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09-1446 PLM Gouvernence / route to PLCS 25NOV 2009
Thales Corporate Services - EPM

PLM & Governance

How to convince your boss to take the PLCS route

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Contents

- The THALES Group
- THALES' Governance Model (also applied to PLM)
- One example : Using PLCS as the PLM interface standards
- General approach and how is was applied to PLCS
- Conclusion

World leader for mission-critical information systems

Three core businesses

- Aerospace & Space
- Defence
- Security

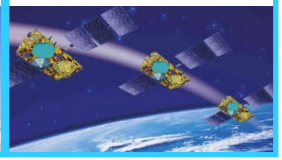
€12.7 bn annual revenues (2008)

A Worldwide Group

- 68,000 employees worldwide
- Presence in 50 countries

Some facts about THALES

3 main businesses, 6 divisions, deployed globally

Aerospace & Space		Defence			Security
Aerospace	**Space**	**Air Systems**	**Land & Joint Systems**	**Naval**	**Security Solutions & Services**
					

Very wide range of products, systems and services

- From components (eg. tubes) to complex products (satellites, warships) to continental-size systems (Air Traffic Management…)
- From single-unit production (satellite) to large series (eg. IFE)

Wide range of markets

- Federal, Industrial, Infrastructure…

Steady flow of business acquisitions

- Ever greater internationalization

General Objective

However despite of our differences

Culture, language, legacy business practices…

We shall work as an integrated Group

- Shared Infrastructure
- Shared Business Processes
- Shared Knowledge Repositories
- Shared Services
- Shared Business
  - Ability for internal subcontracting and procurement
  - Unified view from customer point of view
  - Common suppliers & partners
- Organized to integrate newly acquired businesses

What do we need ?

A single POLICY

An integral STRATEGY construction addressing 3 main axis

- Business Needs
- Information Systems
- Information Technology

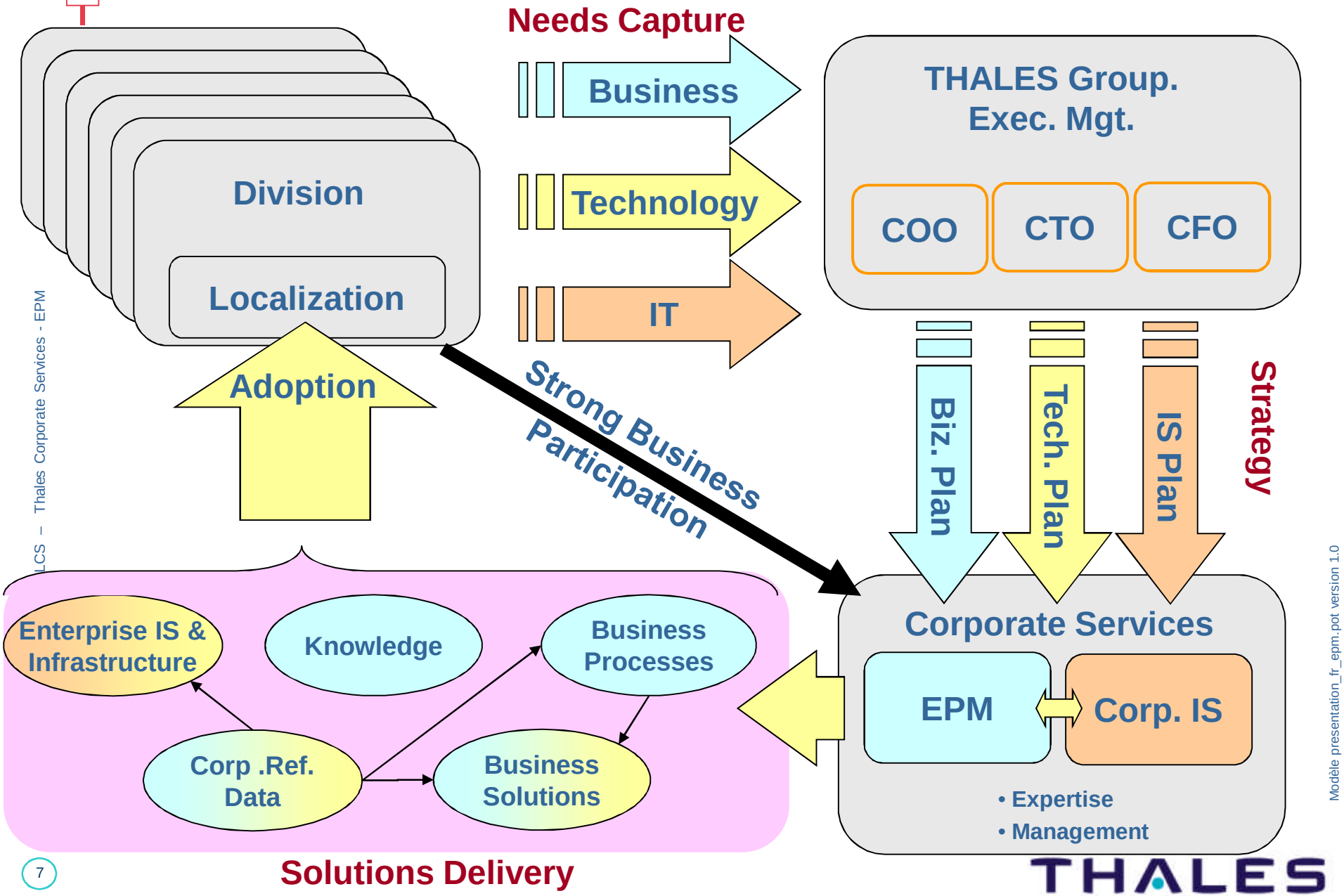
Recognizing and coping with BUSINESS DIFFERENCES

