

Just Enough (Architecture)

Open Group (Cape Town)
12 March 2007



The **Big** Idea

There is a revolution taking place

Technology is **disappearing** into the walls of the buildings to the point of becoming **invisible**.

Process and (web) service

orchestration is **king**.



Into the walls!?



More Evidence



The Disappearing Infrastructure

Resting Data Bases

Getting your data base into RESTful state.

NOVEMBER 13, 2006

A question of style

In the last note, we looked at the base url format. this was:

```
'www.resting-db.com/test/country?rep=xml'
```

We can easily extend the syntax in this url to include a style sheet.

```
www.resting-db.com/test/country?rep=xml,style=linked_country.xslt
```

Using this link, you will get a formatted table of countries together with links to single country data. Choose one and you will see:

```
'www.resting-db.com/test/country:code.EQ.'cc'?rep=xml,style=one_country.xslt'
```

where 'cc' is the country code.

In order to keep the urls human readable, we have chosen to use the '.EQ.' or '.LIKE.' to represent '=' and 'like'. So to get a shorter list of countries whose codes start with 'K' we would construct the following url.

```
www.resting-db.com/test/country:code.LIKE.'K%'?rep=xml,style=linked_country.xslt
```

The syntax also contains a sort instruction after the '?'. So,

```
www.resting-db.com/test/country:code.LIKE.'c%'?  
rep=xml,style=linked_country.xslt,sort=name
```

Posted at 10:59 AM | [Permalink](#) | [Comments \(0\)](#) | [TrackBack \(0\)](#)

OCTOBER 22, 2006

A RESTful database protocol

It is refreshing to come across a concept that has the promise of being substantially

ARCHIVES

- [November 2006](#)
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NOVEMBER 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
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USEFUL BOOKS



PETER M. SENGE:
The Fifth Discipline

Peter Senge is a leading thinker on and practitioner of systems thinking and

learning organisations. In this book he suggests 5 basic competencies that organisation will need to thrive in a rapidly changing world. Of these, the chapters on systems thinking, mental models and building shared vision are very important to the work of this website.



The Disappearing Large Scale Infrastructure

Amazon.com: Amazon EC2, Amazon Elastic Compute Cloud, Virtual Grid Computing: Amazon Web Service - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Search the Web Search Address http://www.amazon.com/b/ref=sc_fe_l_2/104-8418312-6059140?ie=UTF8&node=201590011&no=3435361&me=A36L942T5J2AJA Go Links

Google amazon web services Go Bookmarks 201 blocked Check AutoLink AutoFill Send to amazon web services Settings

Y! Search Web Mail My Yahoo! NCAA Hoops Fantasy Sports Music Answers Personals Sign In

[Pricing](#)
[Amazon Mechanical Turk \(Beta\)](#)
[Amazon Simple Storage Service](#)
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- Use Amazon EC2 web service to configure security and network access.
- Use Amazon EC2 web service to start, terminate, and monitor as many instances of your AMI as needed.
- Pay for the instance hours and bandwidth that you actually consume.

Service Highlights

- **Elastic**
Amazon EC2 enables you to increase or decrease capacity within minutes, not hours or days. You can commission one, hundreds or even thousands of server instances simultaneously. Of course, because this is all controlled with web service APIs, your application can automatically scale itself up and down depending on its needs.
- **Completely Controlled**
You have complete control of your instances. You have root access to each one, and you can interact with them as you would any machine. Each instance predictably provides the equivalent of a system with a 1.7Ghz x86 processor, 1.75GB of RAM, 160GB of local disk, and 250Mb/s of network bandwidth.
- **Designed for use with Amazon S3**
Amazon EC2 works in conjunction with Amazon Simple Storage Service (Amazon S3) to provide a combined solution for computing and storage across a wide range of applications.
- **Reliable**
Amazon EC2 offers a highly reliable environment where replacement instances can be rapidly and reliably commissioned. The service runs within Amazon's proven network infrastructure and datacenters.
- **Secure**
Amazon EC2 provides web service interfaces to control network security. You define groups of instances and their desired accessibility.
- **Inexpensive**
Amazon EC2 passes on to you the financial benefits of Amazon's scale. You pay a very low rate for the compute capacity you actually consume. Compare this with the significant up-front expenditures traditionally required to purchase and maintain hardware, either in-house or hosted. This frees you from many of the complexities of capacity planning, transforms what are commonly large fixed costs into much smaller variable costs, and removes the need to over-buy "safety net" capacity to handle periodic traffic spikes.

Pricing

- Pay only for what you use.
- \$0.10 per instance-hour consumed (or part of an hour consumed).
- \$0.20 per GB of data transferred into/out of Amazon (i.e., Internet traffic).
- \$0.15 per GB-Month of Amazon S3 storage used for your images (charged by Amazon S3).

Data transferred within the Amazon EC2 environment, or between Amazon EC2 and Amazon S3, is free of charge (i.e., \$0.00 per GB).



The Disappearing File Servers

The screenshot shows a Microsoft PowerPoint window titled "Microsoft PowerPoint - [Just enough v1]". The main slide is titled "Evidence" and features a central yellow sun-like graphic. Surrounding this graphic are several logos: amazon, ZOHIO, Source, M·V, Backpack, ebay, Chip PC Technologies, and factiva. A "Save As" dialog box is open in the foreground, showing the "Save in:" location as "Omnidrive v0.7.2". The file list includes folders like "BookSummaries", "Downloads", "InvesteInterchange", "My Neighbourhood", "PHIdeas", "PublicPresentations", "RepGrid", and files "IT Governance.ppt" and "Just enough.ppt". The "File name:" field contains "Just enough v1" and the "Save as type:" is set to "Presentation".



The Disappearing Office Suites

Online Office Tools, Productivity Applications and more - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Mail Print Run Script

Search the Web Search Address http://www.zoho.com/ Go Links

Google michael porter distinctive Go Bookmarks 201 blocked Check AutoLink AutoFill Send to michael porter distinctive Settings

Y! Search Web Mail My My Yahoo! NCAA Hoops Fantasy Sports Music Answers Personals Sign In

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Create, Aggregate and Collaborate on multiple types of content online.

Zoho Virtual Office
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Productivity Tools

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The Disappearing Applications

AppExchange - On-Demand Business Applications from salesforce.com - Microsoft Internet Explorer

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Y! Mail My Yahoo! NCAA Hoops Fantasy Sports Music Answers Personals Sign In

“The iTunes of business software.”
— Forbes, “Top 10 Disrupters Of 2006”

Forbes.com

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X Browse Apps

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- Partner Relationship Management (PRM)
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- Components

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X Latest Listings

- DynamicPDF**
03/04/2007
- Yahoo Map Account Hierarchy**
03/02/2007
- Multistep Marketing**
02/28/2007
- Online Selling Management**
02/27/2007
- XLR8**
02/27/2007
- Campaign Timeline Calendar**
02/26/2007
- QXchange**
02/26/2007
- InsideTrack**
02/22/2007
- Web Meeting Mashup**
02/22/2007
- Deal Registration Program Template**
02/21/2007

X Top 10 Installs

1. **Lead and Opportunity Management Dashboards**
by Salesforce Labs
2. **VerticalResponse for AppExchange**
by VerticalResponse
3. **Sales Activity Dashboard**
by Salesforce Labs
4. **Adoption Dashboards**
by Salesforce Labs
5. **MapQuest for AppExchange 1.0**
by MAPQUEST, INC
6. **PRM Portal (Winter '07)**
by salesforce.com
7. **Sales KPI Dashboard 1.0**
by Salesforce Labs
8. **Salesforce for Google AdWords**
by salesforce.com
9. **Project and Issue Management**
by Salesforce Labs
10. **Service & Support Dashboards**
by Salesforce Labs

My Filters

Edition:

- All editions

Additional Filters:

- No filters selected

[Change](#) your search and browse filters.

