

SIP.edu

A PROJECT OF  INTERNET2

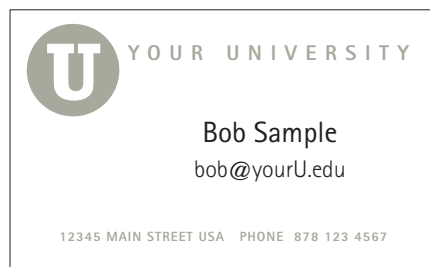
Integrating
voice, video,
IM, and other
media for
real-time
communication
over the Internet

Session Initiation Protocol—an open standard for establishing real-time communications sessions over the Internet.

Providing a Converged Electronic Identity

The Internet2 SIP.edu initiative promotes advanced real-time communications through the growth of campus connective middleware infrastructure and services. SIP is the Session Initiation Protocol—an open standard for establishing real-time communications sessions over the Internet. SIP is media agnostic and can be used to establish voice, text, and video calls at any fidelity of bit rate, depending only on the capabilities of the end systems. SIP.edu is growing application layer connectivity to enable mass use of advanced real-time personal communications clients and devices that integrate voice, video, instant messaging, and other media.

SIP.edu imagines a future in which the email address becomes a one-stop converged electronic identity. A business card in this future would have only a single address that could be used for email, voice, video, and instant messaging.



To grow this style of addressing and to promote the use of SIP, the SIP.edu Working Group has specified an initial architecture that translates the email address in an incoming SIP call to the user's phone number and rings the appropriate legacy phone through a gateway.

Easy Deployment

To make deployment as inexpensive and as simple as possible, the SIP.edu Working Group has published *The SIP.edu Cookbook*, which includes recipes for a variety of open-source and proprietary platforms. Several Internet2 corporate partners (including Cisco Systems and Avaya) have partnered with Internet2 member universities to deploy proof-of-concept SIP.edu implementations and have subsequently made package offerings to the broader Internet2 membership.

What About Numbers?



Many devices offer poor or no support for entering alphanumeric SIP addresses. To allow adopters of advanced personal communications to be called from such devices, the SIP.edu Working Group helped design and create an initiative for numeric Internet dialing called "ISN" (ITAD Subscriber Number).

An ISN is formed by joining a domain-local subscriber number to an ITAD (Internet Telephony Administrative Domain) number, using an asterisk as the delimiter. For example, subscriber 1234 in ITAD 256 would have ISN: 1234*256. An ISN is an Internet-style phone number, where the asterisk is analogous to the @ sign in an email address and the ITAD is analogous to the campus domain name. ITAD domain numbers are allocated at no cost by IANA and implementation of ISN is quite simple.

More information on ISN, including a "cookbook" with recipes for several open-source voice platforms, is available at: <http://freenum.org/>

How it Works

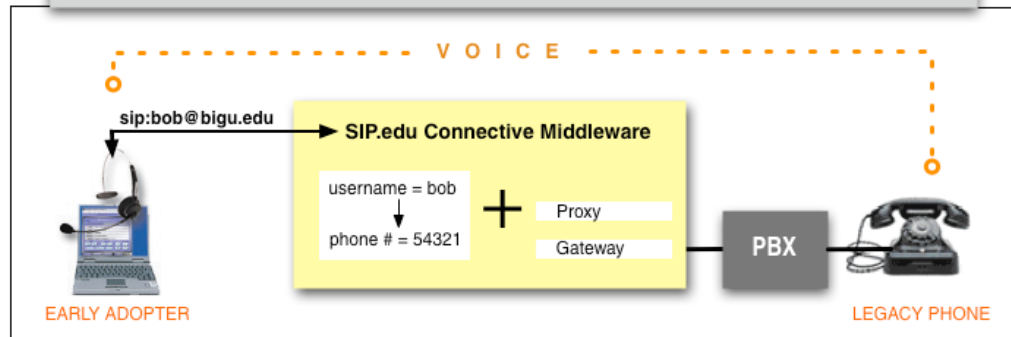
The components of a SIP.edu implementation include:

- a SIP DNS SRV record pointing to a campus SIP proxy server (or multiple servers, if fault tolerance is desired);
- a SIP proxy server integrated with the campus directory to alias internal extension numbers to user-names (many SIP.edu implementations choose to leverage existing eduPerson LDAP directories);
- a SIP-PRI gateway to terminate inbound SIP calls and gateway them to an appropriate legacy phone.

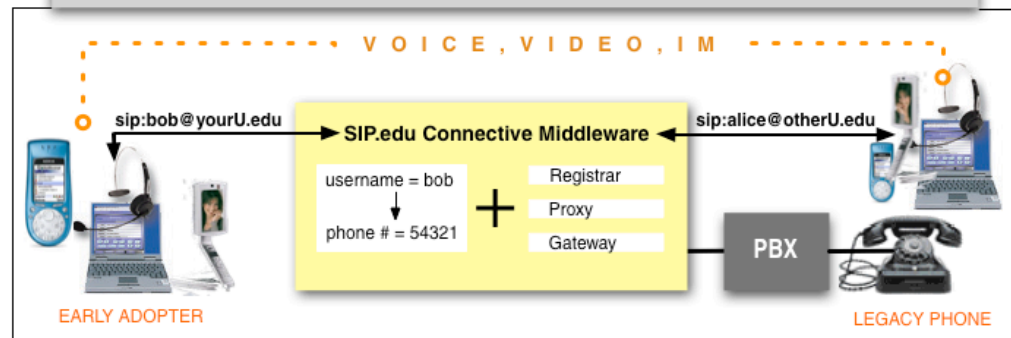
By deploying these three simple and inexpensive components, a university can make all of its users voice-reachable at existing campus email addresses. A fourth component, a SIP registrar, may be deployed to support use of advanced personal communications clients and devices on campus and to enable peer-to-peer IP communications that vastly exceeds plain-old telephone service (POTS) in its richness of features and media.

Campus SIP infrastructure can make real-time communications work just like email at comparable cost, enabling rich personal communications applications and services that leverage existing campus identities.

YourU.edu makes all its users callable at their email addresses



YourU enables advanced end-to-end real-time communications by supporting its users' use of SIP devices and clients.



Resources:

Home Page
<http://www.internet2.edu/sip.edu/>

SIP.edu Cookbook
<http://mit.edu/sip/sip.edu/>