Packetizer®

Into the Cloud

Future Direction of Video Conferencing

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H323.net

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What is h323.net

- Open standard
- Open source (GnuGk gatekeepers)
- Open network
- Free Service
- Direct Media NAT Traversal Technology

What's with this cloud?

- Walled private network of virtual computers
- No physical box no physical location
- Elastic: network can expand/contract when required

Conferencing in a Cloud?

Issues

- No such thing as “Real Time” in the virtual world
- The Cloud has a firewall.
- The Cloud has a NAT! (external addresses mapped to internal)

Advantages

- Cost: Up to 75+% cheaper then a physical box
- Services added quickly without huge expense
- Centralised location

NAT Traversal

- Whether IPv6 or not, NAT is part of the furniture
- H.323 in the only protocol with a standard solution for NAT Traversal (H.460.18/.19/.23/.24)
  - The key solution to traversing NAT is to understand how the NAT behaves and work with it.
  - Calls should never fail because of NAT
  - Callers should be advised that a call cannot be routed due to NAT

NAT Traversal Standards

- H.323
  - H.460.18 Traversal of Signalling
  - H.460.19 Traversal of Media (proxying)
  - H.460.23 NAT Determination
  - H.460.24 Point to Point Media (proxy offload)
    - H.460.17 Tunneling RAS over TCP connection (TCP Keep-Alive)
    - H.460.15 Signalling suspension and redirection
- SIP
  - NONE

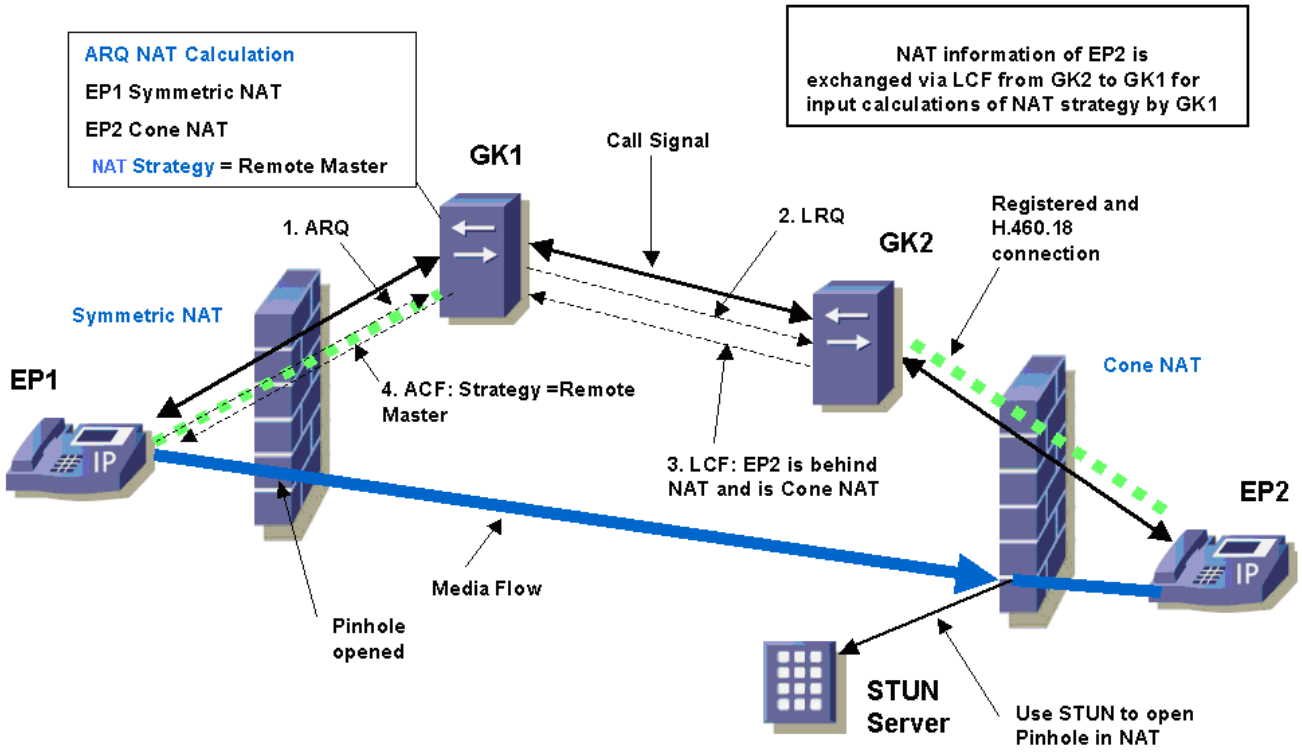
Drafts

draft-ietf-mmusic-ice (6 years 19 rev 120pages 2 years idle in editors queue)