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Achieving Massive Scale The Search for Jim Gray

Jim Gray, Microsoft Research Home Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Print Mail News RSS Feeds The My Web Search Bar has been improved! Update Now or

Search the Web Search Address <http://research.microsoft.com/~gray/> Go Links

Google "jim gray" disappeared Go Bookmarks 201 blocked Check Look for Map AutoFill Send to jim gray disappeared Settings

Y! Search Web Mail My Yahoo! NCAA Hoops Fantasy Sports Music Answers Personals Sign In

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Jim Gray Summary Home Page

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tel: (415) 778-8222,

Jim Gray is a researcher and manager of Microsoft Research's [eScience Group](#). His primary research interests are in databases and transaction processing systems -- with particular focus on using computers to make scientists more productive. He and his group are working in the areas of astronomy, geography, hydrology, oceanography, biology, and health care. He continues a long-standing interest on building supercomputers with commodity components, thereby reducing the cost of storage, processing, and networking by factors of 10x to 1000x over low-volume solutions. This includes work on building fast networks, on building huge web servers with *CyberBricks*, and building very inexpensive and very high-performance storage servers.

Jim also is working with the astronomy community to build the [world-wide telescope](#) and has been active in building online databases like <http://terraService.Net> and <http://skyserver.sdss.org>. When the entire world's astronomy data is on the Internet and is accessible as a single distributed database, the Internet will be the world's best telescope. This is part of the larger agenda of getting all information online and easily accessible (digital libraries, digital government, online science ...). More generally, he is working with the science community (Oceanography, Hydrology, environmental monitoring, ...) to build the world-wide digital library that integrates all the world's scientific literature and the data in one easily-accessible collection. He is active in the research community, is an ACM, NAE, NAS, and AAAS Fellow, and received the ACM Turing Award for his work on transaction processing. He also edits of a series of books on data management.

What's new?

[Performance of a Sun X4500 under Windows, NTFS and SQLserver 2005](#), (pdf) Sun loaned this storage/compute brick to JHU for some of the eScience internet services we are building there. This preliminary performance report shows it to be a balanced system (4 cpus, 16GB ram, 48 disks, 24TB all in 4U using 800W) Here is the [spreadsheet](#) with the numbers for the graphs. And [here](#) is a zip of the test tools and scripts.

A radical view of Flash Disks: [document](#) and [talk](#).

["SkyServer Traffic Report - The First Five Years"](#) is a study of the traffic on Skyserver.sdss.org, an eScience website. Done jointly with Vik Singh, Alex Szalay, Ani Thakar, Jordan Raddick, Bill Boroski, Svetlana Lebedeva, and Brian Yanny it analyzes the traffic trying to see how people and programs use the site, the data, and the batch job system.

["Cross-Matching Multiple Spatial Observations and Dealing with Missing Data"](#), with Alex Szalay, Tanas Budavári, Robert Lupton, Maria Nieto-Santisteban, and Ani Thakar explains how to spatially correlate observations of the same area (of the sky or earth or..).

["Life Under Your Feet: An End-to-End Soil Ecology Sensor Network Database, Web Server, and Analysis Service"](#), with Katalin Szlavecz, Andreas Terzis, Razvan Musaloiu-E, Joshua Cogan, Sam Small, Stuart Ozer, Randal Burns, and Alex Szalay of JHU we built an end-to-end soil monitoring system deployed at a Baltimore urban forest. Sensor

Flexible, Scalable Processes

Amazon Mechanical Turk - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Search the Web Search Address <http://www.mturk.com/mturk/preview?groupId=JSE2RBZE7Z24VKYK93J0> Go Links

Google "jim gray" disappeared Go Bookmarks 203 blocked Check AutoLink AutoFill Send to jim gray disappeared Settings

Search for **HITs** containing that pay at least \$ **0.00** for which you are qualified GO

Amazon Mechanical Turk will have a limited scheduled outage on the morning of Sunday, March 11th. The outage will begin at about 12:00 am Pacific Standard Time, and is scheduled to last approximately three hours. During the outage you will not be able to accept or submit any HITs. Please do not accept any HITs that you cannot complete before then. Thank You.

Timer: 00:00:00 of 60 minutes

Want to work on this HIT? **Accept HIT** Want to see other HITs? **Skip HIT**

Total Earned: Unavailable
Total HITs Submitted: 0

Enter Product & Nutrition Label Information
Requester: Product Data Entry **Reward:** \$0.09 per HIT **HITs Available:** 49 **Duration:** 60 minutes
Qualifications Required: Product Data Entry Qualification is 100, Location is US

Enter Food Product Information

- Grab some food items (see notes) from your kitchen cupboards, and find the UPC (under the barcode) for each item - it is usually twelve digits long (including smaller check digits on either side).
- Open this url in a separate tab or browser window:
<http://vonkempelen.com/clients/pde/checkupc>
- Enter in the full UPC from an item, to check if we already have it in our system. If so, try another, otherwise you'll be presented with a form requesting further details.
- Once successful, the UPC entered is reserved for you to complete, for up to an hour. Enter in all the required details, and as much optional information as you can provide. The form will usually take between 2 - 6 minutes to complete.
- When completed, the form will give you a token code, to ensure you get paid for the work completed. Copy/paste it into the input box below, and submit the HIT.
- Your work will be approved within 24 hours.

Take Note:

- We can only accept entries for products which have a full Nutrition Facts label.
- No baby foods or minimal nutrient foods, such as salt, bottled water or diet soda.
- Once you have reserved a UPC, do not close the page, you will lose the unique url that gives you the reservation.
- Do not reserve more UPCs than HITs assigned to you. You can only submit work for one UPC on each HIT.

Enter your token code

The **Big** Idea

There is a revolution taking place

Technology is **disappearing** into the walls of the buildings to the point of becoming **invisible**.

Process and
orchestration is king.



