

Towards Federated European Testbed infrastructures – PII

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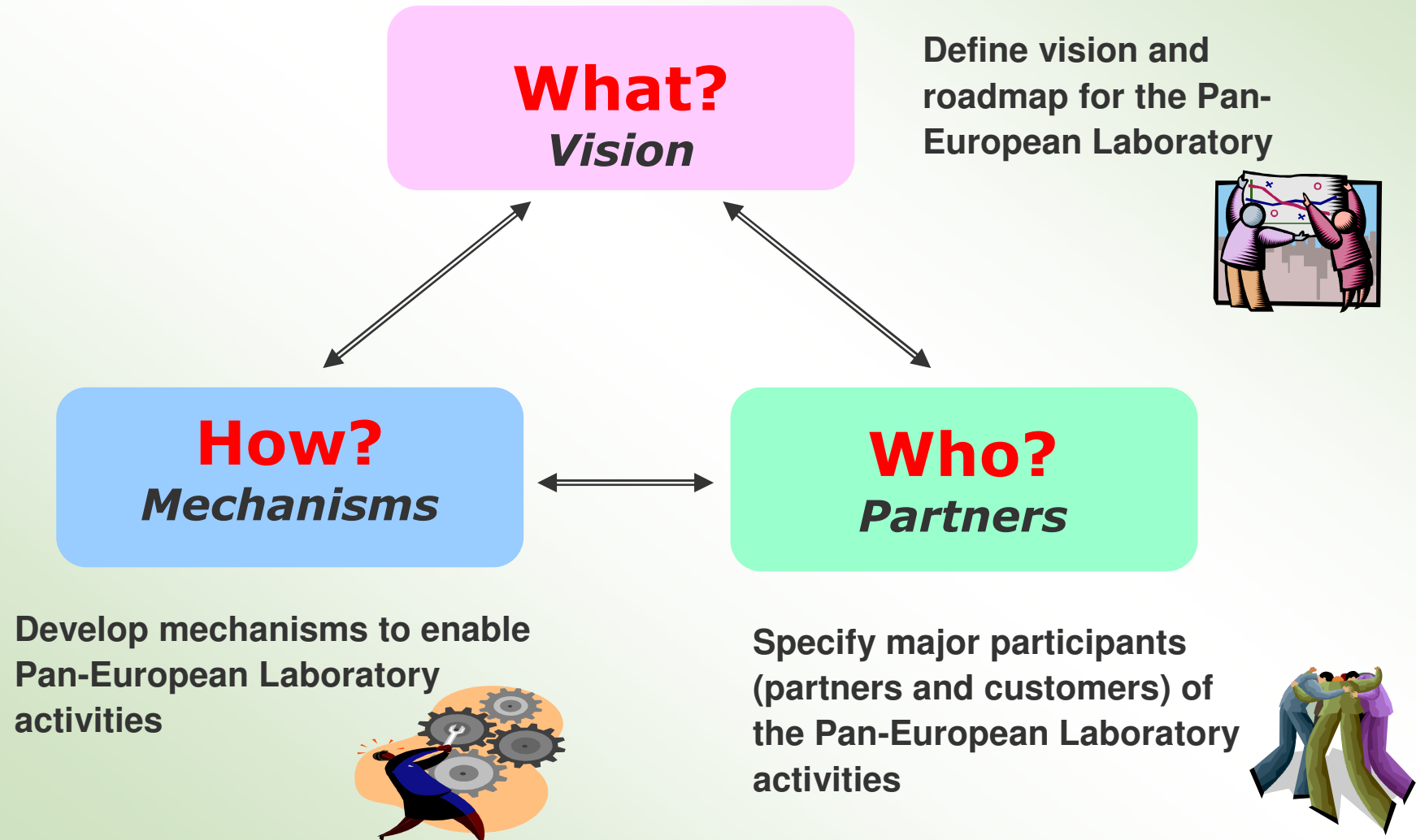
Some background

- ▶ ...integrate and validate, in the context of user-driven large scale testbeds, the state-of-the-art technology that is essential for preparing future upgrades of the infrastructure deployed across Europe...
- ▶ ...foster the early deployment in Europe of Next Generation Information and Communications Networks...
- ▶ ...develop roadmaps and strategic guidance for infrastructure development in Europe...

More background

- ▶ ...contribute towards strengthening and enhancing the European initiatives on Research Infrastructures...
- ▶ ...promote interoperability across heterogeneous technology domains, facilitate interoperability of solutions across different scientific and industrial communities...
- ▶ ...enhance, complement and exploit synergies with the relevant national and international initiatives...