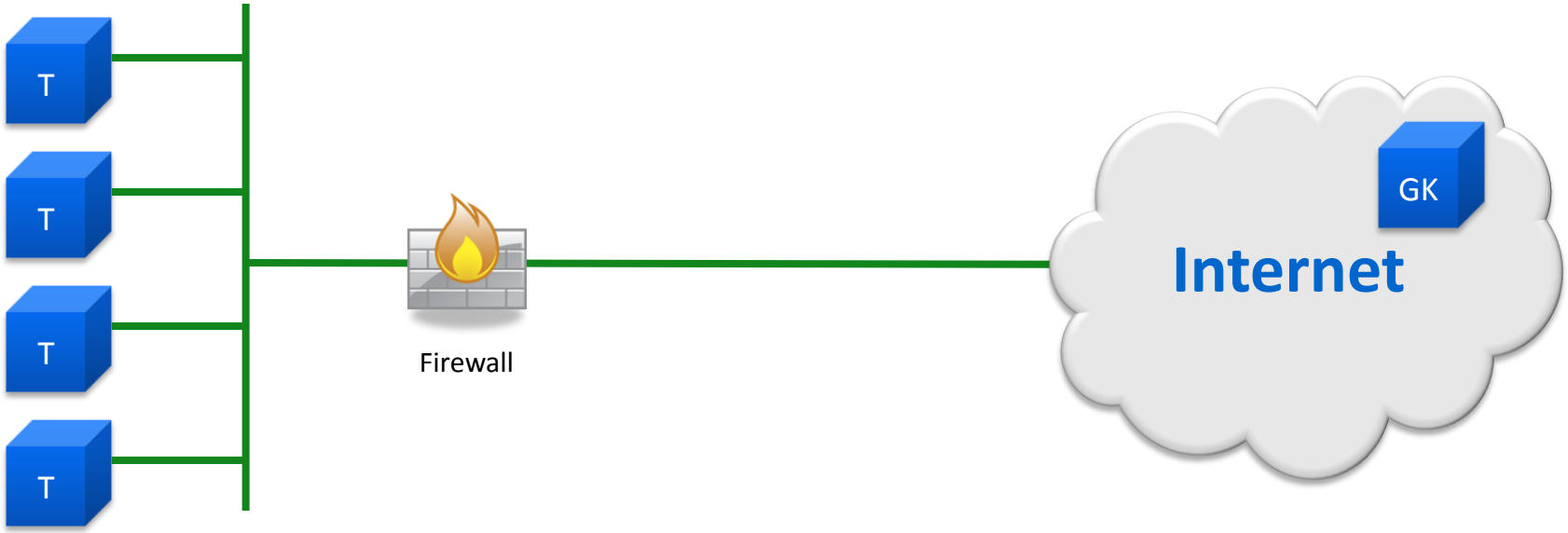
draft-ietf-behave-turn (9 years 14 rev still work in progress)

Big move to Peer to Peer SIP? (Author of documents now works for Skype)

