



Massachusetts Institute of Technology

SIP.edu Project

CSG VoIP Workshop

Dennis Baron

January 5, 2005

SIP.edu

- Goals
 - Grow SIP connectivity in Internet2
 - Increase value proposition for end-user SIP adoption
 - Promote convergence of voice and email identity
 - Low entry-cost means for campuses to...
 - Provide a useful service
 - Get their feet wet with SIP
- Means
 - Publishing “cookbook” with several alternative “recipes”
 - Obtaining corporate sponsorship and promotional pricing

Why Phone NUMBERS?

- Users should not be burdened with device addresses, when it's people they really care about
- Addresses should be mnemonic and empower enterprises to manage the identities of their users

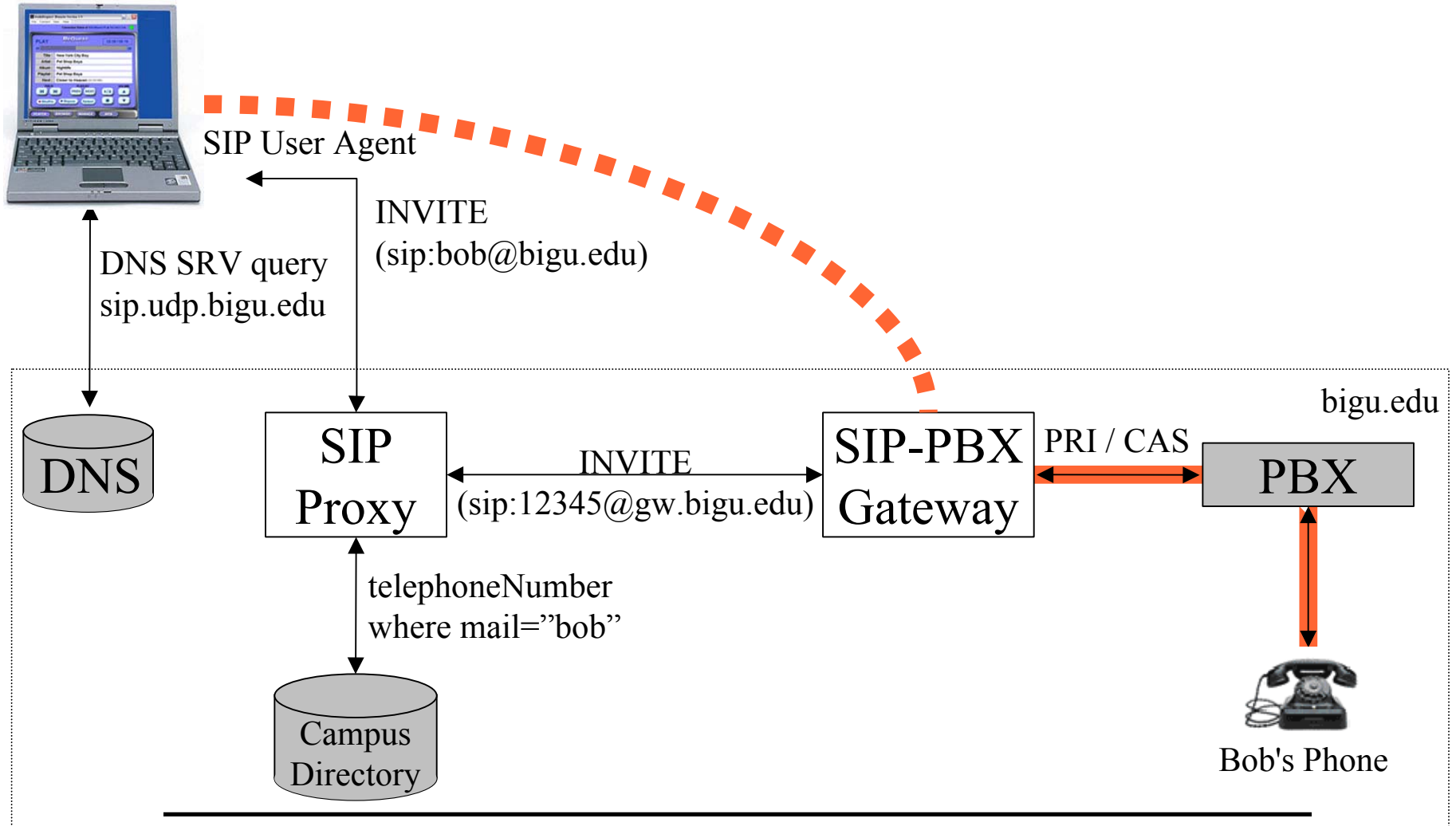
sip:dbaron@mit.edu

- It's time to put E.164 phone numbers behind us!
- A.G. Bell did not say:

