OMIS WG
System Engineering Report

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GENI working group wiki

Goal

By the end of this WG meeting we should have rough consensus on:

- Operational data sharing (OM)

- Operational security (S)

- Integration strawman (I)

> ...especially for Spiral 1

We'll also discuss WG deliverables

> *volunteers appreciated*

Outline

- Introduction
- You are here
- Spiral 1 projects relevant to OMIS
- My plans
- Technical Discussion
- Conclusion

Who am I?

- Michael A. Patton
  - Call me MAP or Mike

- Background
  - Over 20 years building and operating many diverse networks (Edu, Mil, Com) from very small to global
  - Worked at MIT, BBN, now a consultant
  - Part time GENI OMIS SE since GEC#1

My role in this working group

- Coordinate integration of project into Clusters
  - Already talking with I2, NLR, Regionals
- Collect & frame issues
  - Several documents in the works
- Collect input from group & revise
- Test for & document consensus (or lack of it)
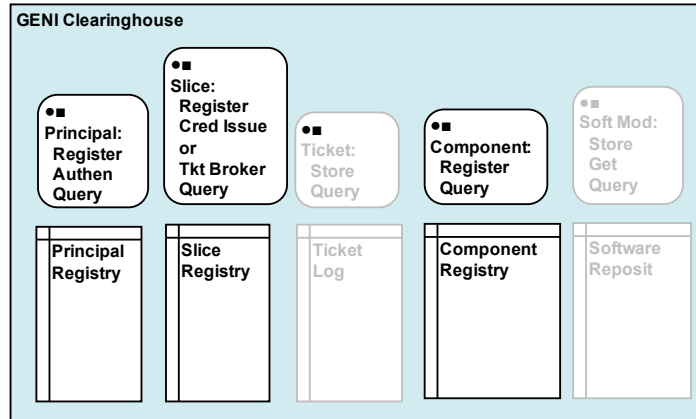- Take & distribute notes
- Maintain wiki

