

Internet Status

October 2000

Internet Services Unit
King Abdulaziz City for Science and Technology

Riyadh, Saudi Arabia

Oct 18, 2000

Outline

- ✓ Security Measures
- ✓ Financial Guarantee
- ✓ Service Level Agreement
- ✓ Discount Pricing
- ✓ Bandwidth Statistics
- ✓ Domain Names

Security Measures

▶ Objective:

- ✓ Reduce incidents of hacking, spamming, and lack of accountability

▶ Requirement:

1. Anti IP spoofing of IP addresses
2. Third party mail relay disabling
3. Time synchronization
4. Access logs
5. Proxy logs
6. E-mail address for abuse

Security Measures

Result:

- ✓ 7 ISPs performed most of these measures.
- ✓ 4 ISPs did not do any of these measures, except creating e-mail address for abuse.
- ✓ 12 ISPs left out some major components.
- ✓ 4 ISPs successfully applied all the measures:

Electronic Concepts: concept.net.sa

Saudinet: saudinet.com.sa

TriNet (Bin Laden): tri.net.sa

Vodatel (EZNet): ez.net.sa

- ✓ ISU will tour again to ensure compliance

Financial Guarantee

- ▶ Original guarantee covers bandwidth cost for 12 months:
 - ✓ $12 * 112,000 + 24,000 = \text{SR } 1,368,000$
- ▶ This amount now covers up to 4 E1s (8Mbps)
- ▶ For bandwidth above 8 Mbps:
 - ✓ 8 Mbps - 12 Mbps = SR 2,000,000
 - ✓ 12 Mbps - 20 Mbps = SR 3,000,000
 - ✓ Every additional 8 Mbps add SR 1,000,000

Service Level Agreement

- ▶ Currently we provide unilateral SLA
 - ✓ We are fully responsible for any outages caused by ISU.
 - ✓ We will compensate for each hour two hours worth of refund.
 - ✓ For every hour of outage, the SLA pays SR 0.335 for every 1 kbps of bandwidth.
 - ✓ For example: outage of 10 hours for an ISP with 2 Mbps (2000 kbps):

$$10 * \text{SR } 0.335 * 2000 = \text{SR } 6700$$

- ✓ This does not cover outages due to international carriers, or STC-related equipment and links.

Proposed Discount Pricing

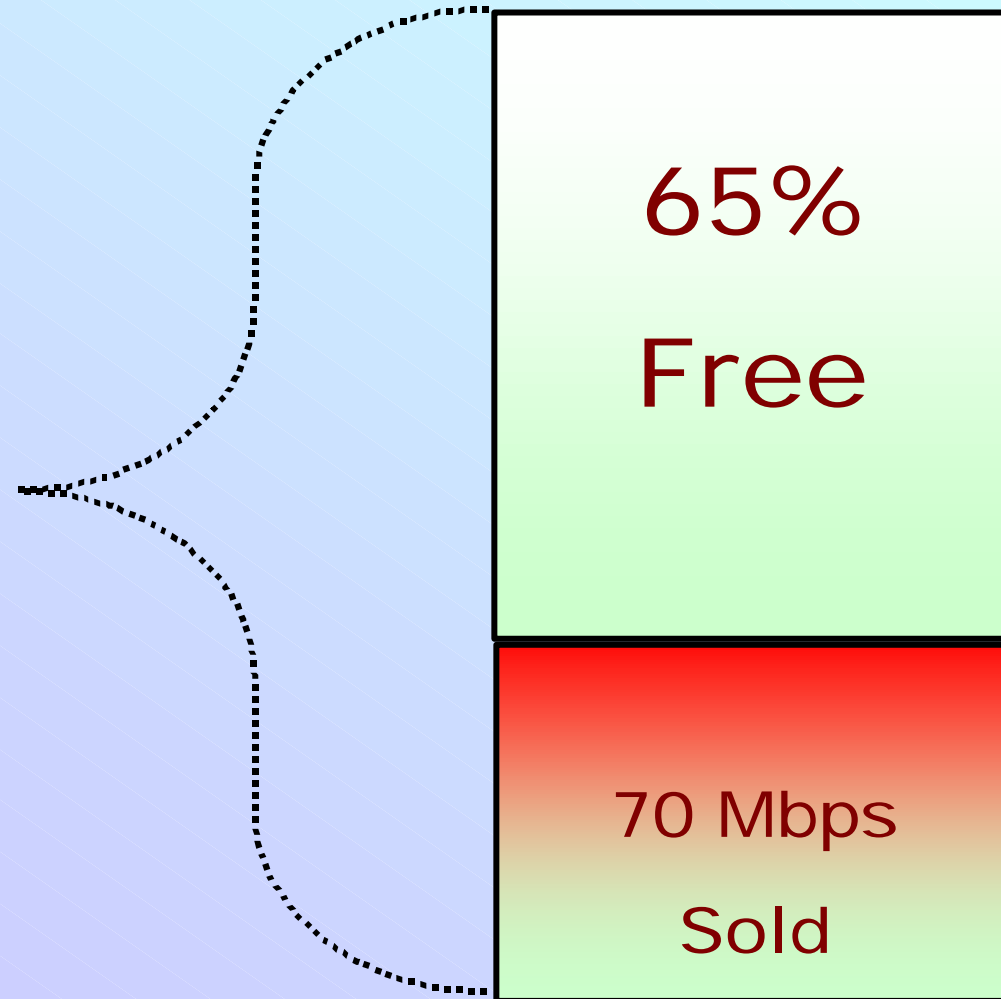
To Be Presented to Ministry of Finance

Total ISP Bandwidth	Discount
512 kbps - 8 Mbps	0%
8 Mbps - 12 Mbps	20%
12 Mbps - 16 Mbps	30%
> 16 Mbps	40%

