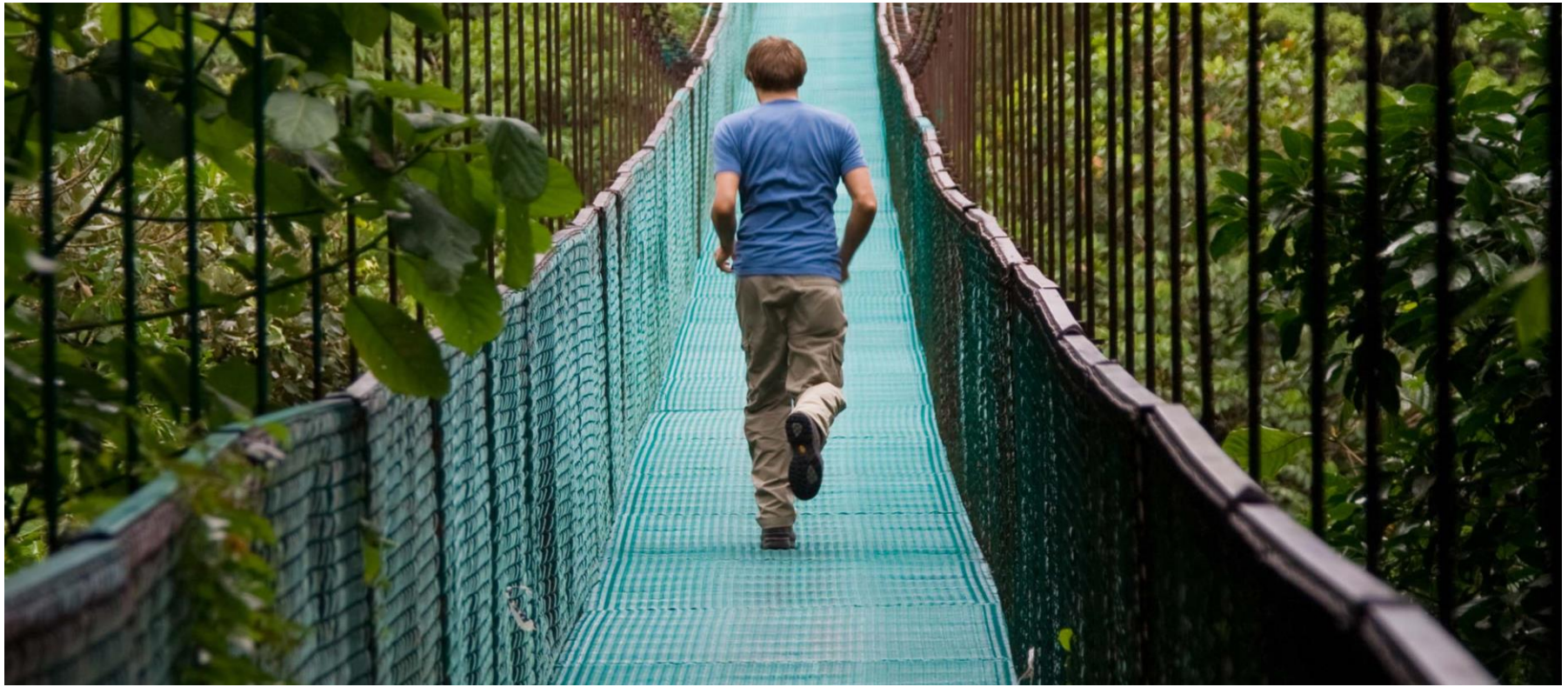# WELCOME

ALCATEL-LUCENT QualiWare EA IMPLEMENTATION

Margaret Maciejczak and Roger Carlson
February 10, 2015

Alcatel·Lucent

PRESENTERS BACKGROUND

Margaret Maciejczak

Enterprise Architect & Manager

Within ALU EA team responsible for transformation
programs in various aspects related to design of the architecture of
the applications and their technical integration. Previously responsible
for Information Systems Cross Domains Applications Development
including Identity Access Management, Applications Integration and
Master Data Management. Earlier managed SAP ECC Supply Chain
applications and SAP IT Projects.
Prior to joining Alcatel-Lucent worked 8 years with "Deloitte "as the SAP
Consultant and PM.
In Business Supply Chain worked as Materials Manager.

Roger Carlson

Enterprise Architect

34+ years experience in various IS/IT roles: Enterprise Architecture,
Information Architecture, System Engineering, Client Partner Support,
Solution Architecture, Business Analyst, and Business Process Modeling

Additionally, have experience in the engineering and implementation of
Enterprise Architecture and Business Process Modeling solutions

Currently, the Alcatel-Lucent QualiWare application administrator leading the
efforts to enhance our QualiWare implementation to meet company directives

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AGENDA

1. Alcatel-Lucent Background

2. Enterprise Architecture – Why We Needed

3. Enterprise Architecture Definition

4. Software Selection

5. Alcatel-Lucent Enterprise Architecture Solution - CARMA

6. Alcatel-Lucent CARMA Installation and Highlights

7. Q & A

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ALCATEL-LUCENT BACKGROUND (1/4)
ABOUT US

Alcatel-Lucent is the leading IP networking, ultra-broadband access and cloud technology specialist. We are dedicated to making global communications more innovative, sustainable and accessible for people, businesses and governments worldwide. Our mission is to invent and deliver trusted networks to help our customers unleash their value.
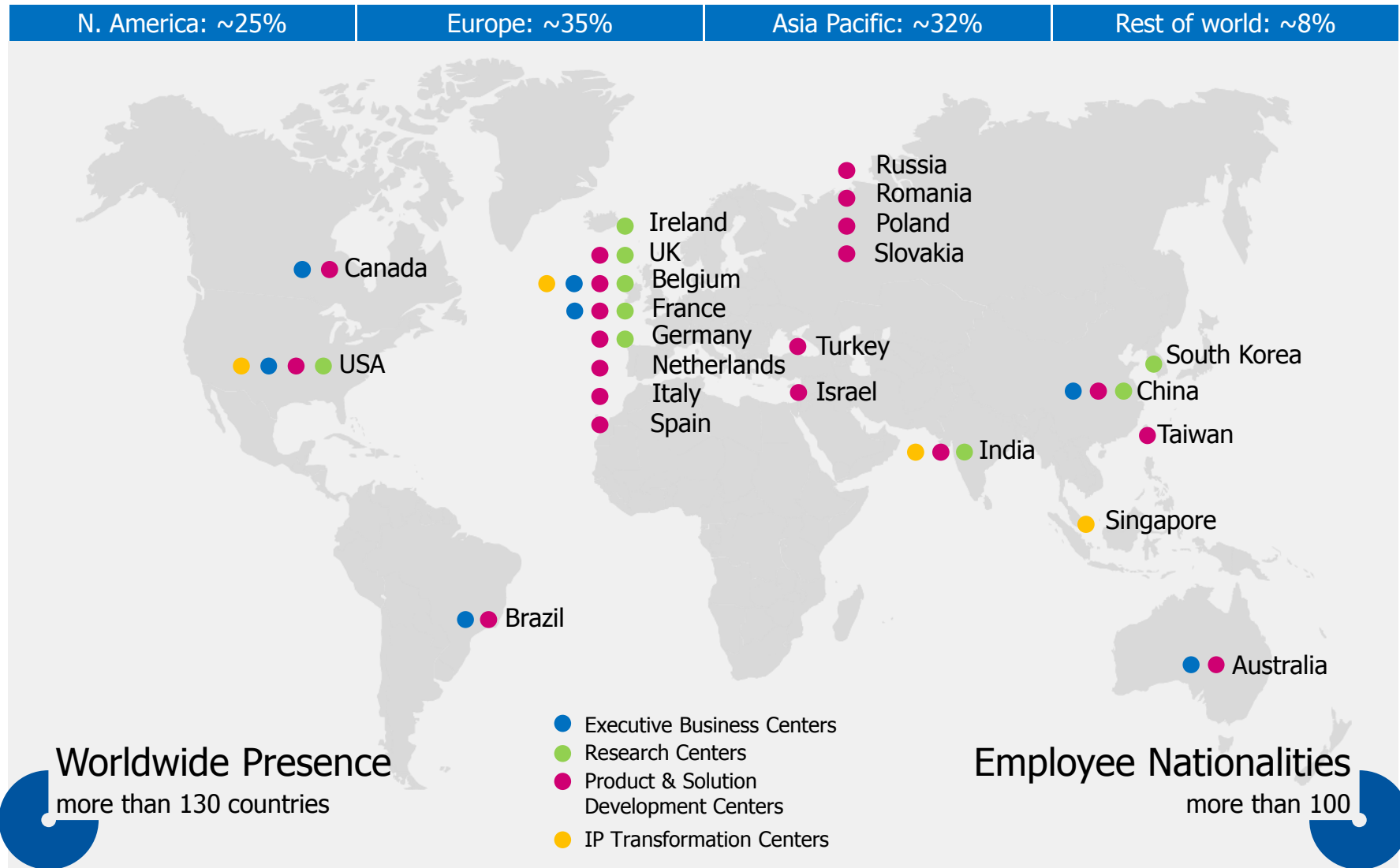
Every success has its network.

