



# **GLIF Control Plane WG Meeting**

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September 17th, 2007  
Prague, Czech Republic





# ControlPlane Agenda

## Monday 18 September

**14.00 - 14.10** Welcome and agenda bashing  
(Gigi Karmous-Edwards, MCNC)

**14.10 - 14.40** GMPLS token mechanisms  
(Leon Gommas, UvA)

**14.40 - 15.10** Control plane architecture and technology for  
managing lightpaths for optical multicast  
(Joe Mambretti, Northwestern University)

**15.10 - 15.35** Discussion

**15.35 - 16.00** Break



# ControlPlane Agenda

## Tuesday 18 September

- 08.00 - 08.30** Phosphorus and DRAGON methods of interdomain path setup (Inder Monga, Nortel /Bram Peeters, SURFnet)
- 08.30 - 09.00** Tomohiro Kudoh : G-lambda interface activities  
Tom Lehman : Dragon interface activities
- 09.00 - 10.00** Open discussion: Network Control Architecture and summary of discussion.  
What are the next steps?



# GNI Workshop

**Today**

**6:00 - 8:00 pm here**

**Focus is on the interface to the  
domain network controller**

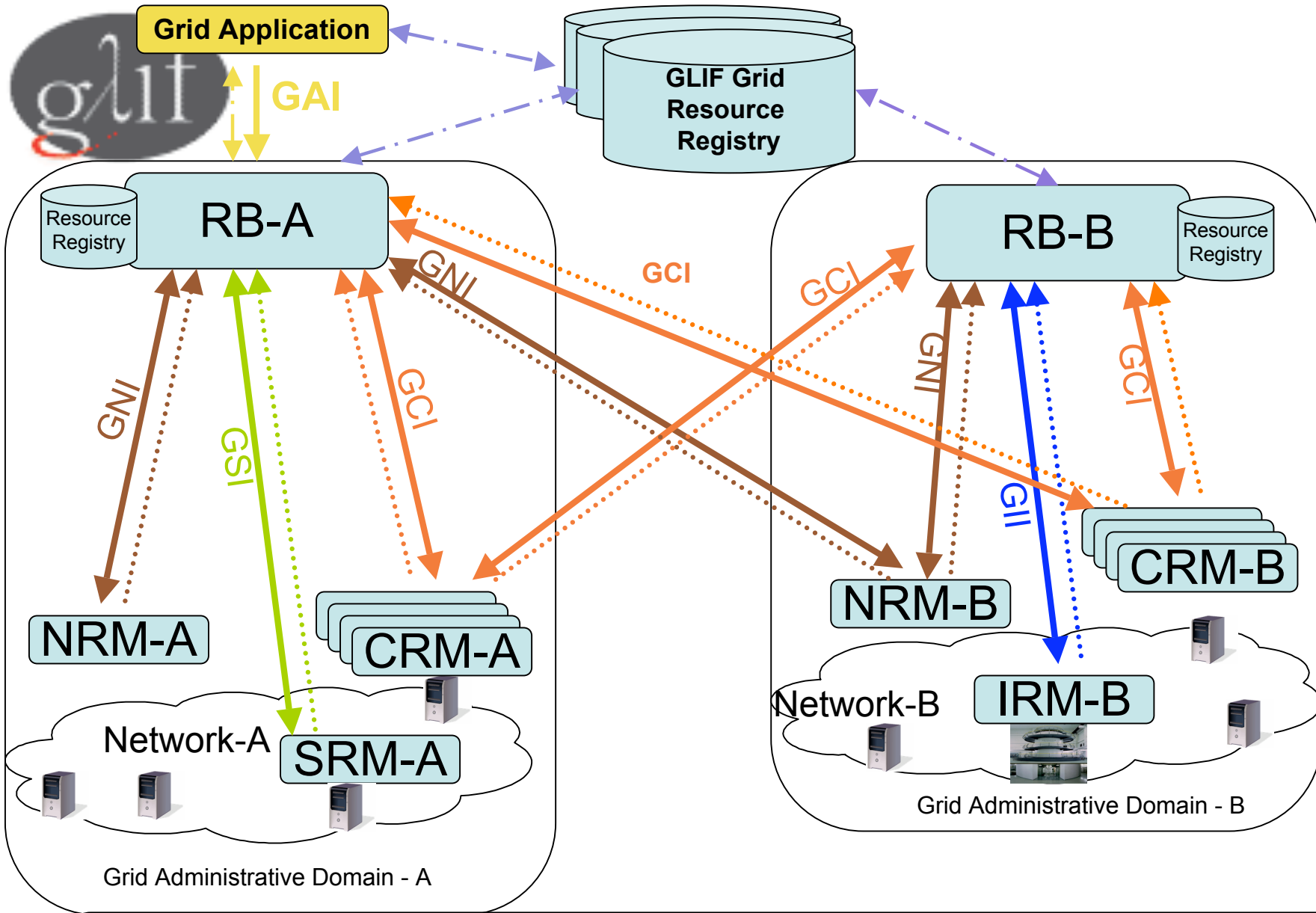
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# Issues and Challenges