- Active participation from business

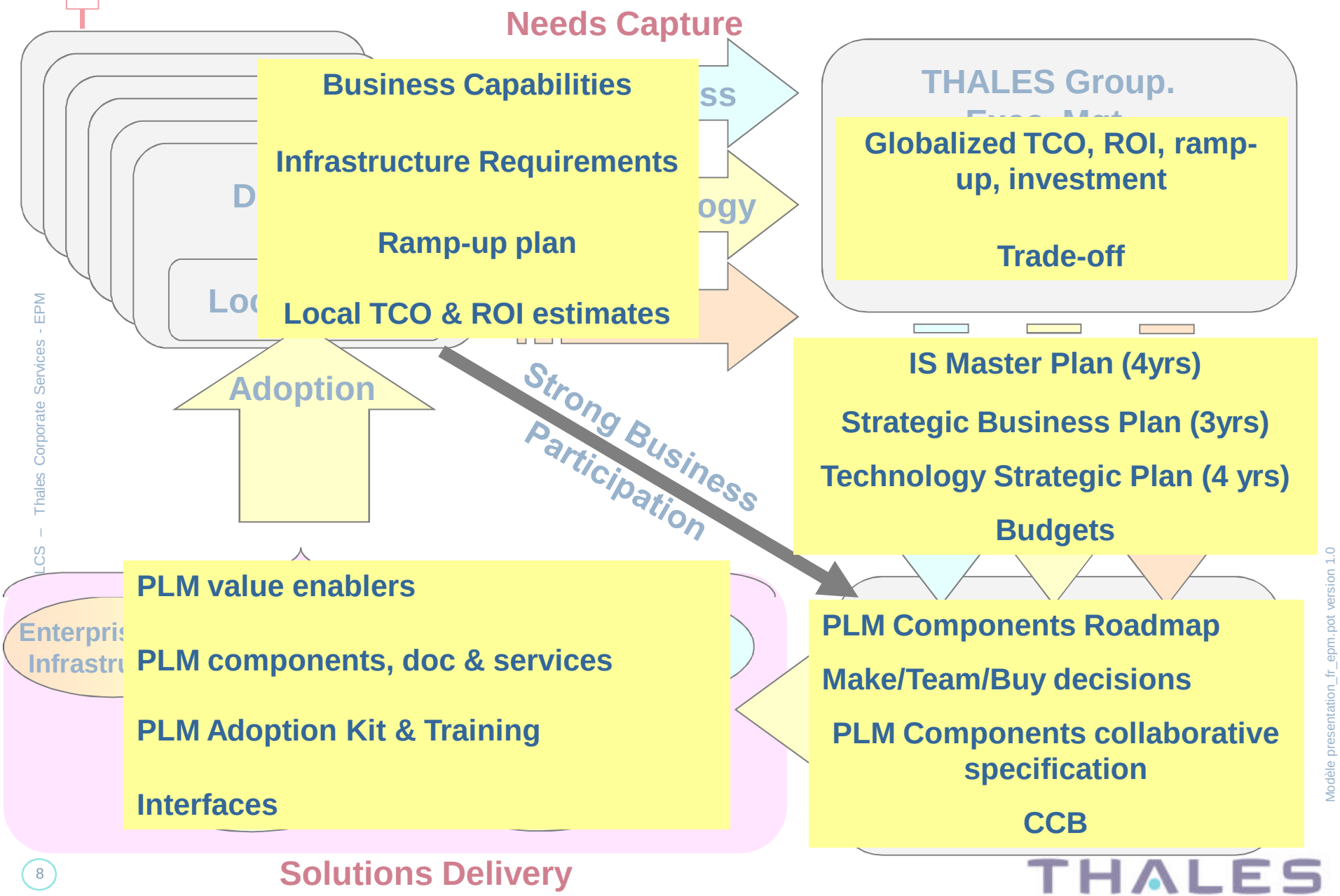
Resulting in

- Common Business Processes
- Common Reference Data
- Common & Corp. controlled, however FLEXIBLE, IS components