FAST FACTS

- Headquarters: Paris, France
- Annual Revenues: approx. €14.4 billion
- Employees: 62,000 +
- 130 countries

- R&D Budget: €2.3 billion
- Active Patents Held: 32,000
- 12 researchers awarded Nobel Prizes in Physics

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ALCATEL-LUCENT BACKGROUND (2/4)
GLOBAL REACH – Employees by area

N. America: ~25%	Europe: ~35%	Asia Pacific: ~32%	Rest of world: ~8%

Russia
Romania
Poland
Slovakia

Ireland
UK
Belgium
France
Germany
Netherlands
Italy
Spain

Canada

USA

Turkey
Israel

South Korea
China
Taiwan

India

Singapore

Brazil

Australia

Worldwide Presence
more than 130 countries

- Executive Business Centers
- Research Centers
- Product & Solution Development Centers
- IP Transformation Centers

Employee Nationalities
more than 100

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ALCATEL-LUCENT BACKGROUND (3/4)
LEADERSHIP TEAM

Michel Combes
Chief Executive Officer

BUSINESS LINES

Basil Alwan
IP Routing and Transport

Dave Geary
Wireless

Bhaskar Gorti
IP Platforms

Federico Guillén
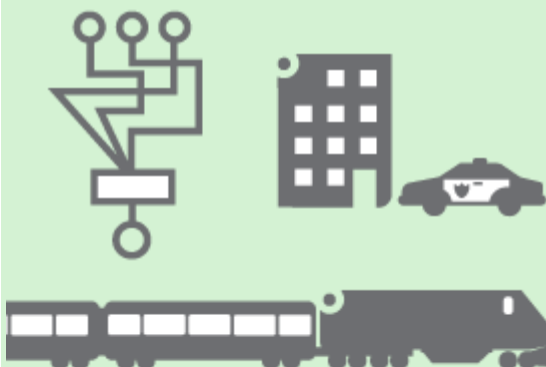Fixed Networks

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ALCATEL-LUCENT BACKGROUND (4/4)
CUSTOMERS WE SERVE

SERVICE PROVIDERS	STRATEGIC INDUSTRIES	ENTERPRISES

A leader in mobile, fixed, IP and optics technologies, and a pioneer in applications and services, we offer complete solutions that help service providers and their customers realize the potential of a connected world.
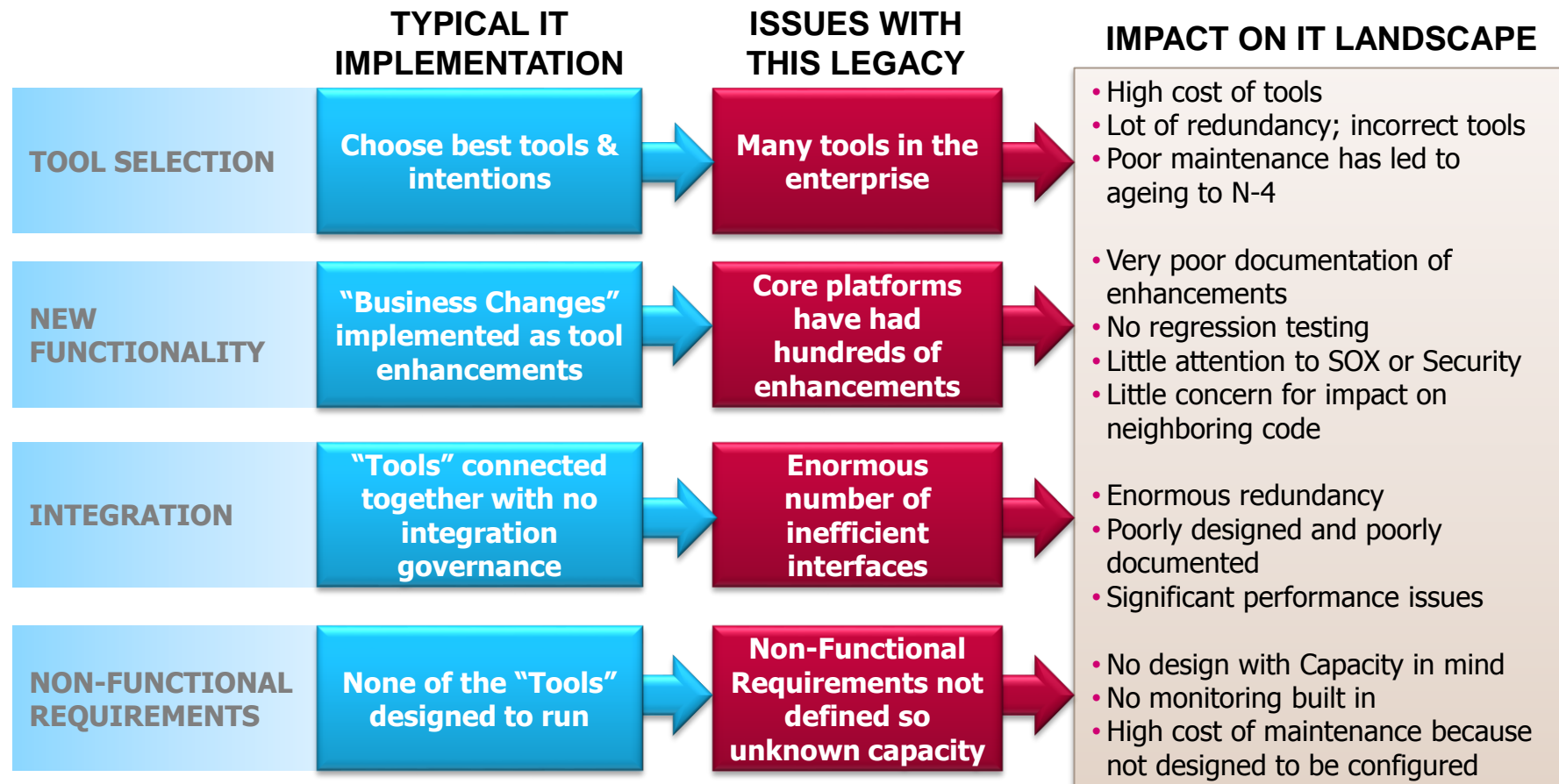
We provide end-to-end turnkey communications integration that improve quality of life through better energy management, efficient transportation and improved government services.