- Interoperation of existing control software - no need to change current implementations -UCLP, GMPLS, etc.
  - Both control and Management planes and Grid middleware
- Coordination of network resources and other Grid resources
- Two phase commit for all involved resources - KISS
- Topology Abstractions - including end points - or services
- Monitoring - MonALISA, PerfSONAR....
- Advertising resources globally - agree on what and how to represent resources... NDL etc.
- Policy
- Different implementations of each component (no need to standardize on how things are done)
- Agree on Functional components
- **Focus on a couple of KEY interfaces (low set of options - use lowest common denominator) Prioritize - GNI ...**



**RB:** Resource Broker  
**DNRM:** Domain Network Resource Manager  
**CRM:** Compute Resource Manager  
**IRM:** Instrument Resource Manager  
**SRM:** Storage Resource Manager

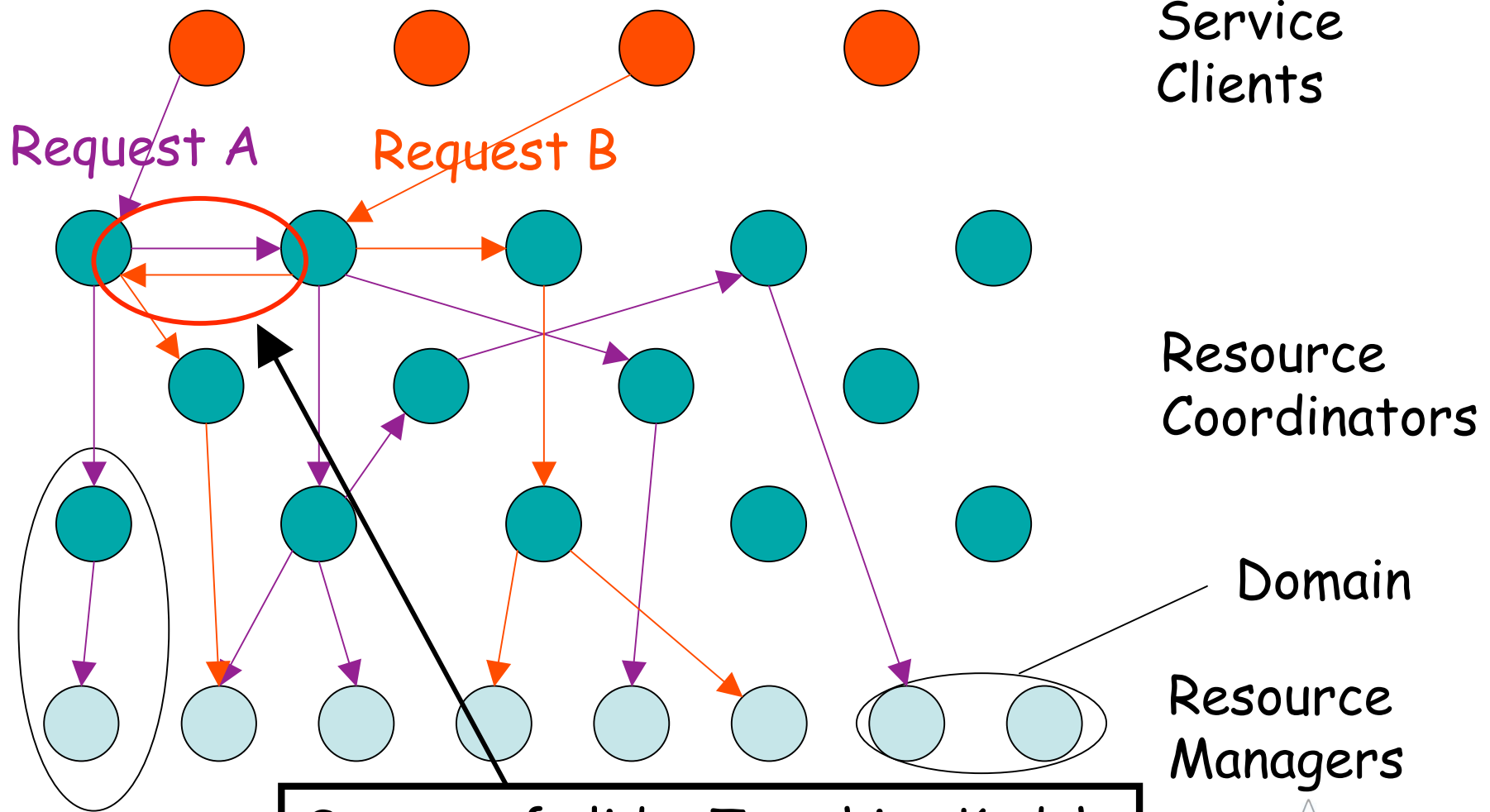
**GAI:** Grid Application Interface  
**GNI:** Grid Network Interface  
**GCI:** Grid Compute Interface  
**GSI:** Grid Storage Interface  
**GII:** Grid Instrument Interface