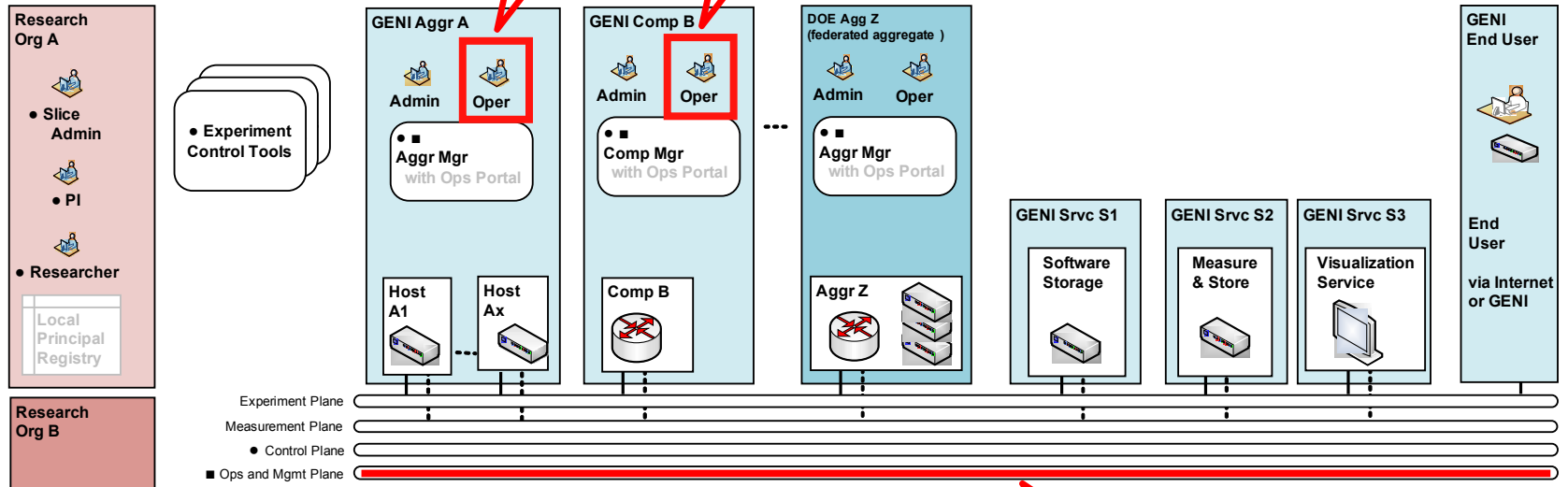# Your role in this working group

- What do you need for integration?
  - Simple (quick) summary for project wiki page
  - Keep us updated if things change
- Operational and Security lessons
  - What has and has not worked
  - "Requirements"
    - Review and comment on use cases on wiki
- Contribute to WG deliverables
  - Review drafts
  - contribute text

You are here.

GENI Operations & Management

- Admin
- Operator
- Admin & Account Tools
- Ops & Mgmt Tools
- Help Desk & Tools

GENI Clearinghouse

- Principal: Register Authen Query
- Slice: Register Cred Issue or Tkt Broker Query
- Ticket: Store Query
- Component: Register Query
- Soft Mod: Store Get Query

- Principal Registry
- Slice Registry
- Ticket Log
- Component Registry
- Software Reposit

The OMIS working group focuses on Operations, Management, Integration and Security

Research Org A
- Slice Admin
- PI
- Researcher

Local Principal Registry

Research Org B

- Experiment Control Tools

GENI Aggr A
- Admin
- Oper
- Aggr Mgr with Ops Portal
- Host A1
- Host Ax

GENI Comp B
- Admin
- Oper
- Comp Mgr with Ops Portal
- Comp B

DOE Agg Z (federated aggregate)
- Admin
- Oper
- Aggr Mgr with Ops Portal
- Aggr Z

GENI Srvc S1
- Software Storage

GENI Srvc S2
- Measure & Store

GENI Srvc S3
- Visualization Service

GENI End User
- End User via Internet or GENI

Experiment Plane
Measurement Plane
- Control Plane
- Ops and Mgmt Plane

Relevant Projects

- All projects have relevance, in part
  - Everything needs to be managed and secure
- Special relevance:
  - 1604 GENI Meta Operations
  - 1632 Security Architecture
  - 1610 GENI at 4yr colleges

Are these the right projects? Are there others?

Plans

- OMIS deliverables web page

  http://www.geni.net/wg/omis-wg.html

- Operations Framework
  - Near term Jan 2009, Long Term Sep 2009
- Tech survey
  - Data collection through December
  - Collected document Jan 2009
- Security Policy Recommendations – ongoing
- ConOps
  - First draft Feb 2009 – Revision Sep 2009
- Management Interface Requirements Feb 2009

Technical Discussion

- How do Spiral 1 projects connect at Layer 2?
  - Needed to support non-IP experiments