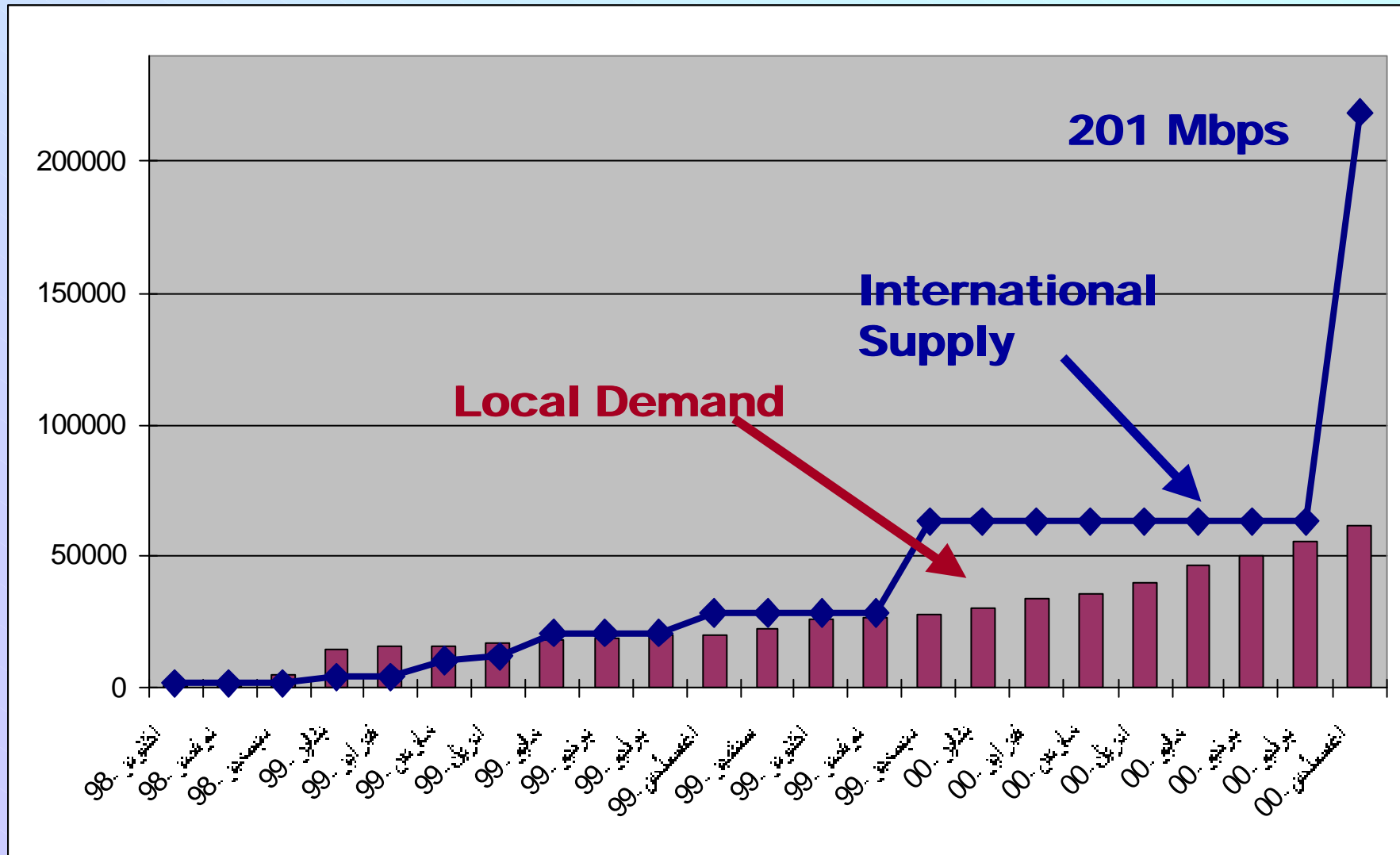
Bandwidth Utilization

As of October 2000

201 Mbps
Total
International
Bandwidth



Bandwidth Demand versus Supply

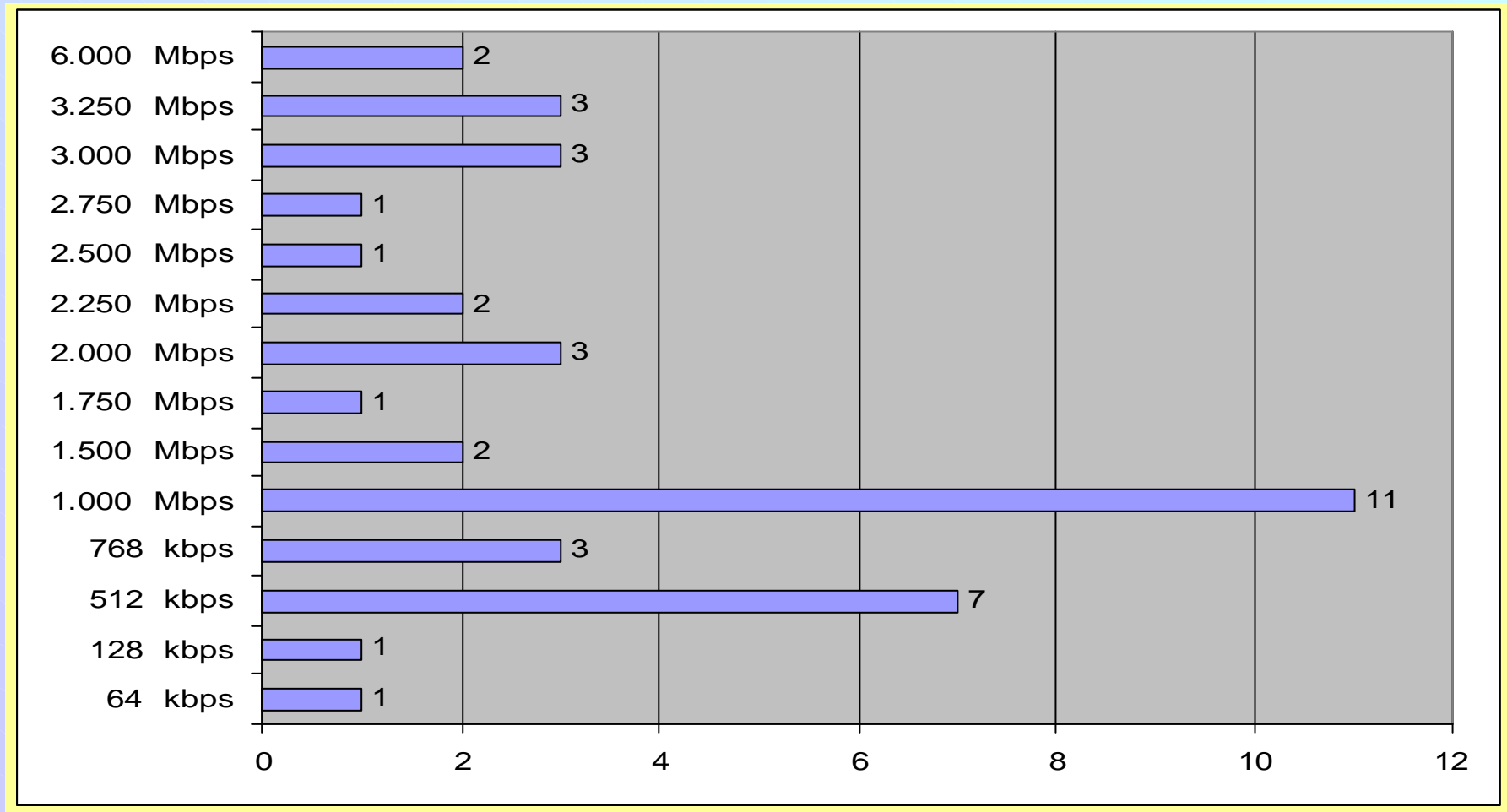


Bandwidth Utilization

As of Sept 2000

