Cisco Research & Development and China

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Cisco and China: A Long-Standing Partnership

- Cisco: 20th Anniversary
- Cisco China: 10th Anniversary
- CANS Cisco: 5th event running

- Current
    - Shanghai Research Center
    - Cernet – Cisco Research program
    - Context of Advanced Networks

Shanghai Research Center

- Already open
- Move to permanent facility in Q3 2004
- Growing to staff of 100

- $32 million investment in research center
- Part of $250 million

CERNET + Cisco Research Program (CCRP)

- Modeled on Cisco’s existing University Research Program
  - Similar to National Science Foundation granting process
  - Specific to China and jointly directed by Cisco and CERNET affiliated researchers
- Program to encourage broader cooperation
  - Goal is to have around 25-30 submittals which result in 4-7 funded research projects in first year
- Next round will open on Dec 13
  - Targets specific network research over CERNET
  - Suggested topics cover a broad range

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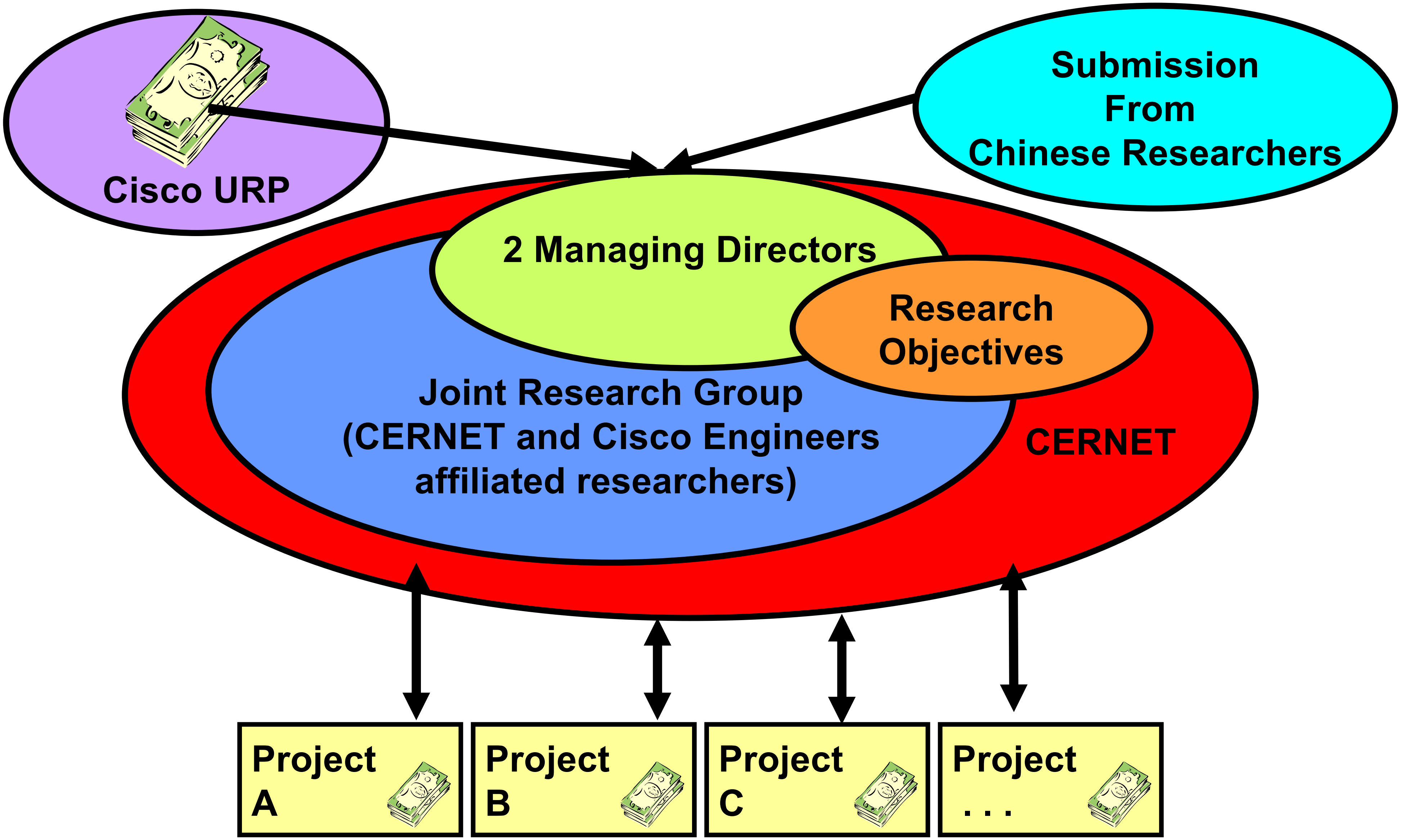
Suggestion Topics for Study