Panlab Support Action in FP6

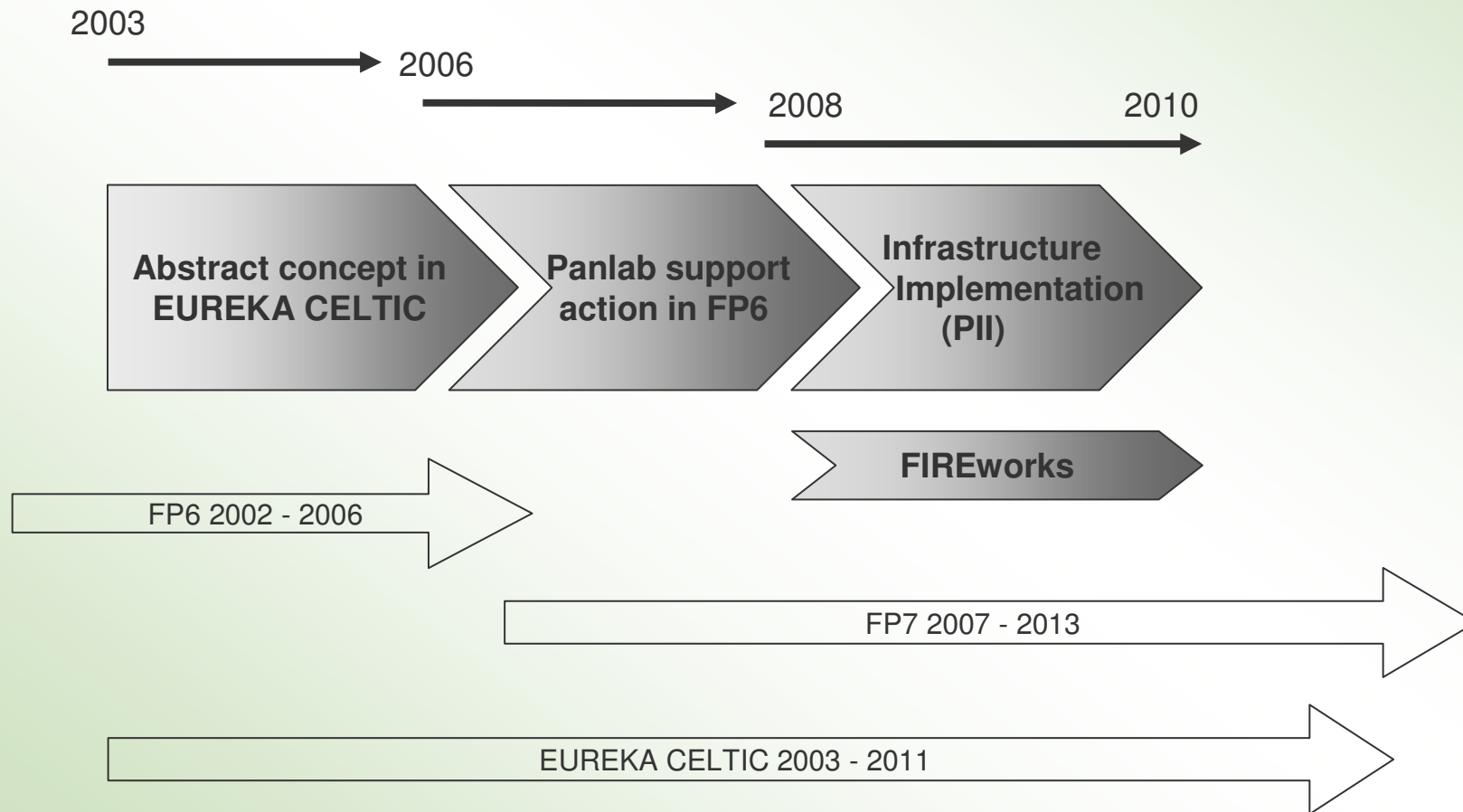


Federation Framework

- ▶ The main result of Panlab (SSA) to date is the Panlab federation framework, which includes recommendations for
 - Legal
 - Operational
 - Technical infrastructure

- ▶ <http://www.panlab.net/publications/public-deliverables.html>

Panlab Evolution



Panlab general characteristics

- ▶ Open federation as a design principle
- ▶ Sustainable research infrastructure
- ▶ End-user role and experience
- ▶ Societal and economic impact
- ▶ **Openness and dynamicity**

Federation of testbeds

- ▶ Interconnection of two or more independent testbeds for
 - Creation of a richer environment for testing and experimentation
 - Increased multilateral benefit of the users and providers of the individual testbeds
- ▶ Owned by different organisations (administrative domains)
 - However, considered as being part of a single resource

Federation of testbeds

- ▶ Geographically disperse
- ▶ Technologically diverse
- ▶ Common management framework under a common management authority
- ▶ Dynamic and evolve over time based on the requirements of the users

