XUNET ROUTING MEETING (19 April 1993)

Participants:

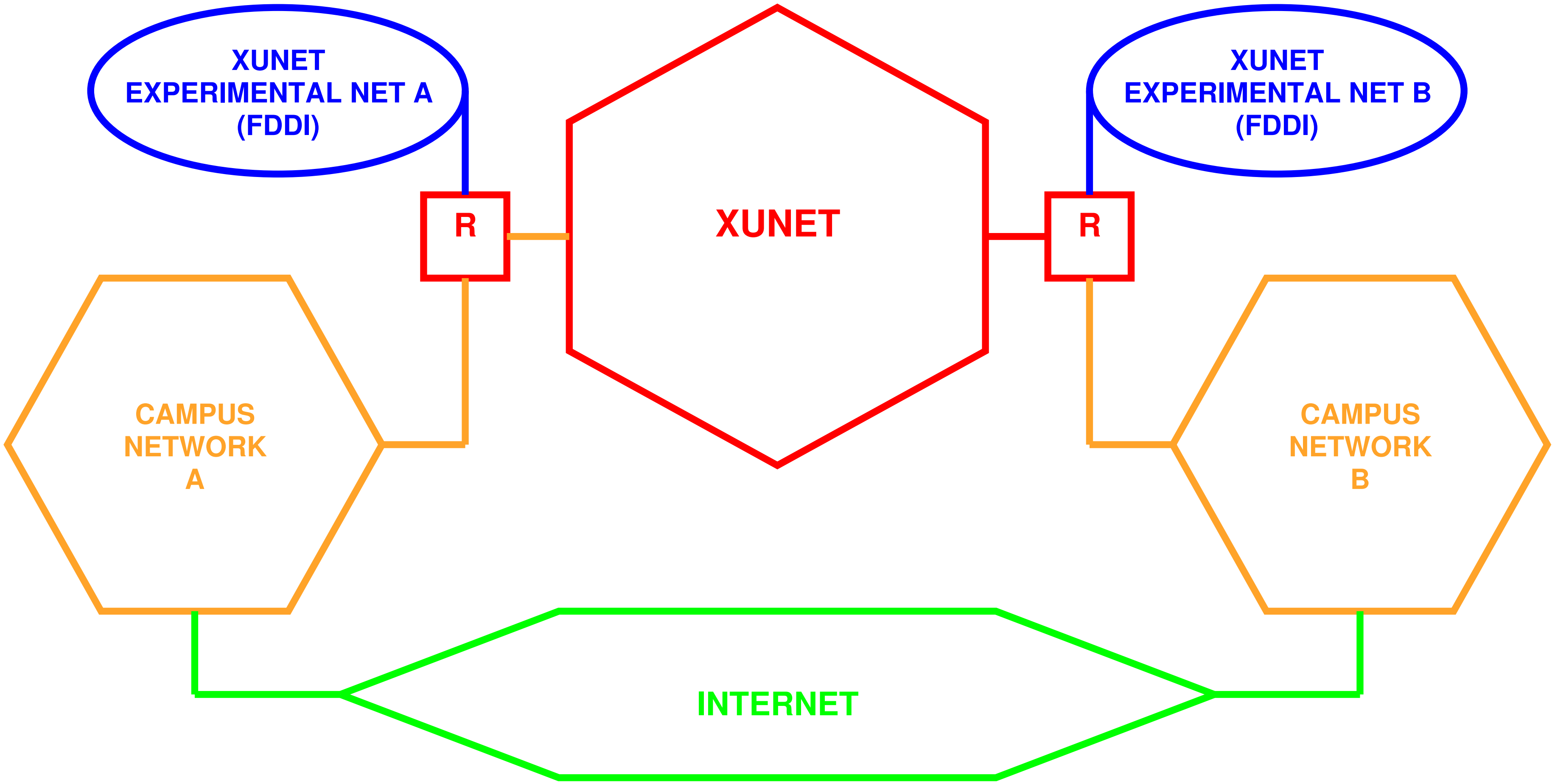
Steve Bellovin	smb@research.att.com
Joe Dixon	mjd@research.att.com
Cliff Frost	cliff@cmsa.berkeley.edu
Chuck Kalmanek	crk@research.att.com
Casey Leedom	casey@gauss.llnl.gov
Bob Mende	mende@piecomputer.rutgers.edu
Pat Parseghian	pep@research.att.com
David Parter	dparter@cs.wisc.edu
Dave Raila	raila@cs.uiuc.edu
Robert Van Dyck	vandyck@columbia.rutgers.edu
Paul Zawada	zawada@ncsa.uiuc.edu