Key Issues

Agility

Flexibility

Growth

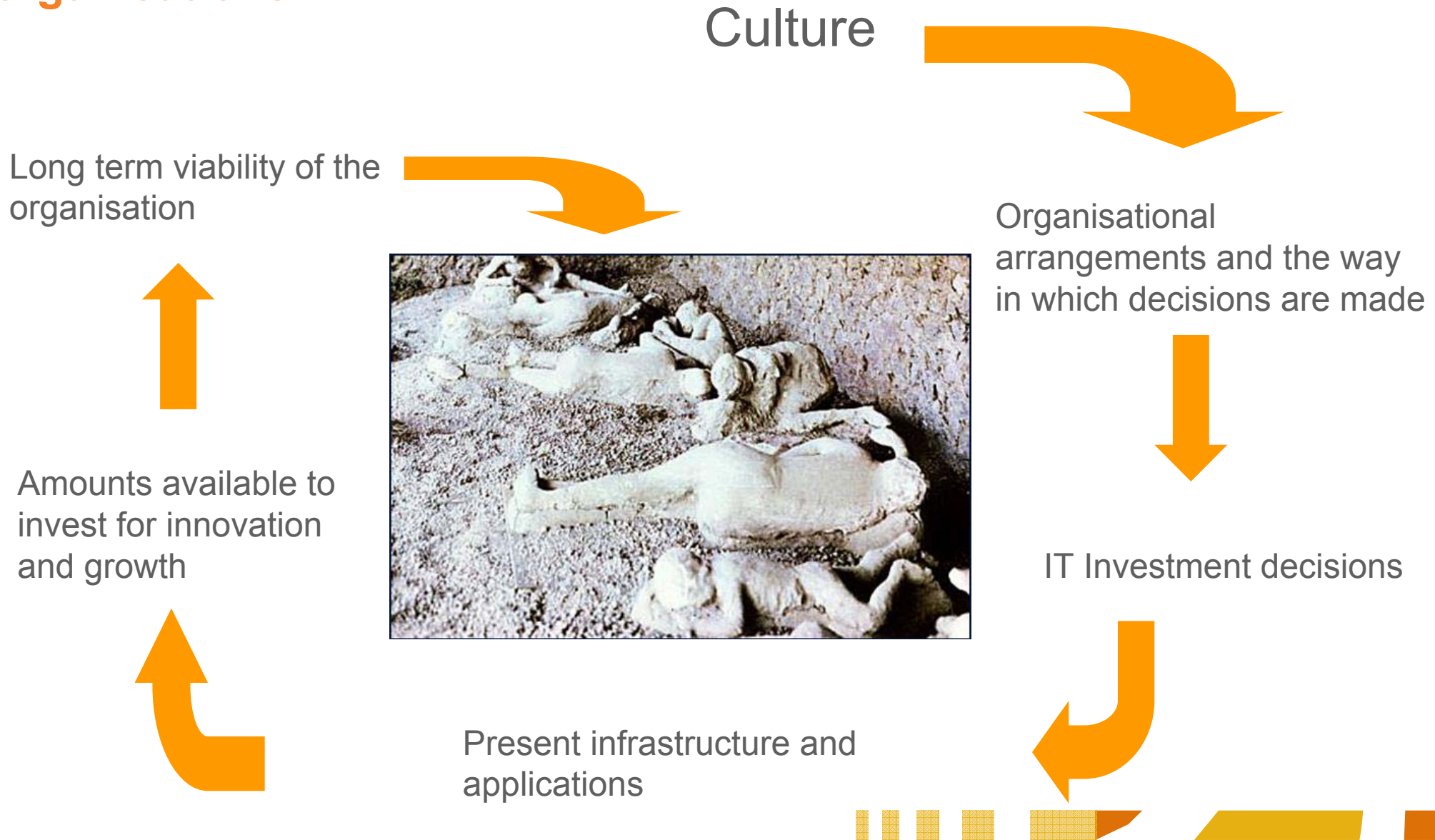
Innovation

Reliability

Scalability



In the absence of enterprise architecture we are fossilising our organisations ...



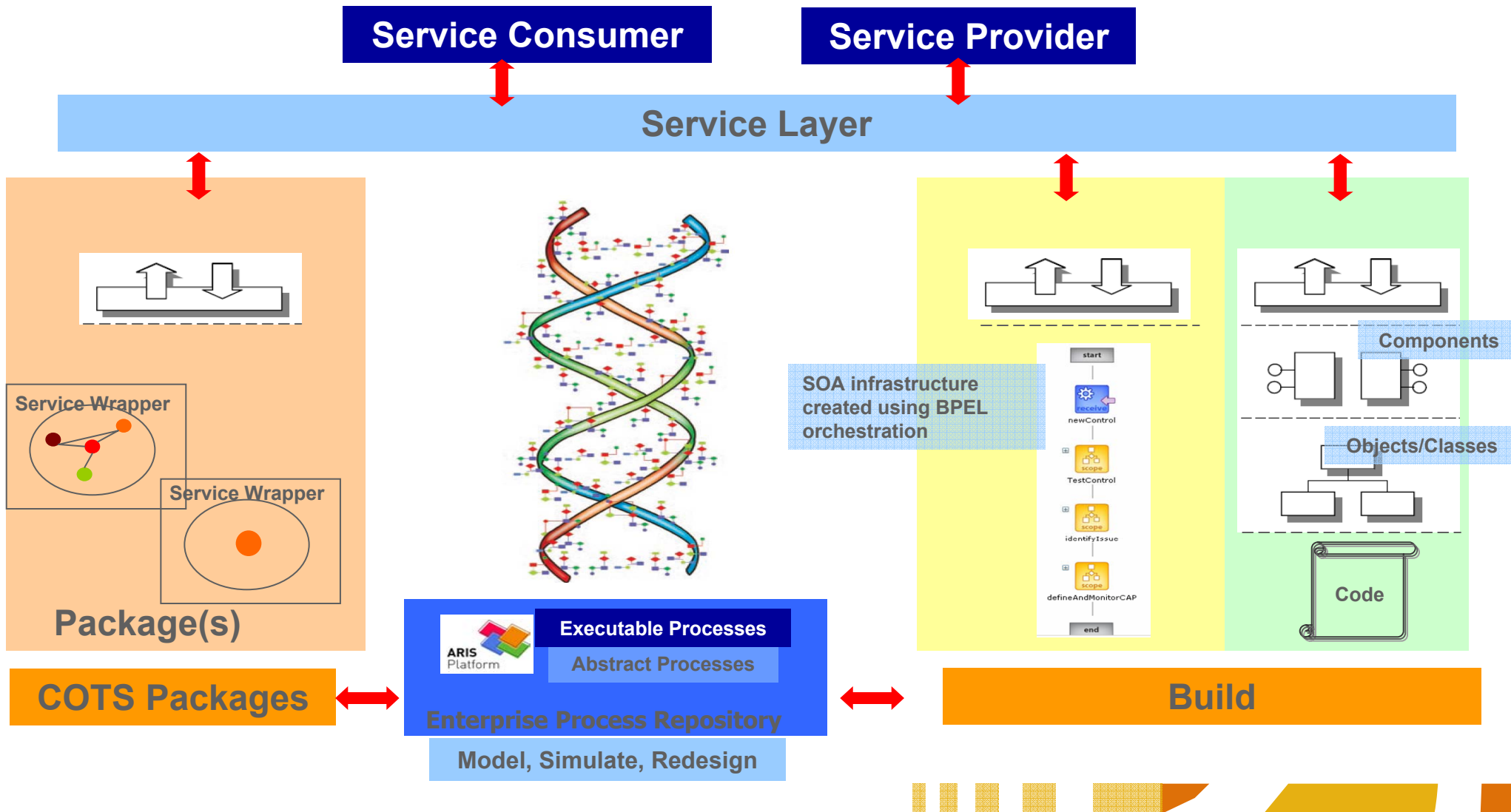
A Prescription for IT

- Start with the end in mind
- Start moving towards **virtualised infrastructure**
- Start understanding how **business processes** and **services** are related
- Start understanding your legacy portfolio in terms of distinct **business services**

