Real-world Application Modernisation Projects

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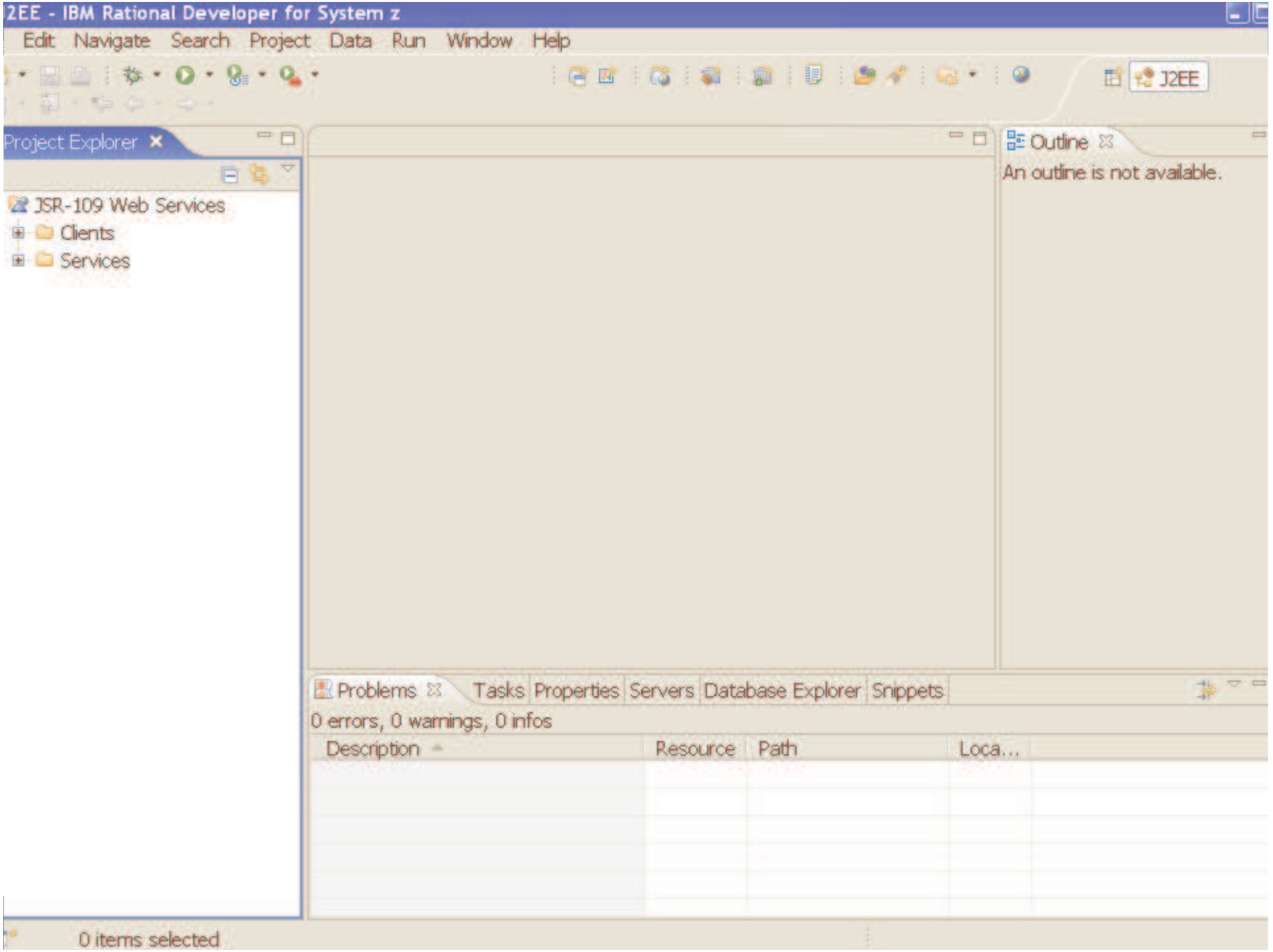
IBM Academy Member
September 13th 2008