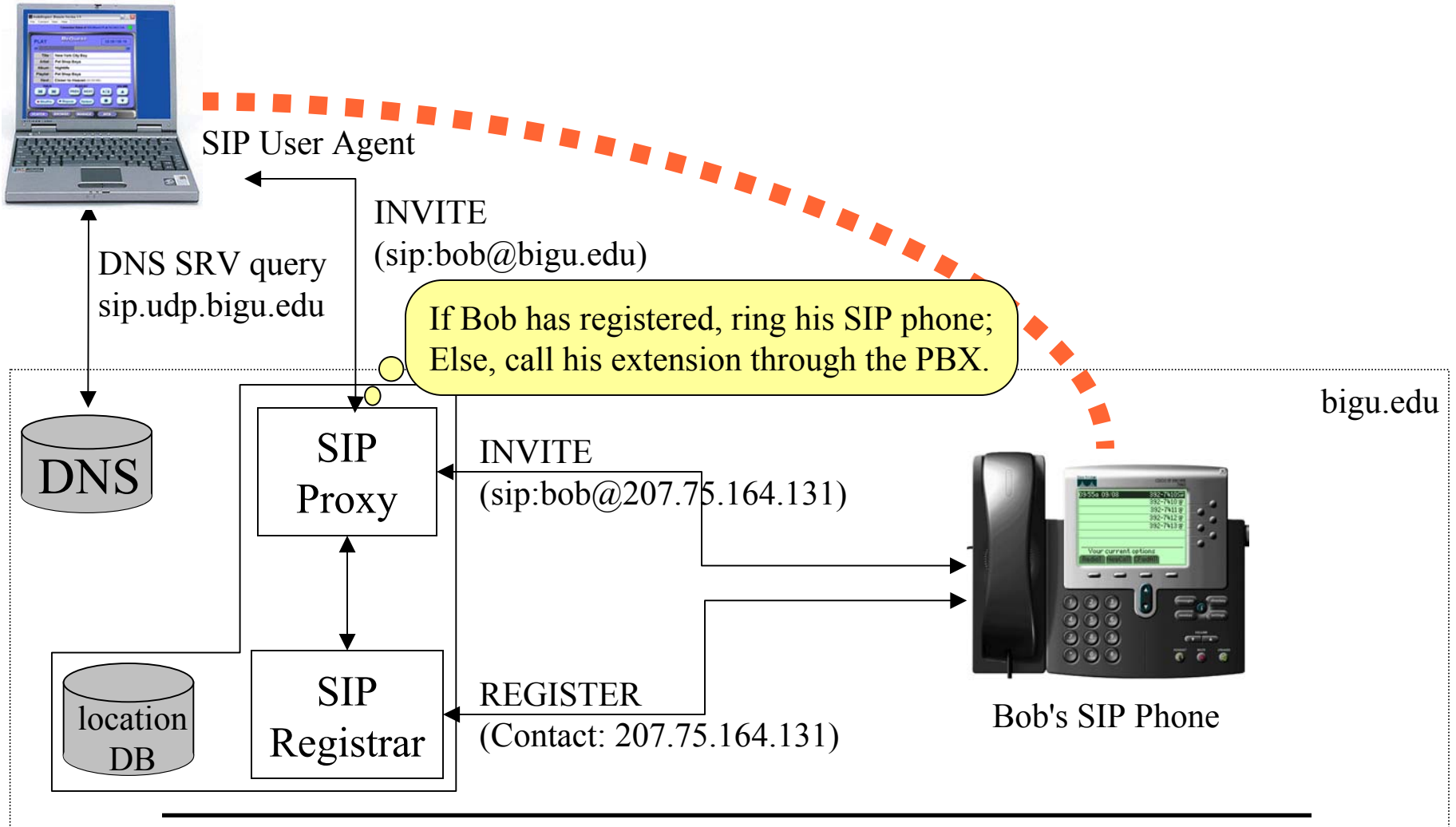
“+1-617-252-1232, come here. I need you!”



SIP.edu Architecture (Phase 1)



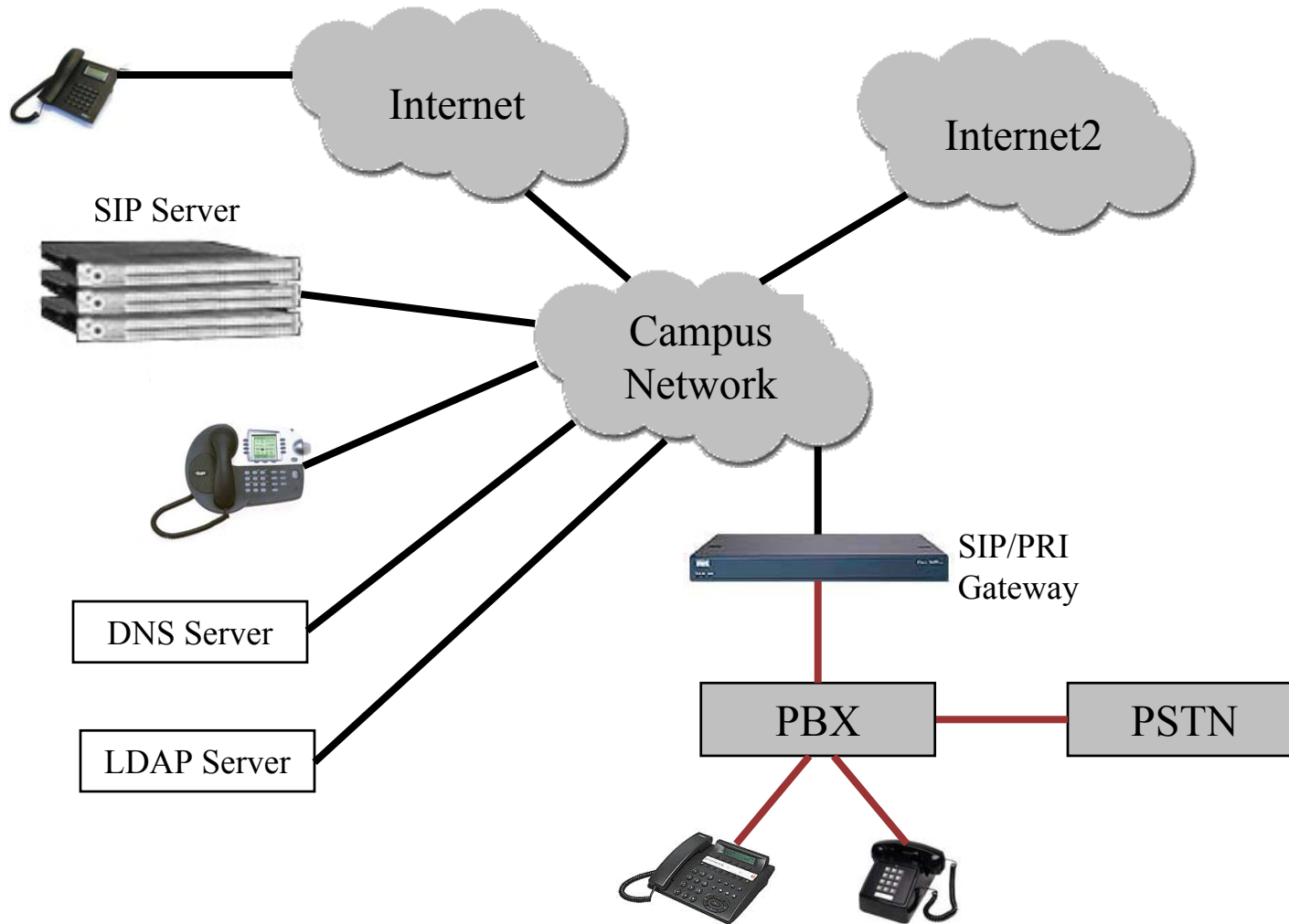
SIP.edu Architecture (Phase 2)