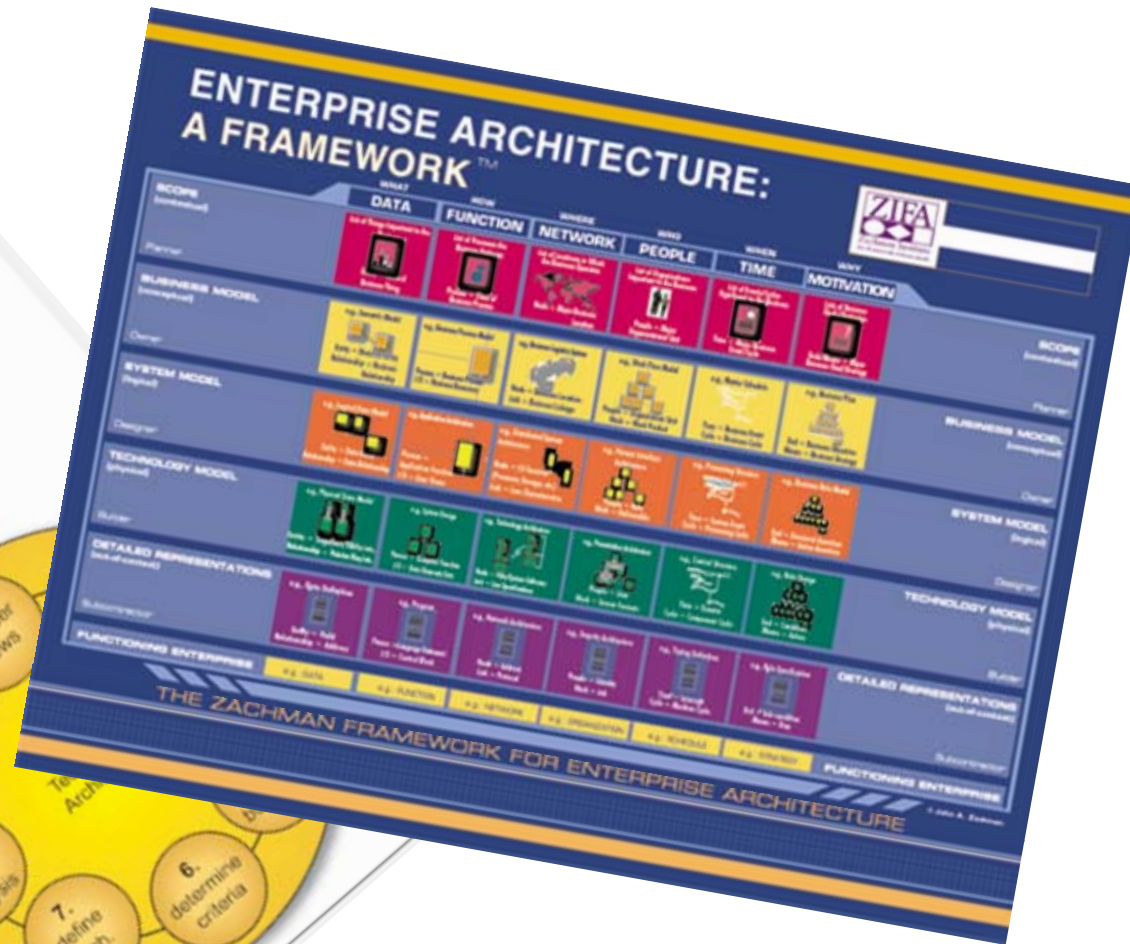
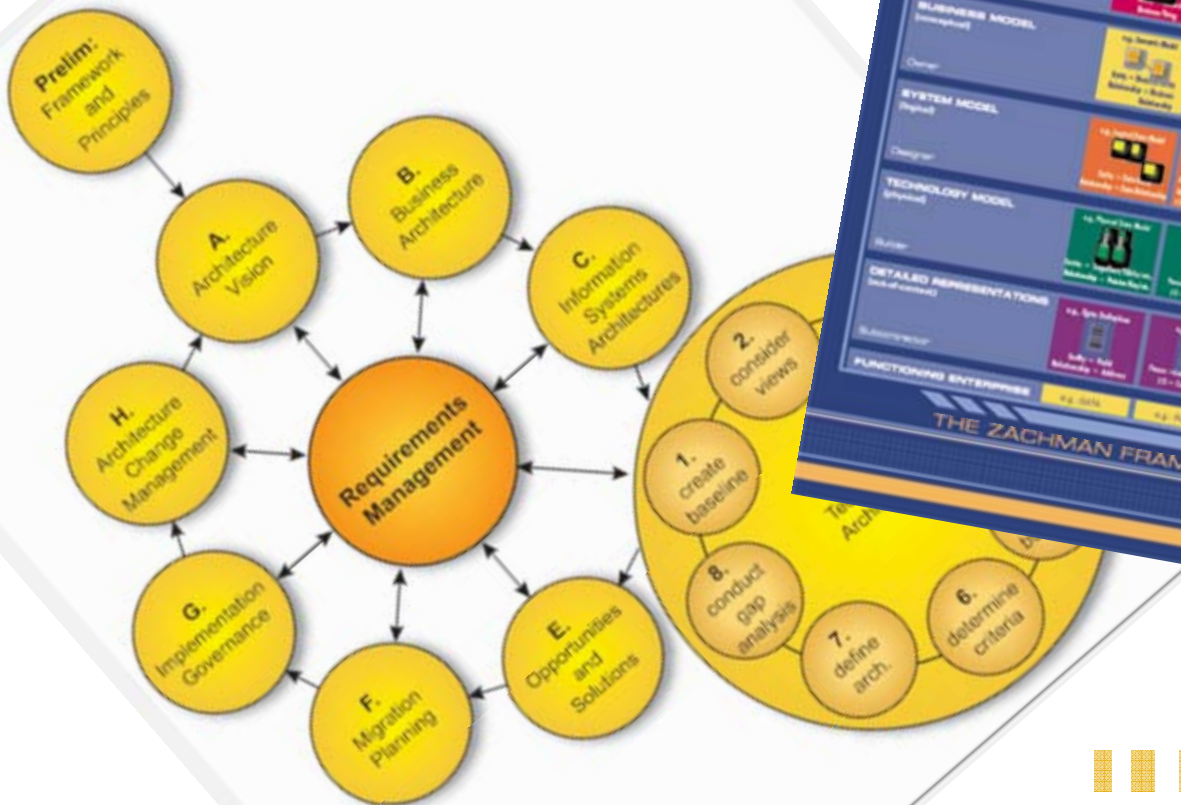