Enable and facilitate

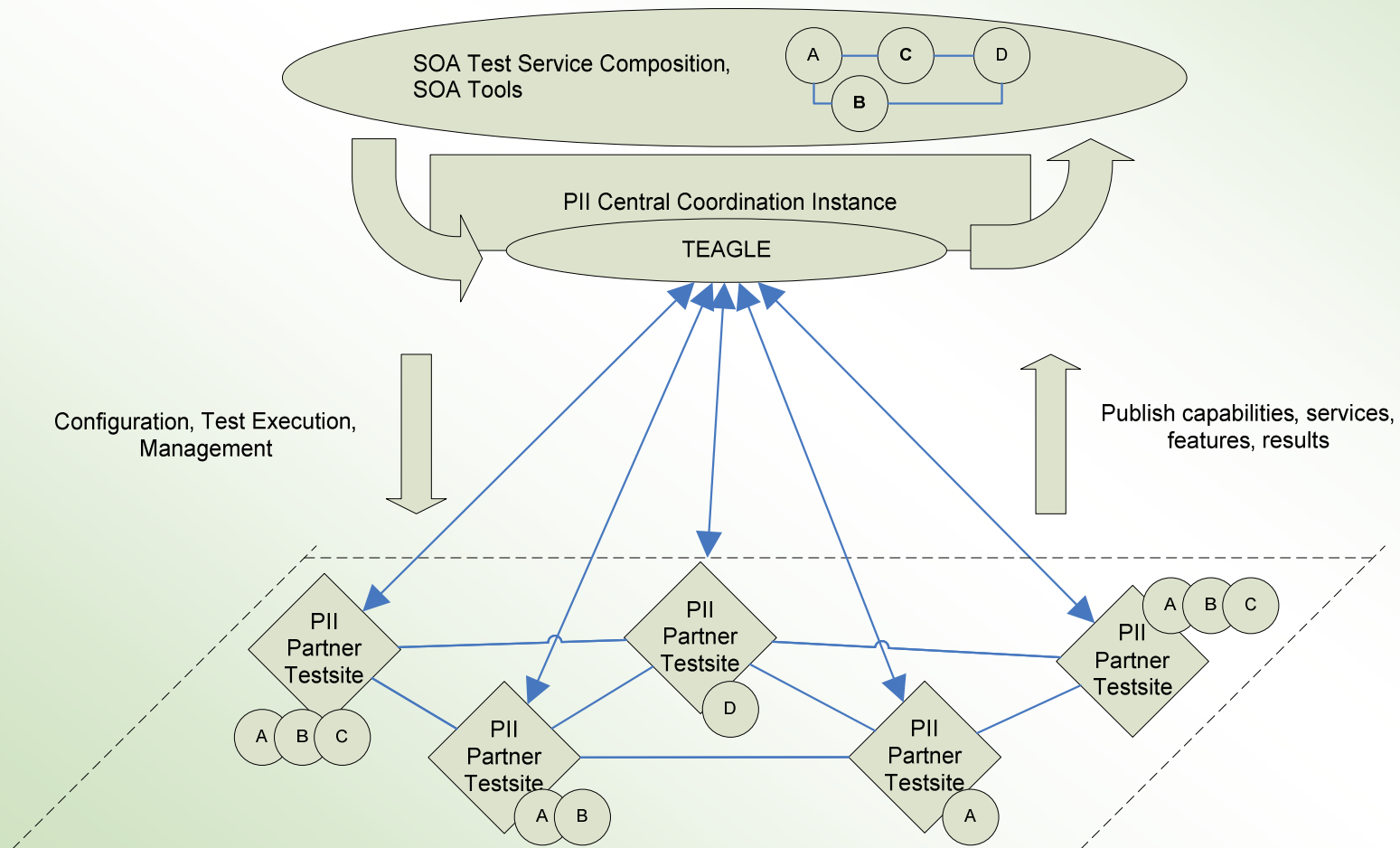
- ▶ Interconnection of the best laboratories to test specific systems or services
- ▶ Technology, system, and service integration in a European/global environment
- ▶ Technology and service validation/verification
- ▶ Ultimately ... certification of products

