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Implementing System Architect as tool of choice to support Enterprise Architecture Repository

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About Me

- 5 Years in Australia Post
- Experience in system supports, software development, project management, and enterprise architecture
- Now: Responsible in the implementation of Enterprise Architecture Knowledge Base (EKB) from technology perspective while assisting stakeholders in Business Strategy and Planning, Program Management, Solution Development/Delivery, and Reporting and Analysis





History

- In 2009 Australia Post celebrated 200 years as Australia's oldest, continually operating organisation

Present (in numbers)

- Total revenue \$4.9 billion
- 4 Strategic Business Units, 3 Functional Units, More than 35,000 people (135 nationalities)
- 10.7 million delivery points nationwide, 4,433 retail outlets (including 2,541 in rural and remote areas)
- 20.4 million articles each business day, 5,323,400,000 mails a year
- More than 1,000,000 customers served every day, 1.3 million Australian passport interviews a year





Our Strategy

- Restore our letters business to profitability
- Grow our leading parcels business especially with online retailers
- Become one of Australia's most trusted provider in communications, financial, government and identity services

How We Get There

- Stabilise – build a solid base
- Rebuild – change how we do things
- Grow – unlock the opportunities
- Enable - build a Future Ready business



Where we were in April 2008

Although EA was fairly established in some parts of Australia Post there was no well established architectural repository. EA team had a number of attempts to implement an architectural repository using System Architect with somewhat limited success:

- **Resistance:** modelling, reporting and publishing was extremely labour intensive, limited access to information
- **Content:** inconsistent, unstructured, incomplete, unlinked and not trustworthy
- **Process:** Lack of governance, common framework, common data model and clear data ownership
- **Infrastructure:** System Architect was not in production and the tool was not configured to support AP needs



What we did to overcome the resistance

- **Tool Configuration:** System Architect is configured to support **Australia Post** requirements (104 Definition Types, 20 Diagram Types, 70 Symbol Types)
-
- **Tool Extension:** 45 macros that provide the following shortfall functionality and to **automate labour intensive tasks** :
 - ensure data integrity and security
 - simplify & automate data entry
 - simplify & automate diagram drawing
 - simplify & automate analytics
 - administration



What we did to overcome the resistance

■ Reporting:

- System Architect Report - predefines to support Australia Post processes (351 analytics template and 143 Reports Template)
- Developed External reporting - data pull to normalised tables that are dynamically created based on System Architect configuration/metamodel - to support complex reporting and governance process
- Website refreshed weekly



■ Environment setup:

- **Access via Terminal Services** - to ensure performance, tool stability and to simplified tool support/administration
- **Same look and feel** - all users have same predefined setup



Macros

- Data Integrity & Security
 - Meta Data Management and Data Mirroring
 - Appointment of “Designers” in Diagrams
 - Verification of all symbols when diagram is opening
 - Auto unlocking locked objects when system architect is opening

- Diagram Formatting
 - Populate related symbols
 - **Selecting symbols based on certain criteria** 
 - **Australia Post heat maps** 
 - Remember diagram layout Setup
 - Apply Same diagram layout Setup



Macros









■ Symbol Formatting

- Select all inner symbols within a symbol(s)
- **Select inner symbols within a symbol(s)**
- Select connected box and line symbols
- Select connecting line symbols
- Select connected box symbols
- Select unconnected box symbols
- Increase symbol height for 10 pixels
- Decrease symbol height for 10 pixels
- Increase symbol width for 10 pixels
- Decrease symbol width for 10 pixels
- **Memorise symbol style** (font, colour, width, height, line and text format, layout)
- **Apply same symbol style** (equivalent to “format painter in Microsoft offices”)



Macros

- Symbol Formatting

- Apply same height 
- Apply same width 
- Apply same size 
- Apply same color 
- Apply same line 
- Apply same text 
- Arrange box to box 
- Apply Same Layout Setup 



More Macros

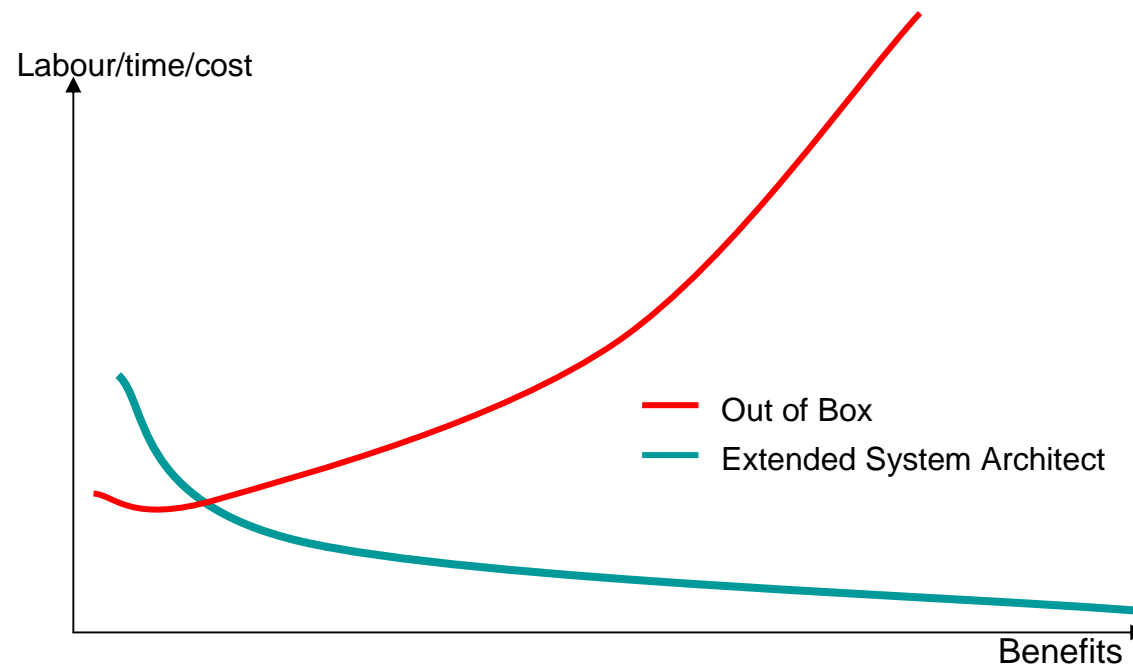
- Other
 - Configure start up files so that users have the same look and feel
 - **Extract Diagram via Microsoft Visio**
 - Flatten EKB tables

- System Context and Component Diagram
 - Draw related objects such as systems, users, and data stores
 - Choose and Draw Interfaces
 - Validate Interfaces
 - Link systems, users, data stores and interfaces to a Project
 - Link capabilities, and processes to a Project
 - Filter objects based on selected Project
 - Link Request-Reply Interfaces
 - Link Logical-Physical Interfaces

Etc...



Benefits achieved using macros listed above - Continue



Benefits achieved using macros listed above

Task	Out Of Box	Extended System Architect	Savings in \$ (1000 \$/D)
Create Enterprise Process Model Diagram (3-4 time per year)	2.5 weeks	3-5 Hours	\$11875 per diagram \$35625 per year
Create Enterprise Capability Model Diagram (3-4 time per year)	2.5 weeks	3-5 Hours	\$11875 per diagram \$35625 per year
Maintain Application Function Overlay Diagram	2-3 days per week	2 hours /w	> \$1375 per week ~ \$68750 per year
Create a stakeholder view	2-3 days	1-2 hours	> \$1875 per view