2EE - IBM Rational Developer for System z
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Outline
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Problems
Tasks
Properties
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Database Explorer
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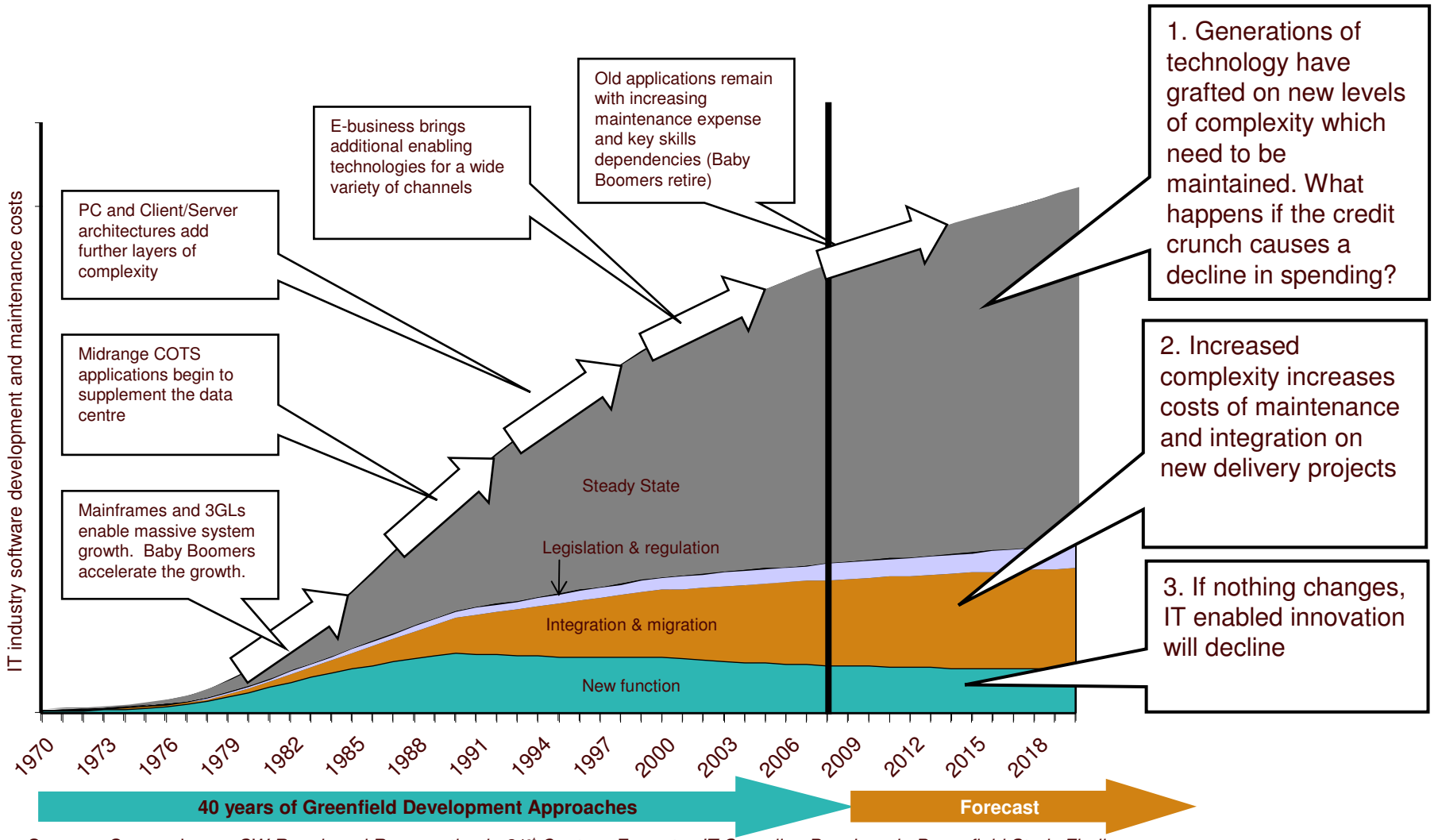
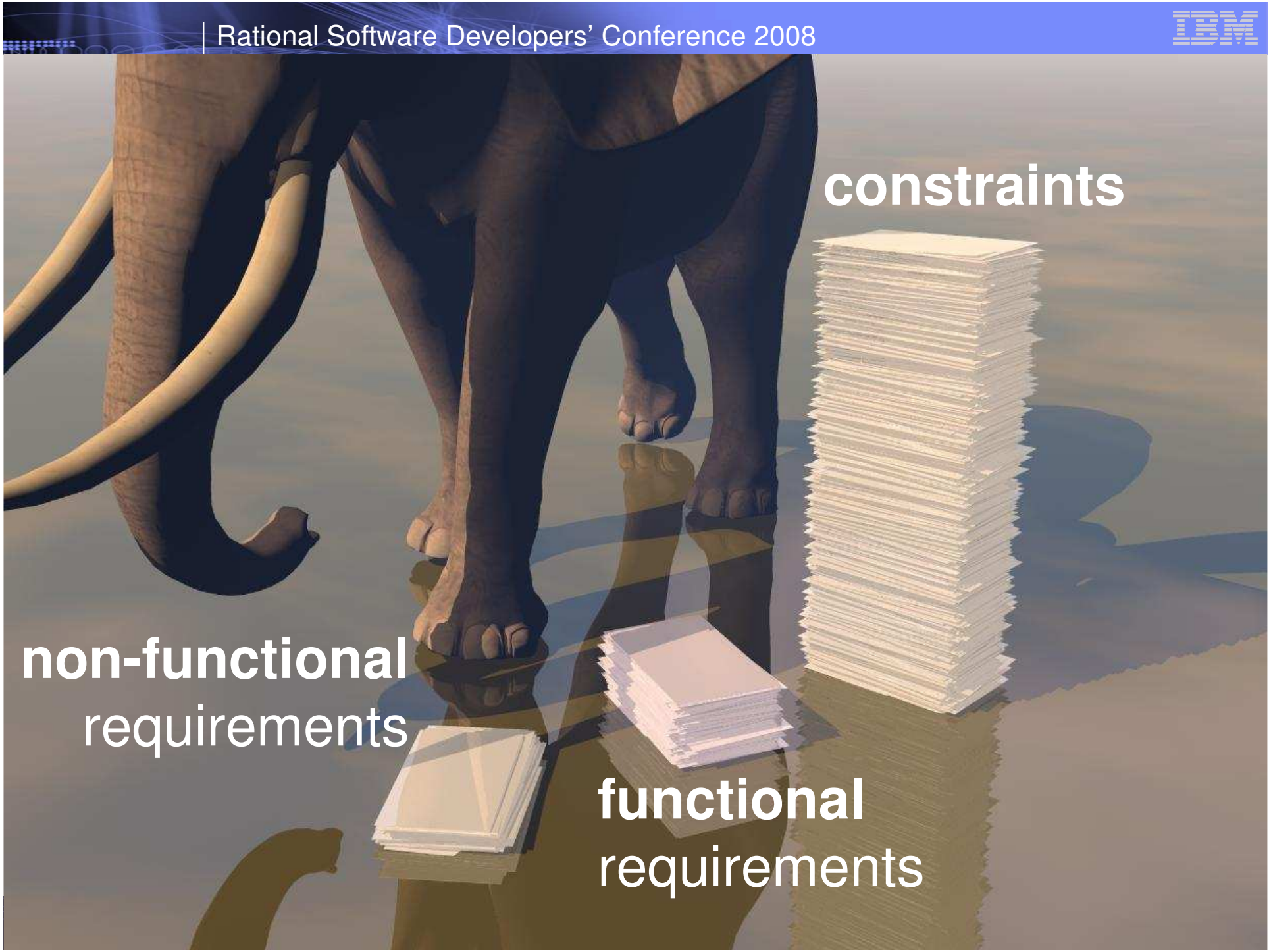
one **bite**
at a time?