Create a market for testing facilities

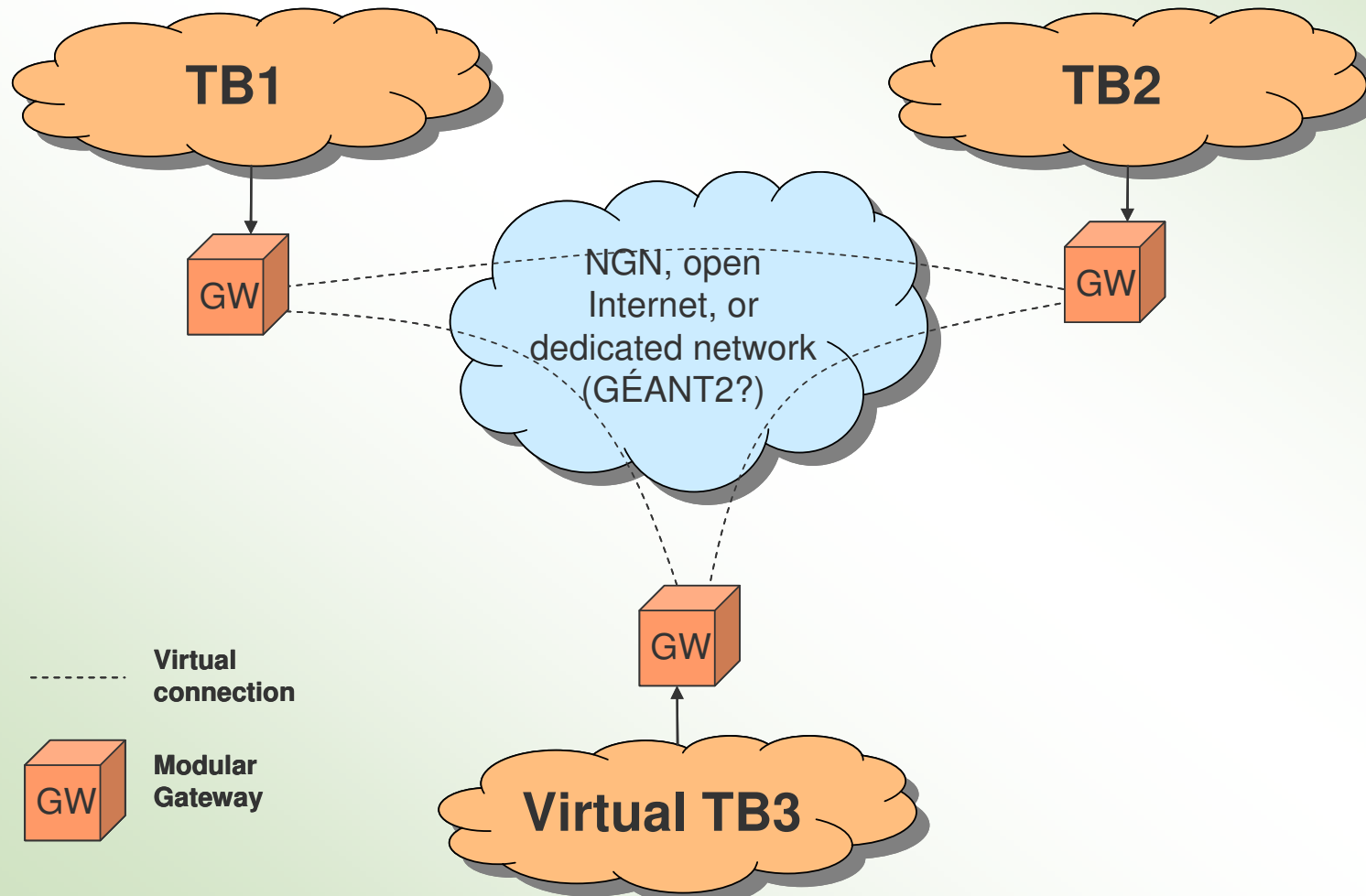
- ▶ Metrics for meaningful comparison of capabilities of independent testing sites
- ▶ Transparent classification and rating
- ▶ Incentives for competition
 - Maintain high quality of testing facilities
 - Always state-of-the-art

