



**The benefits and issues of a metrics-
based architectural approach
at
Birmingham City Council (BCC)**

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● Who are they?

- *Largest Local Authority in Europe*
- *Represents 1M citizens and 55,000+ staff*
- *Unitary authority responsible for **all** services;*
 - ⇒ *Education, Transport, Health, Housing, Leisure, Policing/Safety, Environment, Legals, Employment ...*

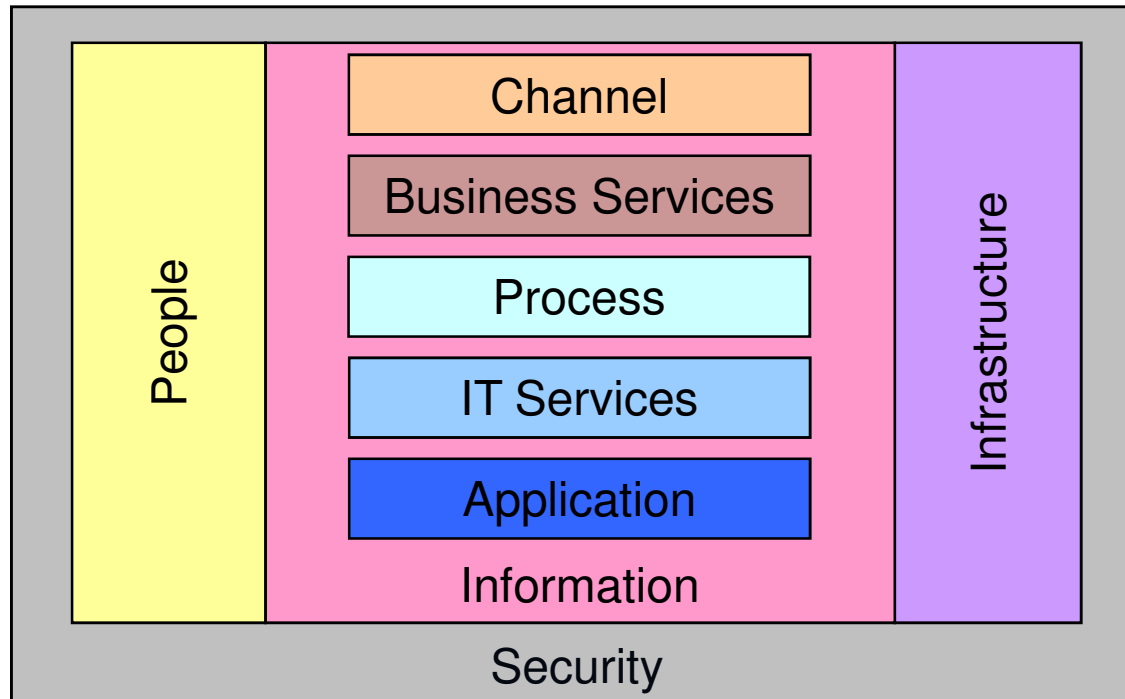
● What are they doing?

- *Spending 10 years / £478M on ICT transformation alone (incl. formation of Service Birmingham)*



The Council in a box ... well 9 of them actually!

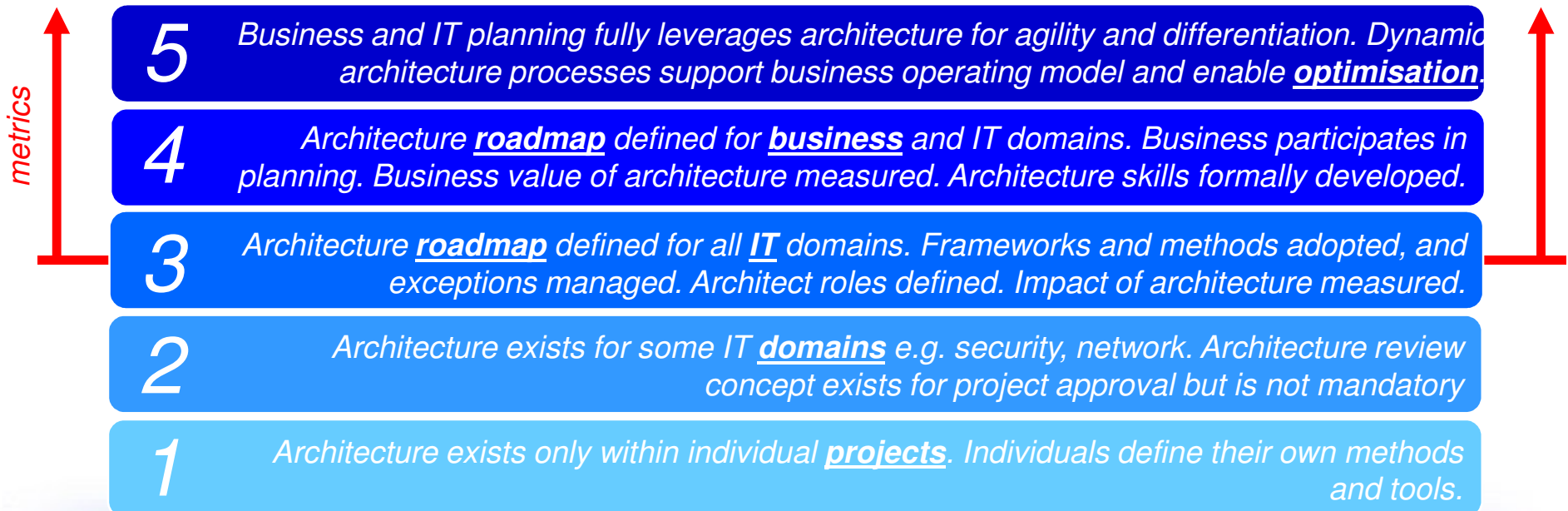
- From **Business to IT and beyond ...**
- **Traceability/Alignment** between the two (for governance)
- **Communicated structurally and by metrics**