Overall approach



Overall approach



Overall approach

Needs Capture

Upstream Governance

-Priorities

-Roadmap

-Budget

Downstream Governance

- Decision to adopt

-Localization level & conditions

IT

Adoption

Strong Business Participation

Strategy

Solutions Delivery

THALES PLM – A Distributed Model

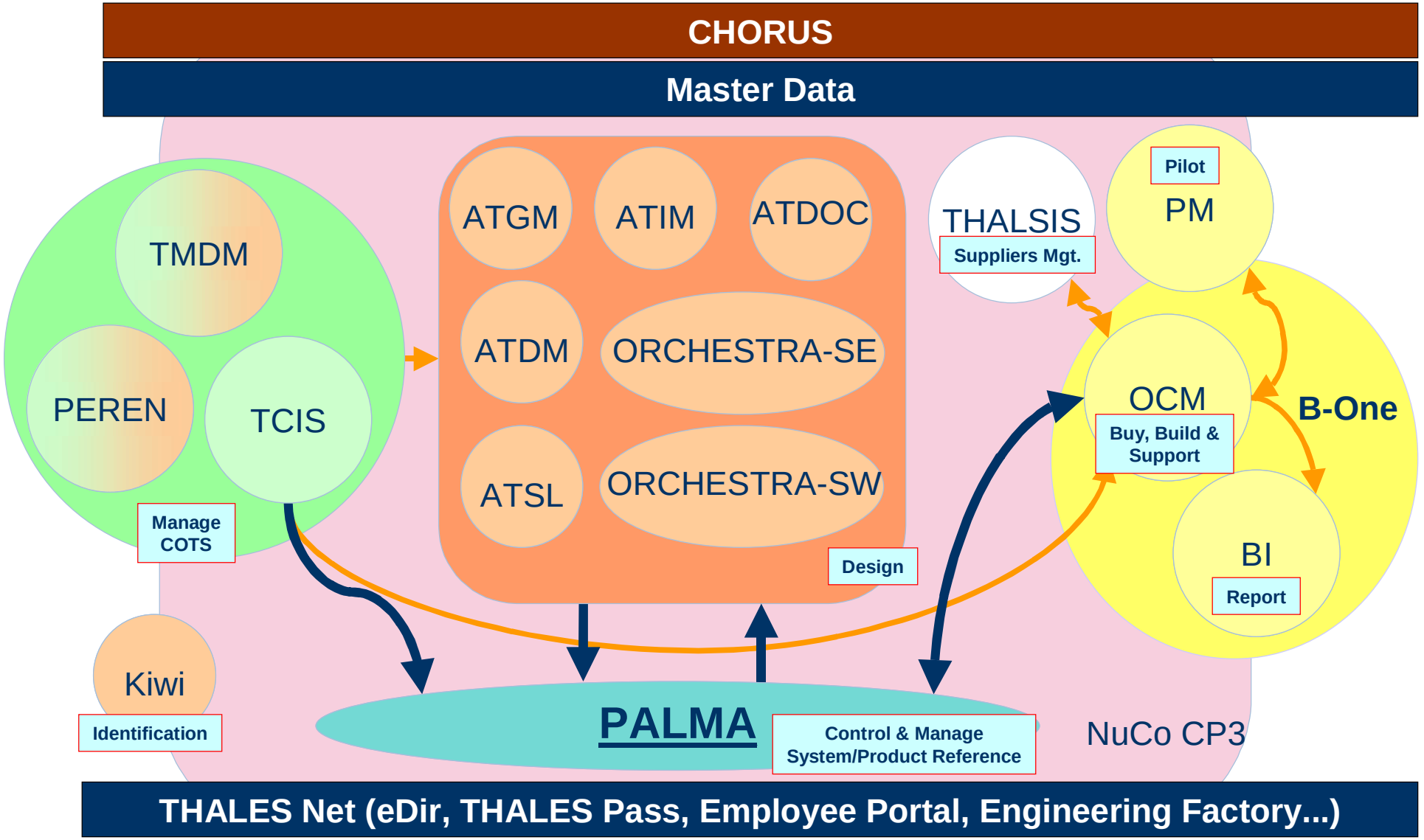
Distributed PLM components

- **Workgroup level**
  - One integrated solution per ‘domain’ (workbenches)
    - Electronics, mechanical, SW….
    - Fully packaged and bundled solution
    - Shall be autonomous
    - Shall be open (API, interfaces)
    - Shall support THALES Reference Data, Best Practices & Processes
  - Deployment type : departmental
- **Enterprise level**
  - Back-office applications (ERP, PDM…)
  - Deployment type : Business Line, Enterprise or Division
- **Corporate level**
  - Knowledge databases (processes, best practices,…)
  - Reference data (components, suppliers…)
  - Deployment type : Corporate (1 instance WW)

Golden Principles

- PDM as the backbone – Enterprise PDM
  - Manages ONLY shareable, reference (product) information
  - **Full** life-cycle coverage
- Few sources for reference data
  - Business : COTS, Manufacturer, Suppliers…
  - Process : roles, doc. Types, security classifications…
- Authoring environments
  - Best in class tools
    - Integrated in a process-wise framework
  - Must have discipline-data-management
  - Taking care of work-in progress
  - Punctual contribution to life-cycle

What looks THALES PLM Like ?



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Using PLCS as the PLM interface standards

How to achieve a PLM

- Distributed, Scalable, Agile
- With a Controlled TCO