Enterprise Architecture is **not** Enterprise-wide IT Architecture

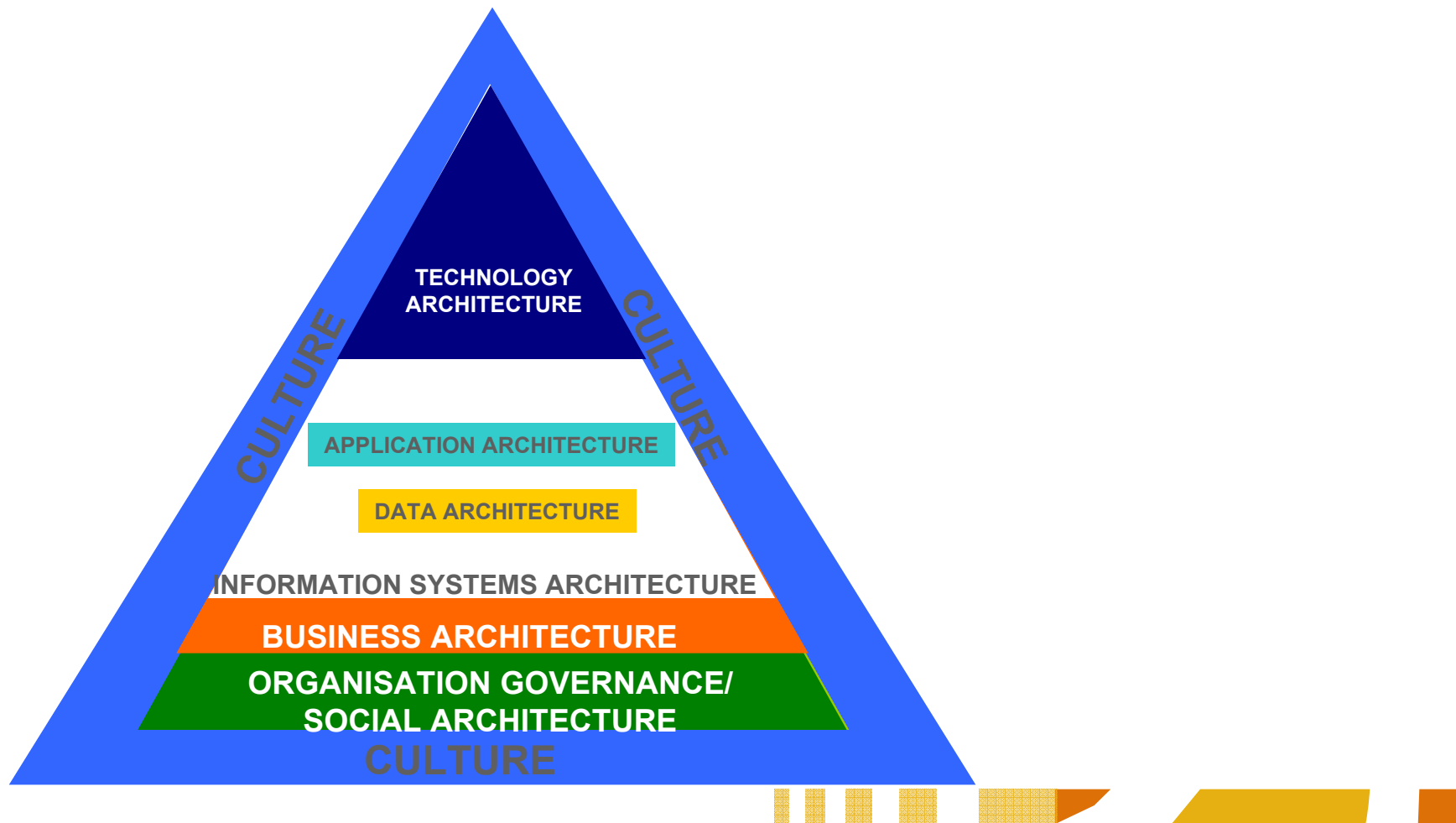
How would “old” and “new” co-exist and evolve with “COTS” & “Build”



Any Grand Enterprise Architecture Plan is **Unlikely** to Succeed



Enterprise Architecture is a **coherent**, group of **principles** and **representations** of the entire organisation that allows for rapid analysis, design and scenario planning.

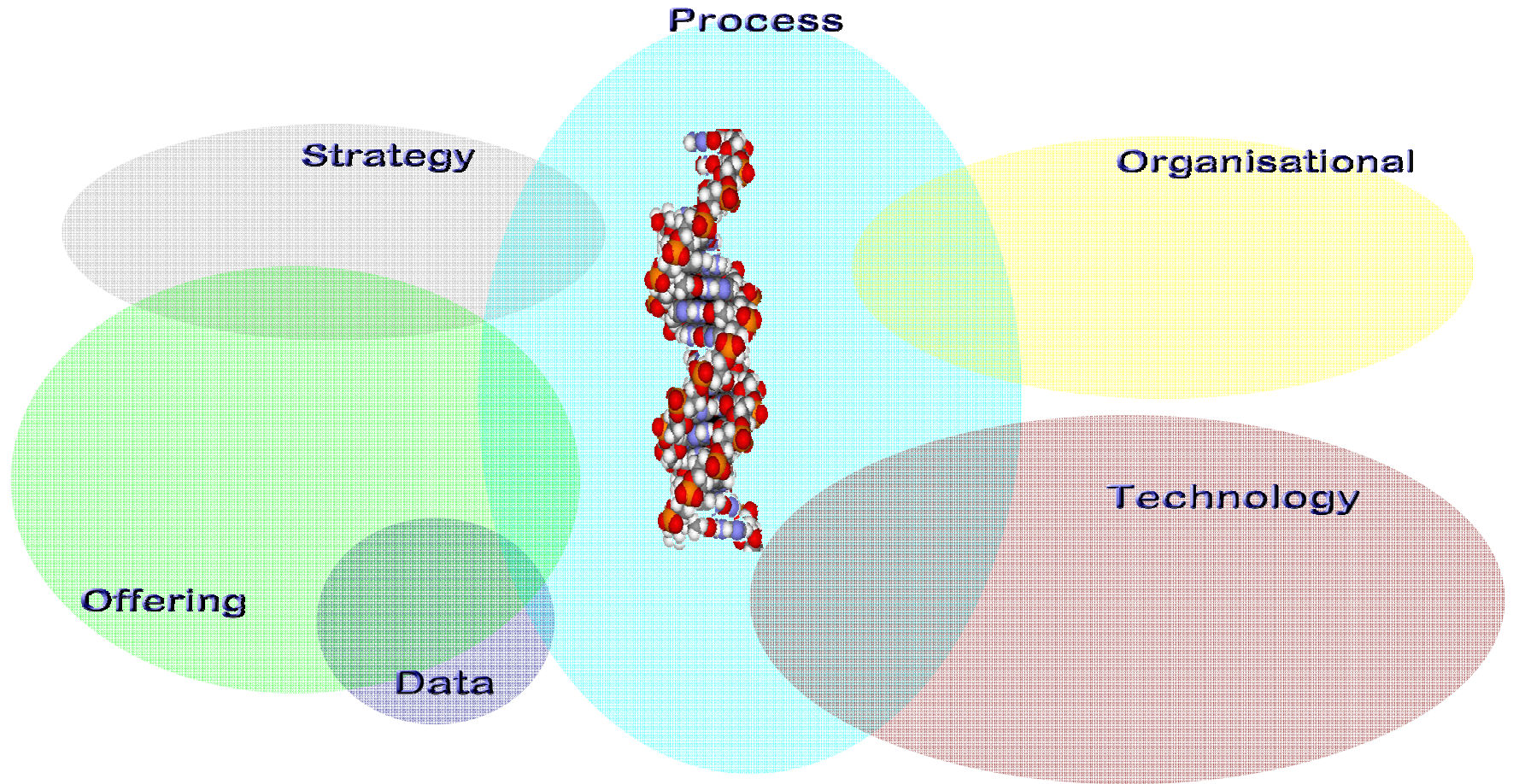


A Minimalist Approach

- Layout the foundations
 - Meta-model is paramount
 - Single Shared Repository
 - Top-level as soon as possible
 - “Enterprise” is actually “end to end”
- On-going
 - Work where the work is happening
 - Use in design not in documentation
 - Make sure everything is linked into the right level
 - Build the repository one project at a time
 - Introduce principles when it is “right” to do so