We help our enterprise and government customers worldwide interconnect their networks, people, processes and knowledge to make money and save money.
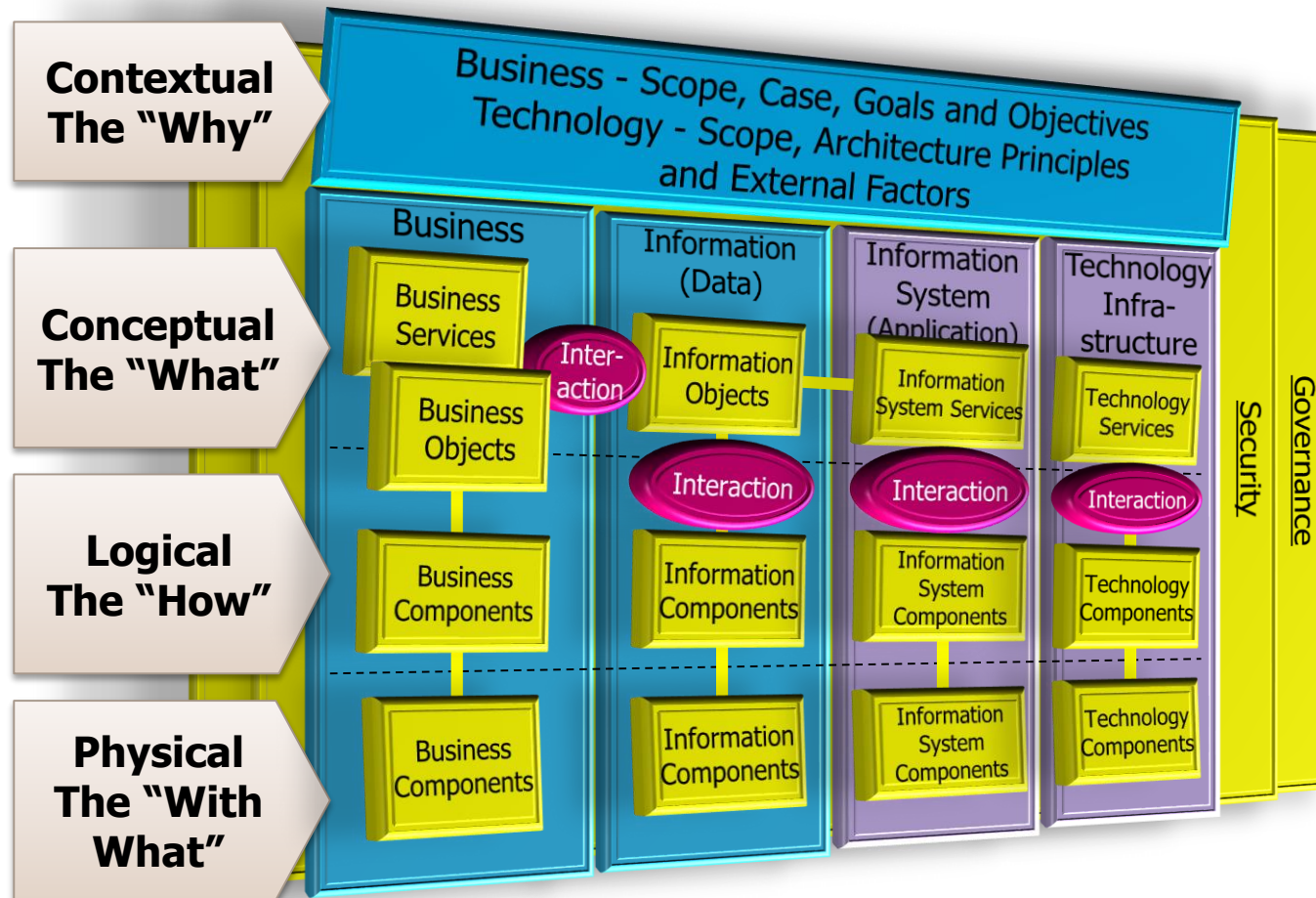
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ENTERPRISE ARCHITECTURE - WHY WE NEEDED
YEARS OF IMPLEMENTATION WITHOUT ARCHITECTURE

	TYPICAL IT IMPLEMENTATION	**ISSUES WITH THIS LEGACY**	**IMPACT ON IT LANDSCAPE**
TOOL SELECTION	**Choose best tools & intentions**	**Many tools in the enterprise**	• High cost of tools • Lot of redundancy; incorrect tools • Poor maintenance has led to ageing to N-4
NEW FUNCTIONALITY	**"Business Changes" implemented as tool enhancements**	**Core platforms have had hundreds of enhancements**	• Very poor documentation of enhancements • No regression testing • Little attention to SOX or Security • Little concern for impact on neighboring code
INTEGRATION	**"Tools" connected together with no integration governance**	**Enormous number of inefficient interfaces**	• Enormous redundancy • Poorly designed and poorly documented • Significant performance issues
NON-FUNCTIONAL REQUIREMENTS	**None of the "Tools" designed to run**	**Non-Functional Requirements not defined so unknown capacity**	• No design with Capacity in mind • No monitoring built in • High cost of maintenance because not designed to be configured

Business Transformations for FINANCE, SALES, HR, SUPPLY CHAIN and ERP driven from new programs require enormous architecture changes on the existing systems

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ENTERPRISE ARCHITURE DEFINITION (1/4)
METHODOLOGY

Contextual The "Why"

Conceptual The "What"

Logical The "How"

Physical The "With What"

Business - Scope, Case, Goals and Objectives
Technology - Scope, Architecture Principles and External Factors

Business
- Business Services
- Business Objects
- Business Components
- Business Components

Inter-action

Information (Data)
- Information Objects
- Information Components
- Information Components

Interaction

Information System (Application)
- Information System Services
- Information System Components
- Information System Components

Interaction

Technology Infra-structure
- Technology Services
- Technology Components
- Technology Components

Interaction

Security

Governance

What we did

- Used Integrated Architecture Framework (IAF) from Cap Gemini

- Scope of EA definition driven business & IT priorities

- Used IT Principles to justify choices & bring traceability

Approach is flexible, scalable, adaptable that can be applied to all levels of architecture (enterprise & solution), Infrastructure, Software, or packaged.

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PROJECTS IMPLEMENT TARGET EA

Each project solution implementation is a step towards realizing the Target Enterprise Architecture.

Requirements
Processes
Data

Requirements
Processes
Data

Requirements
Processes
Data

As-is Enterprise Architecture

New elements for R1

New elements for R2

New elements for Rn

Target Architecture for period 2

Target Architecture for period 3

Target Architecture for period n

Architecture Roadmap

Target Enterprise Architecture

- Capabilities & Process
- Information
- Integration
- Applications
- Infrastructure
- Standards & Guidelines
- Patterns

Architecture Roadmaps <u>normally</u> derived from business needs, best paths to the Target Enterprise Architecture and migration considerations from AS-IS.

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ENTERPRISE ARCHITECTURE DEFINITION (3/4)
CONTENT DESCRIPTION

Principles	▪ A principle reflects a fundamental or general truth that helps people determine the appropriate behavior given the circumstance at hand. It provides the intent of what to do, but not how to do it. ▪ **USAGE: Followed to guide solution architecture design.**
Assets used in solution architecture	▪ Assets defined driven from Business & IS&IT priorities. ▪ **USAGE: These assets are required to be re-used in the solution architecture design.**
Policy, Standards, Guidelines	▪ **Guidelines:** Guidelines are documents that go into the details of a required or established practice with the aim of simplifying and clarifying how it is applied. Following guidelines implies a positive impact on the context. ▪ **Standards**: Standards are something set up and established by authority as a rule for the measure of quantity, weight, extent, value, or quality. ▪ **USAGE: Followed to guide solution architecture design.**
Patterns	• Patterns are the regular and repeated way in which something happens or is done. • **USAGE: The patterns are used to select the appropriate asset for the solution architecture design.**

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ENTERPRISE ARCHITECTURE DEFINITION (4/4)
CONTENT USED IN SOLUTION ARCHITECTURE DESIGN

Area	Assets used in Solution Architecture	Standards, Guidelines, Patterns
Overall	IT Principles	• Guidelines: IT Principles
Business (B)	• Business Capabilities • Business Processes, Business Objects, Business Roles, Activities	• Guidelines: Business Process Modeling
Information (I)	• Information Objects • Information Attributes	• Guidelines: Information Architecture

Information Systems (IS)	• IS Services
	• Physical IS Components (PISC)
	• PISC Collaboration Contracts (PISCCC)
	• Integration Catalog
		• Standards: Web Content Mgmt
		• Guidelines:
		  -Integration
		  -Knowledge Mgmt
		  -Identity Access Mgmt
		  -PISC
		• Patterns:
		  -Integration Pattern Library
		  -Integration Pattern Lookup Site
		  -Business Intelligence Patterns
		  -Knowledge Mgmt Patterns

Technology Infrastructure (TI)	• TI Services • Physical TI Components (PTIC)	• Standards: TI

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SOFTWARE SELECTION
WHAT WE WERE LOOKING FOR

A SINGLE TOOL TO SUPPORT …

ALL PHASES OF ARCHITECTURE DESIGN (*with graphical representations of the design*)

AN ENTERPRISE VIEW OF THE BUSINESS PROCESSES AND ARCHITECTURE

A LIBRARY OF REUSABLE ASSETS

GOVERNANCE OF ARCHITECTURE ASSETS

- Models **integrate** with the logical, physical designs.