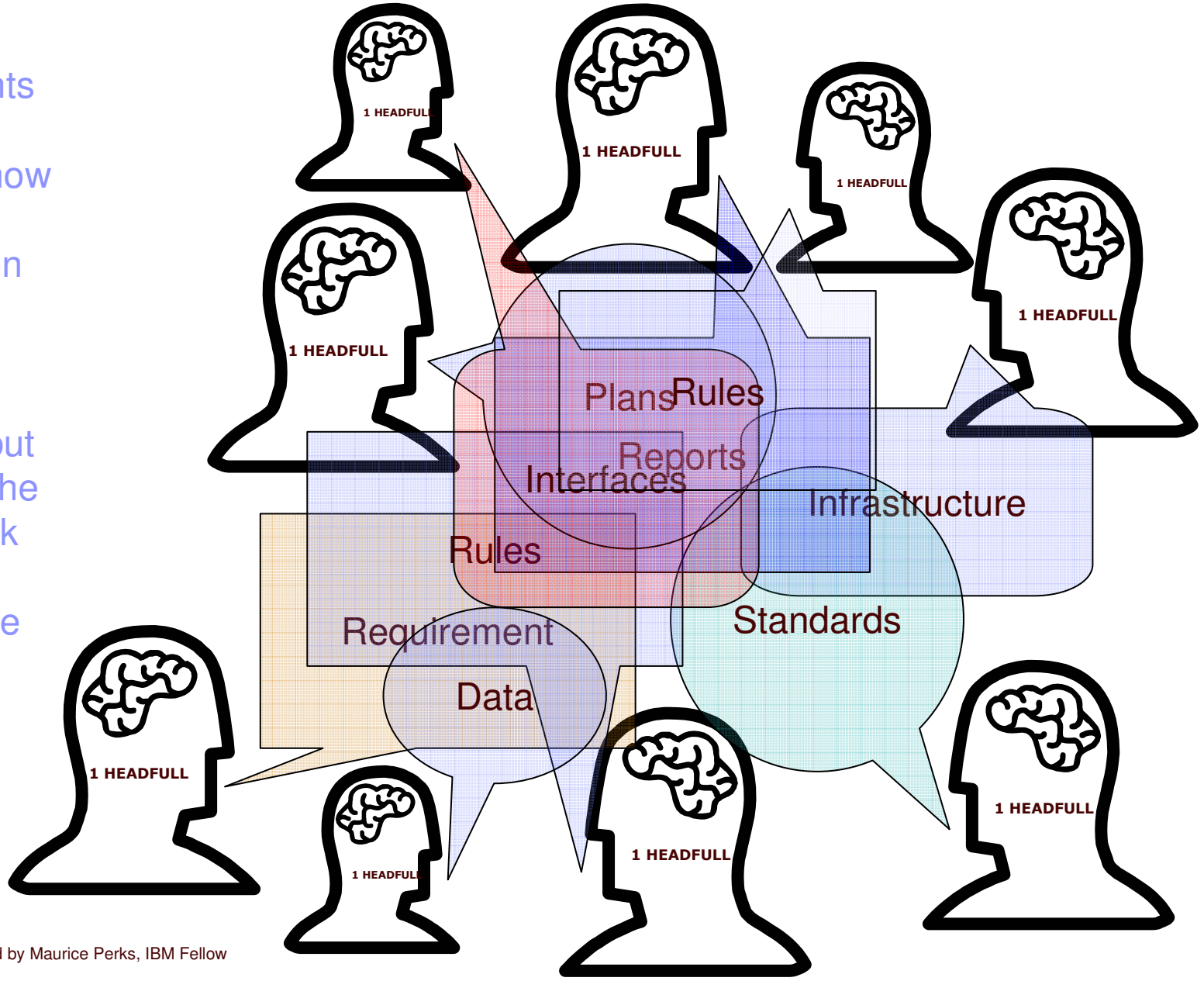
If nothing changes innovation will decline…



Sources: Capers Jones, *SW Repair and Rennovation in 21st Century*; Forrester *IT Spending Benchmark, Brownfield Study Findings*

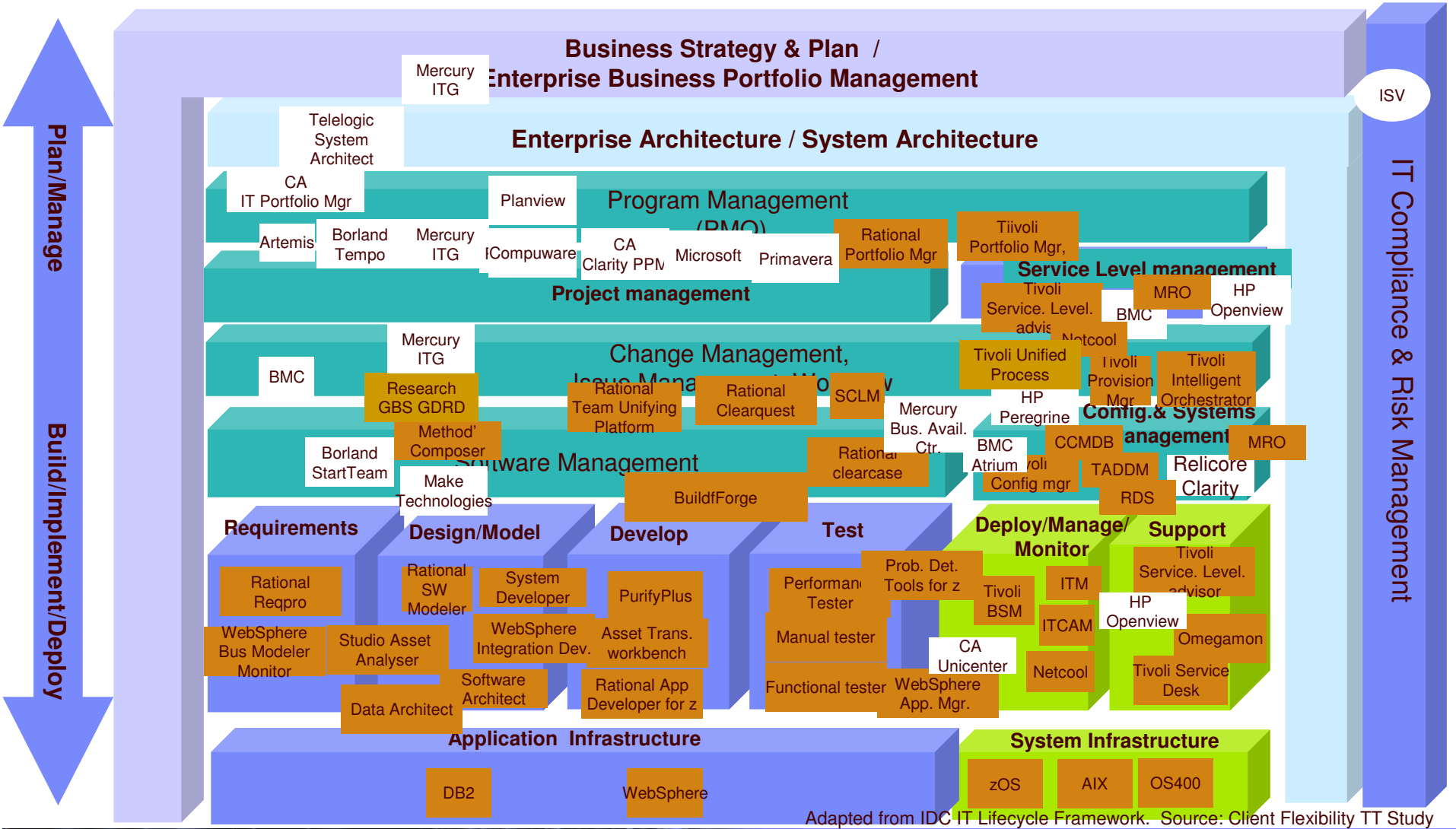

constraints
non-functional
requirements
functional
requirements

Knowledge of these constraints and the knowledge of how to deliver the project are often in many independent headfulls™. Not only that, but the owners of the headfulls all talk different languages… we often use imprecise abstractions to get our heads around the problem…