- IPv6
  - -Multicast
  - -Security
- Real Time applications with special networking needs
  - -Voice-over-IP
  - -Video-over-IP
- Network control models
  - -Network management
  - -Measurement/analysis
- Wireless LANs and WANS
  - -Mobility

Logical Structure – Virtual Organization



Cisco URP

Submission From Chinese Researchers

2 Managing Directors

Research Objectives

Joint Research Group (CERNET and Cisco Engineers affiliated researchers)

CERNET

Project A

Project B

Project C

Project . . .

Grant Details

- Awards are in cash
    - Equipment request will be considered separately by Cisco
- Estimated size of awards are in the $10-100K range
- Require twice a year reporting back to research working group
- Intellectual Property Rights
    - Principal Research Investigator retains rights
- End goal is to have open, publishable results
    - Academic publications
    - IETF standards

Proposal Evaluation Criteria

- Intellectual merits of proposed research
- Qualification of Principal Research Investigator(s)
- Relevance/importance of research topic

Submission Information

- **Proposal Submission**

  Adobe pdf Document

  Written in English

  Send To:

  china-jrc@external.cisco.com

- **CCRP Web Site for Procedures and examples**

  http://www.cisco.com/global/CN/learning/ccrp

  URP Web Site

  http://www.cisco.com/go/research

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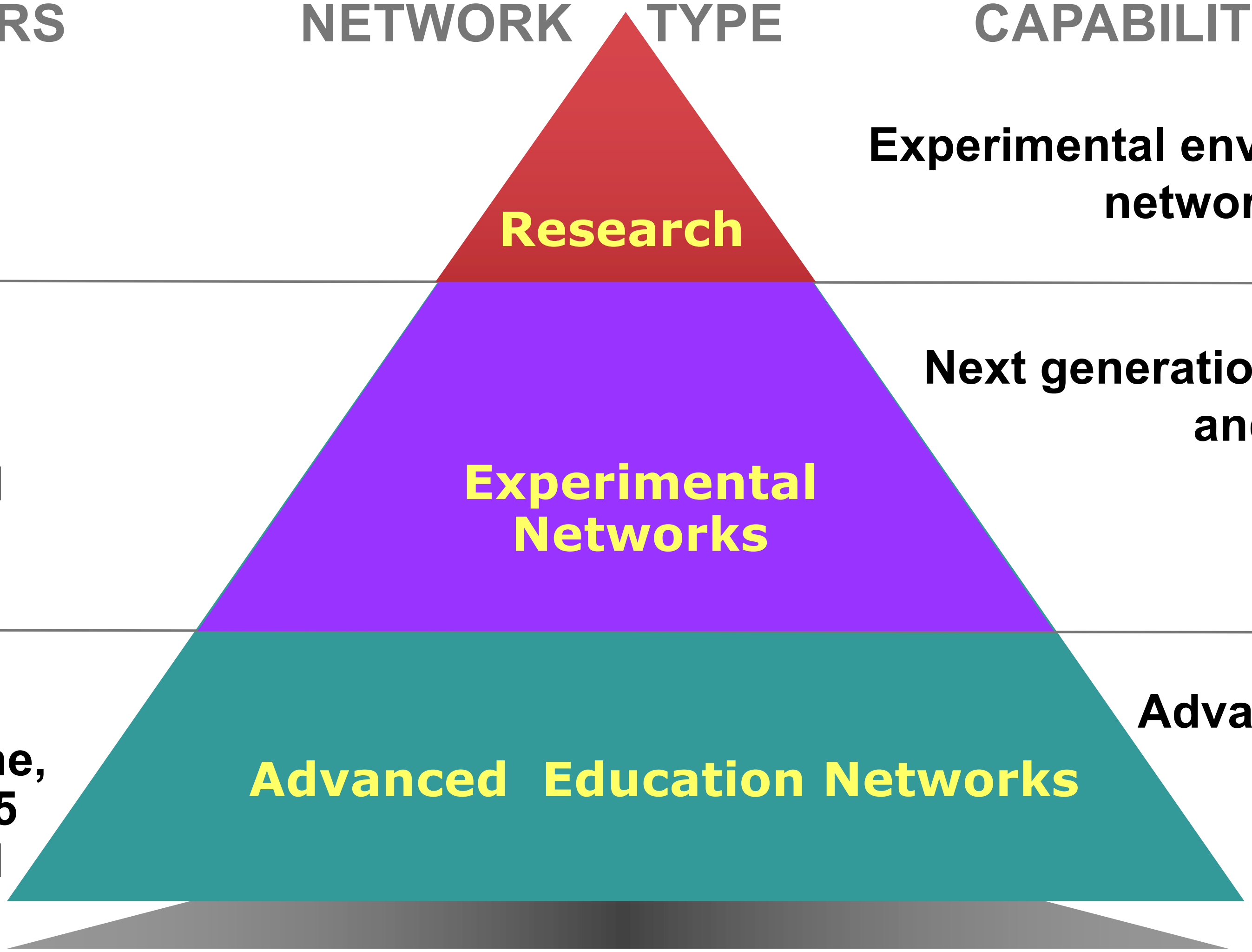
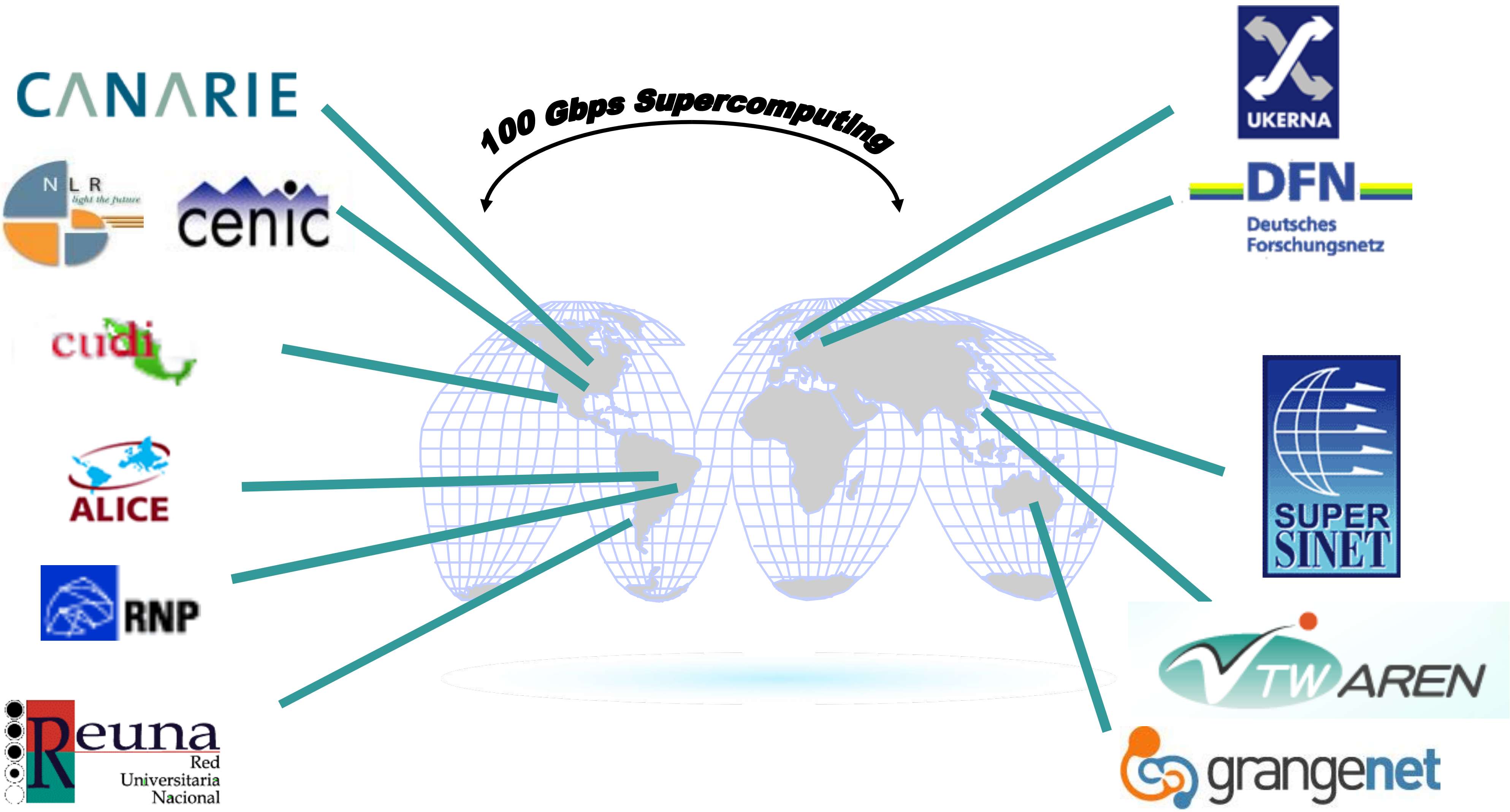
Research & Education Network Tiers