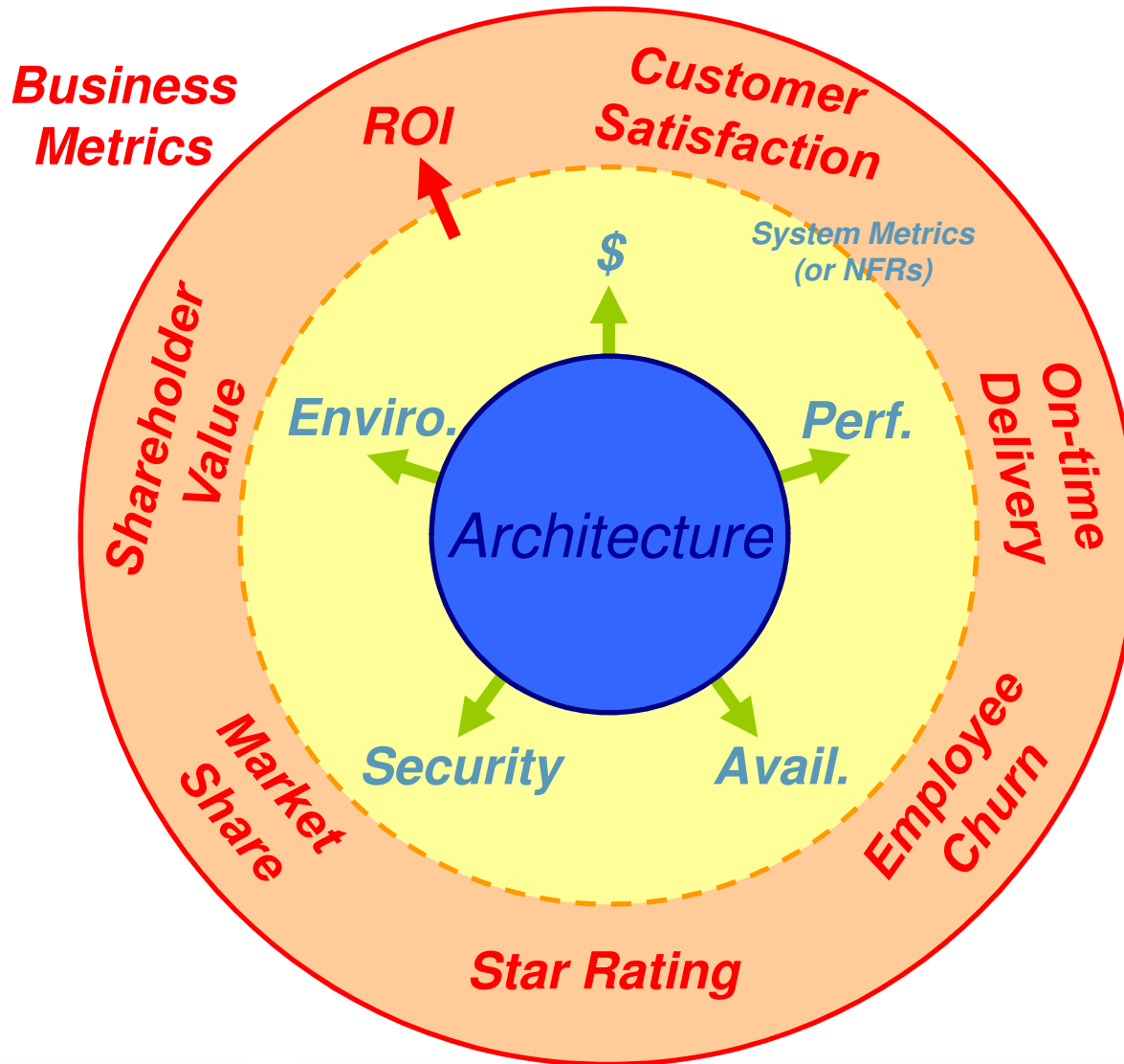


Without metrics you're just another guy with an opinion

Michael Mah (Cutter Consortium)

Butler Group – EA Maturity Model





... Performance and Reliability of the enterprise at a system level will positively affect Customer/ Employee Satisfaction (say)

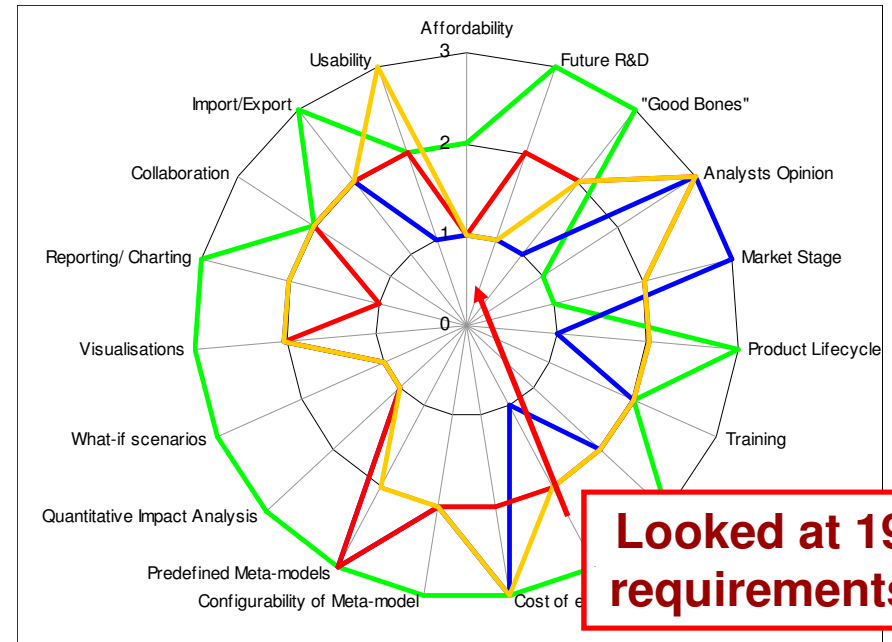
- *Balanced Scorecard*
- *6σ / LEAN*
- *CoBIT / Val IT*
- *IEEE 1061 / ATAM*
- *SOCITM*
- *FEA PRM*
- **ABACUS**



● The Tool

- We looked at several products and only ABACUS from www.avolution.eu had

- ⇒ Flexibility of any 'thing' 'connected' to any other 'thing'
- ⇒ out-of-the-box evaluators for metrics such as performance, availability, agility, complexity, traceability etc
- ⇒ concept of multiple solution alternatives and their trade-offs



● Selection of European clients



- **Cost**
 - *CapEx and OpEx based structural analysis over 1, 5, 10 etc years including FTE costs and attributed to people, services, systems etc*
- **Availability/Reliability**
 - *Monte-Carlo simulation based upon MTBF and MTTR for elements to yield % uptime of people, services, systems etc*
- **Performance**
 - *Discrete-Event simulation for utilisation of resources (%), response time (s) of services etc*
- **Complexity**
 - *Coupling / Cohesion, Heterogeneity*
- **Agility/Evolvability**
 - *Tactical agility v Strategic evolvability, Openness, both empirical and experimental techniques*
- **Traceability**
 - *Rule-based completeness/alignment checking and validating*