™ – Headfulls were invented by Maurice Perks, IBM Fellow

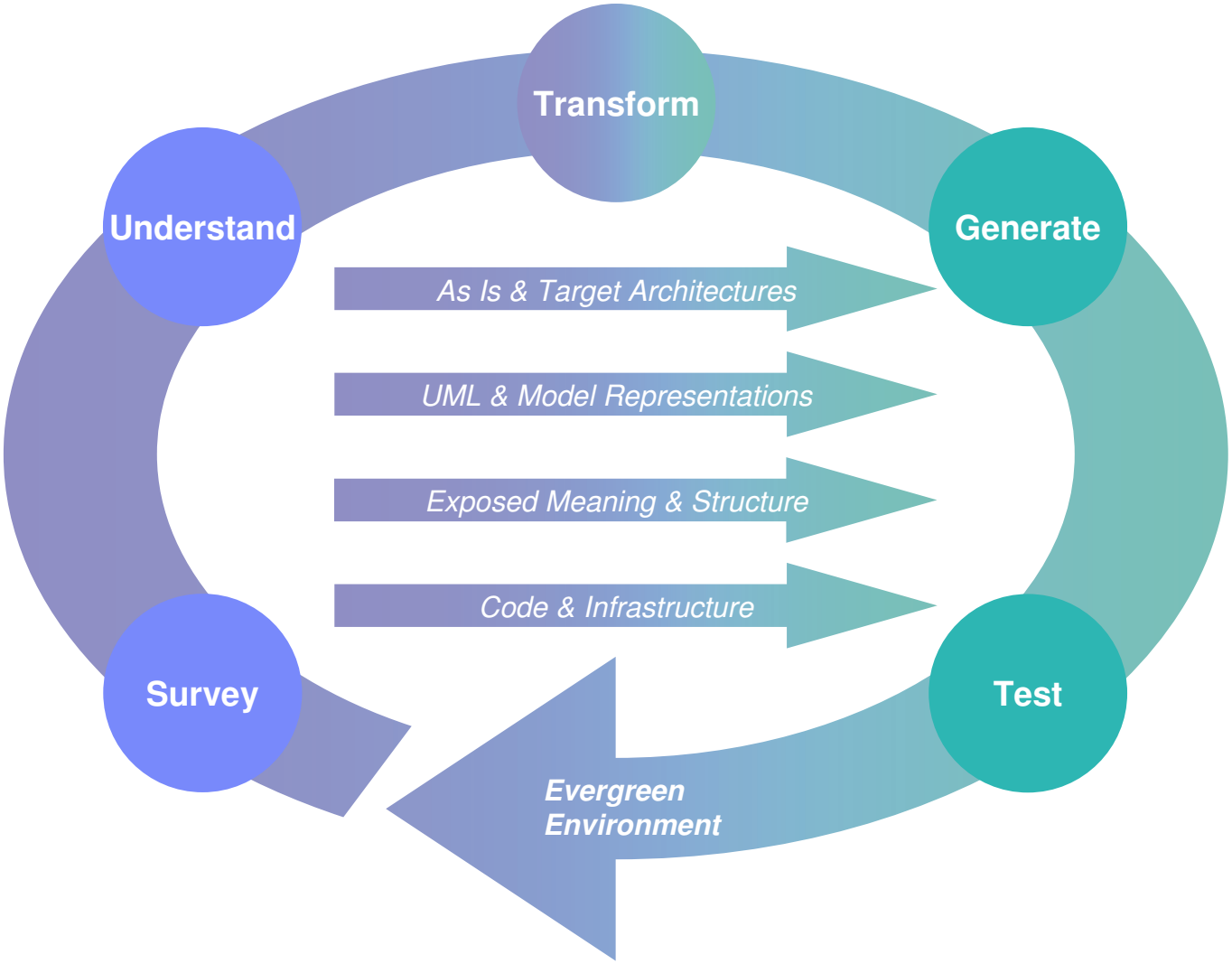
The tools and skills to manage this complexity are similarly fragmented, making it difficult to manage and change the Brownfield environment.