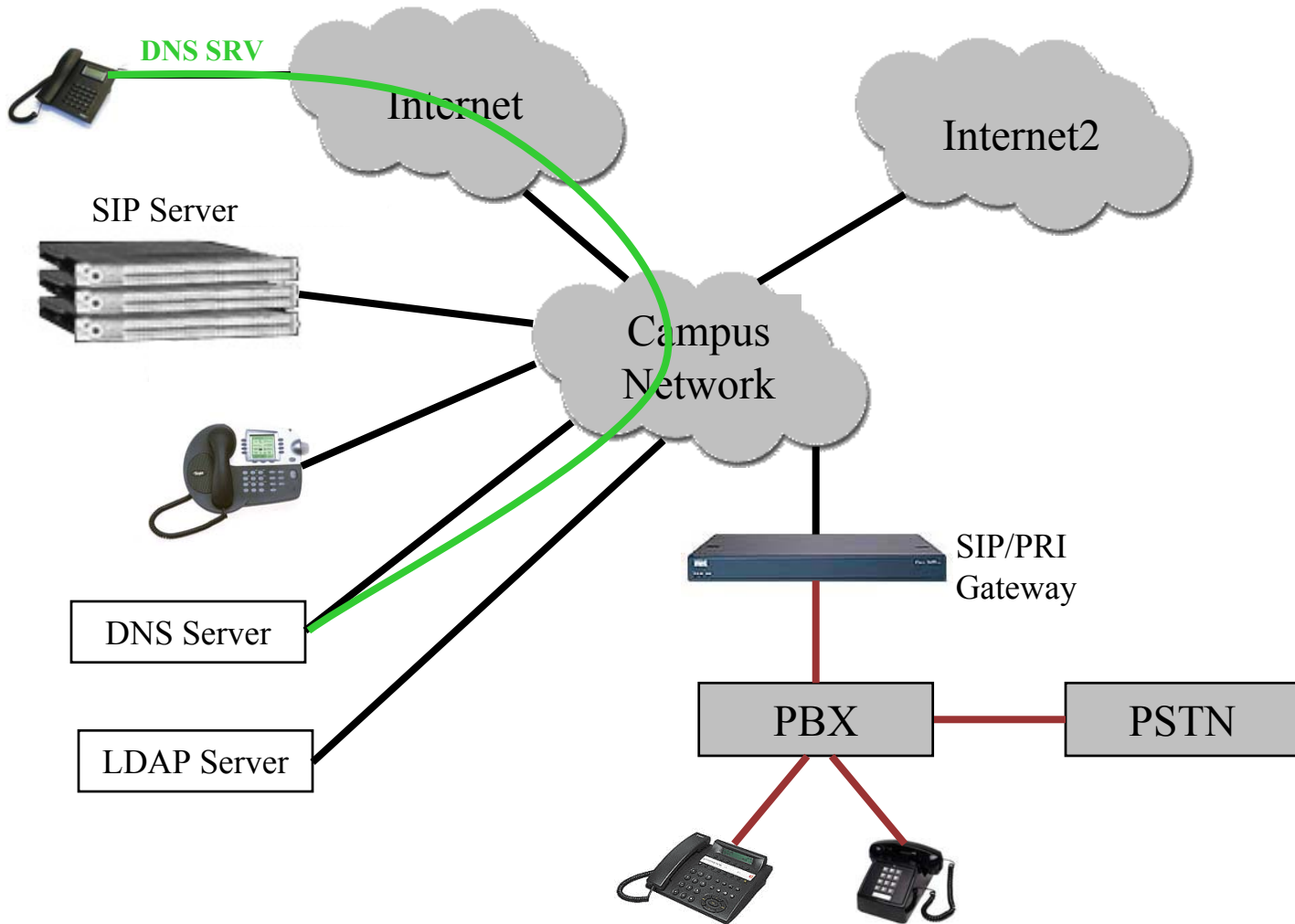
SIP.edu Call Flow Example

- SIP DNS lookup for MIT.EDU points to SIP proxy
 - Sends INVITE to bob@mit.edu to proxy
- SIP proxy checks MIT directory
 - Maps call to PBX extension – eg. 37669@mit.edu
- SIP proxy checks dial plan
 - Routes call to PBX gateway
- PBX rings phone