Direct Media

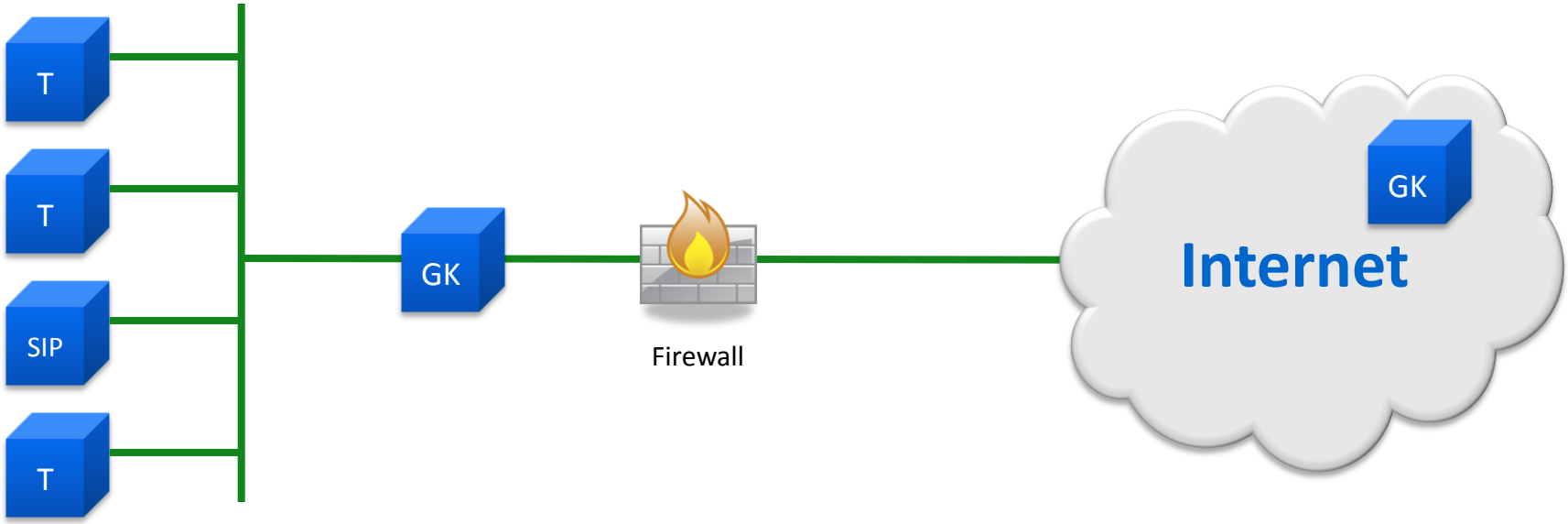


h323.net Direct Registration



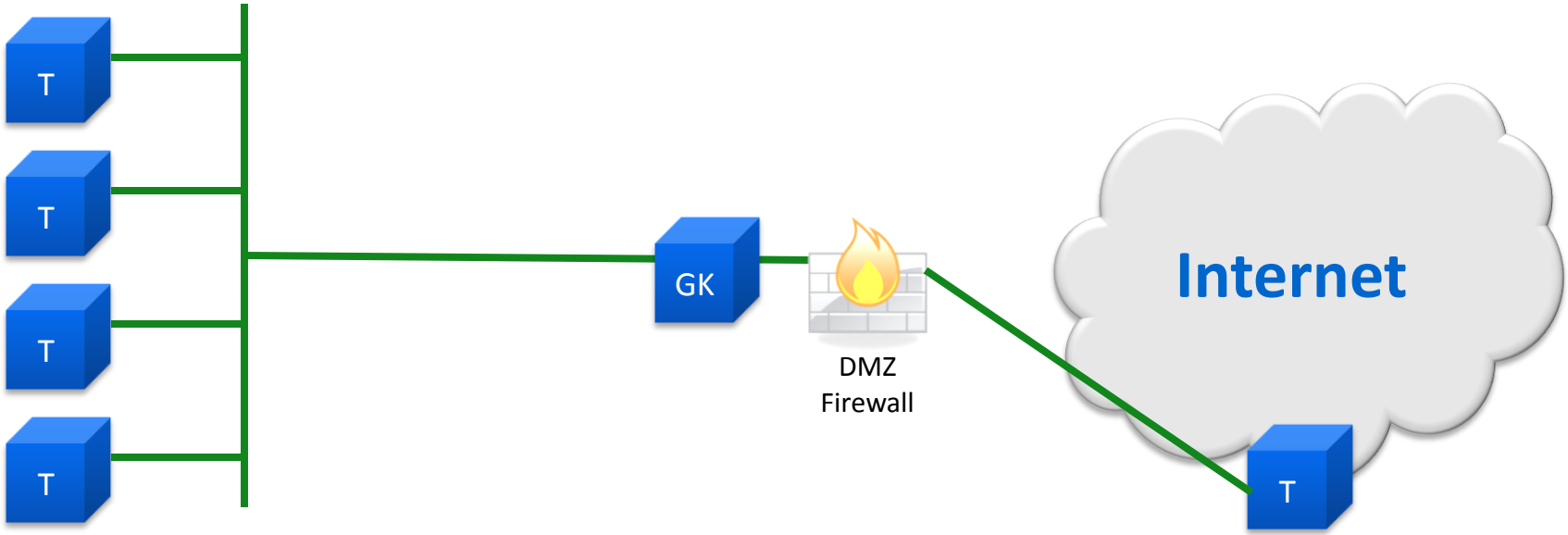
- Terminals (T) and Gatekeeper (GK) must support NAT/FW traversal standards