**PII = Panlab Infrastructure
Implementation**

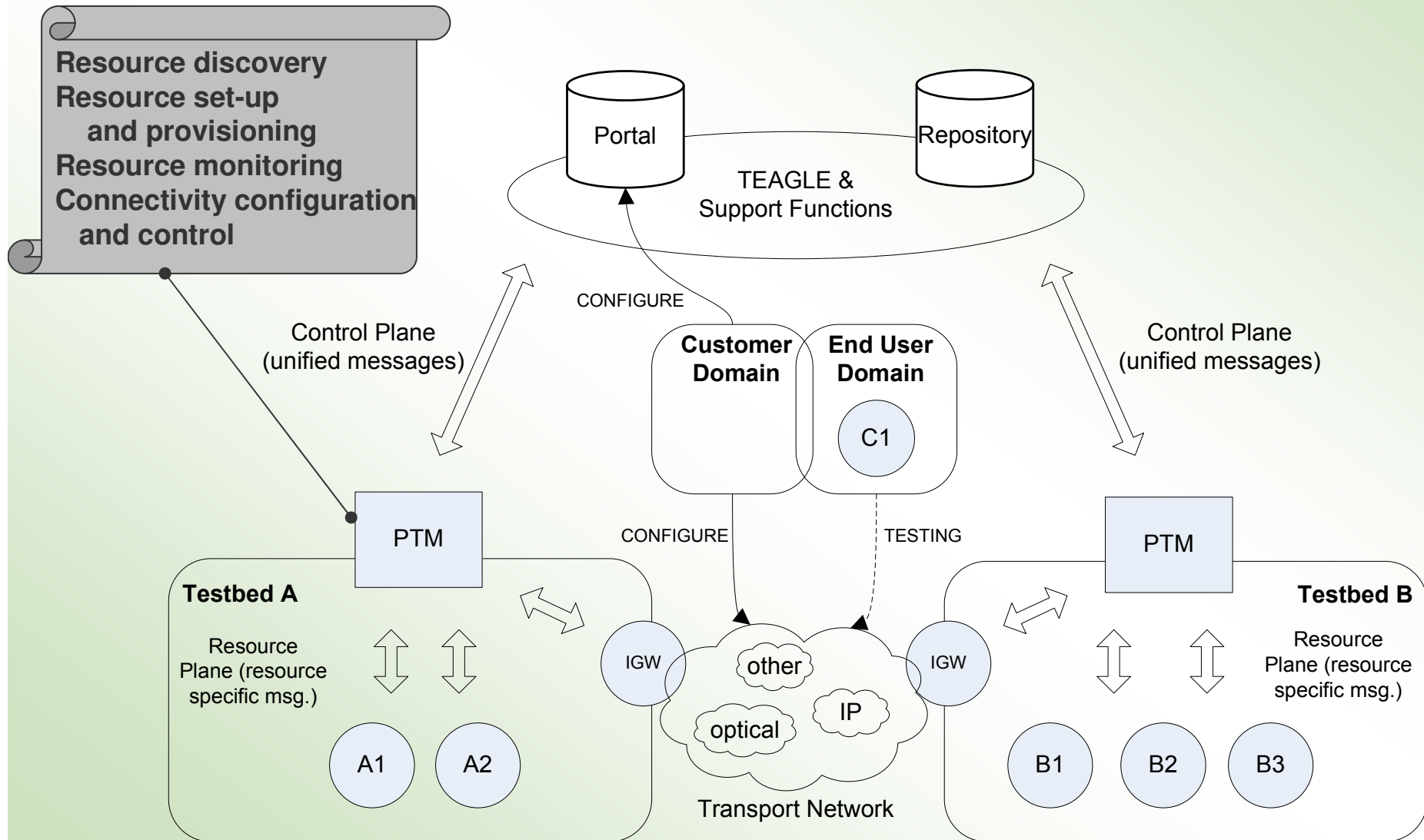
High level view



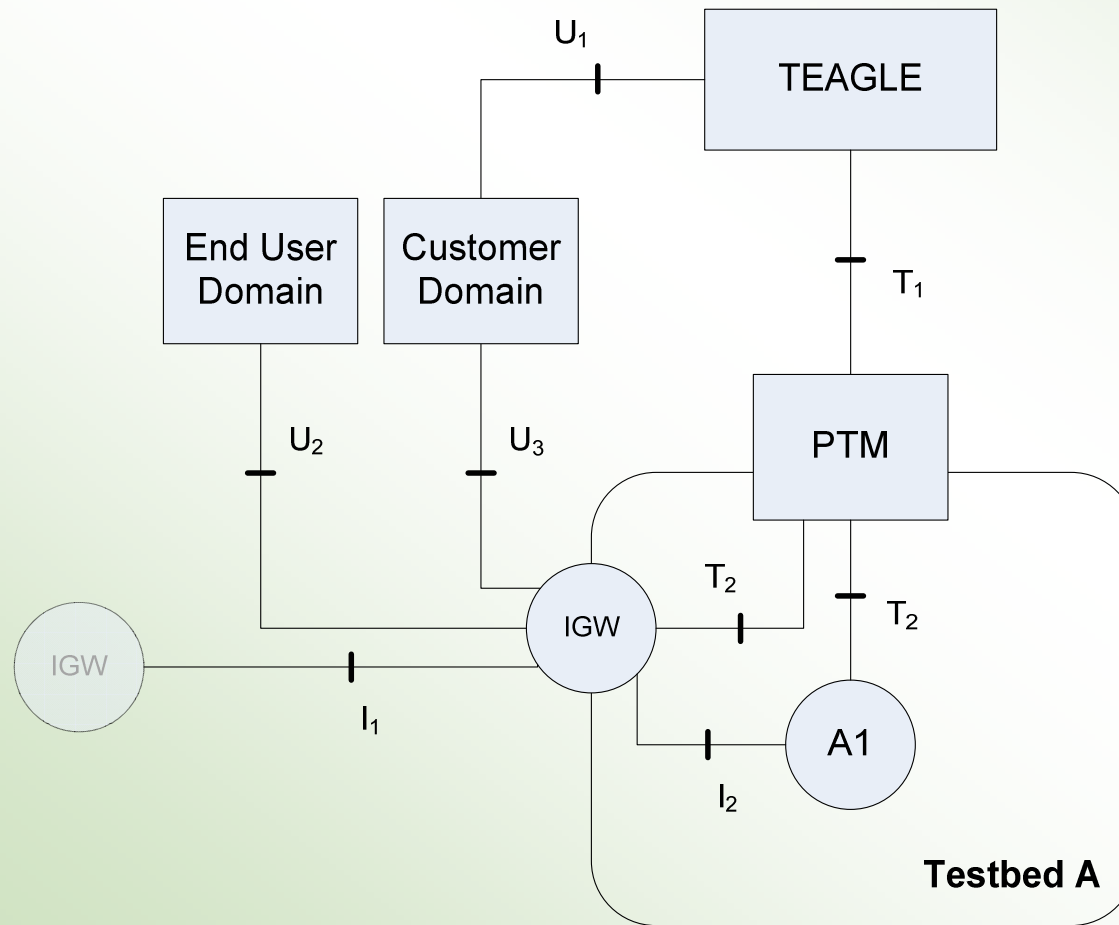
Connectivity on demand



Functional entities



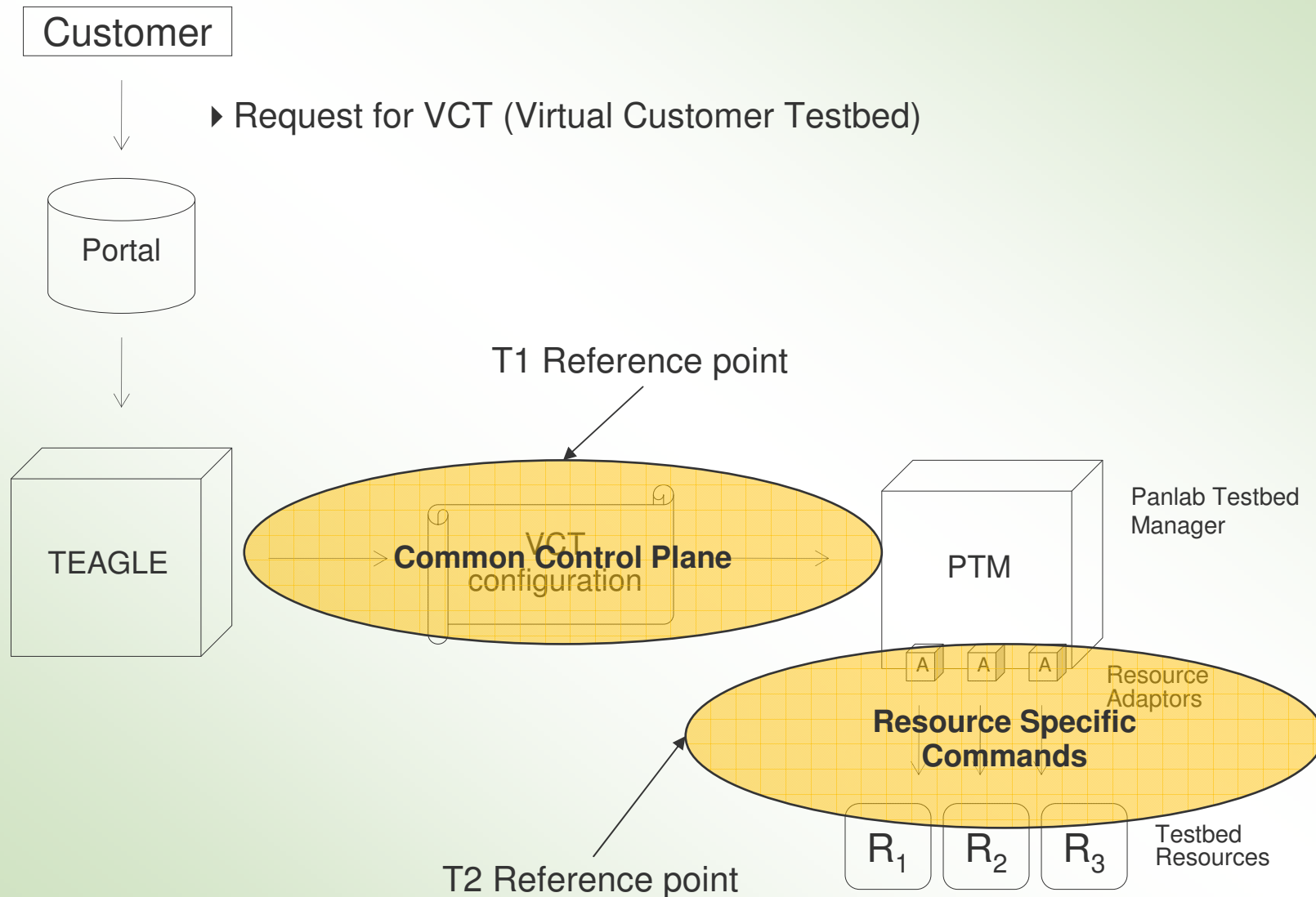