- Ability to **drill down** from process model, down to the physical architecture (ex. application) that supports it and vice versa.

- **Reusable asset library** so projects don't create duplicate interfaces, reports, etc.

- Building a **picture of the entire Business & IT landscape** in one place.

- Supports **What-if impact analysis** (what if I replace a current 3rd party application – what business functions does it support, what does it interface with, what information does it provide).

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ALCATEL-LUCENT ENTERPRISE ARCHITECTURE SOLUTION
CARMA

Common

Architecture

Repository and

Management

Application

Tool and Meta-Model Foundation
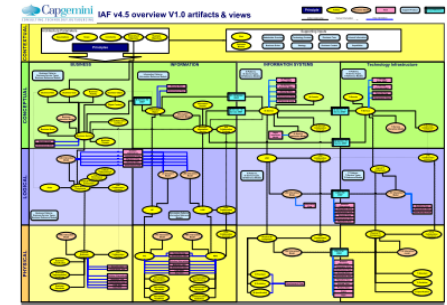
Integrated Architecture Framework
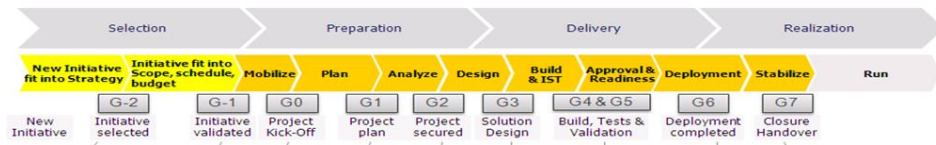
Project Driven
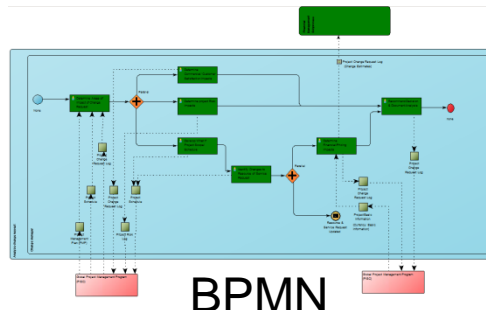
BPMN

Hosted Platform

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ALCATEL-LUCENT CARMA (1/13)
HARDWARE STRUCTURE
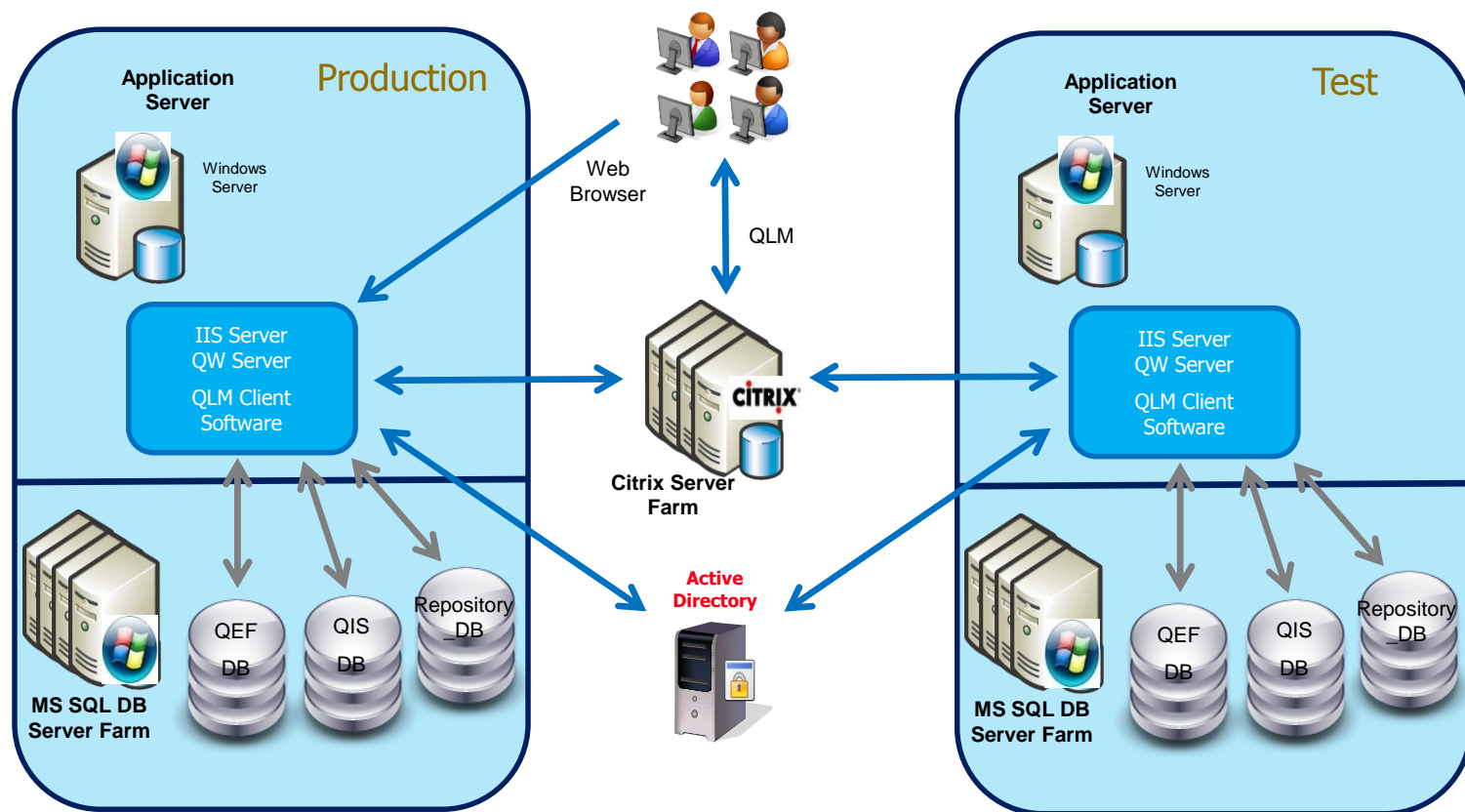
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ALCATEL-LUCENT CARMA (2/13)
REPOSITORY DEFINITIONS AND USE

- Key Principles:
  - Reduce complexity
  - Maximize reuse
  - Parallel architecture definition going on at same time with tight linkages between them

CARMA		
Repository	**Definition**	**Use**
Alcatel-Lucent	• Base Configuration • WIP (private workspace)	• **Production EA/BPM Repository**
CARMA - Sandbox	• Base Configuration • WIP (private workspace)	• Used for "test" loading data and for new users to get familiar with CARMA • Periodically refreshed with production repository data
CARMA - Test	• Base Configuration • WIP (private workspace)	• Repository used to test new releases of CARMA. • Limited user access. • On start-up runs test configuration setup (controlled through Repository Administrator) • Periodically refreshed with production repository data