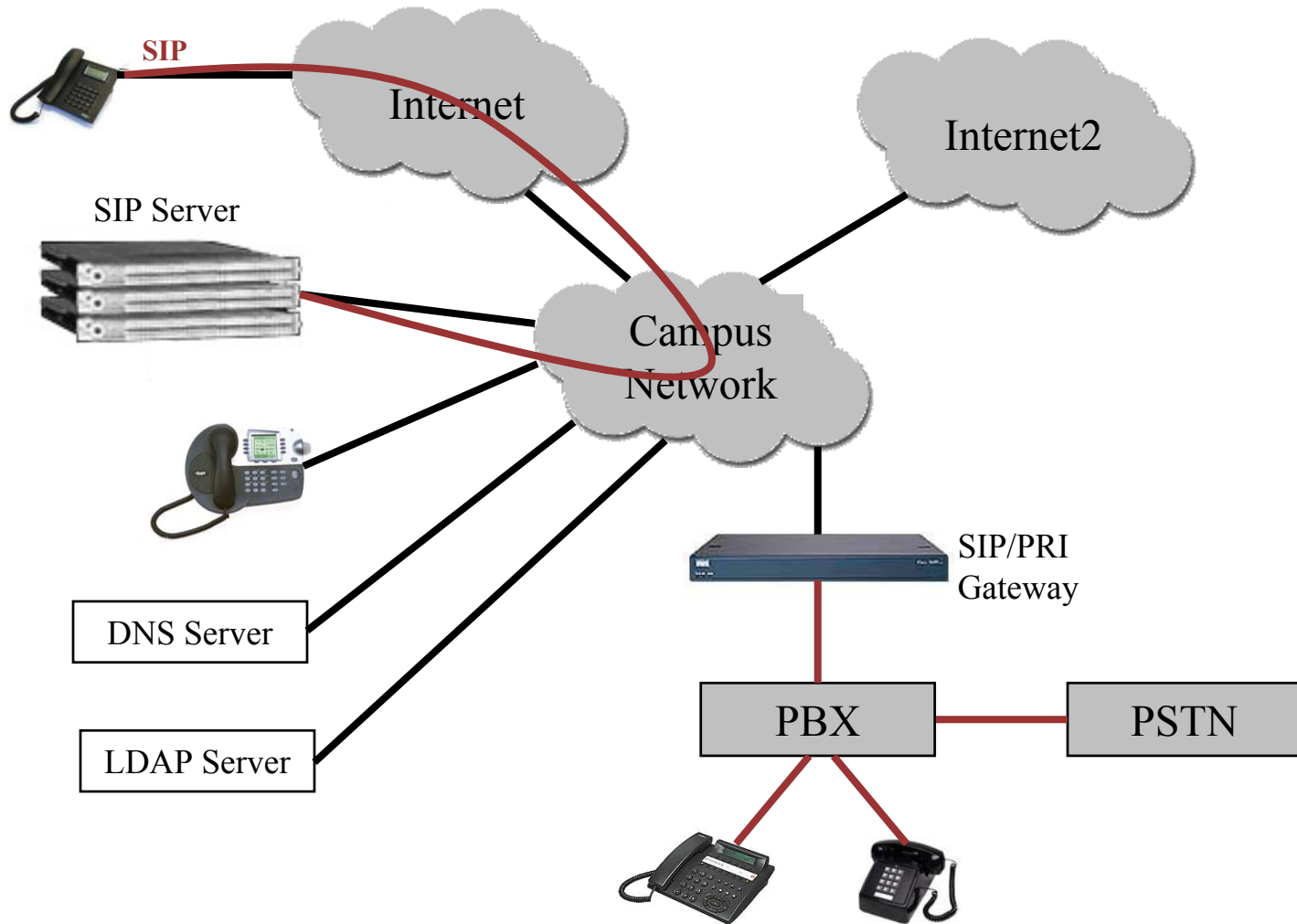
SIP.edu Configuration



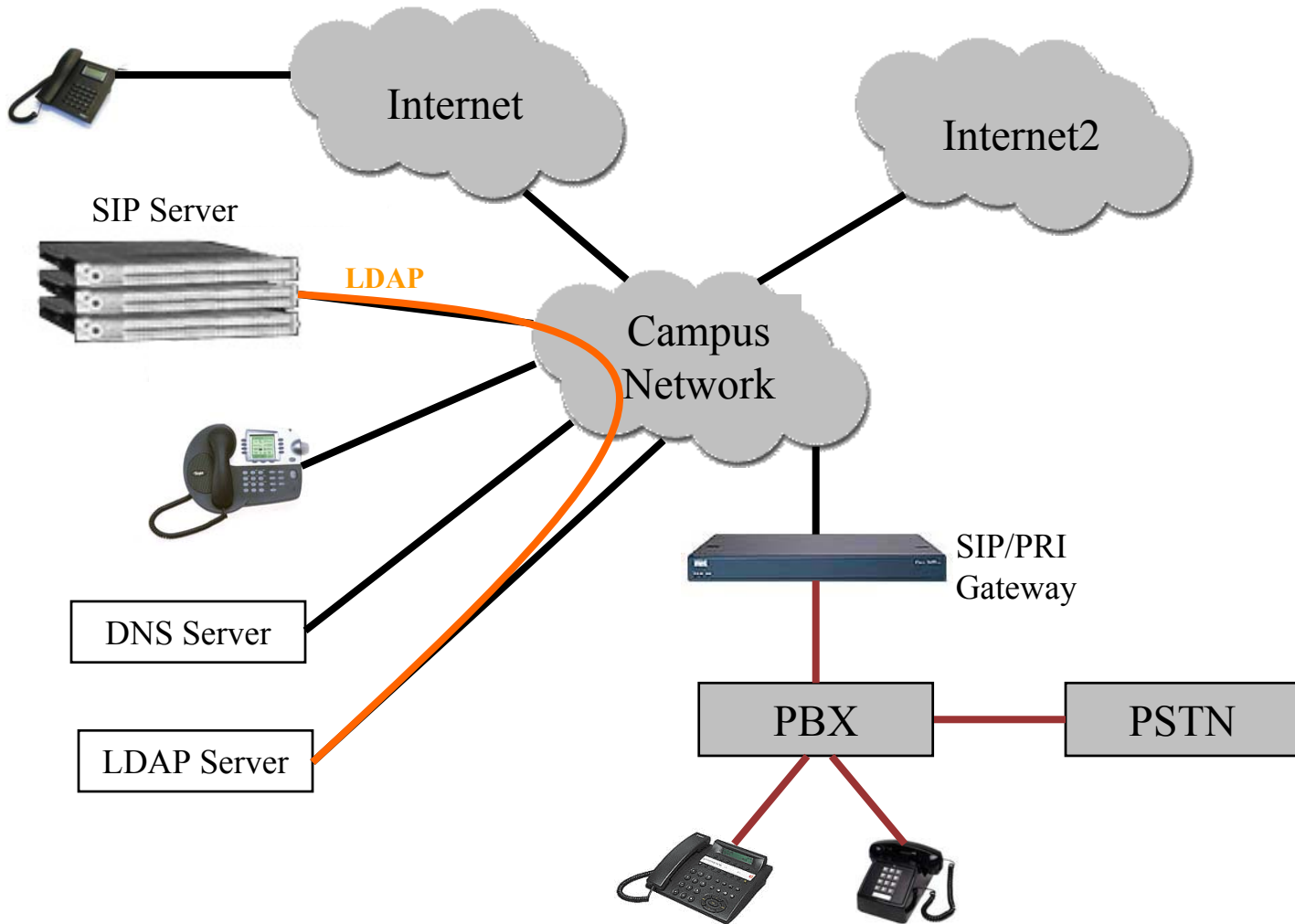
DNS SRV Lookup



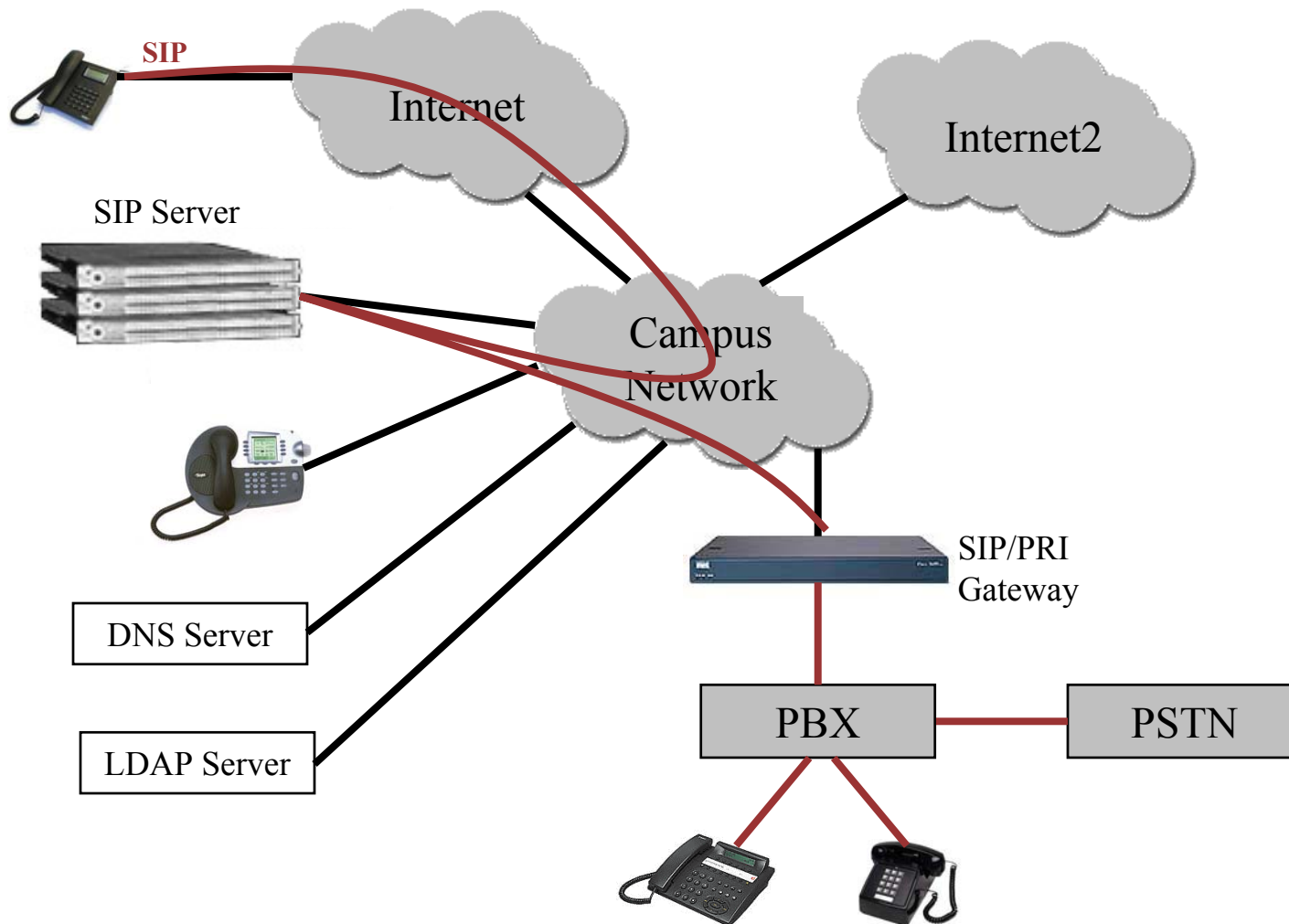
SIP INVITE



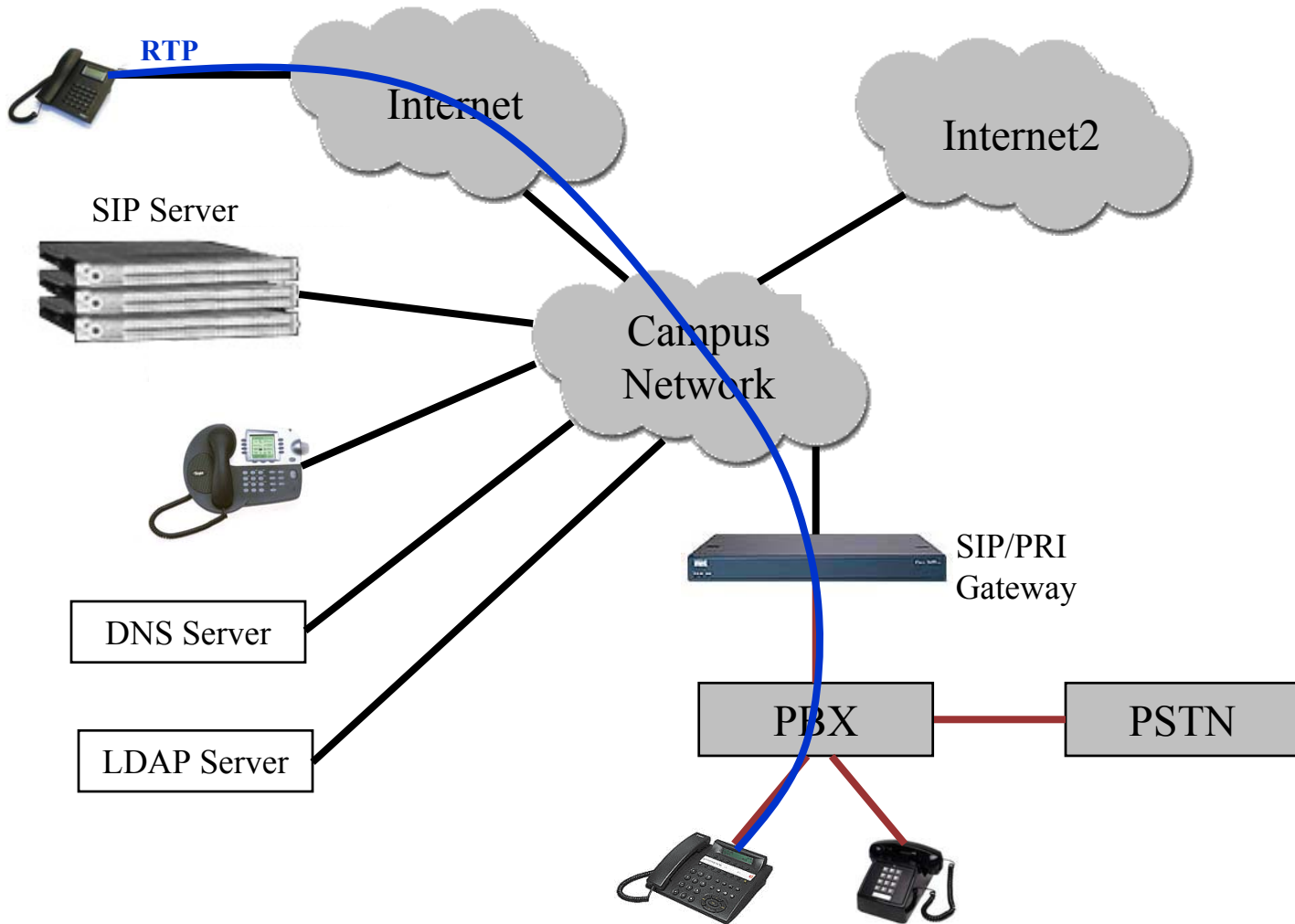
LDAP Lookup



