



# Enterprise Architecture Modelling, Visualization and Analysis with ArchiMate and TOGAF

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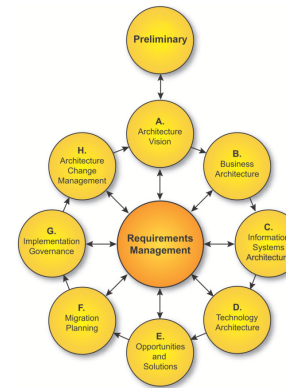
**BiZZdesign**

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# ▶ What is Enterprise Architecture?

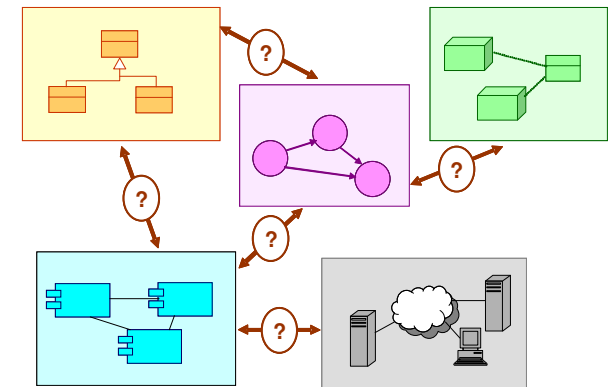
## ▶ *A process*

- ▶ Way of working
- ▶ Aimed at the development and use of enterprise architectures within an enterprise
- ▶ With people and resources



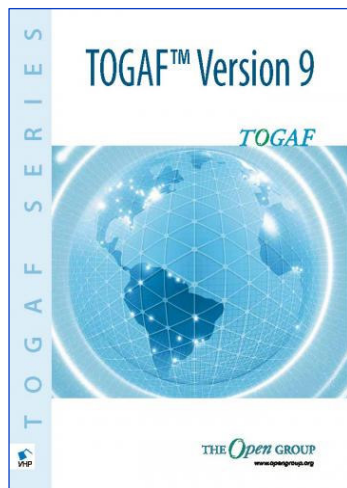
## ▶ *A product*

- ▶ A design that shows the coherence between products, processes, organisation, information supply and infrastructure, based on a vision and certain explicit starting points, principles and preferences
- ▶ With the objective of *steering changes*

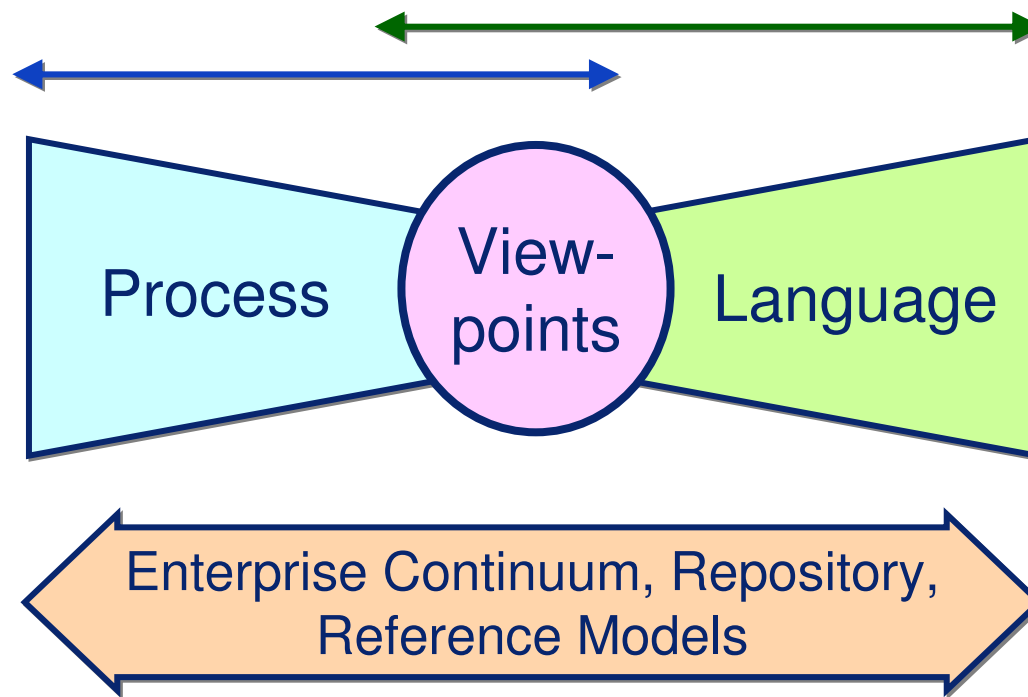
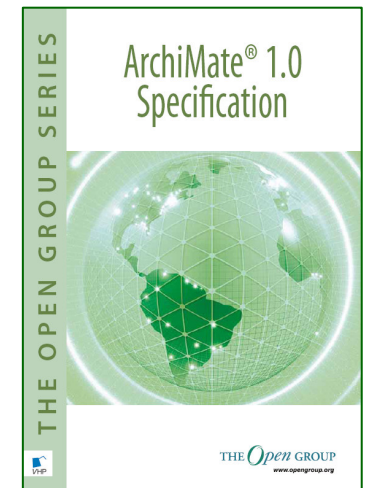


# ▶ Ingredients of an EA Approach

## TOGAF



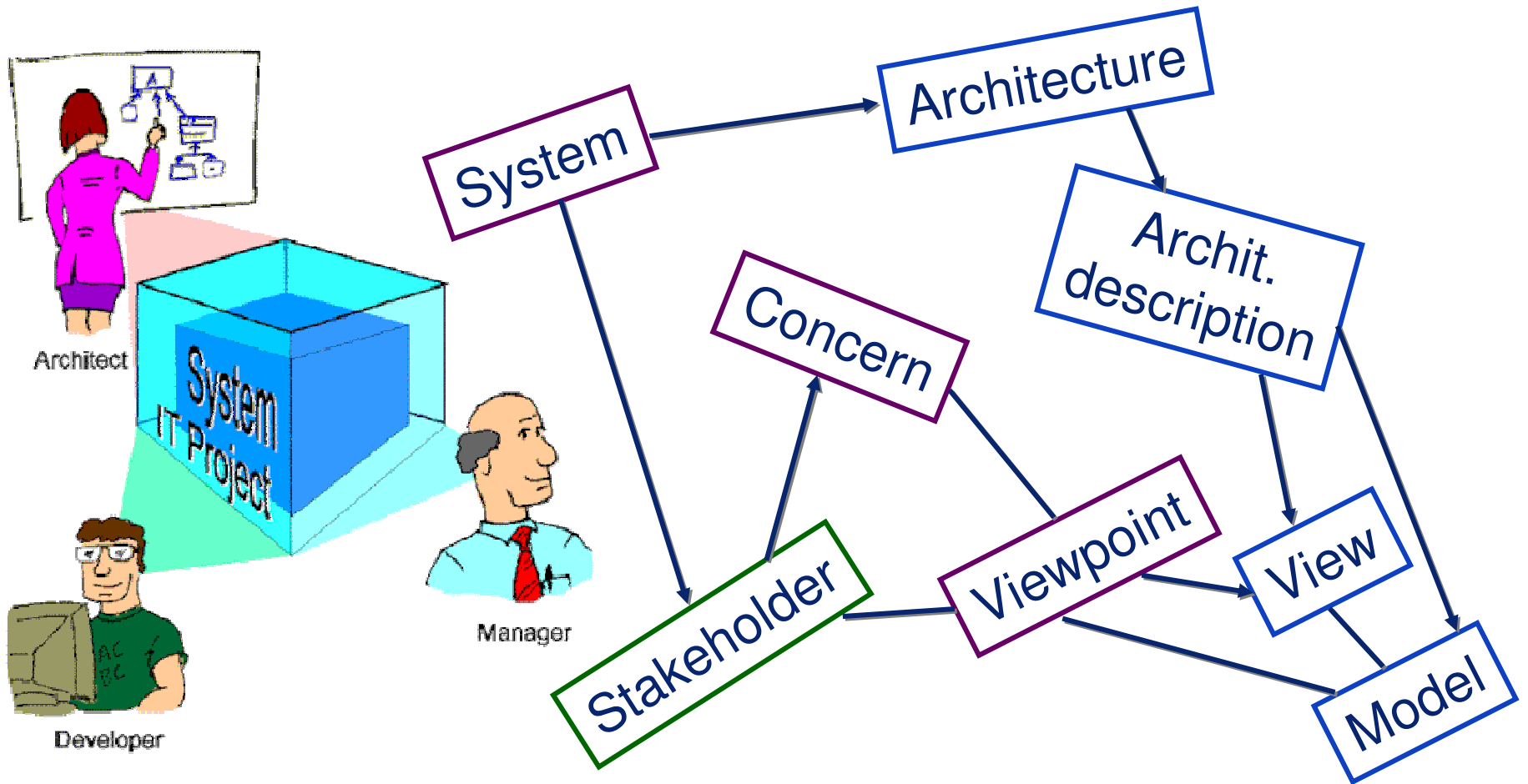
## ArchiMate



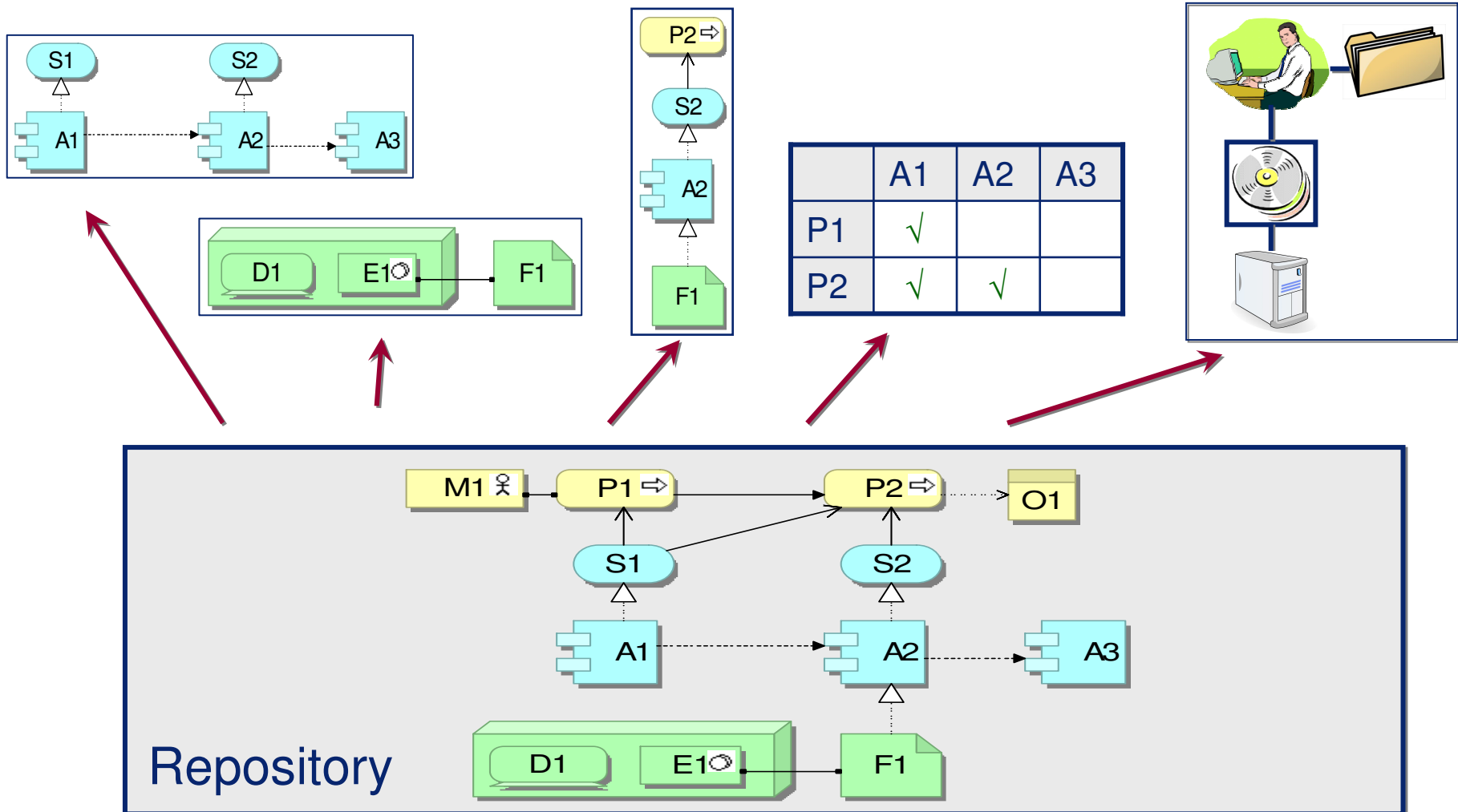
## ▶ Architecture according to ISO/IEC 42010

- ▶ TOGAF and ArchiMate both uses the architecture definition from Standard ISO/IEC 42010:2007:
- ▶ An architecture describes:
  - ▶ the fundamental organisation of a system, embodied in its *components*, their *relationships* to each other and the environment;
  - ▶ and the *principles* governing its design and evolution.
- ▶ Practically, an architecture is represented in *architectural descriptions* from the *viewpoints* corresponding to the *concerns* of the *stakeholders*.

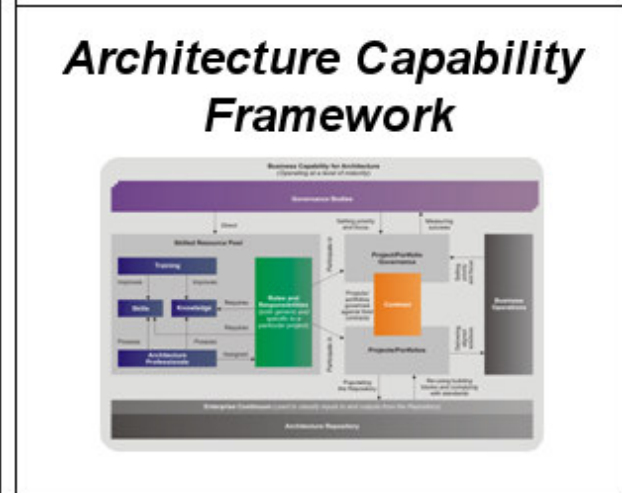
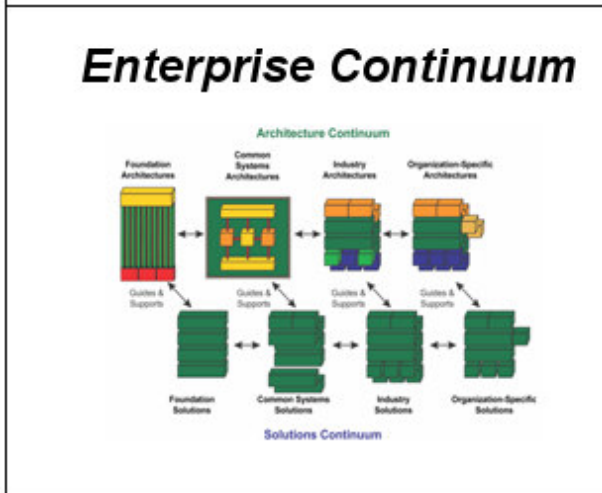
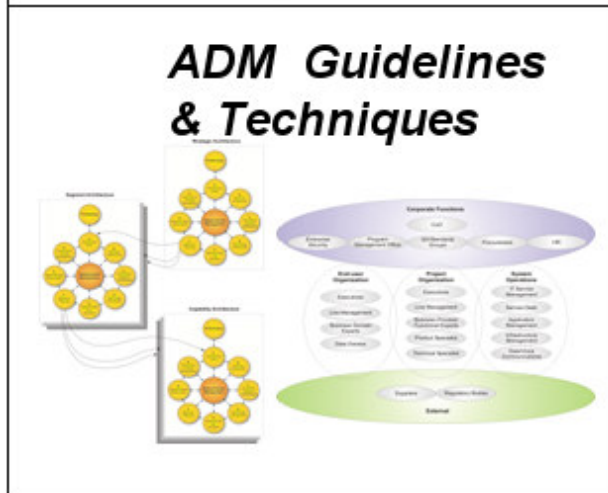
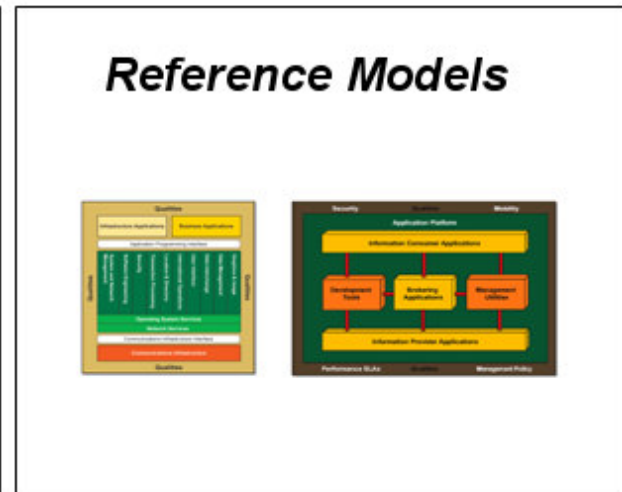
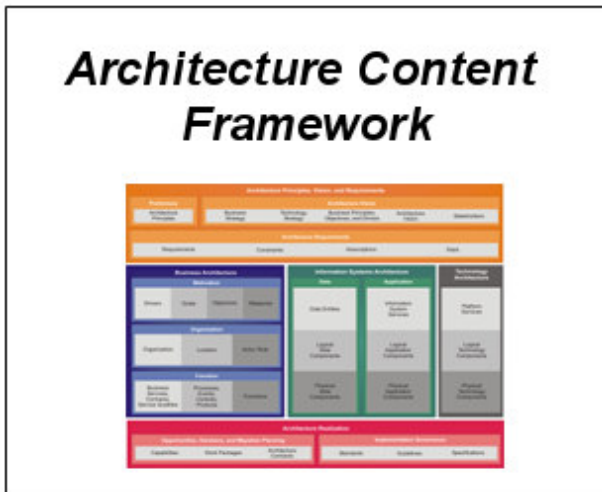
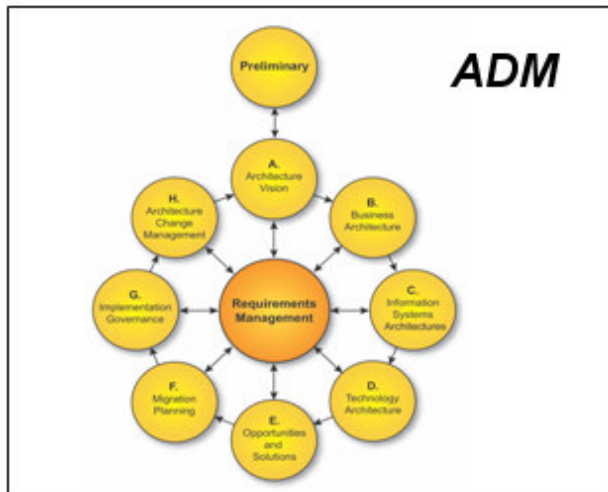
# ▶ Viewpoints and views (ISO/IEC 42010)