Also interersted, couldn't attend:

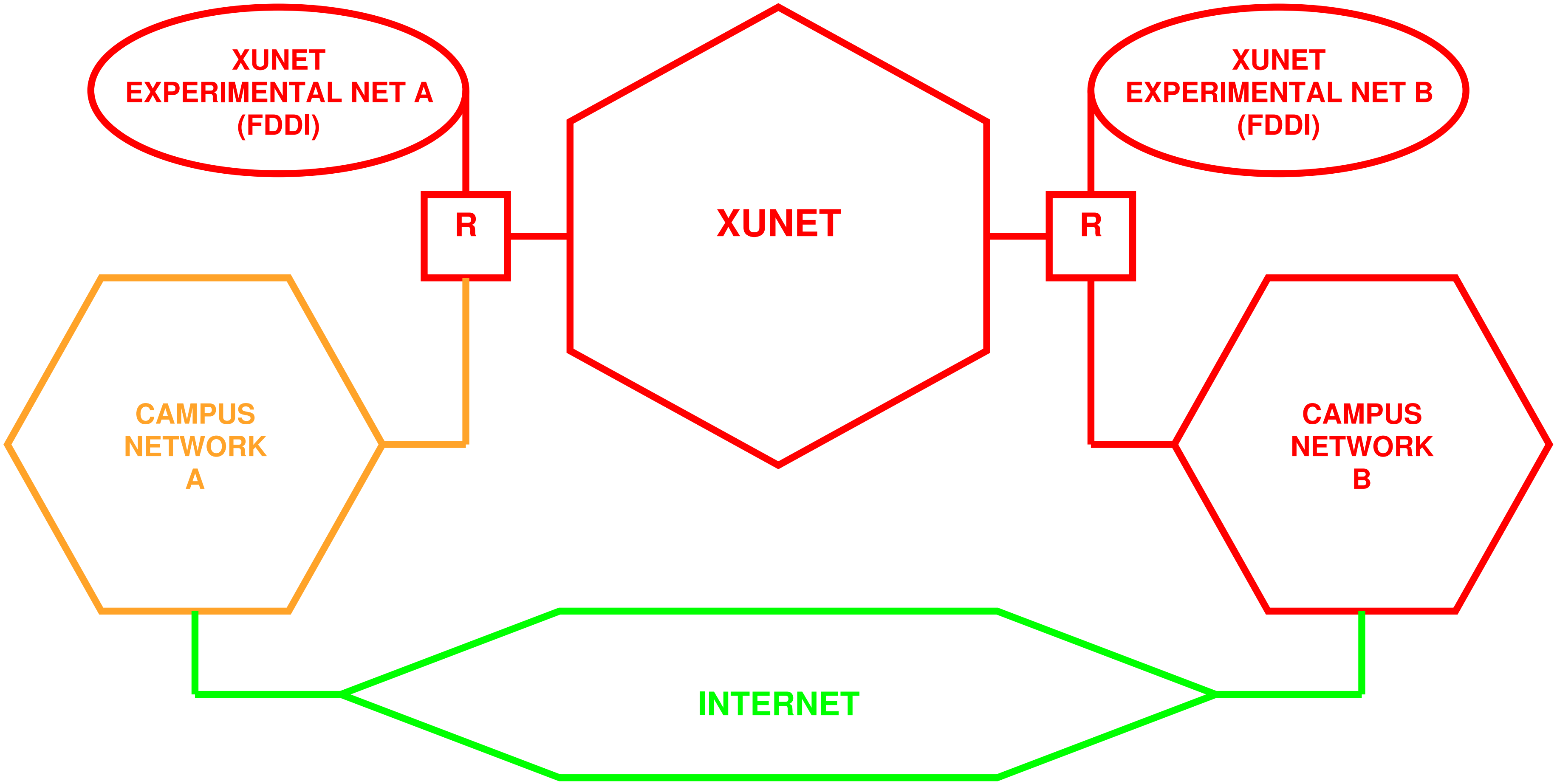
Helen Chen	hycsw@ca.sandia.gov
Keith Sklower	sklower@okeeffe.berkeley.edu

- GOALS:
  - Allow XUNET researchers access to resources at XUNET campuses
  - XUNET should not carry non-XUNET research traffic
- POSSIBLE SOLUTIONS:
  - Loose Source Routing
  - Virtual Addresses
  - No solution: all hosts on XUNET exp. nets
  - Limited Access (at least 1 host on XUNET exp. net)
  - Shadow Network
  - TCP Shadow Server
  - Remote Subnet Routing/masks