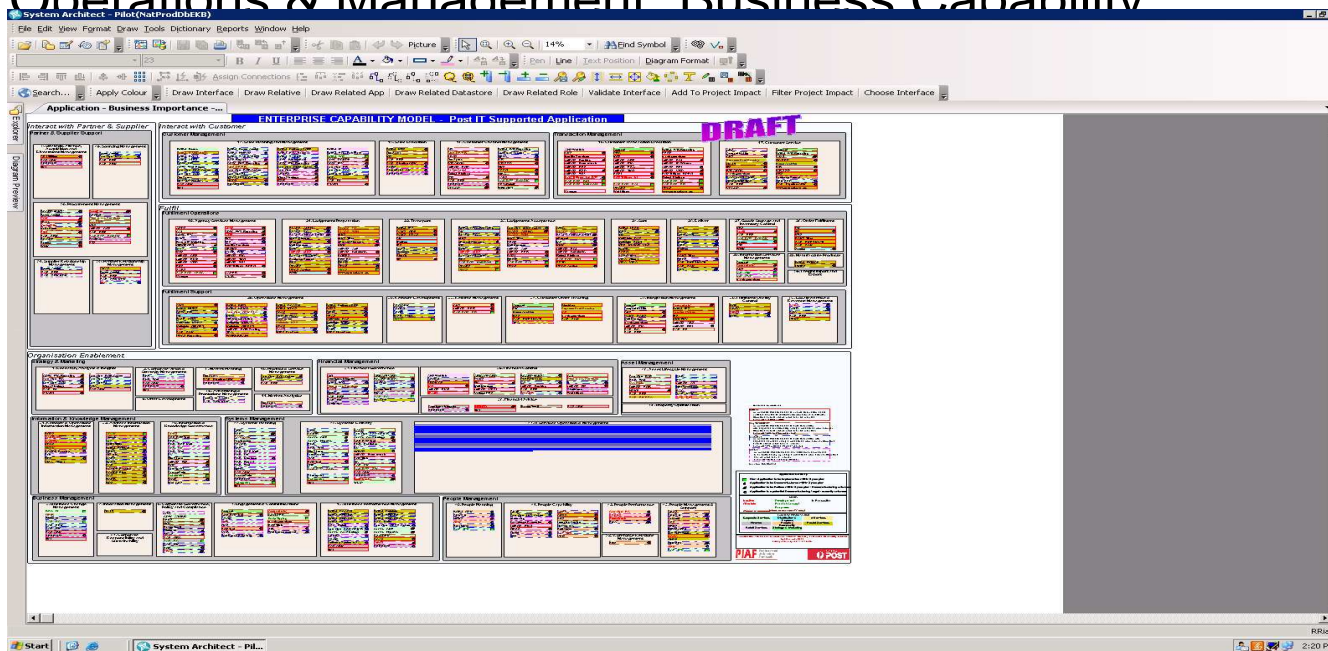
Surveys

- Those usability improvements have been very well received by the Australia Post team.

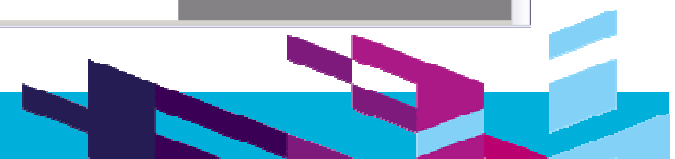


Example 1: Automate Diagram Drawings

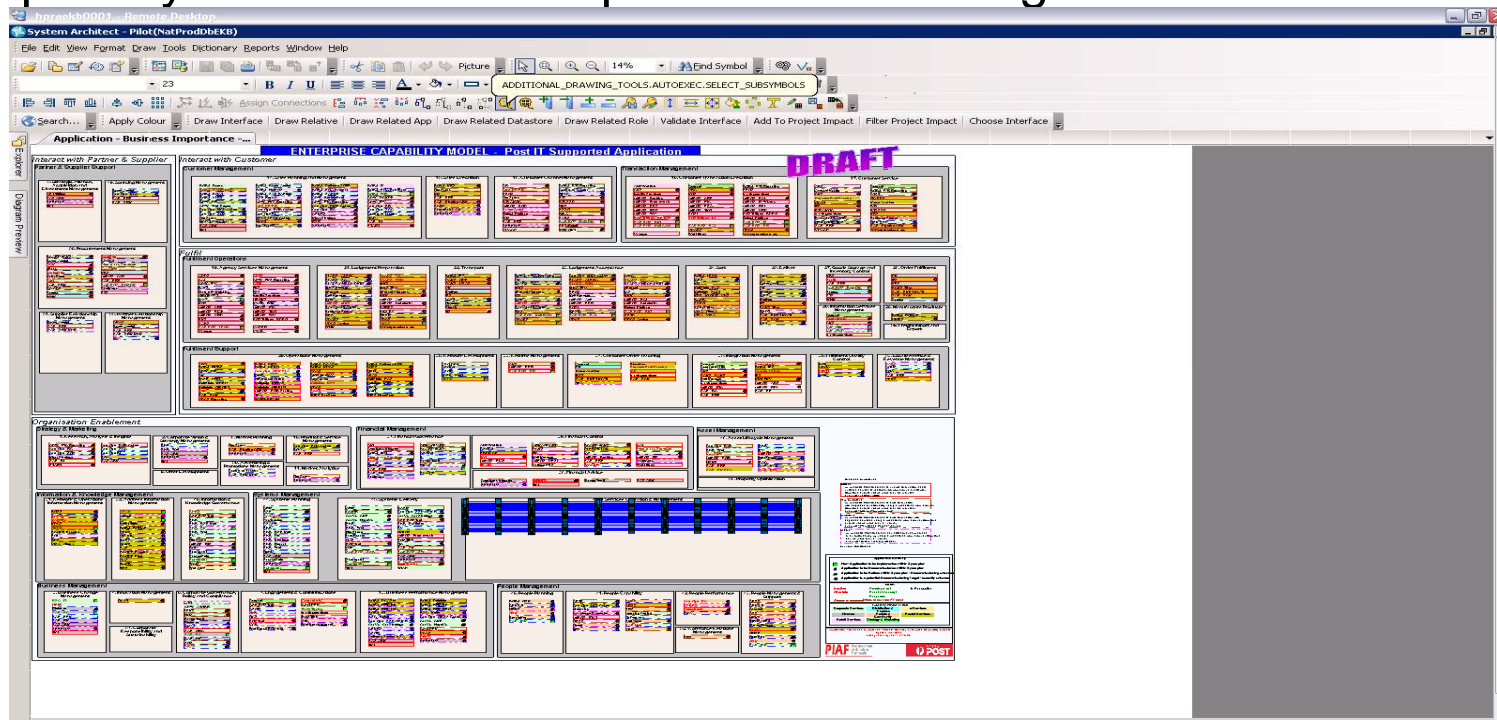
- With SOA, populate all applications that enable “IT Services Operations & Management” Business Capability



