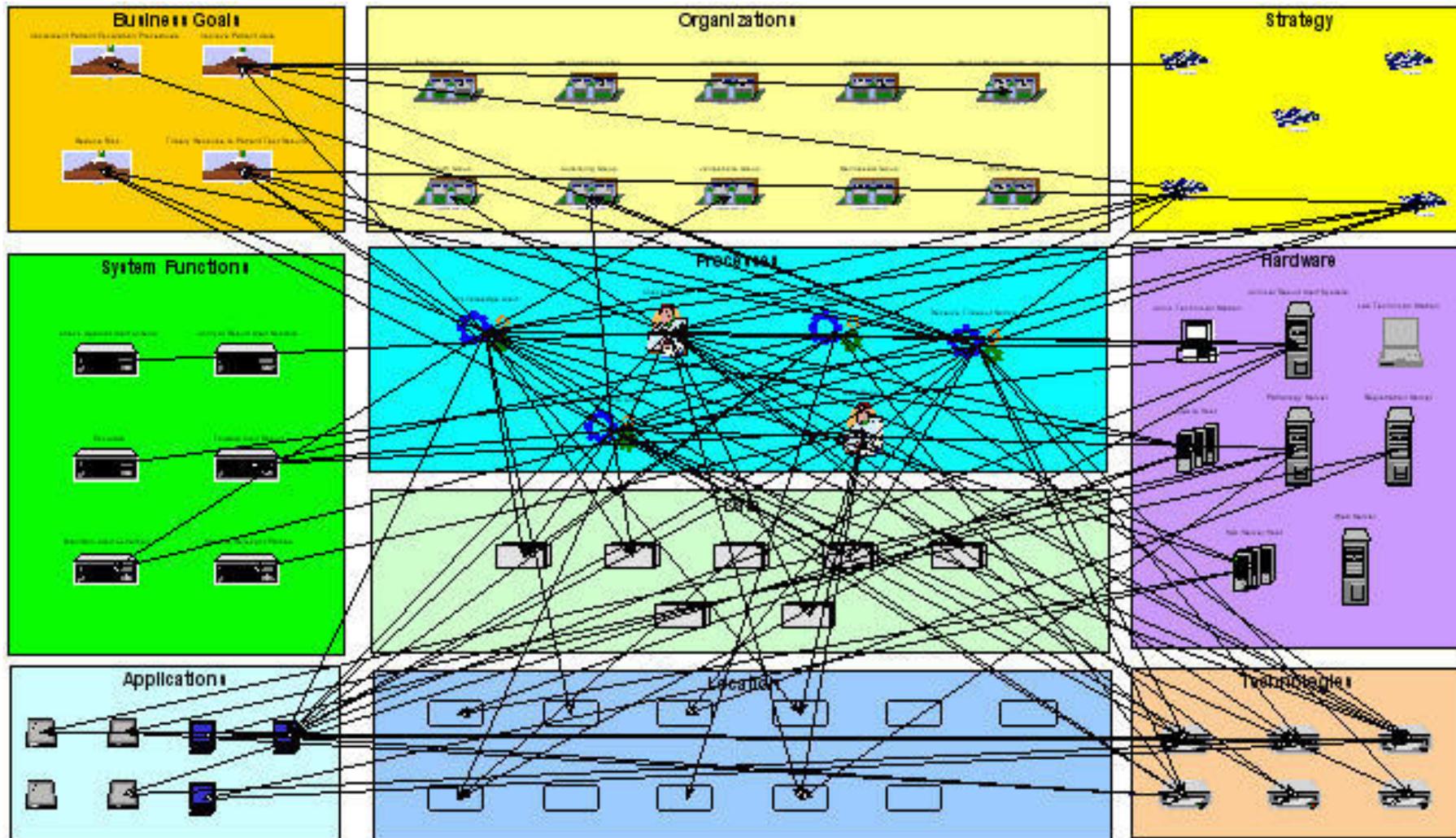


The Multiple Dimensions of the Organisation



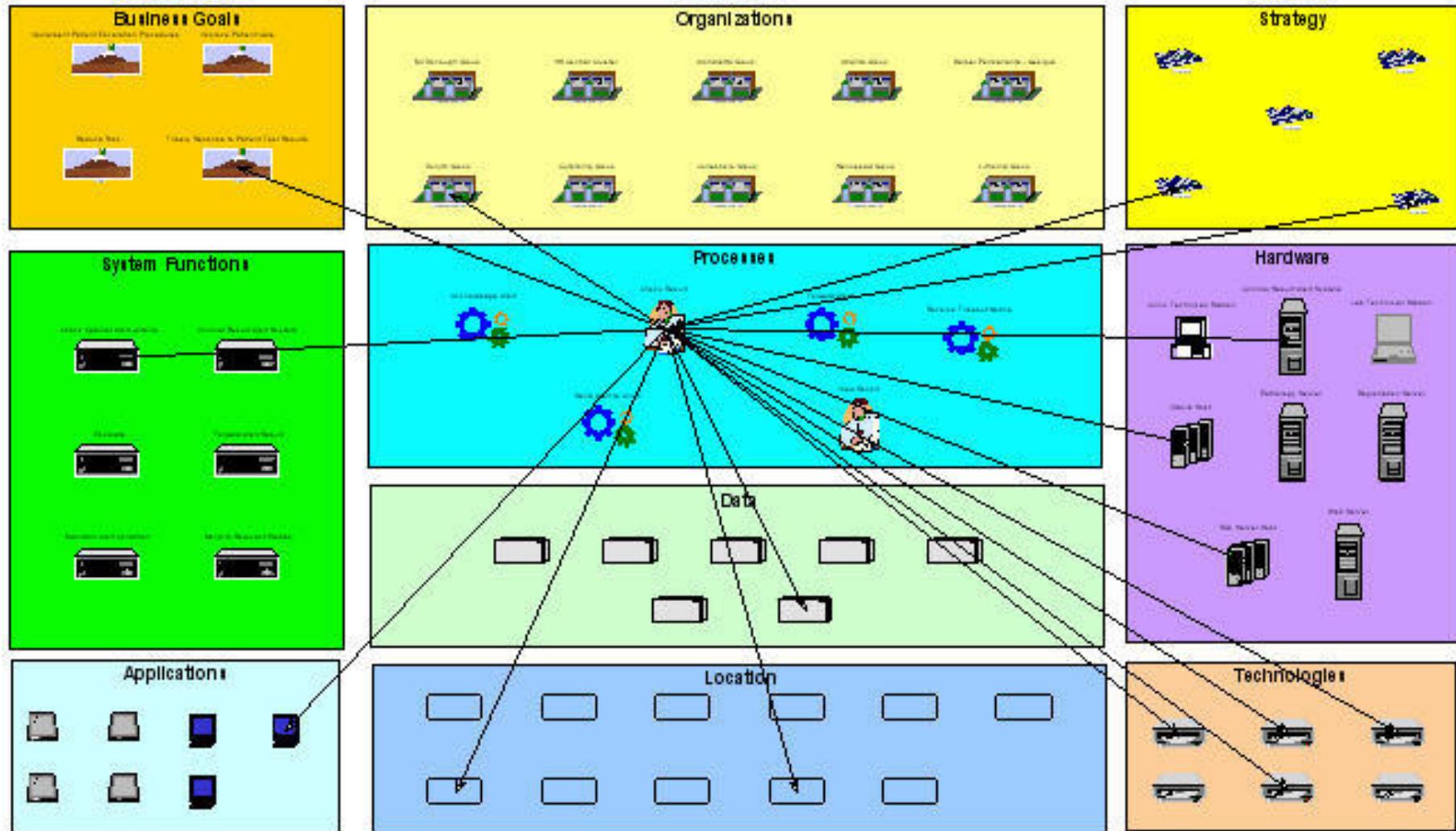


Many Organisations Today

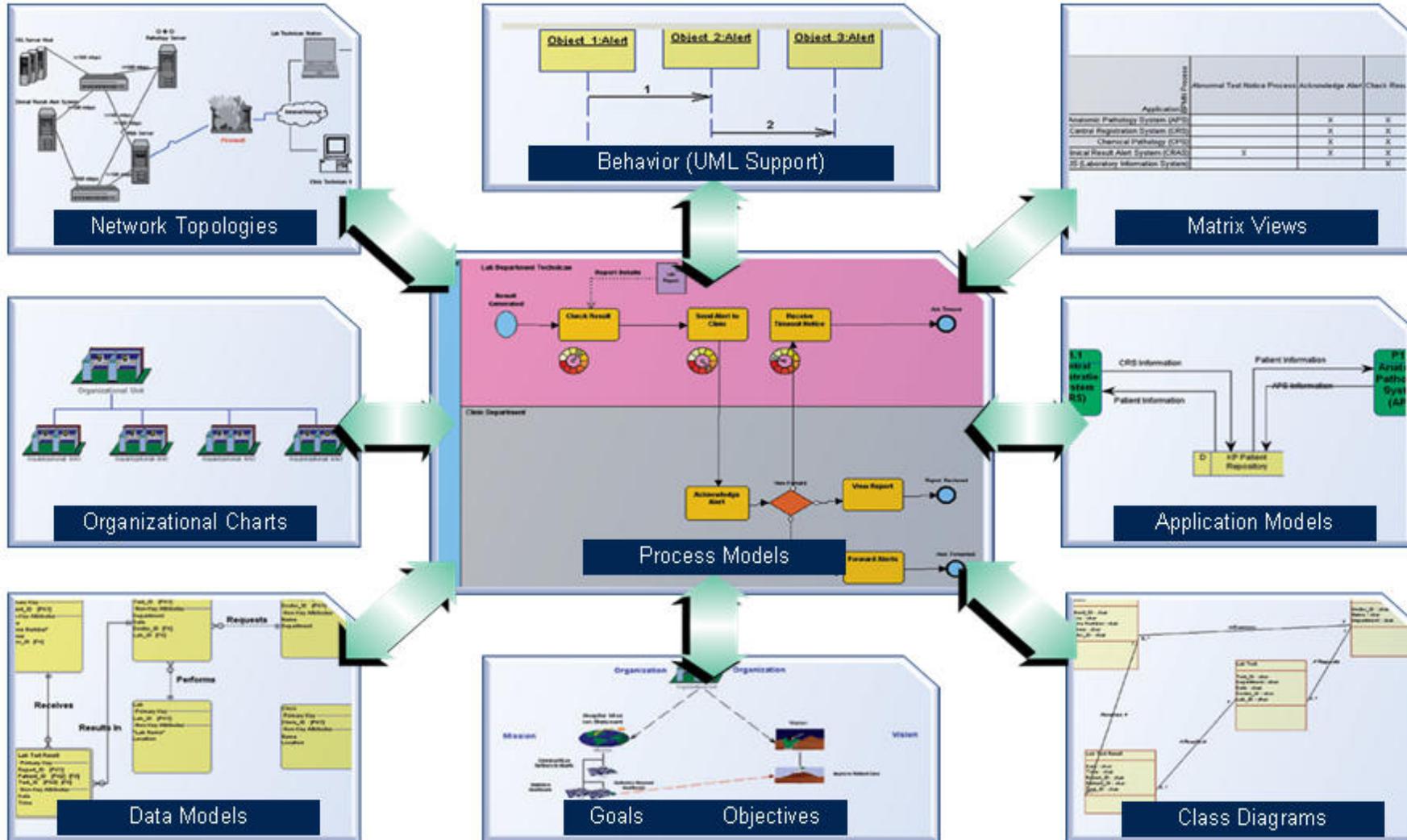




Organisations with Successful EA Programs

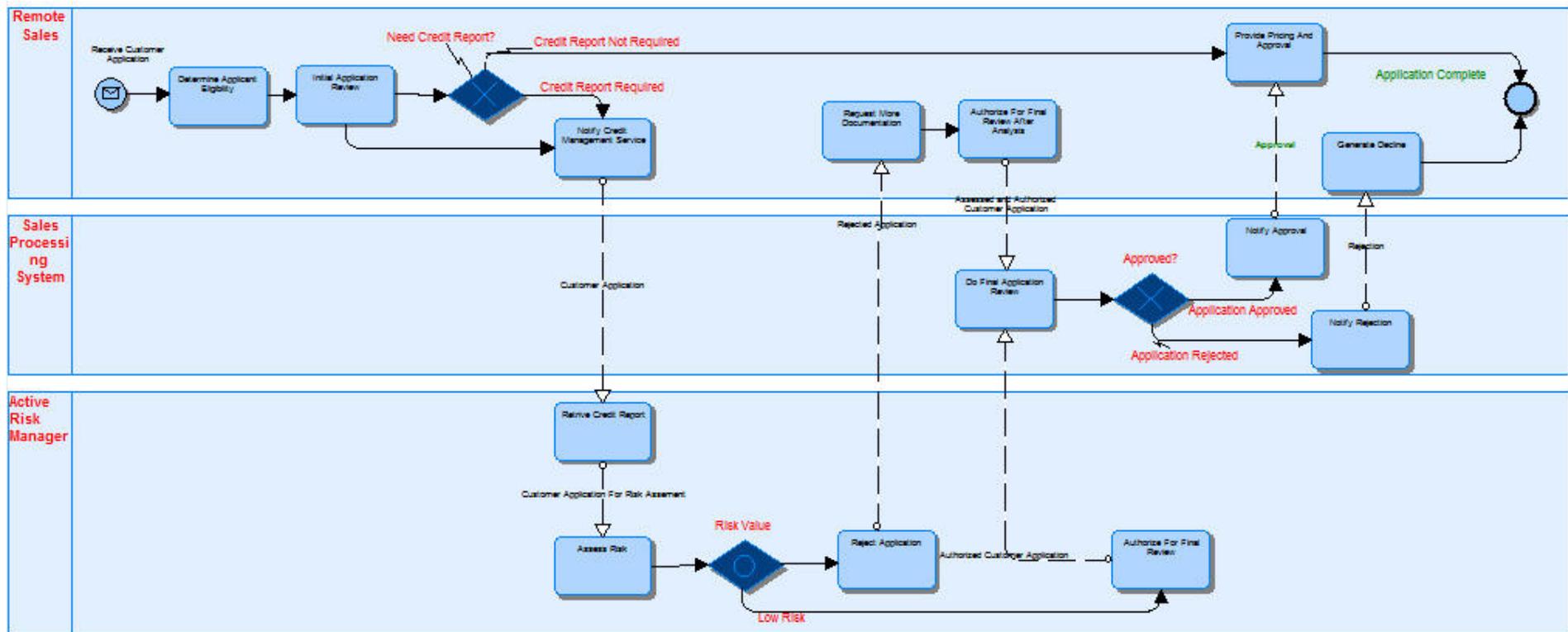


Capture and Model all Domains of the Organisation

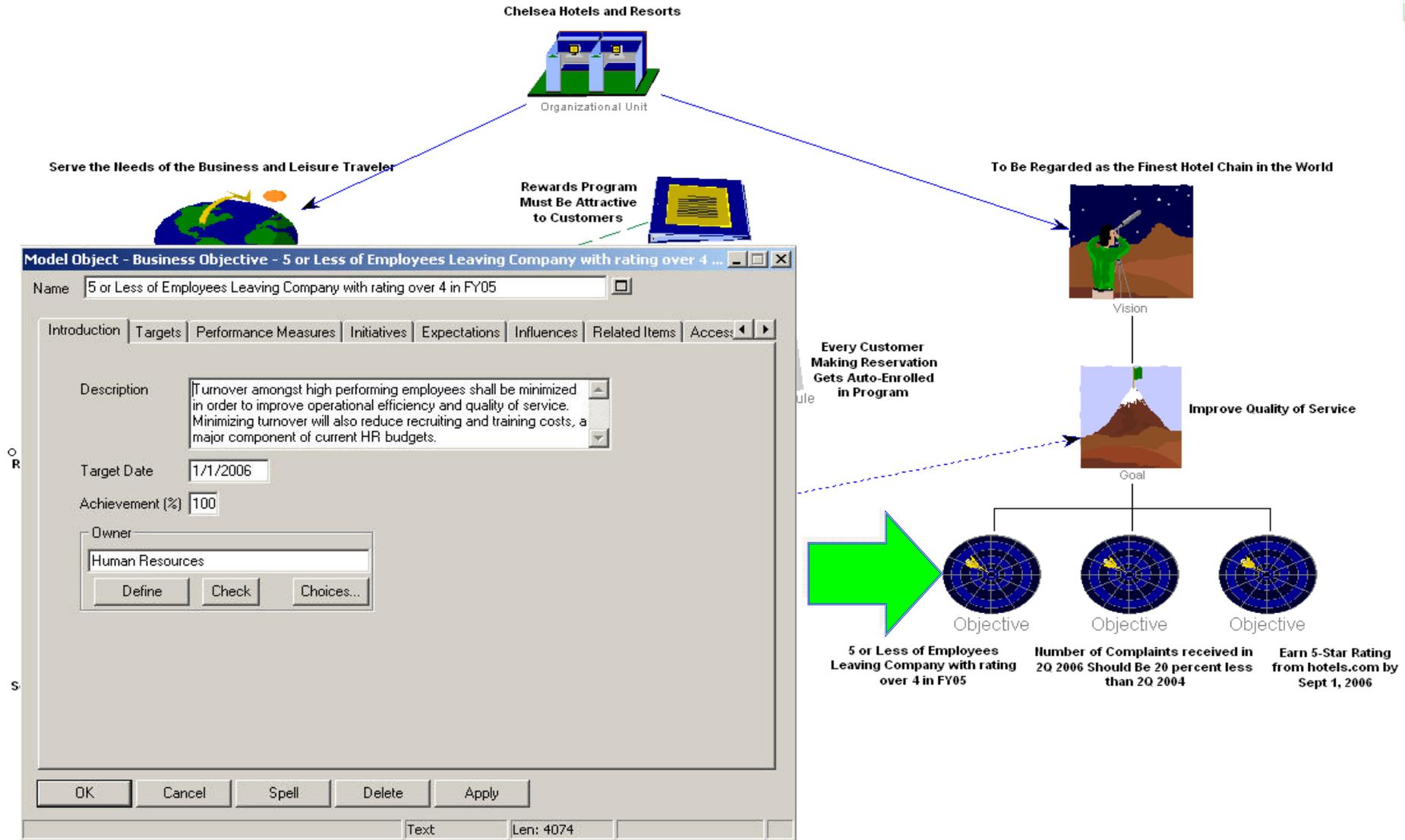




Capture and Model all Domains of the Organisation

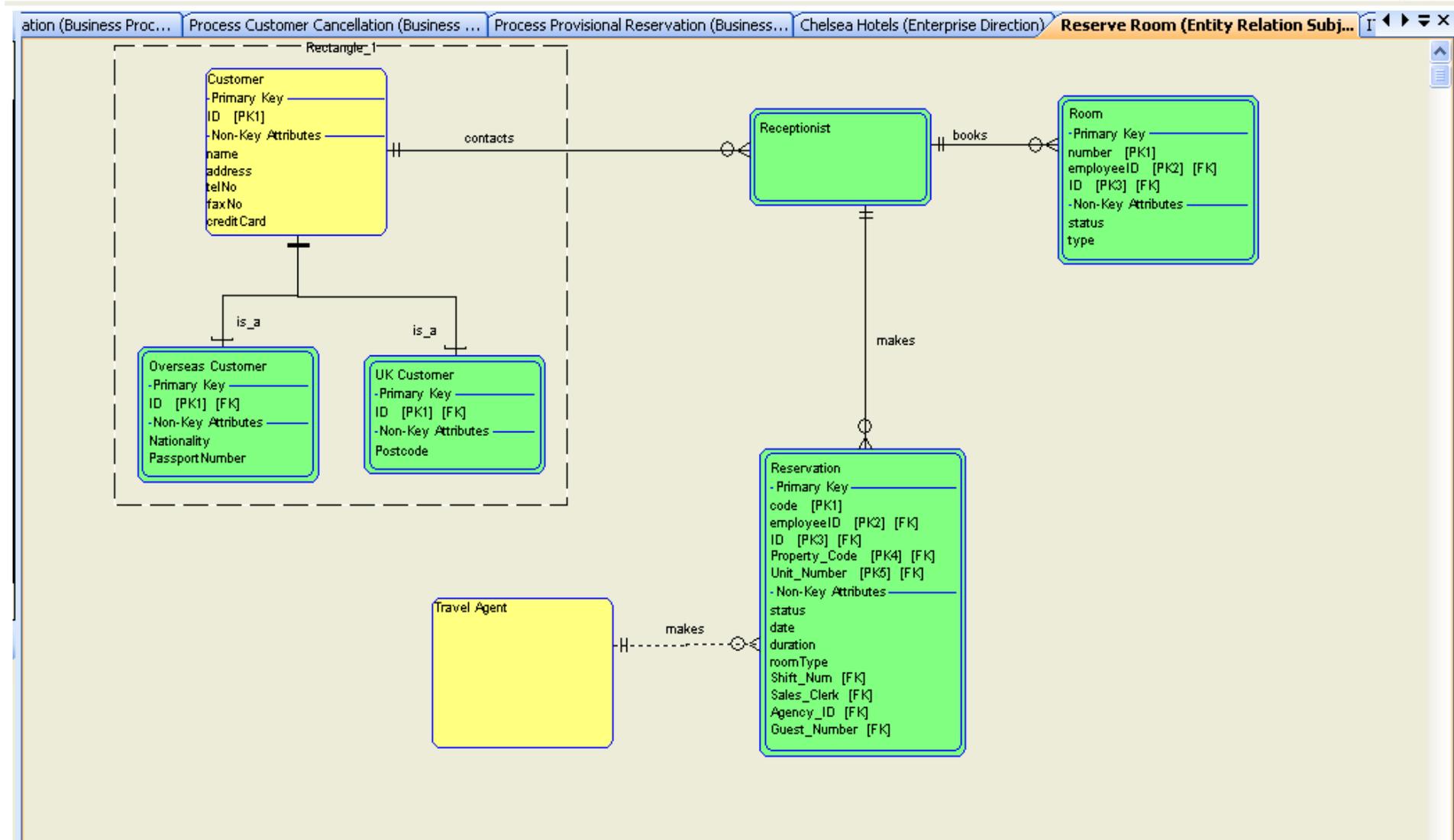


Visualise Goals and Objectives



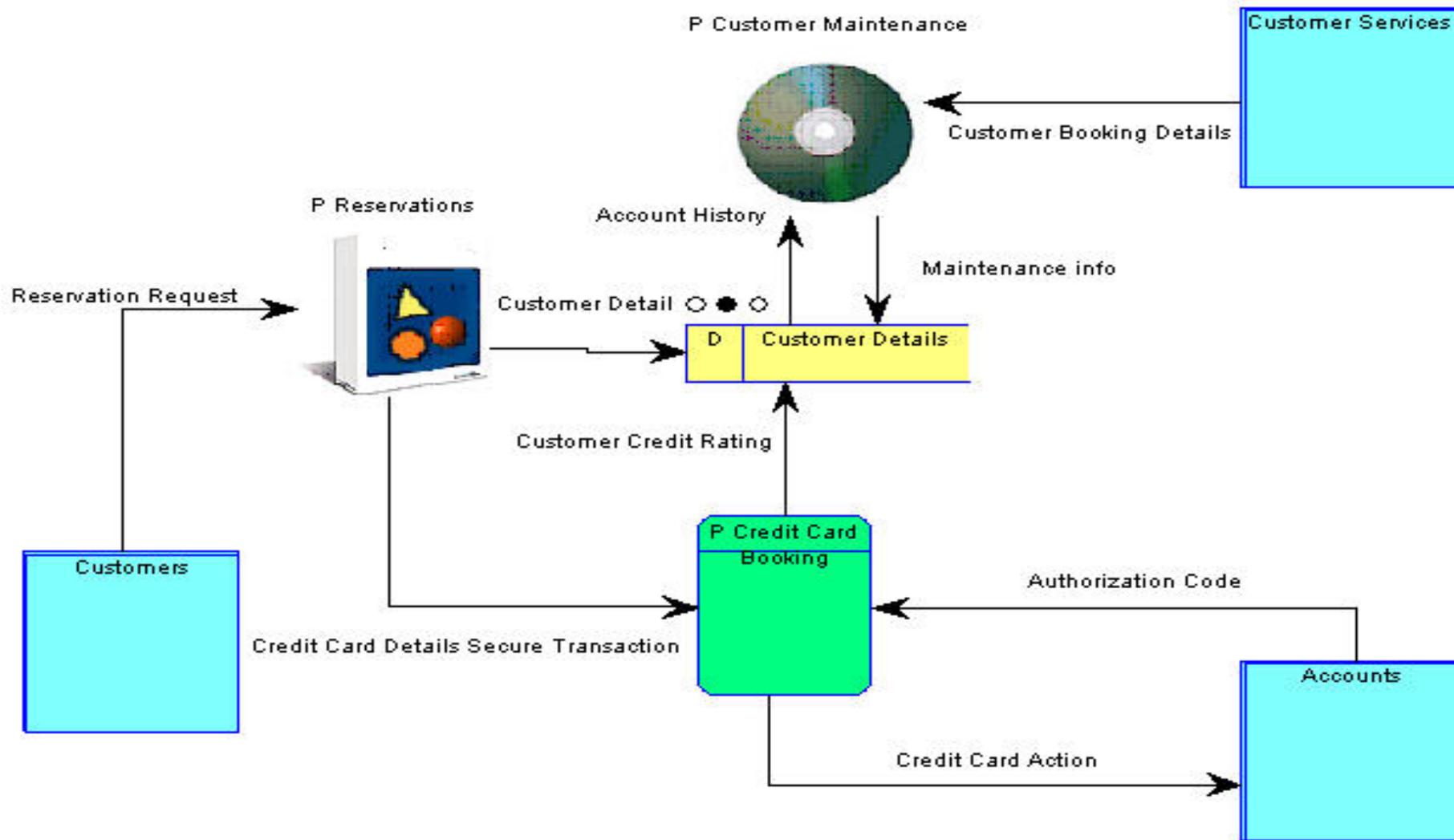