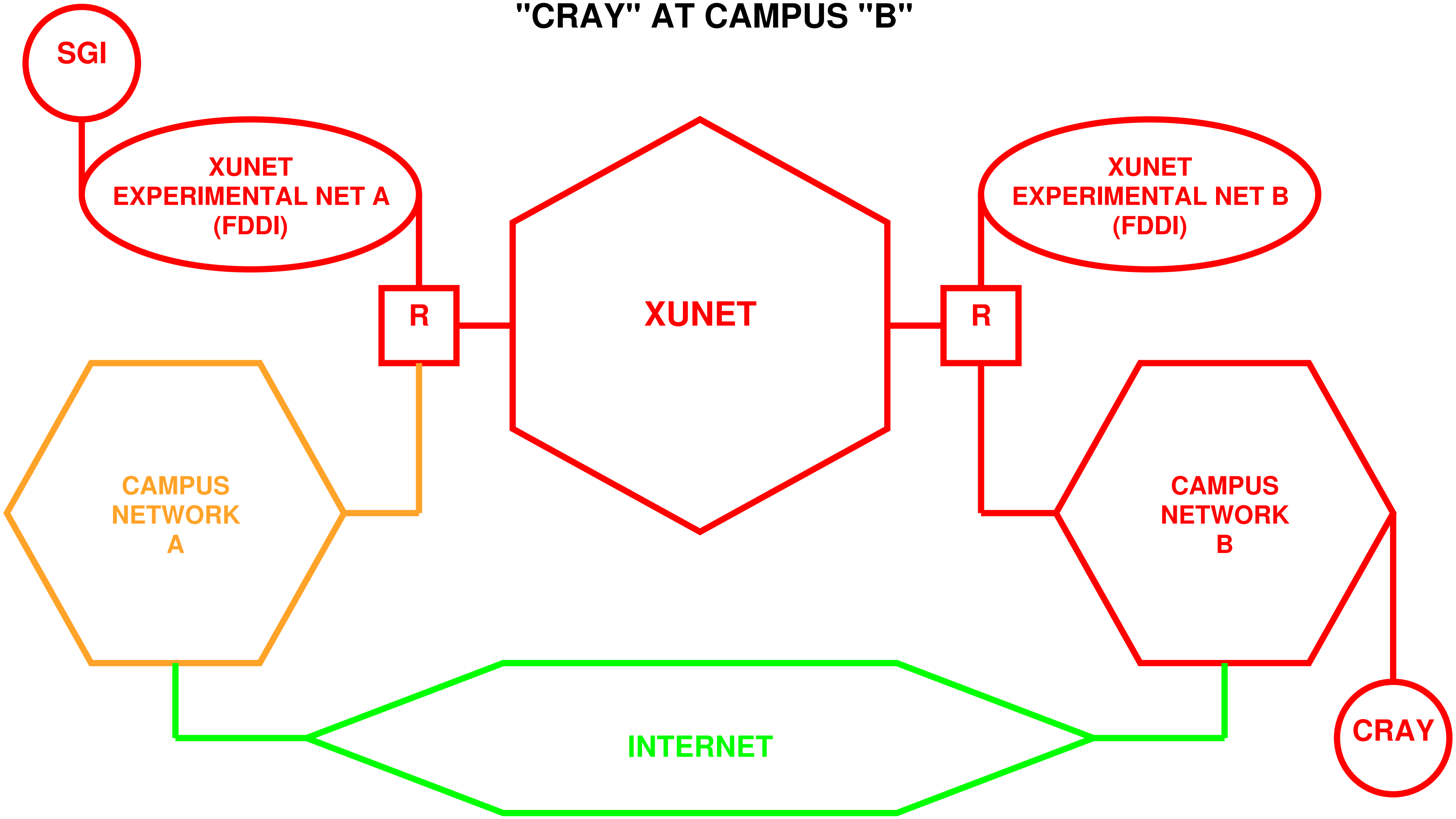
XUNET ROUTING: NETWORK COMPONENTS



ROUTING/NETS REACHABLE VIA XUNET TO/FROM XUNET EXPERIMENTAL NETWORK "A"