Repository
Work In Progress (WIP) — Private Workspace
BASE — Asset Library (Approved/Released Assets)
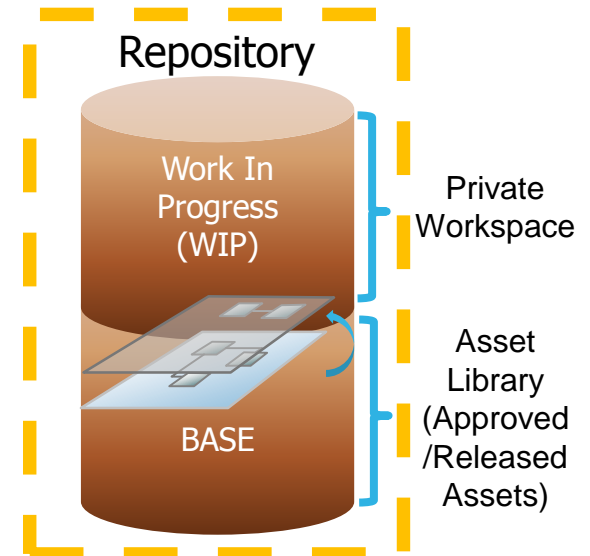
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ALCATEL-LUCENT CARMA (3/13)
ACCESS AND OVERVIEW

Access

- QualiWare Lifecycle Manager (QLM)
  - All design and change management done using QLM
  - Limited to Enterprise Architects

- Web Browser
  - Read-only access to all people within Alcatel-Lucent

Overview Page

- Provides easy access to key aspect areas/information within CARMA
  - Models, Projects, Conceptual, Logical, Physical

Browser

QLM

IAF Quick Access Buttons
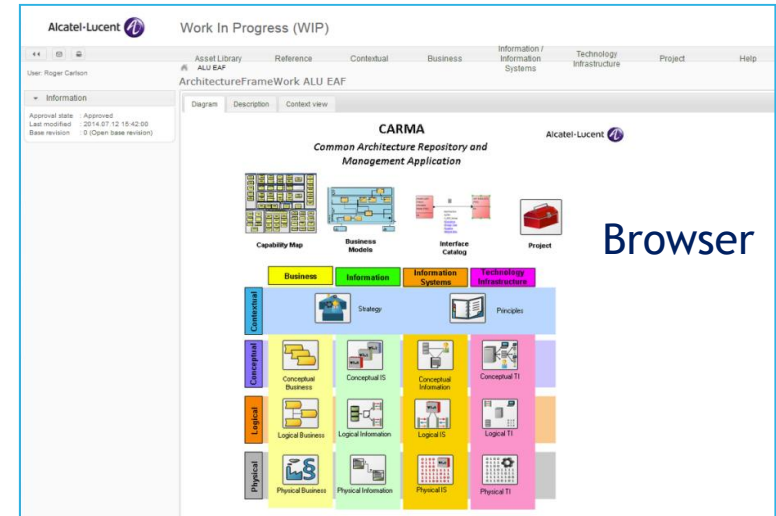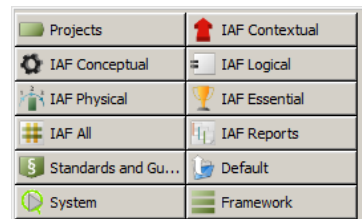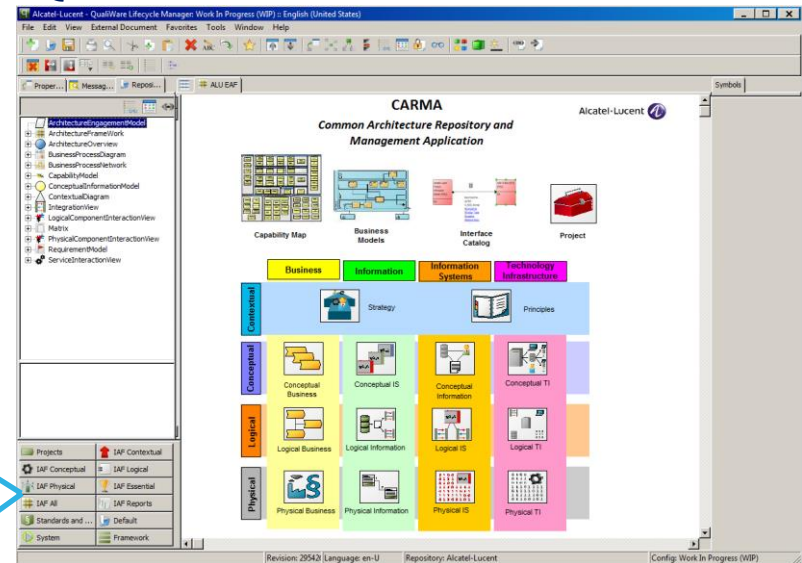
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PROJECT

- Project object used to detail the architecture design with links to the various reusable architecture assets