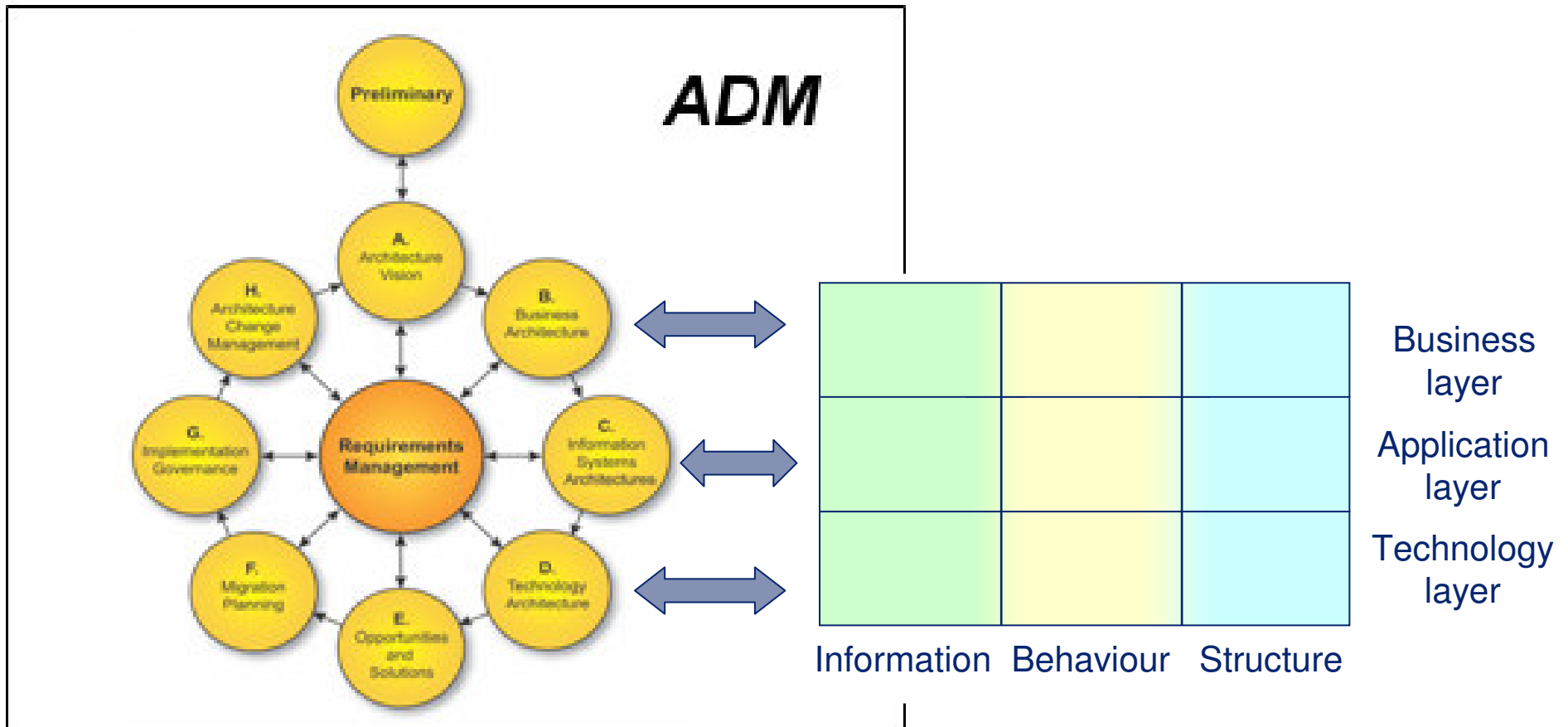
# Views on a shared model



# ▶ The TOGAF Components

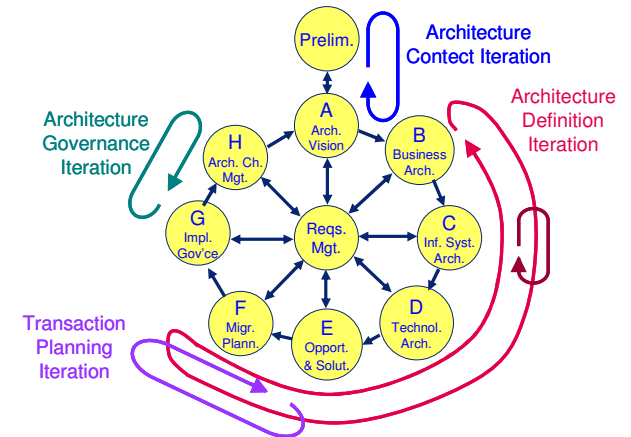
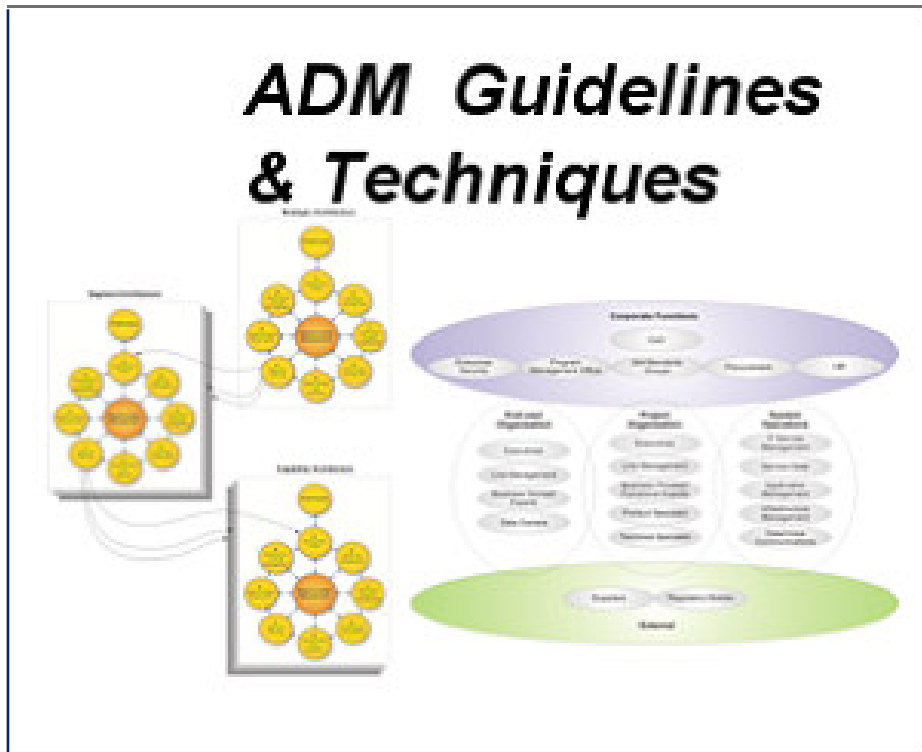


# ► The ADM and ArchiMate



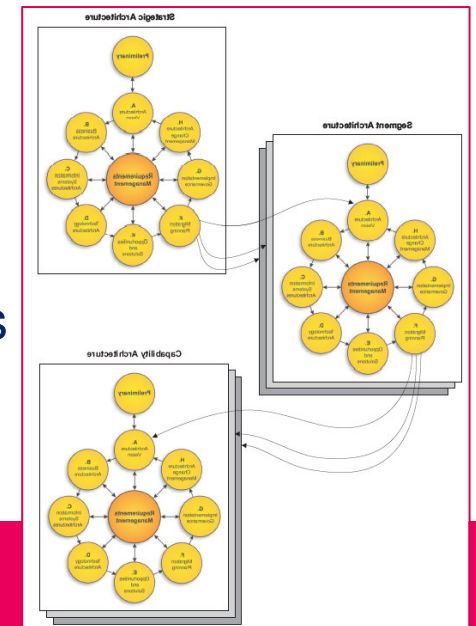


# ▶ ADM Guidelines and ArchiMate



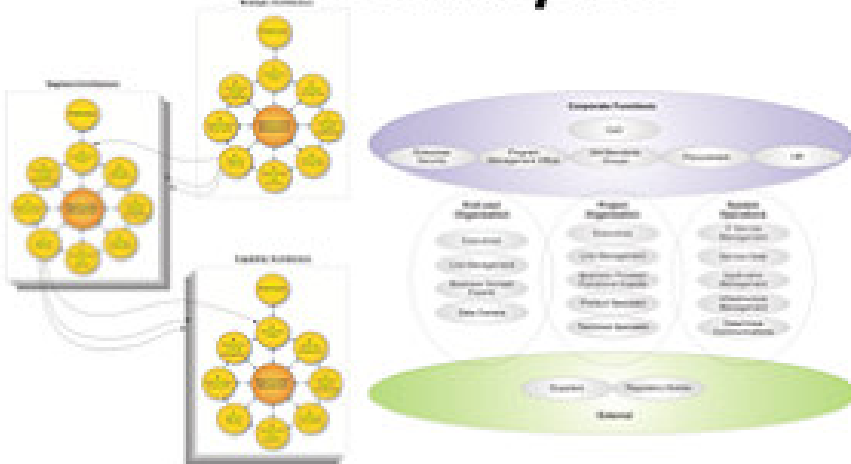
Applying iteration to the ADM

A hierarchy of ADM processes



# ▶ ADM Guidelines and ArchiMate

## ADM Guidelines & Techniques



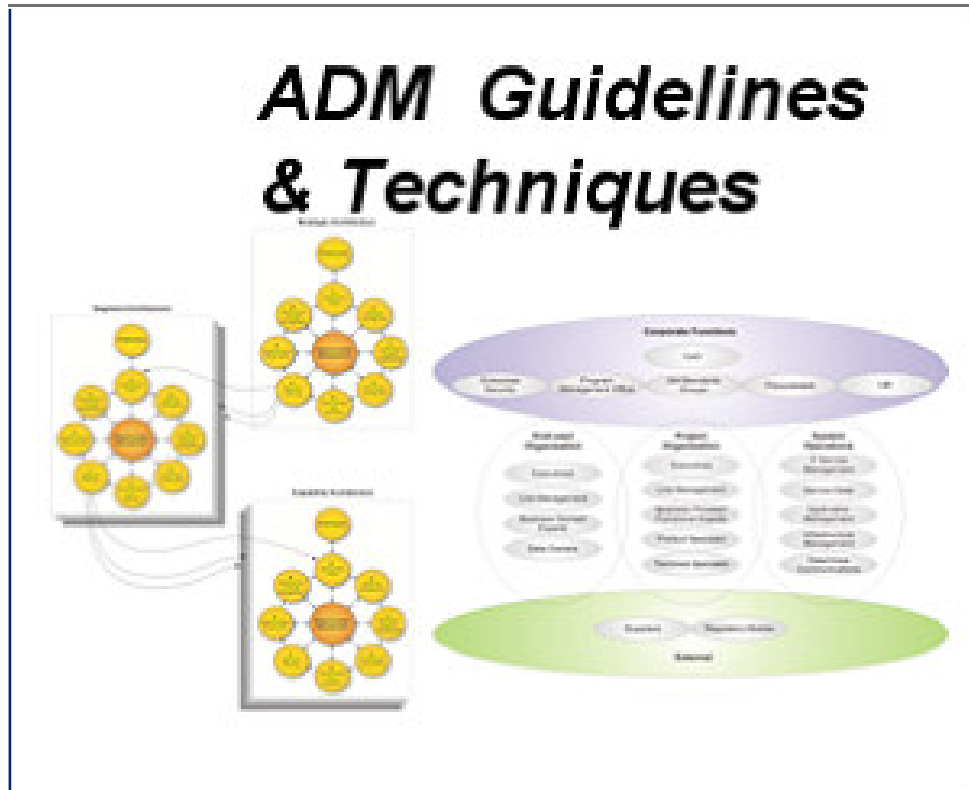
## TOGAF, ArchiMate and SOAs



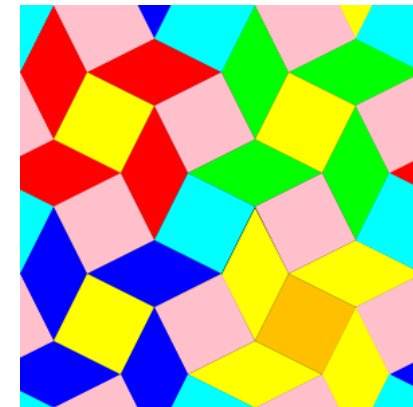
## Security architecture and the ADM



# ▶ ADM Techniques and ArchiMate

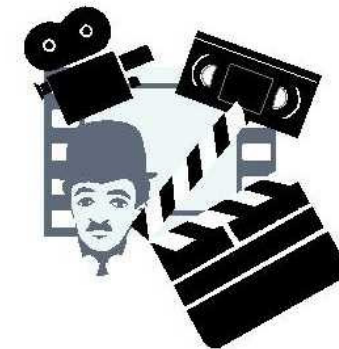
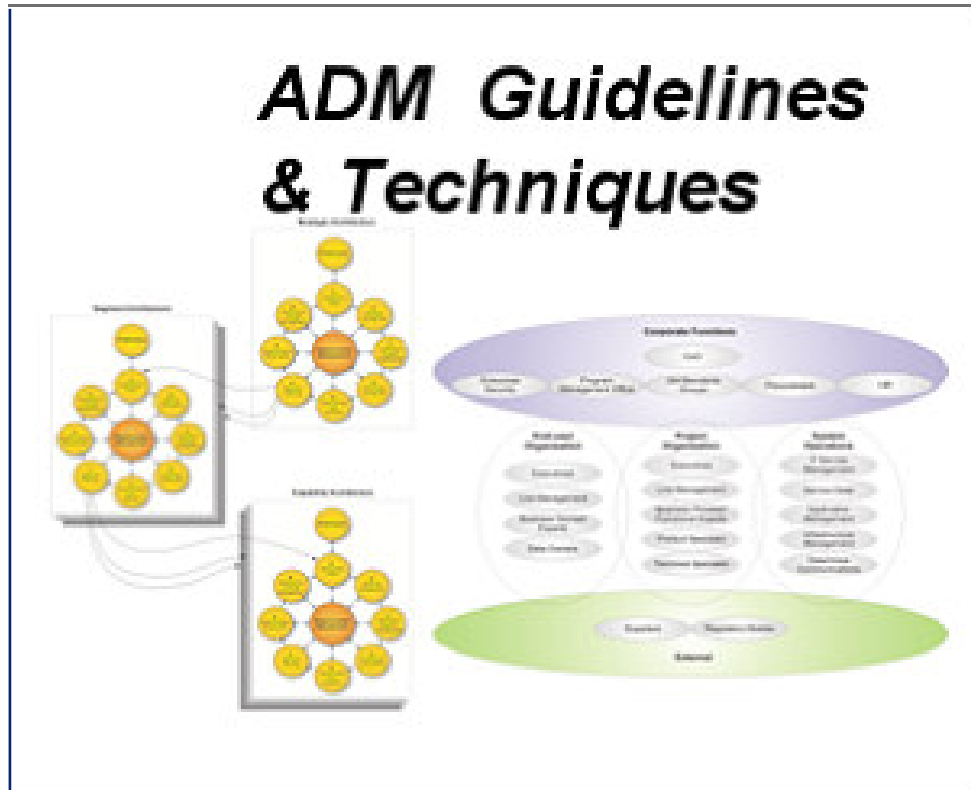


Stakeholder management



Architecture patterns

# ▶ ADM Techniques and ArchiMate

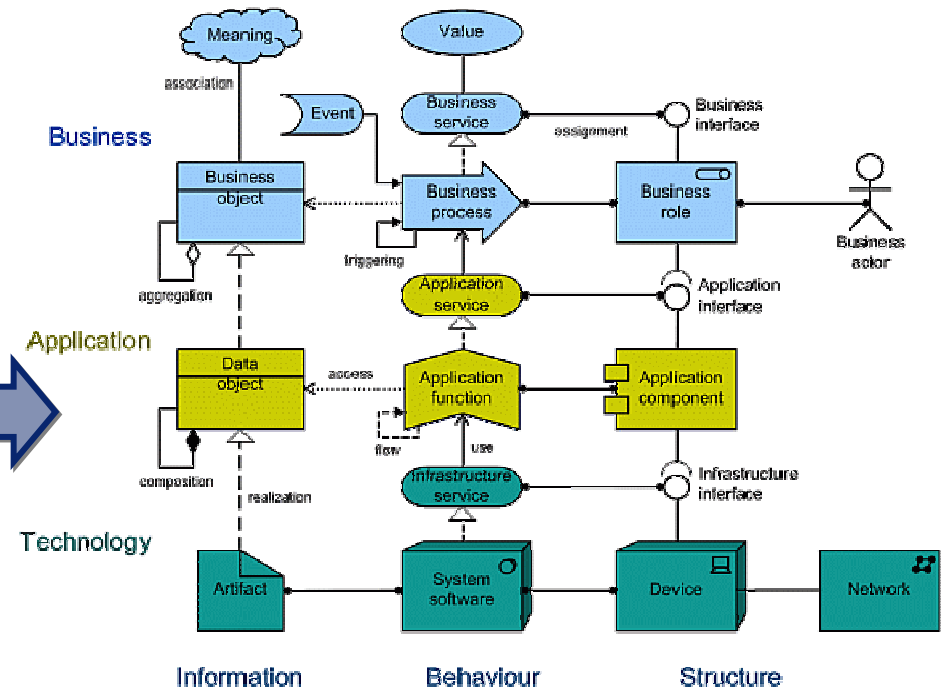
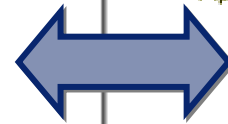
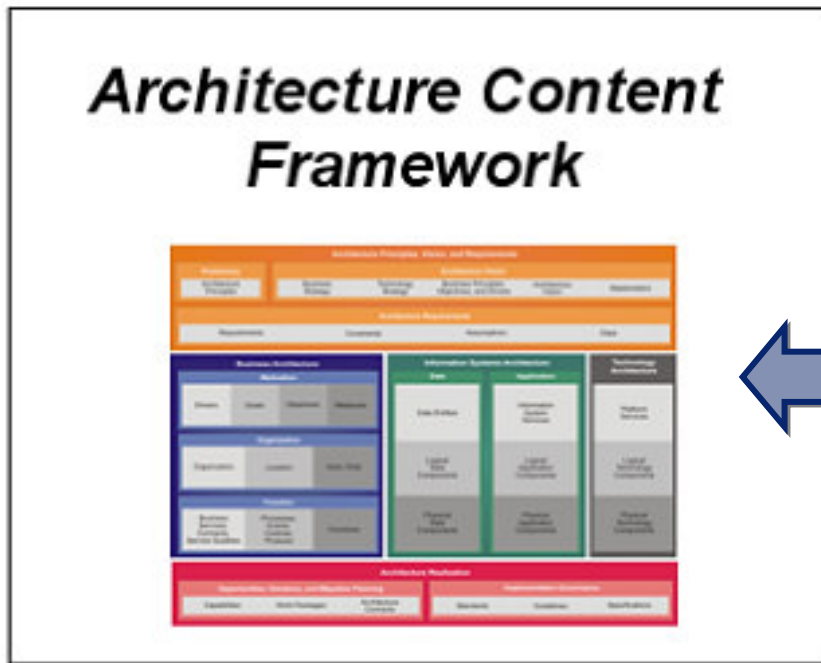


Business scenarios



Gap analysis

# ► The ACF and ArchiMate



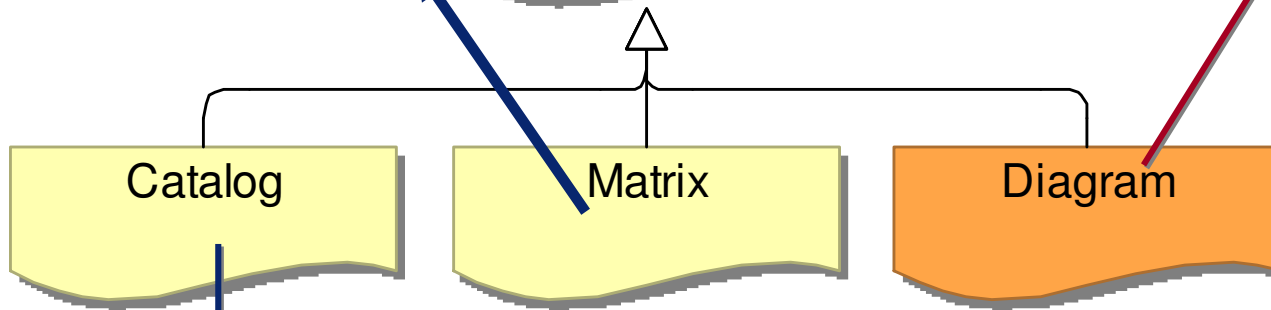
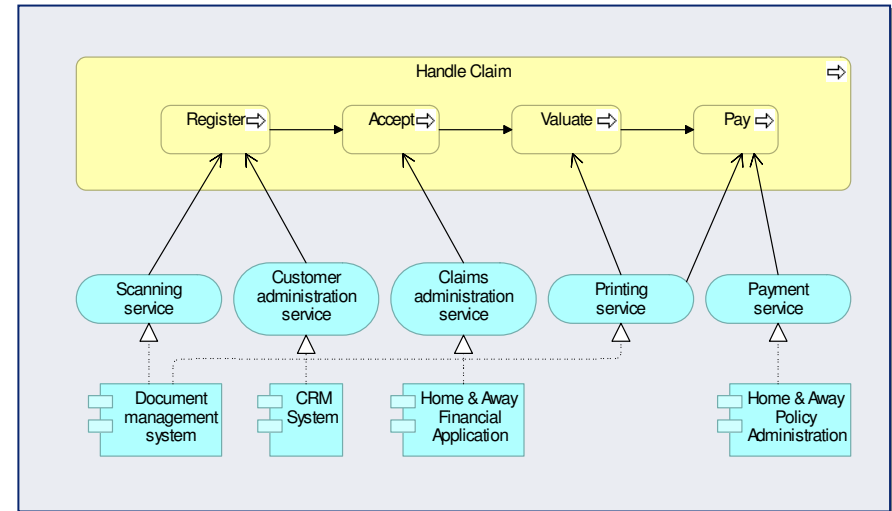
# ► Deliverables and artifacts

Applicatiecomponent realiseert Applicatieservice wordt gebruikt door Bedrijfsproces

	Accept claim	Assess claim	Pay claim	Register claim
Acceptation system	X			
Assessment system		X		
Customer administration system			X	
Registration systeem				X

Ververs  Labels...  Landschapskleuren...