Sources of metrics ... 1) The Council Plan

**Council Plan = 3 Objectives → 10 Council Priorities → 29 Portfolio Priorities
 → 29 Target Outcomes → 116 Key Measure/Milestones**

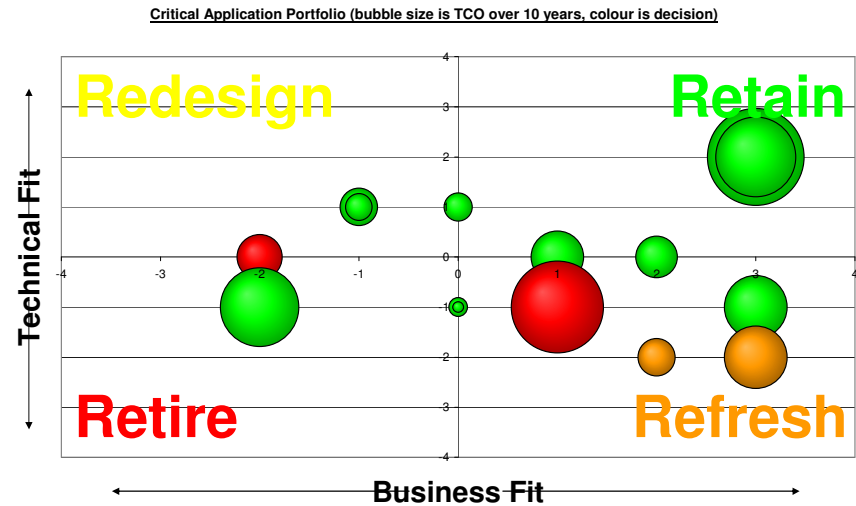
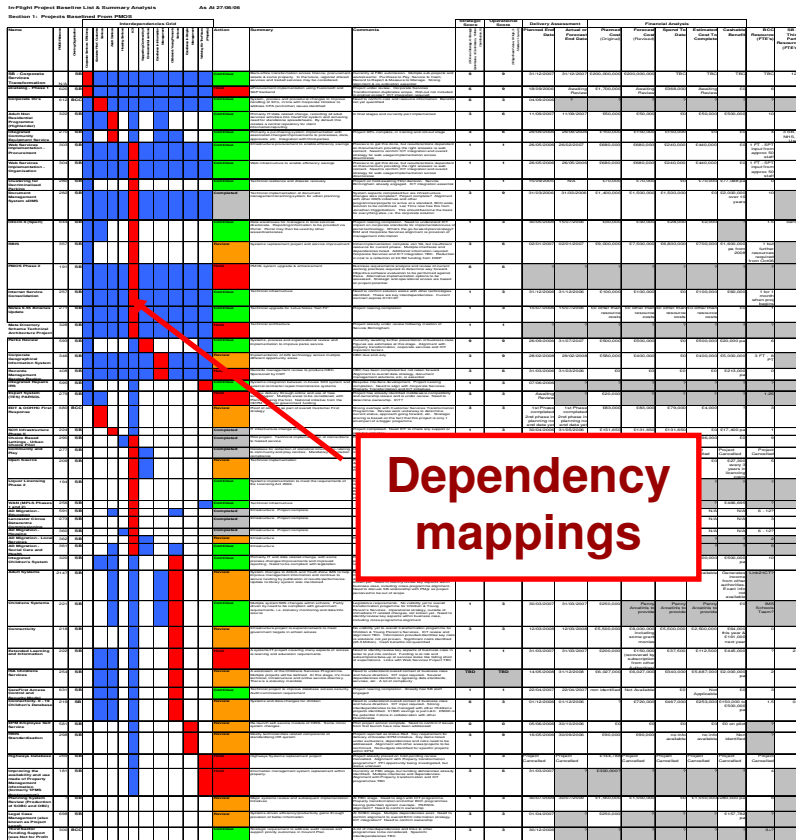
Directorate (2005/06)	Portfolio (2005/06)	Council Objective	Council Priority:	Portfolio Priority	Target Outcome	Measure Reference	Description	Aim	Return Format	Target	Actual	Status
Resources	Equalities & Human Resources	1: Investing in Improvement	Investing in our staff - building an organisation that is fit for its purpose	2.3 Give managers the right tools and information to do their job	Improve our use of technology to give managers the information they need electronically	KPI 2.3	Number of times staff access people solutions in the Inline intranet	Bigger is better	Number	10,000	28,509	Green
Development	Leader of the Council	3:: A city of vibrant urban villages	Promoting Birmingham as a great international city	10.1 City message and influence	Recognised benefits for the City	KPI 10.1a	? Increase tourist perceptions of Birmingham's attractiveness as a place to visit	Bigger is better	%	42	42	Blue

Life, the Universe and Everything ...



Sources of metrics ... 2) PPM and APM

- 9 Major Transformations with a (maintained) Benefits Case for each
- Project Portfolio Management (PPM) for all the in-flight projects
- Management of the cross-dependencies (aligned for common goals)



- APM across critical/non-critical portfolios and/or by Business Service
- Biz Fit versus Tech Fit
- Size is TCO, colour is recommendation (4R's)



A) Challenge ...

Guide the design of the Corporate Services Transformation (Finance, Procurement etc)

B) Value Dimensions/Metrics ...

