

CGHub library

Where are the patrons?

Jim warner
UC Santa Cruz

- CGHub on the UC San Diego campus uses CENIC to distribute traffic
- There is a strong commercial component to genomic analysis compared with, say, the Large Hadron Collider. Distribution might be qualitatively different.

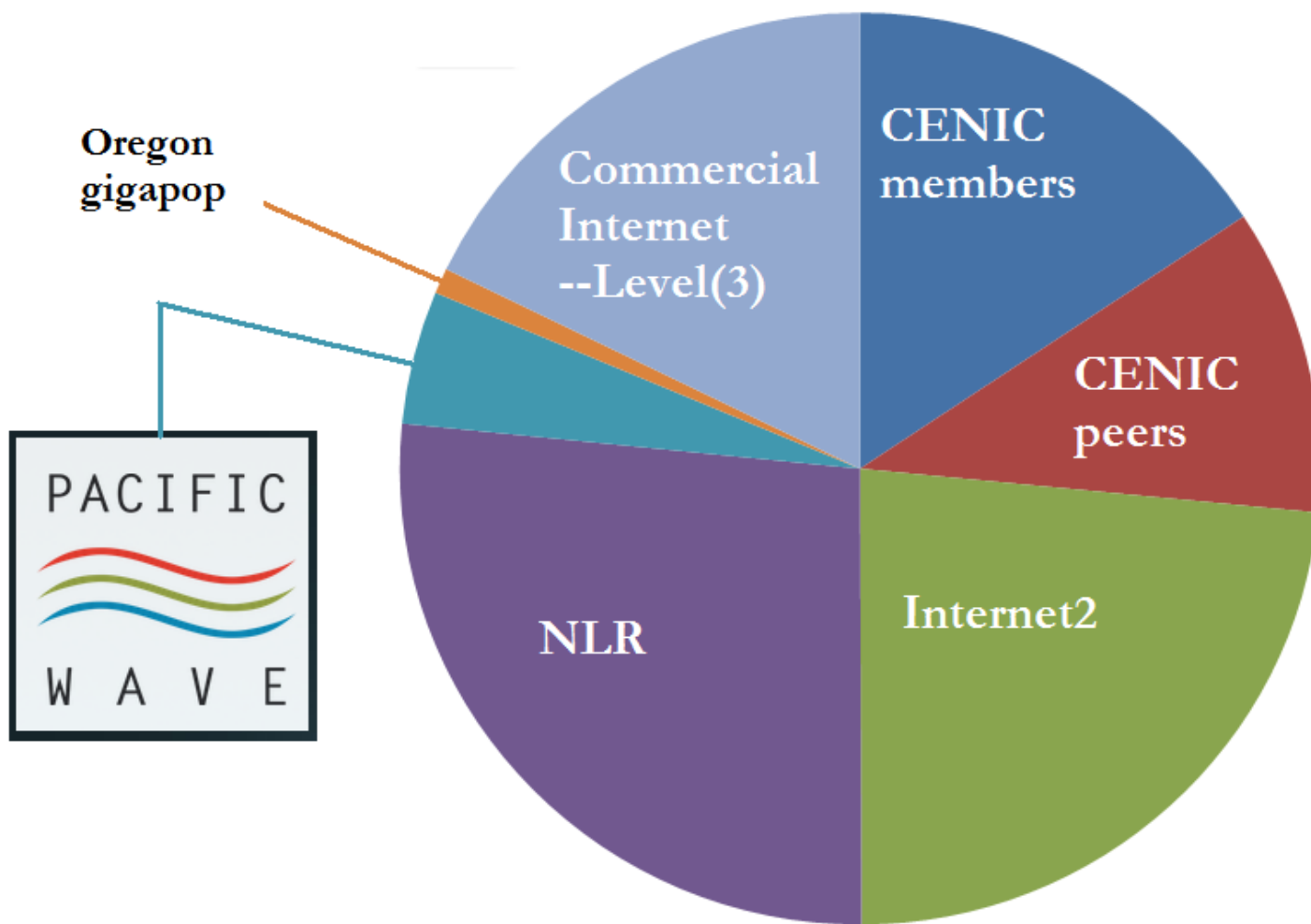
CENIC has ...

- Member connections
- Direct peering relationships
- Internet2
- NLR
- Pacific Wave
- Commercial Internet services

What we did . . .

- A month's data saw 2.2 Petabytes of requests from ~500 different IPv4 addresses
- Looked those up to find the ASN.
- Ran traceroute on each of those to find the CENIC exit.
- Summed the bytes for each exit

I hate pie charts, but . . .



Oregon gigapop



Commercial Internet --Level(3)

CENIC members

CENIC peers

Internet2

NLR

CENIC members

- SDSC
- UCSD
- UCSF
- UCSC
- USC
- Stanford
- Berkeley

CENIC Peers. . .

- Google
- Amazon
- Customers of Hurricane Electric
- Customers of Abovenet
- Customers of XO

Commercial Internet

No permission to disclose this information. If they were retail establishments:

- Bloomingdale's
- Nordstrom
- Neiman Marcus
- Kohl's
- Macy's
- Saks Fifth Avenue
- Sears

Internet2 and NLR

Lots of EDUs and some US Govt agencies	. . . But not Canada
Norway	Israel
Japan	Sweden
Germany	UK
Finland	Denmark
France	Korea
Spain	Greece
Australia	Croatia
India	Netherlands