PRAGMA/GLEON Expedition HTCondor Overlay Network

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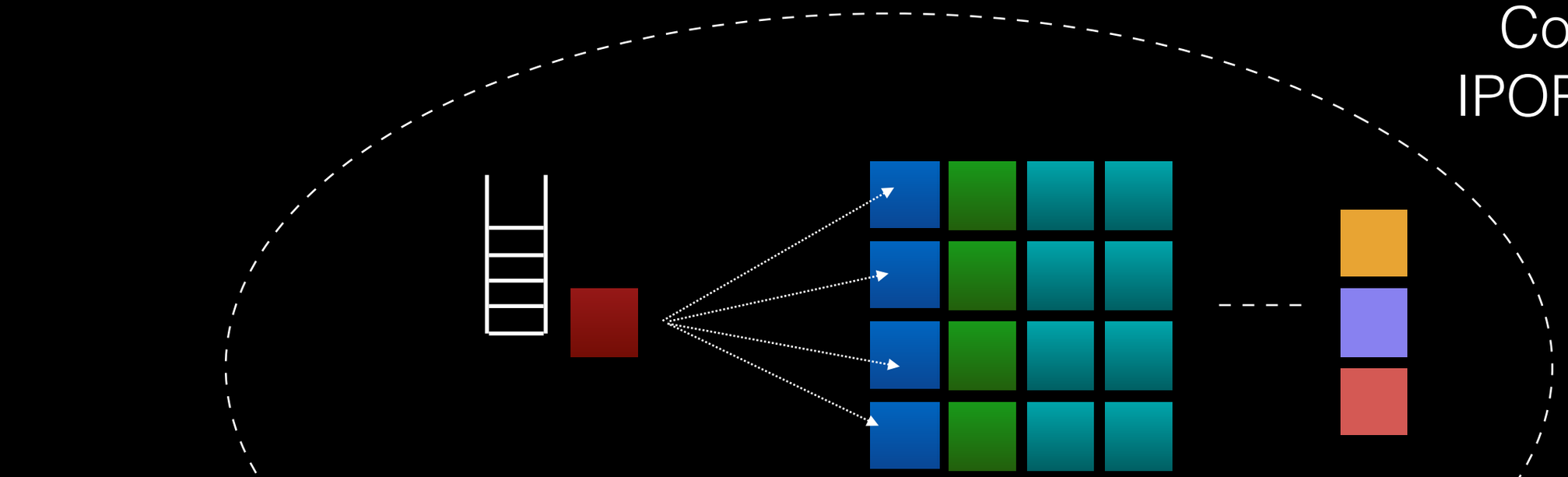
Our expedition

- Harmful algal blooms are extreme event in lakes and reservoirs
- Challenge in reproducing those events in model simulations
- Apply PRAGMA technologies to tackle problem in an innovative way
    - Enabling community to pool together resources across boundaries in a straightforward manner
    - Collaborative computing infrastructure
- Team has collaborated on the conceptualization of a computing infrastructure
    - Identify gaps early on, build shared knowledge, iterate throughout implementation

Goals

- A collaborative, distributed computing infrastructure capable of serving, in a sustainable manner, the increasing data processing demands of lake ecology scientists
- Understanding the opportunities and challenges in designing, implementing, and managing such infrastructures, and generalizing to other domains

