Computing Center of Max-Planck-Society and
Institute of Plasmaphysics

# H.350: Everything OpenSource and solving the H.323 problem

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# Outline

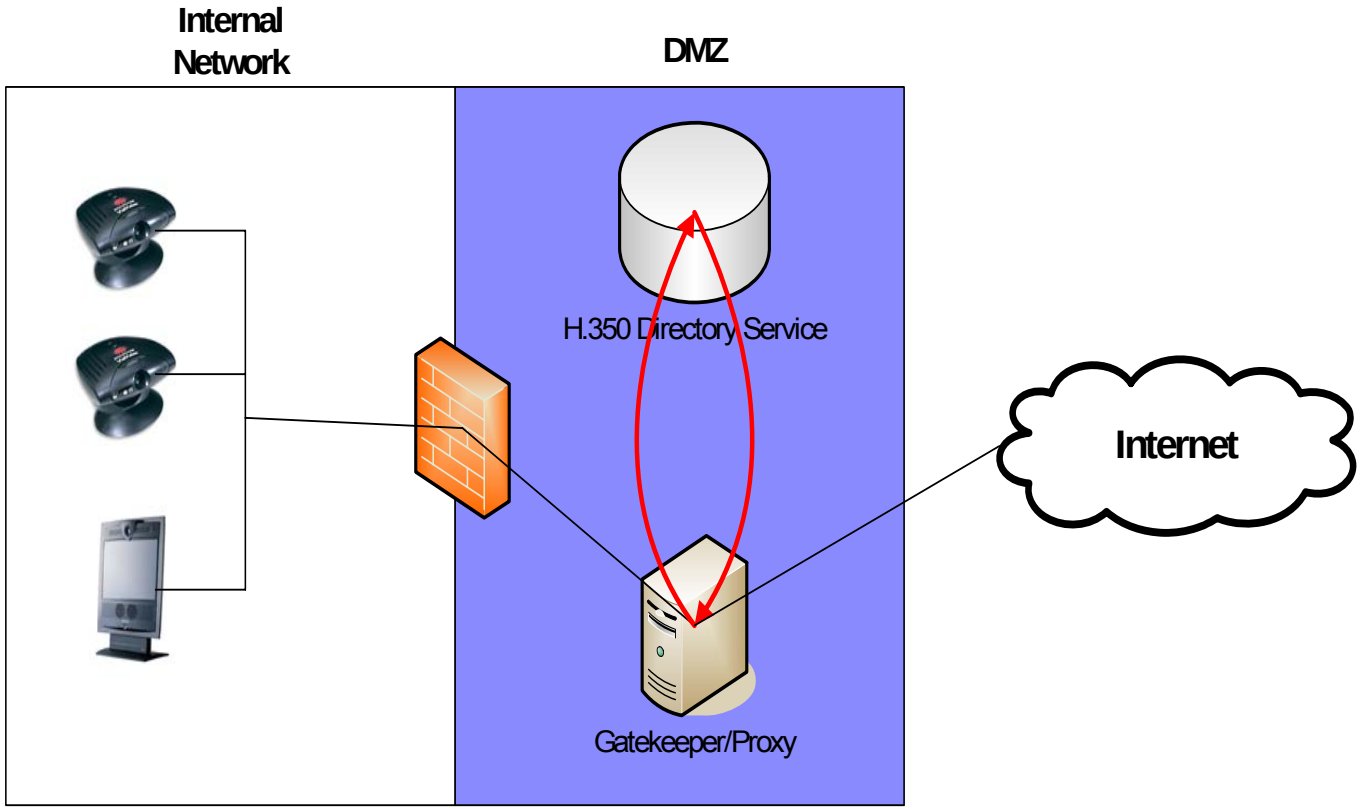
- The environment
- How does it work?
- Integration in the existing environment
- Problems
- What about the future? Are other systems already in place?
- References/Further information



# The environment

- A ‘more or less’ mixed environment
  - Room based systems: Tandberg
  - Desktop  based systems: Polycom ViaVideo, PVX
  - MCUs: Codian, Tandberg (courtesy of Codian & Tandberg)
  - Gatekeeper: Multi-zone GnuGK 2.0.8 (Linux based)
    - Two zones
    - Running in full proxy mode to overcome the H.323 firewall issue
  - H.350 Directory Service: OpenLDAP