PLCS as the inter-application data std., a possible answer

- A bit « obscure » for management
- This is mature ! Really ?
- Cost vs Gains not obvious
- Why is this better than all in one box ? (looks so nice on TV !)

How to do ? General Approach

Create a Rationale

Determine Technologies to be Acquired

Define Perimeter of Use & Roadmap

Identify Risks & Opportunities

Quantify ! Build an Economic Model

Communicate

Create a Rationale

Rationale likely to differ from one company to another

- Your Rationale is not necessarily the vendors one
- Your Rationale should be technology agnostic

IS flexibility, interfaces TCO
Supply chain data exchanges

Express the need/expected improvement…

- In Business Terms — Opportunities
- In IT terms — TCO

Less data formats
Flexible IS, best fit for needs
Interfaces TCO, lowers IS TCO

2 main trends

- Market-pull
  - Customer request, regulatory aspects
- Technology push
  - Changes in IT

Interconnected supply chain

Polyvavent interface standards

Determine Technology to be Acquired

Identify candidate Technologies

Ad-hoc, all in 1 box, 3DPLM, PLM-XML, PLCS, AP214, EAI, ESB

Make a comparative analysis and select (PLCS)

- Proof Of Concept may be necessary

PLCS selected (2007)
POC (end 2007)

Determine the TRL (Technological Readiness Level)

- *Part Lab / Full Lab / Part Oper. / Full Oper. / Legacy*
- Current and Roadmap
- Technology and own

2007 – PL 2008 – PL/FL
2009 – PO 2010 – PO/FO

Define the Acquisition Method

- Make / Team / Buy
- Find & select partner(s)

6 companies analyzed
Team (Eurostep)

Define the level of knowledge to develop

- User, …. , Specialist

Intermediate (independent for maintenance)