Capture and Model all Domains of the Organisation



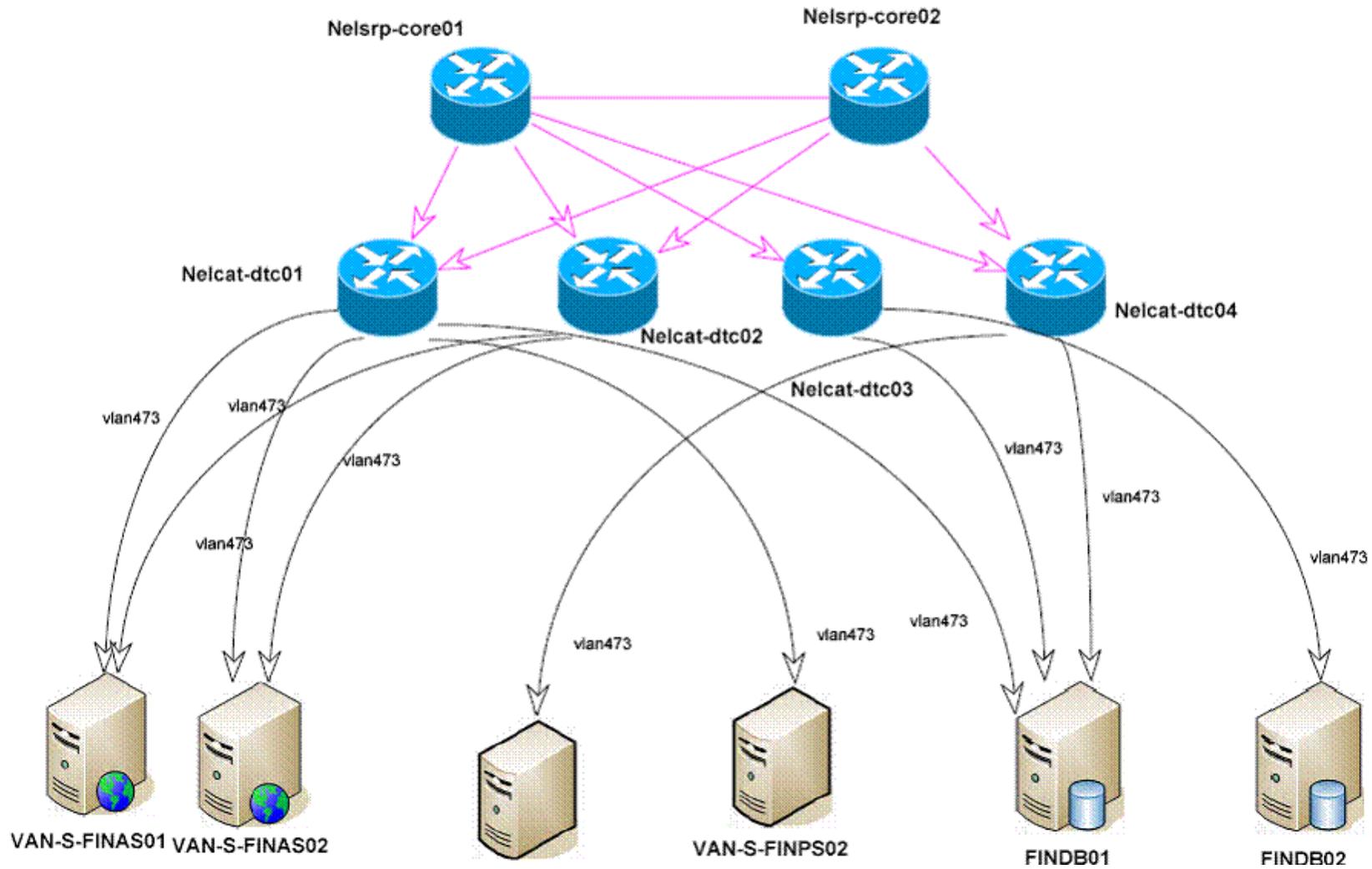


Capture and Model all Domains of the Organisation





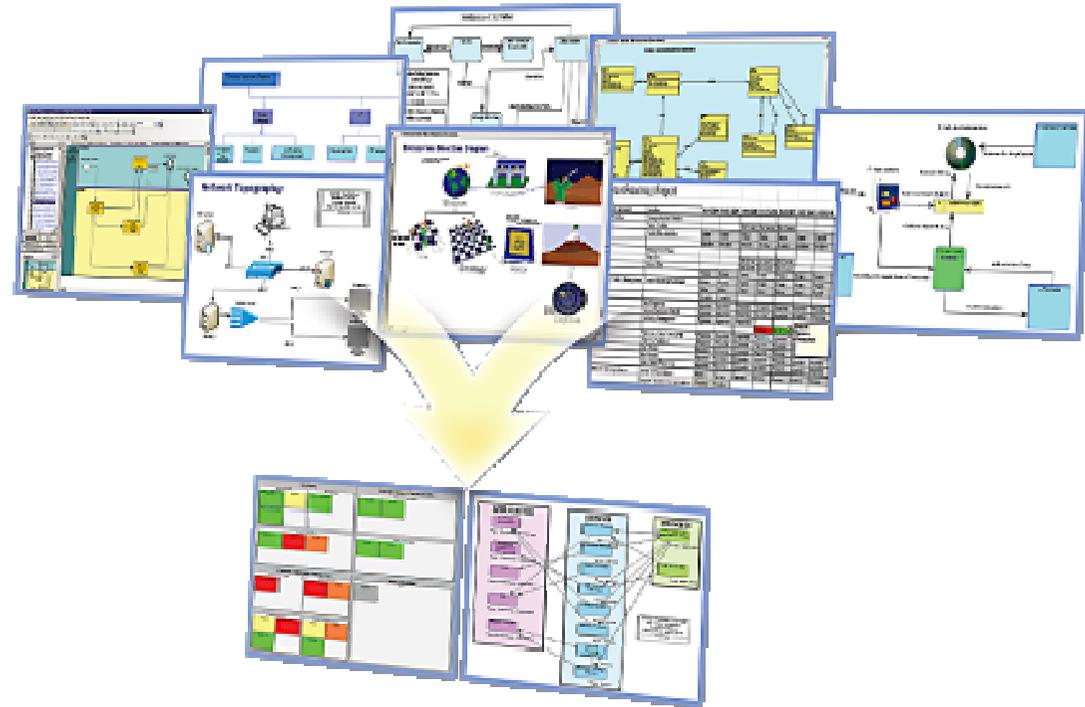
Capture and Model all Domains of the Organisation



More Than a Modelling Tool

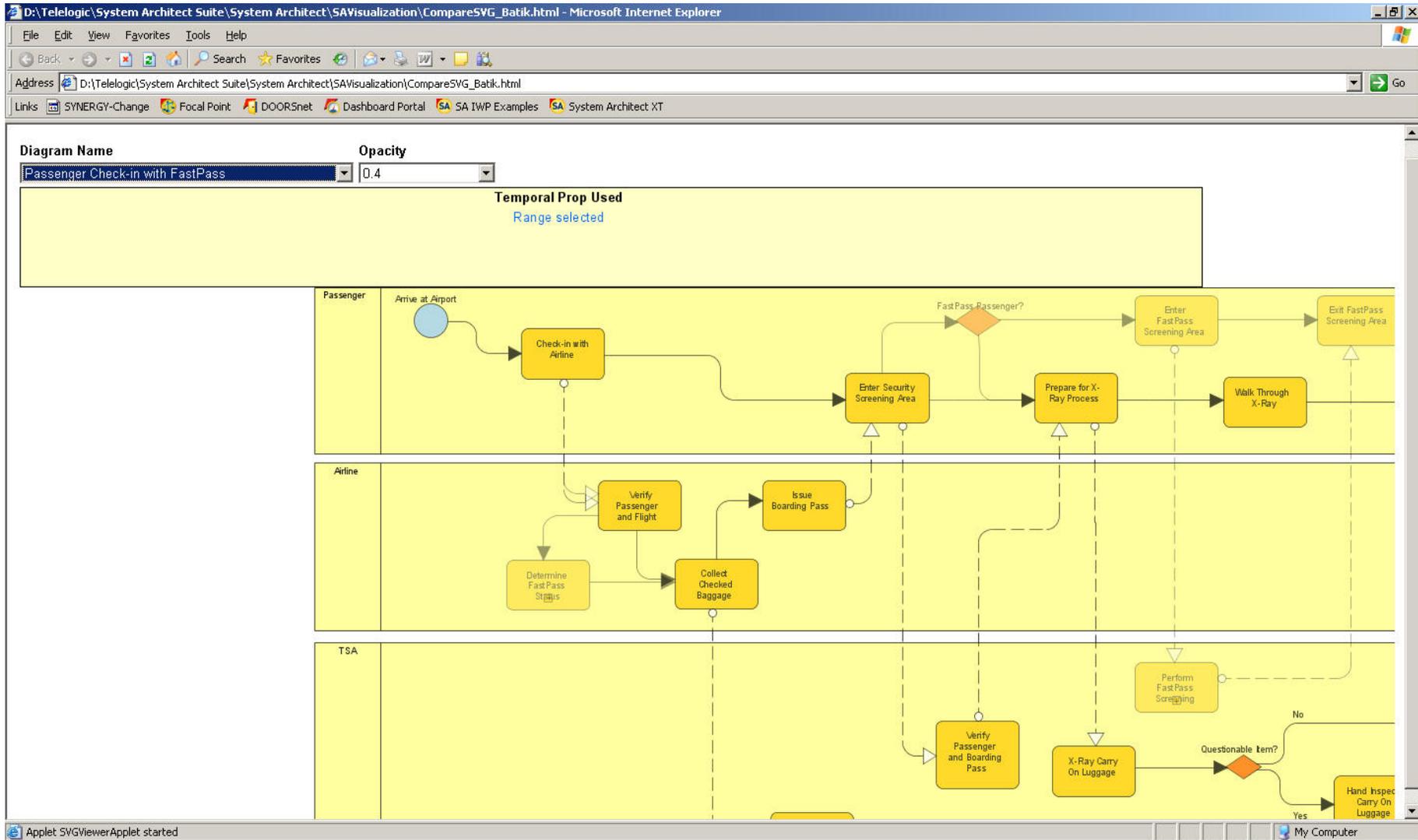


- Impact Analysis
- Alignment
- Transition state planning
- What-if?
- Risk analysis
- Heat map generation





As-Is/To-Be Transition





Use Matrices to View Relationships...

Matrix Browser

- UOB to Function/Activity
- UOB to DLP
- Requirement to Process Thread
- Elem Bus Process to Application
- Elem Bus Process to Derived Logical Process
- Elem Bus Process to Entity
- Elem Bus Process to Function
- Elem Bus Process to Location
- Elem Bus Process to Process Thread
- Elem Bus Process to Role
- Elem Bus Process to Technology
- Event to Result
- Data Distribution Scheme
- Business Process (BPMN) to Location
- Business Process (BPMN) to Application
- Business Process (BPMN) to Entity
- Business Process (BPMN) to Data Object
- Business Process (BPMN) to Technology
- Business Process (BPMN) to Function
- Business Process (BPMN) to Role