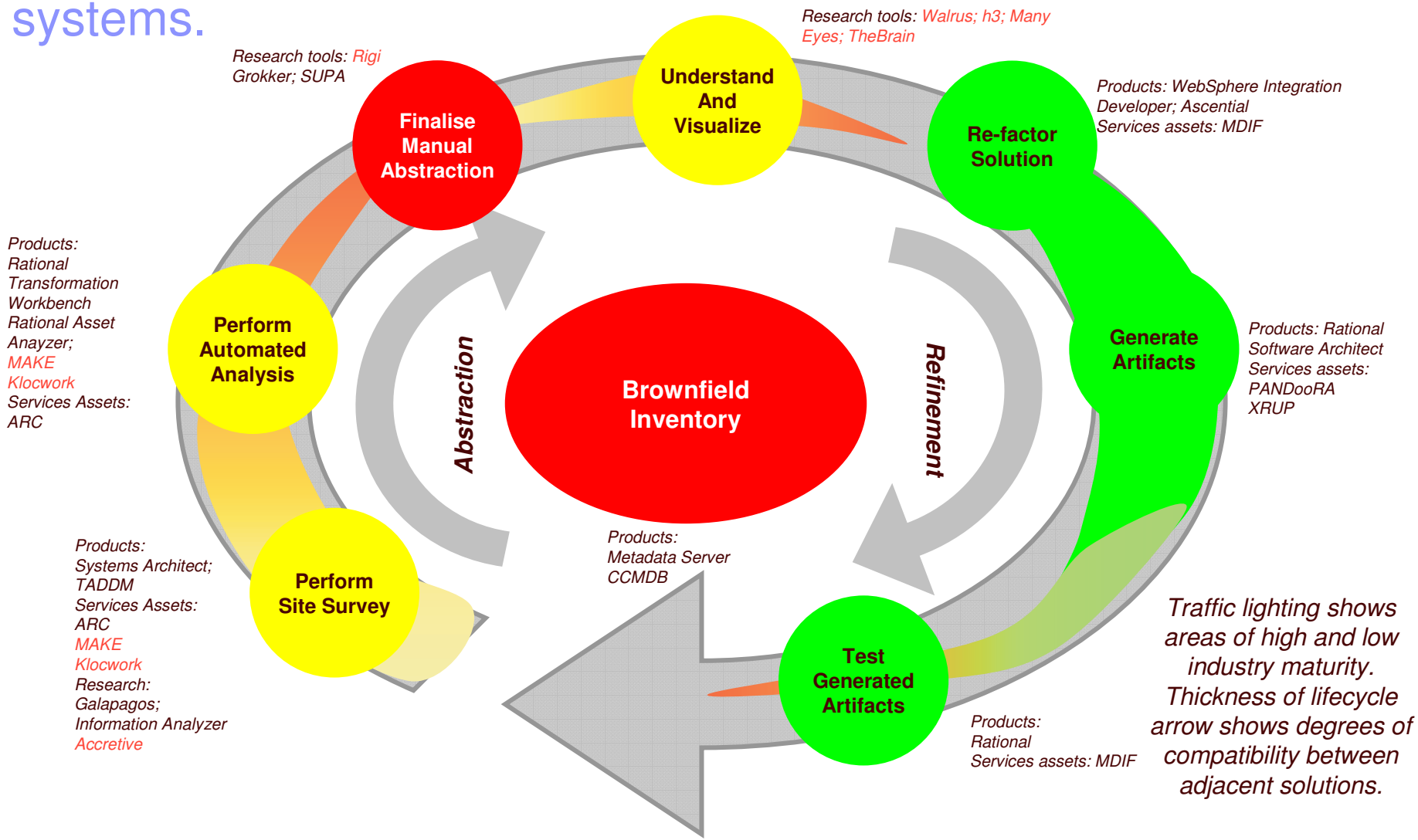
Adapted from IDC IT Lifecycle Framework. Source: Client Flexibility TT Study

So what we need is a (preferably big blue) Elephant Eater and a new way of dealing with complexity…

The Brownfield Development method holistically discovers complexity, understands it and then simplifies it through transformation at multiple levels…

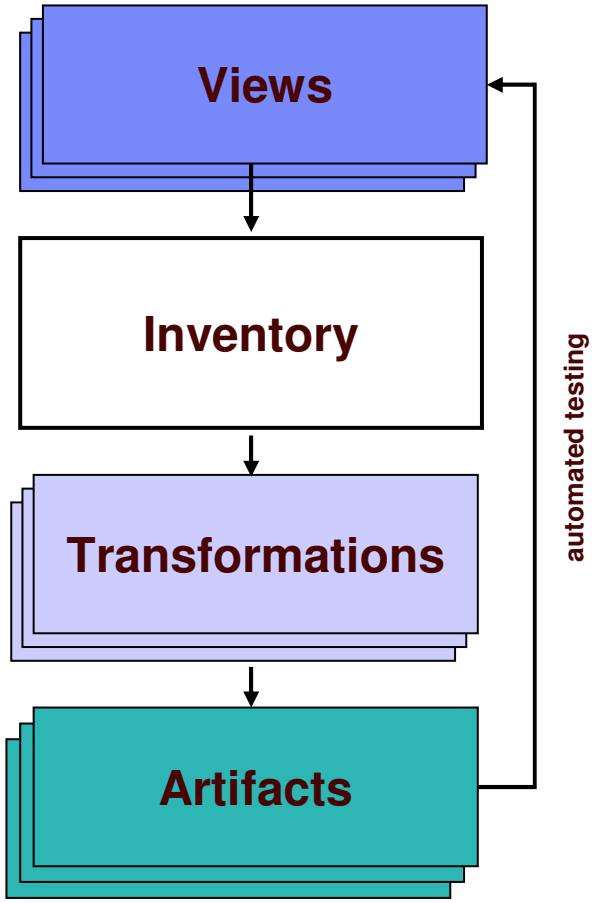


Brownfield based engineering provides the factual understanding to unlock the business value from legacy systems.