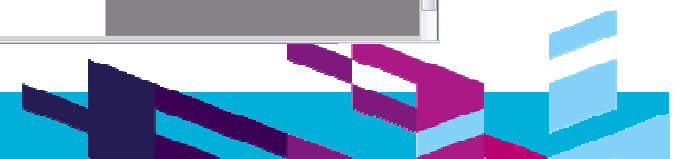
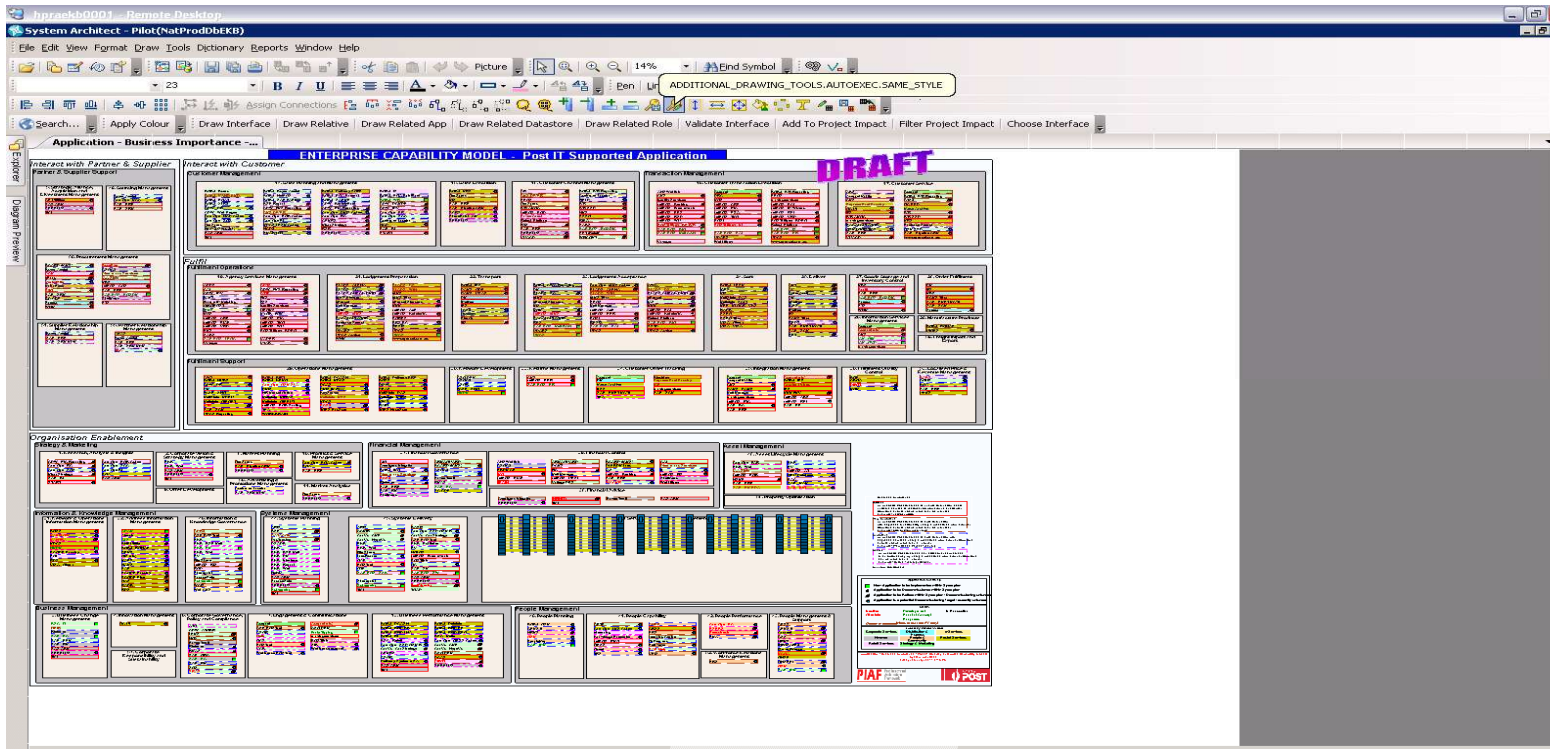
- Save formatting style of an application symbol



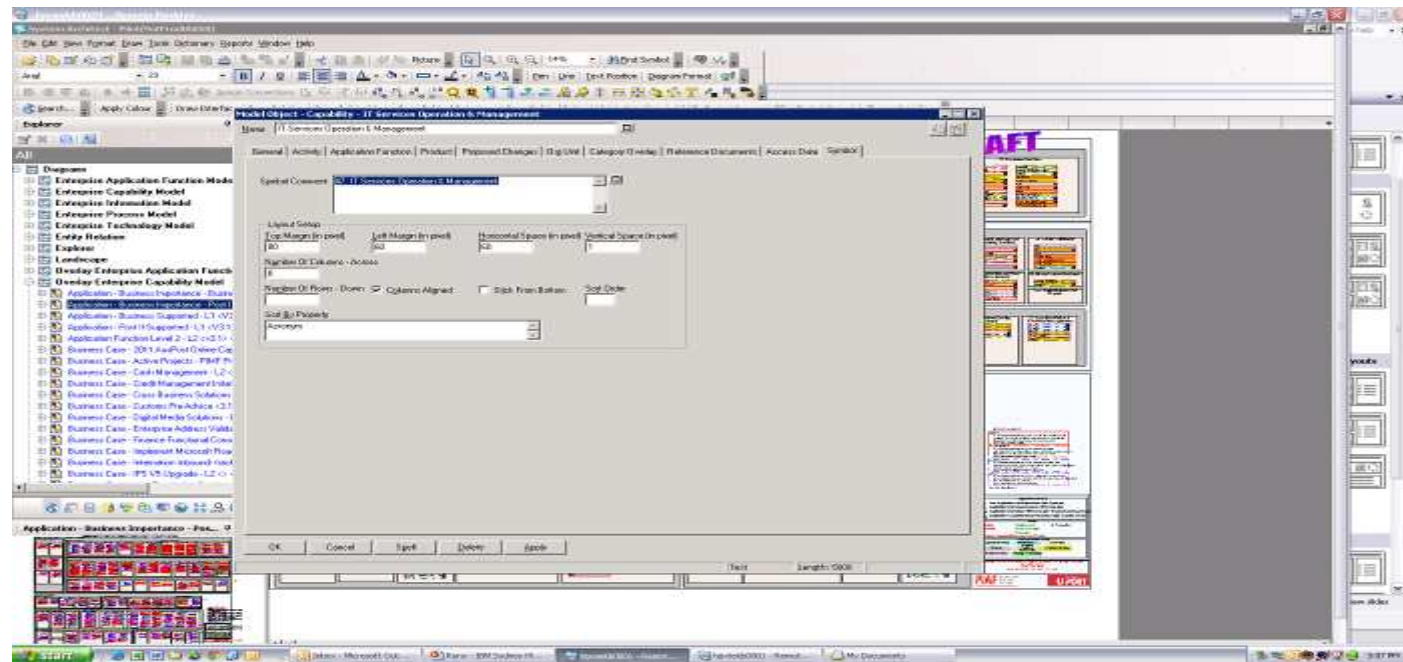
- With “lasso” functionality, select all applications within the capability of “IT Services Operations & Management”.



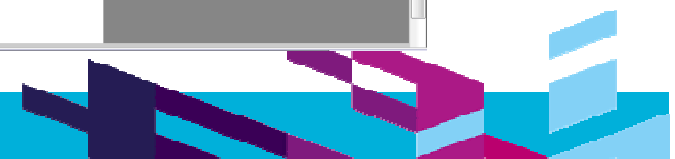
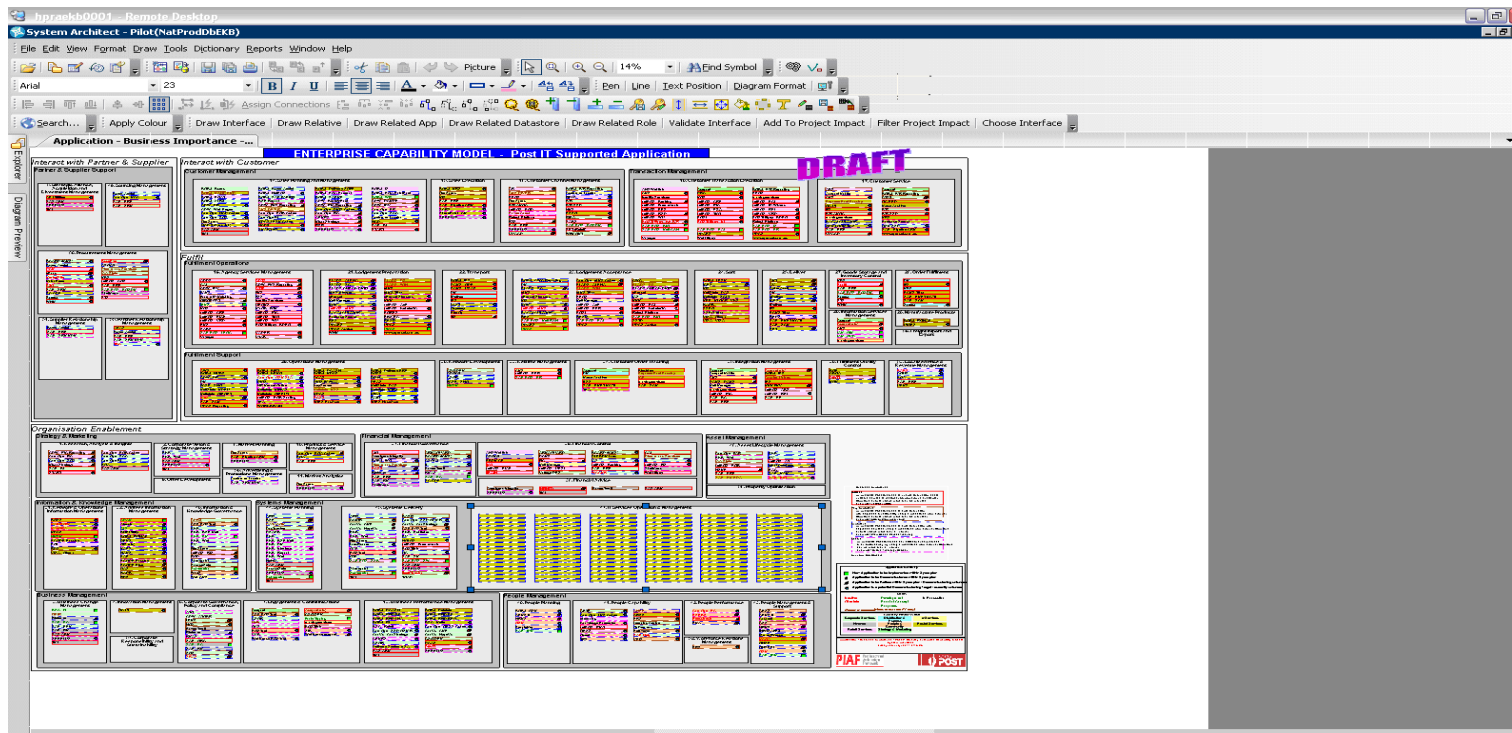
- Apply formatting to all recently populated applications