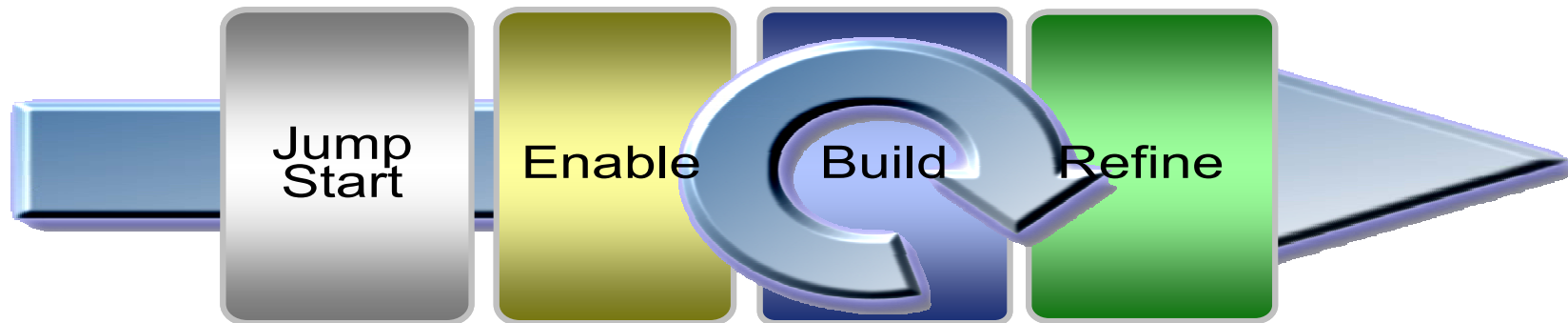


The Meta-model is the Essence



Investec approach

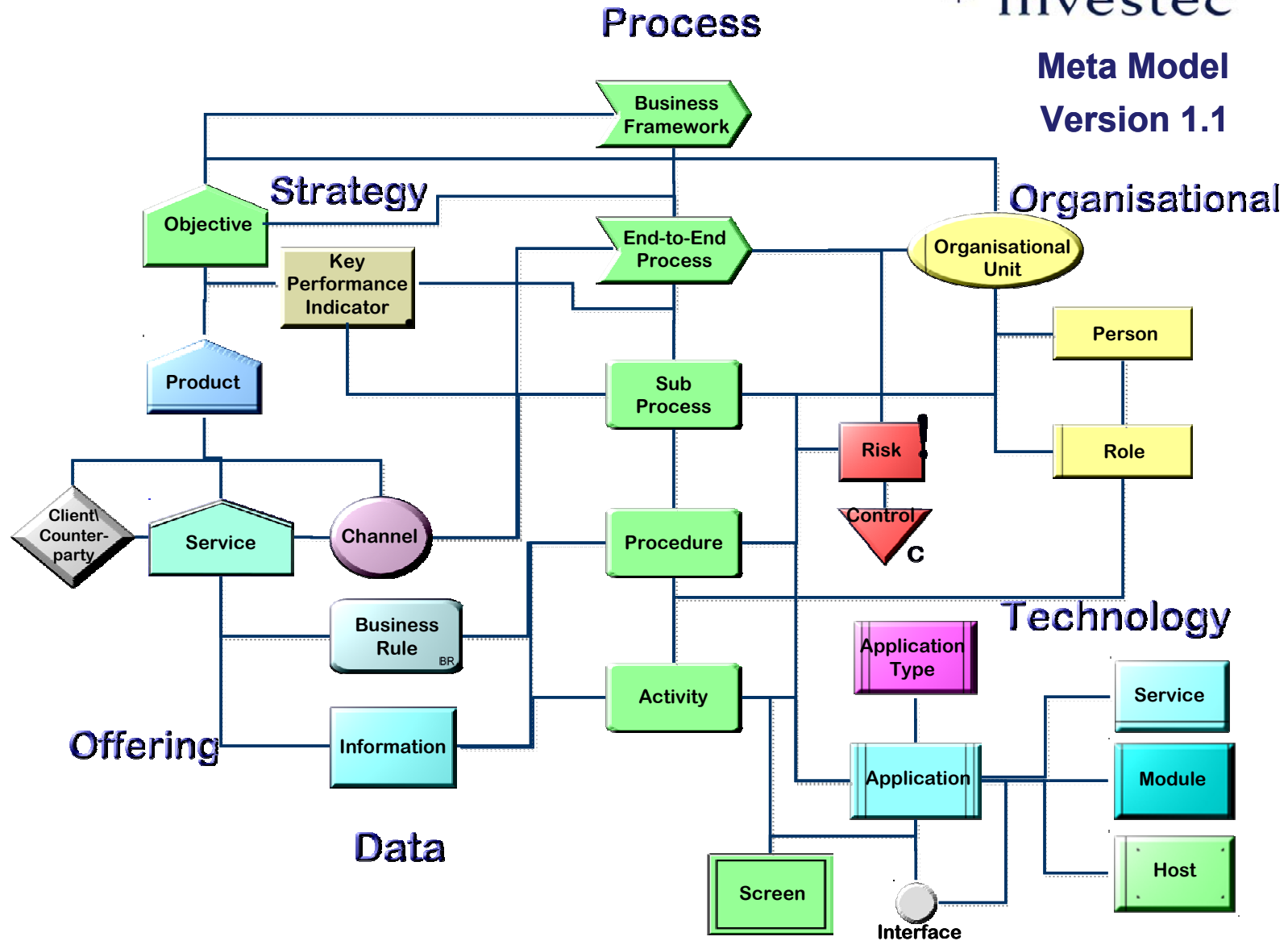
- Create awareness
- Train
- Support
- Manage the change
- ✓ In-house competence



- Buy IP
- Buy experience
- Build infrastructure
- ✓ Short circuit
- ✓ Do it right
- Create content
- Populate libraries
- Create publishing capability
- ✓ Common understanding
- ✓ Re-use
- ✓ Retain corporate memory



ARIS the second abstraction



Benefits (past 9-10 months)

- Three process projects to support new application roll-out
- HR meta-model development triggers a significant dialogue
- Web publishing of the repository content against the meta-model provides answers to complex questions
- In some areas, application architecture becomes process driven
- Tangible improvements in quality and speed of requirements management
- Every day people are communicating with the diagrams as a point of reference and backdrop to their planning