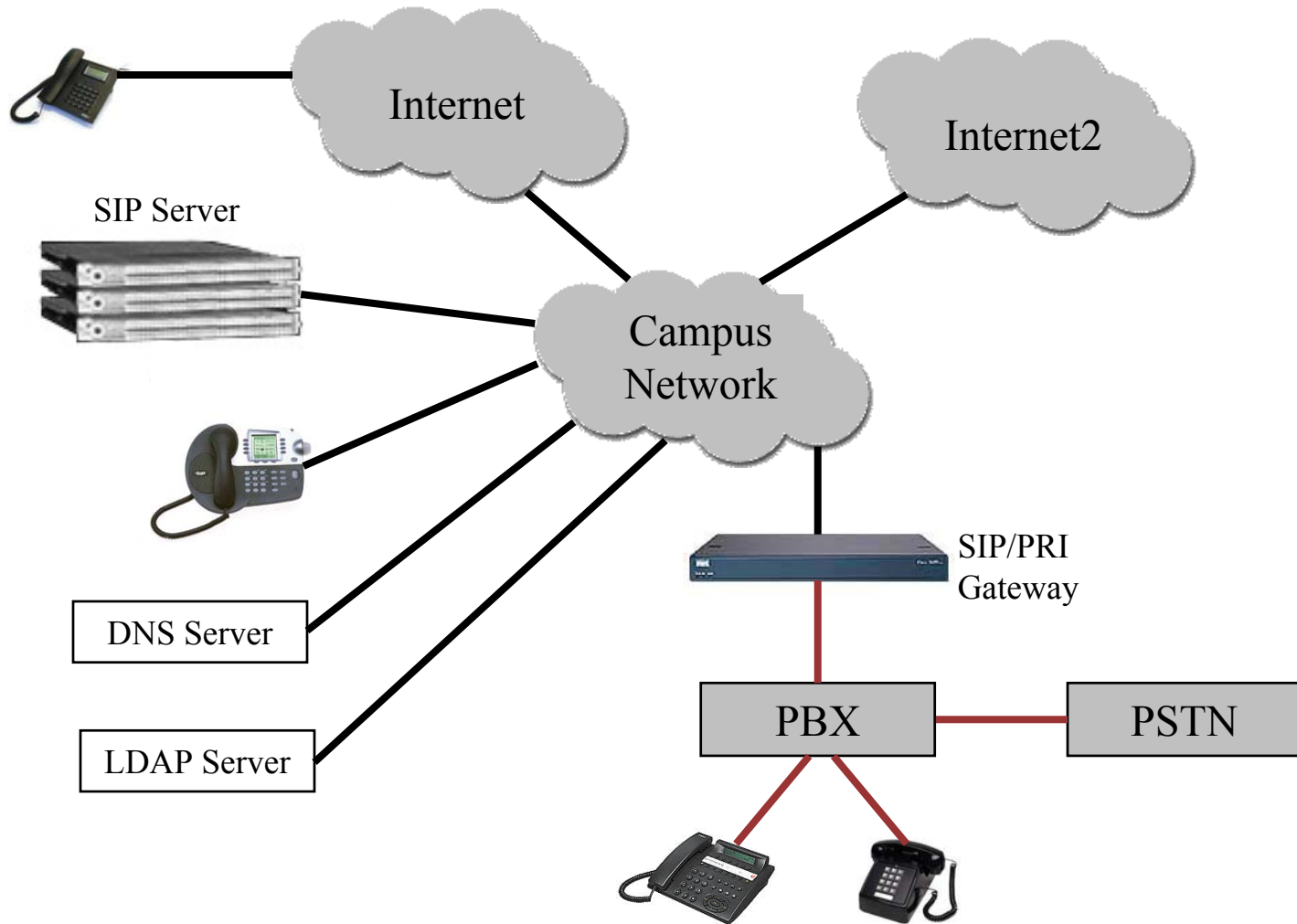
Call Sent to PBX Gateway



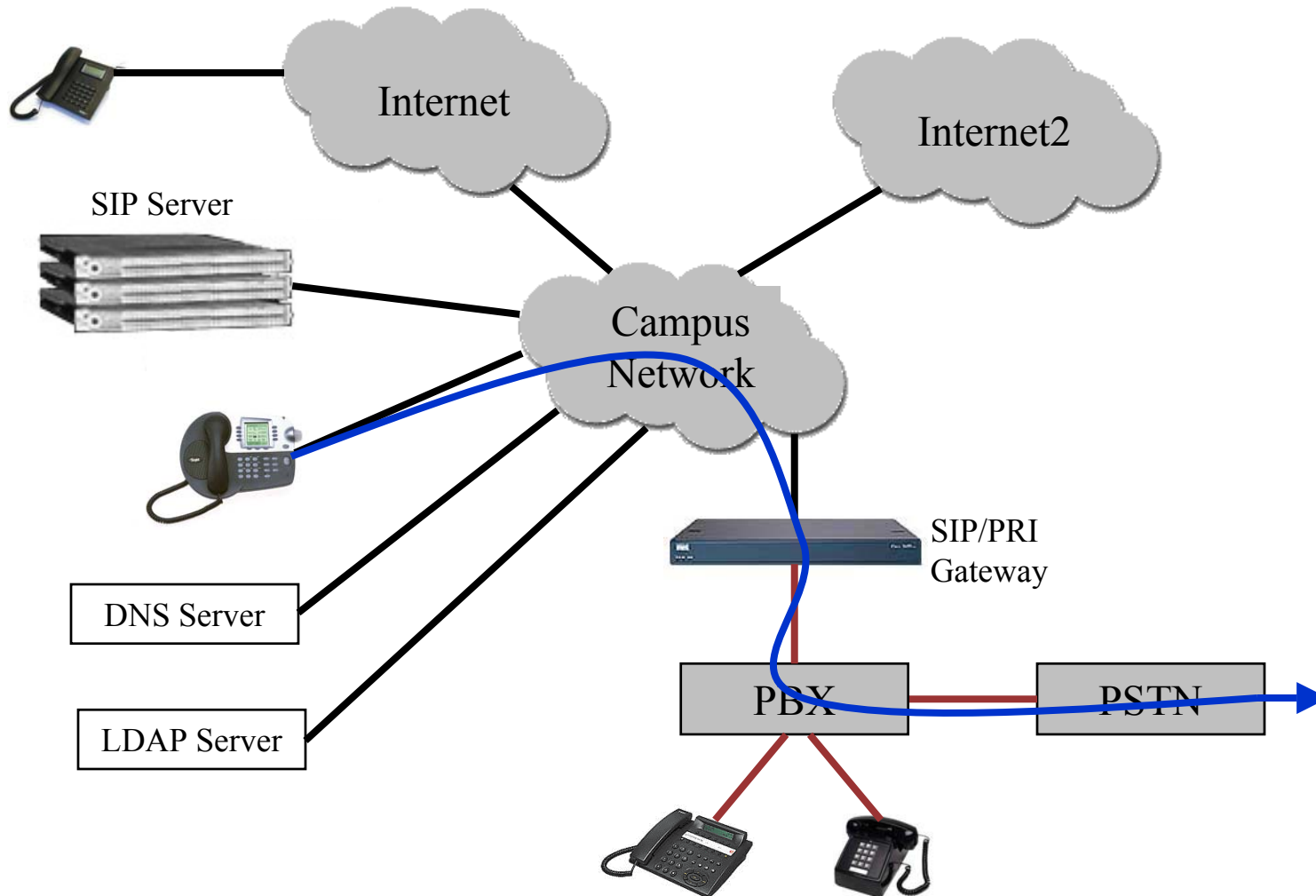
Media Stream via Gateway to PBX



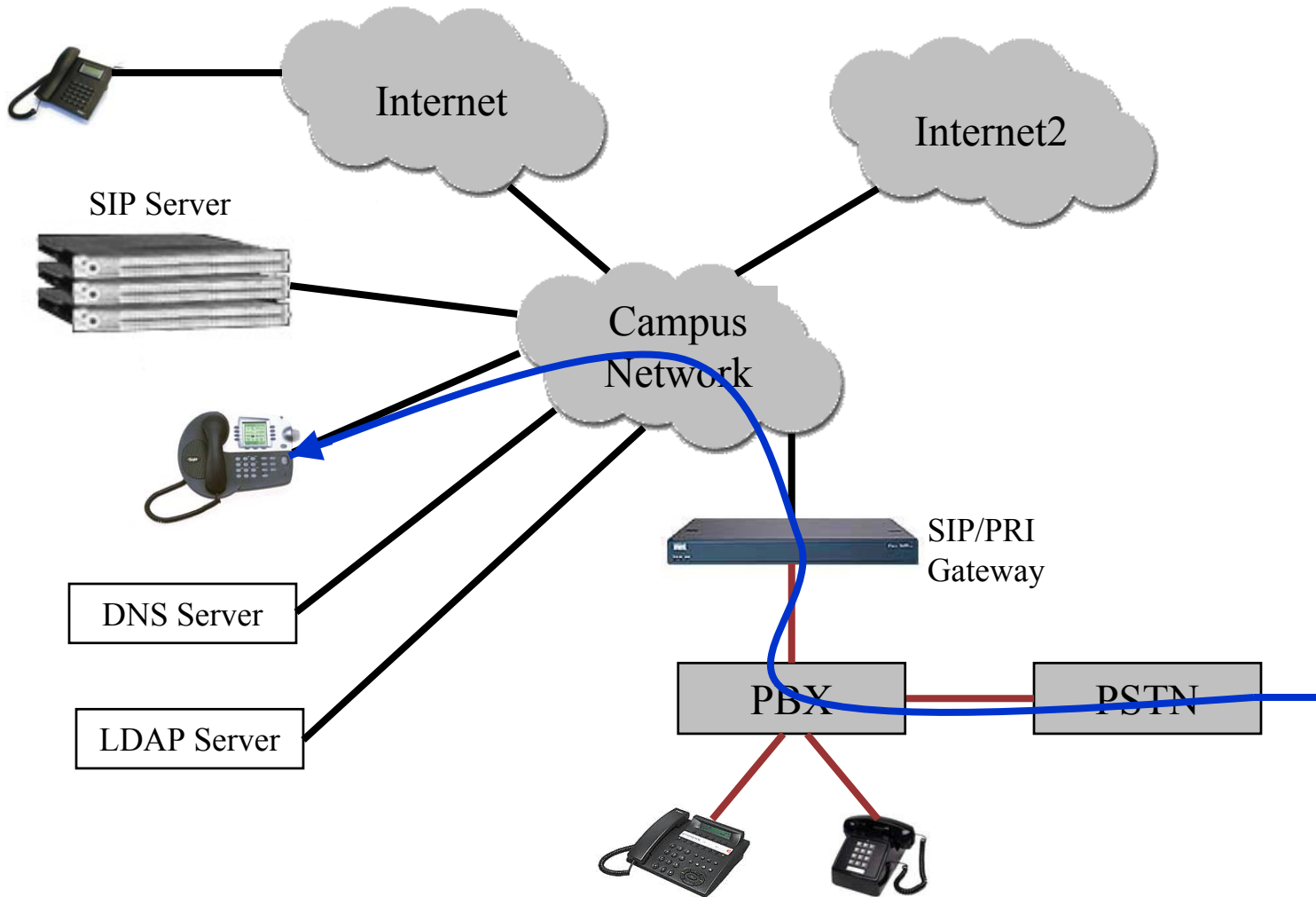
SIP.edu Configuration



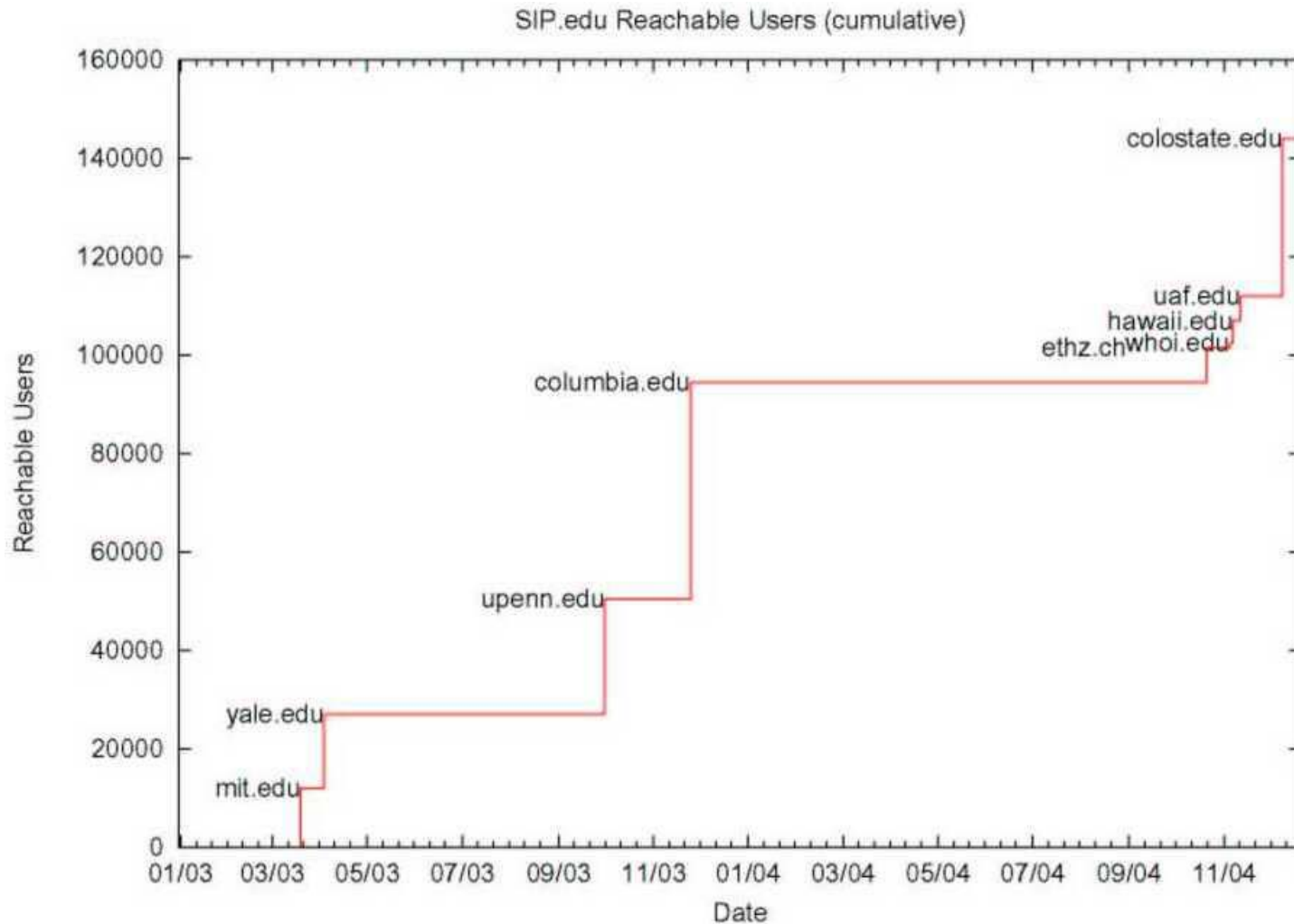