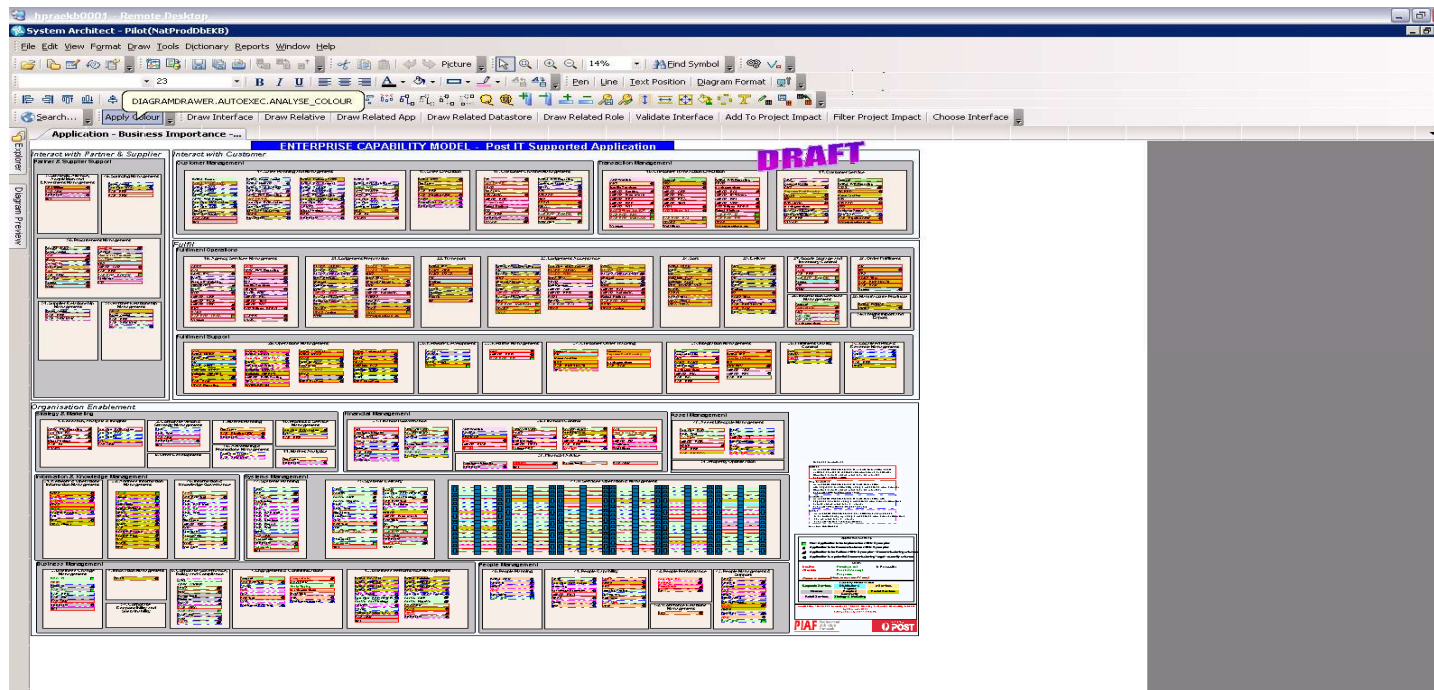
- Arrange box and box symbols (The boxes will be arranged according to the configured margins, number of columns and rows, sort by, etc)



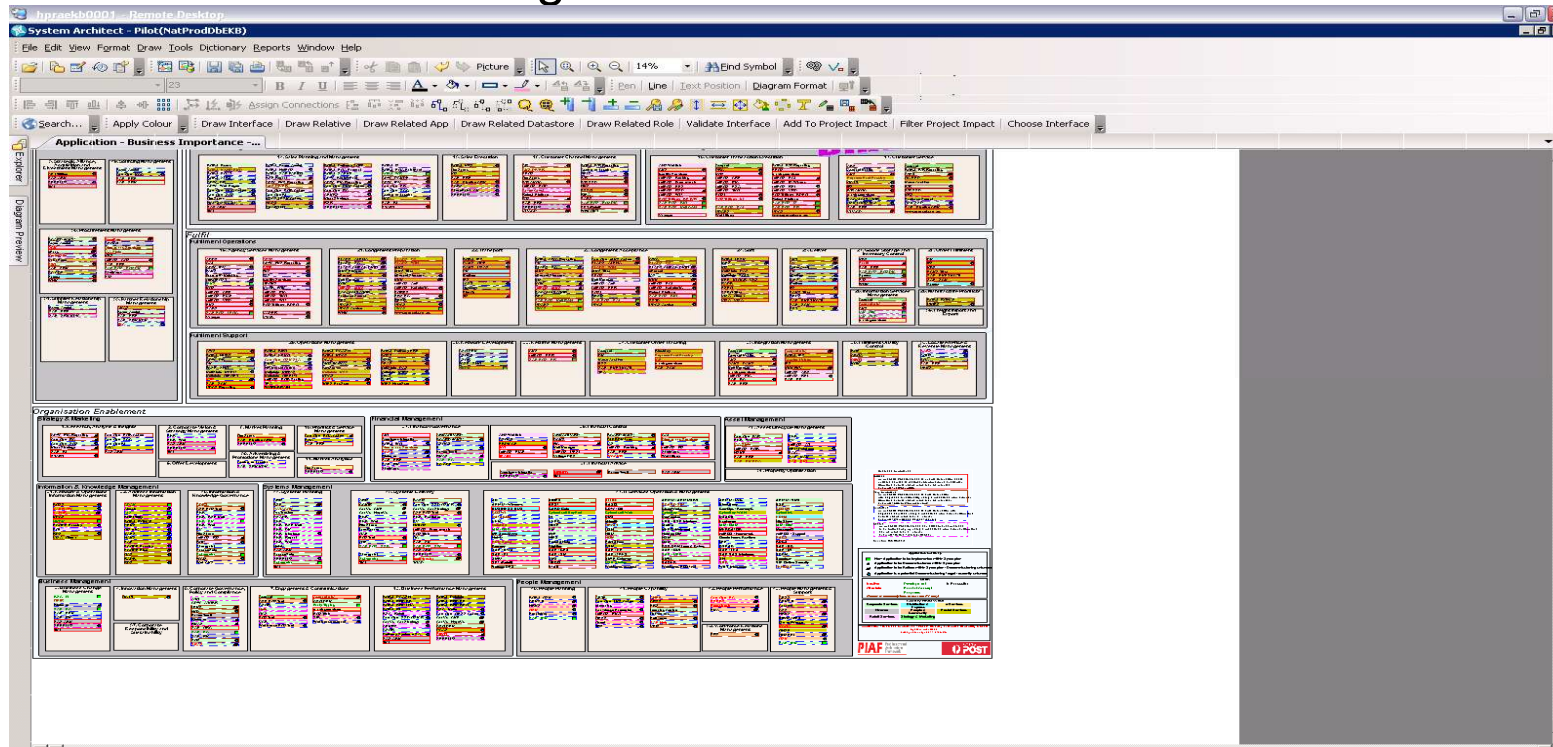
- Boxes are arranged as per parameters set on the symbol layout setup of parent box