- Following diagrams explore ideas
  - Explanatory text is in the works
  - This is a "work in progress"
    - Probably errors, omissions, and oversights
  - Still fairly abstract
    - More details should appear (when we learn them)
    - Multiple options for some parts
  - While based on real projects, this is fiction
    - Think you recognize your project?
      - Feel flattered
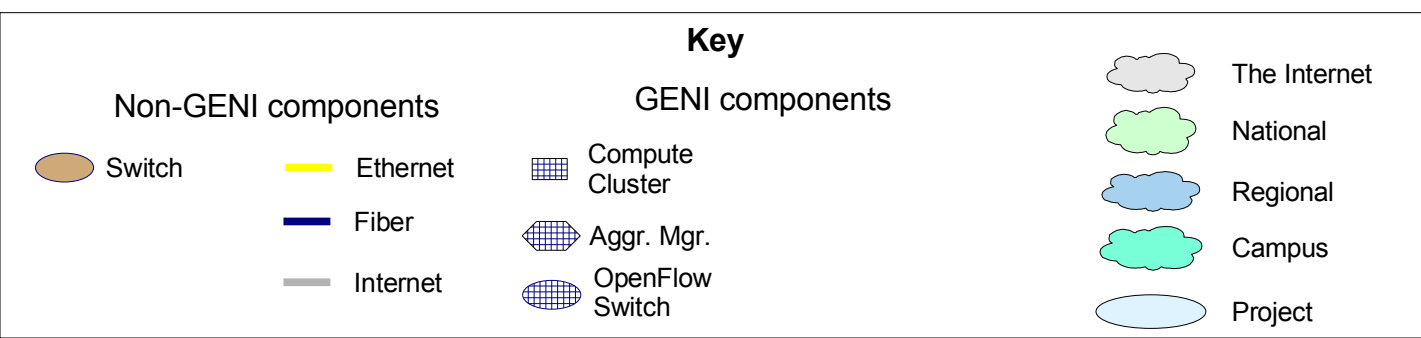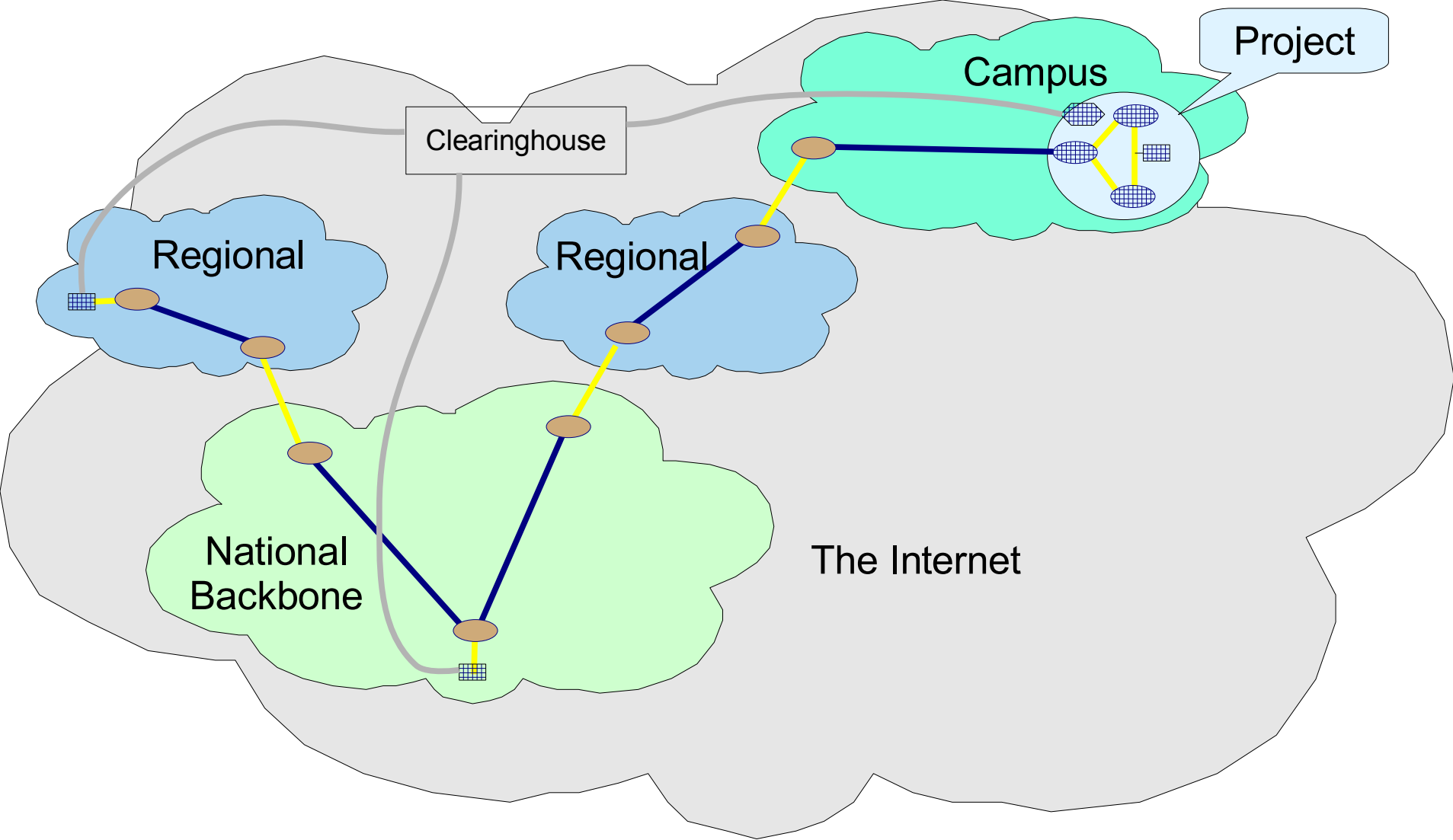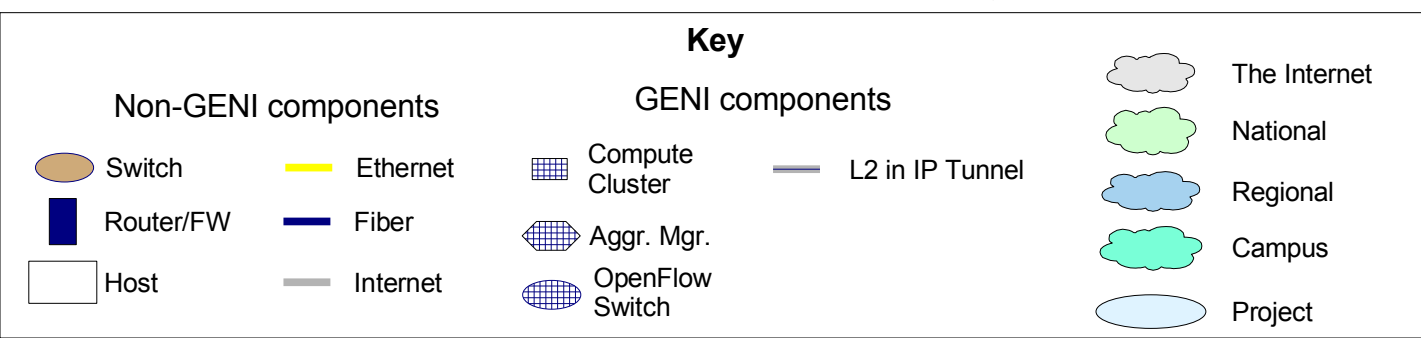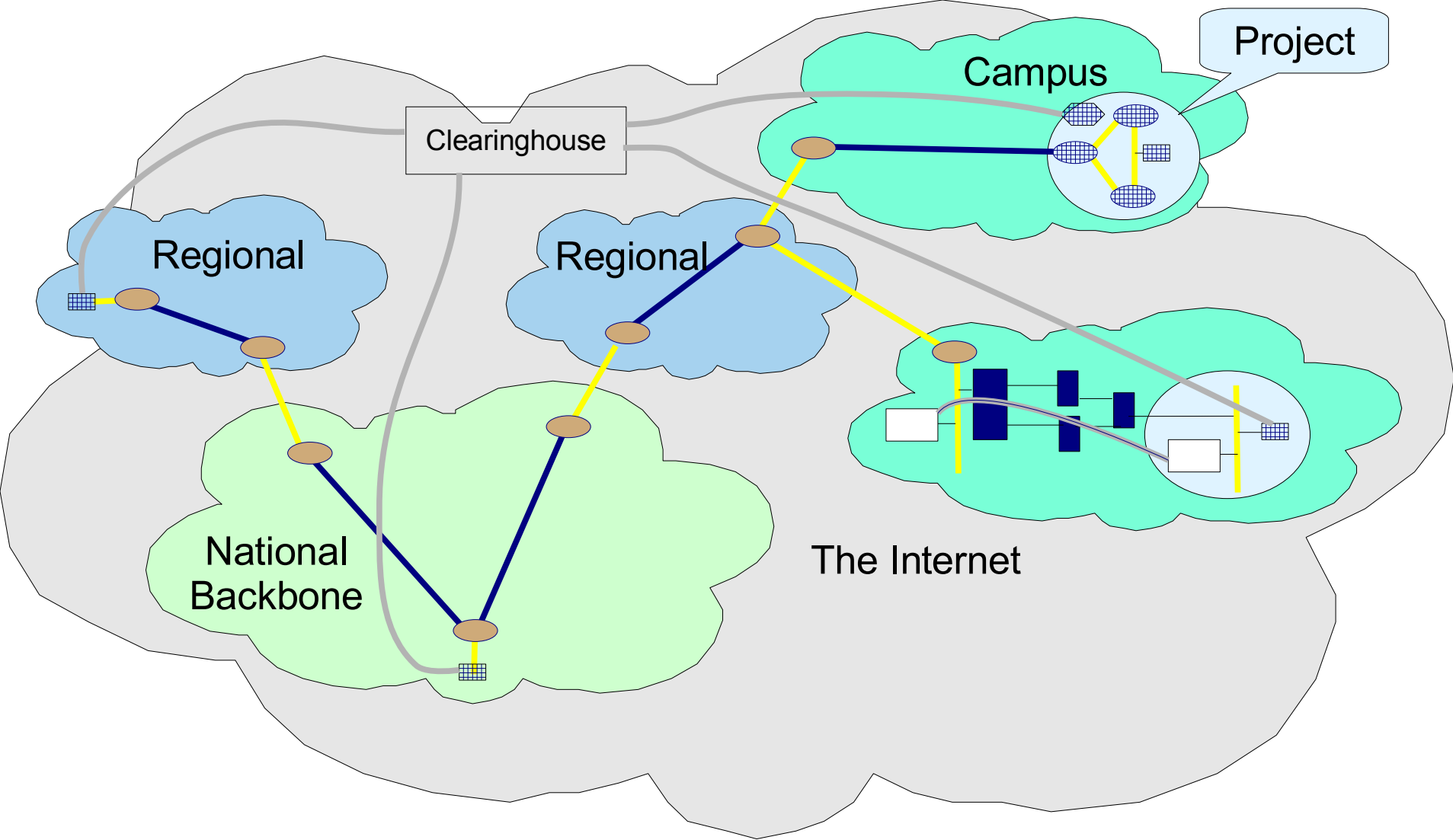   - Don't obsess over whether the details are right