Print... Copy Copy +  Toon waarom in cellen

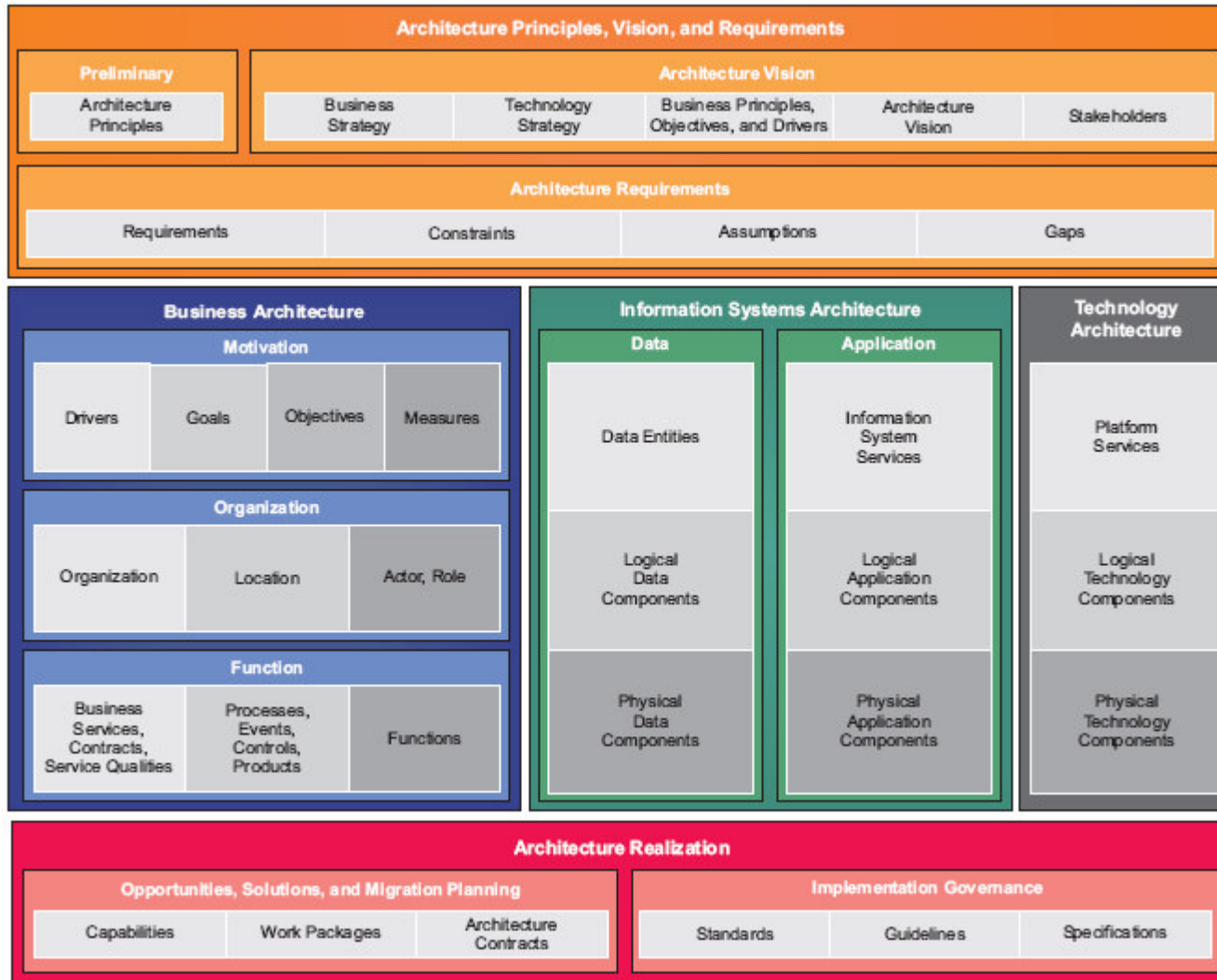


Properties table

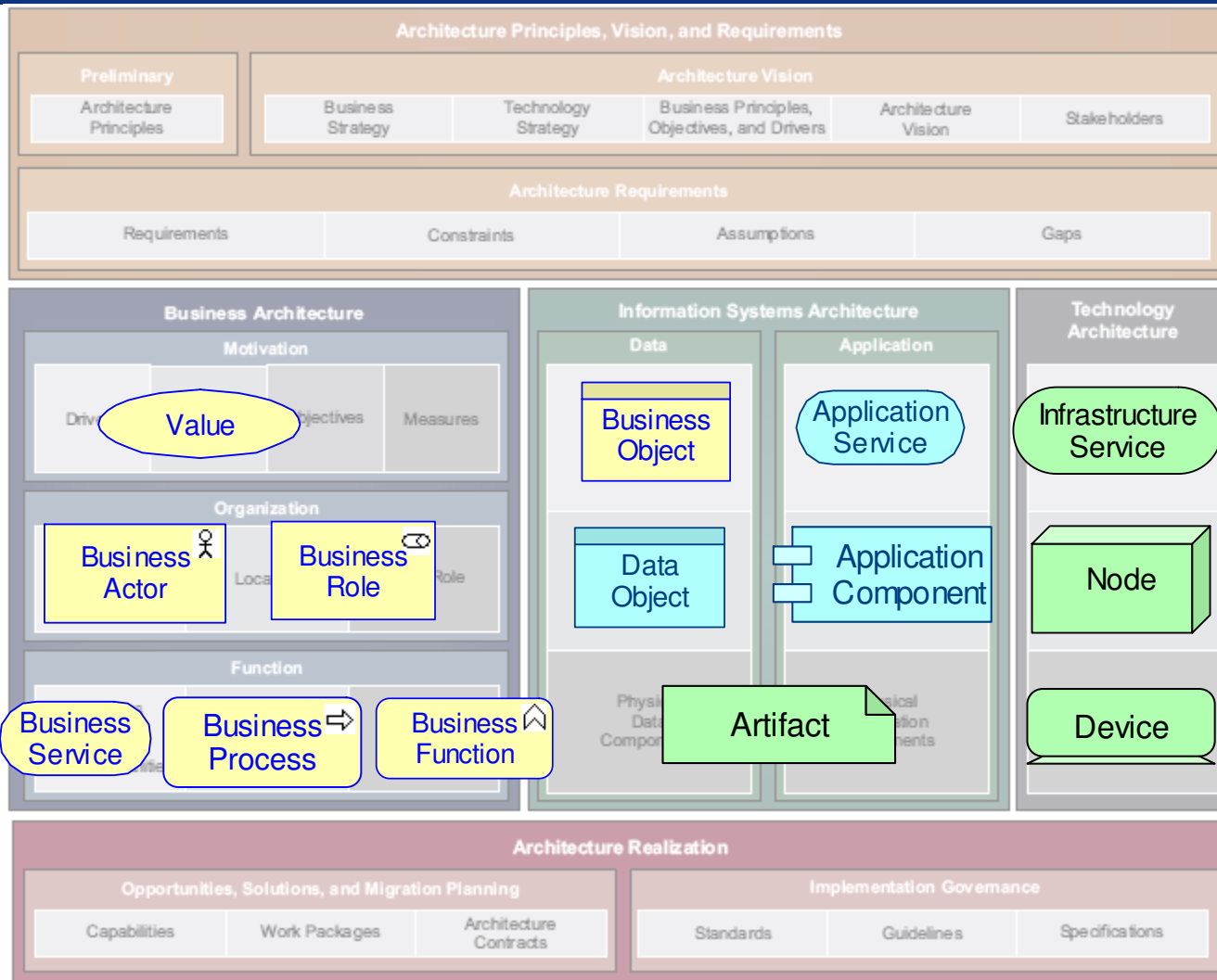
	eigenaar
Applications	
Acceptation system	Damage
Administration system	Profit
Assessment system	Damage
Customer administration system	Profit
Document Information System	Morgage
Intermediary administration application	Profit
Intermediary administration module	Profit
Module customer data	Life
Payment system	Finance
Product module	Profit
Registration systeem	Damage

Print... Copy Copy + Refresh Default  Landscape colours

# ► Content Metamodel

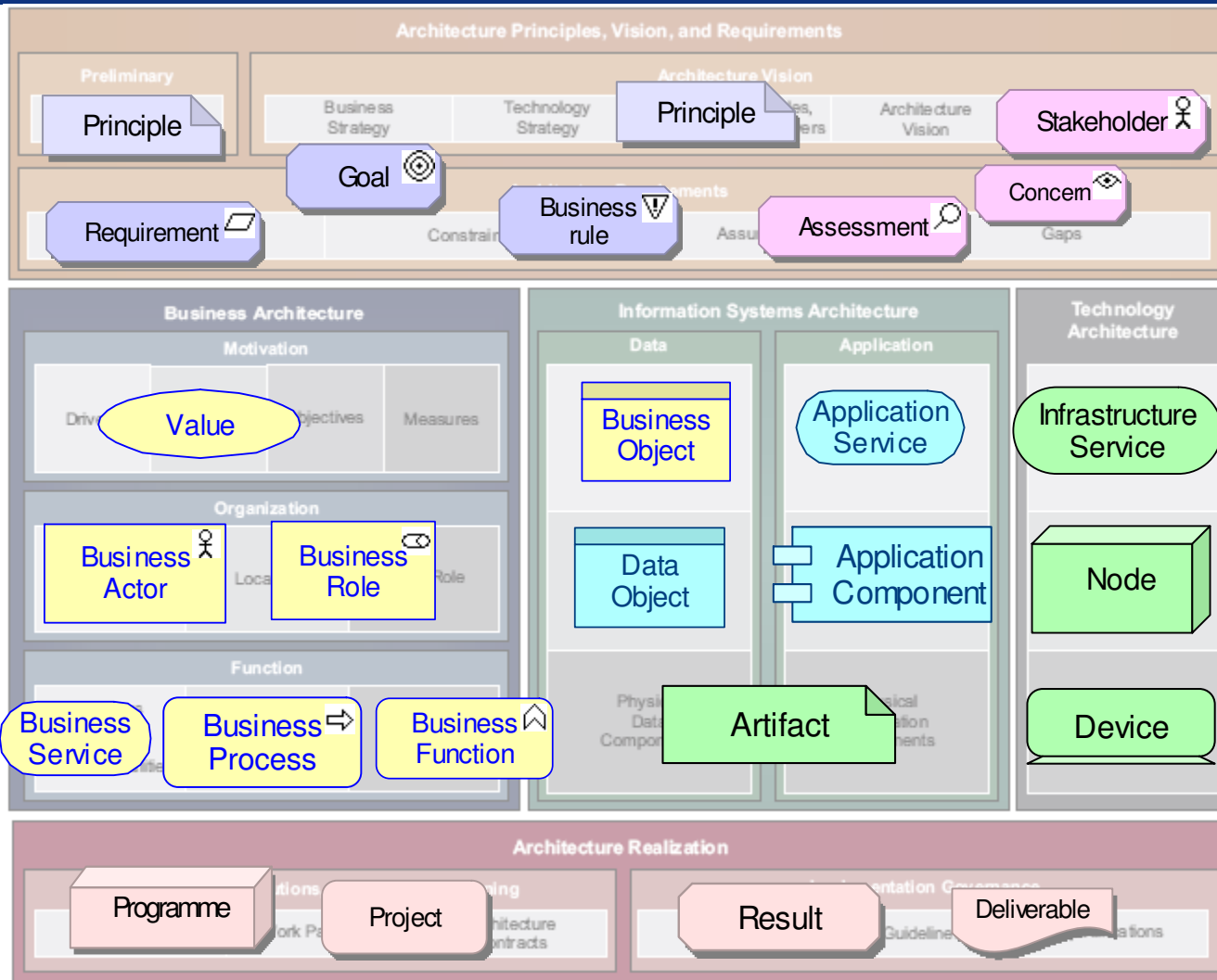


# ► Content Metamodel and ArchiMate

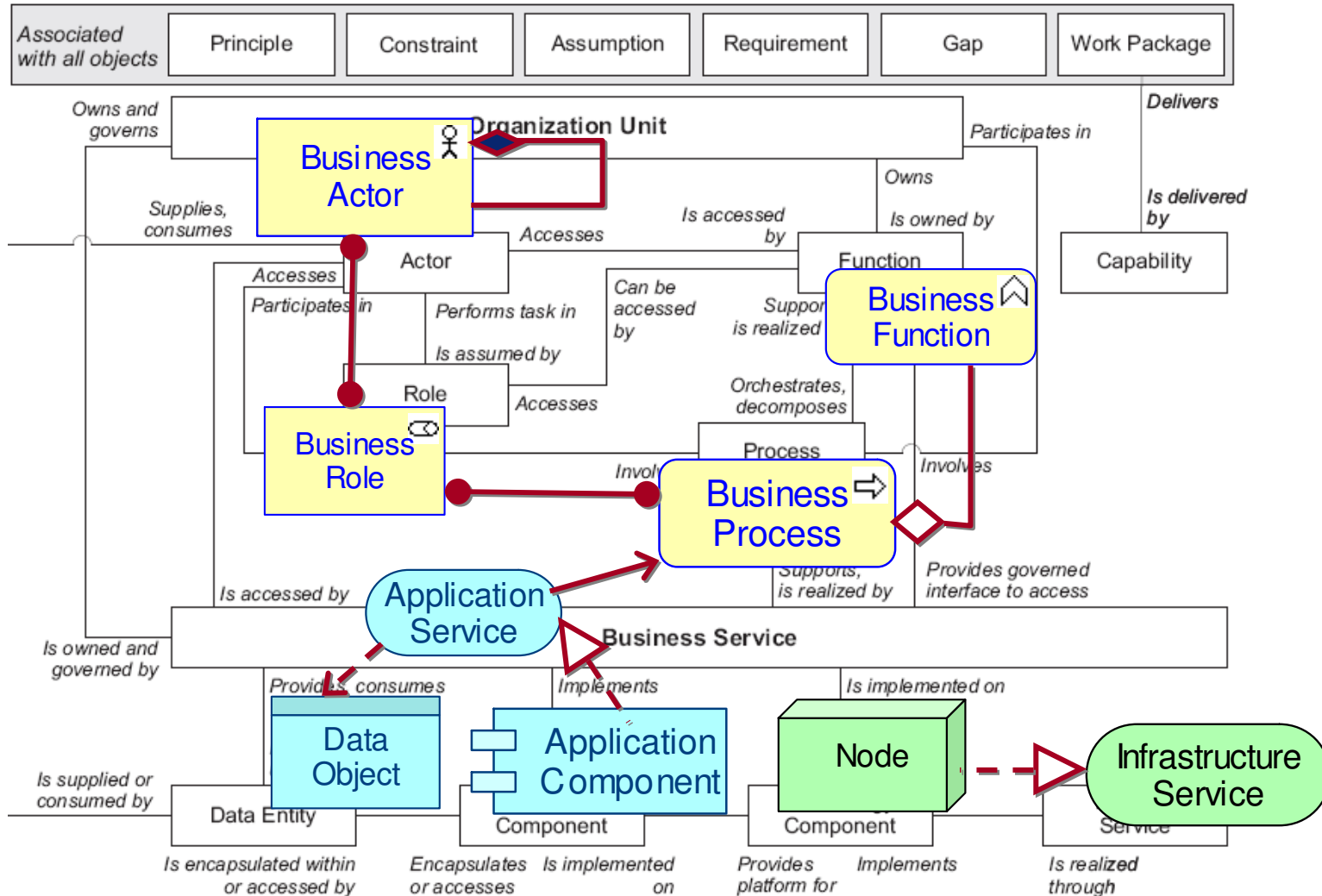




# ► Content metamodel and ArchiMate+



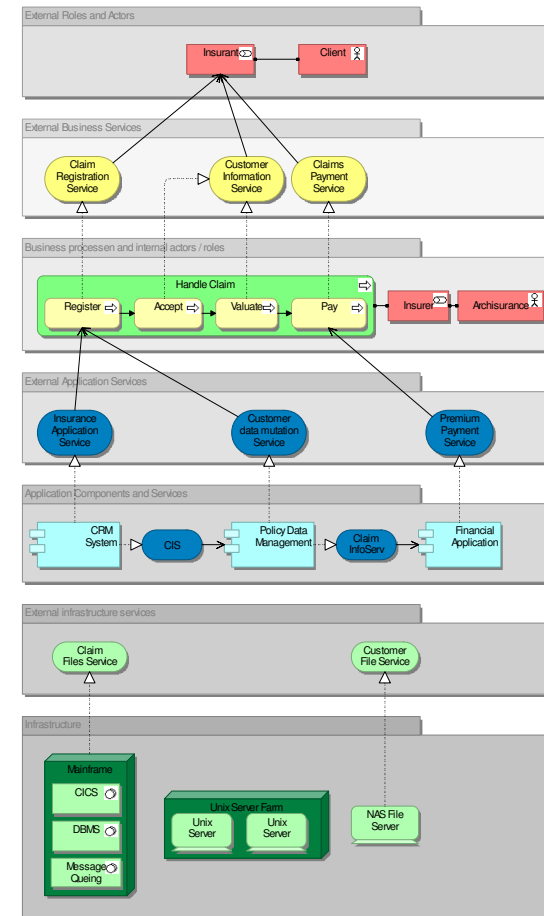
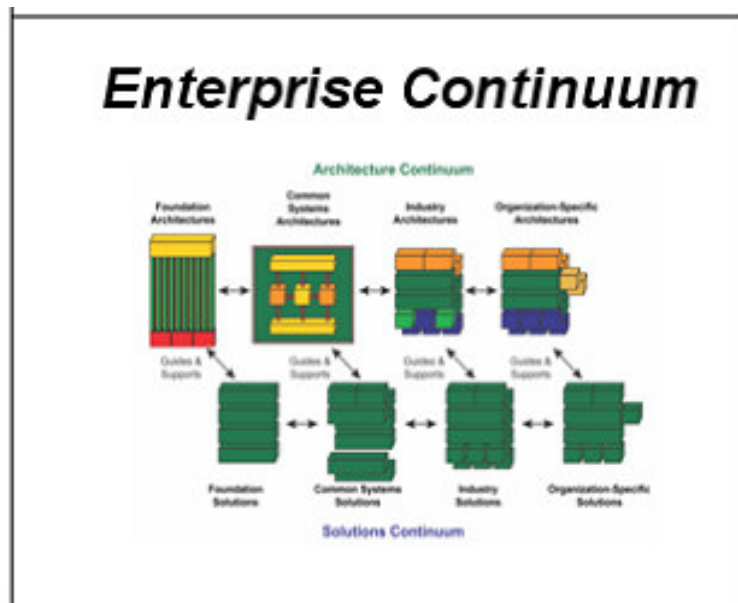
# Core Content Metamodel



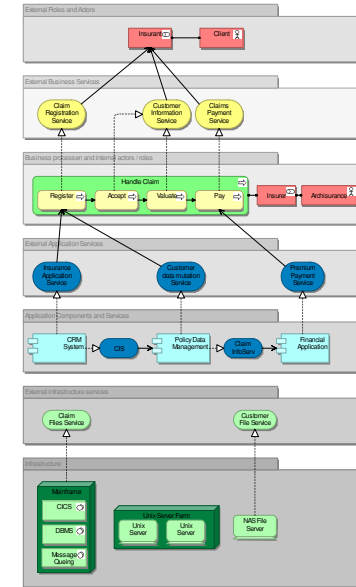
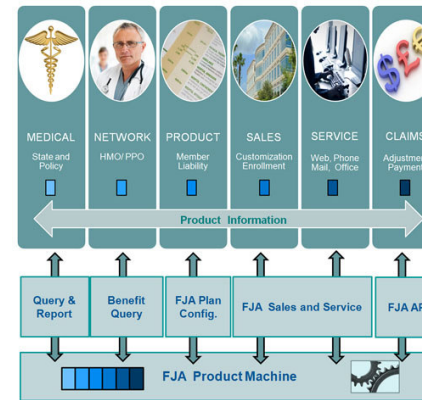
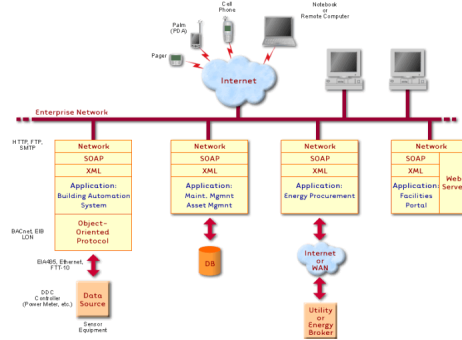
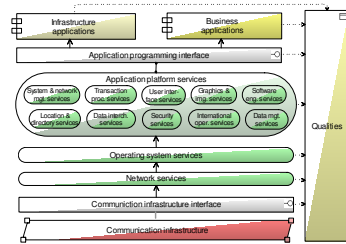
# ▶ TOGAF ACF and ArchiMate