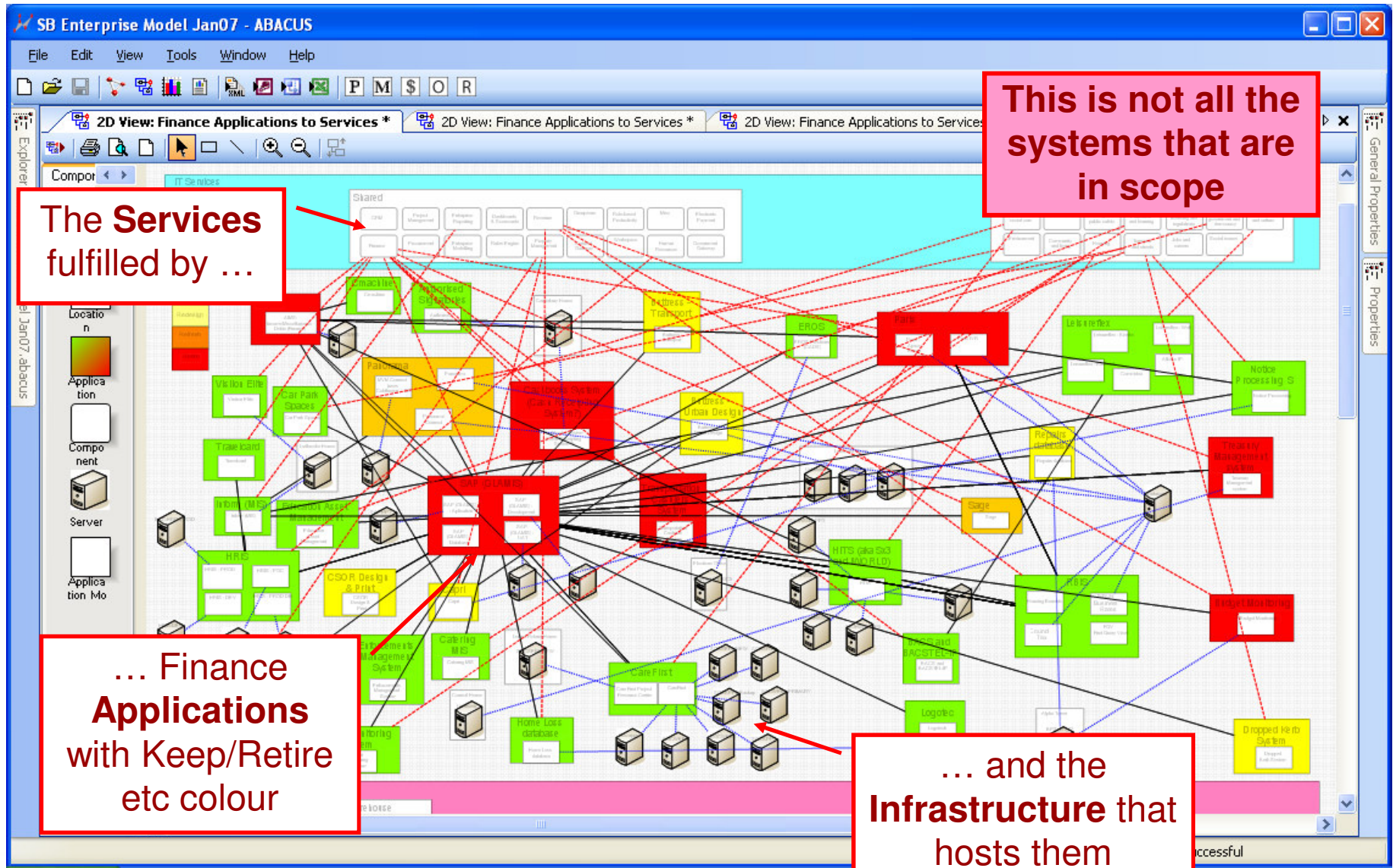
*Financial - Cost (TCO) versus
Technical - Complexity*

C) Evolve “actuals” into “planned” / roadmap architecture(s)