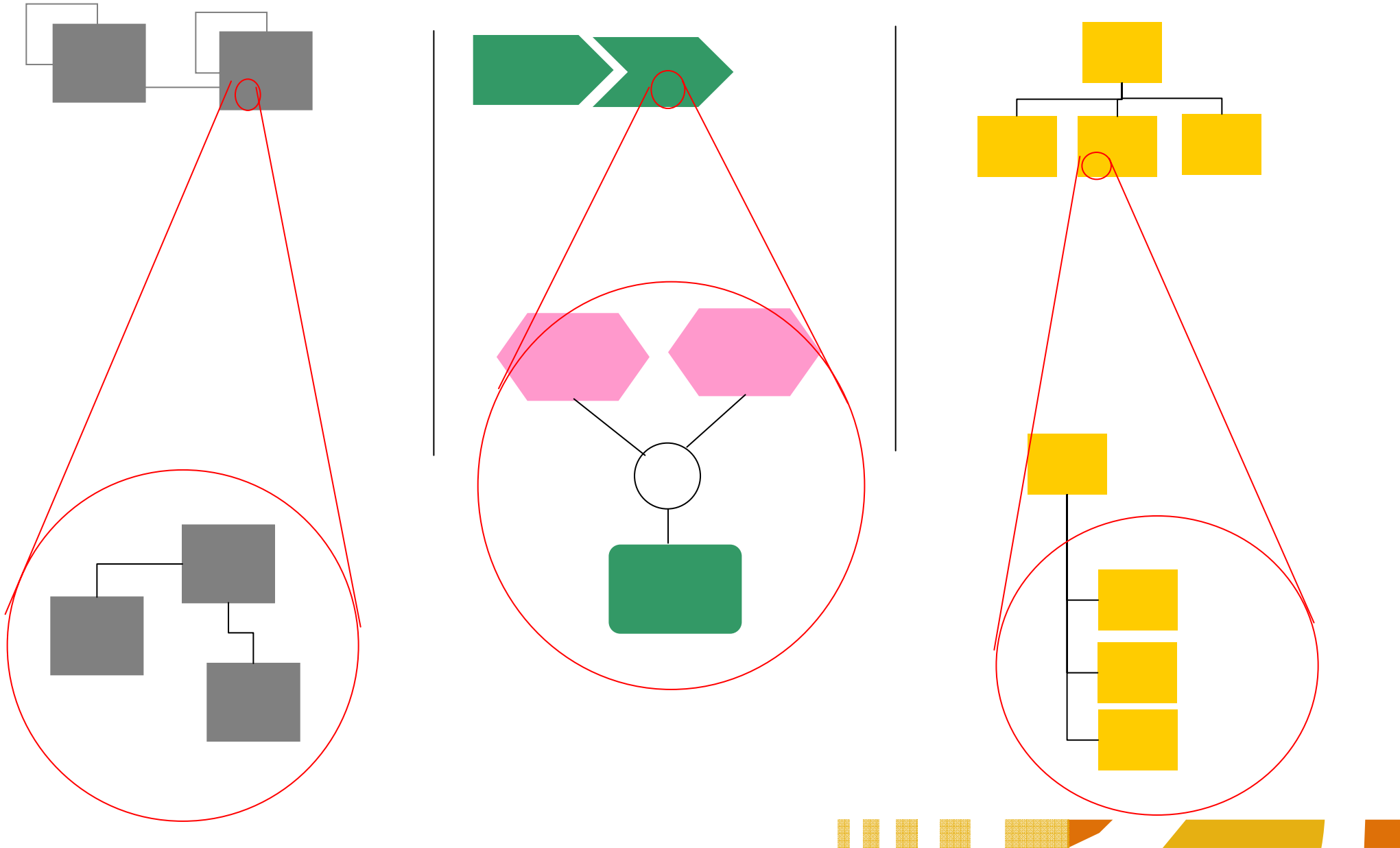


Requirements Management – Benefits of a Repository Approach

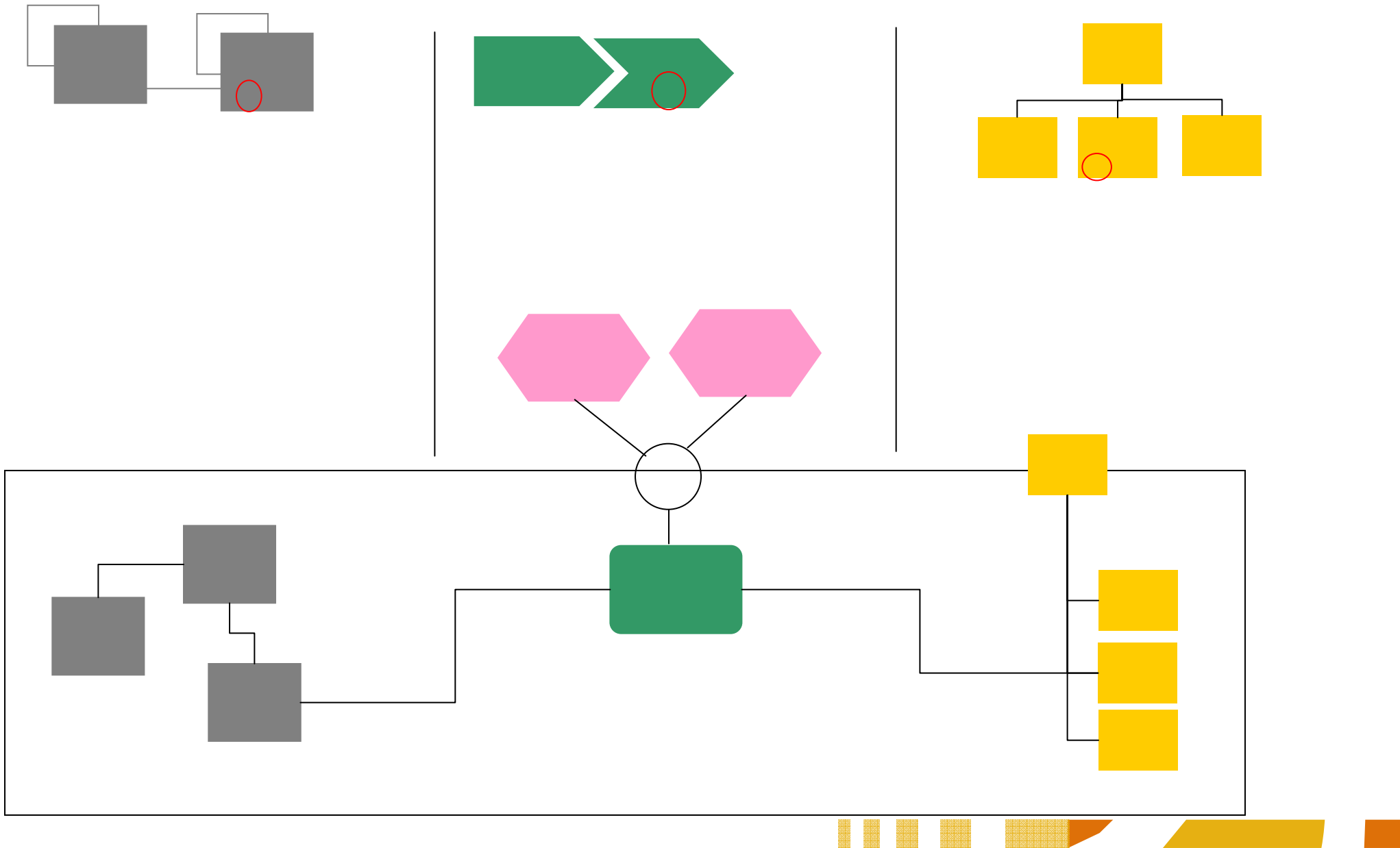
- Automated Gap Analysis
- Automated impact analysis
- Productivity of Specification and other design elements
- Completeness checking and trace-ability
- Collaboration across domains
- Power of re-use of repository