- ▶ The ACF provides a global structure for architecture building blocks: it identifies the concepts needed in the different ADM phases.
- ▶ ArchiMate provides a well-defined language, including graphical notation, covering the core of the ACF.
- ▶ With ArchiMate, relations between different architectural domains can also be modelled
- ▶ ArchiMate models form a basis for views, visualizations, and analysis
- ▶ Some concepts from the ACF are still missing in ArchiMate → potential future extensions of the language

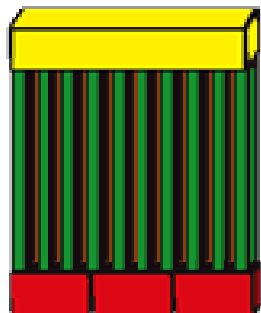
# ▶ The Enterprise Continuum and ArchiMate



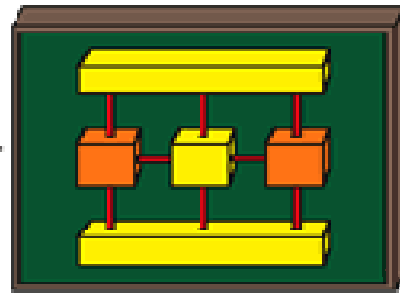
# Architecture Continuum and ArchiMate



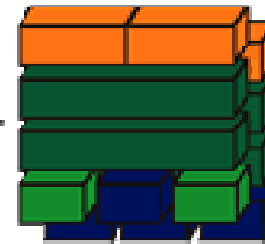
**Foundation Architectures**



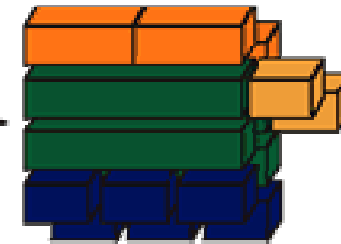
**Common Systems Architectures**



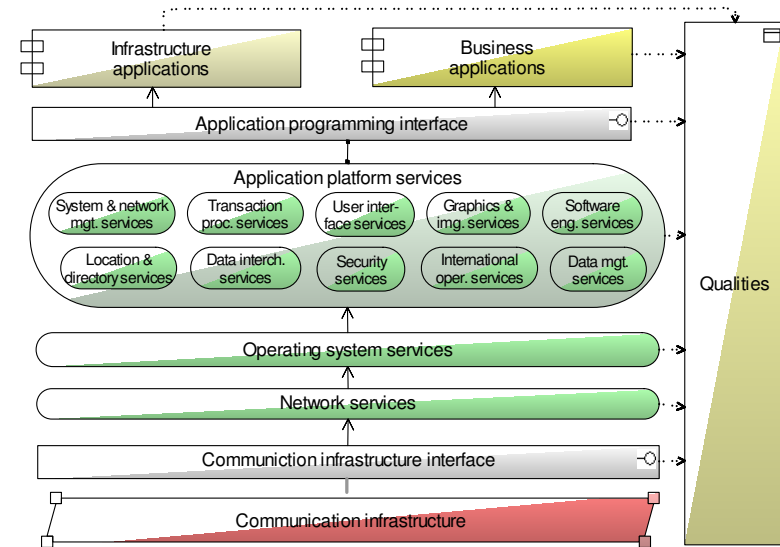
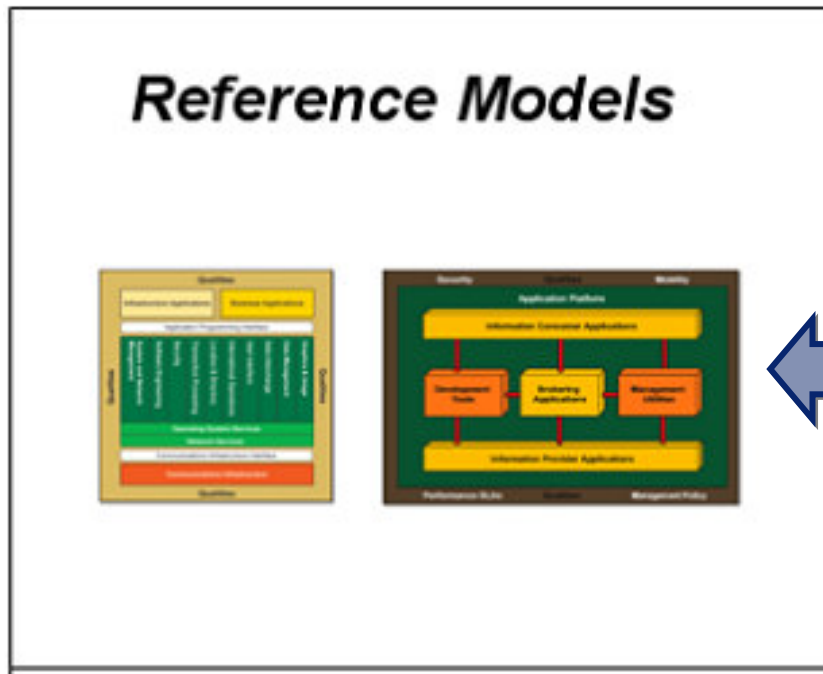
**Industry Architectures**



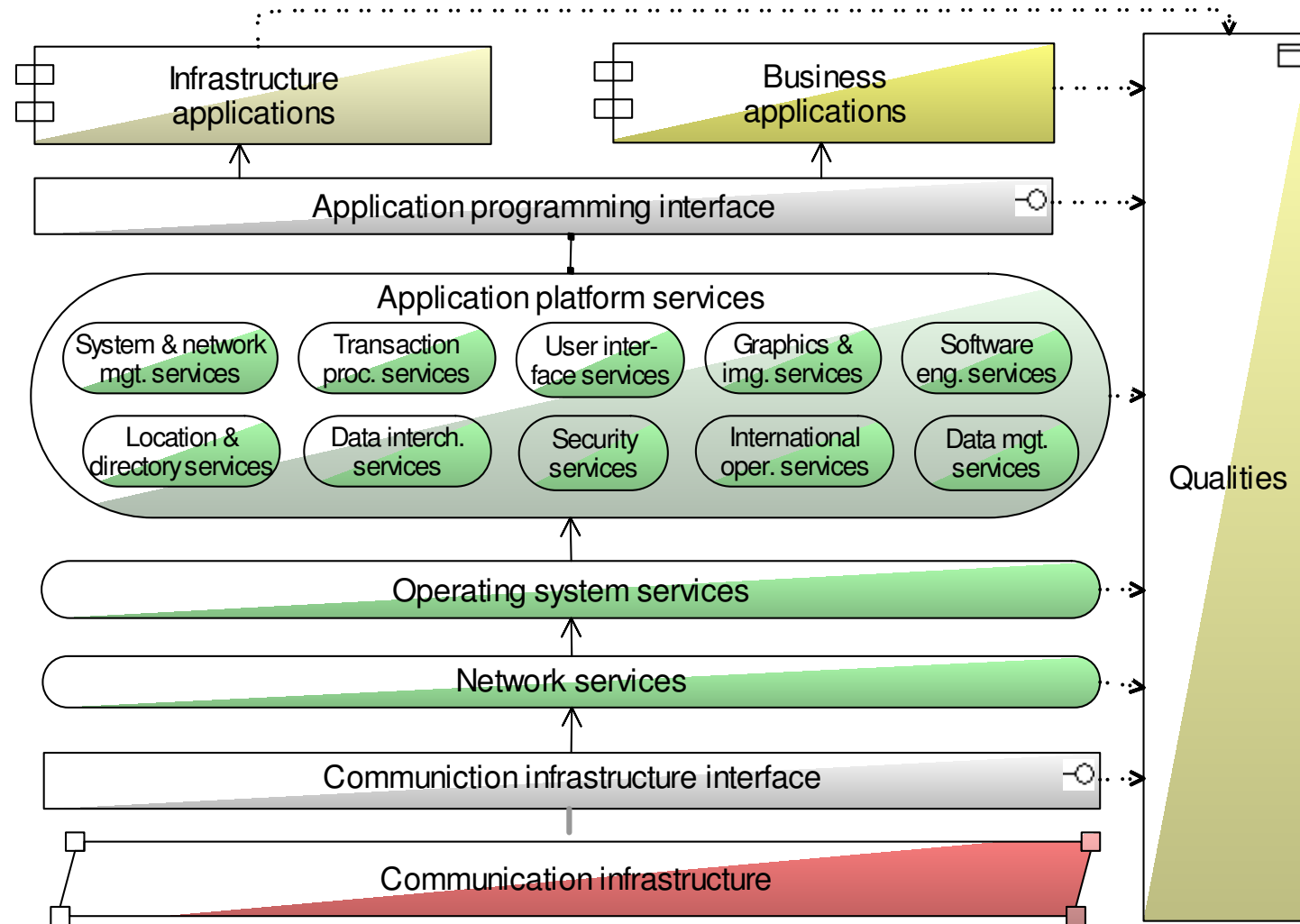
**Organization Architectures**



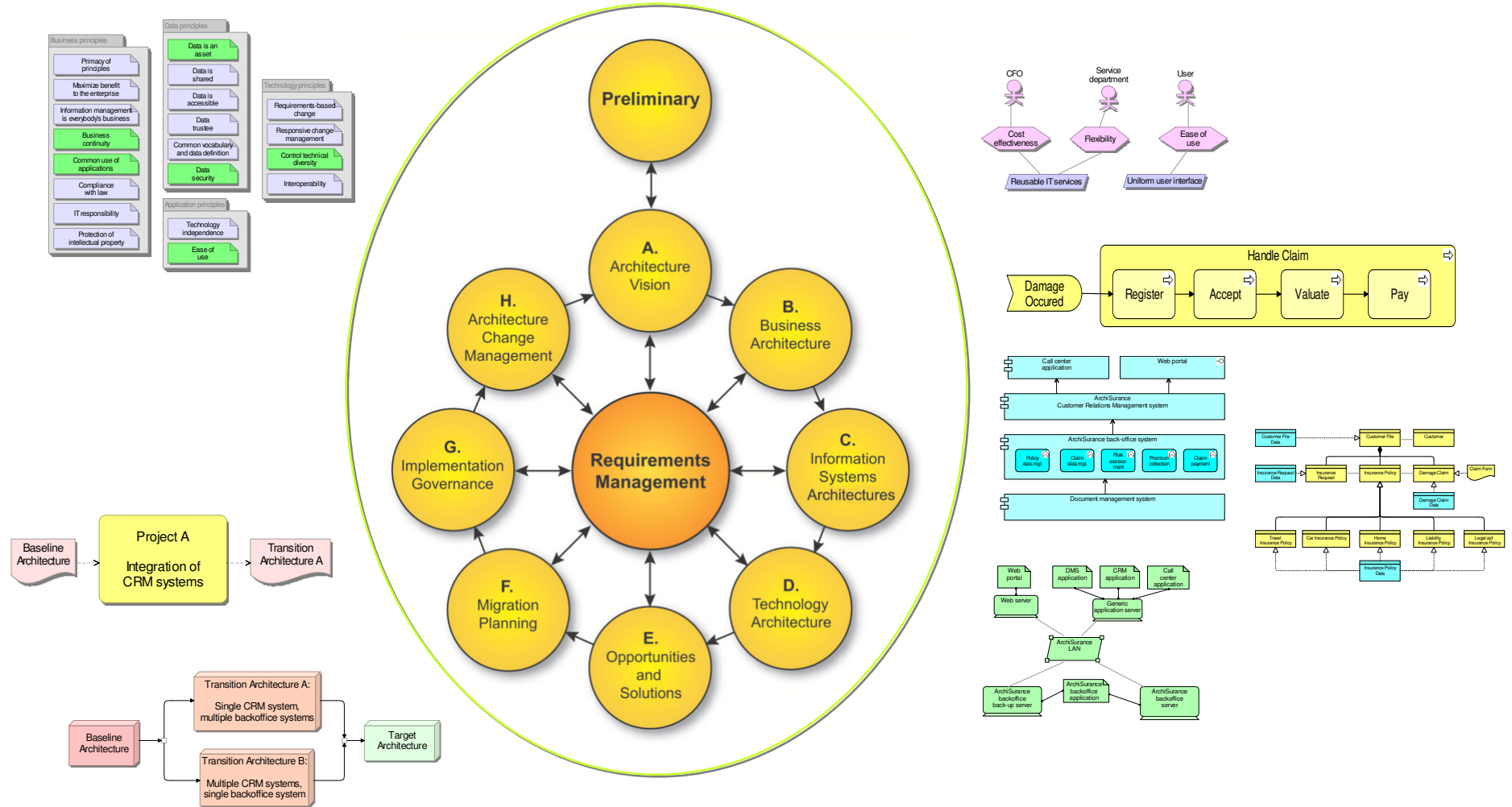
# ▶ TOGAF Reference Models and ArchiMate



# ▶ TOGAF TRM in ArchiMate notation

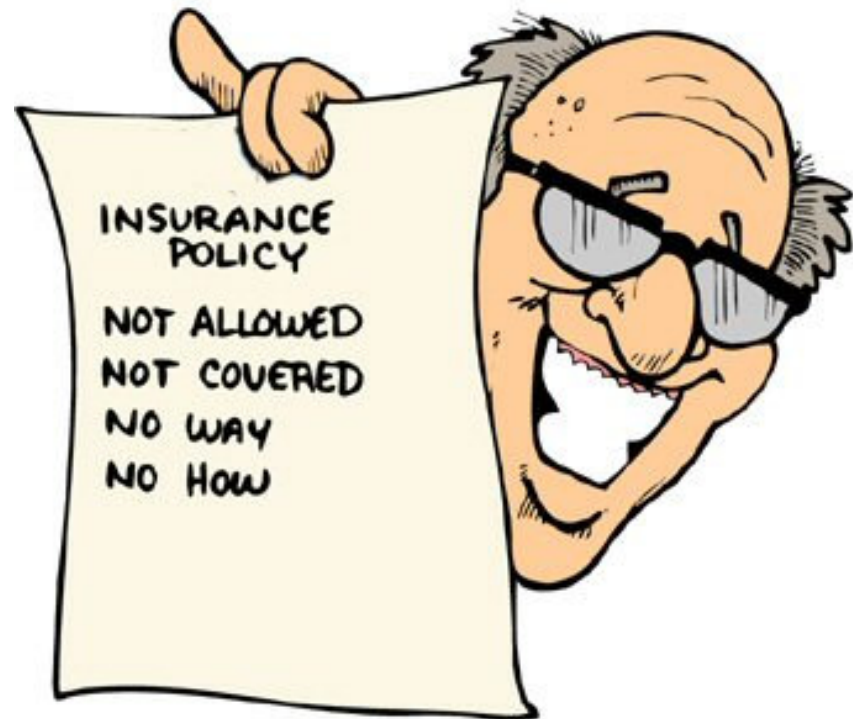


# Case study: Models throughout the ADM

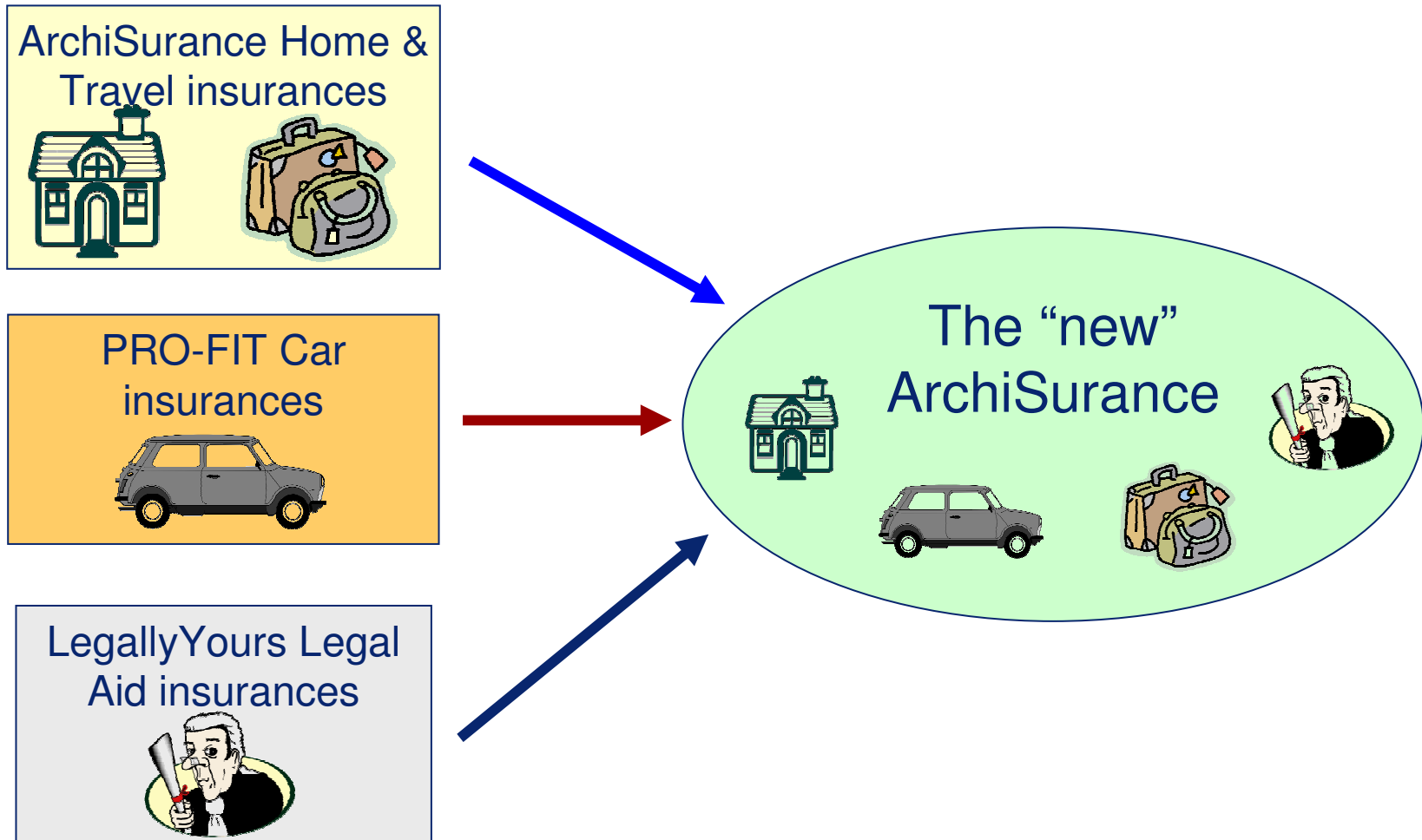




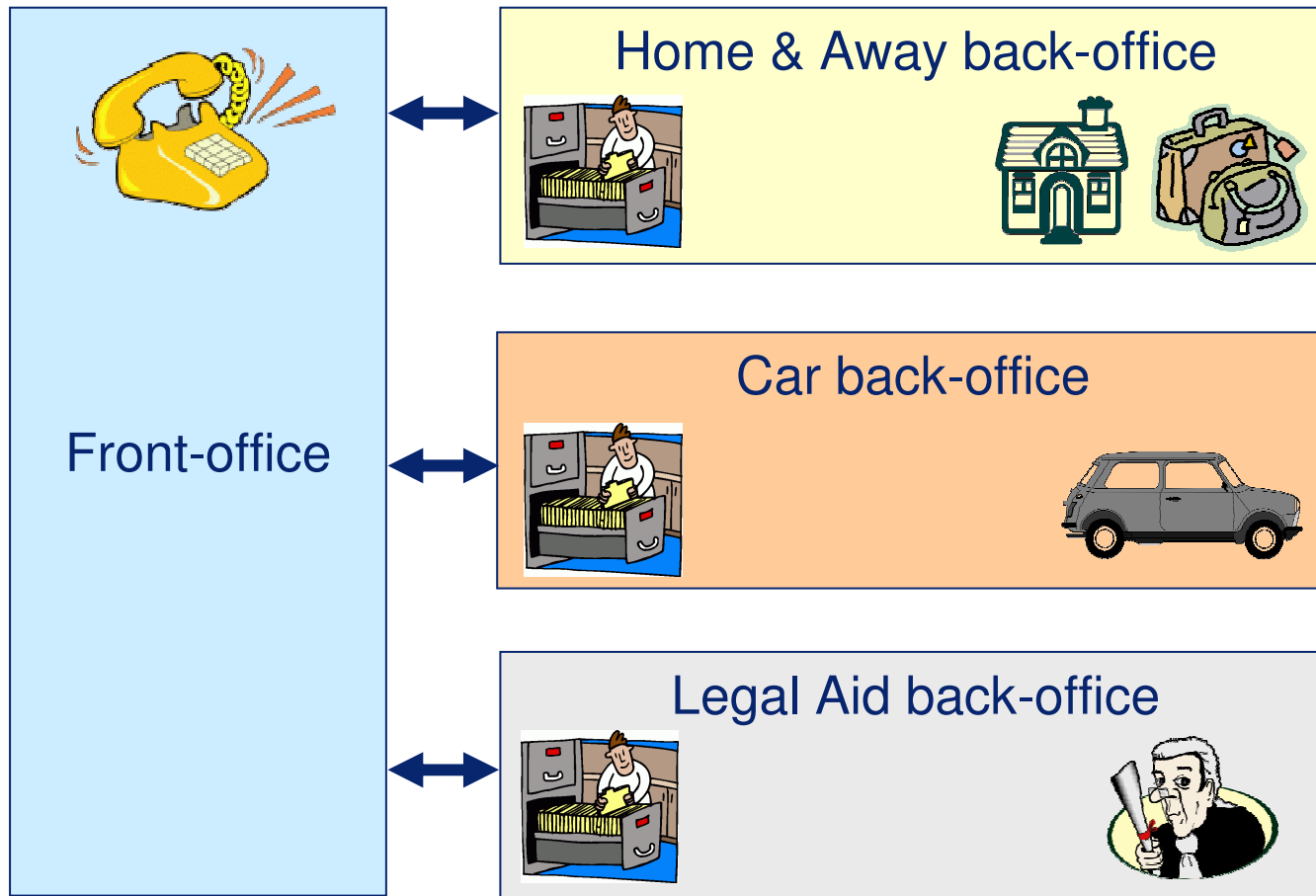
# ▶ Case study introduction: ArchiSurance