SIP to PBX and PSTN Calling



PBX and PSTN to SIP Calling



SIP.edu Reachable Users



SIP.edu Quotes

“This project was initiated by the need to provide reliable, IP based phones for the Toolik Lake research station located north of the Brooks Range.” *University of Alaska Fairbanks*

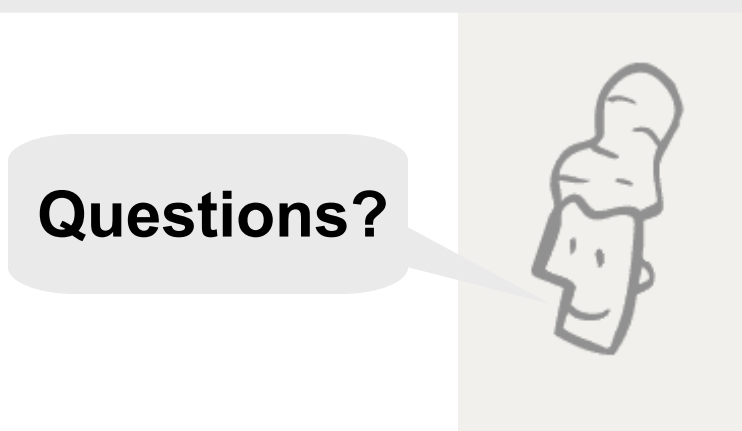
“sipETH: Internet Telefonie for the ETH Zurich: This project has been inspired by the Internet2 SIP.edu initiative. During the exploration process many new ideas have led to a new vision for our project.” *ETH Zurich*

“Our SIP.edu infrastructure has allowed us to utilizing our Internet2 connections to reestablish the telephone tie lines connecting out two institutions.” *MIT and WHOI*





SIP.edu – Just do it!



Questions?