Reference points of the PII architecture



Tx for Testbed management
Ix for Interconnection
Ux for User or customer

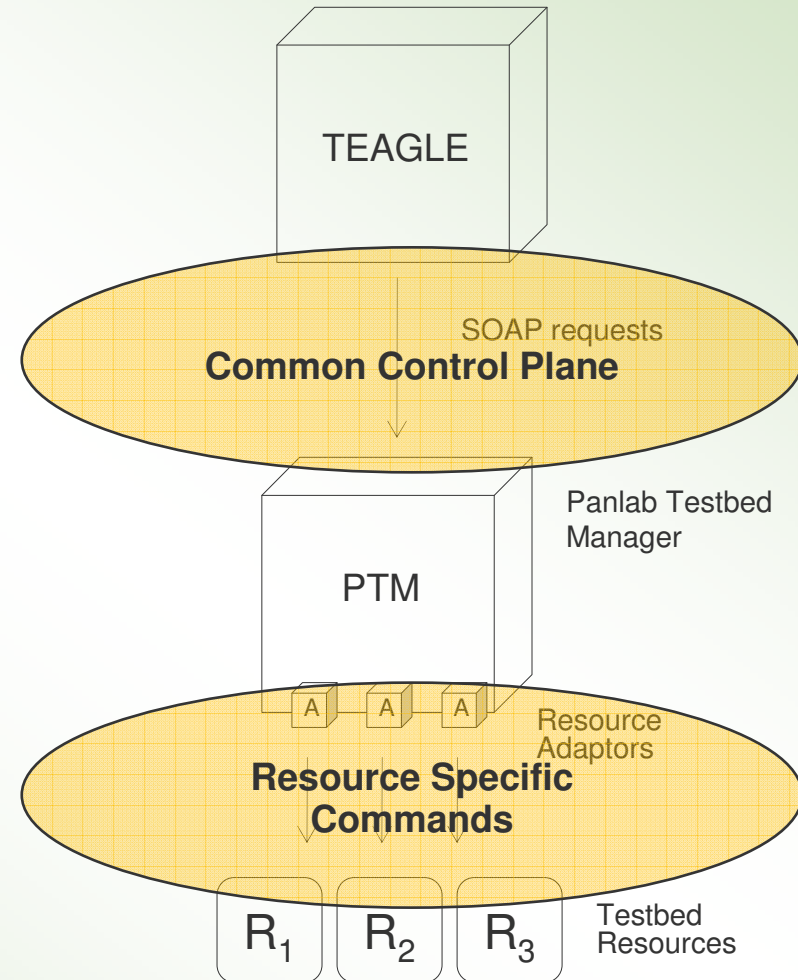
Specify all protocols and procedures performed on these reference points