ED IDEF BE Org
 Loc App Data Tech
 Misc Saved User

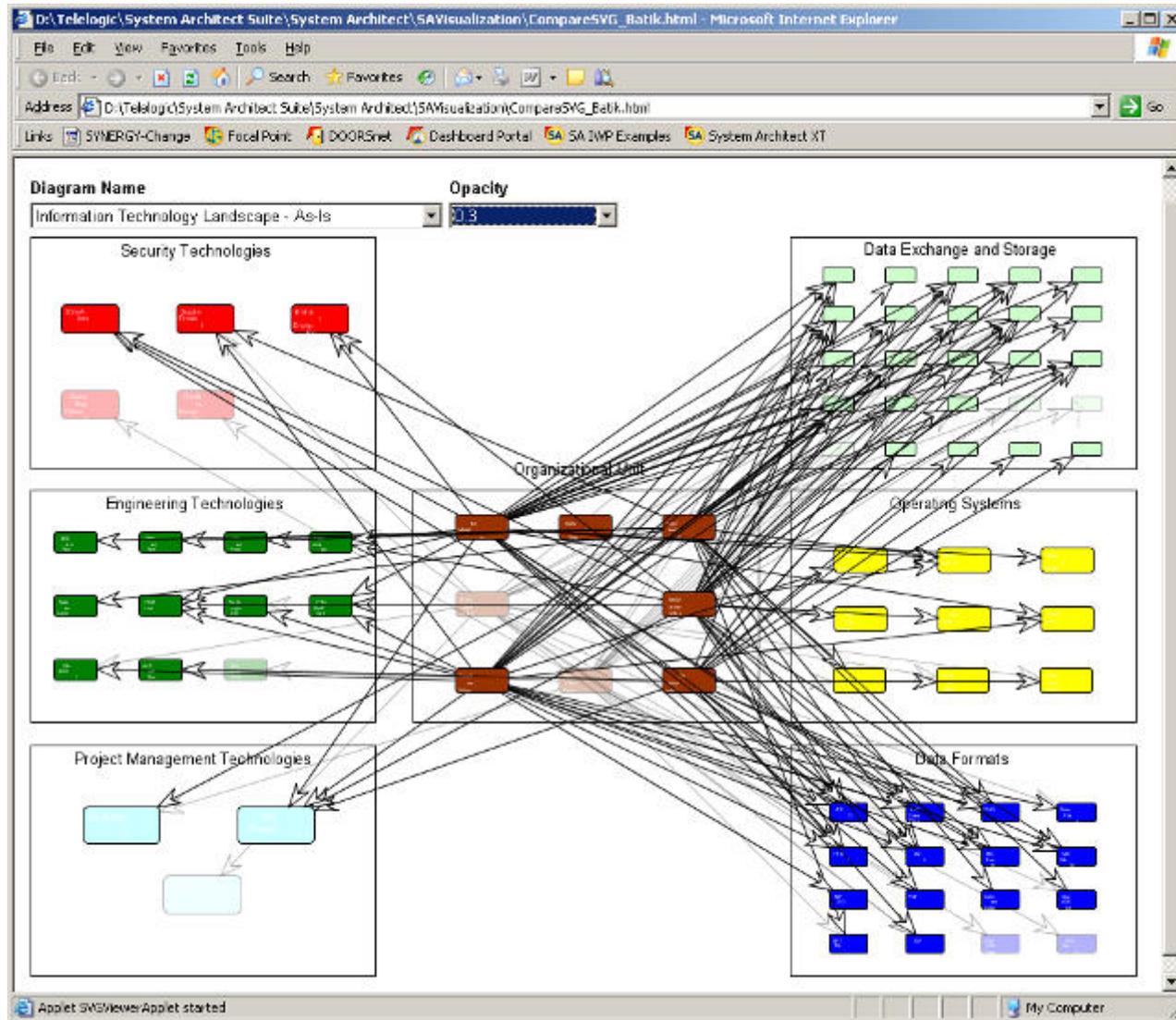
Application	Elementary Business Process	Answer Phone	Business Case Routed for Approval	Calculate Room Price	Check Payment Details	Check Reservation Details	Check Room Availability	Examine Period to Accom Date	Inform Customers Company	Make Cancellation Charge	Make Full Room Rate Charge	Make Percentage Room Rate Charge	NewProcess	Process Room Booking	Process_1	Process_2	Release Room	Reservations and Booking Funcs	Reserve Room	Store Customer Details	Take Payment Details	Test 1
Bid server																						
Credit Card Booking	X		X		X			X											X	X	X	
Customer Maintenance																				X		
Hotel Maintenance																						
Order Entry	X		X		X																	
Reservations			X		X	X										X		X	X	X		
VendorConnection			X																	X		
new application																						



Perform Gap Analyses
What Processes are not Automated?



What if Analysis





Is IT aligned to Business Strategy?



- Business Strategy heatmap

- Use Application Landscape to show which components expect to be impacted by business strategy



- Change plan heatmap

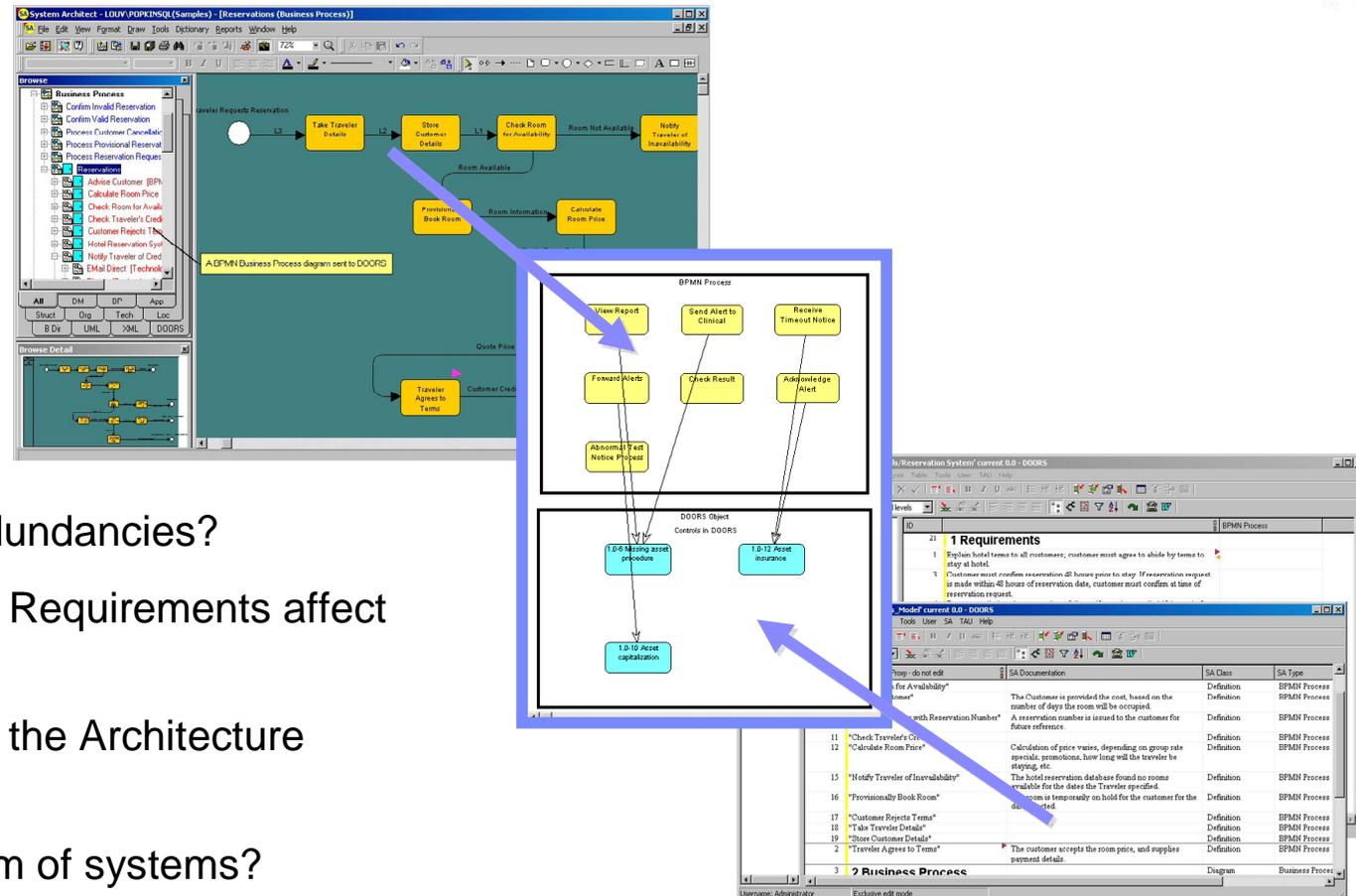
- Now show which components are impacted by the current change portfolio

Not an application name in sight



Derive Requirements and Establish Traceability

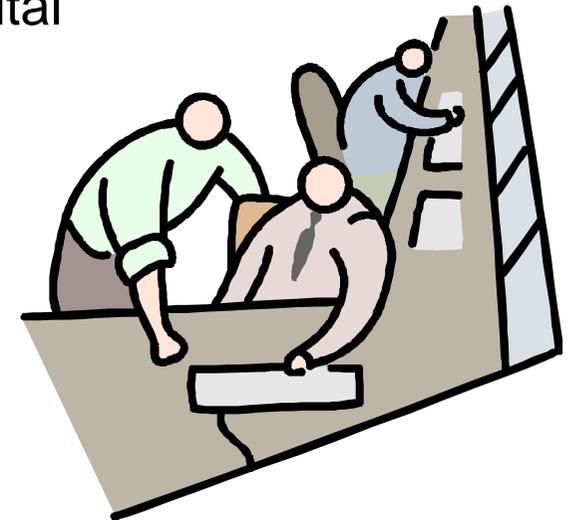
- **What** is tied to Requirements?
- **What** is driving Requirements?
- **Where** may we have inconsistencies?
- **Where** do we have redundancies?
- **How** does a change in Requirements affect Enterprise Architecture
- **How** does a change in the Architecture affect Requirements
- **What About** my system of systems?





Change and Conversation

- Change cannot be effected without effective conversations
- These are complex conversations and require Tools and Technology support
- Too much knowledge is ‘walking out of the door’
- Knowledge needs to be captured and treated as capital





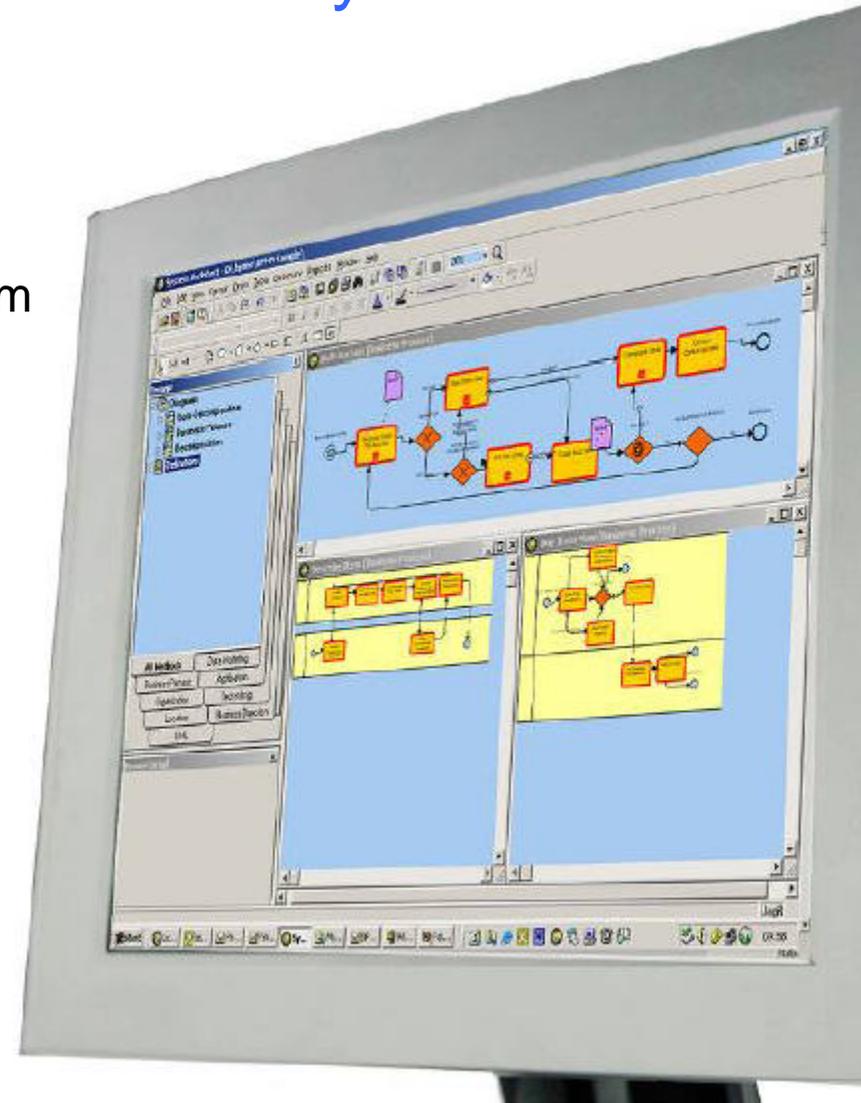
Different Stakeholders, Different Perspectives



Initiative Driven: Implementation of a New System



- Implementation of new merchandising system ...
- What functionality in the proposed system overlaps with existing functionality?
- What is the impact of changing the current business processes?
- What systems will be affected by the changes?
- Who will need training?
- Which business area and geographical locations will be affected?