**...▶** Publish Resource Information  
**◀▶** Publish/Subscribe Broker + Resource Information / References





# Per-request hierarchical (tree) architecture



Source of slide: Tomohiro Kudoh

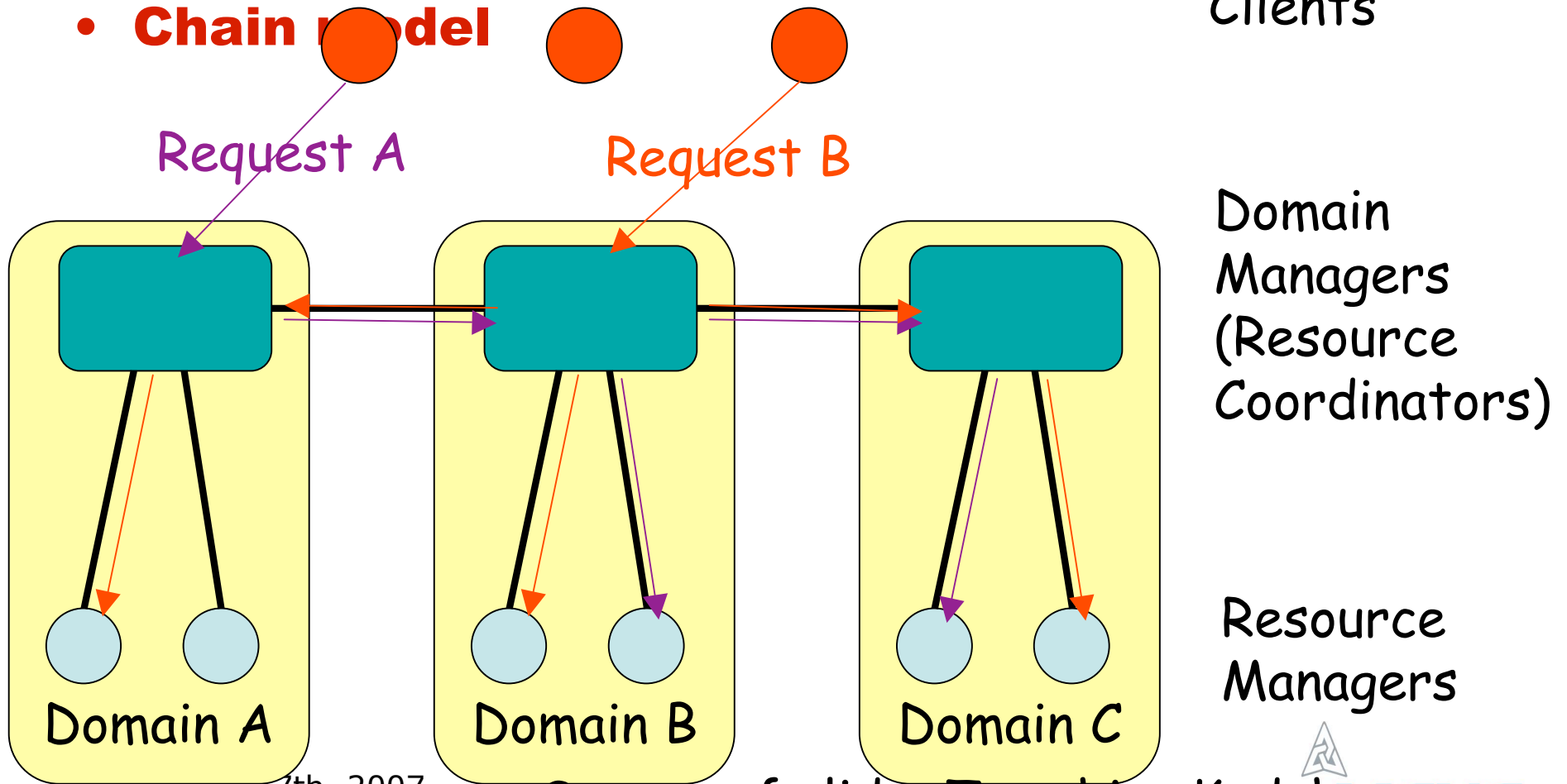
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# Per-request hierarchical model can support Chain-model