# The environment

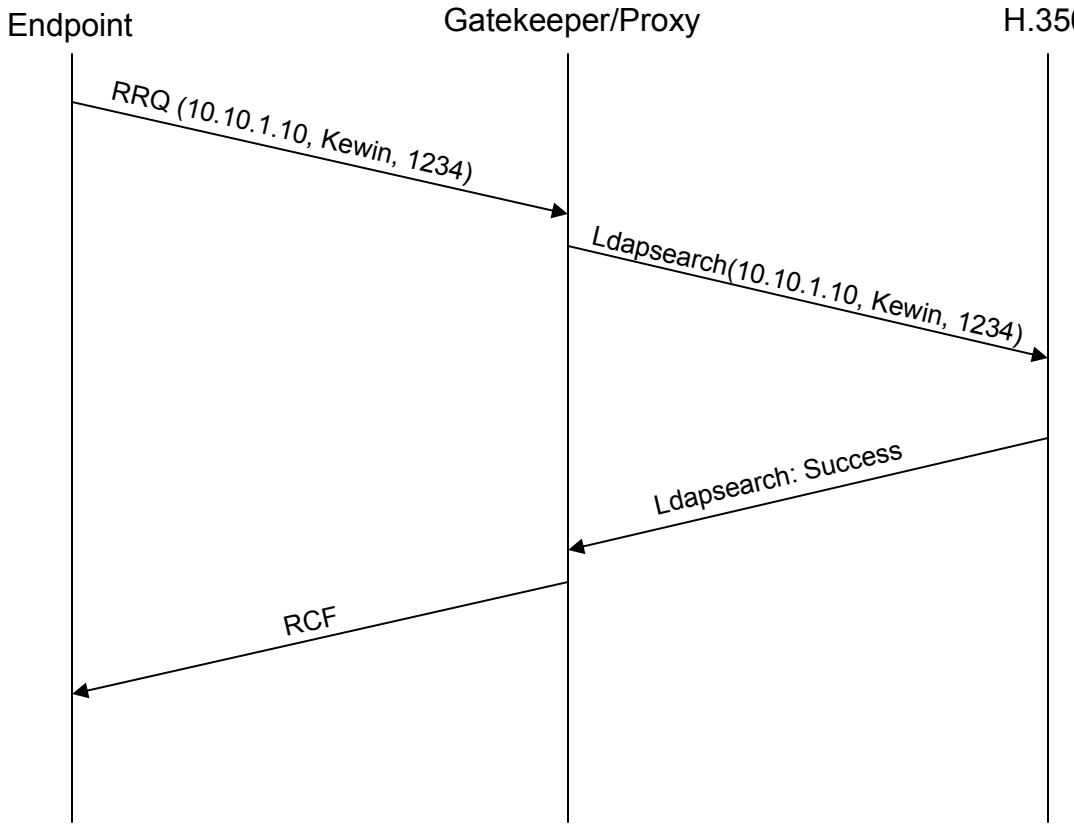



Images: © Polycom, © Tandberg

# The environment

- All VC endpoints are registered in their zone at the Gatekeeper
  - Registration requires a matching ‘IP-Alias-E.164’ combination
    - (Even a typo in the Alias causes a rejection)
    - Does not work well with DHCP (Workaround possible)
  - Authentication/Authorization is essential to ensure a high quality/availability/reliability of service (not QoS!!) → Part of our security concept (very restrictive)

# How does it work?




1. Endpoint sends RRQ (Registration request) to the Gatekeeper
2. The Gatekeeper sends an LDAP search using the 'IP-Alias-E.164' combination to the H.350 Directory Service
3. H.350 confirms search with success
4. The Gatekeeper sends a RCF (Registration confirm) to the endpoint



# Advantages

- In this way we can support H.350 authentication even though the endpoints do not support H.350 (unfortunately only a few systems have this feature already)
- This setup works with future developments
  - SIP
  - Integration of Management Tools
    - E.g. the Management Tools can use the H.350 Directory Service to manage phonebooks, etc.
  - It scales well, since we do not rely on ‘Corporate licenses’ for 20 endpoints, etc.  (we can have as many as we want to ☺ )



# Integration in the environment

- Only a few changes are necessary (Changes are currently applied)
  - Install and configure OpenLDAP according to the H.350 cookbook (http://lab.ac.uab.edu/vnet/cookbook/)
  - Recompilation and reconfiguration of the Gatekeeper/Proxy
    - (I prefer GnuGK 2.0.8 for many reasons…)
  - Conversion of the current mysql database entries into H.350 Directory Service entities
    - (Script almost done)
  - Update of status webpages at http://www.rzg.mpg.de/vc/
    - Phonebook, Call status, Registered endpoints, etc.
  - Update of our management webpages
    - Add new systems, etc.



# Problems

- Most of the problems were discovered during the GnuGK-H.350 workshop at the 19th APAN Meeting in January 2005 (http://www.rzg.mpg.de/vc/docs/apan/)
- Understand and install OpenLDAP, including the configuration of the H.350 Directory Service
  - It looked easier than it was…
- Underlying library for GnuGK had to be compiled differently, otherwise the Gatekeeper crashes while initializing the LDAP support
- Fixing the ldaplink.cxx file of GnuGK



# Problems

- Why going through all the problems?
  - Its worth it!! H.350 is the way to go
  - We wanted to have everything up and running using OpenSource software → we have a quite a few smaller Institutes who can not afford a commercial solution
  - We chose GnuGK as our main Gatekeeper about 3 years ago; running the system in full proxy mode to overcome the H.323 Firewall issue
    - The system works very reliable
      - In 2004 the system handled more than 11000 calls with way more than 2TB of data
      - From time to time we run > 60Mb/s through the proxy
    - The system is OpenSource → free
  - We were not keen to replace a reliable system (‘Never touch a running system’)



# What about the Future? Are other systems in place already?

- I hope many of you will use H.350
  - In combination with GnuGK, because the combination of OpenLDAP and GnuGK is free, easy to use and very reliable
- Other systems already in place:
  - Flinders University (Adelaide, Australia), 3/2005
    - GnuGK 2.0.8, Novell LDAP (Schema files were adjusted and will be made available for the cookbook soon)
  - Max Planck Institute of Plasmaphysics (Greifswald, Germany), Test-Setup since 12/2004
    - GnuGK 2.0.8, OpenLDAP (Full migration to the ‘production’ server in 5/6/2005
  - Australian public and national Gatekeeper@AARNet (Canberra, Australia), Systems will be deployed in 5/6/2005
- Future plans
  - Install more H.350 Directory Services in combination with GnuGK
  - Implement ‘all’ aspects of H.350 in GnuGK



# References/Further Information

- Installation and configuration will be made available for the next version of the H.350 cookbook
- Webpage of the APAN Workshop – http://www.rzg.mpg.de/vc/docs/apan/
- At the next QUESTNet (July 2005)
  - there will be a full day 'hands-on' workshop on how to setup H.350 with GnuGK
- Send me an email kfs@rzg.mpg.de or kewin.stoeckigt@aarnet.edu.au



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