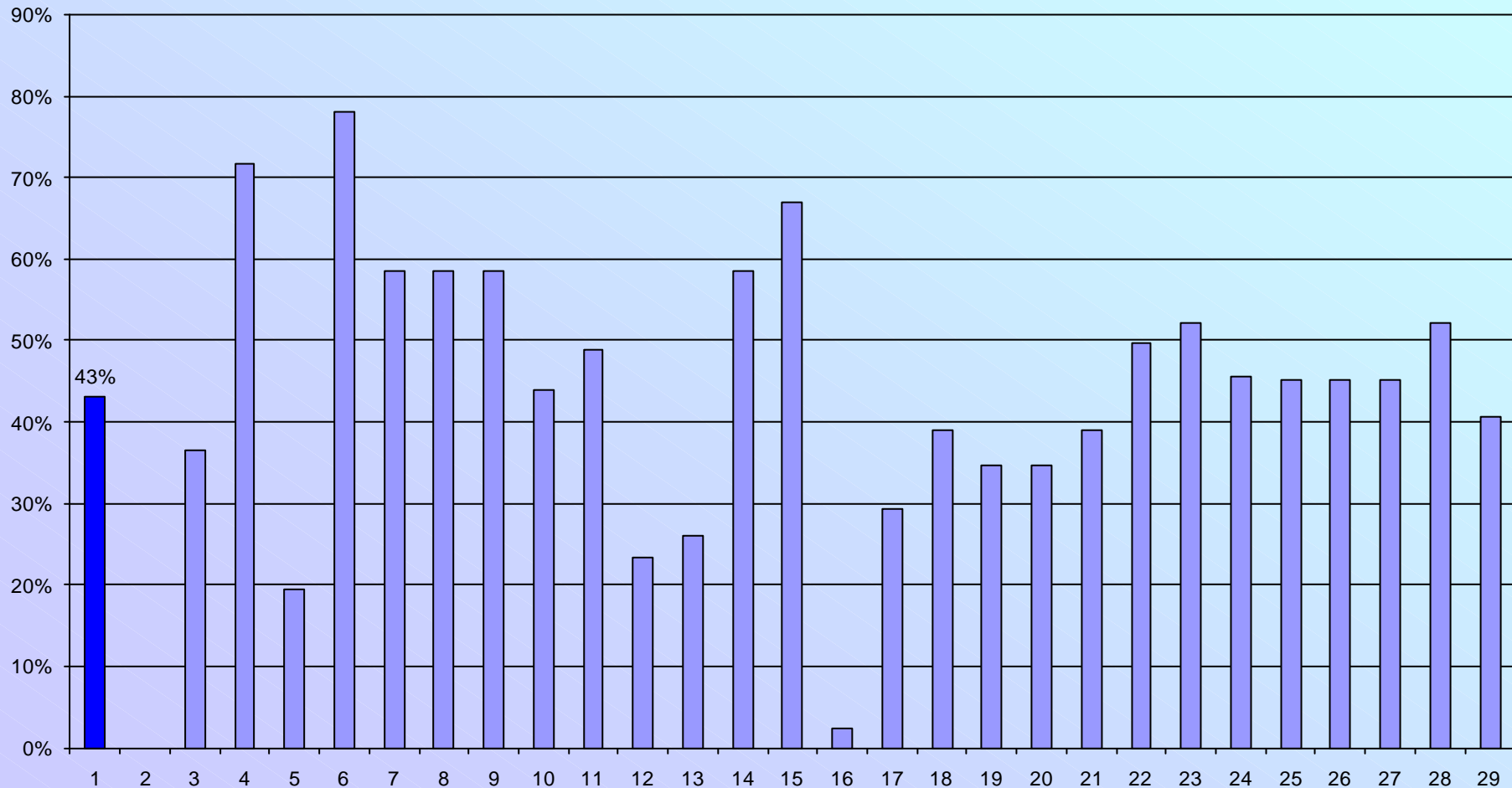
- ▶ Average ISP bandwidth is 2 Mbps
- ▶ Average academic bandwidth is 0.8 Mbps
- ▶ Lowest client bandwidth is 64 Kbps (a university)
- ▶ Highest Client bandwidth is 6 Mbps (an ISP)
- ▶ 86% of bandwidth is bought by ISPs