- Apply colour based on Status, Business Importance, and Ownership

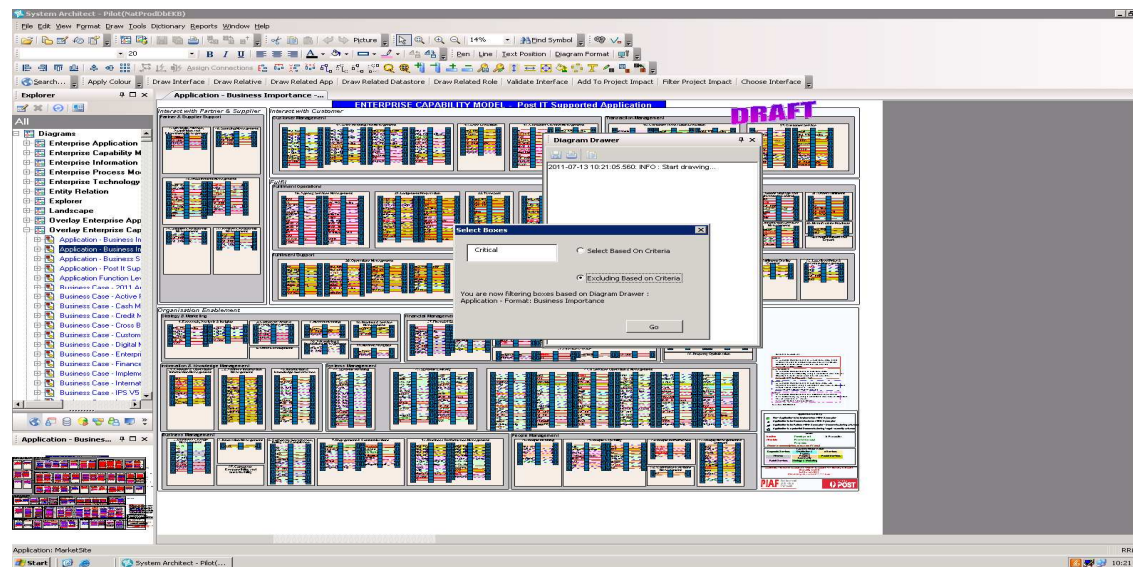


- Application boxes are coloured based on the associated properties values and defined legends

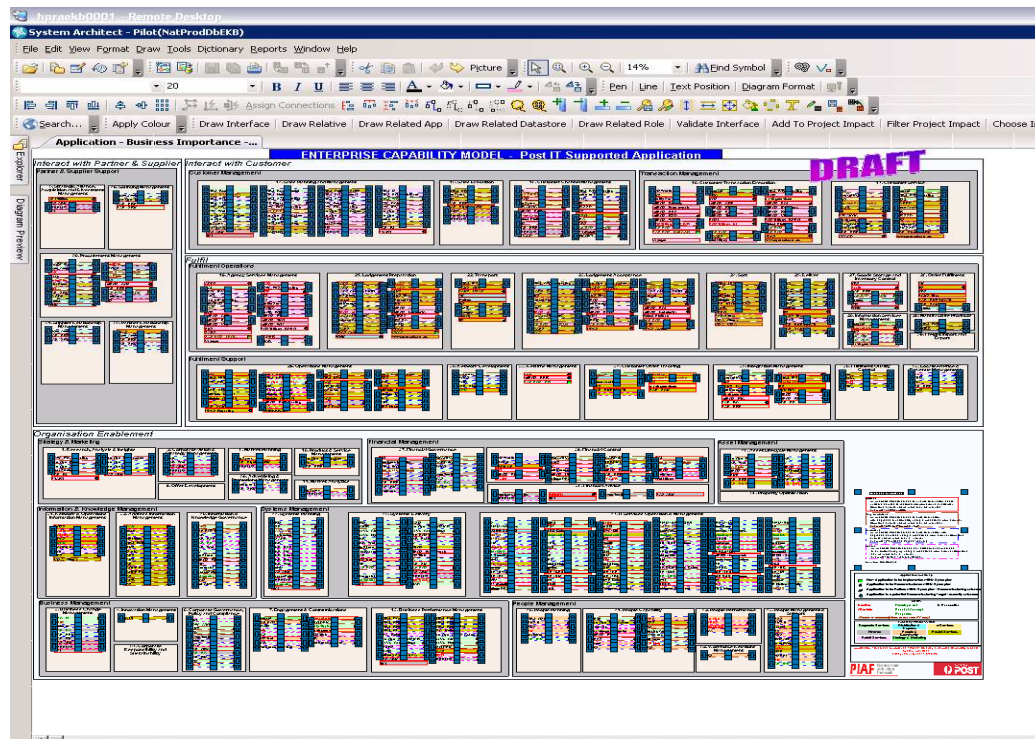


Variations

- Select all applications,
- Run “Select symbols based on criteria” macro.
- In this example, we are entering criteria for all applications that are not of **Critical** business importance



Variations

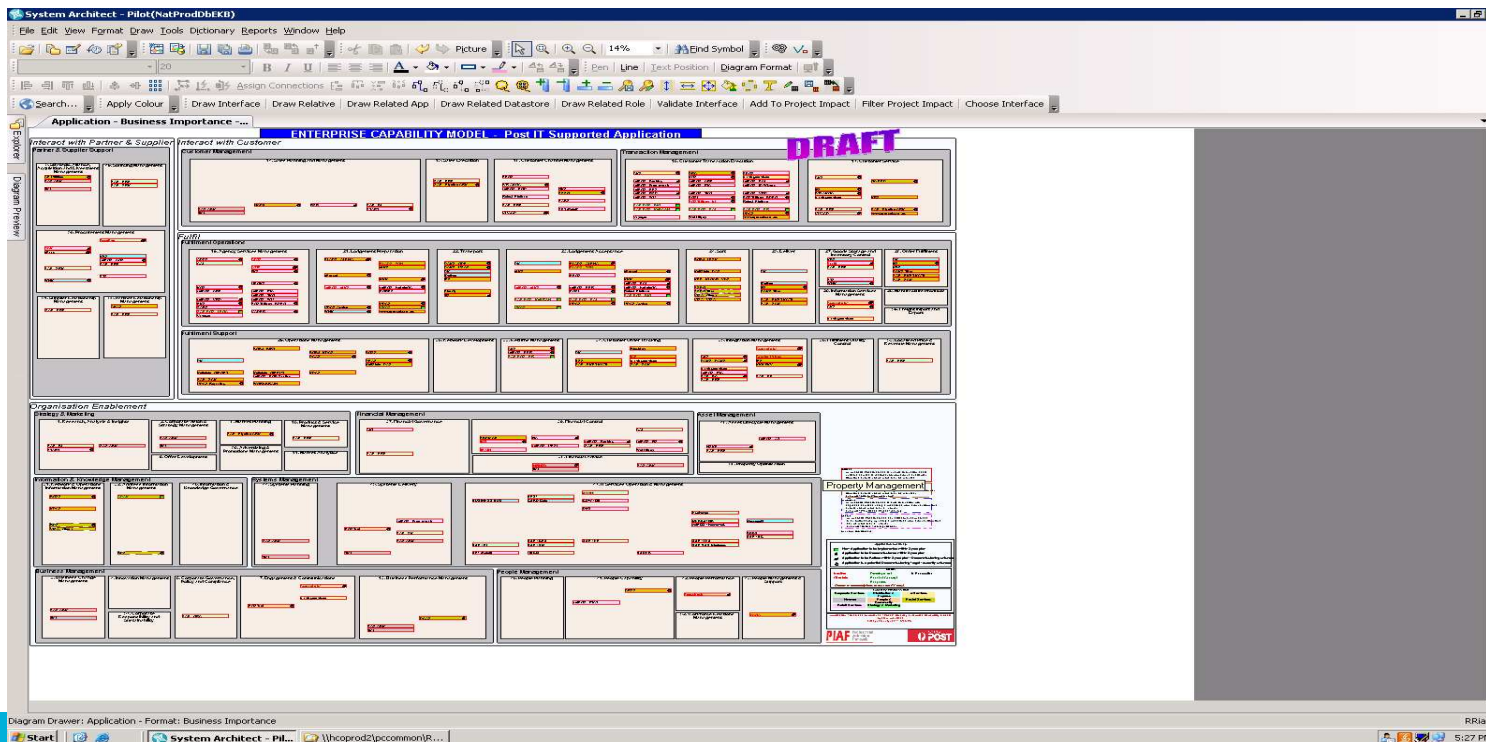


- You can select applications that are not of a specific value such as
 - **Critical** business importance,
 - **In Production** Status,
 - Owned by **Postal Services**
- Once the ruled out boxes are selected, delete them from the diagram