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Define Perimeter of Use & Roadmap

Insert (PLCS) in your company architecture

- IS Architecture
- Business Architecture

THALES 3-tier PLM model
Better IS flexibility, Lower TCO

Where PLCS based exchanges
Have business impacts
-Integrated PDM/Eng.
-Integrated Change Mgt.
- Collaborative Work
-Environmental Compliance

Be PRAGMATIC

- Establish a roadmap
  - Start with simpler aspects

2008 HW Eng. with PDM
2009 System Arch with PDM
2010 SW with PDM
+ PDM / ERP
+ Integrated Change Mgt
2011 ILS with PLM
2012 ISS with PDM
+ SC integration

- Avoid confusion : Emergency vs Importance
  - Try to address 1st : “Pain” and quick-wins

Ex : emergency
PDM/HW Eng. Interface with environmental compliance data
Ex: importance
Integrated change Mgt.

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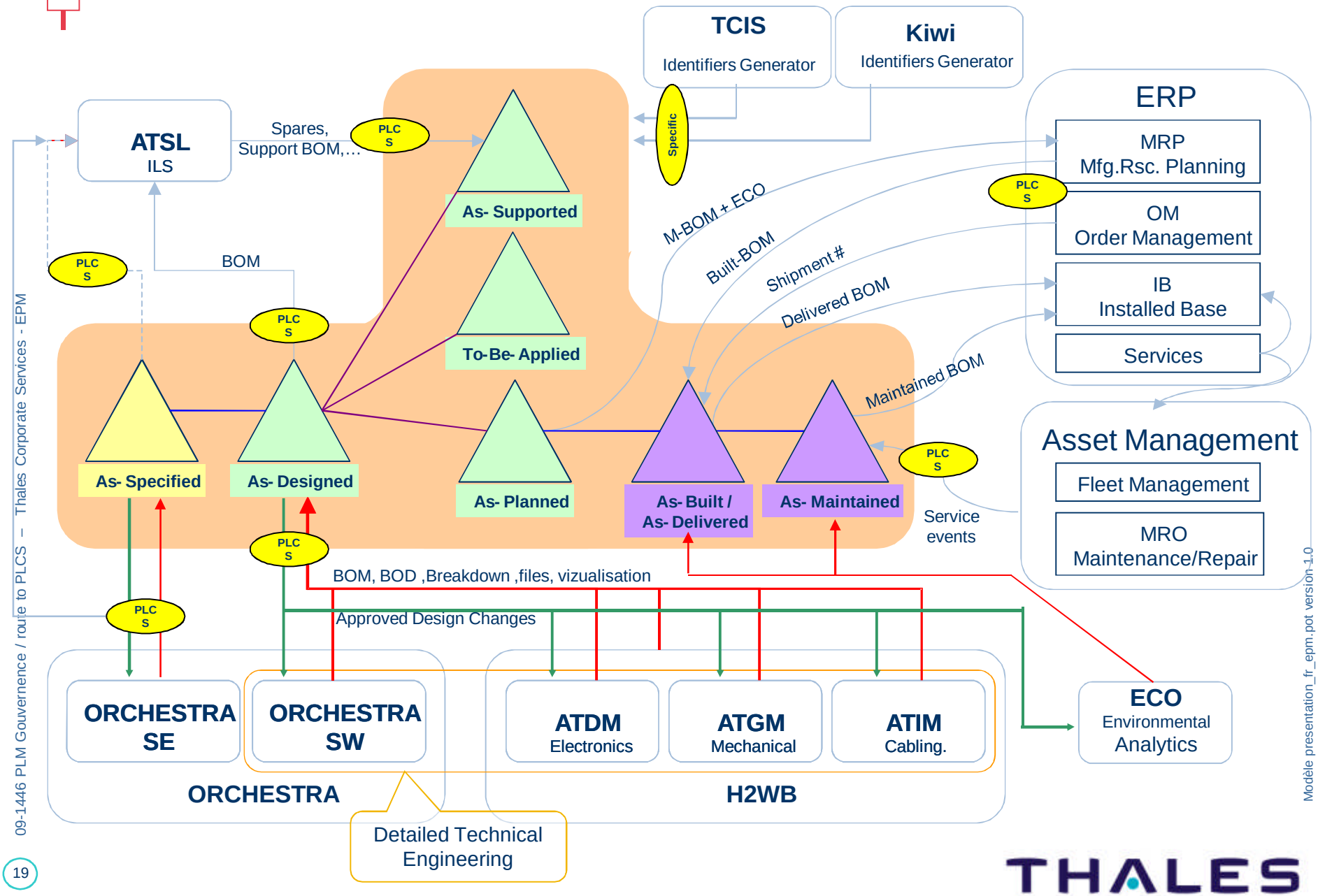
Define Perimeter of Use – PLCS Example