Clearinghouse

Regional

National
Backbone

The Internet

Key
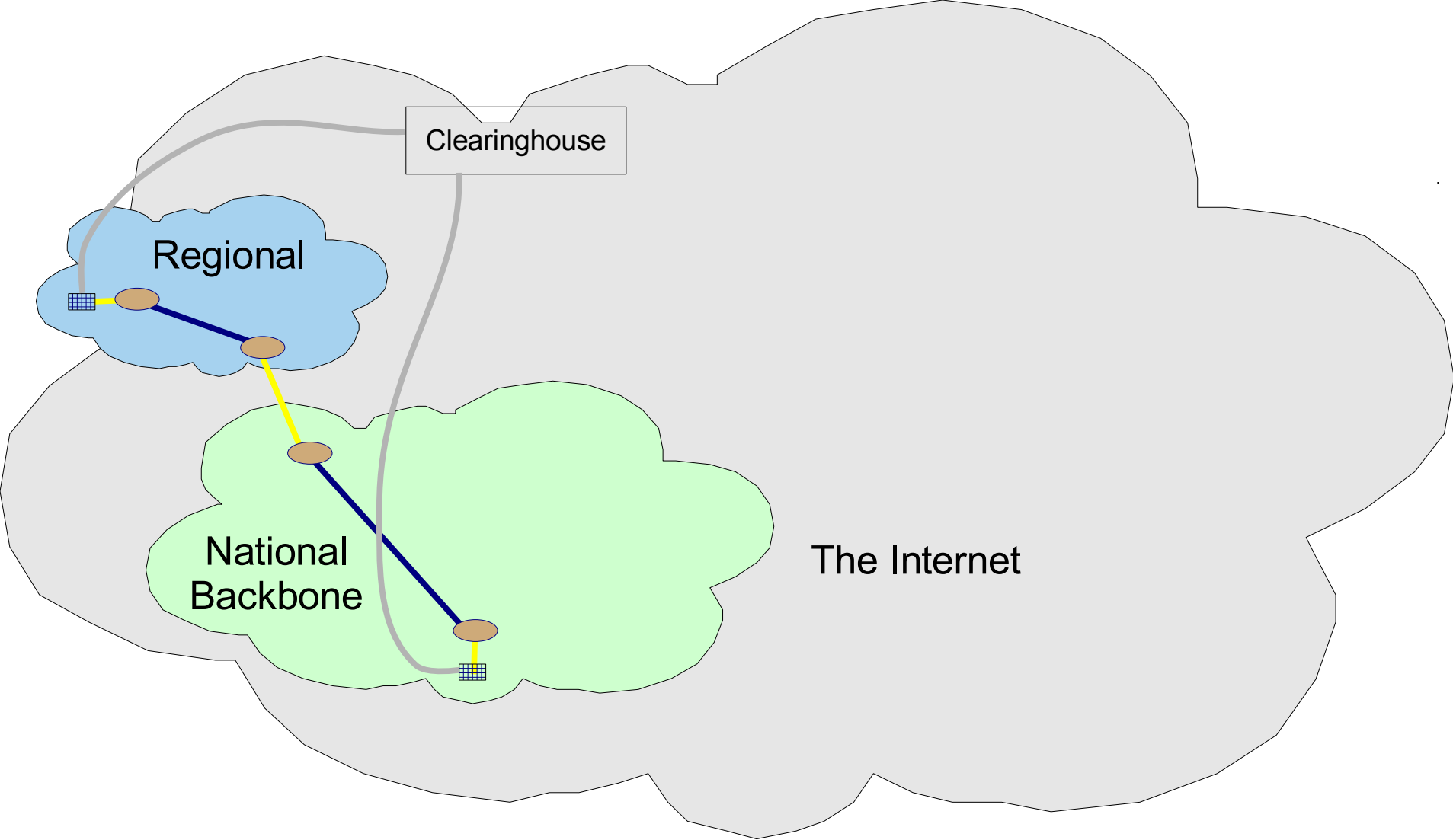
Non-GENI components

Switch

Ethernet

Fiber

Internet

Compute
Cluster

The Internet

National

Regional

Key

Non-GENI components

Switch
Ethernet
Fiber
Internet

GENI components

Compute Cluster
Aggr. Mgr.
OpenFlow Switch

The Internet
National
Regional
Campus
Project

Project

Campus

Clearinghouse

Regional

Regional

National
Backbone

The Internet

Key

Non-GENI components

Switch

Router/FW

Host

Ethernet

Fiber

Internet

GENI components

Compute
Cluster

Aggr. Mgr.

OpenFlow
Switch

L2 in IP Tunnel

Wireless

Mobile Node

The Internet

National

Regional

Campus

Project

Follow-up

- Notes, slides, actions, etc will be sent to the working group mail list and posted on the wiki page:

http://groups.geni.net/geni/wiki/GeniOmis