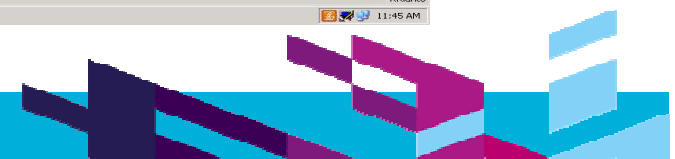
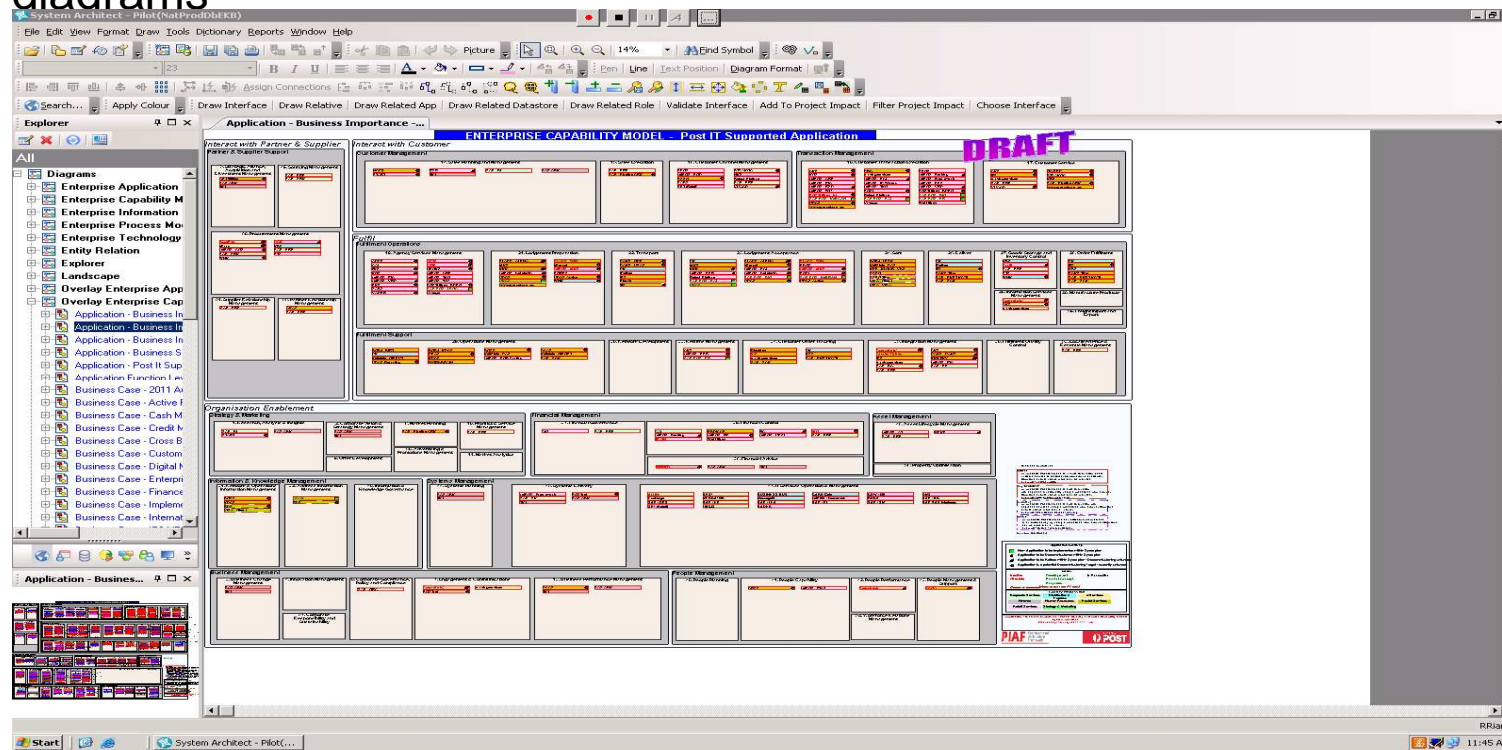


Variations

- As a result, you can obtain a capability overlay diagram that shows only applications which are critical to your company