- Project non-functional requirements managed on linkage between project and architecture assets
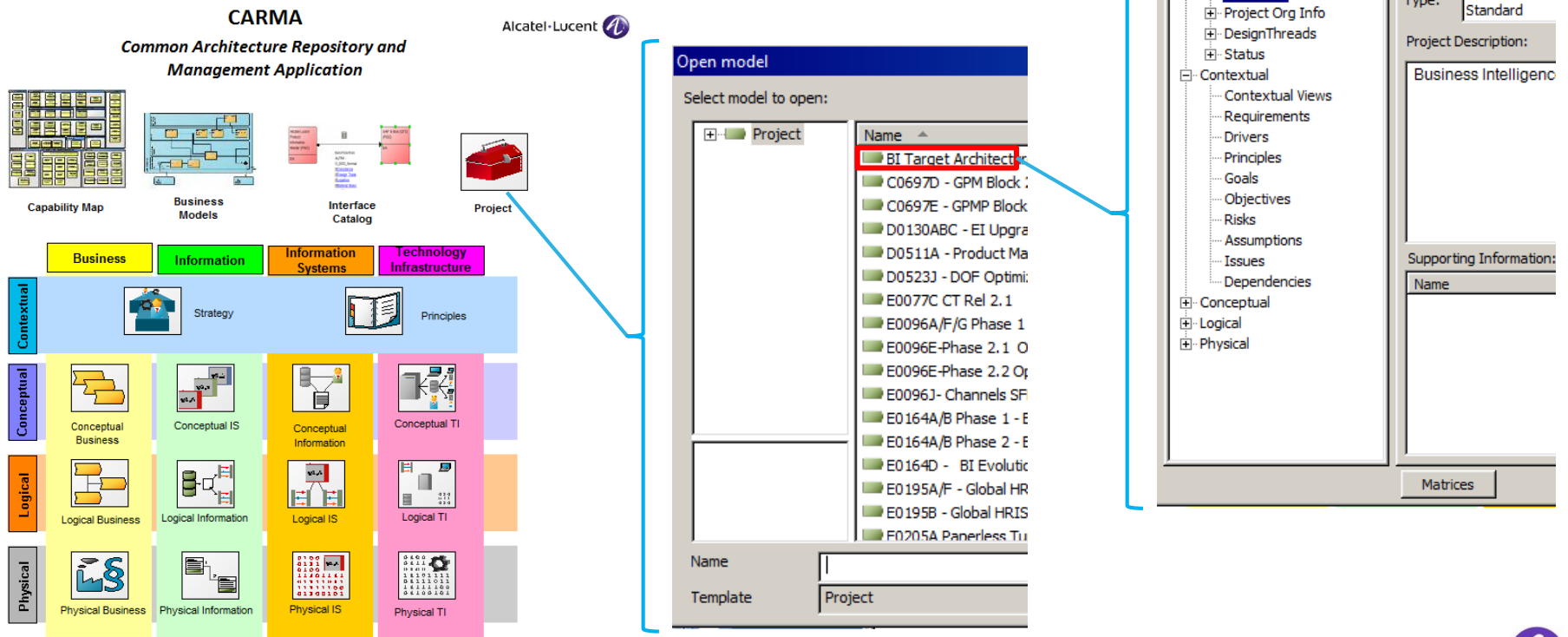
Traceability
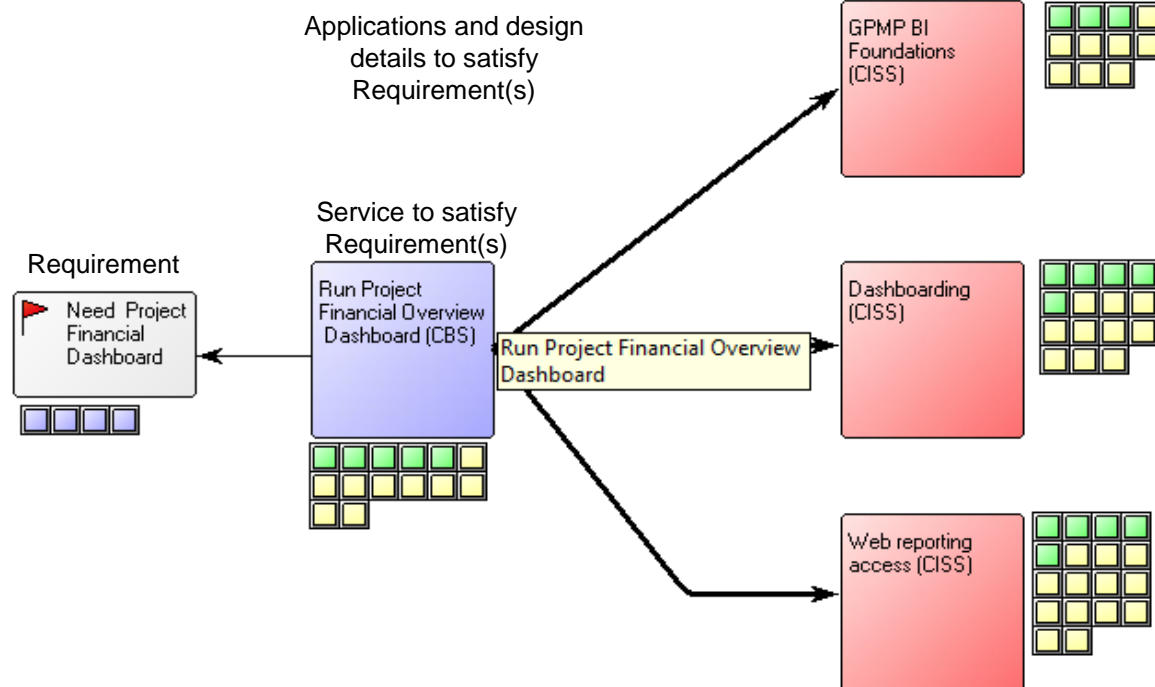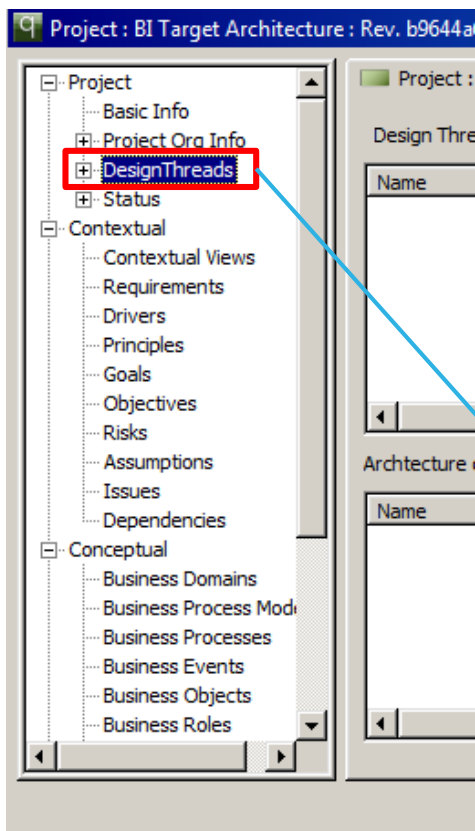
Visual Contextual Relationships
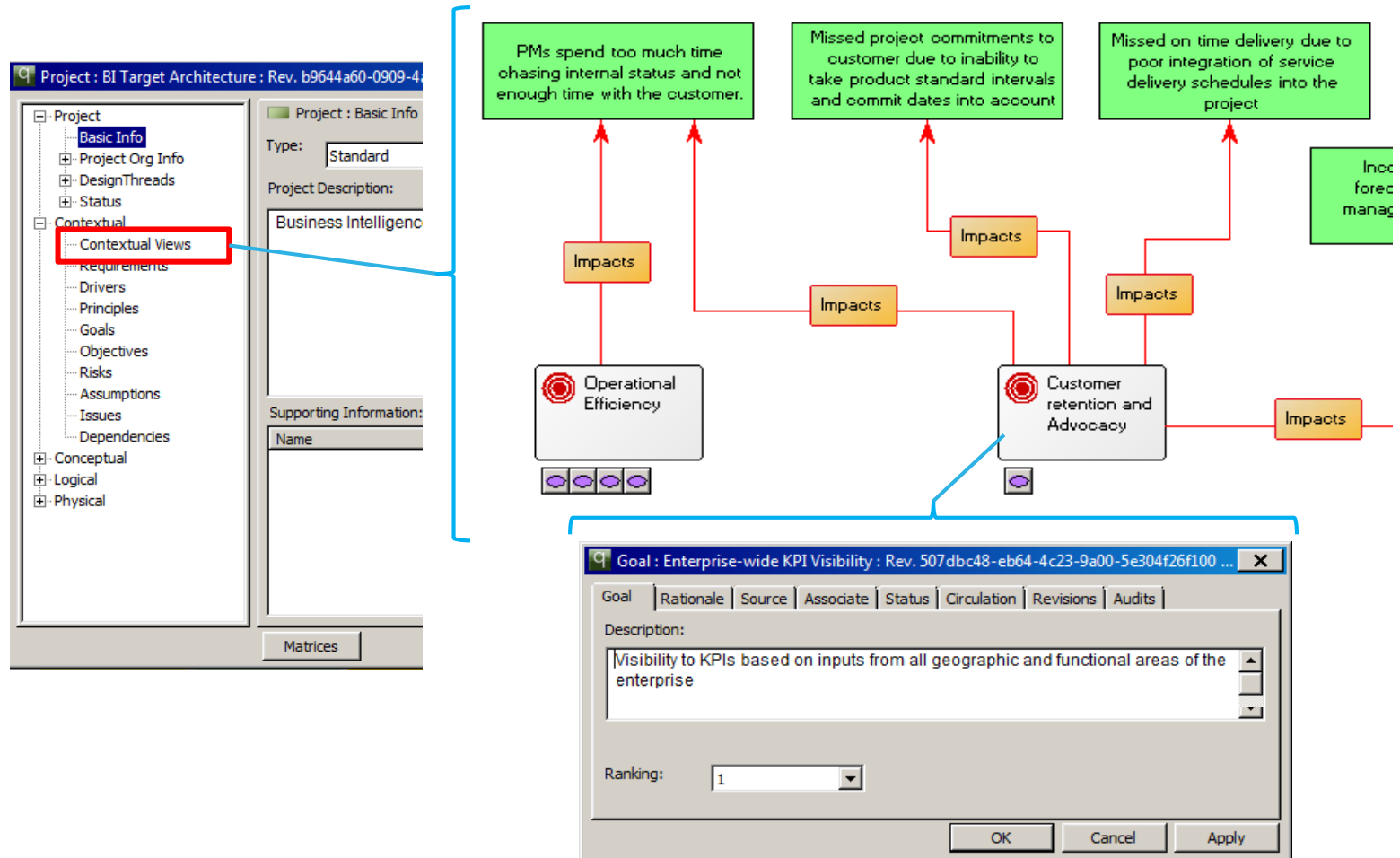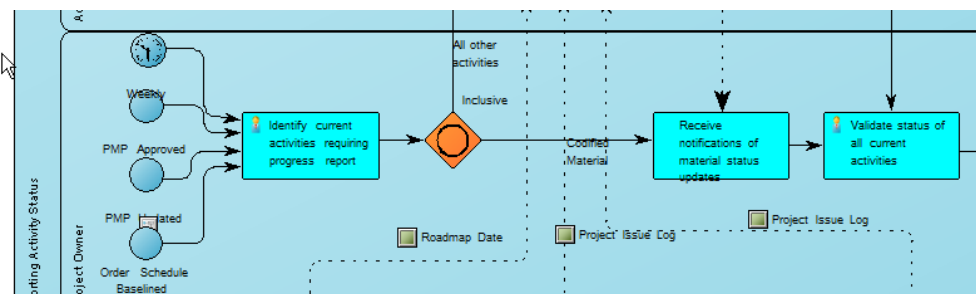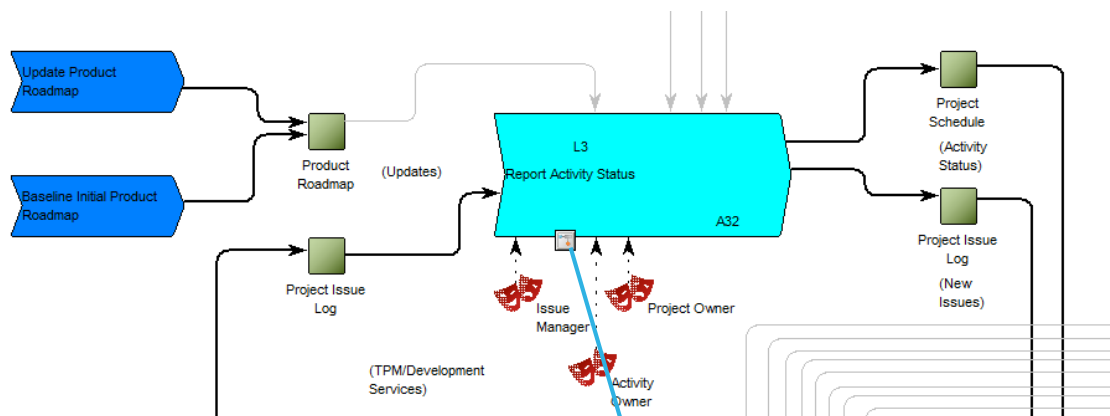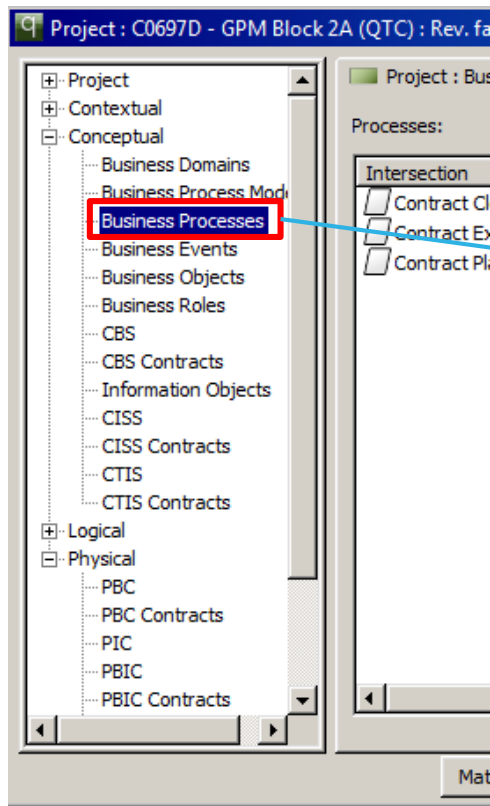
Business Process Models