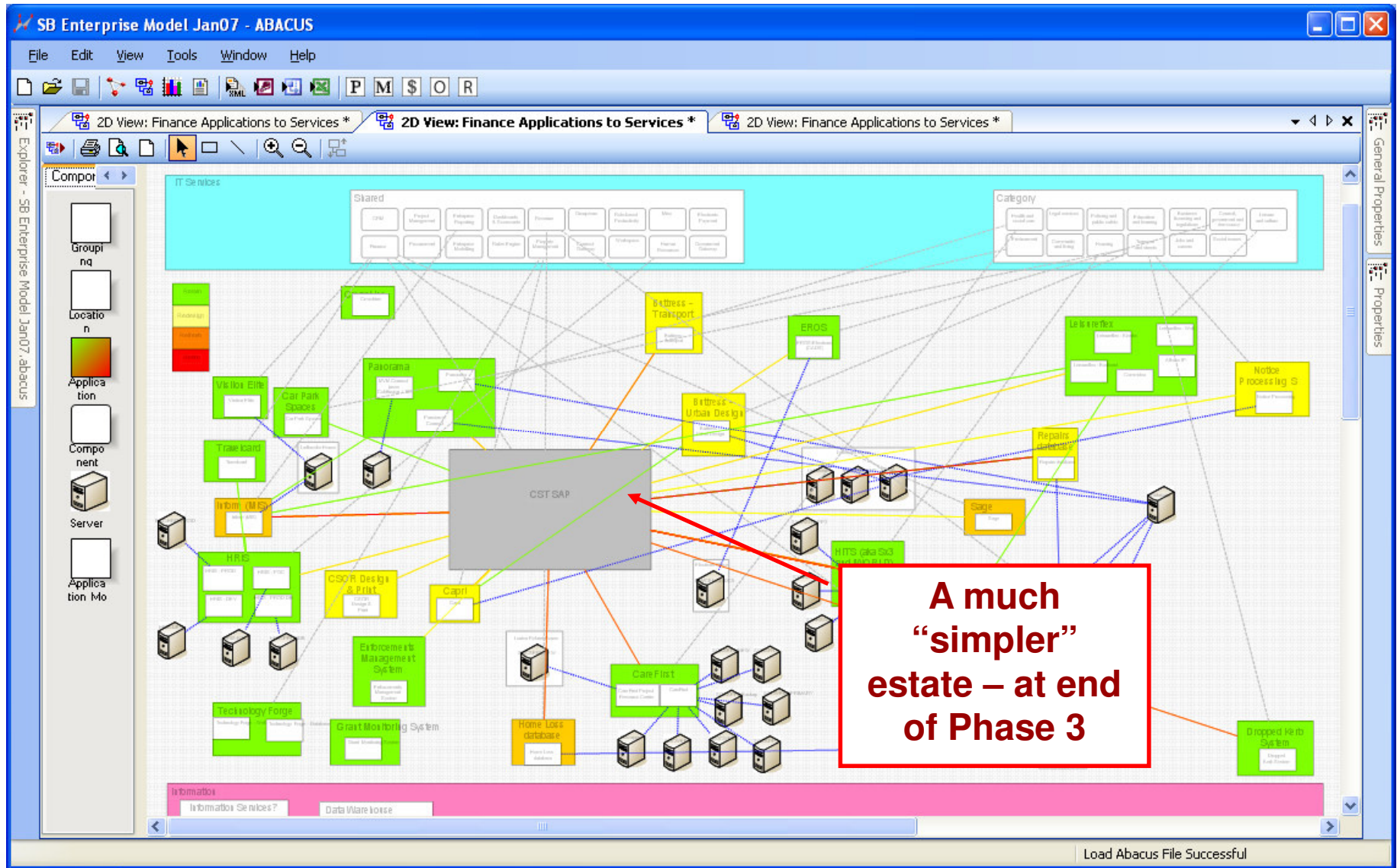
All in one ABACUS model



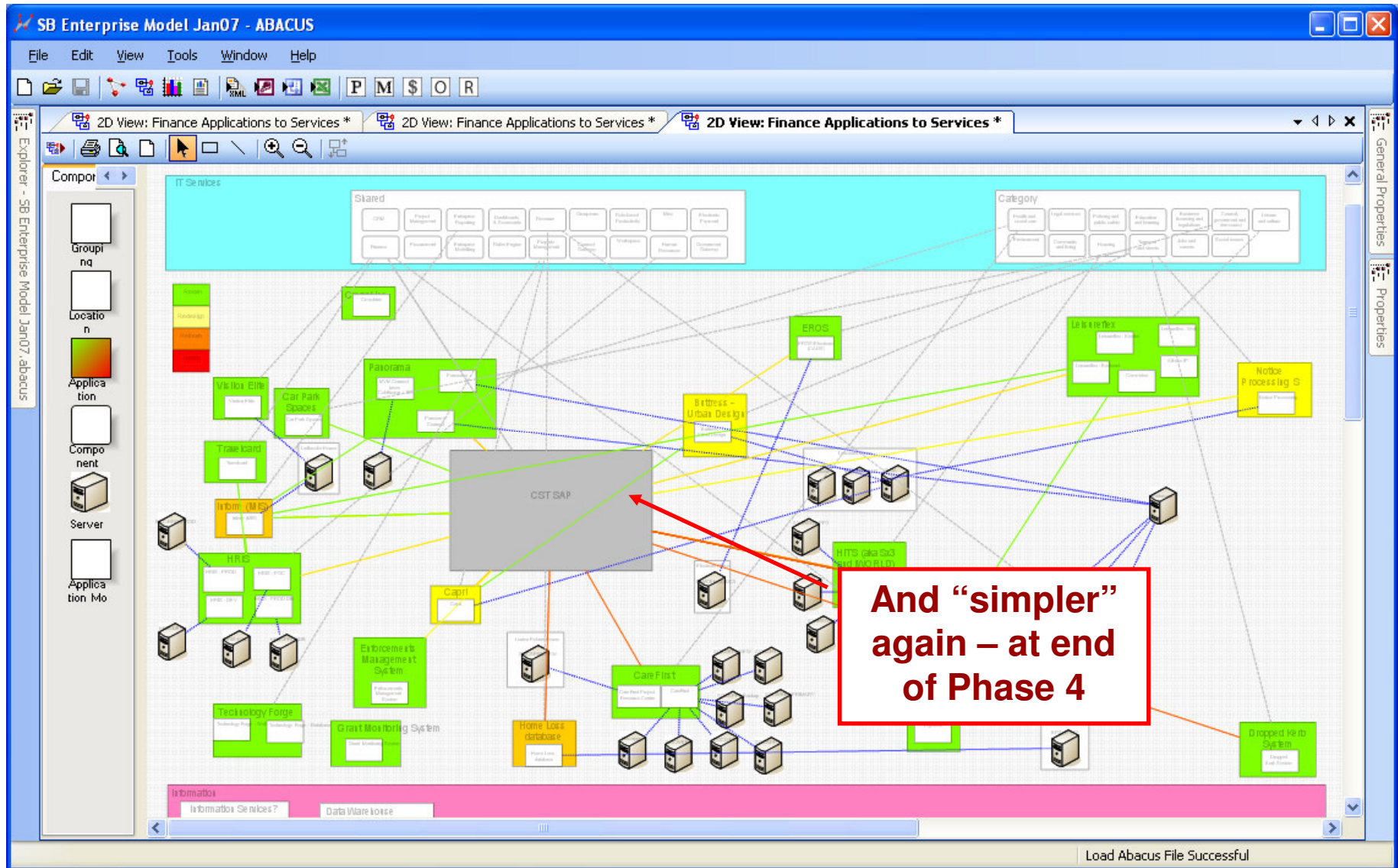
Application Architecture (Finance) As-Is “Heat Map”



Application Architecture (Finance) To-Be (Phase 3)



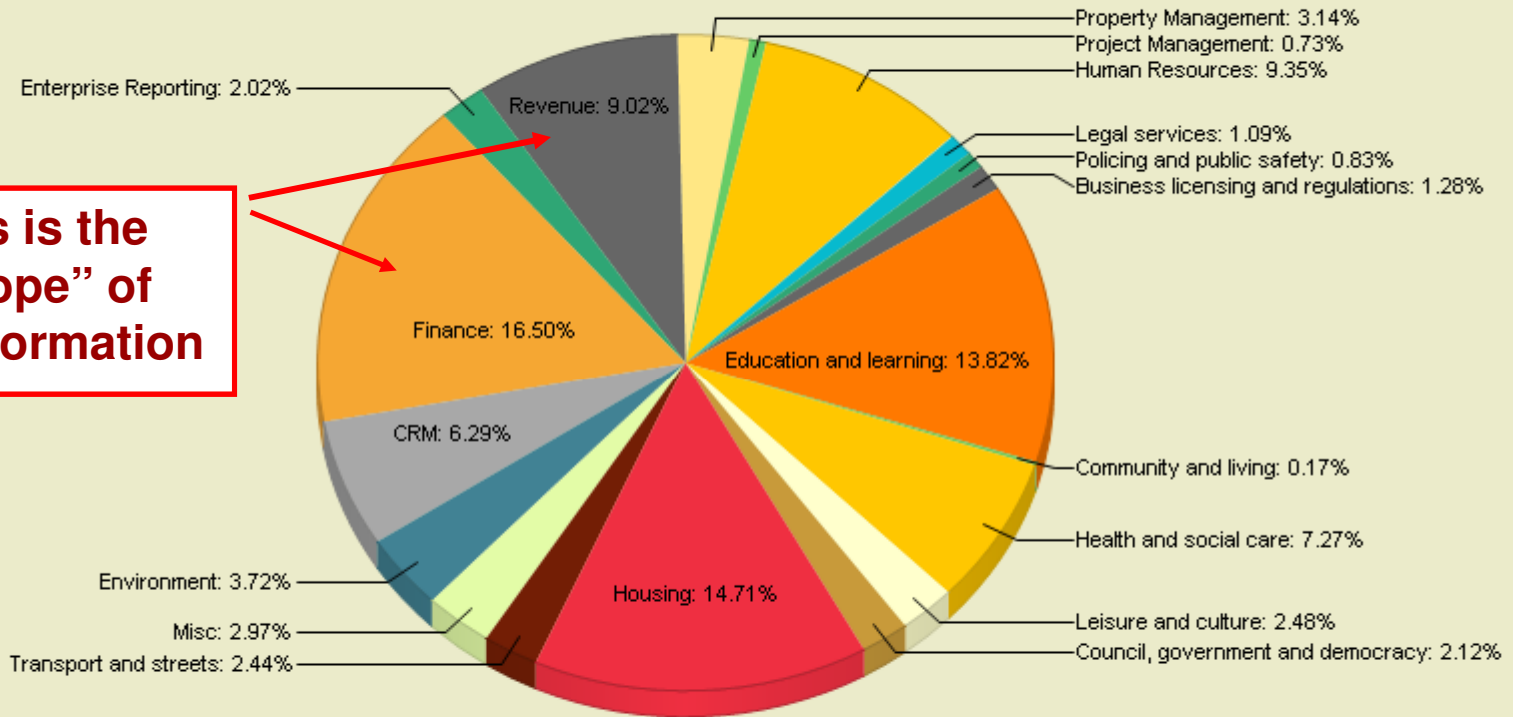
Application Architecture (Finance) To-Be (Phase 4)