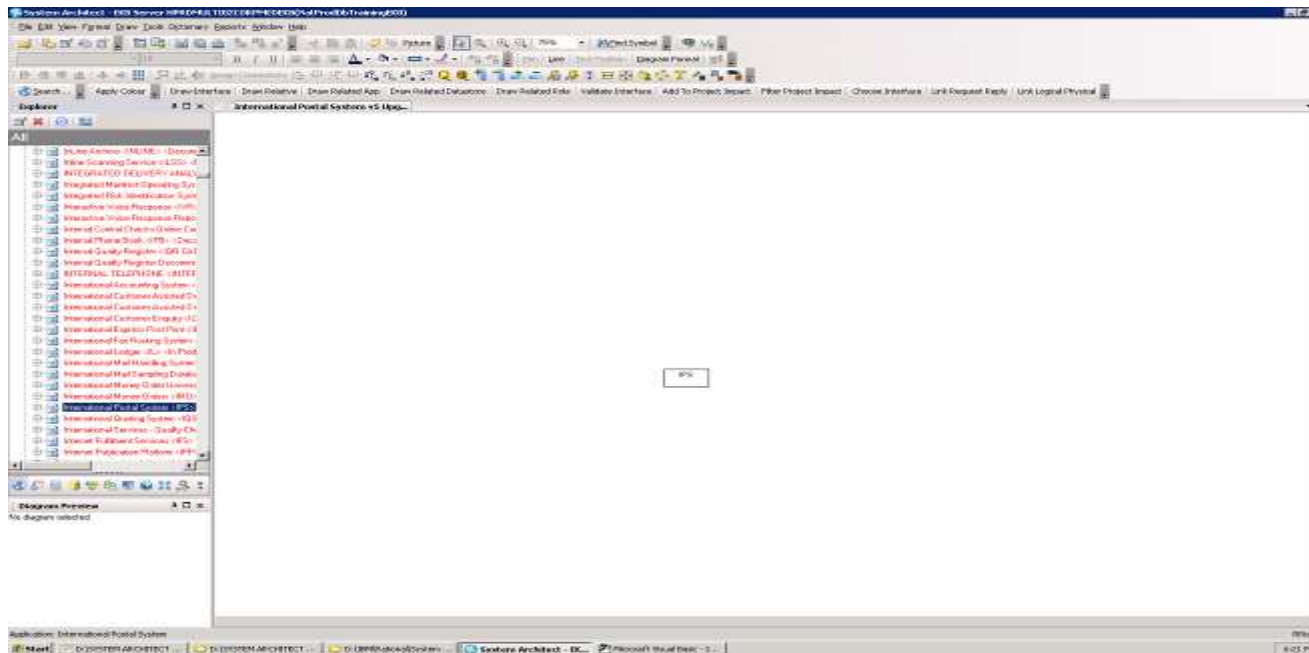


- Run “Arrange box to box” Symbols and as a result we have a neat diagrams

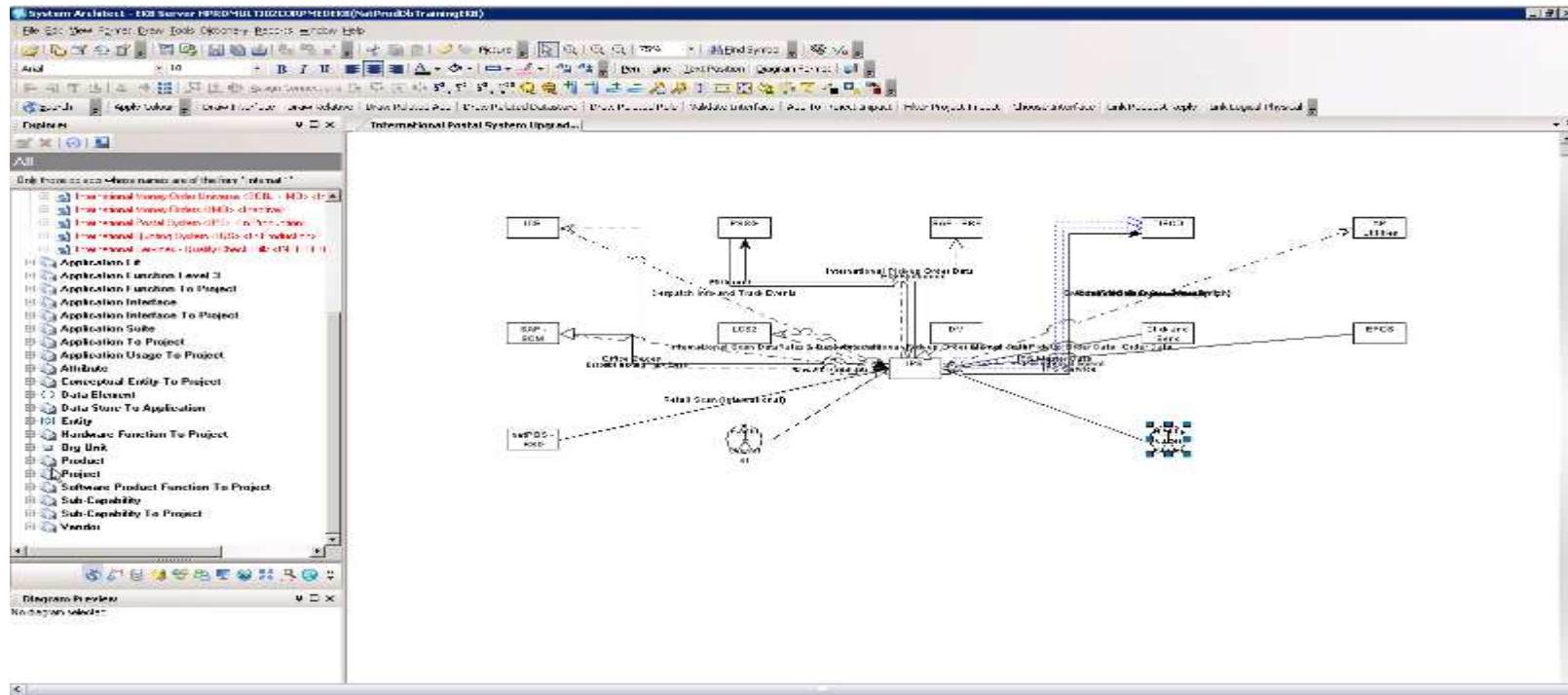


Example 2: Create System Context

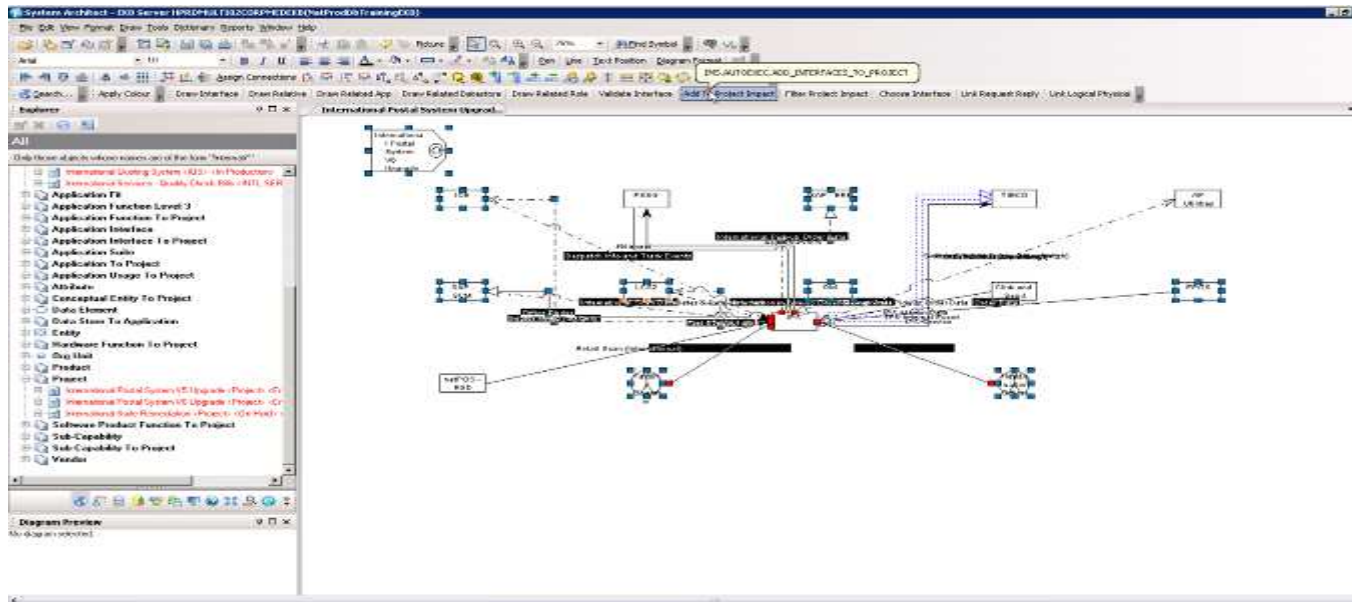
- Place an application on a diagram



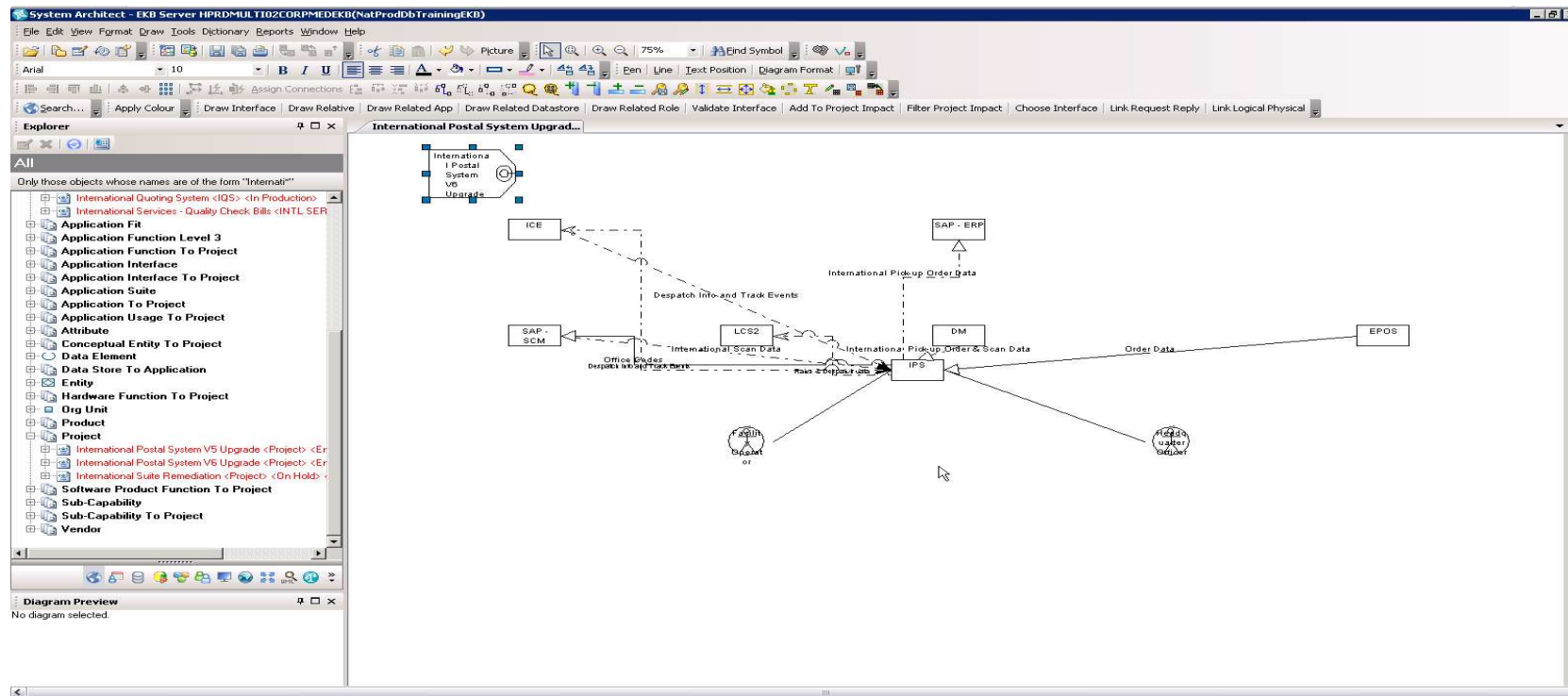
- Run “Draw relative” macro to draw all related systems, users, data stores and interfaces