Overview



Connectivity:
IPOP GroupVPN
overlay

High-Throughput Computing:
HTCondor

You

Distributed pool of computers

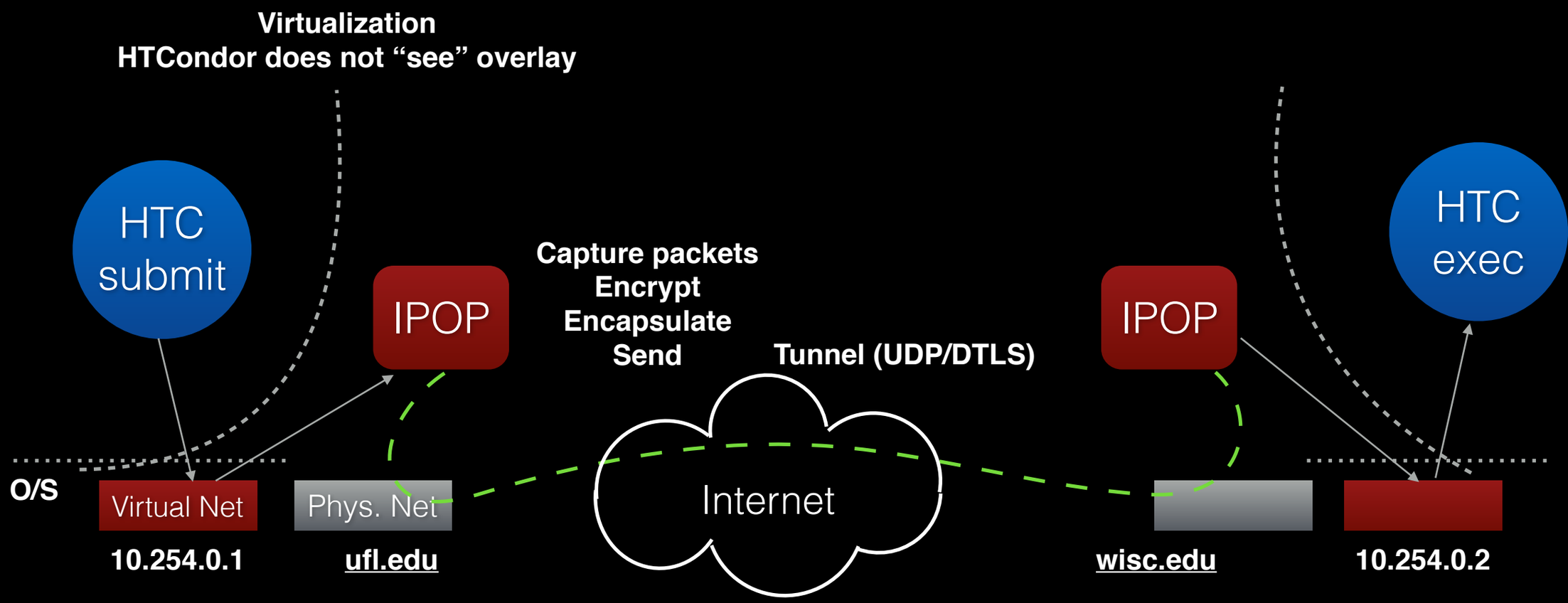
UW

VT

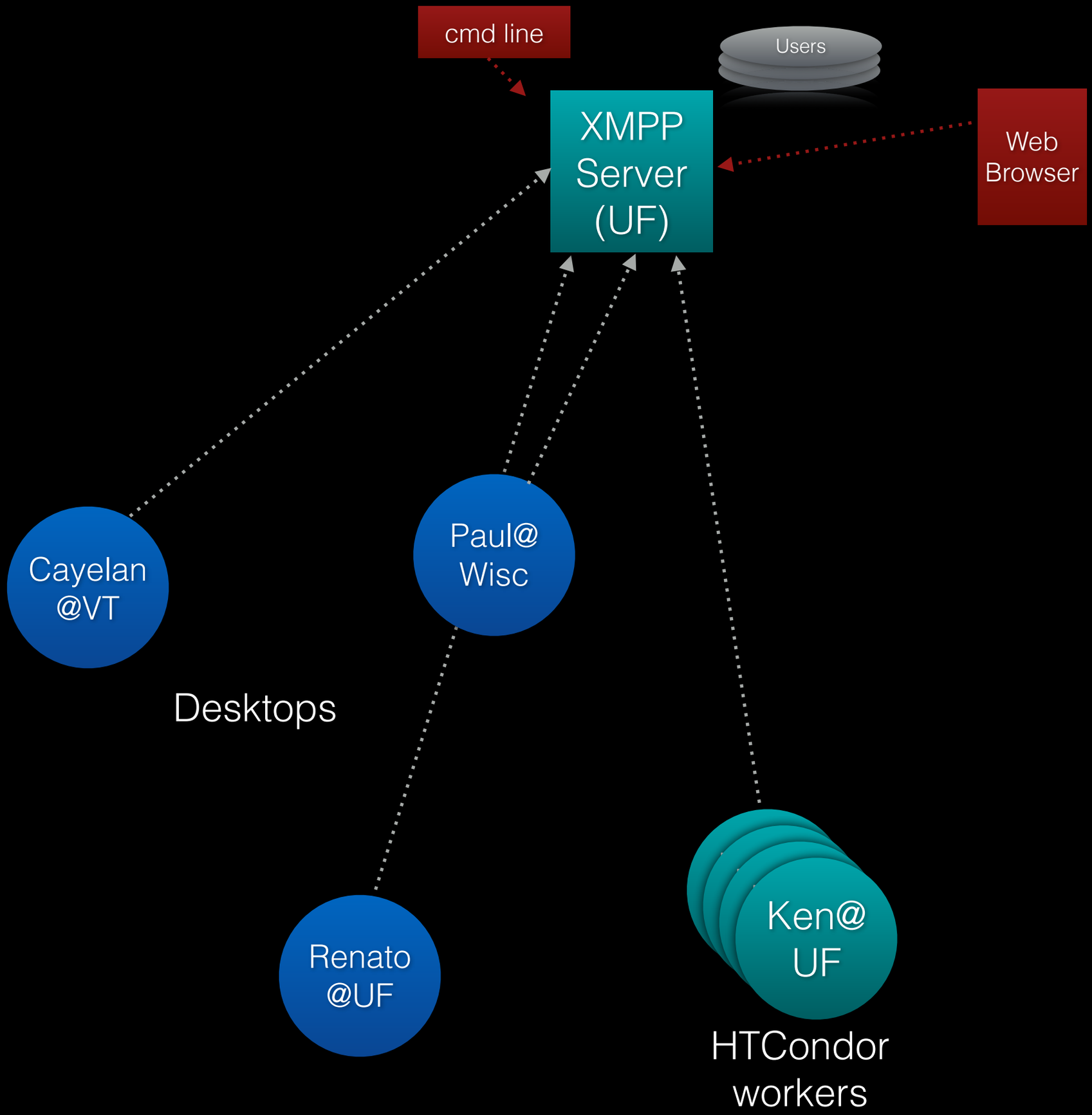
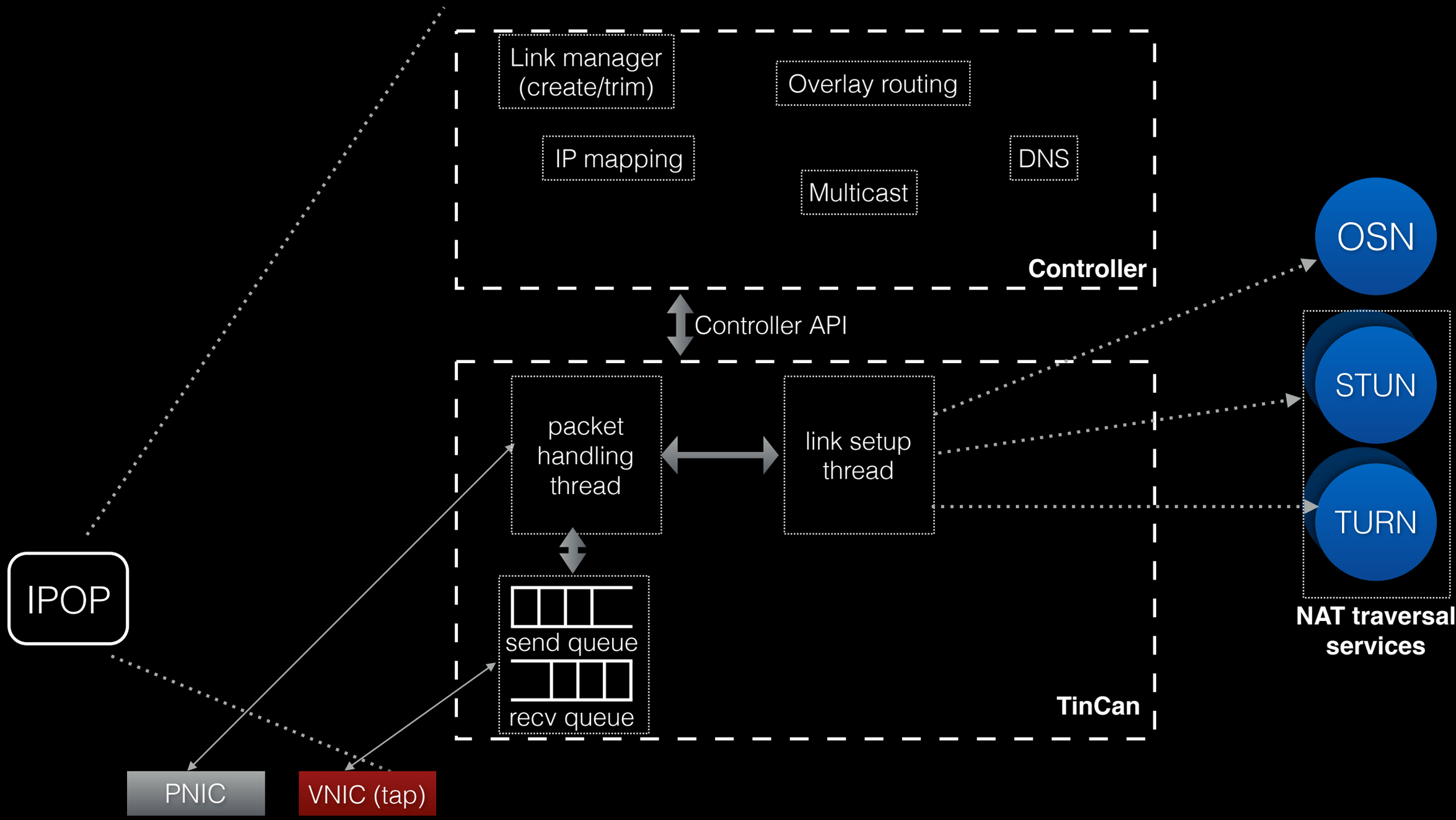
UF

more
PRAGMA/
GLEON
sites

IPOP: Overlay software



Who to connect to?
How to exchange credentials?
How to exchange IP endpoints?


cmd line
Users
XMPP
Server
(UF)
Web
Browser
Cayelan
@VT
Paul@
Wisc
Desktops
Renato
@UF
Ken@
UF
HTCondor
workers

IPOP TinCan Architecture