Brief History

• Originally conceived in 1992 by state universities.
• Funded by two NSF grants in 1993 and 1994.
• After the NSF funding was expended, funding continued in the form of “membership fees”.

Membership Fees

- Originally, membership fees covered most fixed operating costs and connectivity costs.
- Eventually, membership fees were reduced and covered only the fixed operating costs of the consortium.
- Membership fees were based on the “size” of the member organization.
Membership Fee Problems

- Membership “size” is ambiguous:
  - Enrollment?
  - Staff/Faculty?
  - Annual Budget?

- Member expectations unclear - almost as many different sets of expectations as members.

- Old model extended to a total of 9 member classes to cover approximately 45 members.

- Often times member classes didn’t even make sense (e.g. non-connected membership costs more than some connected classes)
Connectivity Fees

- Members have paid some level of fee-for-connectivity (in addition to membership fees) since the NSF funding ran out.
- For many years, fees were postalized based on average costs for each connection speed offered.
- Eventually, postalization broke down, and direct cost allocation was used for each member’s connectivity.
MIDnet/Quilt Case Study

• Extremely helpful as a “kick-start” to the process - The hardest part!

• Provided insight into both what other similar organizations were doing and their evolutions.

• Allowed us to learn the lessons of others without making the same mis-steps (we’ll just make different ones).

• Saved enough research costs (time) to easily justify a non-trivial portion of Quilt membership costs.
Solution Part 1: Usage-Based Billing

- New service model for our university members starting FY2007 with introduction of new backbone.
- GigE (or multi-GigE) drops to universities with no rate limiting. Backbone access is a flat rate.
- Flow data used to determine how much “Internet” traffic to/from each university.
- Universities determine how much each will pay based on KanREN total expenses and their usage.
Solution Part 2: Membership Fees

- Membership decoupled from institution “size”.
- Number of membership classes greatly reduced.
- Focus on membership classes as a function of service level - how? Recall, connectivity costs are passed through.
- Membership fees now determined by four factors:
  - Single or redundant backbone connections
  - Target uptime
  - Service hours
  - Response time
Solution Part 3: Service Packages

• Traditionally, KanREN provides much greater service “depth” than typical service providers.

• Several members expressed no need for assistance, and did not want to pay for something they didn’t use.

• Service beyond maintaining our network was decoupled from membership classes as an optional service plan:
  • Basic (included)
  • Assured Service (hour limited)
  • Comprehensive (no yearly hour limit)
  • Research (funds much regional/national involvement)
Conclusion

- Problem: Aging membership fee model that was over-extended, did not set clear expectations or provide good options for differing member needs.
- Replaced “populist” membership fee model with service level based model.
- Simplified membership class structure based on service availability.
- Decoupled service “depth” as a separate, optional category.
Questions? Comments?

Cort Buffington
cort@kanren.net
www.kanren.net
+1-785-856-9800 ext. 301