

## → AARNet 2004

IP Telephony Working Group

Session Two: BoF Discussion

QUESTnet 2004  
6<sup>th</sup> July



## → Topics for discussion

- GNU Gatekeeper
- Where is SIP?
- SIP Workshops this year
- VoIP Charges
- Performance
- PABX replacement
- Dial Plan
- ENUM
- IP to IP gateway/gatekeeper
- Who wants to configure their PC to make SIP calls in this session?
- **Your thoughts here!**



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## → GNU Gatekeeper

- A presentation from Kewin Stoeckigt



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## → SIP and the future of H.323

- Will SIP replace H.323? Yes – all the vendors are moving towards SIP.
- Will H.323 die instantly?
- Will these protocols run in parallel?



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## → SIP and the future of H.323

- H.323 is currently as good as it will get.
- SIP has huge potential in many areas including telephony, video, presence and messaging. What does this mean for your campus?
- Pre requisites and Steps to migration



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## → SIP Protocols

- SIP is a text based protocol, leveraging existing experience from HTTP.
- This makes it very easy for vendors to implement (and hence cheaper).
- This means many new, unknown vendors are able to produce SIP products.
- To extend SIP, you only need to add new headers. If a SIP device doesn't understand a header, the header is ignored.



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## → SIP

- Advantages
  - VENDOR INDEPENDENT
  - Easier to extend the standard
  - Price
    - Price of "PABX" is cheaper (Open source SIP PABX is available – and was used as the basis of the APAN SIP workshop on Saturday).
    - Price of SIP endpoints is MUCH cheaper than H.323 endpoints.
  - Security
    - Built into the SIP protocol, non-existent in H.323.

## → Some features natively in SIP

- Call Pickup
- Transfer (Native – now implemented as a standard in H.323, was previously based on proprietary vendor extensions)
- Forwarding
- Encryption
- Not Just Telephony (video, messaging, presence)

## → SIP.edu initiative

- Sip.edu is an Internet2 project to promote the use of SIP to achieve the convergence of voice and e-mail identities.
- Provides a wealth of resources on how to implement SIP.
- Take a look at <http://voip.internet2.edu/SIP.edu/>.
- [SIP.edu Cookbook](#) (cookbook)
- ["The Internet2 SIP.edu Initiative"](#) (whitepaper)



## → Implementing SIP.edu

- The participating enterprise makes its telephones and users reachable via SIP.
- This is done by integrating the legacy campus PBX and person directory using a SIP proxy server and a SIP-PRI gateway.
- Once this first step is taken, participants can begin to explore and implement other SIP services.

(This slide gratuitously plagiarised from the SIP.edu home page, at <http://voip.internet2.edu/SIP.edu/>)

Is anyone planning to connect to SIP.edu?

## → SIP Competition

AARNET crystal ball competition:

When do you believe SIP will replace H.323 in your institution?

Write your answer and submit to the committee.  
Results published at QUESTnet 2005.

## → SIP Workshops

- A one-day SIP workshop was run at APAN/QUESTnet.
- This was a brief introduction to SIP, and an opportunity for participants to build a working SIP redirect server. It was always intended that this should be a two-day workshop to include many more features of SIP.
- Would you like this workshop to be run in your state, and extended? What would you expect from this workshop?

## → VoIP

- VoIP Charges

## → Performance

- QoS and SIP
- VoIP monitor

## → PABX replacement

- Is your organisation looking to upgrade, or replace your PABX in the next 12 months?
- What technologies are you looking towards?
- Have you replaced your PABX? What did you choose, and why?

## → Dialplan

- Local Dialplan:
- Voice calls: (from registered nodes)  
National calls to PSTN use the ACA Australian Number Plan.
  - 0 [2,3,4,7,8] XXXX XXXX state prefix + 8 digit numbers, or
  - 61 [2,3,4,7,8] XXXX XXXX E164
- H.323 calls: (via the public GK)  
All use the E164 number. To accept calls to a terminal you must use your own Gatekeeper.
  - 61 [2,3,4,7,8] XXXX XXXX, or
  - H.323 alias or ID. eg Rod.Ibell@usq.edu.au

## → ENUM

- ACA formed the Australian ENUM Discussion Group in March 2003.

### **Proposed timing of trial**

- ACA called for expressions of interest for a trial Tier 1 Registry Operator in June 2004.
- Trial Tier 1 Registry Operator selected in July 2004.
- Trial to commence in second half of 2004.
- Trial will run for minimum 12 months, with option to extend for another 12 months.
- Source  
[www.aca.gov.au/telecomm/telephone\\_numbering/enum\\_nsg2/eoi.htm](http://www.aca.gov.au/telecomm/telephone_numbering/enum_nsg2/eoi.htm)

## → What to do about ENUM

- ENUM Status:
  - The closing date for EOIs for the ACA trial Tier-1 Registry Operator for the domain '1.6.e164.arpa' is 7<sup>th</sup> July.
- What does this mean for the University community in Australia?
- Should the community run a T2 registry?
- Who should run it?

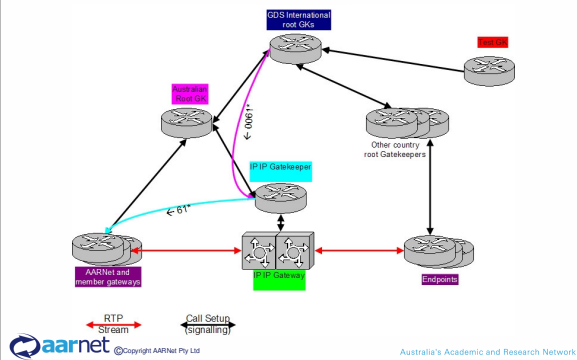
## → IP to IP Gateway/Gatekeeper

- What are the uses?
  - Peering two H.323 networks
    - Network demarcation (hide internals of network)
    - Dial plan translation
    - CDR billing record collection point

## → IP to IP Gateway/Gatekeeper

- What are the uses? (cont)
    - Gateway to Internet for IP Phones
      - Can act as a “firewall” for IP phones
- Eg. All calls to Internet destinations are made through the IP-IP gateway, so the phone does not need to be visible from the Internet
- Present a single IP address to the outside world
  - Demarcation point for collecting CDRs from phones
  - Will you be implementing an IP-IP GW/GK in your institution?

## → IP-IP International Gateway/Gatekeeper GDS peering configuration



## → Job Vacancy

### Expressions of Interest are invited to fill a vacancy on the AARNET IP Telephony Group Steering Committee.

- As a result of recent appointments within AARNET a vacancy exists in the IP Telephony Group Steering Committee.
- If you are interested in extending your horizons in this exciting and rewarding field and believe that you are in a position to offer your services, expertise, knowledge and of course some of your free time to join us in our quest for the 'Holy Grail' of the IP Phone, please send us a your details including a summary of your current background, expertise and experience, particularly in the field of IP Telephony.
- Details about the group can be found at: <http://www.aarnet.edu.au/engineering/wgs/iptel/>
- Please forward details to :  
Working Group Support Officer  
Email [ann.petigrew@aarnet.edu.au](mailto:ann.petigrew@aarnet.edu.au)  
Telephone: (02) 6222 3536

## → Configure your PC to make SIP calls

- Still awake?
- Want to configure your PC to make a SIP call?
- You'll need a SIP client – MSN messenger is a good start if you use Windows.