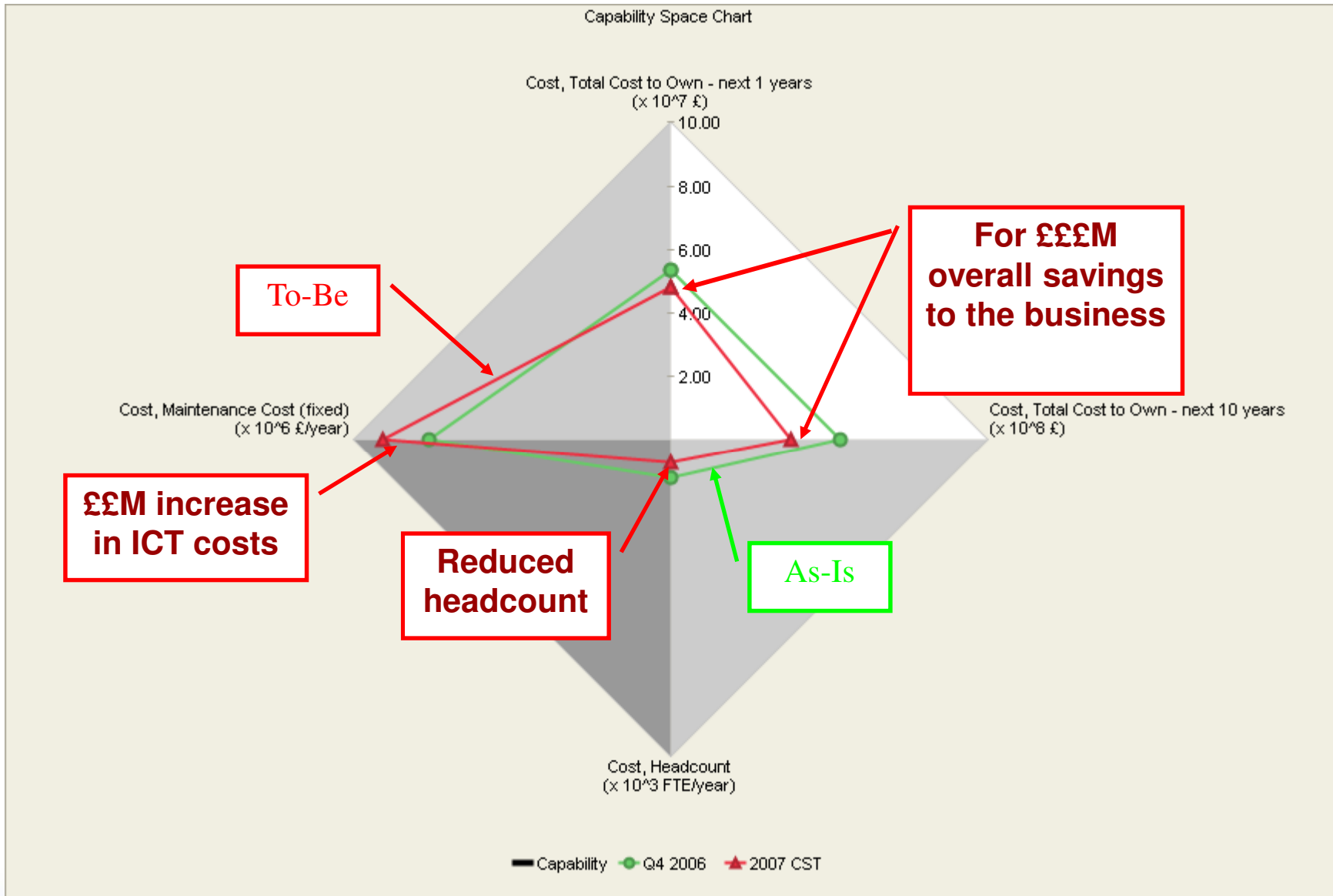
TCO by Service

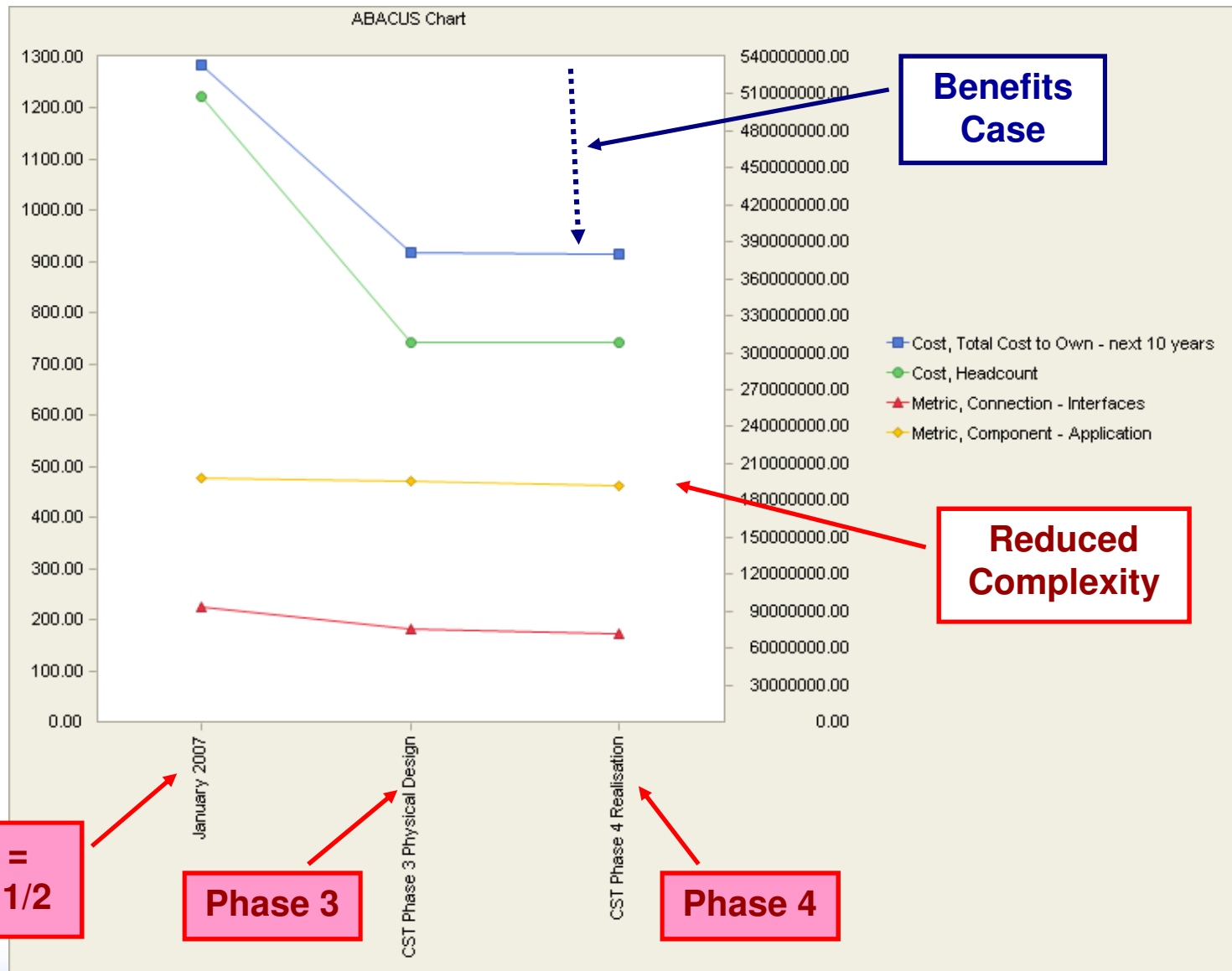
ABACUS Chart

**This is the
“scope” of
Transformation**



TCO for the next 10 years ...





As-Is = Phase 1/2

Phase 3

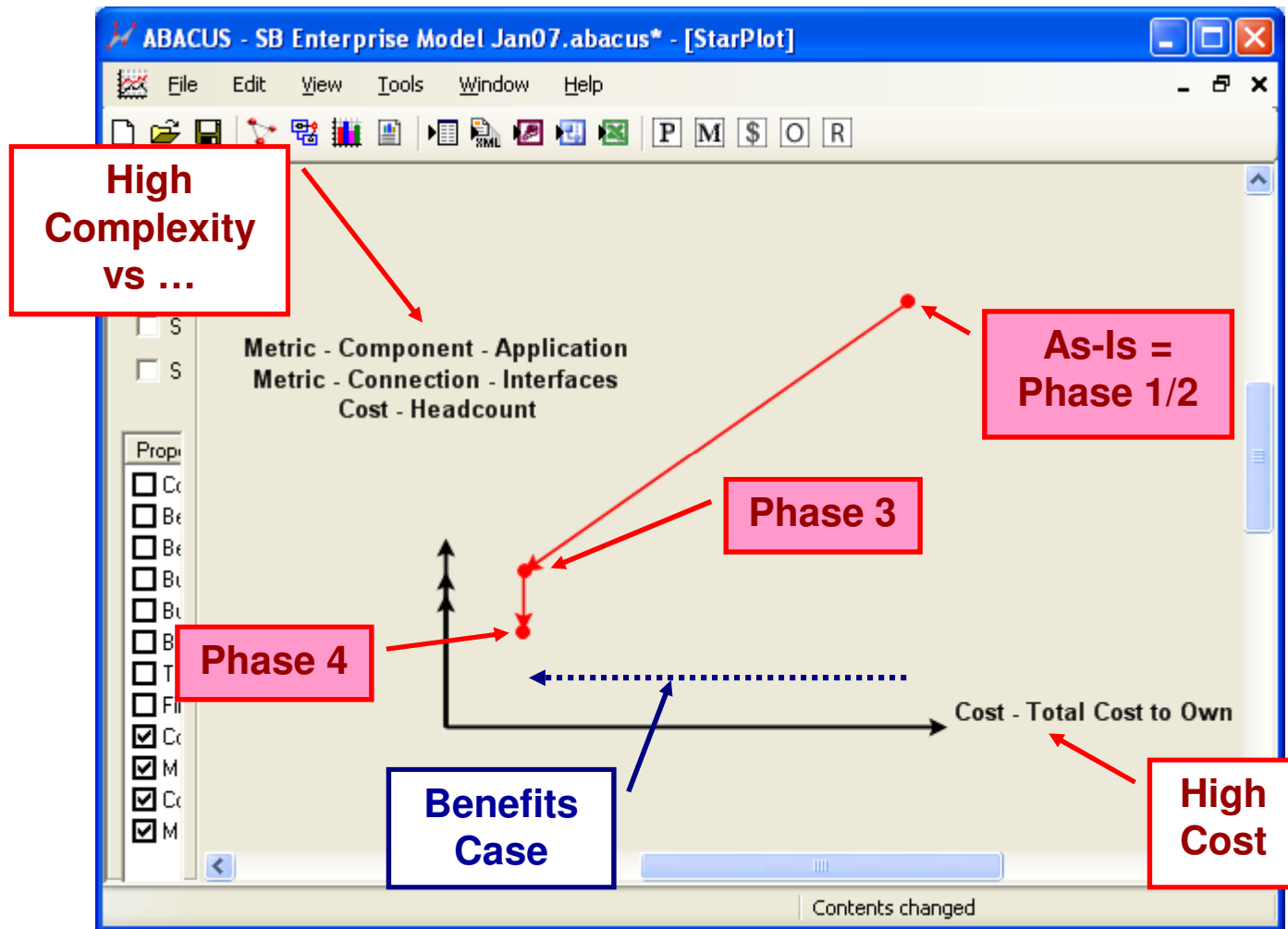
Phase 4

Benefits Case

Reduced Complexity



Trade-off Diagram for the CST transformation



All Dashboarded and Published

2008 Actual - Properties

Name	Value	Unit
* [Empty Row]		
Behaviour - 8 item(s)		
Cost - 1 item(s)		
Total Cost to Own - next 5 years	22533000	\$
Metric - 5 item(s)		
Reliability - 4 item(s)		
Mission Reliability - 1 years	0	
Unavailability	0.0033505	0257538627
Mission Unreliability	0.9561434	21513227

Chart

Response Time (seconds)

10.00
1.00
0.10
0.01

Res

ABACUS: Publish To Web - Microsoft Internet Explorer

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SERVICE BIRMINGHAM

Enterprise Model

Start browsing through the model in the panel to the left (Help is available [HERE](#)),
or
Click on the images below to go directly to the Meta-model or the "Box of Boxes" (follow the **blue** links),
or
Click [HERE](#) to go to an introductory presentation (with narration).