- ▶ 14% by academic institutions

Bandwidth Size *Per Client*



ISP Bandwidth Usage

Random 6 AM Snapshot



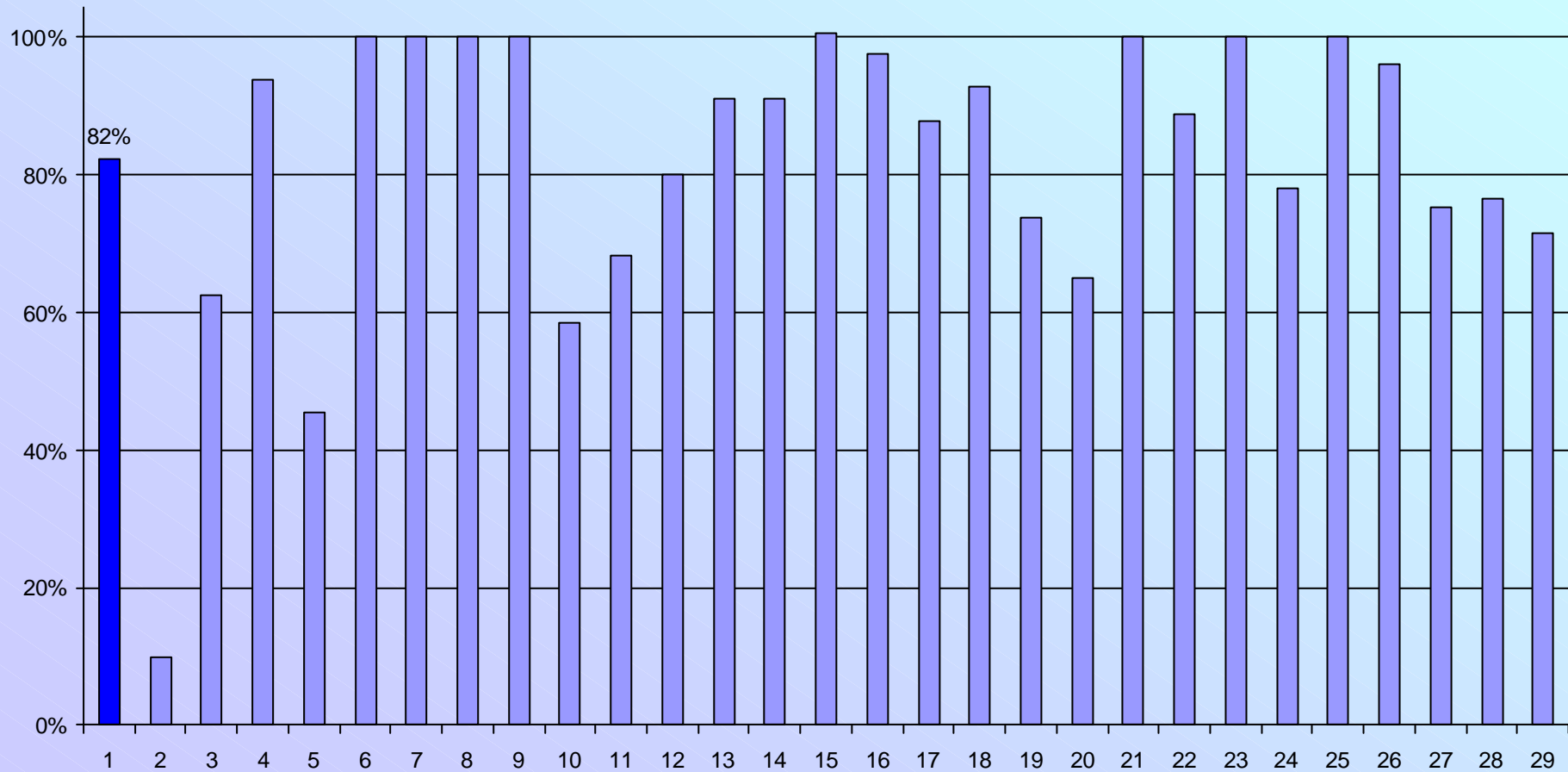
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ISP Bandwidth Usage