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Identify Risks & Opportunities

Risks

- List them : mainly IT, Change Management
- Value, probability, impact assessment
- Provide a solution to mitigate each risk
- Also assess risk of doing nothing (if not)

THALES' TSP
PLCS : not used a lot yet, several immature technologies, Likely to evolve with enlarged adoption

Opportunities

- Address 1st company « Pain »
- Speak regarding company needs
  - No supposed needs (vendors, « fashion »…)
- Comparative analysis with competition

Difficulty to interface all Components of technical IS

TCO reduction

PLCS requested in bids

Quantify !

Find « inductors »

- Cost Inductors
- Savings/Opportunities Inductors
- Risks

Give them a ponderation

- Weight
- Time

Sort them

- Effect on Quantified costs
- Effect on Hidden/Un-quantified costs
- Quantify-able Savings/Opportunities
- Un-quantified Savings/Opportunities

THALES has developed simulation tools
- PLM system TCO assessment
- PLM system investment modelization
- PLM system ROI

Initial Knowledge of starting situation is necessary

Example : interfaces average cost
- initial 1 interface flow : 50k€
- maintenance : 10k€ / year

Number of applications interfaces on technical IS eligible to this technology (24)
PLM deployment roadmap in the group (over 4 years)…
=> Economic case for PLCS on TCO savings ONLY

Demonstrate ROI (3 to 4 years) ONLY on this
Short term actions chosen to tackle them !
IS management buy in

Nice to say but do not use => too much challengeable

Reachable business value,
Must help build solution roadmap, mid-term users buy-in

Nice to say but do not use => too much challengeable

Communicate

Use your company formal tools

- Strategic Plans..

Educate management

- Senior / Executive
- IS components managers
- According to their culture
  - Business Value creation, market advantage
  - IT Opportunities, cost reduction
- Short/striking/quantified messages

Short term pay-backs are important

- Your plan shall eliminate risks firsts
- Your plan shall generate a rapid ROI on unchallengeable points
- You plan shall heal « pain » immediately

SBP : Strategic Business Plan
ISMP : Information Systems Master Plan
TSP : Technology Strategic Plan

For PLCS in THALES : TSP & ISMP chosen as main medium because rationale has been driven by IS TCO reduction

Could differ in another context !

Business aspect to b developed at a later stage one foundations will be well in place

It's real strategy, multi-year thinking !

Conclusion

Most Companies have a decision-making architecture

- It’s important to use it

Management mostly takes informed decisions

- Speak in term they can receive
  - Educate (simple images, refer to competition)
  - Business / IT / Financial differentiated messages
- Chose the right arguments
  - **Market-pull** is a strong driver don’t forget it
  - **Technology-push** is not your best-friend
    - Technology is a consequence not a reason !
- Be very pragmatic
  - Address 1st qualified aspects, tangible issues
  - Build a roadmap that secures the investment

Conclusion

Demonstrate Value

- Quantified (with reasoning) approach help make the decision
  - TCO/ROI… simulation tools
- Qualitative aspects help to sell

Be ready to be strongly challenged

- Prepare your arguments
  - Vs Market trends
  - Vs Competition
  - Vs Other approaches
  - Vs Economical aspects
- Plan education of stakeholders

Build a real strategy

- The issue is not only adopting a technology it is how to adopt it !
- Beware : Importance is not Urgency…

Where we are now ?

PLCS as the de-facto internal PLM standard

- PDM / Engineering
- PDM / Development
- PDM / Manufacturing

Development completed

- Roll-out start in 2010
- 4 years roll-out plan
- Contractual Partnership

Future (from 2011)

- PDM / ILS
- PDM / ISS
- PDM / Collaborative platform

Thank You for Your Attention

Questions / Remarks

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