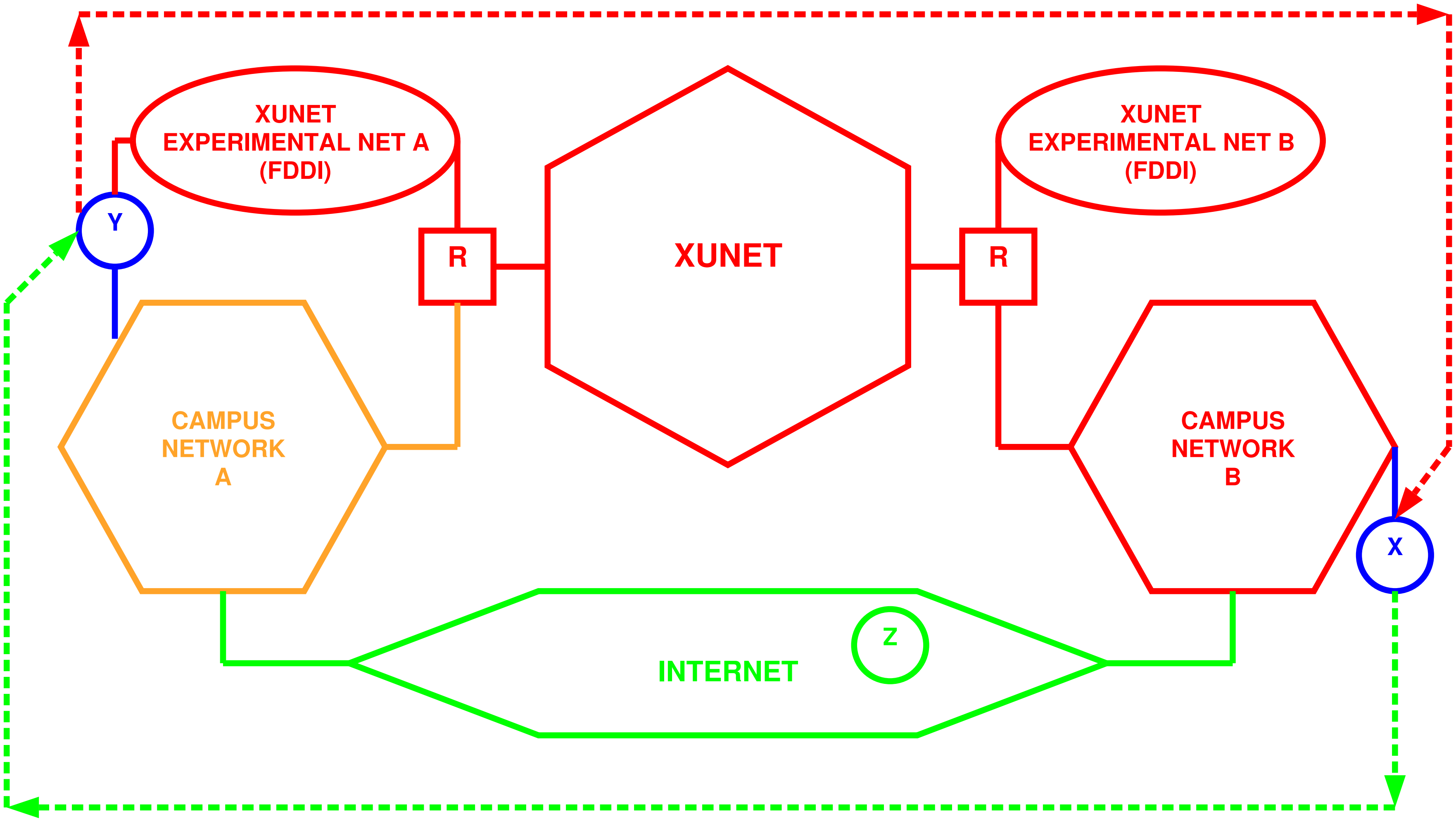


EXAMPLE:
"SGI" ON XUNET EXPERIMENTAL NETWORK "A"
CONNECTS VIA XUNET WITH
"CRAY" AT CAMPUS "B"



- ROUTING NOTES
  - XUNET exp. nets (FDDI) **NOT** advertised to Internet
  - **CANNOT** always provide direct non-XUNET access to experimental hosts
  - Login/proxy connect via non-xunet host at campus instead

ASSYMETRIC ROUTING PROBLEM:
HOST X (at an XUNET campus) ATTEMPTS
AN INTERNET CONNECTION TO MULTI-HOMED HOST Y:
PACKETS X TO Y ROUTE VIA INTERNET
RETURN PACKETS ROUTE VIA XUNET
(PACKETS BETWEEN Y AND Z ONLY VIA INTERNET)



- SOLUTIONS:
  - Hosts on XUNET experimental nets are part of an experiment
  - Limit multi-homed hosts
  - Internet resources **NOT** on multi-homed hosts
  - Turn off experimental net (FDDI) interface when not in use

News/Announcements

- High Speed Fiber: started, working out from Chicago
- Late April/Early May new fiber, equipment on site
- June 1 operational (ATT internal deadline)
- Disk Space on sgi's: no home accounts on local disk, please (use NFS)