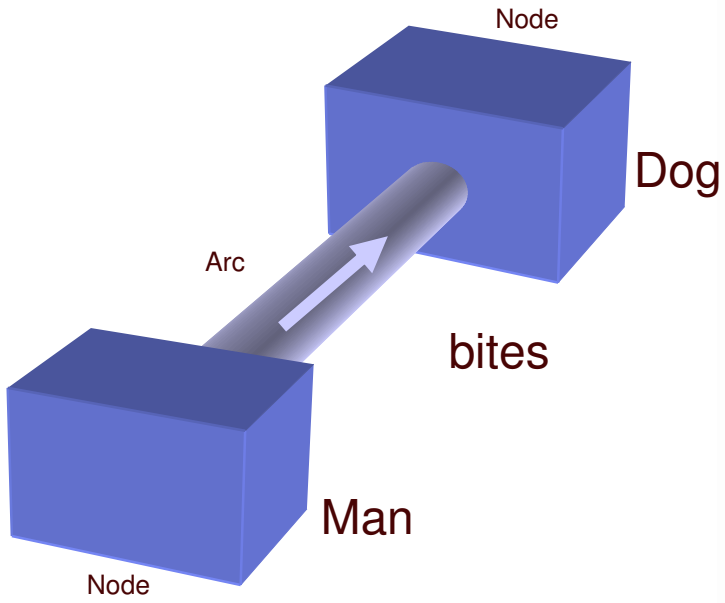


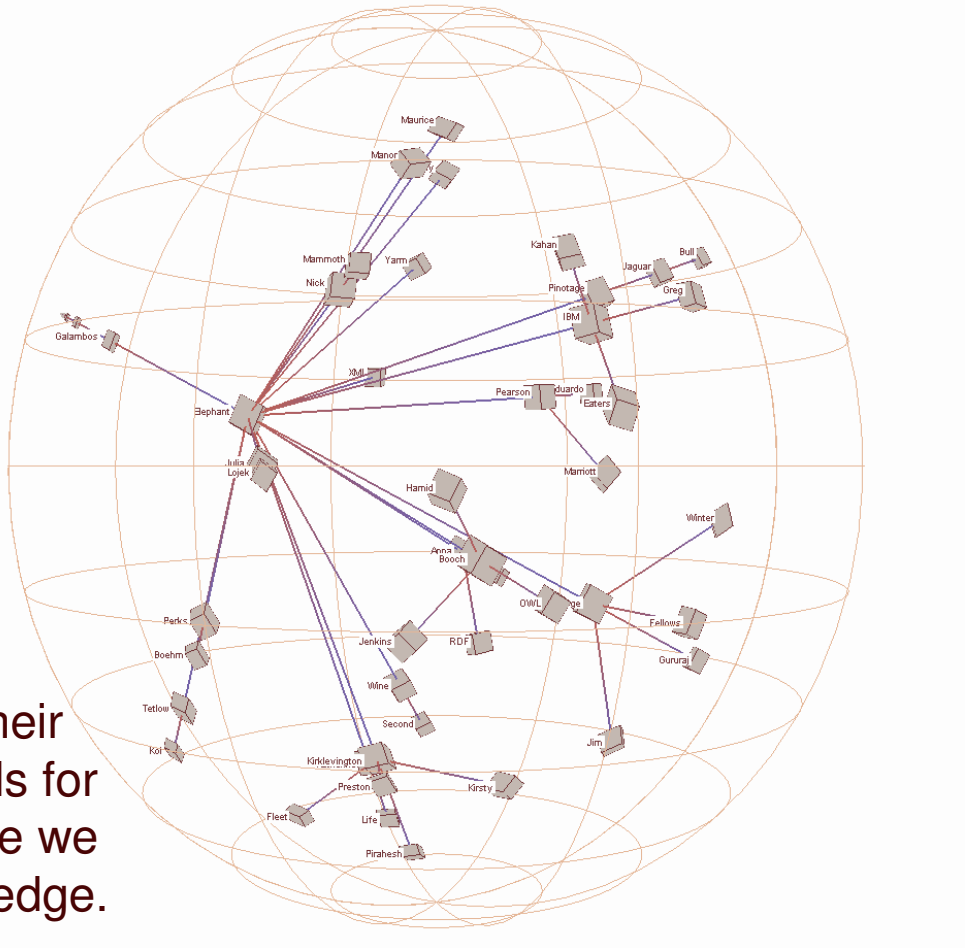
The headfulls are processed as Views into a single Inventory and used to generate solutions

- IBM has filed patents protecting the tooling that underpins the Brownfield Development approach
- The technology was developed across a series of complex Government projects in the UK
- The VITA tooling architecture (opposite) has subsequently enabled a wide variety of complex problems to be solved using advanced semantic technologies



The information is then stored as triples…

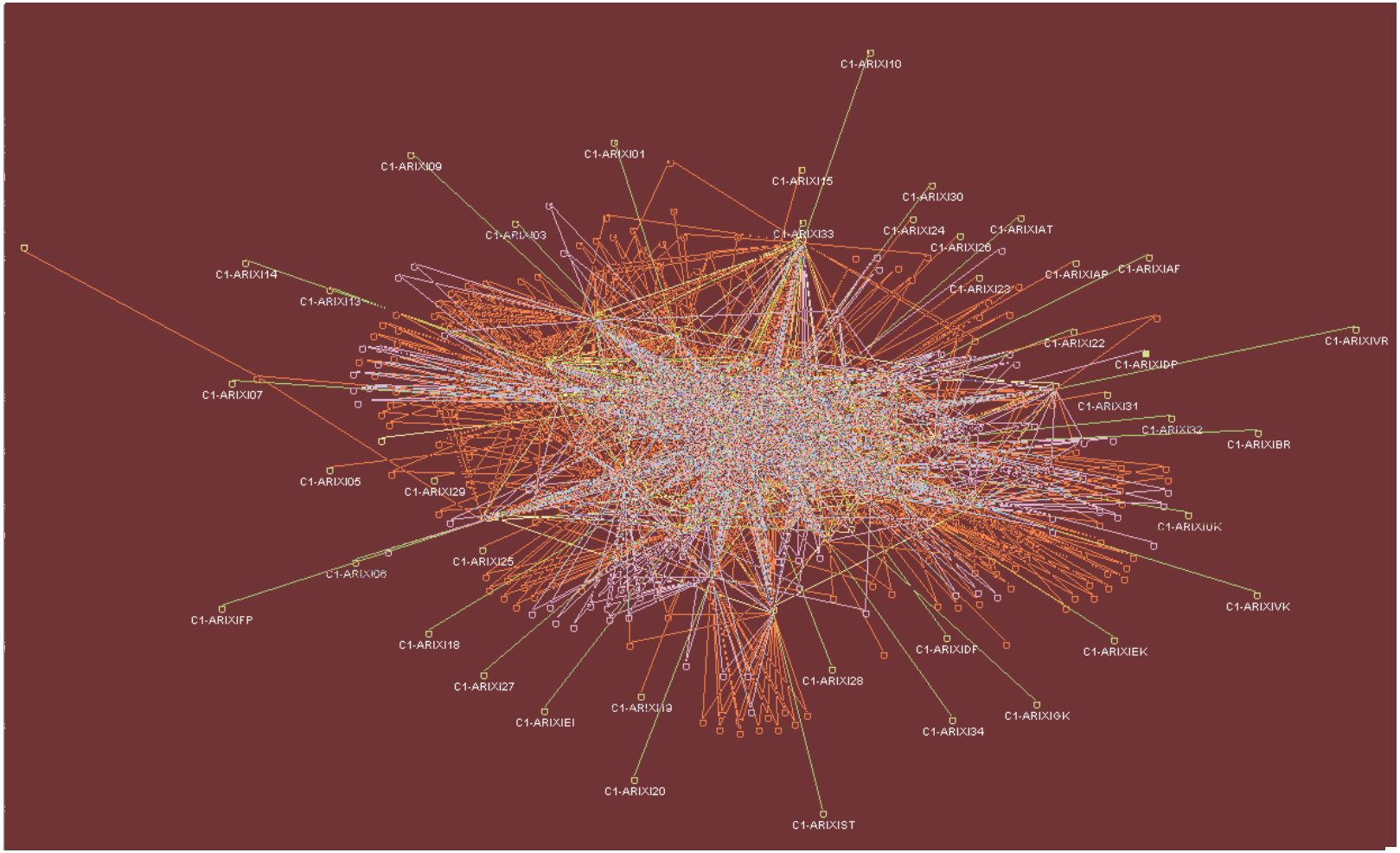




Trying to unify the tooling would be pointless – each community speaks their own language and uses their own tools for good reasons. To unify the knowledge we need to incrementally build our knowledge.