LEADERS	NETWORK TYPE	CAPABILITIES/USERS
Web100 NLR	Research	Experimental environments for network researchers
Teragrid WIDE CALREN NLR	Experimental Networks	Next generation architecture and applications for research community
I2-Abilene, SurfNet 5 CALREN	Advanced Education Networks	Advanced services for education
ISPs	Commodity Internet	General Use

Advanced Internet Leadership


100 Gbps Supercomputing
CANARIE
NLR light the future
cenic
cudi
ALICE
RNP
Reuna
Red Universitaria Nacional
UKERNA
DFN
Deutsches Forschungsnetz
SUPER SINET
TWAREN
grangenet

OC-768

- **Demonstrated at Supercomputing show by Pittsburgh Supercomputer Center**
- **Independently tested by *Light Reading***

http://www.lightreading.com/document.asp?site=lightreading&doc_id=63607

Cisco's CRS-1 Passes Our Test

As the first commercially shipping router sporting OC768 interfaces, the Cisco Systems, Inc. CRS-1 Carrier Routing System is living up to its billing, according to results of a test commissioned by Light Reading.

The router passed its first-ever independent test with flying colors.

Webinar on Dec 9 held by Light Reading 9:00 am PST

http://www.lightreading.com/webinar.asp?doc_id=27227&promo=26357

Closing Thoughts:
Success in the Information Age

“Bandwidth” and “degree of connectivity” are the new measures of power…

Three distinguishing factors to harness power
- culture to exploit & share knowledge
- competitive setting that embraces change
- ability to partner

THOMAS FRIEDMAN, NY TIMES 11 APRIL 1998

CISCO SYSTEMS