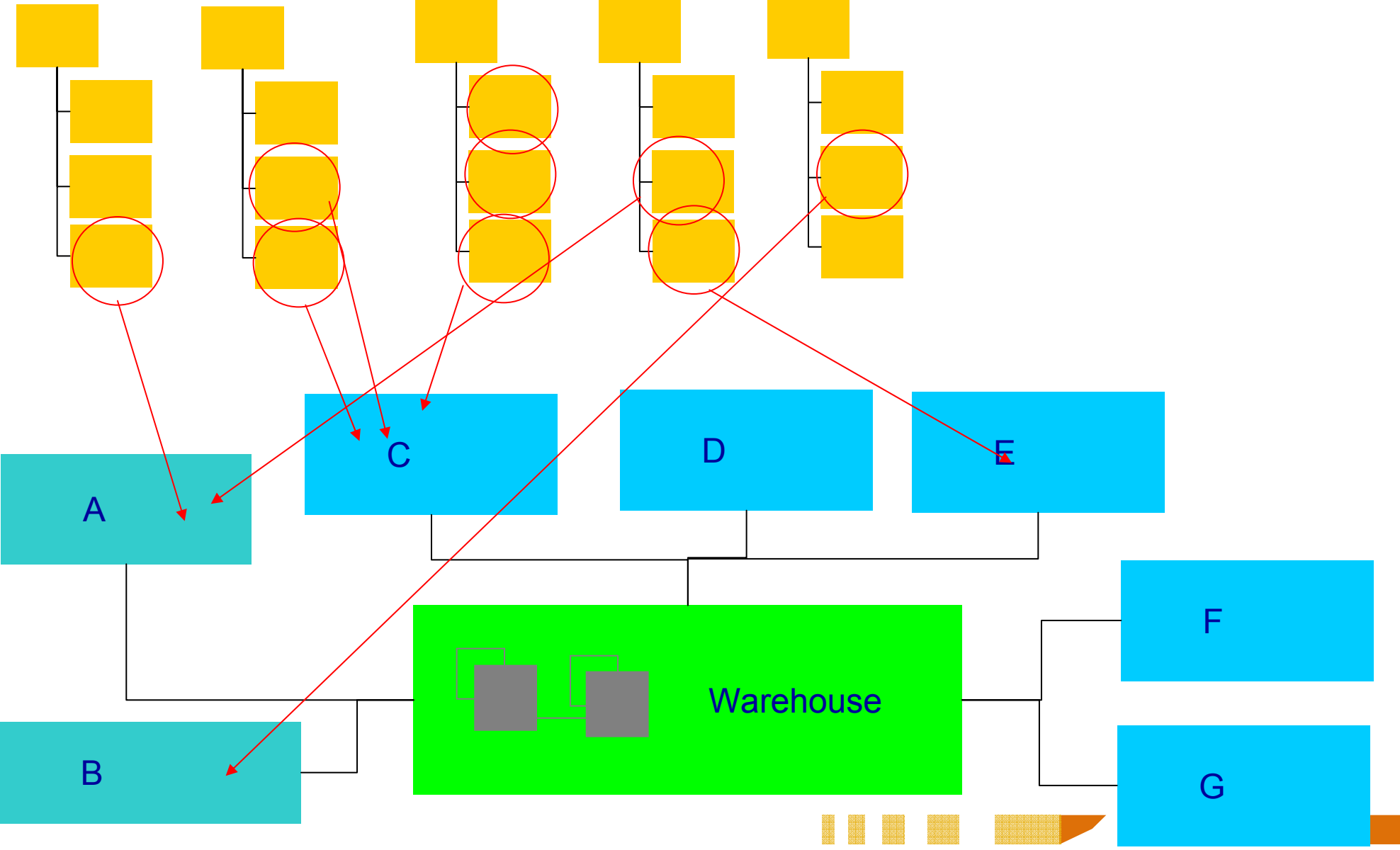
The IT Design Process – To get to Functional Specifications



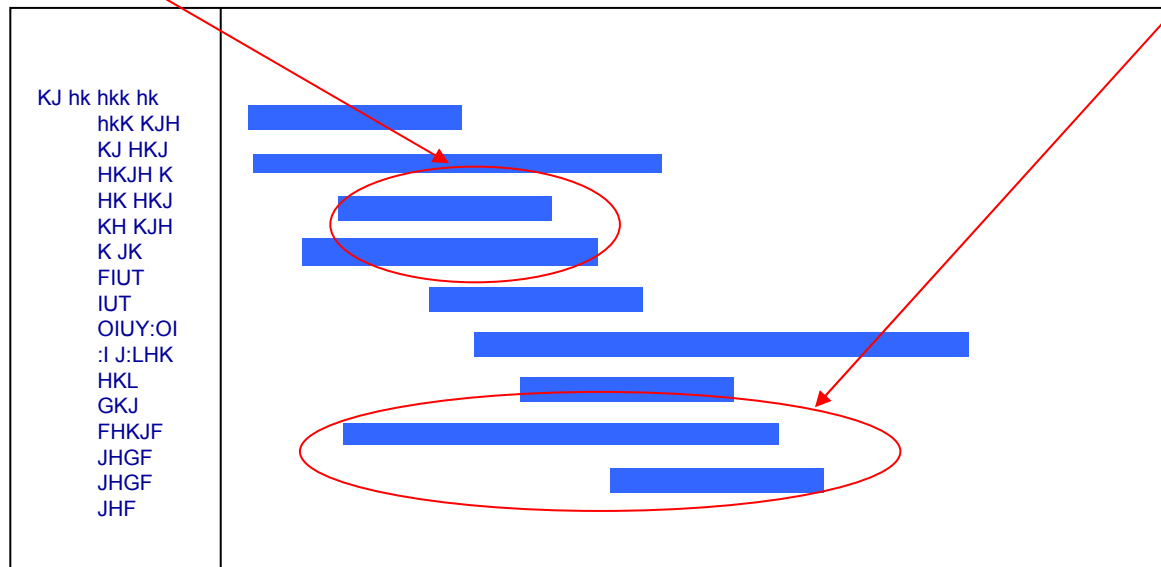
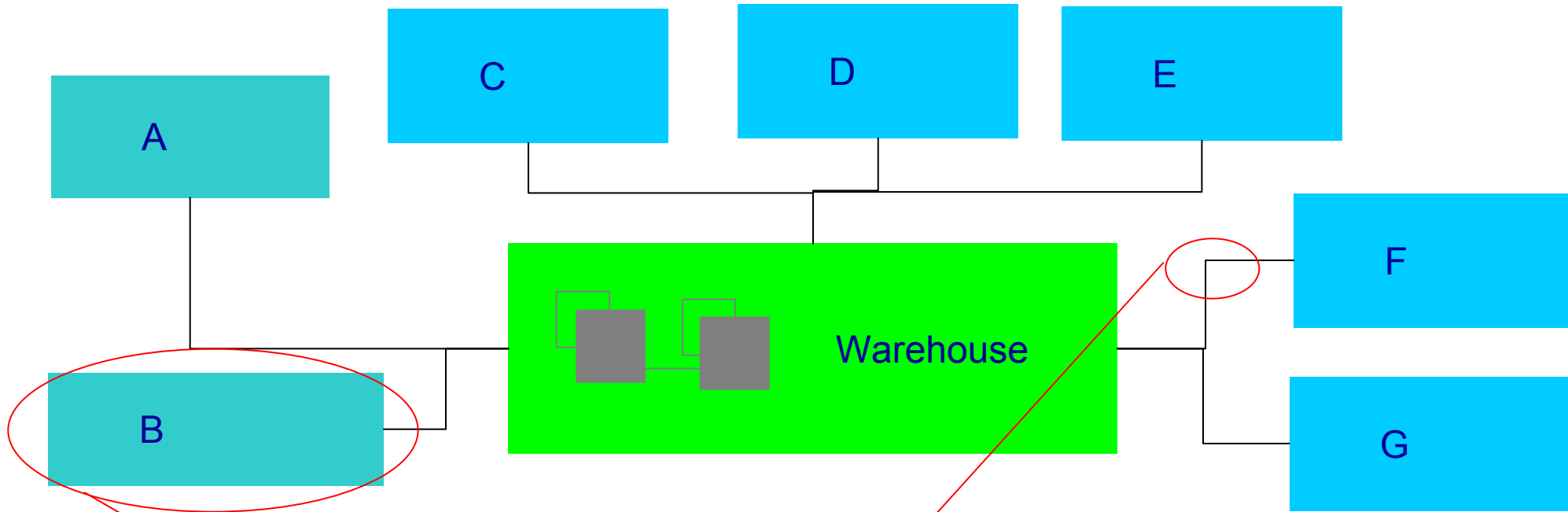
The IT Design Process – To get to Functional Specifications



Repackaging to ensure best use of existing and new – The Art of Application Architecture



Project Plan Generated and kept in sync with the Application Architecture



Around 250 deliverables, which translates into 1500 medium level tasks, like:
"Test interface between G and the Data Warehouse",



Concluding Comments

- As technology fades into the fabric of business and society
- Business model, process and its orchestration becomes central to firms
- This is best communicated via well thought out models and representations
- These models represent the essence of the business itself
- Providing a platform for business transformation



Questions



Principles act as filters to help our decision making