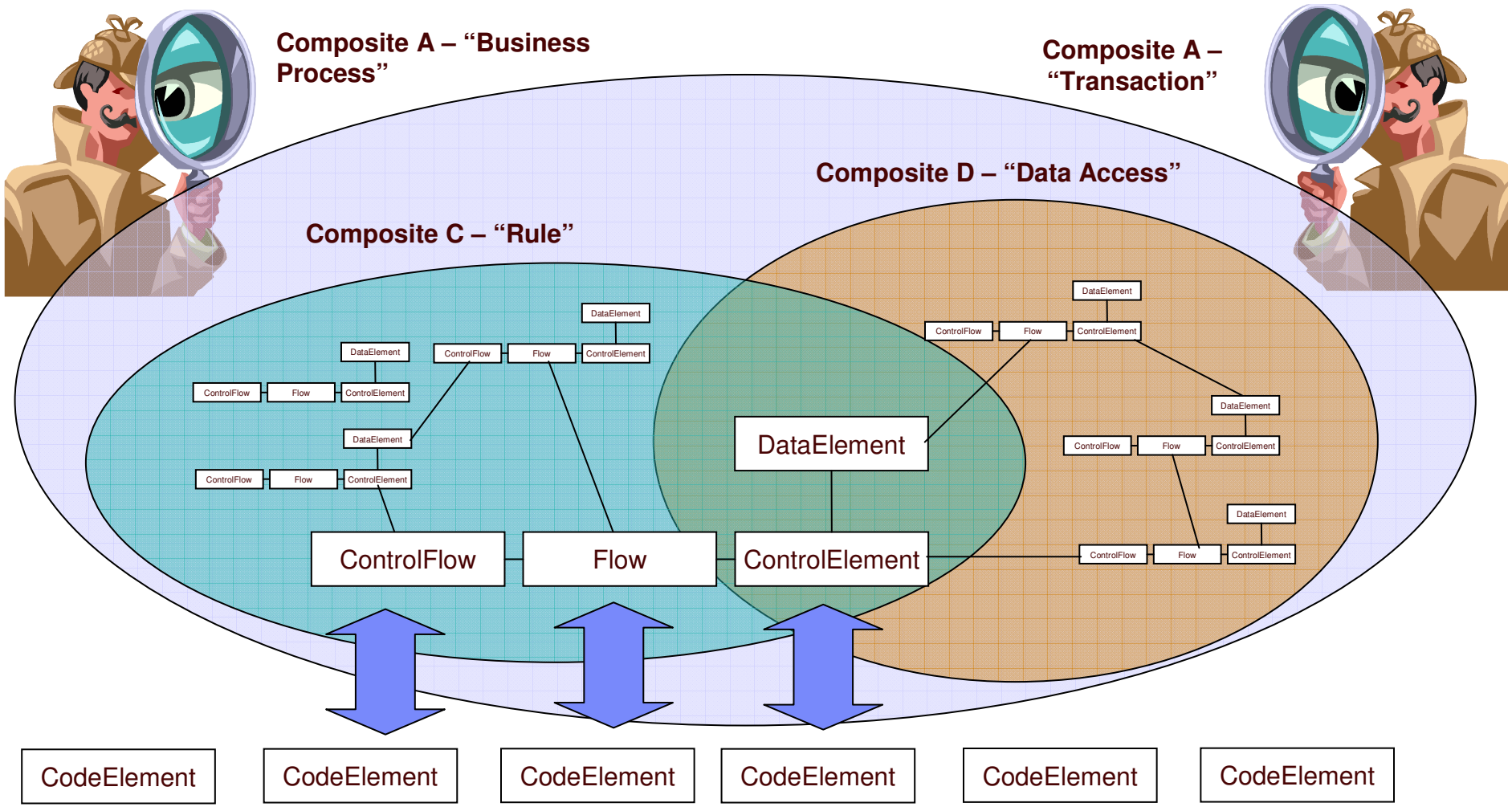
H3 viewer by Tamara Munzner , Department of Computer Science, University of British Columbia Graphics, Visualization and HCI group

The triples undergo incremental filtering and aggregation



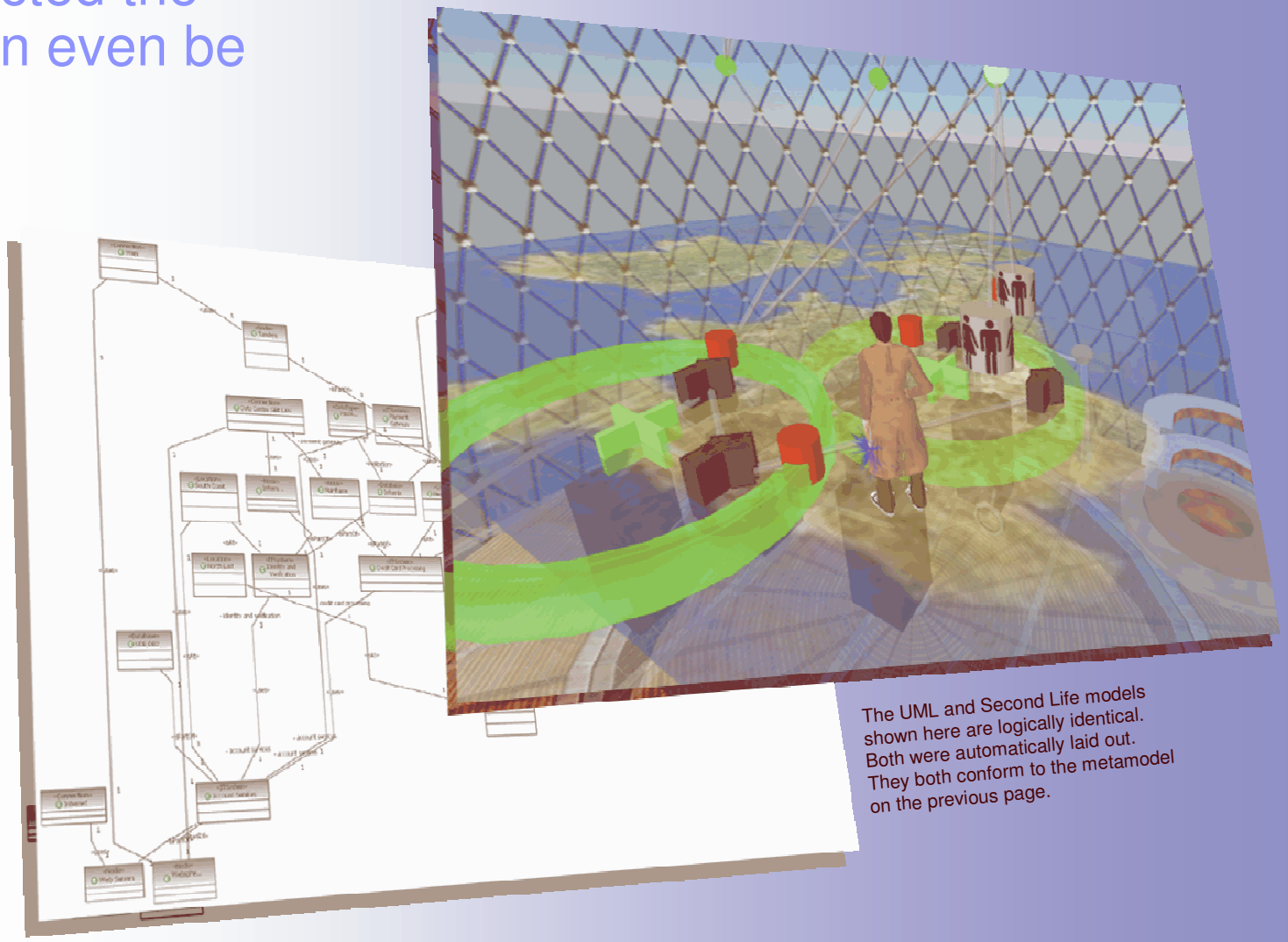
Rigi from University of Victoria in the Department of Computer Science, headed by Dr. Hausi Müller. Source code IBM SQL/DS