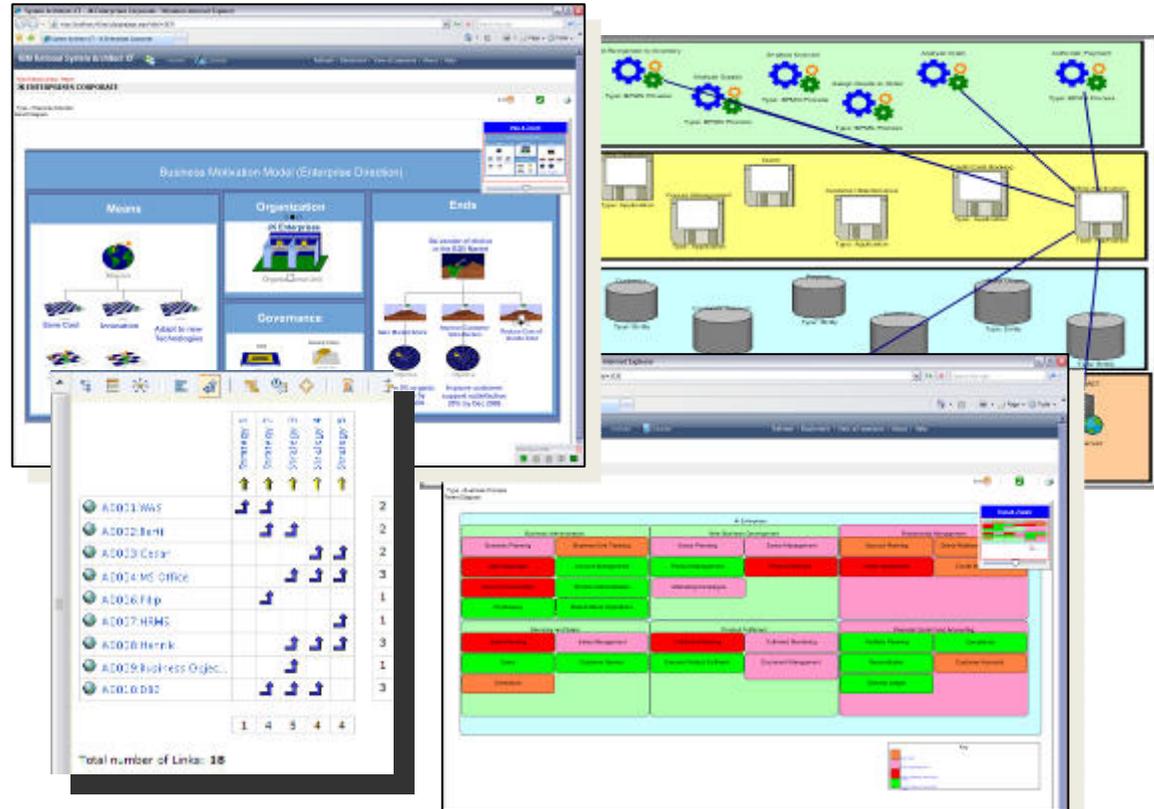
Align business objectives with IT Strategy

Understanding the complexities and inter-relationships of various stakeholders and technologies



The Innovation:

Enterprise architecture management solutions allow organisations to model the current and future state across multiple business and technology dimensions, interconnect them, and understand the impact of change



Map
Strategic Objectives to IT Resources and Solutions



Model
Develop and analyse scenarios of future states.



Monitor
Changes and effects during execution



The Benefits:

- Faster, better-informed, strategic and tactical decisions
- Improved risk management of transformation
- Increased efficiency and reduced cost through consolidation

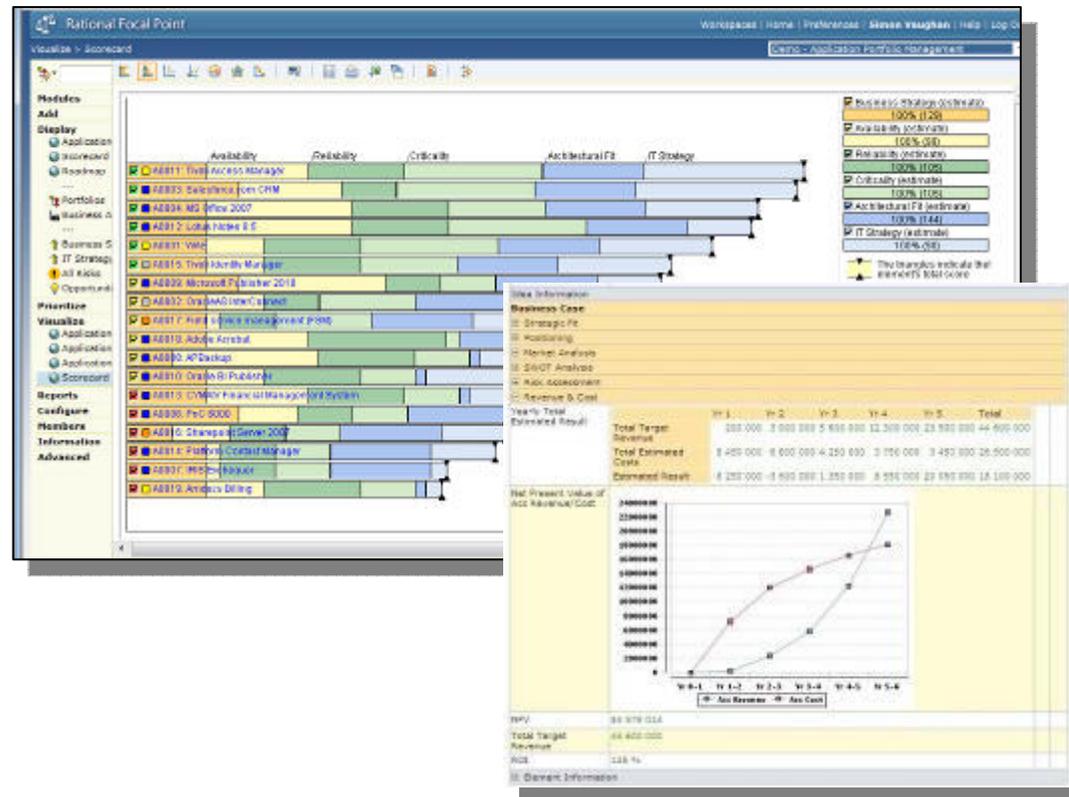


Manage the Portfolio & Products to deliver value

Making better, more informed decisions to align funding with initiatives that maximise return

The Innovation:

Portfolio management software automates data collection and analysis of potential funding initiatives against decision criteria. Scenario analysis models and visualises the financial, time and citizen impacts and requirements



Capture
priorities and constraints
across all constituents



Analyse
Current opportunities
against future scenarios



Match
Funding with highest
priority/return, lowest risk

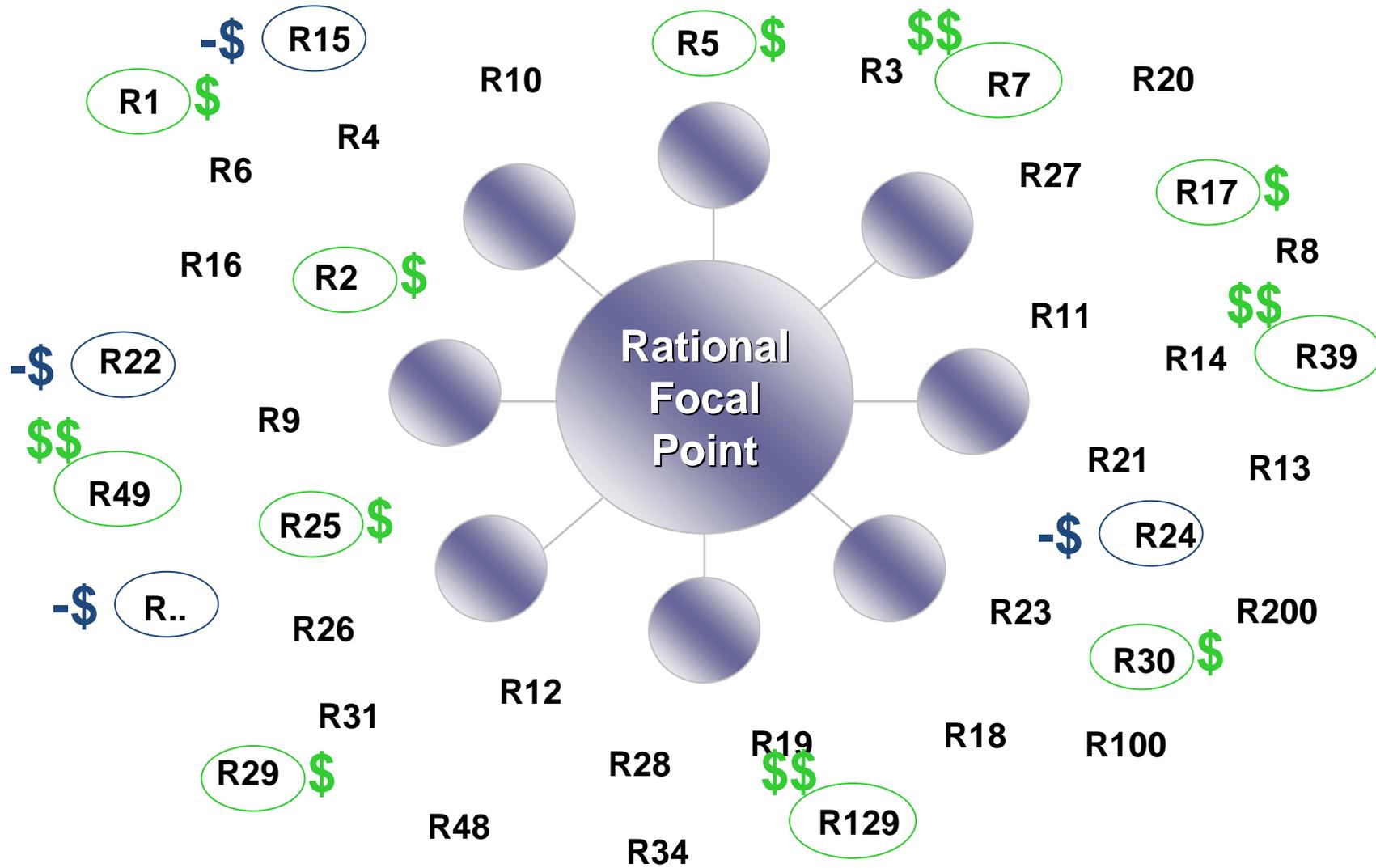


The Benefits:

- Transparent and inclusive decision processes
- Effective & efficient analysis & management of limited resources
- Fiscal responsibility and audit-ability



Value-Based Selection



"Management is doing things right, leadership is doing the right things" Peter Drucker

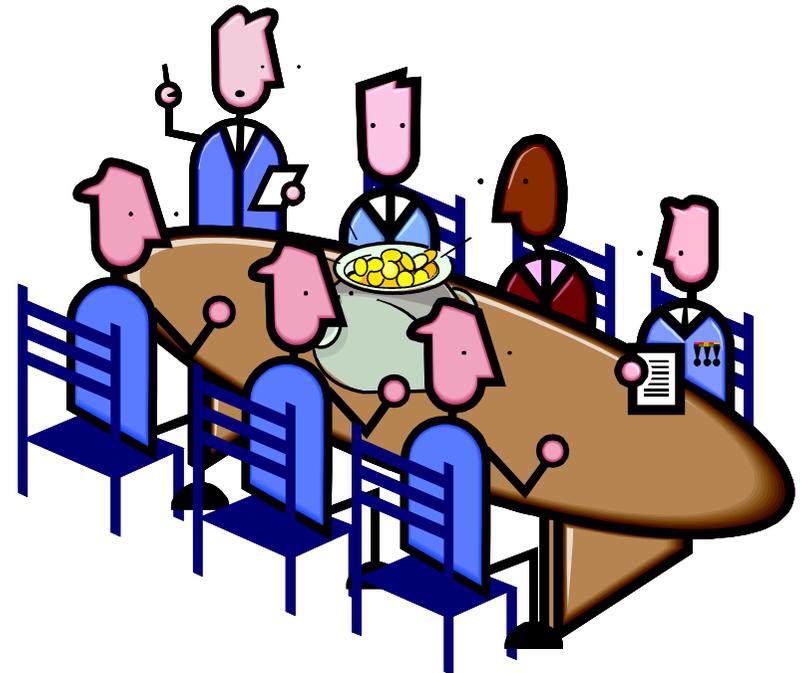


How do you make decisions today?

There are basically 2 approaches to decision making:

- ad-hoc, informal, intuitive reactions to immediate or relatively short term conditions – or,
- calculated, formal decisions based on on critical business issues such as market size, competitive landscape, time to market and customer value.

What separates tomorrow's winners from losers is a superior decision-making capability that lets them navigate swiftly through features, release time, and resources to deliver surpassing customer value.





We humans have limitations when it comes to decision-making

- Humans are good at comparing two alternatives according to one criterion
 - Which one is cheapest? The apple or the orange?
 - Which one is more nutritious?
 - Which one is simpler to peel?
 - Which one goes best with icecream?
- But we have trouble dealing with all criteria at the same time
 - Which one is best? Apple or orange?
- And when we have more than two alternatives it gets worse
 - Rank: Apple, banana, orange, carrot, pear, pine...
- Not to mention if they have dependencies
 - You can only get an apple if you have eaten your potatoes.
 - You can have a carrot even if you didn't eat your potatoes.
- Or if there is more than one opinion
 - We'll only serve one of the fruits/vegetables to all of you.