Random 12 noon Snapshot



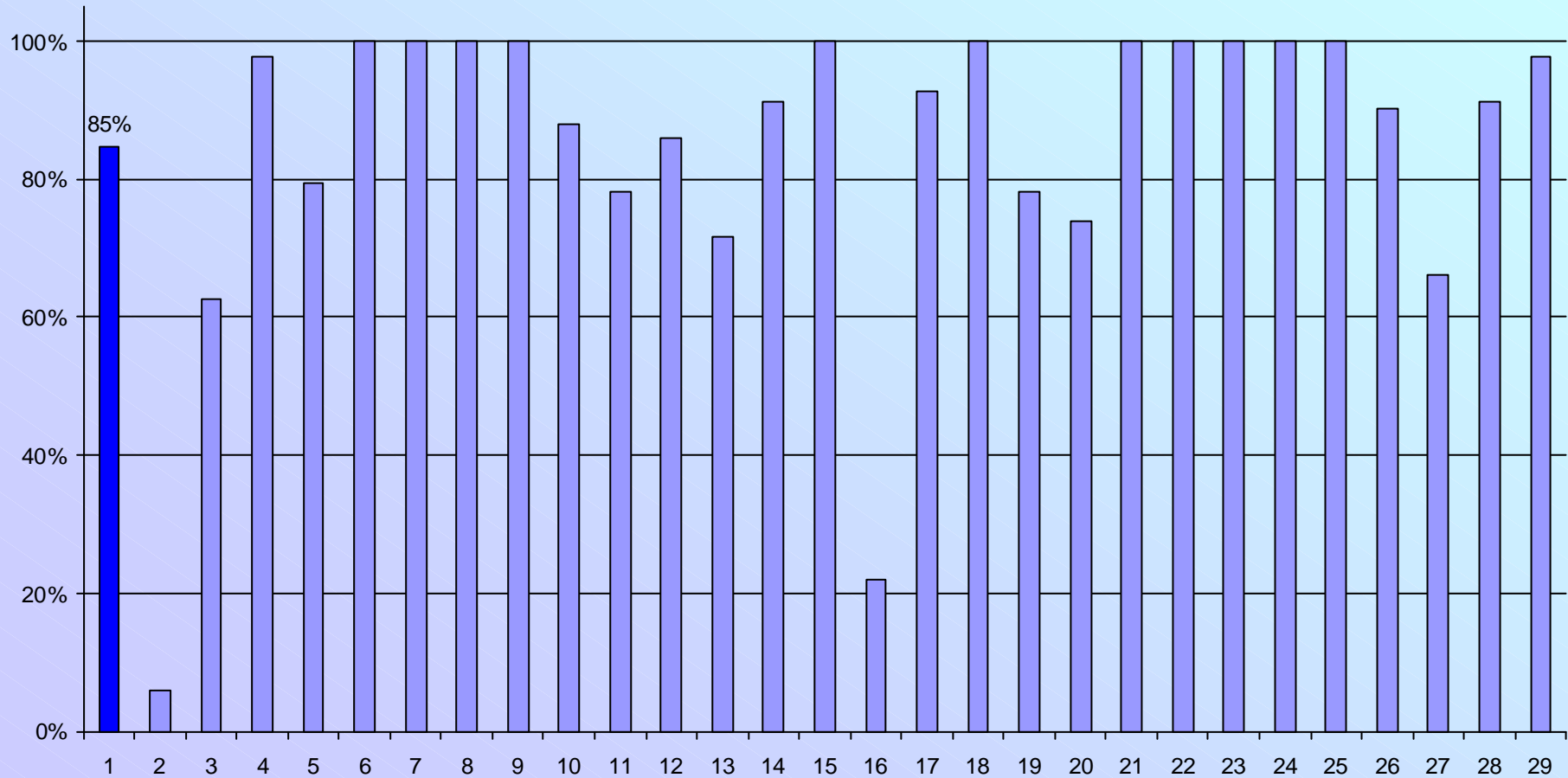
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ISP Bandwidth Usage