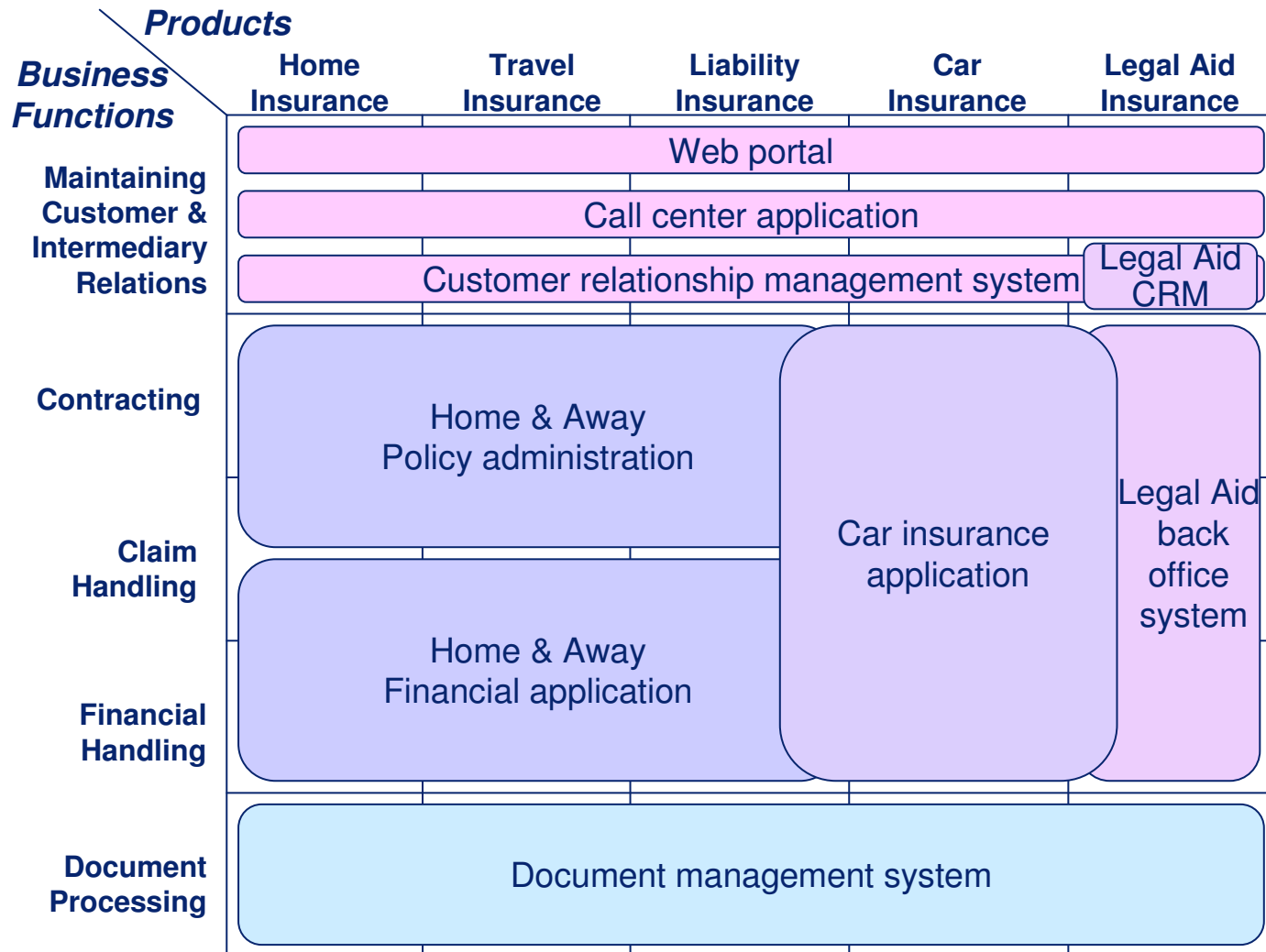
# ▶ ArchiSurance: a 3-company merger



# ▶ Structure of the new company

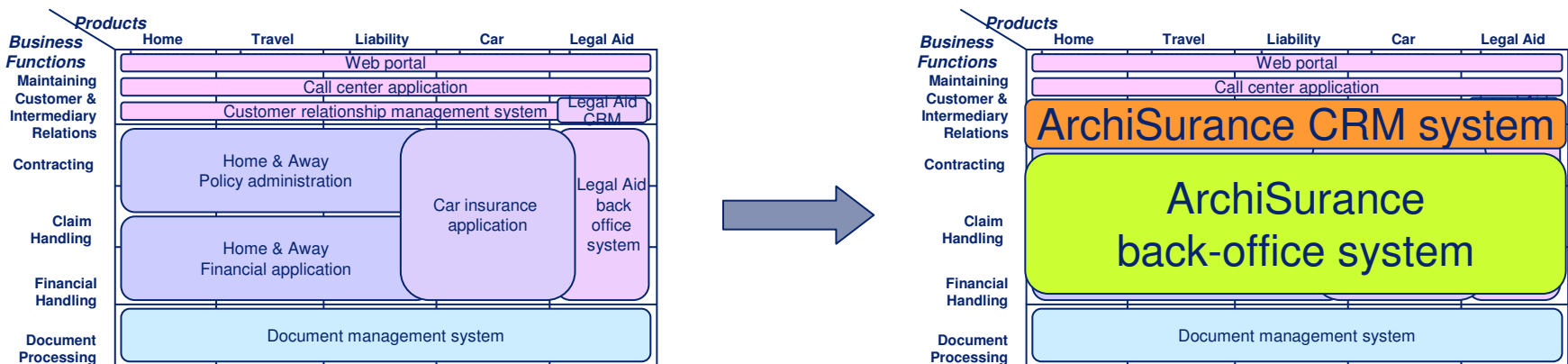


# ▶ Main IT systems of ArchiSurance



# ▶ Proposed change

- ▶ Develop a single back-office system (for policy administration and financial handling) to be used by the three back-offices.
- ▶ This system will eventually replace:
  - ▶ The Policy administration system and Financial application of the Home & Away back-office
  - ▶ The Car insurance application of the Car back-office
  - ▶ The Legal aid back-office system
- ▶ The separate CRM system of Legal Aid will also disappear



# Architecture principles

## Business principles

- Primacy of principles
- Maximize benefit to the enterprise
- Information management is everybody's business
- Business continuity
- Common use of applications
- Compliance with law
- IT responsibility
- Protection of intellectual property

## Data principles

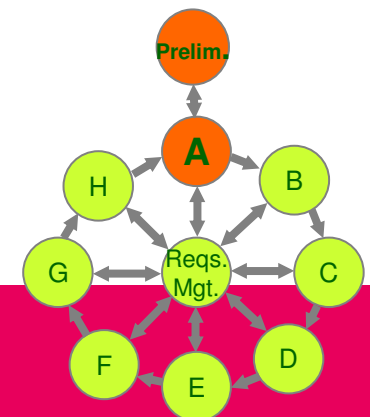
- Data is an asset
- Data is shared
- Data is accessible
- Data trustee
- Common vocabulary and data definition
- Data security

## Technology principles

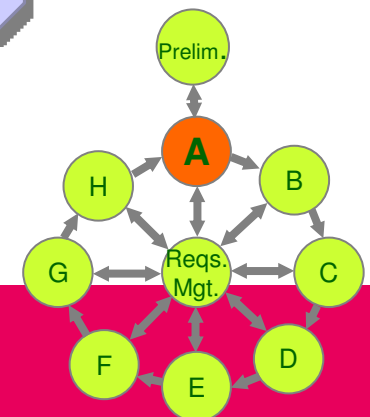
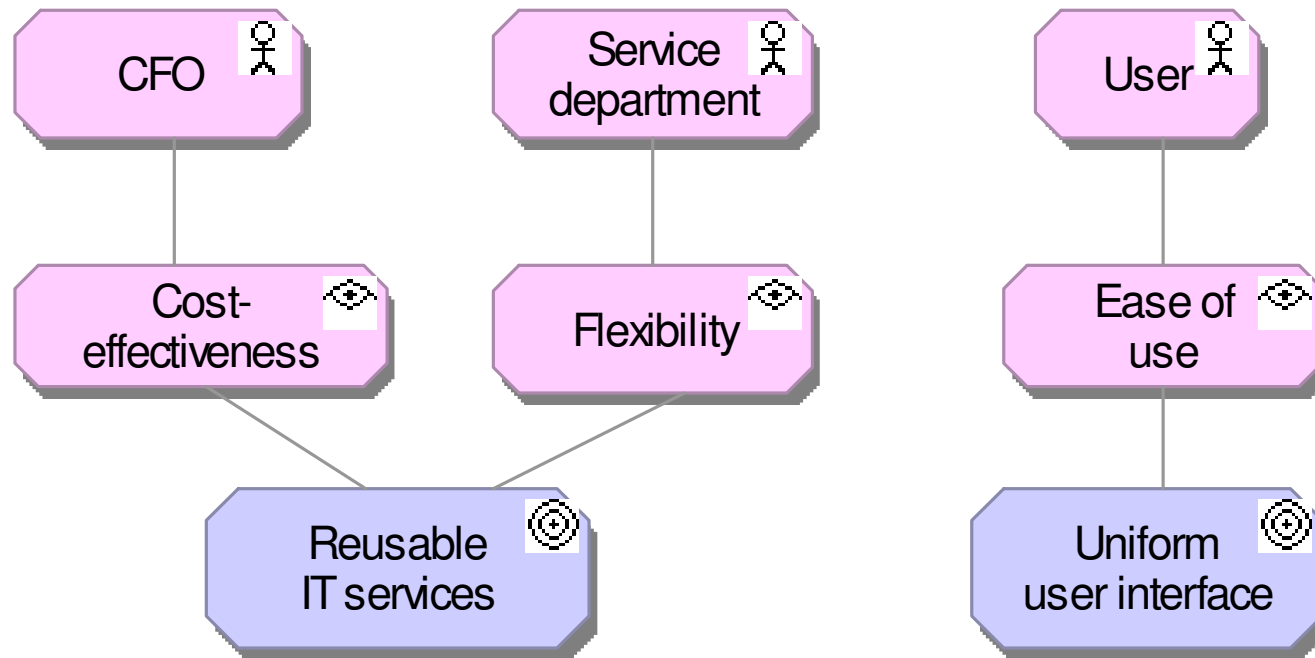
- Requirements-based change
- Responsive change management
- Control technical diversity
- Interoperability

## Application principles

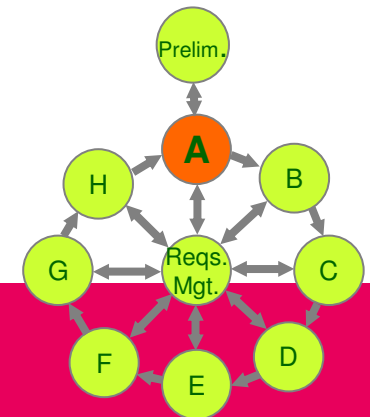
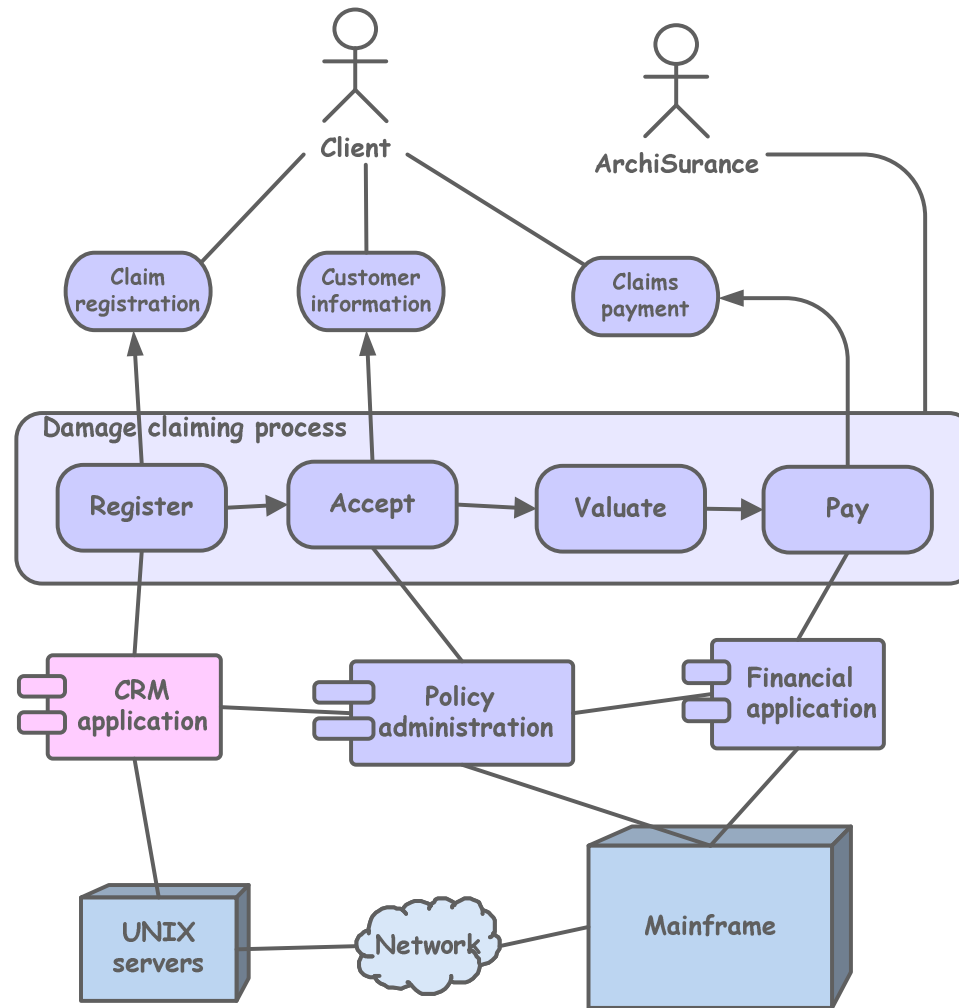
- Technology independence
- Ease of use



# Stakeholders, concerns and business goals

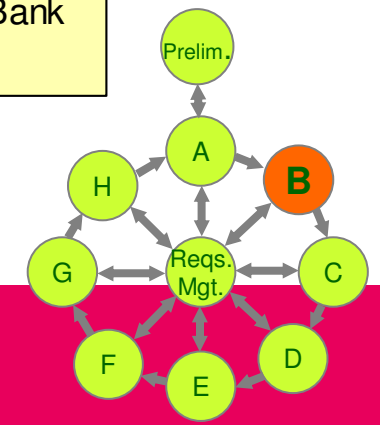
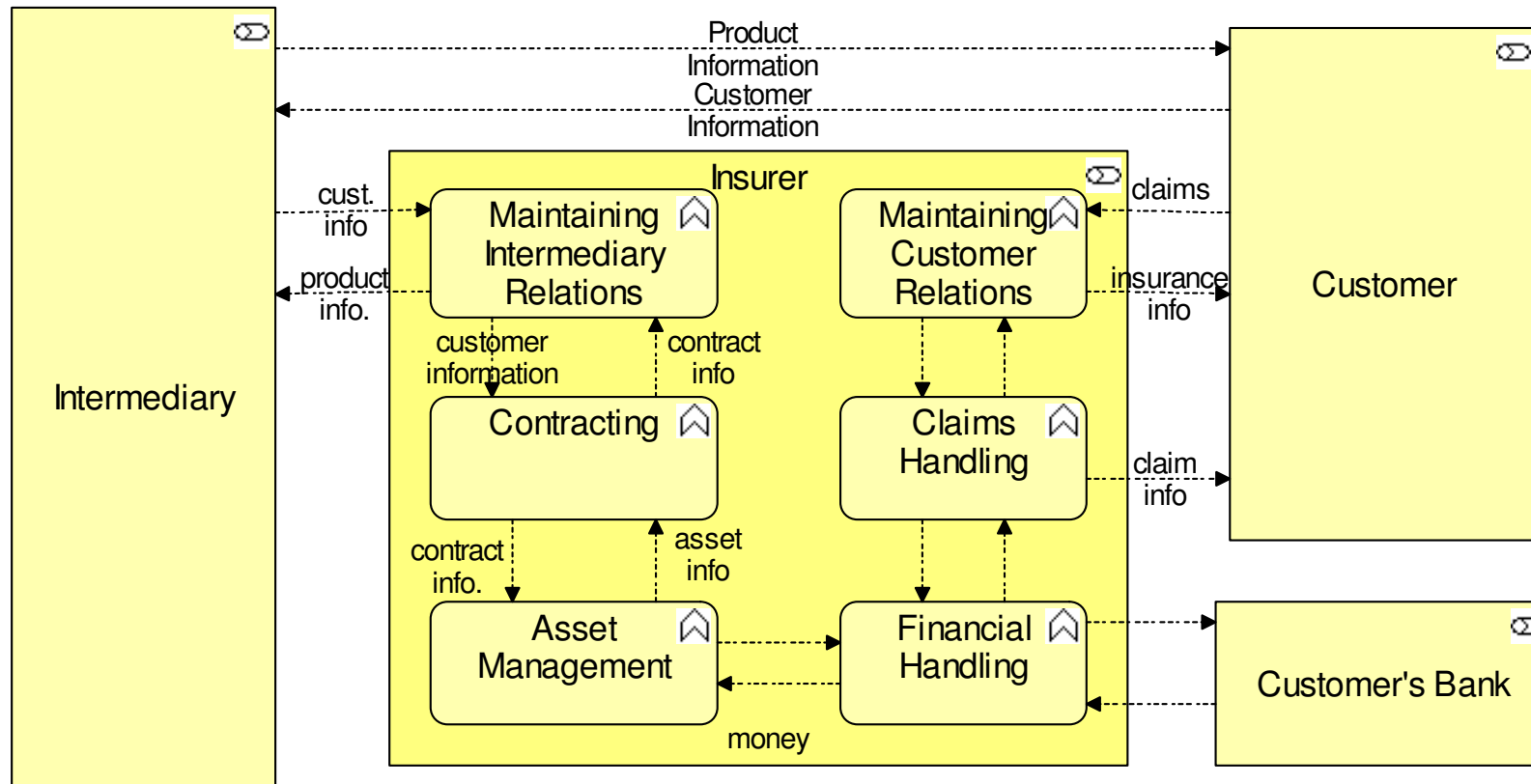