Focal Point supports human decision-making

- Lets us do what we do best: compare two alternatives according to one criterion at a time
 - e.g., cost, value for customer X, potential on market Y, strategic value, risk, timing sensitivity etc.
 - so you don't have to think about cost when you assess value
- And then combines this and visualises opinions
- All stakeholders may have their own opinions
 - or prioritise in a workshop format
- Stakeholders will have different priorities
 - e.g. large/small customers



Prioritise the Programs or Projects



Which Project provides more customer value?

Service Portal		MyInvoice	
Name	Service Portal	Name	MyInvoice
Description	Development of new site. This involves a shift to a new platform (from WebSphere to WebLogic), introduction of seamless flow and integration to a number of new releases from the accounting PMA system.	Description	WWW - List of all open invoices for a certain customer code.
Project Dependencies	<ul style="list-style-type: none"> MyInvoice WebBook Advanced eBills 	Project Dependencies	-
Total Benefits (kDKK)	55	Total Benefits (kDKK)	2.300
Total Cost (kDKK)	8.460	Total Cost (kDKK)	5.500
Stage Gate	Implementation	Stage Gate	Maintenance

comment

< Back OK Next >

Completed: 33. Required: 19. Recommended: 41. Number of elements: 20. Comparison: 10

Criterion: Customer Value (public) Delete This Comparison Delete All Comparisons

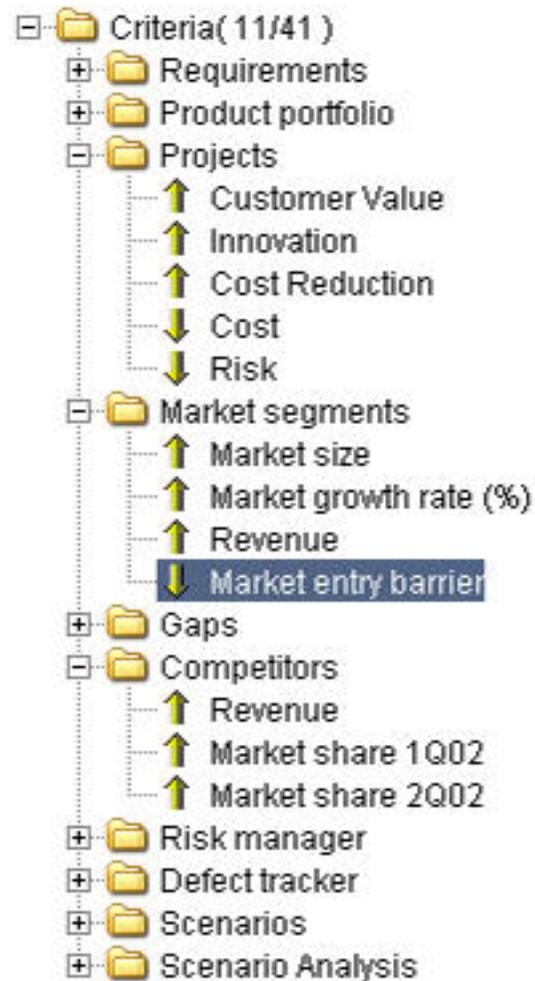
Compare two alternatives at a time

One criterion at a time

Relative comparison

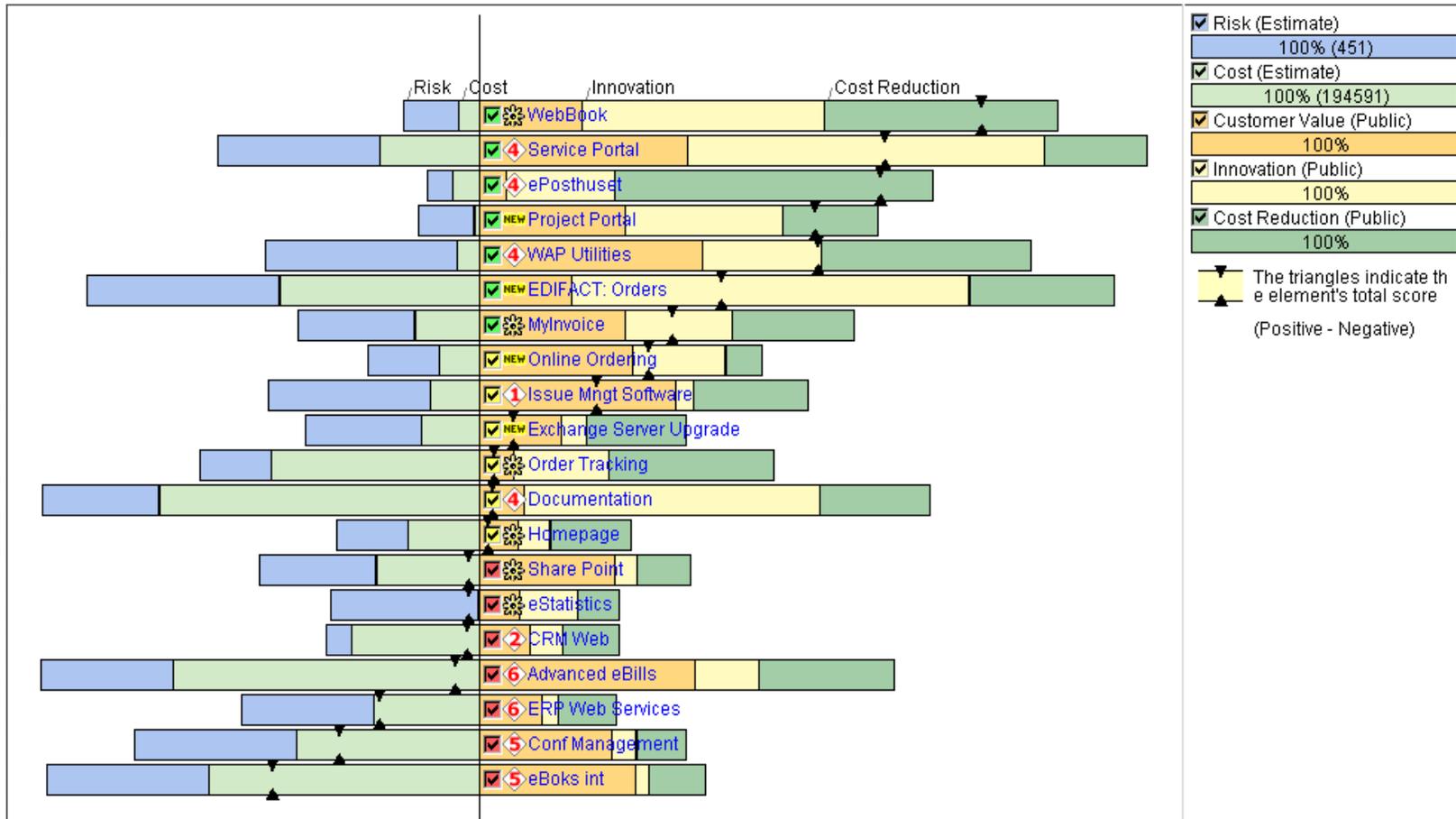
Advanced algorithm to minimise # of comparisons