Properties are escalated up through the abstractions based on composite type



Once abstracted the Inventory can even be visualized…

Alternatively, easily understandable, yet precise interactive visualizations can be automatically generated to assist in communication to stakeholders or remote team members.



The UML and Second Life models shown here are logically identical. Both were automatically laid out. They both conform to the metamodel on the previous page.

credit crunch constrains IT spending

increasing maintenance costs due to complexity

increasing levels of legislation and regulation

integration and migration becoming more complex

demand for ongoing cost reduction during recession

inability to react to market forces

After 40 years of investment, IT runs the world, but its legacy is crushing innovation

500 million years of programming effort

unlock new business value from existing systems

20-50% faster cycle time

improve alignment of business and IT

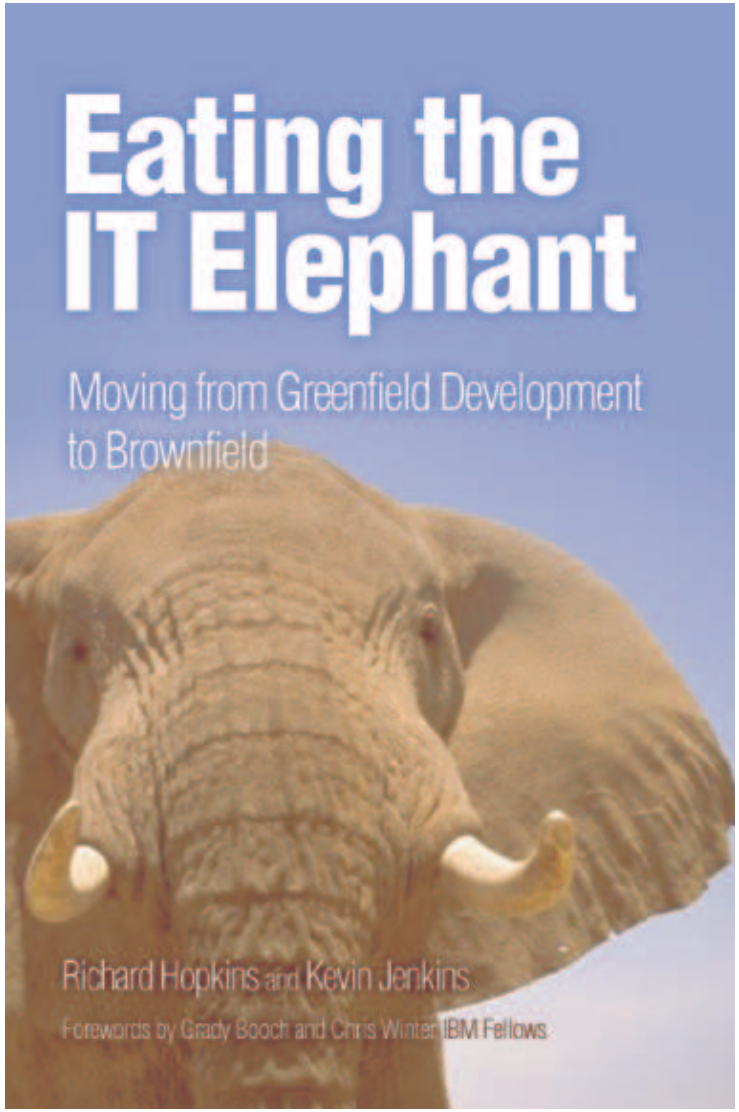
reduction in complexity

reduce costs of managing and maintaining IT by 15 to 40%

Brownfield development offers a reversal of this trend

Summary

- IBM has some excellent products and services offerings in this area including:
  - Rational Asset Analyser
  - Rational Transformation Workbench
  - Analysis and Renovation Catalyst
- The more mainstream and strongly governed your systems are, the more help that is readily available
- For those of us in less advantageous positions, there is a book (opposite) which provides additional guidance.
- Expect greater Brownfield capabilities in IBM services and software products in the future



Brownfield Links

- Bluepedia
  - **Brownfield Development -** http://w3.ibm.com/bluepedia/display/en/Brownfield
- Wikipedia
  - **Brownfield Development -** http://en.wikipedia.org/wiki/Brownfield_%28Software%29
- You Tube
  - **3D visualization of semantic model (90 seconds)** - http://www.youtube.com/watch?v=Xy90VxgWTP0
  - **Brownfield Introduction Video (120 seconds)** - http://www.youtube.com/watch?v=5aDnPQUlPyc
- External Website - http://www.elephanteaters.org/
- Brownfield Blog - http://elephanteaters.org/blogger.html
- Amazon
  - **Eating the IT Elephant Book** - http://www.amazon.com/Eating-Elephant-Greenfield-Development-Brownfield/dp/0137130120/ref=pd_bbs_sr_1?ie=UTF8&s=books&qid=1210579939&sr=8-1
  - **Amazon Author Blog** - http://www.amazon.com/gp/blog/A2K13CHCQMBIUK/ref=cm_blog_dp_artist_blog

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