



Network Security  
Institute for Advanced Study

Princeton University Library Gateway  
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# Princeton University Library Gateway

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- Princeton University (PU) and IAS
  - Agreement between PU and IAS
  - PU Library Subscriptions
  - IAS Library Subscriptions
  - Availability to IAS campus/resnet
  - Availability off of IAS and PU campus



- Difficult to use
- Unreliable
- Breaks integrity of some web sites
- Requires remote authentication of users
- Not “ours”



# Solution Overview

- Create a Gateway
  - Redirect all user web traffic (port 80) to a central gateway at IAS
  - Gateway determines if PU subscribes to the website
    - If so, redirect web traffic to PU
    - If not, connect directly to website
  - Redirection is transparent to user



# Solution Overview

- Traffic redirected to PU
  - Appears like a PU user to the website
  - Allows access for IAS IP subscriptions
- Traffic sent directly out of IAS
  - Appears like an IAS user to the website
  - Allows access for IAS IP subscriptions
- Either route changes the source IP address of the workstation



# Implementation

- Two servers at IAS in BBC4
  - Each Server runs 4 campus and 4 resnet/wireless VM gateways
  - Total, 16 gateways for Web traffic
- Two servers at PU Library
- OpenVPN connects 18 servers – VLAN11
  - Secure communication over Internet to PU
  - Protects Confidentiality and Integrity

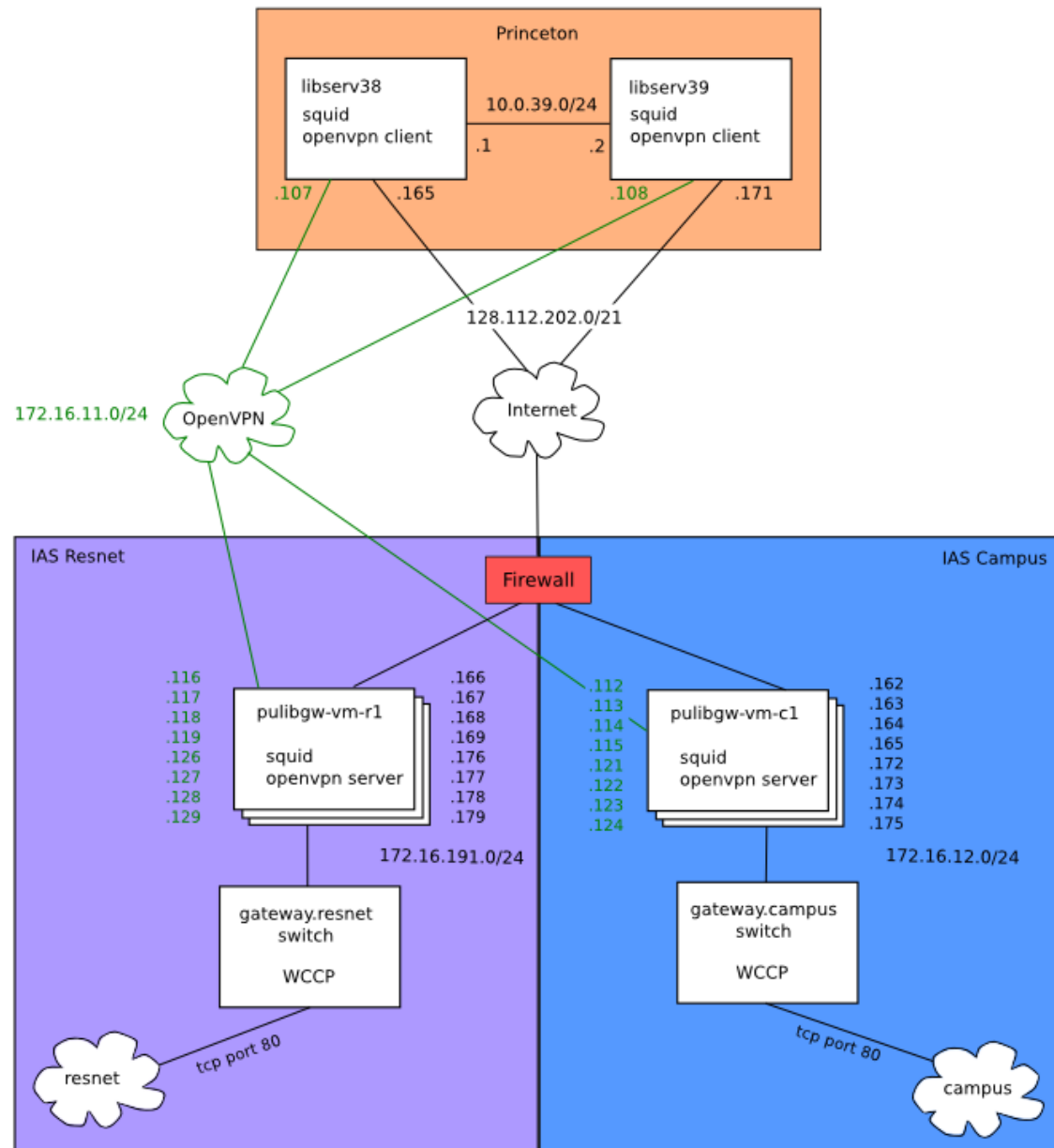


# Implementation

- All 18 servers run squid proxy
- IAS servers determine web routing
  - URL Based
  - List given to us by PU on a daily basis
    - Currently 14,897 entries
    - 2 ssl and 4 non standard port
- Highly redundant for speed and reliability
- Available to VPN clients



# Princeton Library Web Gateway Design





- Frontend for Librarians
  - Pick and choose URLs to forward to PU
  - Daily update of resources
- VPN Project for off campus access
- https and non port 80 availability
  - Proxy PAC files



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# Questions?