TEAGLE Overview I

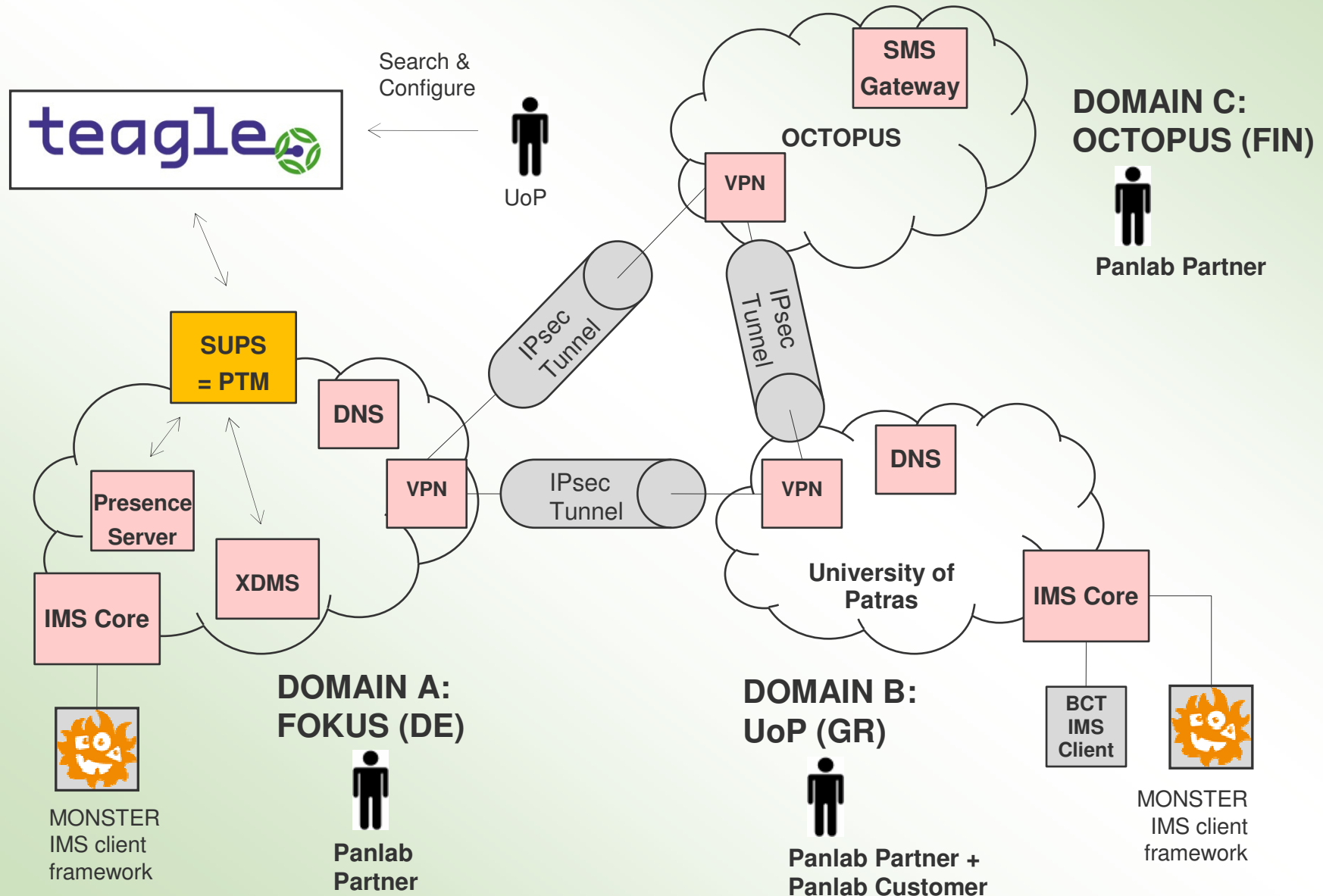


TEAGLE Overview II

- ▶ TEAGLE issues provisioning requests via common control plane
- ▶ PTM (Panlab Testbed Manager) has „device-driver-like“ modules for specific testbed resources
- ▶ Resources can be controlled via standard interfaces (e.g. SNMP) or proprietary interfaces (this is when „driver“ is needed -> PTM adaptor must be implemented)



Demonstration scenario



Teagle - Mozilla Firefox

File Edit View History Bookmarks Tools Help

teagle

A Pan-European Laboratory Project

- Home
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Info

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Welcome to the Teagle Portal. This is a project related to the [Panlab concept](#). The Teagle Portal provides information about our partner testbeds and allows you to manage your Private Virtual Test Lab.

What is a Private Virtual Test Lab?

What is Teagle?

