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 . . .
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

<table>
<thead>
<tr>
<th>Lots of EDUs and some US Govt agencies</th>
<th>. . . But not Canada</th>
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<td>Norway</td>
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