Random 6 PM Snapshot



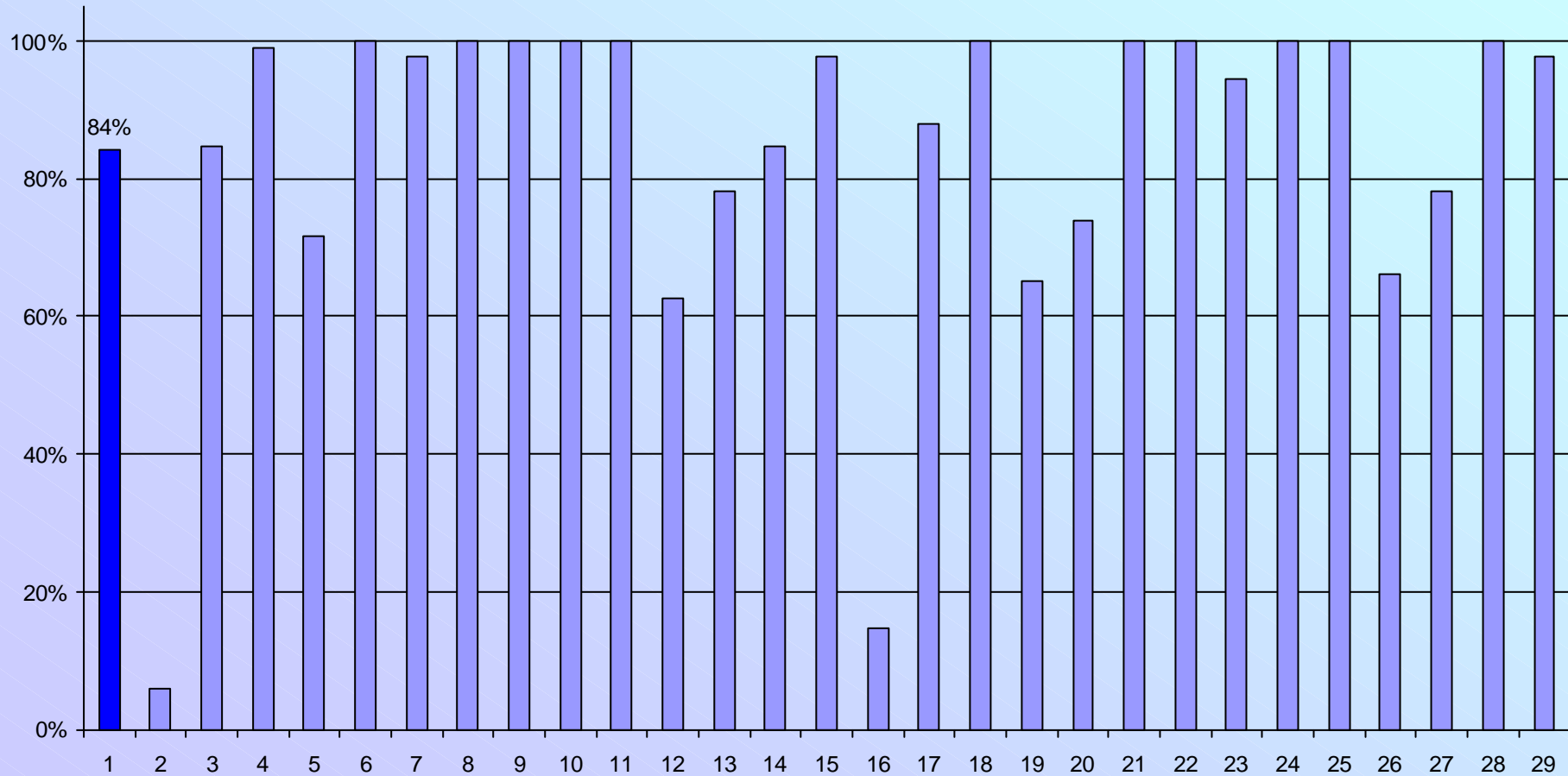
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ISP Bandwidth Usage