h323.net Gk Registration



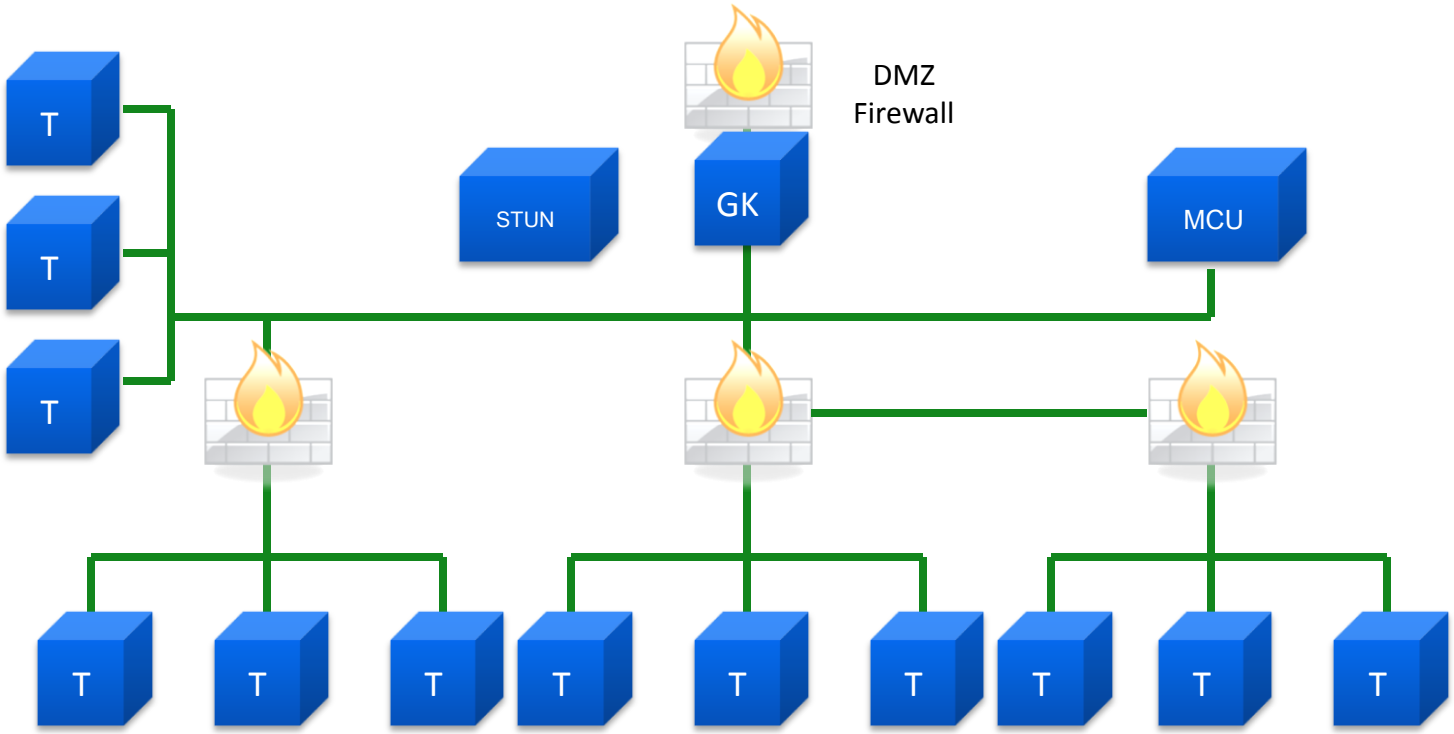
- Gatekeeper must proxy signaling and media on behalf of endpoints

Peering with h323.net



- Gatekeeper In the DMZ: ENUM and/or SRV DNS records point to public IP of Firewall

Campus Example



- All calls are direct except calls out of the network

Network Standards

- H323v4
- H323 Annex O URI dialling
- ENUM RFC 3761
- Direct Media H.460.18/.19/.23/.24
- H.245 Tunnelling
- Audio G.711, G.729
- Video H.263

Call Routing

- DNS (h323:user@domain)
- E.164 (via nrenum.net)
- GDS (Internet2)

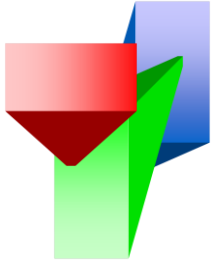
- All registrations assigned an E.164 number (87840) and @h323.net URI so can send and receive either format.

New Services

- Presence
- File Transfer
- Text Messaging
- Multimedia messaging
- Cloud based MCU’s
- Termination to/from 3G, PSTN
- Bridging to Skype
- H.325 type services

References

- Open community specifications
  - www.h323forum.org/specifications
- GnuGk Project
  - www.gnugk.org
- H323Plus
  - www.h323plus.org
- PacPhone
  - www.pacphone.com
- Packetizer
  - http://www.packetizer.com/ipmc/h323/



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