- **Chain model**



Service Clients

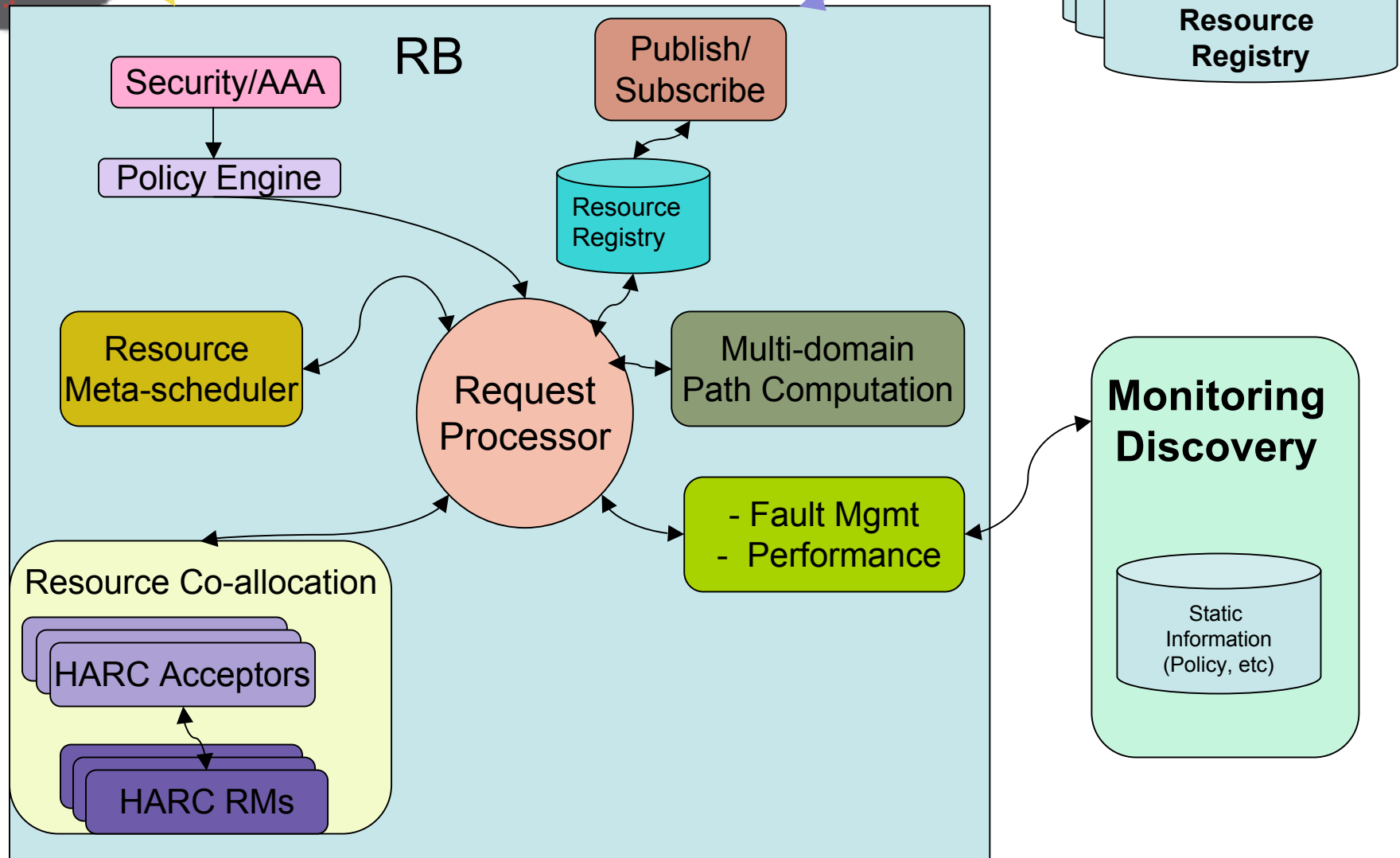
Domain Managers (Resource Coordinators)

Resource Managers

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Source of slide: Tomohiro Kudoh 