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Integration Models
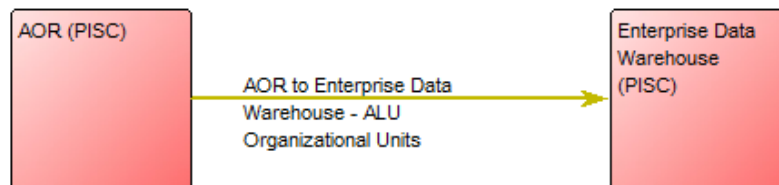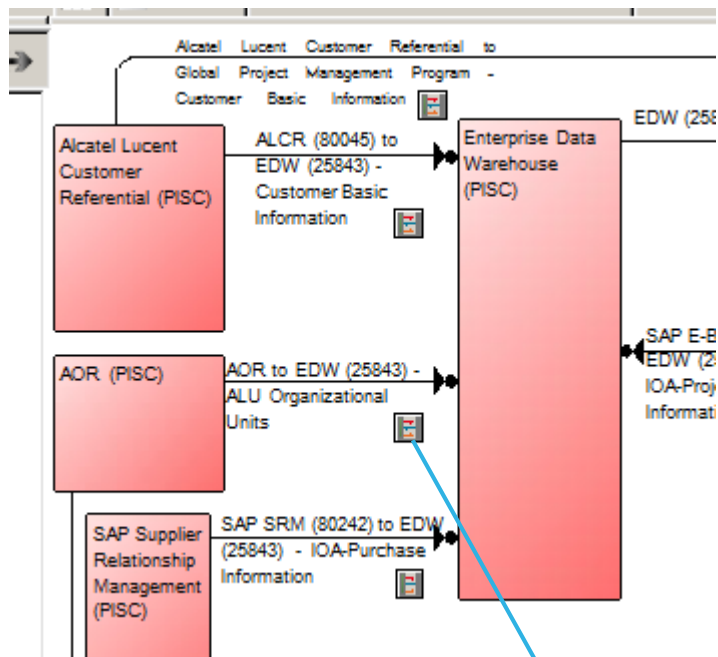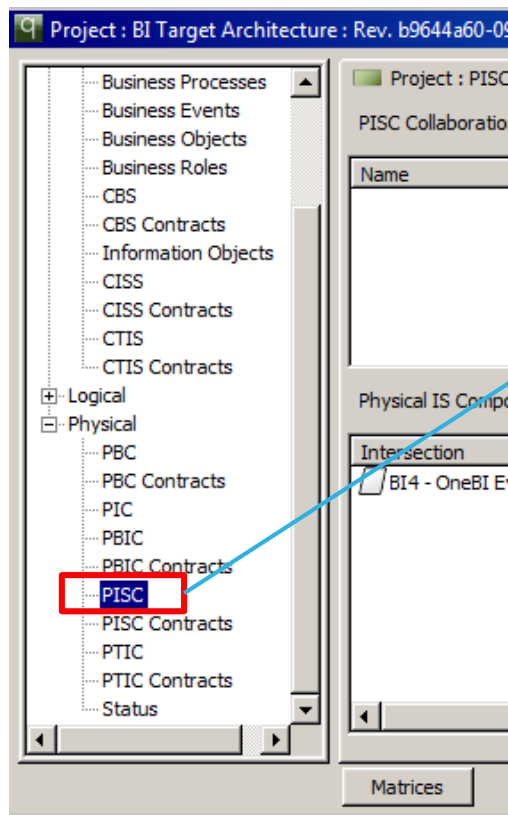
PROJECT – MATRICES