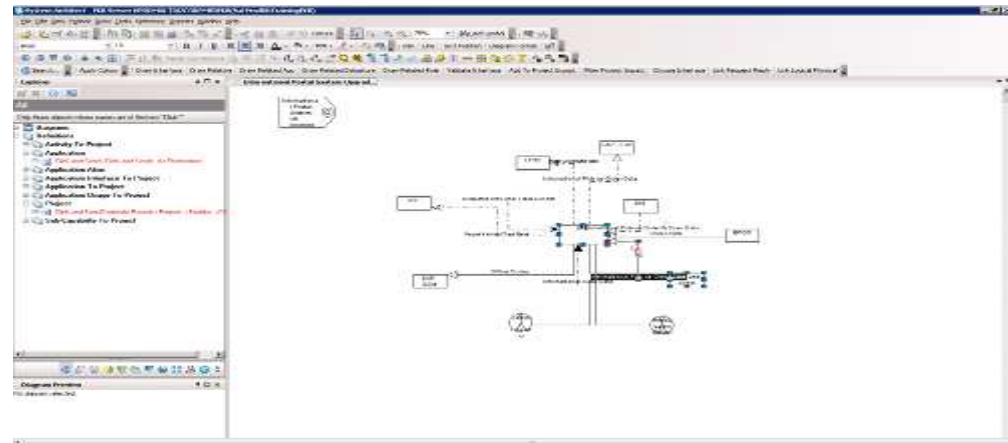
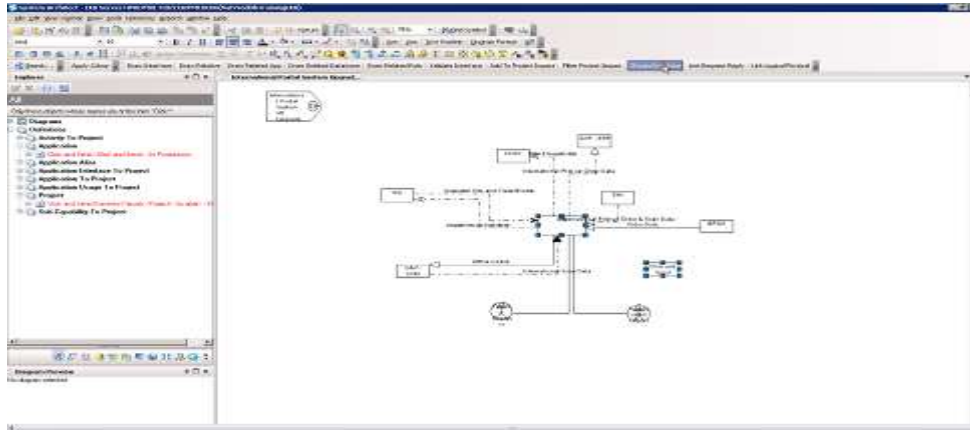


- Place a Project on this diagram,
- Select all related objects in scope, and
- Run “Add to Project Impact” macro to link them. These relationship will also be captured as data update in the database (Alternative of Manual Data Entry)



- Run “Filter Project Impact” macro (This will delete all users and systems which are not linked to a Project)

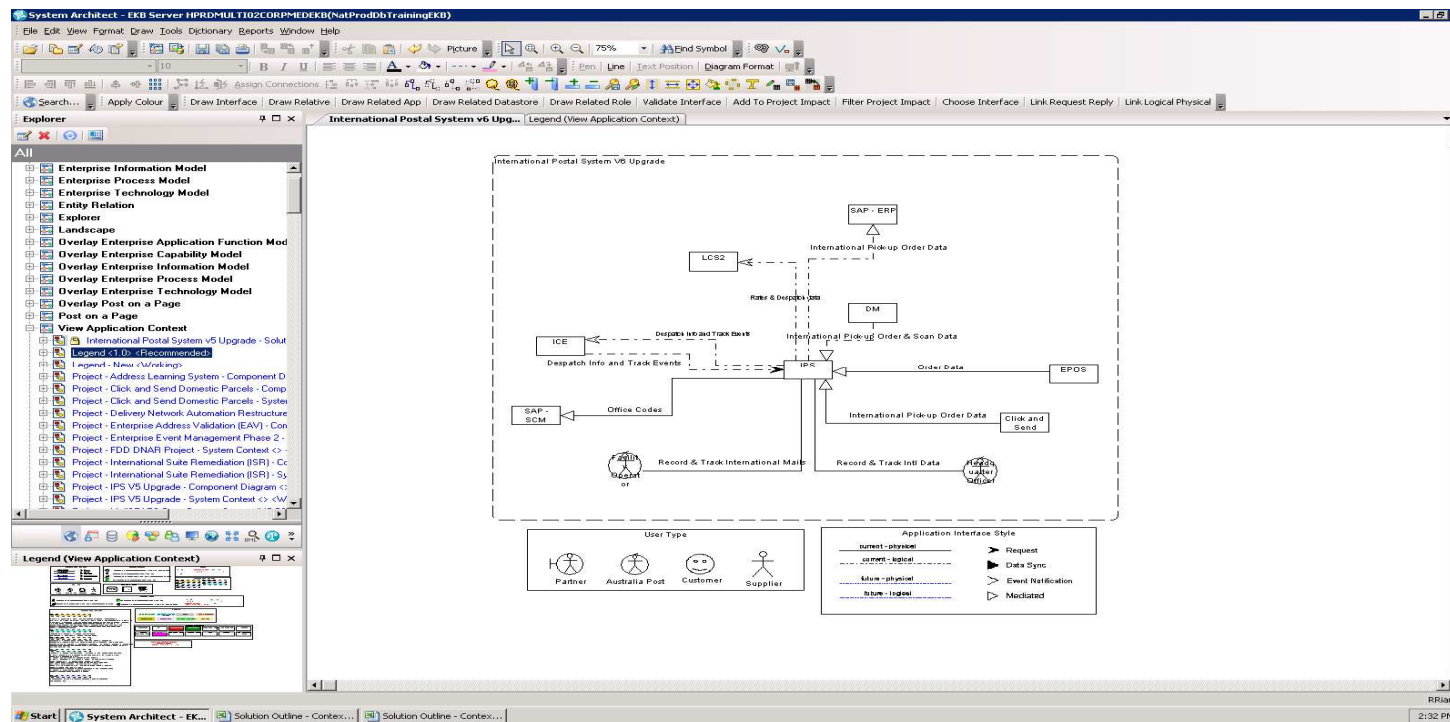




- You can choose an interface between Systems
- Display selected interface



- Add more system, interfaces and Legends and reorganise.



TIPS

- Establish governance, data ownership and maintenance process and enforce discipline to follow them.
- Engage and communicate with your stakeholders regularly – find out what they need and how you can assist
- Engage and communicate with IBM to resolve technical issues and propose enhancement
- Form a right team to drive and execute your repository (mixture of enterprise architecture, technical skills, disciplines, focus and believing in value)
- Create and provide guidelines, help and training to your users
- Provide alternative data entry (eg. spreadsheet templates) and centralised data entry services where appropriate.