How to get started?

hosted by



Fraunhofer Institute for Open Communication Systems

News

2008-12-08
TridentCom 2009 Call for Participation
The 5th International Conference on Testbeds and Research Infrastructures for the Developm ... [more](#)

2008-12-08
ONIT 2009 CFP
The call for papers deadline for ONIT 2009 (Open NGN and IMS Testbeds Workshop) is extende ... [more](#)

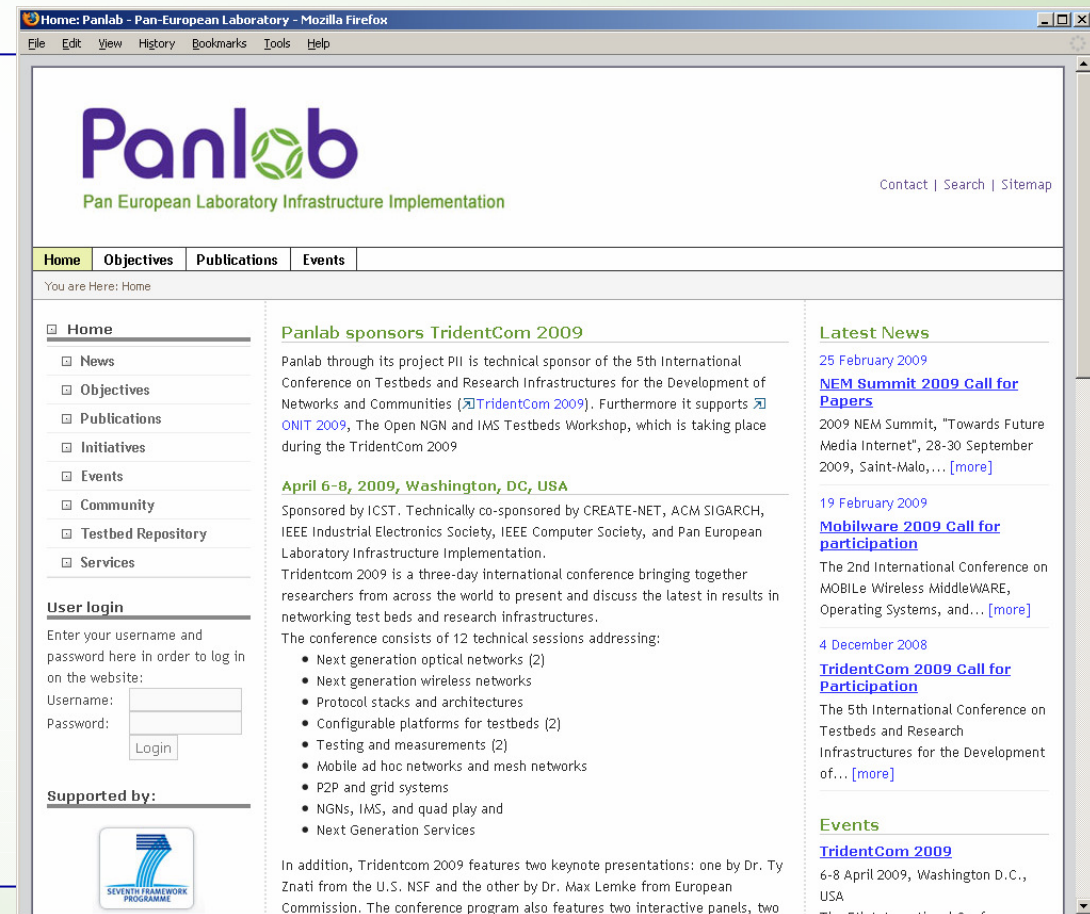
RSS Feed

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Contact and further information

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The screenshot shows the Panlab website in a Mozilla Firefox browser window. The page features the Panlab logo and the text "Pan European Laboratory Infrastructure Implementation". A navigation menu includes "Home", "Objectives", "Publications", and "Events". A sidebar on the left contains a "Home" section with links to "News", "Objectives", "Publications", "Initiatives", "Events", "Community", "Testbed Repository", and "Services". Below this is a "User login" section with fields for "Username:" and "Password:" and a "Login" button. At the bottom of the sidebar is a "Supported by:" section with the logo for the "SEVENTH FRAMEWORK PROGRAMME". The main content area features a headline "Panlab sponsors TridentCom 2009" followed by a paragraph describing the conference. Below this is another headline "April 6-8, 2009, Washington, DC, USA" followed by a list of technical sessions: "Next generation optical networks (2)", "Next generation wireless networks", "Protocol stacks and architectures", "Configurable platforms for testbeds (2)", "Testing and measurements (2)", "Mobile ad hoc networks and mesh networks", "P2P and grid systems", "NGNs, IMS, and quad play and", and "Next Generation Services". A "Latest News" section on the right lists "25 February 2009 NEM Summit 2009 Call for Papers" and "19 February 2009 Mobilware 2009 Call for participation". At the bottom, an "Events" section lists "TridentCom 2009" on "6-8 April 2009, Washington D.C., USA".

Upcoming events

- ▶ Demonstration of deployment capabilities at Celtic event, Paris, 11-12 March 2009
- ▶ TridentCom 2009, 6-8 April 2009, Washington D.C.
- ▶ ONIT @ TridentCom, Open NGN and IMS Testbeds
- ▶ Future Internet Assembly, Prague, 11-13 May 2009