Sample Criteria

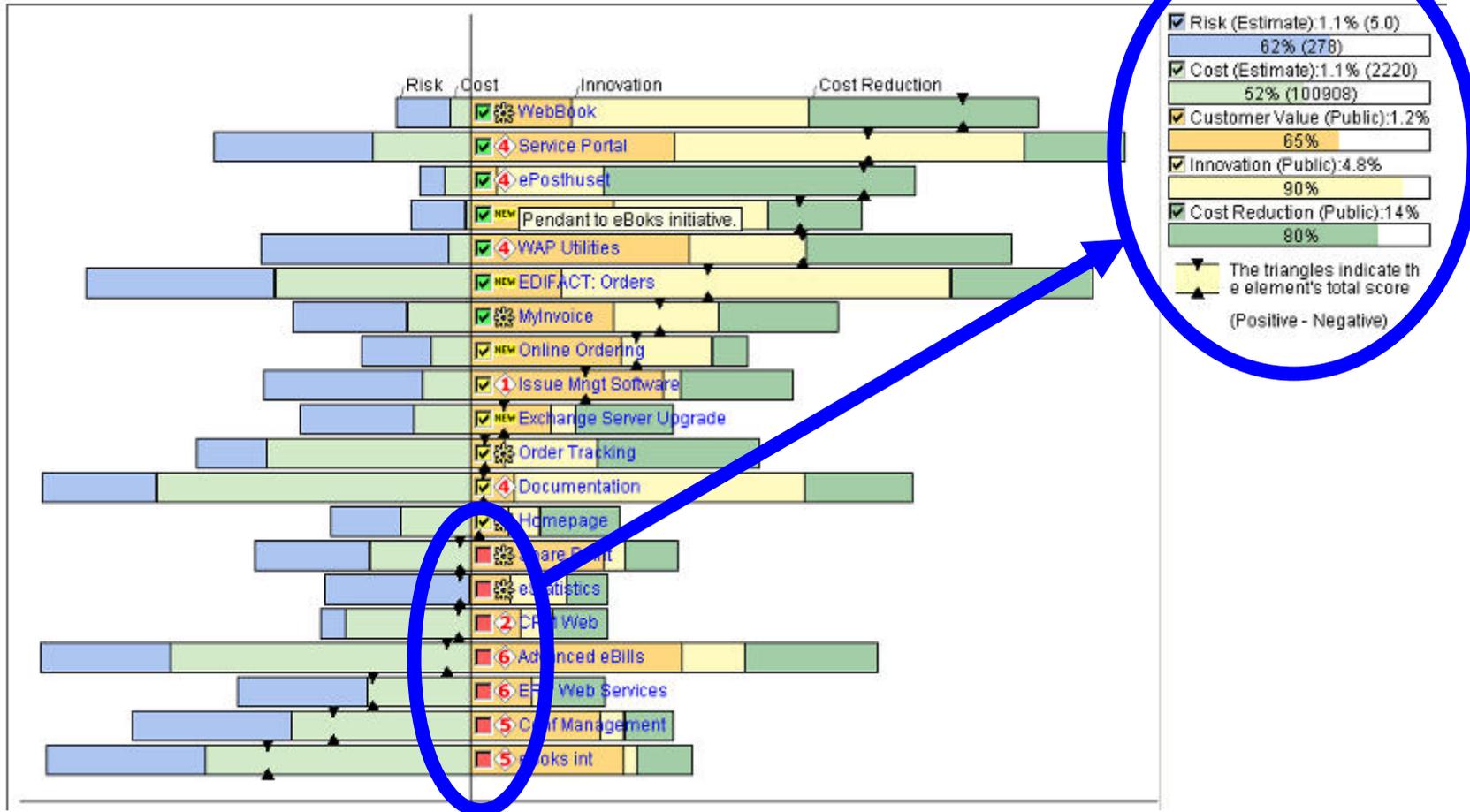




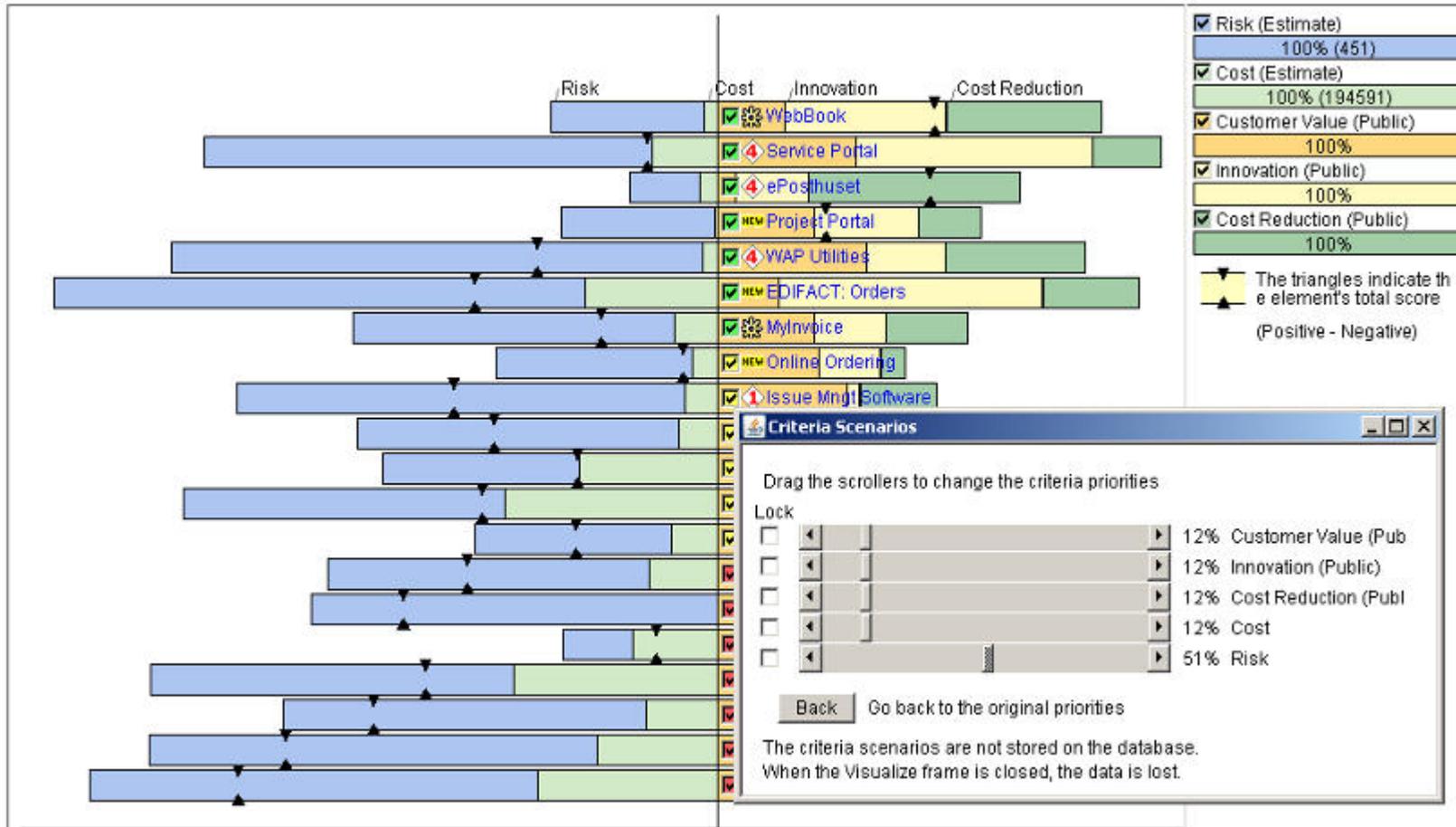
View the Results



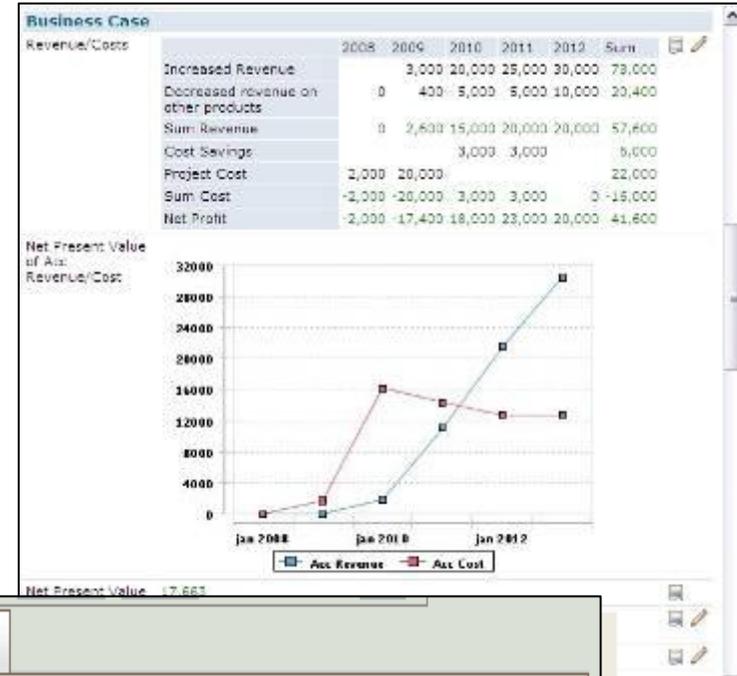
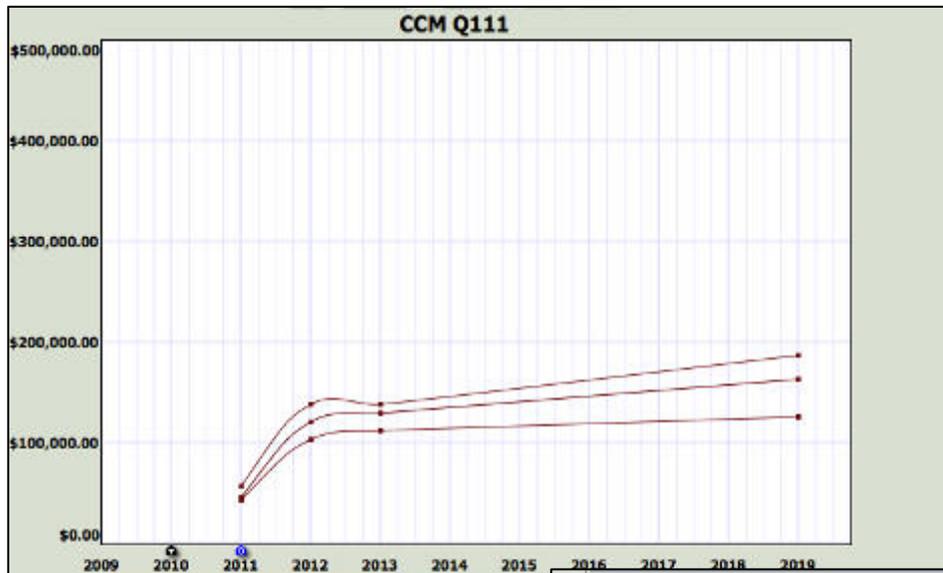
Scenario Analysis



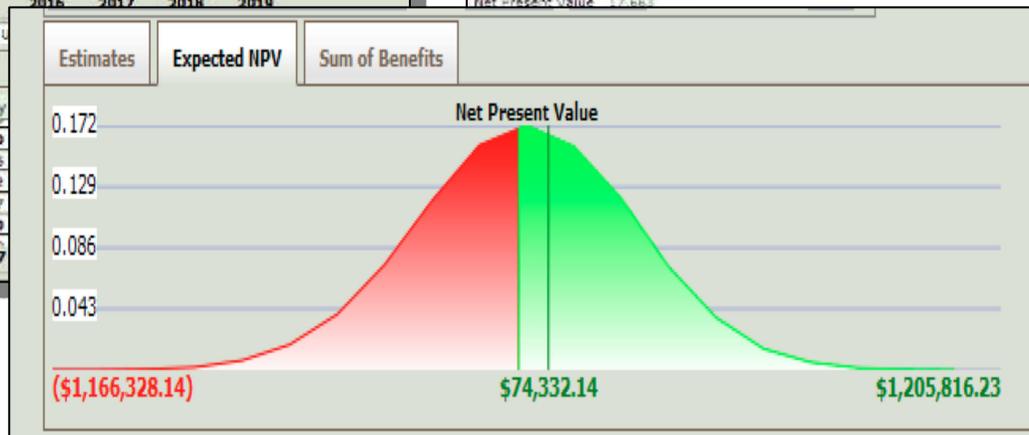
Sensitivity Analysis



Financial Risk Assessment



Year	Quarter	Low	Likely
2011	Q1	\$43,750.00	\$46,250.00
	Q2	\$51,914.10	\$69,090.25
	Q3	\$70,594.76	\$91,305.42
	Q4	\$91,320.54	\$109,701.07
2012	Q1	\$103,750.00	\$121,250.00
	Totals	\$3,455,969.23	\$4,180,026.17



Financier: Statistically analyses investments to ensure financial due diligence



Dashboards - Focal Point – Executive Overview



Rational Focal Point
Workspaces | Home | Preferences | Admin | Help

IT Portfolio Management Demo v1.0

Modules

- Portfolios
- Projects
- Applications
- Business Units
- Risks
- Business Requirements
- Issues
- Change Requests
- Resource Types
- Meeting Minutes
- Criteria
- Administration
- Images

Add

Display

- Project Proposals
- Review Ongoing Project
- Project Roadmap

All Projects

- Applications

Prioritize

Visualize

- Strategic Objectives
- Strategic Alignment - P
- Value Analysis - Project

Reports

Configure

Members

Information

Advanced

Portfolio Financials

Title	Portfolio Expected Benefits	Portfolio Actual Benefits	Portfolio Expected Expenses	Portfolio Actual Expenses	Total NPV	Portfolio Risk Score
Maintenance & Utilities	15 016 000	2 254 000	15 016 000	2 659 000	\$1 273 000	18
Enhancements & Improvements	4 433 300	130 000	4 433 300	144 000	\$634 000	26
Transformational	16 875 000	426 000	16 875 000	1 997 000	\$1 759 000	21

Deviation Expected vs Actual

Title	Deviation Expenses (%)
Maintenance & Utilities	
Enhancements & Improvements	
Transformational	

Strategic Objectives Weight

Title	Importance
Strategic Objectives	

Strategic Objectives - Project Distribution

Strategic Objectives	Quantity	Share
-	28	34,6%
Adapt To New Technologies	29	35,8%
Increase Efficiency	12	14,8%
Innovation	7	8,6%
Manage Change	13	16,0%
Save Cost	24	29,6%

Project Portfolio

Project State	Quantity	Share
NEW Proposed	7	8,6%
Accepted	22	27,2%
Assessed	3	3,7%
Finalize business case	7	8,6%
Ready for prio	7	8,6%
Approved for development	5	6,2%
Delivered	3	3,7%
Business Requirement	7	8,6%
Backlog	6	7,4%
Duplicate	6	7,4%
To be clarified	2	2,5%

Focal Point in Action



Workspaces | Home | Preferences | **Ben Amaba** | Help | Log Out

Smarter City



Portfolio	Quantity	Share
Cost Cutting	4	20,0%
Infrastructure Improvement	4	20,0%
New Development	2	10,0%
Service Creation	3	15,0%
Service Improvement	3	15,0%
Utility Enhancement	4	20,0%
Sum:	20	

Title	Financial Status	Resource Status	Schedule Status
Wireless Radon Meters	On Budget	Bottleneck Expected	On Schedule
Neighborhood Composting	On Budget	In Place	Behind Schedule
Solar Panel Farm	Over Budget	In Place	On Schedule
Neighborhood Watch	On Budget	Additional Required	On Schedule
Norrebro Bike Lane	Overages Expected	In Place	Delays Expected

Title	Financial Status	Resource Status	Customer Satisfaction
Information Hotline	On Budget	Bottleneck Expected	Moderate
ePay for Trash Tax	Over Budget	In Place	High
Fiber Optics Optimization	On Budget	In Place	High
Solar Panel Education	On Budget	In Place	High
Hydrant Decom'ing	Overages Expected	Additional Required	Low

Dept Responsible	Quantity	Share
Department of Correction	2	10,0%
Department of Design and Const...	6	30,0%
Department of Education	1	5,0%
Department of Heath and Human ...	1	5,0%
Department of Housing	1	5,0%
Department of IT	1	5,0%
Department of Sanitation	2	10,0%
Department of Transportation	2	10,0%
Fire Department	2	10,0%
Police Department	2	10,0%
Sum:	20	

Dept Responsible	Quantity	Share
Department of Correction	1	5,3%
Department of Design and Const...	2	10,5%
Department of Education	1	5,3%
Department of Finance	2	10,5%
Department of Heath and Human ...	1	5,3%
Department of IT	5	26,3%
Department of Sanitation	2	10,5%
Department of Transportation	1	5,3%
Fire Department	2	10,5%
Police Department	2	10,5%
Sum:	19	

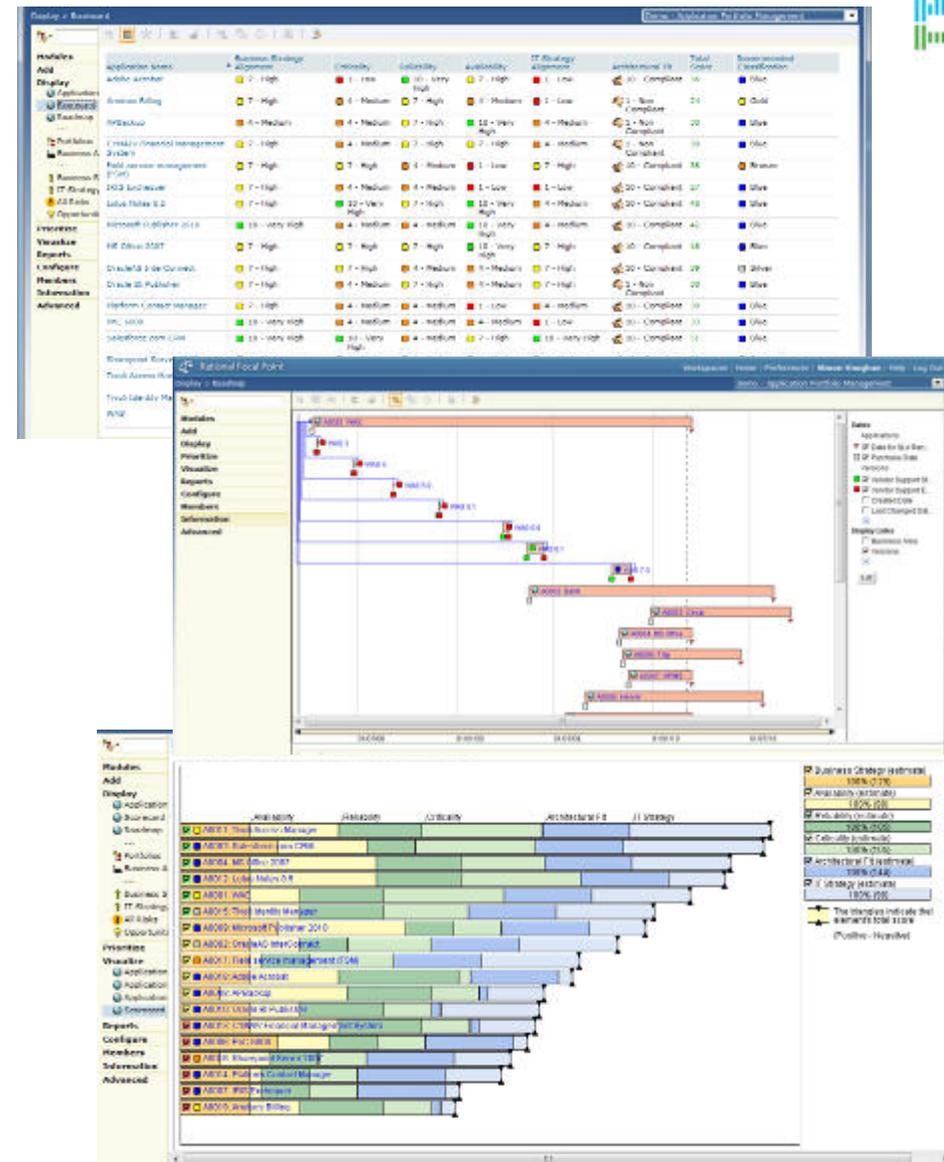
Title	NPV	Total Expenses
-------	-----	----------------

Rational. software



Rational Focal Point?