# Architecture Vision

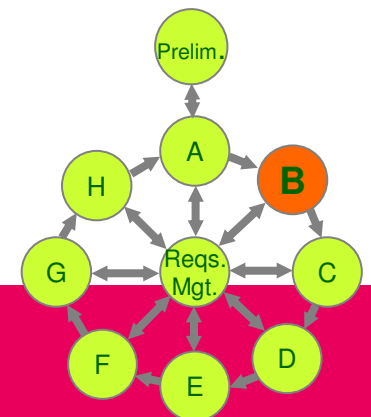
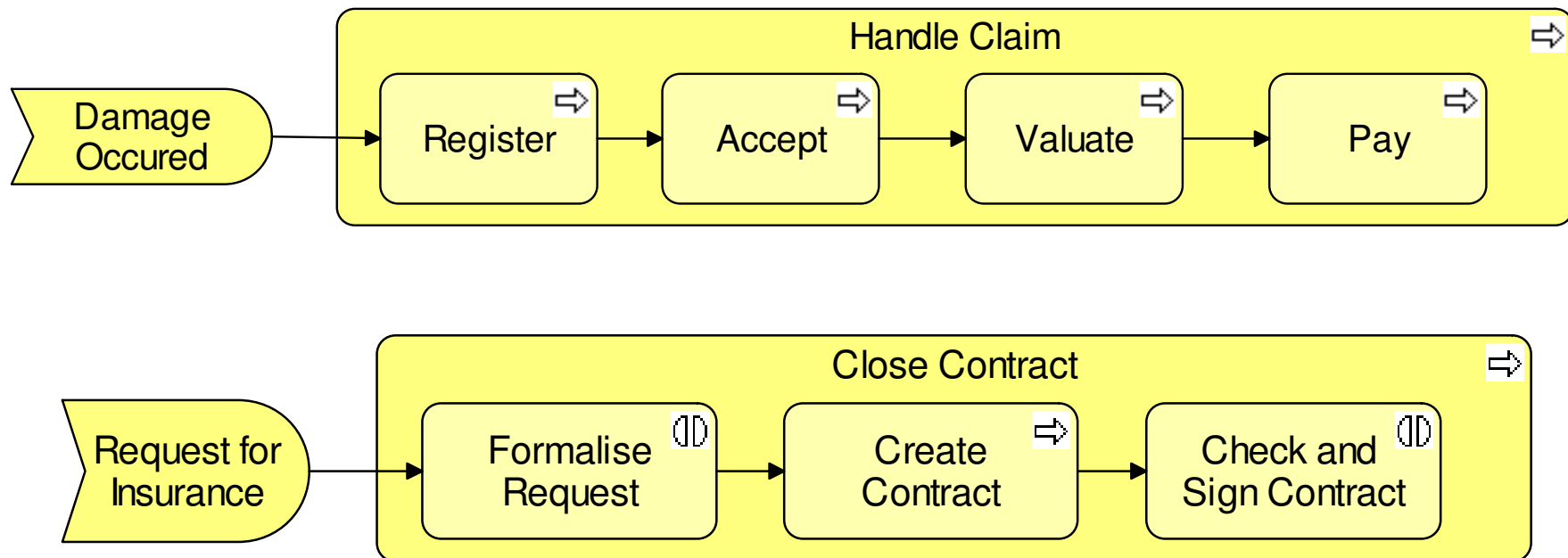




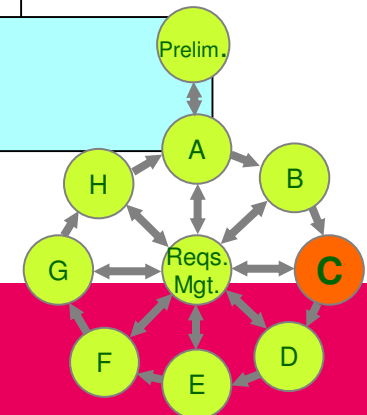
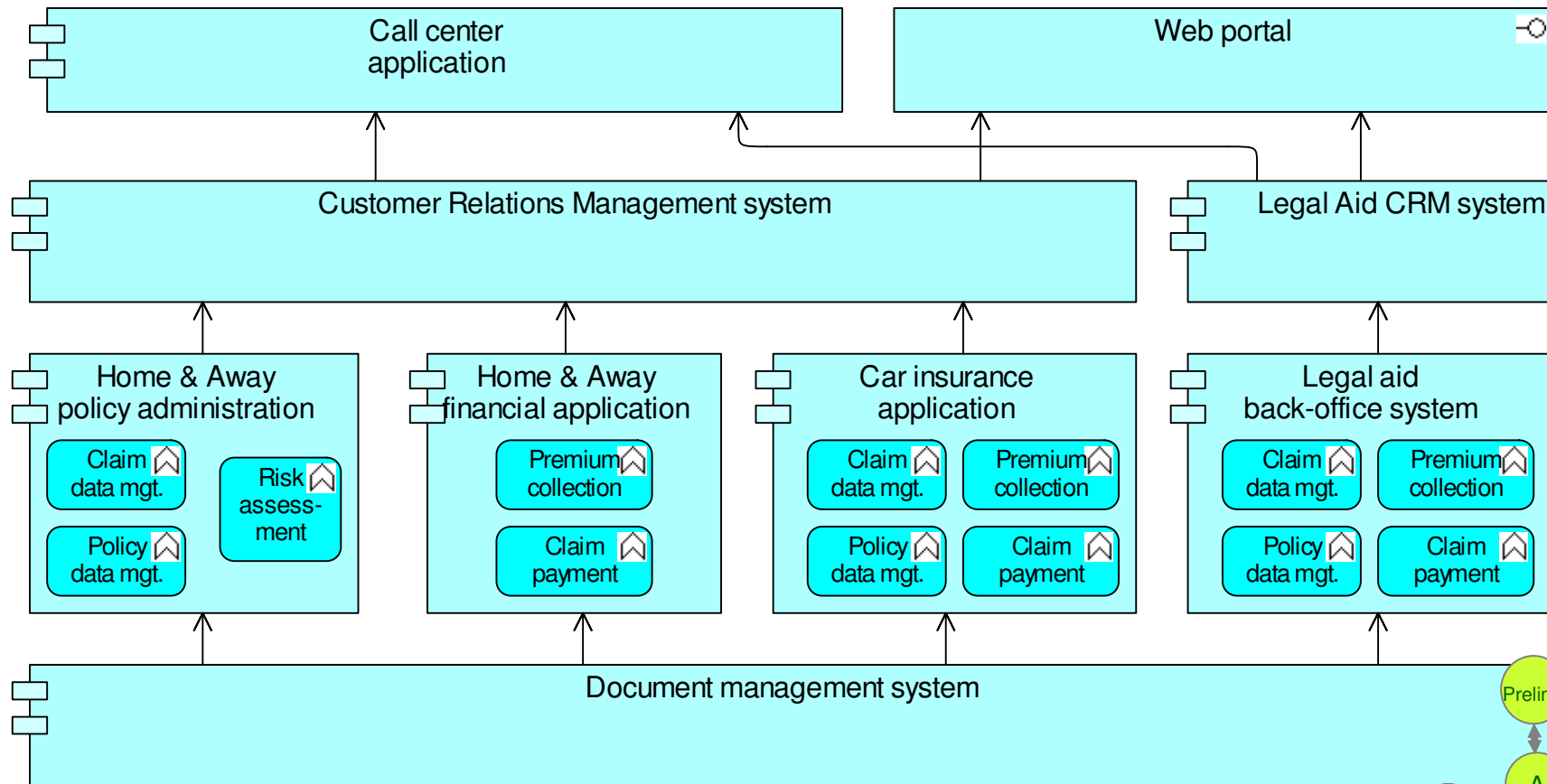
# Baseline & target Business Architecture: Business Roles & Functions



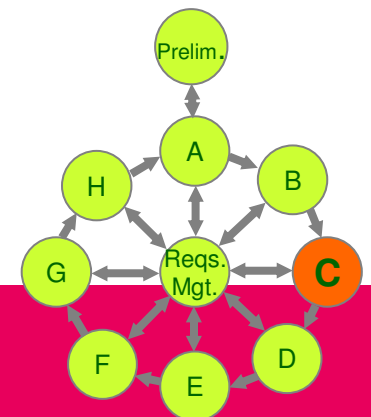
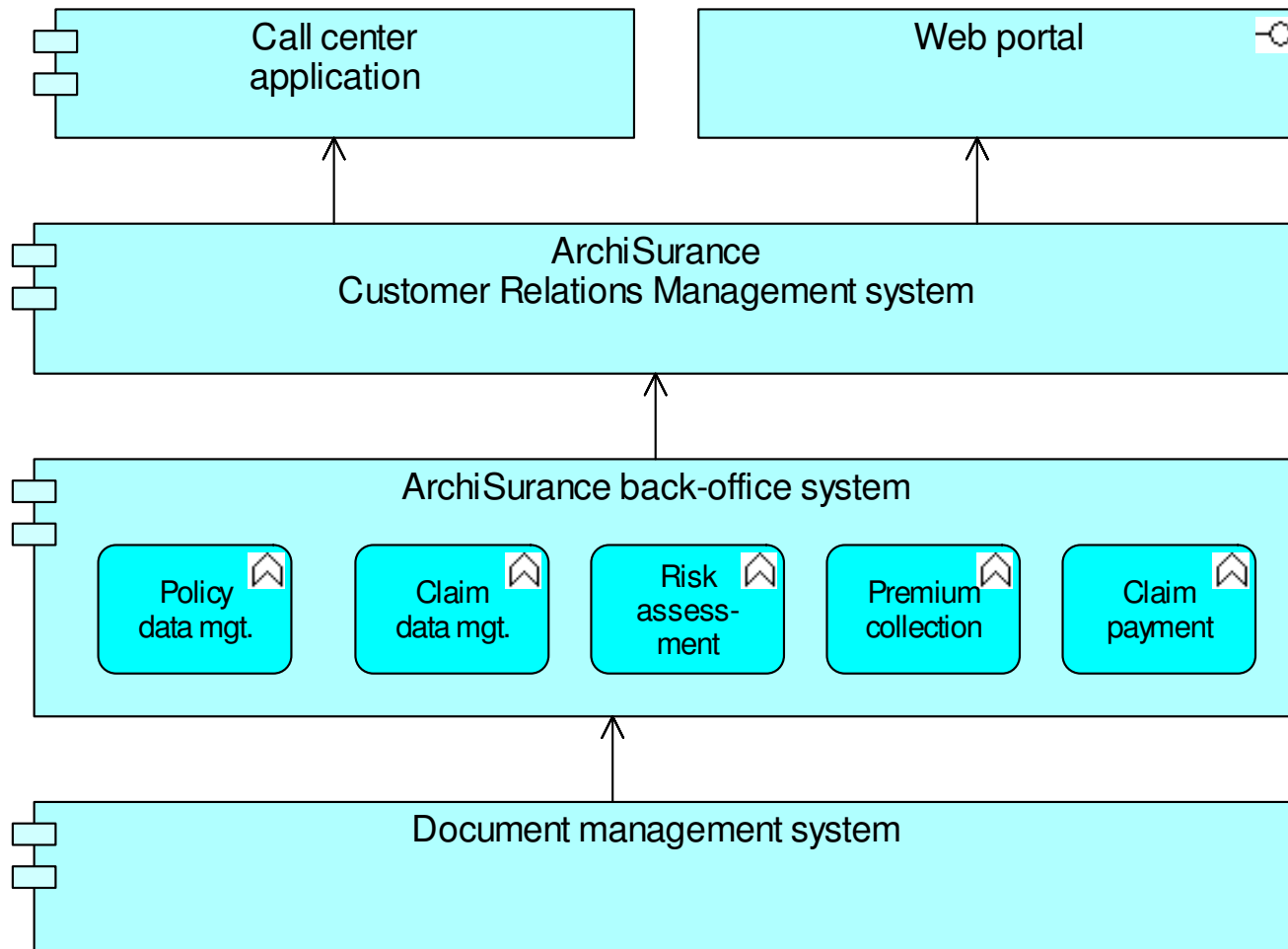
# Baseline & target Business Architecture: Business Processes



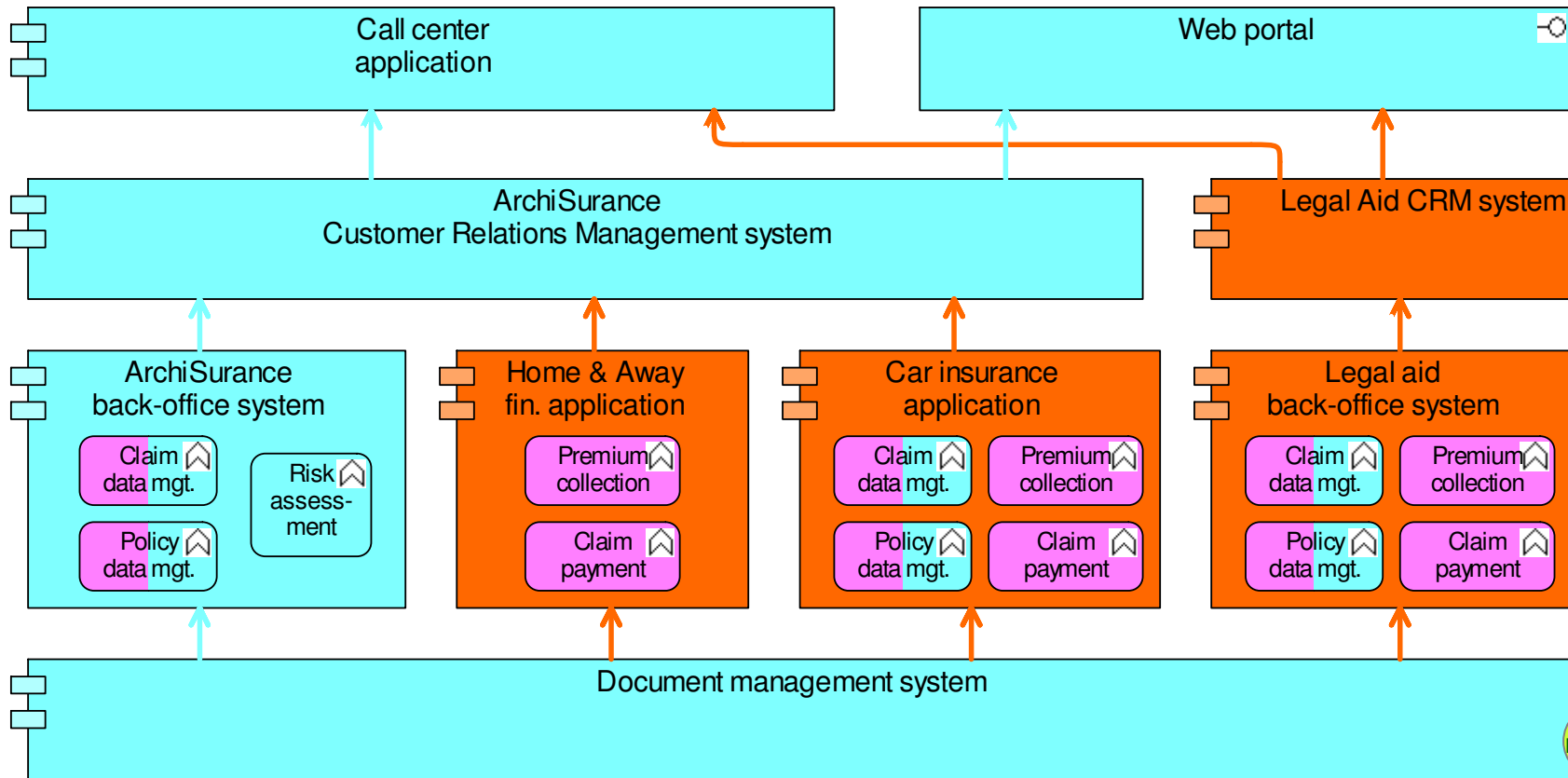
# ▶ Baseline application architecture



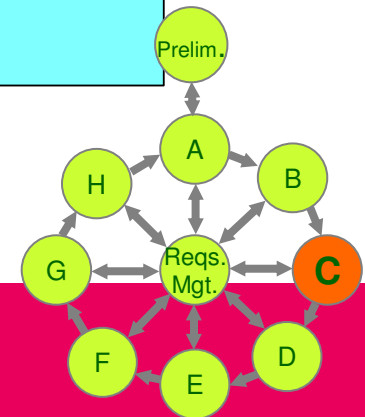
# Target application architecture



# Gap analysis application architecture



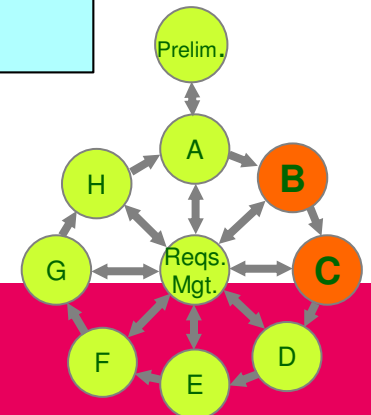
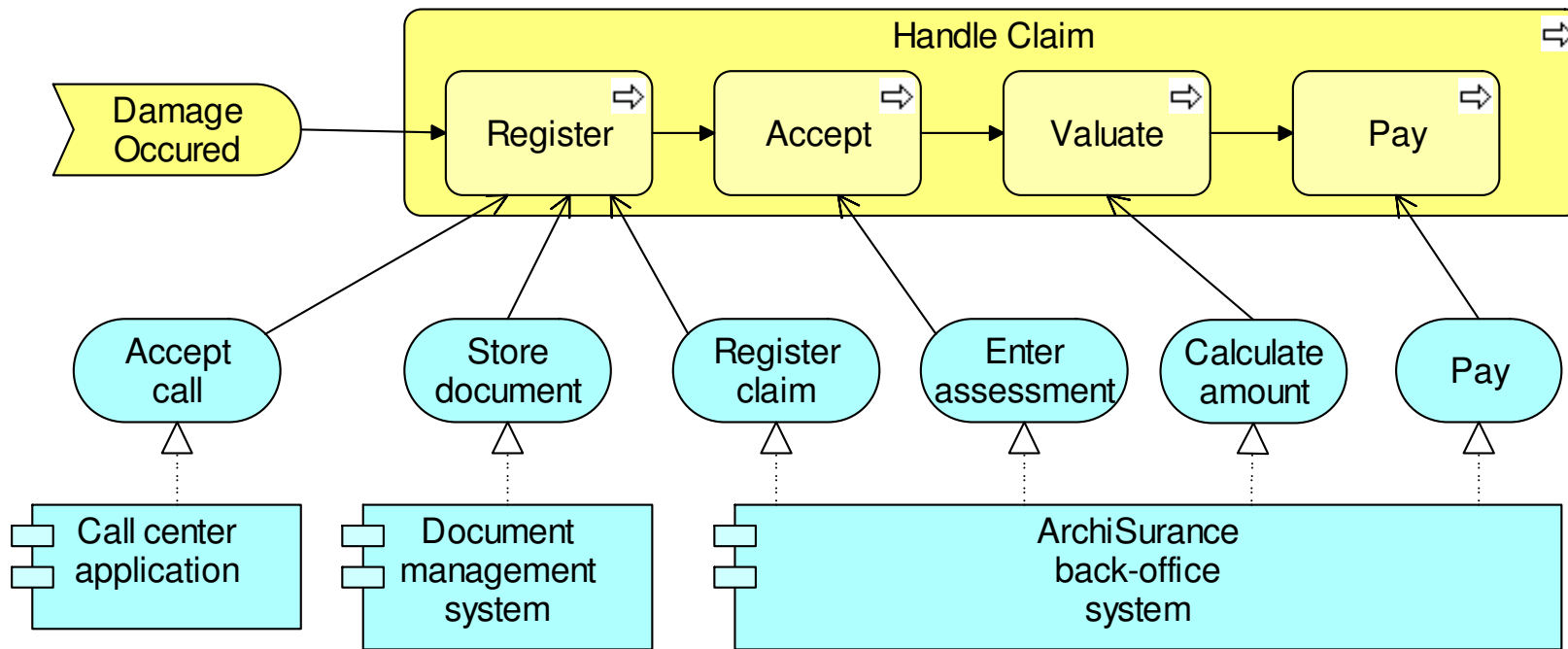
- both in Baseline and Target application architecture
- only in Baseline application architecture
- other parent