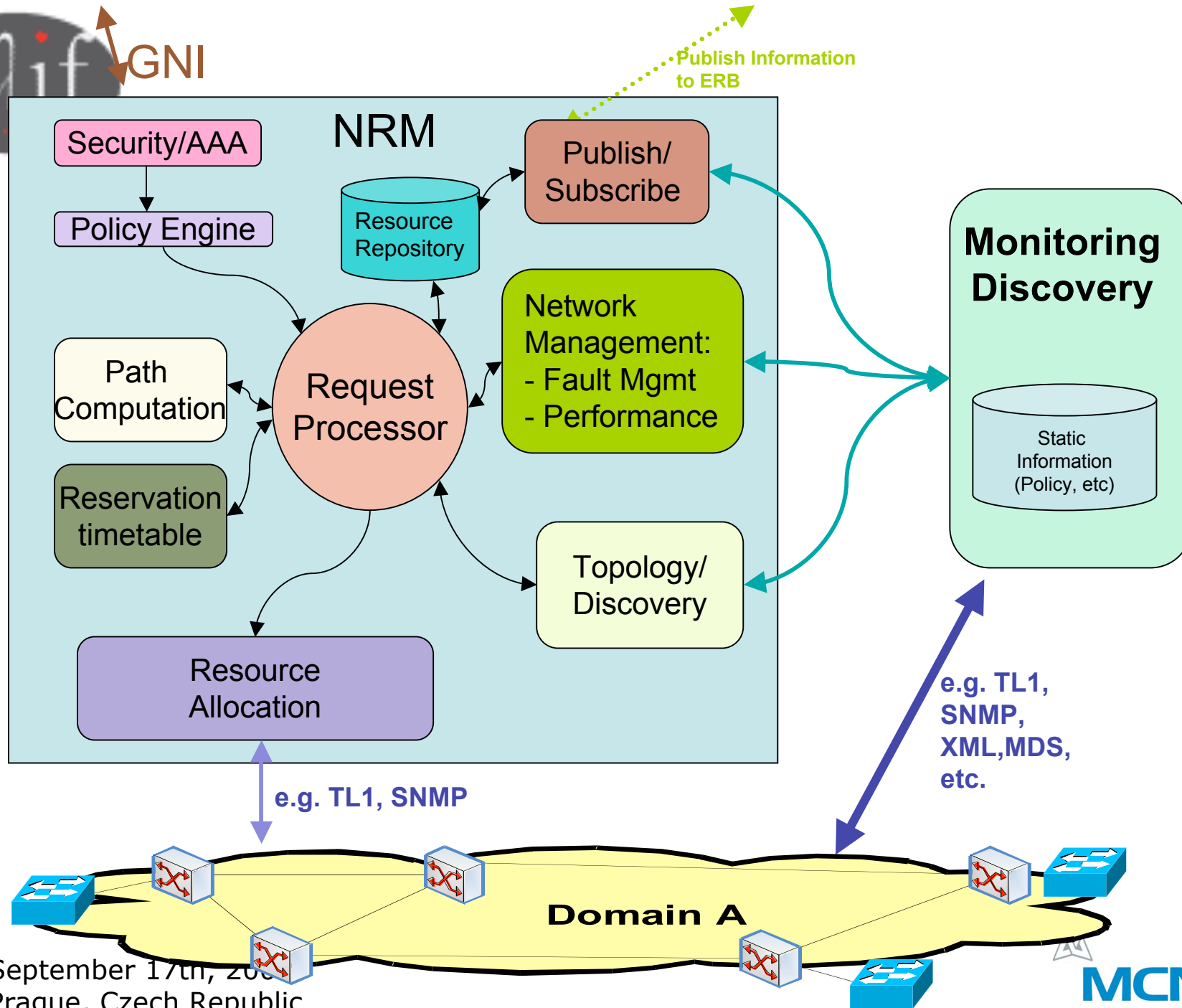
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GNI

GNI

GSI, GII, G<sub>xl</sub>, etc







# Closing Plenary

## Next Steps

- Agreed to share Interfaces for the GNI specification
  - Agree on minimum parameter exchange for lightpath request
  - Today from 6:00 - 8:00 GNI workshop
- Will make decision on chain vs. tree vs. hybrid shortly
- Break current challenges into sub-activities: I. Topology, reservation requests, monitoring, Fault Management
- Maybe the aim could be to have a challenge for the next GLIF meeting for some sort of demonstration of interface interoperability
- Define dynamic behavior of GOLES
- Will work with Tech group on VLAN-based lightpaths

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