- Rational® Focal Point™ is a unique, web based visual data management tool that automates, improves and supports:
 - Bid Management
 - Portfolio Management
 - IT Project Portfolio Management
- A collaboration platform where all users see the “single truth” and the business has clear visibility of the “road ahead”.
- Provides built-in decision and business scenario analysis support.
- Is adapted to your process, methods and workflow – not the other way around.
- User friendly, 100% web-based platform design to be used by business people





Focal Point Benefits and Value to Customer

- Provide **visibility** to business **priorities**, business **value** of scope/requirements, business value and performance of projects
- **Automate** the **prioritisation process** and focus on high-value projects
- Enable business leaders to **understand value** of project scope and **impacts** on **other projects** when planning project pipeline/roadmap
- Provide support to **re-evaluate project priorities** in the light of a changed business environment
- Reduce time to market
- **Centralised** project status **repository**
- Identify requirements that need resources but **don't generate any customer or market value**
- Provides a mechanism to **capture requirements** much earlier in the process



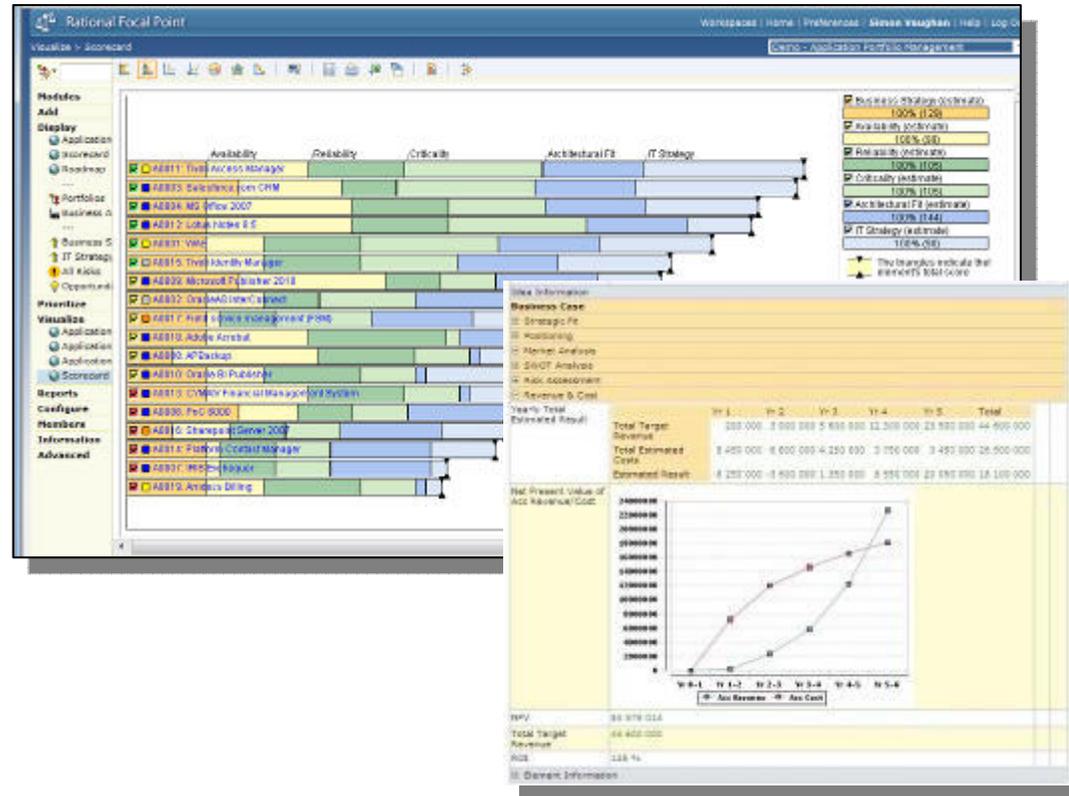


Manage the Portfolio & Products to deliver value

Making better, more informed decisions to align funding with initiatives that maximise return

The Innovation:

Portfolio management software automates data collection and analysis of potential funding initiatives against decision criteria. Scenario analysis models and visualises the financial, time and citizen impacts and requirements



Capture
priorities and constraints
across all constituents



Analyse
Current opportunities
against future scenarios



Match
Funding with highest
priority/return, lowest risk



The Benefits:

- Transparent and inclusive decision processes
- Effective & efficient analysis & management of limited resources
- Fiscal responsibility and audit-ability

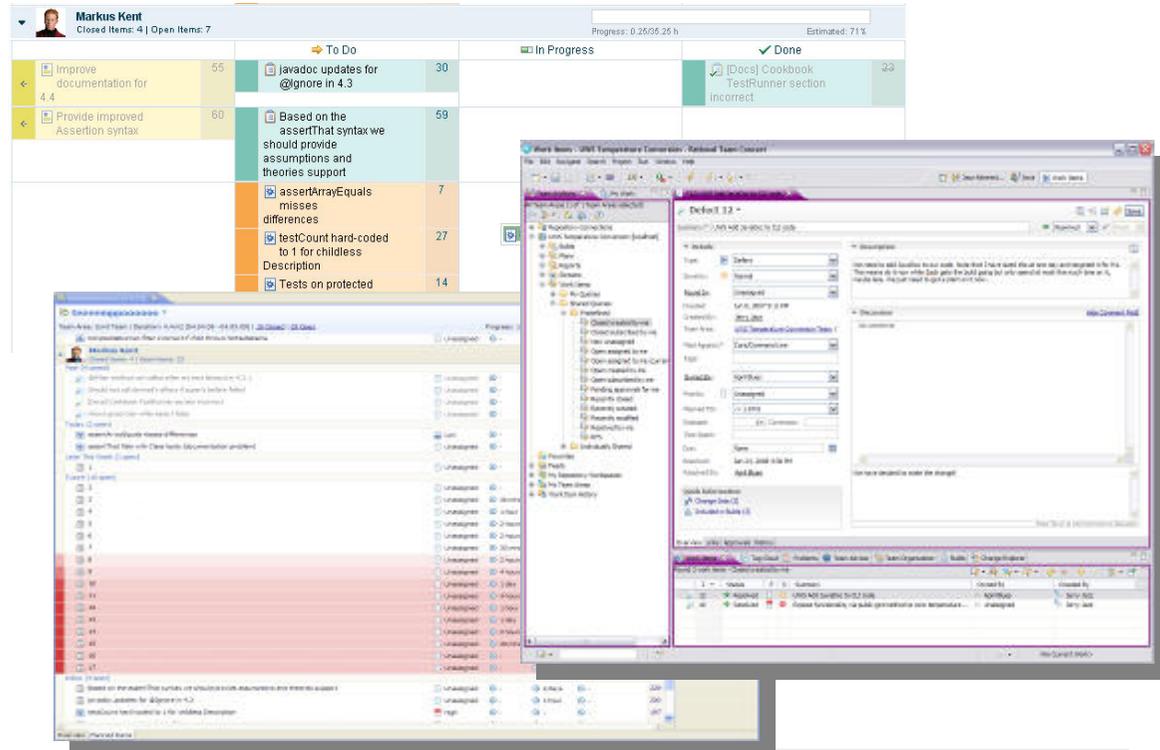


Optimise project delivery across the lifecycle

Accelerate the implementation of solutions matched to stakeholder needs

The Innovation:

Team Development Planning and Collaboration ensure real-time visibility during the execution of initiatives that accelerate delivery through automation



Plan
Tasks and work items using traditional and agile techniques



Control
Planning and work item management seamlessly



Deliver
Projects with total transparency worldwide



- The Benefits:**
- Common planning provides greater collaboration across development teams working on strategic initiatives
 - Consistent change management through life of initiative with traceability back to original program blue print
 - Project implementation efficiency through best practices



Customer Story – Major Mid-East DoD Agency

• Background:

- The Field Commanders of a Middle Eastern Defense Agency were often frustrated when applications designed to automate military processes failed to deliver on the strategic objectives defined.
- They recognised that they needed an integrated approach to the design of their next C4I Solution, if they were to improve their threat response capability.

• Business Initiatives:

- As part of a \$1B investment in a new command and control solution, they decided to take a fresh look at the gaps in their current C4I Solution. Using DoDAF as the guiding framework, the field commanders documented and evaluated their existing C4I Solution, identifying gaps and opportunities to leverage new technologies to improve capability.
- Use of DoDAF also would ensure better consistency among the many contractors and organisations regularly leveraged during the procurement of future solutions.

• Solution:

- Leveraging Rational System Architect, the field commander's technology team could now perform a comprehensive examination of the challenges inherent in their current Enterprise Architecture, and address gaps understanding the full impact process and technology changes would have on the system.
- In order to implement appropriate Governance over the procurement process and to prioritise investments, Focal Point was leveraged. Finally, Rational Doors was also utilised to transform identified gaps into properly documented requirements, so system integration needs were communicated with greater consistency .



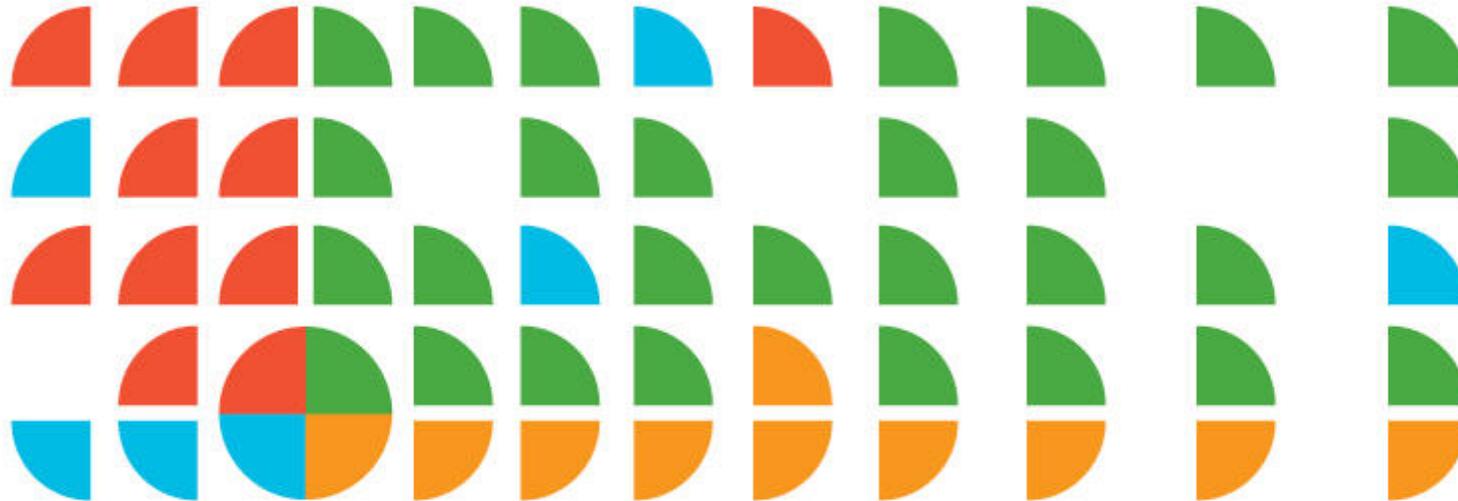


The New Order

Organisations must recognise that they are no longer making IT investments – they are investing in IT enabled change in the overall business system.

John Thorp – The Information Paradox

IBM® Enterprise Architecture Seminar



Turning Business Insight into Foresight

John MacLeod, Senior Consultant

Nov 2010