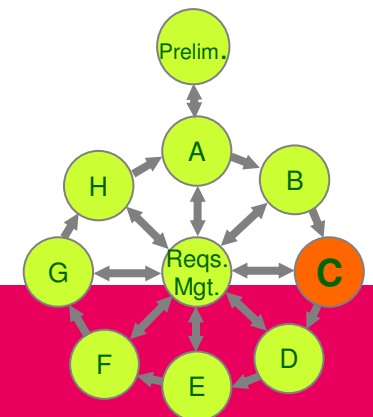
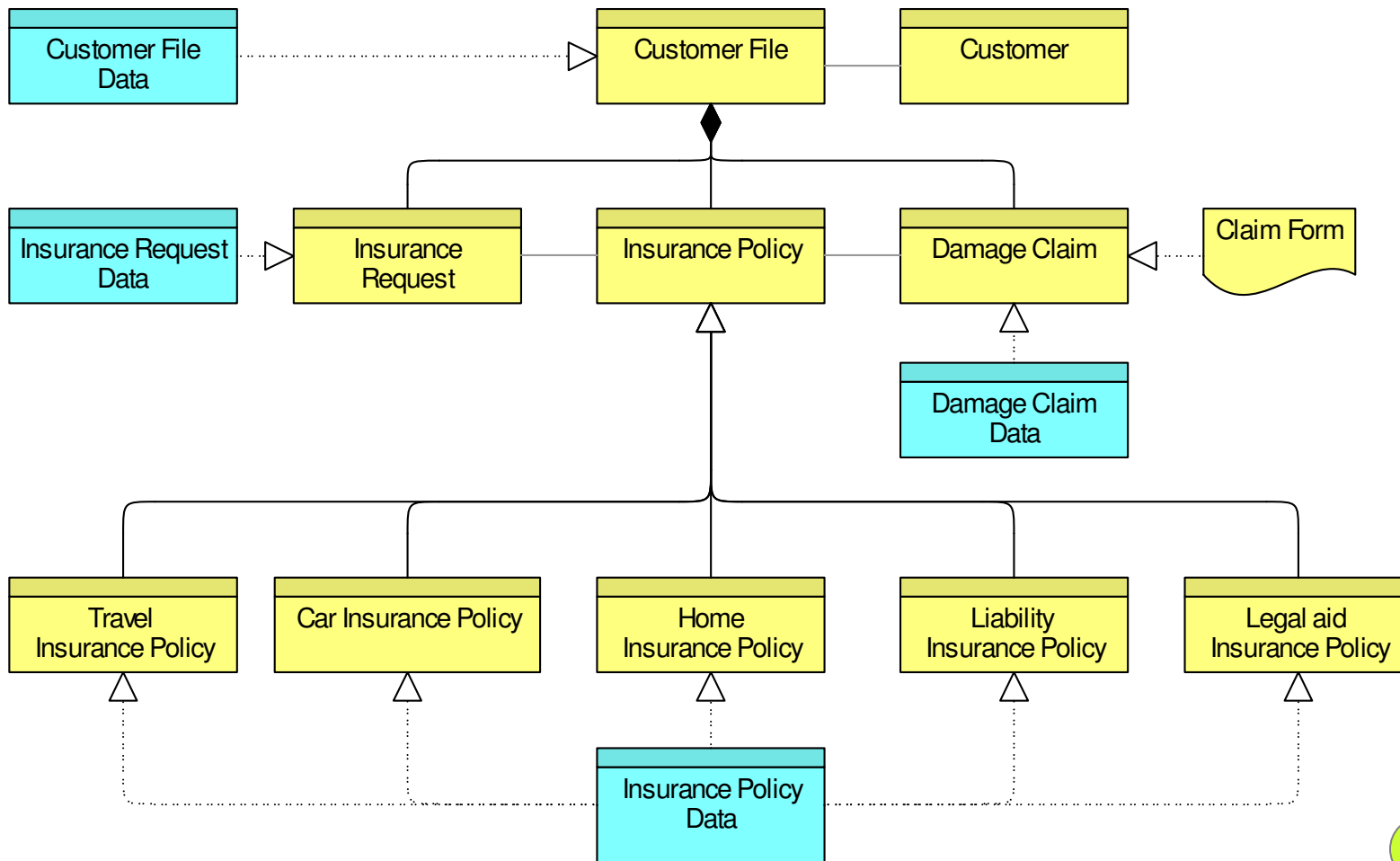
# Business-application alignment



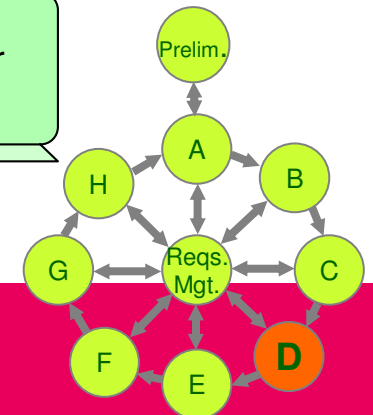
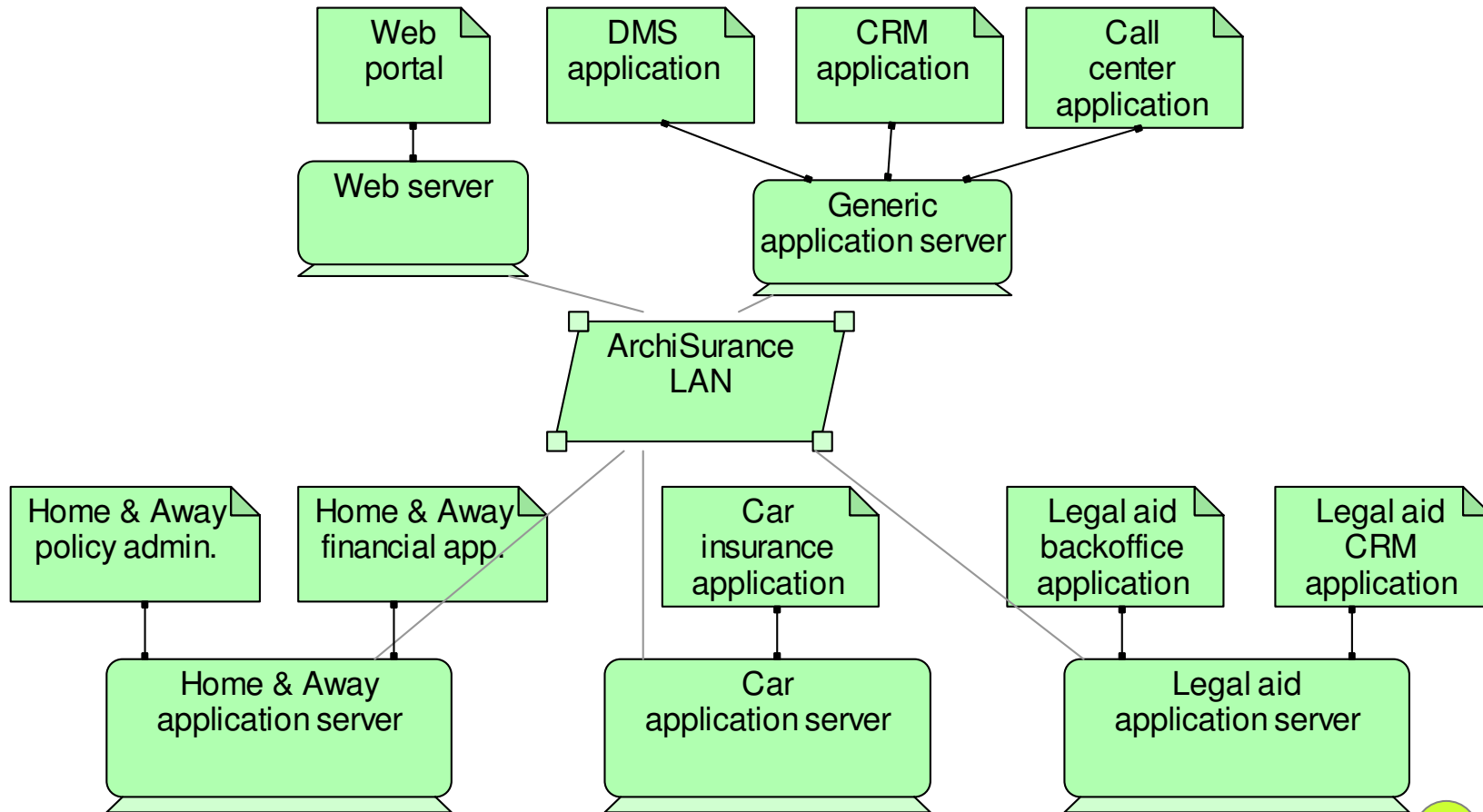
(Fragment, for the target architecture)



# ▶ Baseline & target data architecture

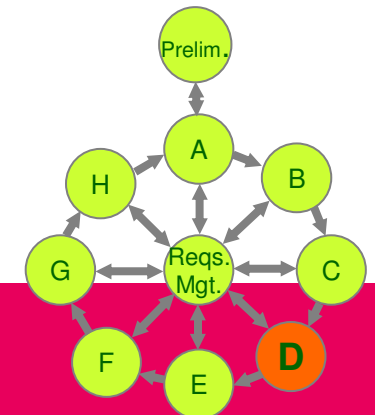
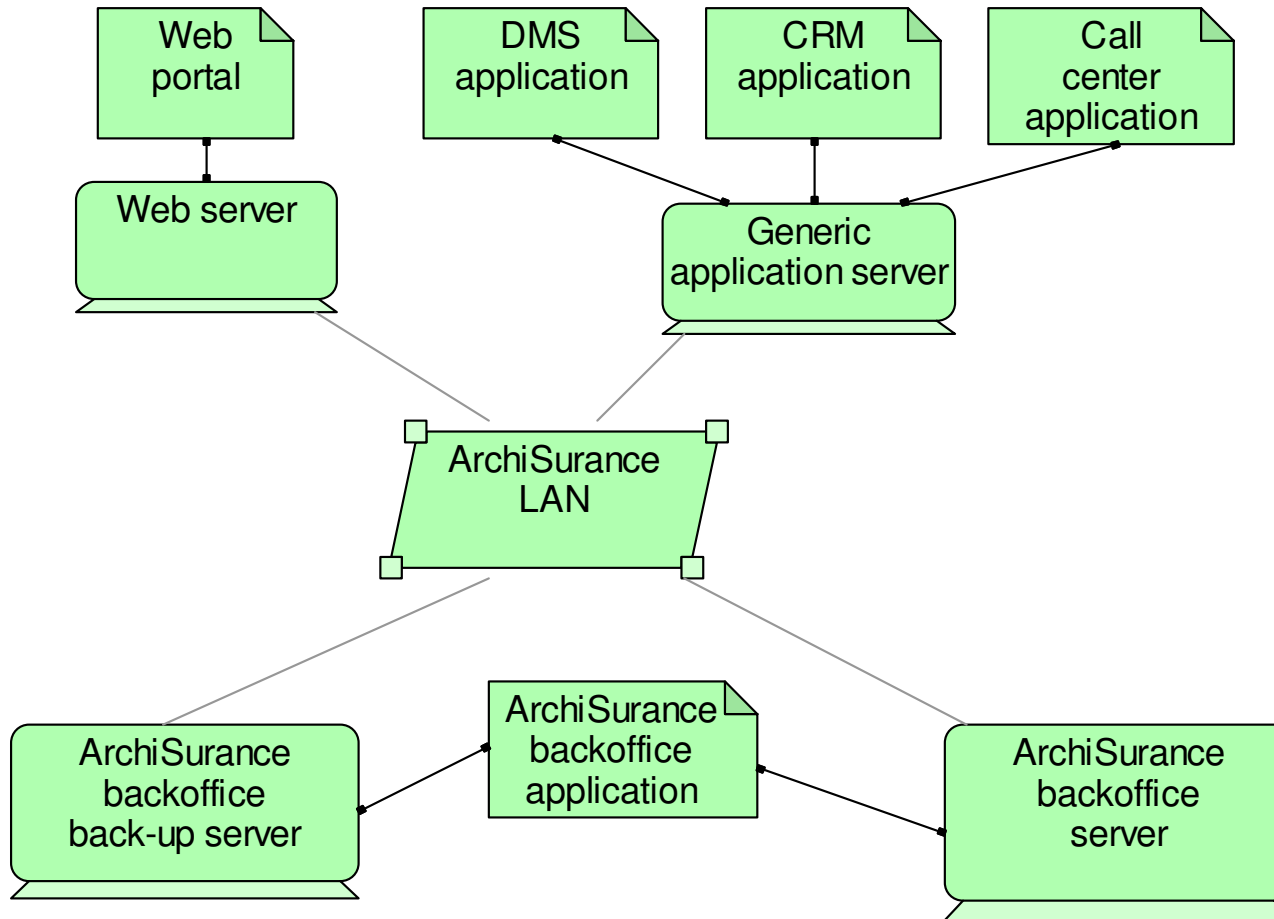


# ▶ Baseline technology architecture

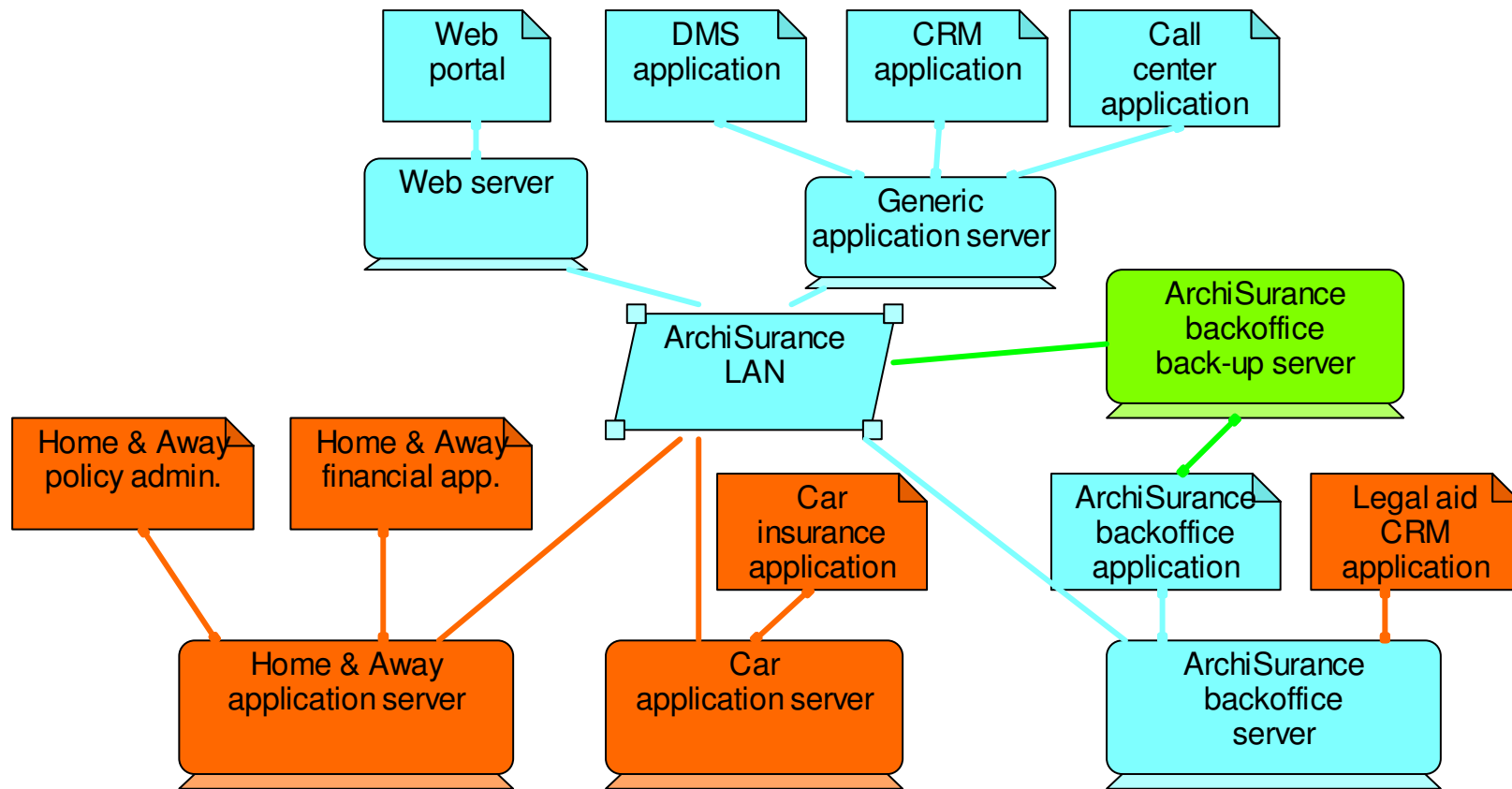




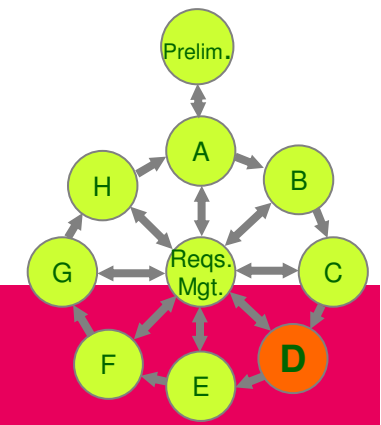
# ▶ Target technology architecture



# ▶ Gap analysis technology architecture



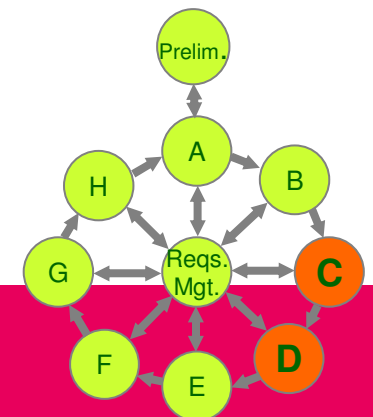
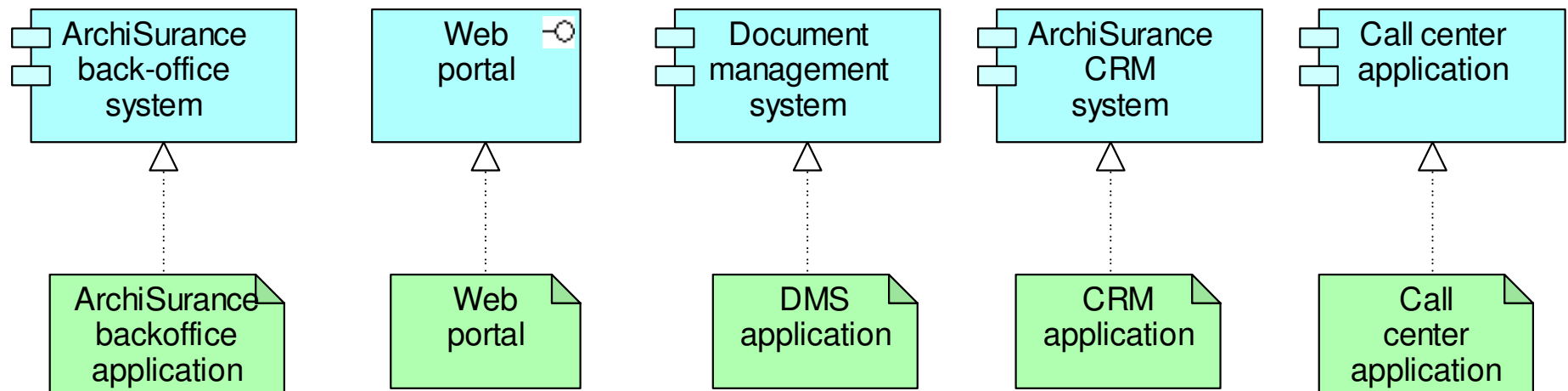
■ both in Baseline and Target application architecture  
■ only in Baseline application architecture  
■ only in Target application architecture