Random 12 night Snapshot

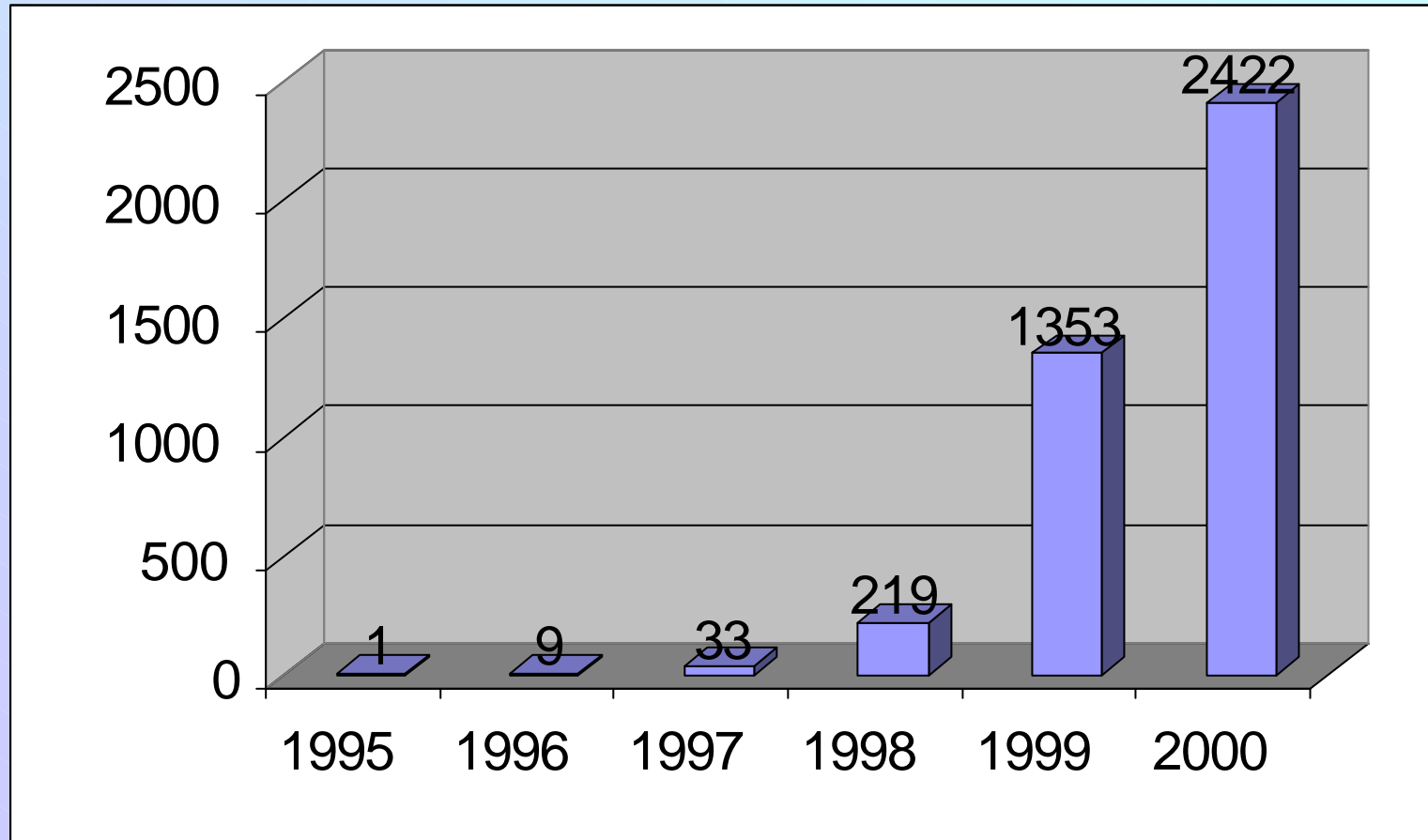


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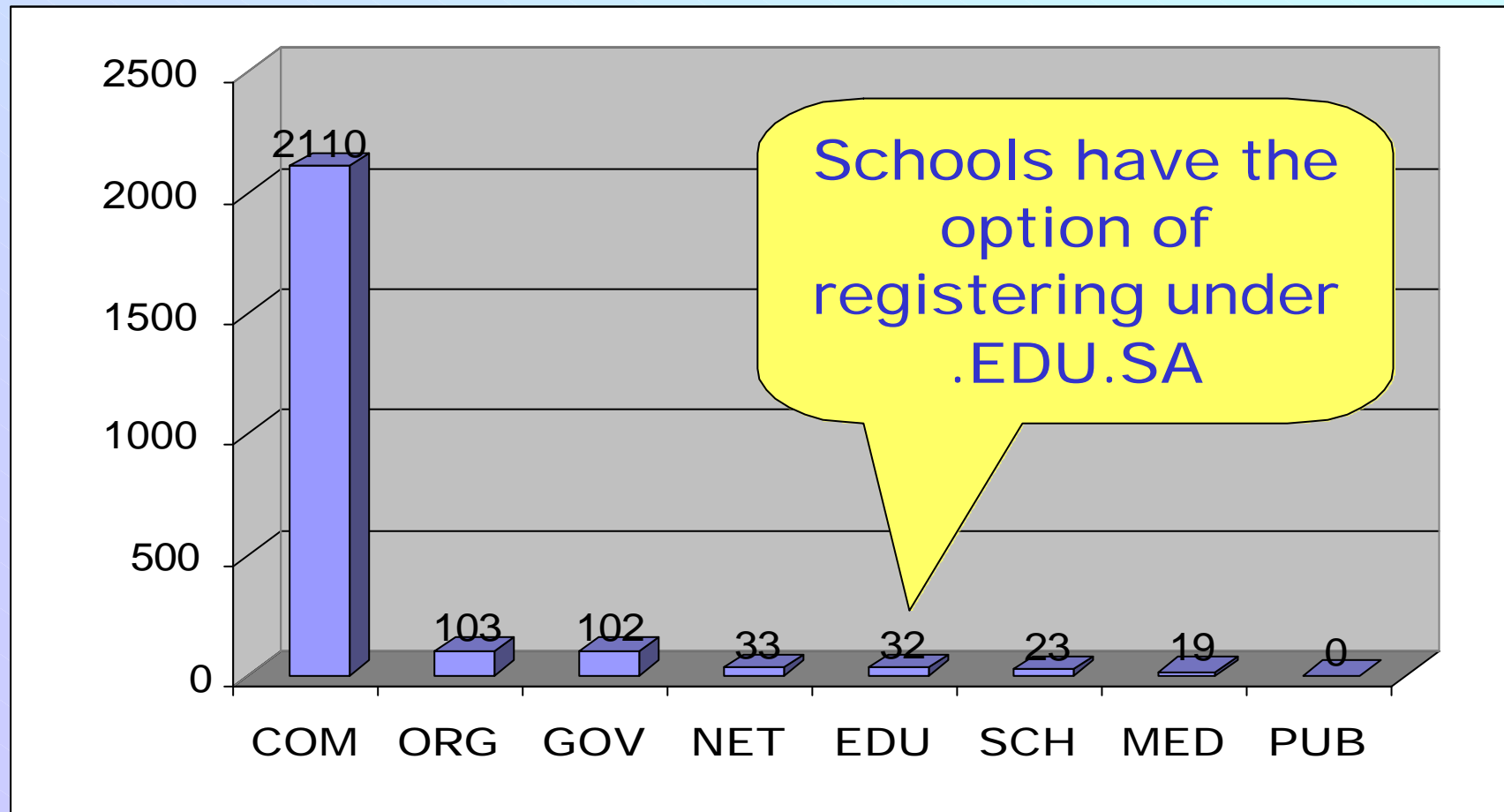
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Domain Names Registered Under .sa