Relationship matrices easily accessible within Project

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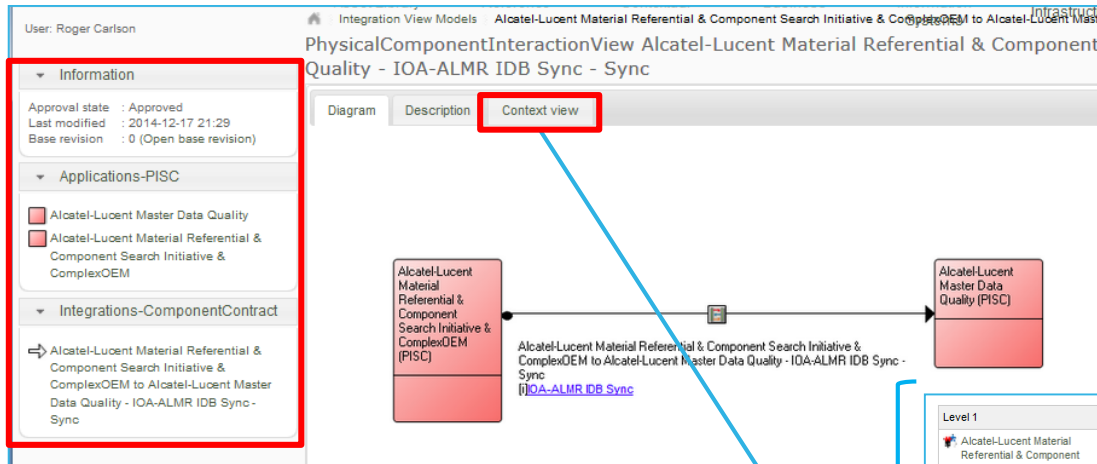# ALCATEL-LUCENT CARMA (10/13)
WEB BROWSER

Menu structured by major aspect areas
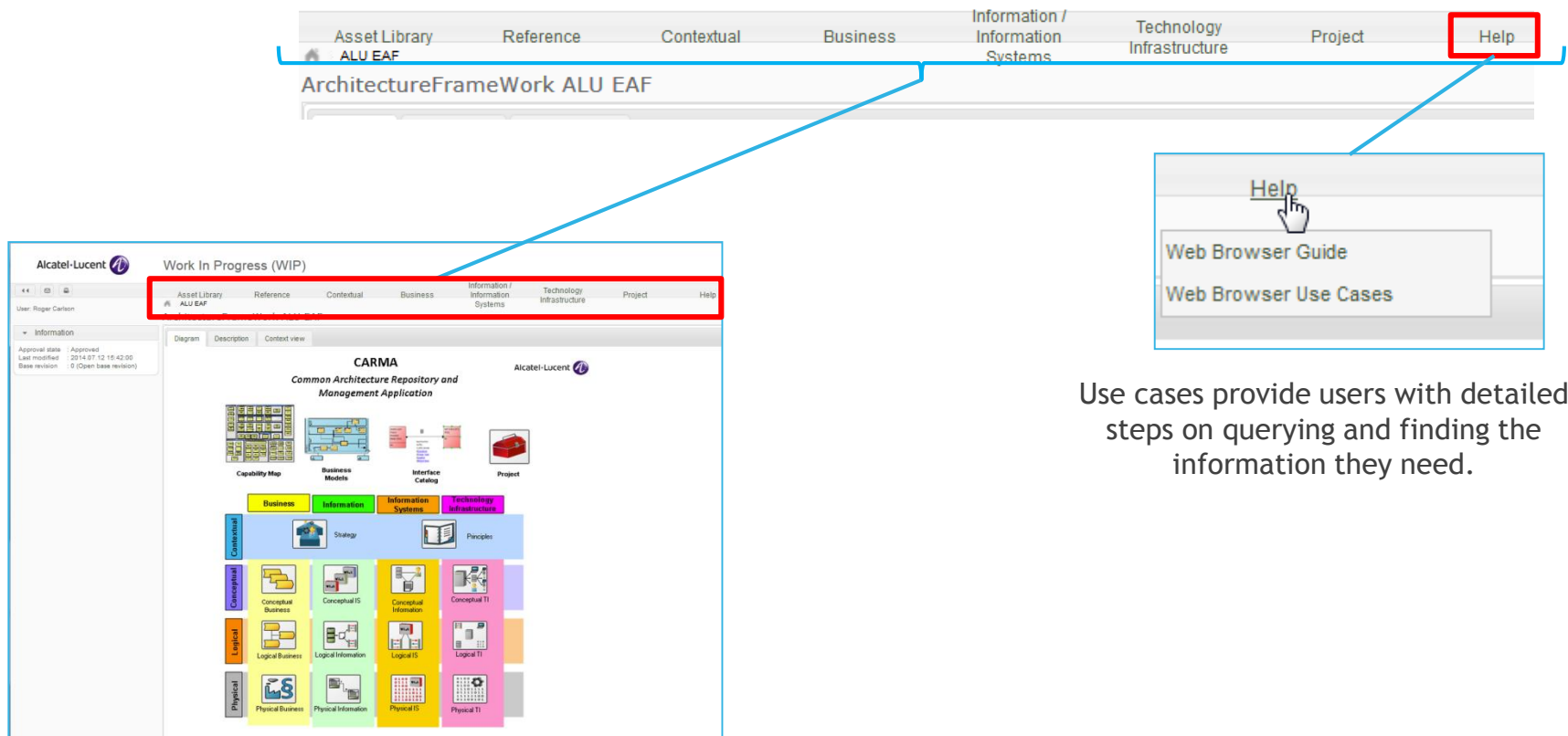
Use cases provide users with detailed steps on querying and finding the information they need.
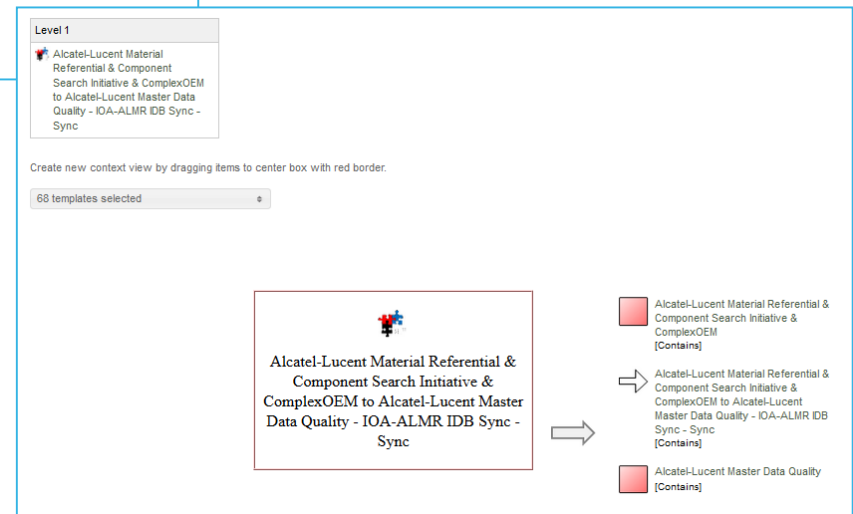
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Viewing models and analyzing

Context view is used to do analysis of a specific object (e.g. Application)

Left pane shows objects on model for quick selection and review

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- Over the past year Alcatel-Lucent has gone through a significant change in the way the process and methodology of who and how the Business process and IS/IT landscape is defined and implemented. These changes lead to:

  – Evolving our "ways of working" to accommodate our partners' design methodologies

  – Re-examination and re-definition of the architecture deliverables which required meta-model changes

- CARMA Web Browser is used by business and solution architects to view and identify reusable architecture assets

  – Menu structure organized to accommodate ease of use

  – On-line help with use cases describing how to get to various levels of the information

- We are in the early phases of capturing KPI's related to Enterprise Architecture and design (re-use, number of assets, quality)

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ALCATEL-LUCENT CARMA (13/13)
FUTURE PLANS

- Evolve our Web Browser experience

  - Allow simple editing and change management of object information

  - Enhance current query/search capabilities

- Enhance meta-model and functionality to support:

  - Key Performance Indicators initiative

  - Software as a Service (SaaS) and Everything as a Service (EaaS)

  - Change management (workflow implementation)

- Re-evaluate current EA requirements and design methodology looking for opportunities to leverage more out of the box (OOTB) core meta-model and functionality

- Understand and evaluate QualiWare version 6 capabilities looking at potential impact and migration

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Q & A

www.alcatel-lucent.com