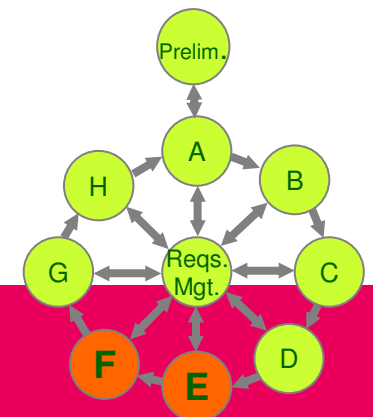
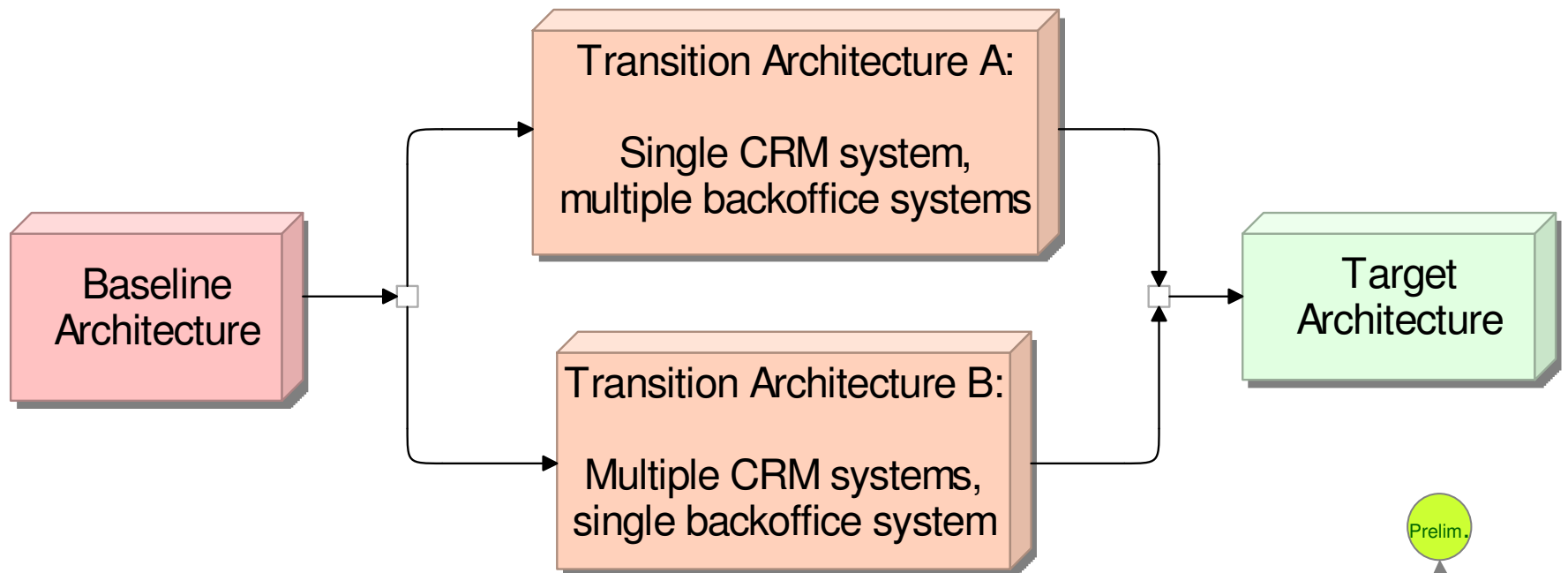
# Application-technology alignment



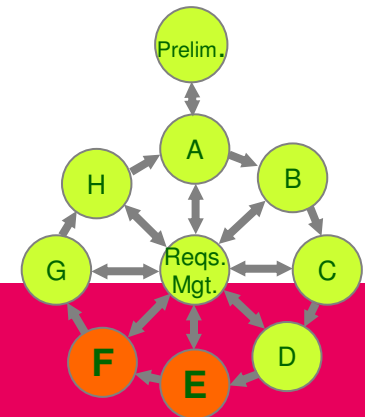
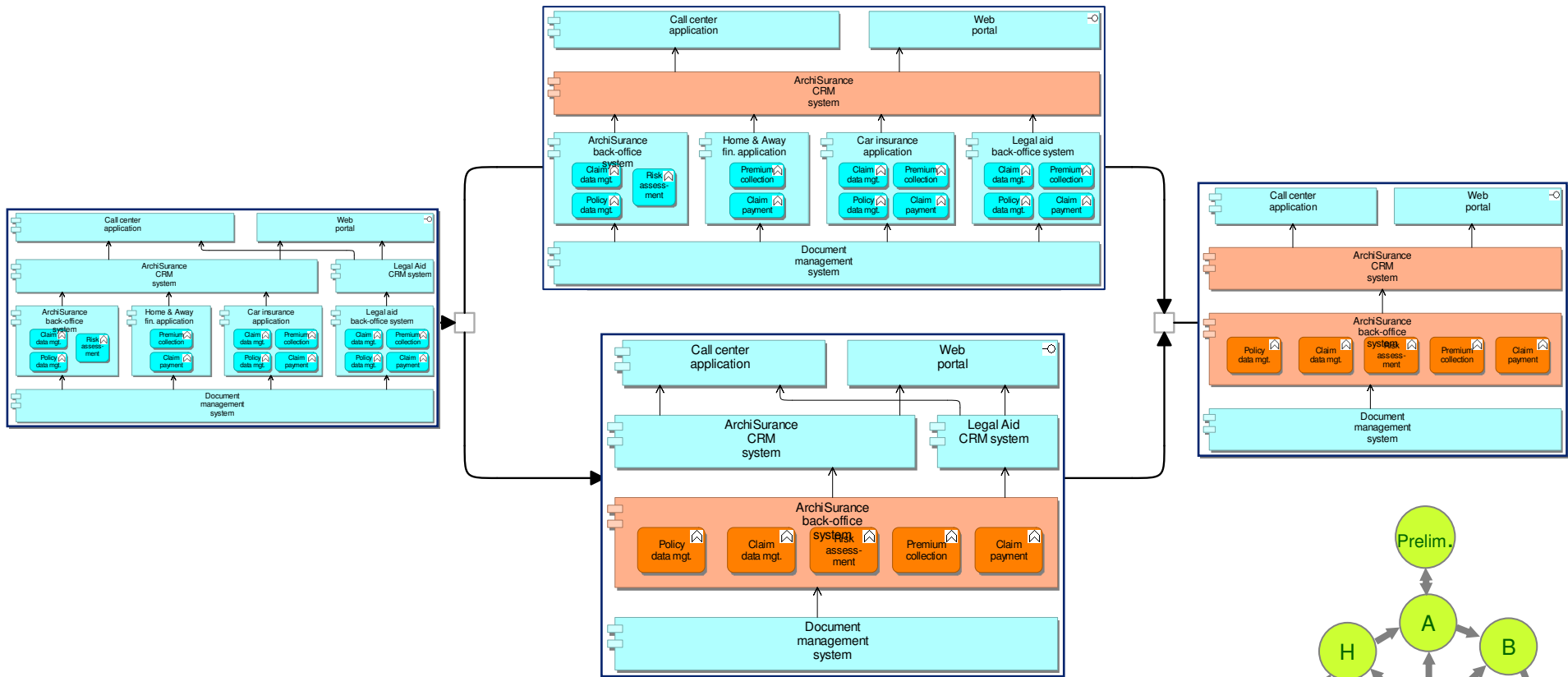
(For the target architecture)



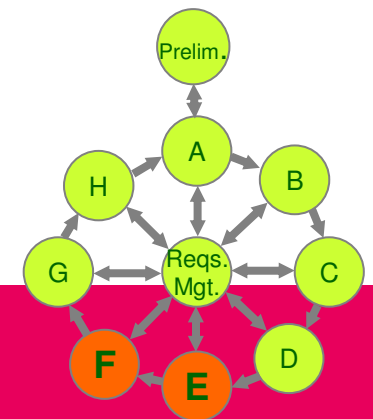
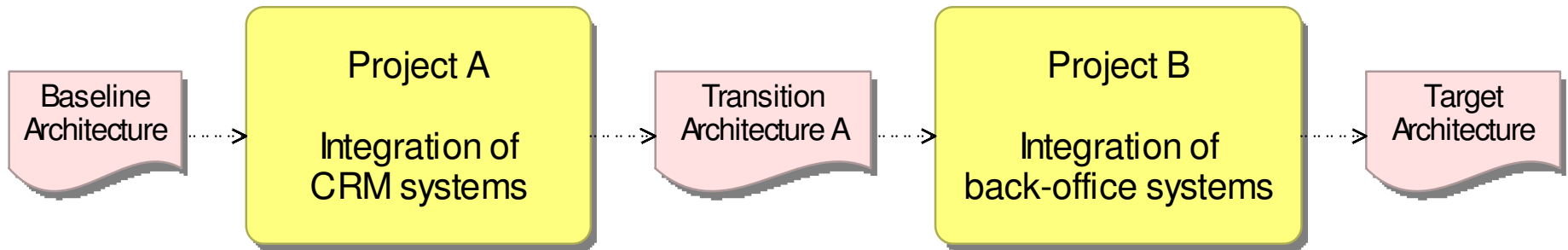
# ▶ Transition architectures



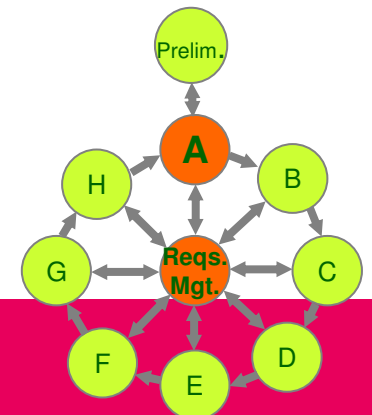
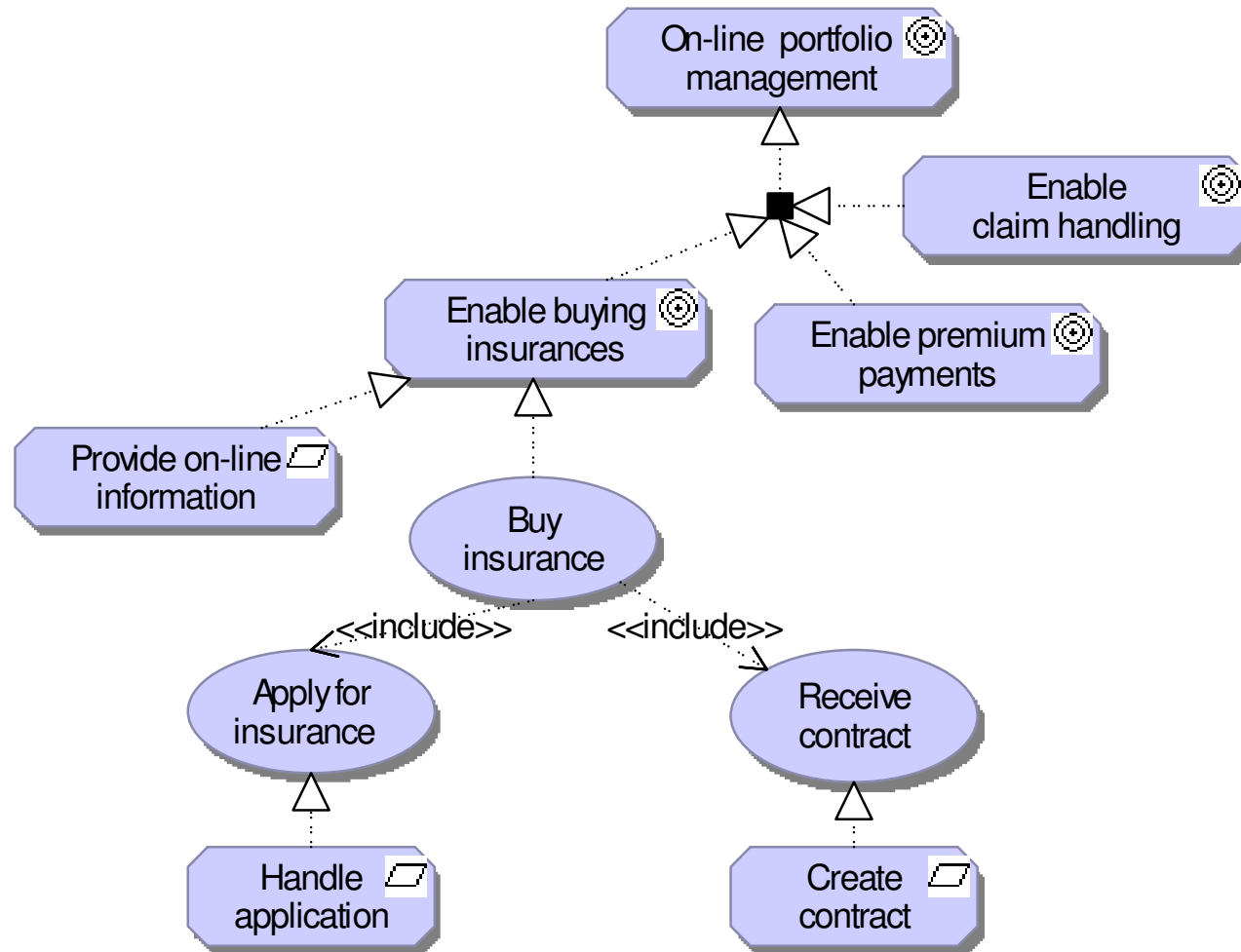
# Transition architectures



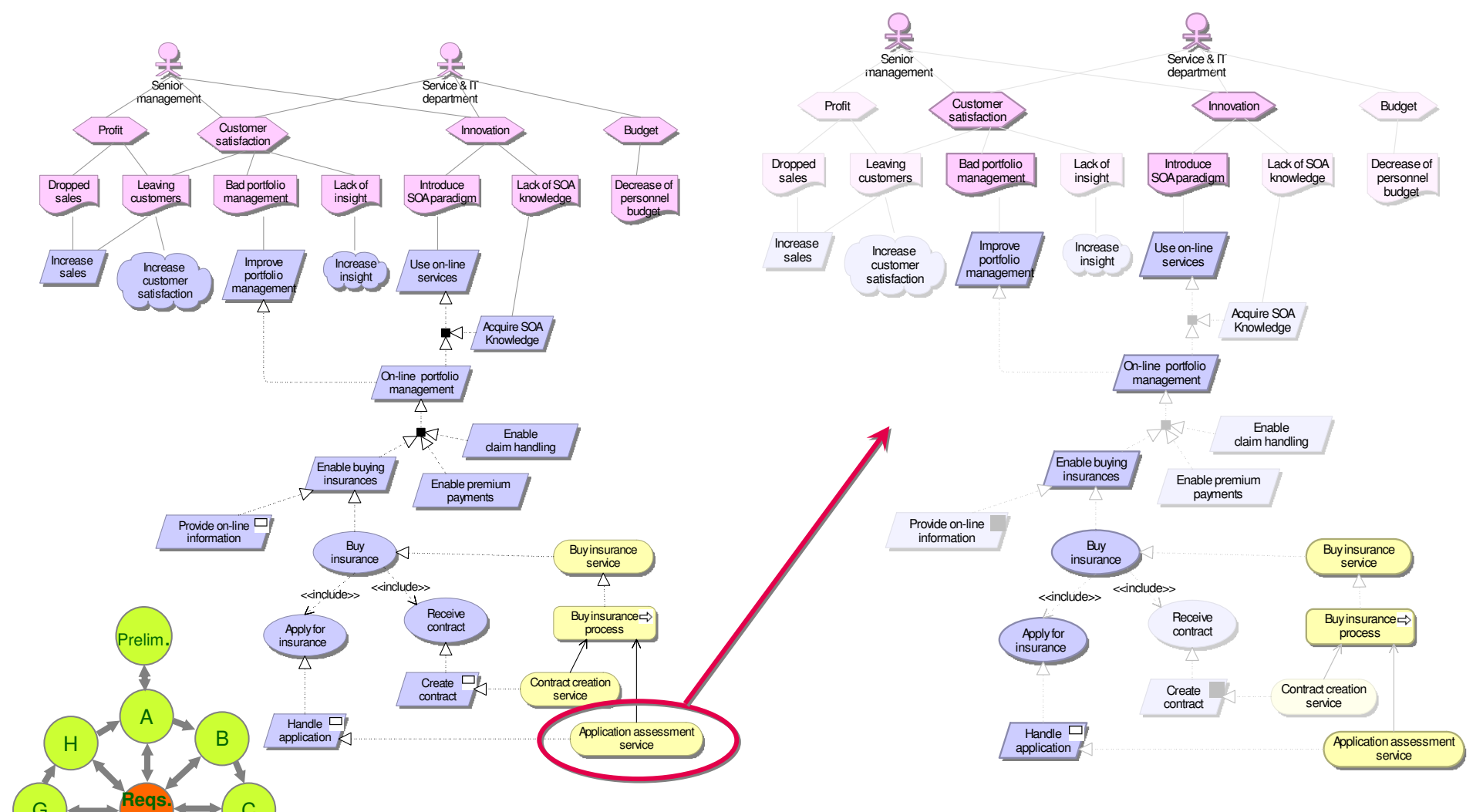
# ▶ Projects



# Requirements modelling



# Requirements traceability





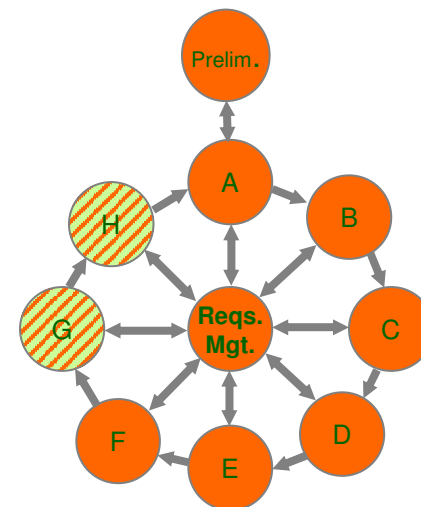
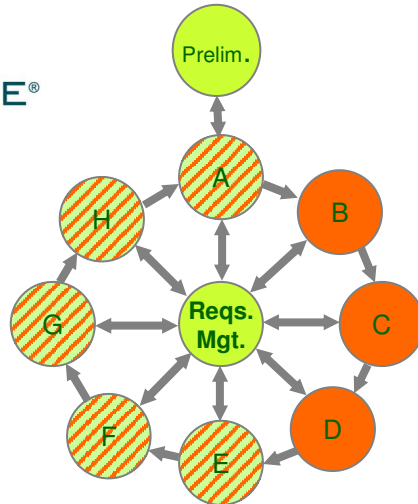
# ▶ Gap analysis TOGAF and ArchiMate

## ▶ Supported by ArchiMate:

- ▶ Business architecture
- ▶ Application architecture
- ▶ Data architecture
- ▶ Technology architecture
- ▶ Transition architectures

## ▶ Possible extensions:

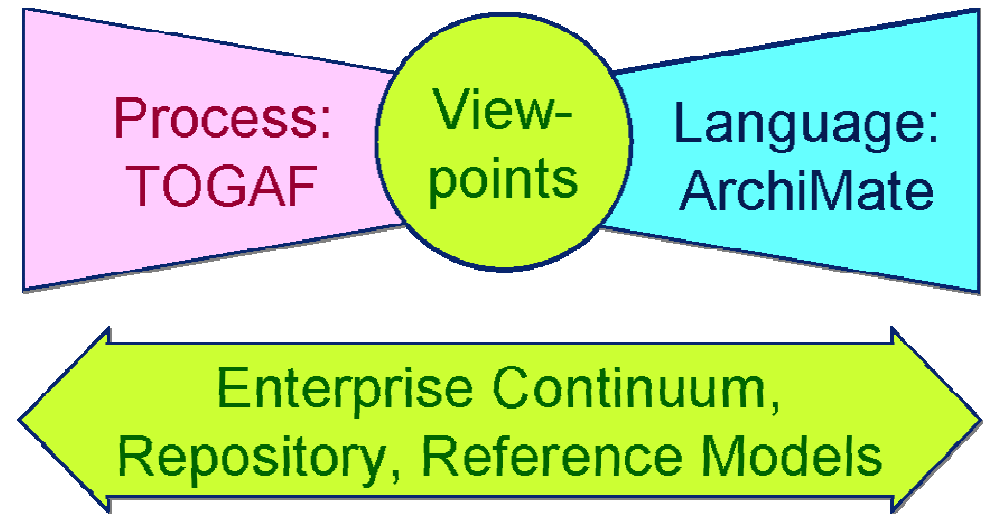
- ▶ Architecture principles
- ▶ Stakeholders, concerns and business goals
- ▶ Projects and deliverables
- ▶ Requirements



# ▶ Summary: ArchiMate en TOGAF

- ▶ Share the same definition of (Enterprise) Architecture
- ▶ Viewpoints as a central concept
- ▶ Use of the service concept
- ▶ Both managed by The Open Group
- ▶ Complement each other
- ▶ Use of both is growing rapidly
- ▶ Gaps between ArchiMate and TOGAF will be closed

THE *Open* GROUP  
*Making standards work*®



Common foundation

# ► Conclusion: TOGAF OR NOT TO GAF...



... that shouldn't be a question...

... together with ArchiMate...



A perfect match!