Meta-model

"Box of Boxes"

ABACUS

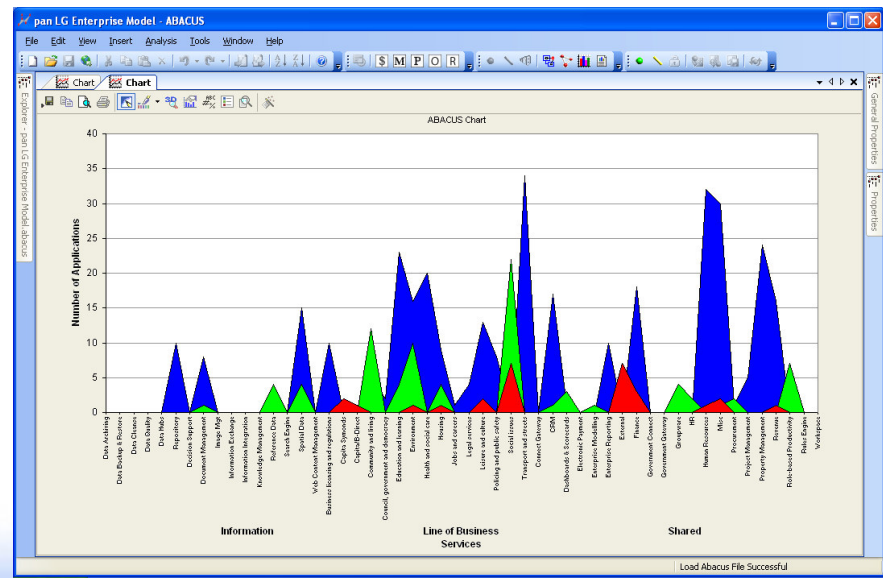
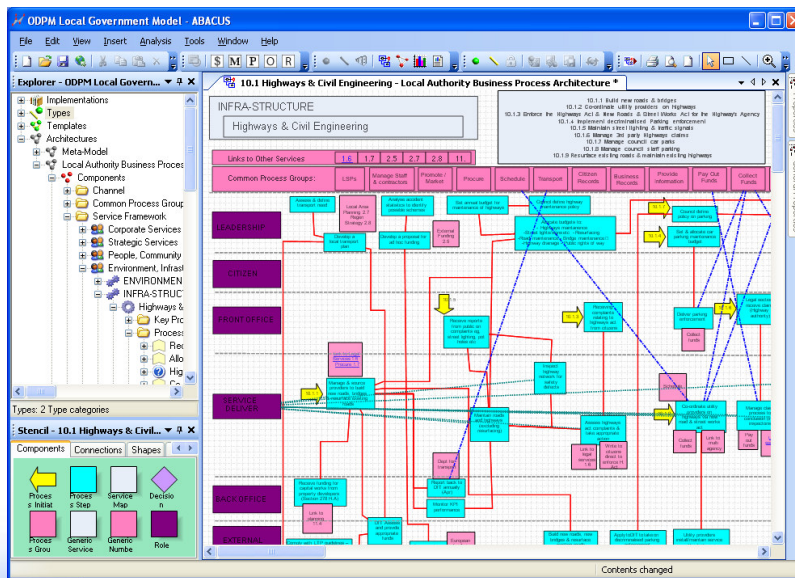
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- **3 months** analysis exercise reduced to **3 weeks**
- Delivery of a fully costed solution architecture for a bid in a **single day**, as opposed to a minimum of 3-4 weeks - **15x** to **20x** improvement
- **20-30% better** success rate of proposals due to the quality and accuracy of the recommendations
- **3x reduction** in the project initiation to review time-cycle
- Up to **50% reduction** in architecture office resources to output the same (and in most cases better) support to the business – work “smarter” not “harder”!
- **Avoidance of additional costs** through making a wrong decision through gut-feelings



- **Exploitation of a common meta-model with a predicted overall 10-20% efficiency improvement across the board**
- **2x productivity increase by “parachuting in” centralised experts**
- **Patterns and rationalisation indices being re-used across many other councils – presented at Open Group APC in Glasgow**



- **Currency – “The Myth of Zachyphus”**
 - *As soon as you’re finished you have to start again*
 - *Integration with CMDB, Operations, BAs etc is essential*
 - *Always having an ‘As-Is’ and many As-Was’s ...*
- **Frameworks – a silver bullet?**
 - *We know what we don’t want - a ‘vanilla’ framework (e.g. Zachman, TOGAF, ArchiMate)*
 - *But what DO we want? Roll our own?*
 - *How about a framework that supports the analysis you want to do? I.e. Passive versus Active modelling*
- **Metrics**
 - *Beware the shotgun correlations*
 - *More guidance is needed ... ≠ Business Intelligence!*



Butler Group – IT Strategy and Architecture Report 2008

- **There needs to be a clear understanding of the enterprise goals and the role that the business expects IT to play.**
- To remain competitive, organisations must urgently address the growing dislocation between strategy and IT deliverables.
- **Defining an IT strategy is of little value if organisations are unable to measure the effectiveness of that strategy in delivering value.**
- Enterprise Architecture must take a leadership role in IT strategy and service delivery.
- Special attention should be paid to the people and process aspects of Enterprise Architecture.
- An enterprise model needs to be communicated in each stakeholder's 'language', as well as being relevant to senior management and solution architects.
- **Architecture can benefit from a metrics-based and performance analytics-driven approach.**
- For architecture to become a respected discipline there needs to be additional encouragement.
- Organisations should take a portfolio-based approach to selecting IT investments.



Thank you

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For more information on ABACUS go to;
<http://www.avolution.eu>

Questions?

