ProtoGENI Spiral 2 Plans

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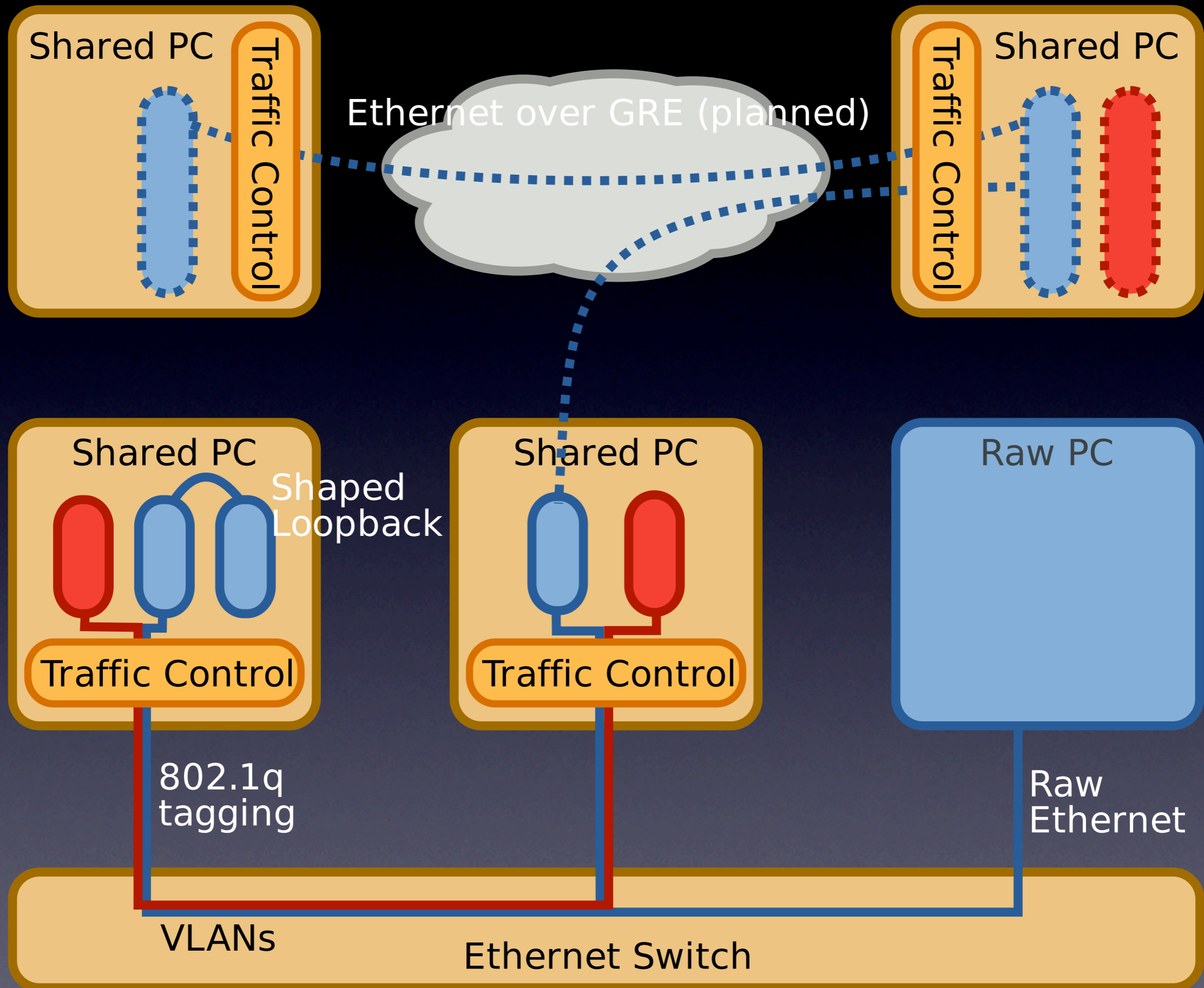# Plans for Spiral 2

- Integration: improve, and new projects

  - Reference CM

  - RSpec: manifest, extensions, LoS

- Native shared-PC support: OpenVZ, Xen

- Multi-aggregate slice embedding service

- Multi-level authorities

- Better administrator interfaces

Integration Tasks

- Produce a reference Component Manager
  - Runnable without an Emulab
  - Deliver by January (or before)
- RSpec Tasks
  - Manifest
  - Extensions

Native Shared Nodes

- Before:
  - Native support for slicing but not sharing
  - Shared nodes through private PLC
- Now: Native shared cluster nodes
- Coming: Native shared wide-area nodes

Shared PC

Traffic Control

Ethernet over GRE (planned)

Traffic Control

Shared PC

Shared PC

Shaped
Loopback

Shared PC

Raw PC

Traffic Control

Traffic Control

802.1q
tagging

Raw
Ethernet

VLANs

Ethernet Switch

Slicing Notes

- Technology: OpenVZ (in-kernel, Linux)
  - Similar to vservers, but more complete
  - Separate network stacks per container
  - Topology support: VLANs, EGRE
  - Catch: Sharing public-facing interface
- Working on: Xen

Slice Embedding Service

- Based on assign (subset of features)

- Runs as a separate service

- Annotates input topology

- To do

  - Handle multiple aggregates

  - Features like LoS, virtualization type

Multi-level Authorities

- Credential-checking code will support sub-authorities

- How we'll use this in Emulab

  - Users will belong to Emulab authority

  - Sub-authorities for projects

- Will enable finer-grained policies

Better Admin Interfaces

- Better web interfaces for status reports

- Better data export (eg. for GMOC)