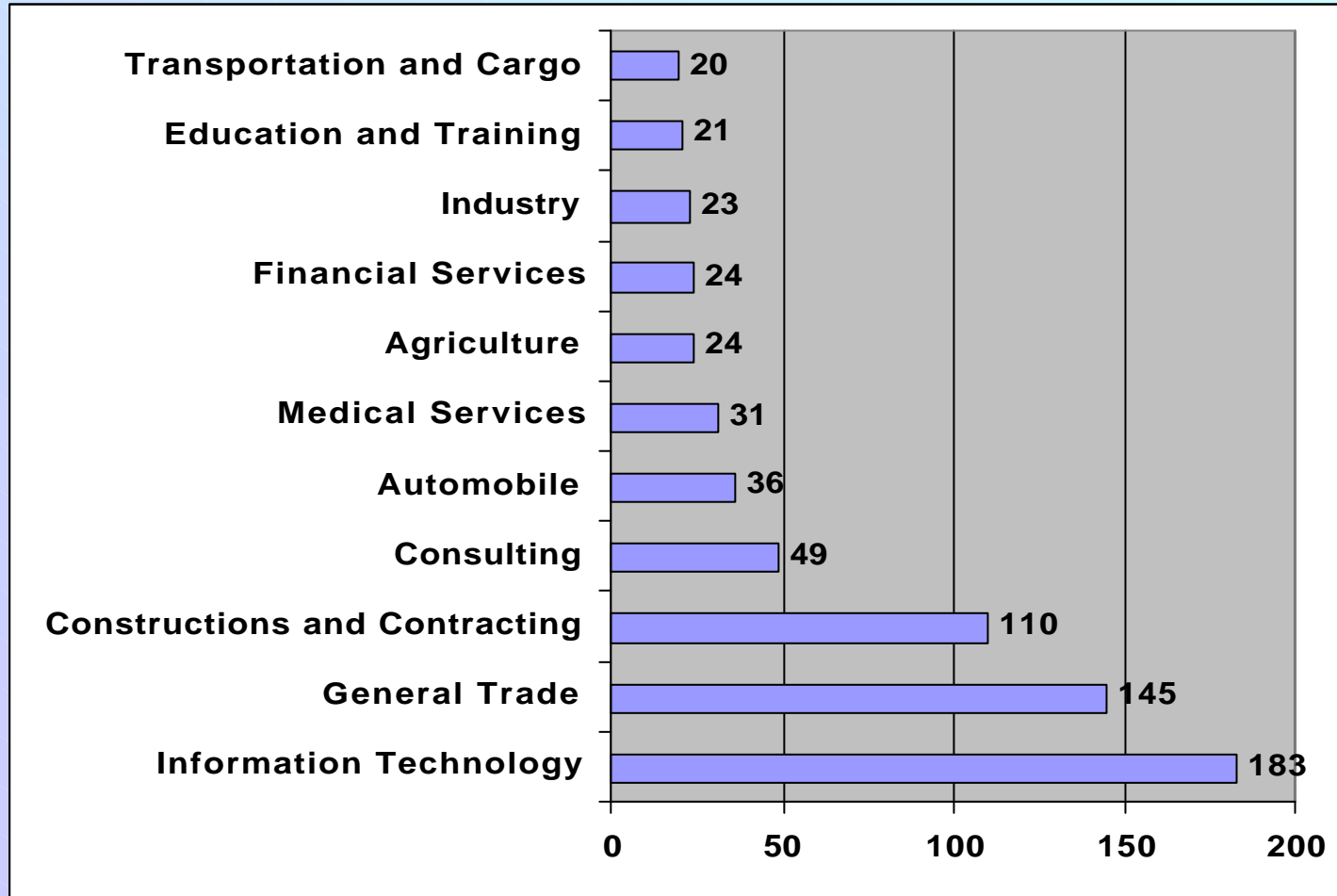


Domain Names By Sub-Domain



Domain Names

Sample of .COM Categories



IP Addresses

- ▶ Many ISPs have not returned KACST-ISU IP addresses!
- ▶ Some have not gotten their own IP addresses from RIPE

Conclusion

- ▶ There remains some ISPs who did not apply all the required security measures.
- ▶ Current financial guarantee is good for up to 8 Mbps
- ▶ KACST-ISU provides SLA that pays two for one
- ▶ Plenty of bandwidth available today, discount pricing is being negotiated with MoF.