

## H.323 Gatekeeper installation and configuration

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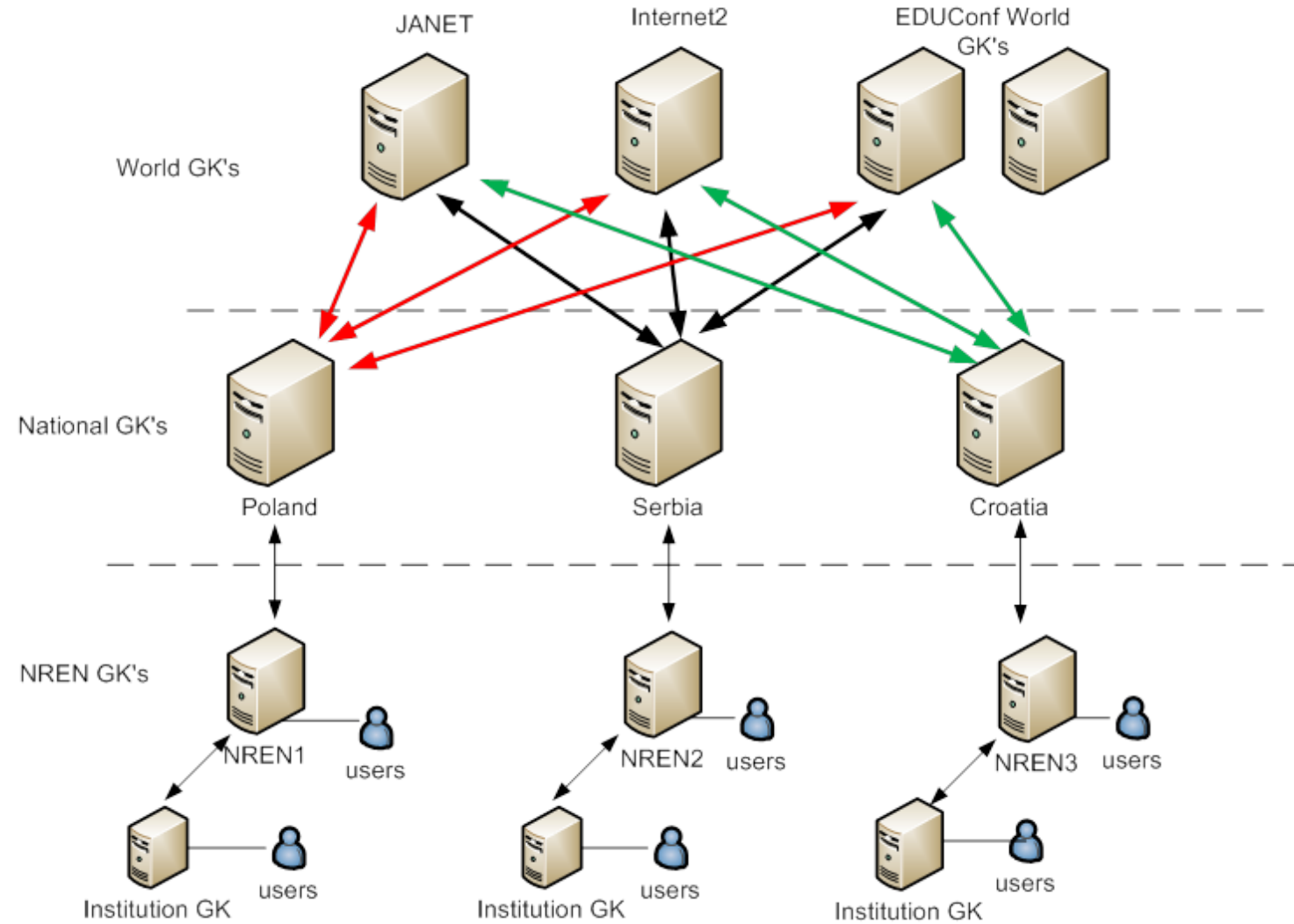
GN3plus Symposium  
24 – 25 February 2015  
Athens

# A Description of the H323 technology and Global Dialling Scheme (GDS)

- **H.323 Gatekeeper** is the central controlling device in the H.323 environment
  - admission control
  - translation of H.323 addresses to IP addresses
  - zone management
  - call control
- Gatekeepers are organised into zones. A zone presents all endpoints registered on one gatekeeper
- The GDS makes it possible for each videoconferencing device, MCU or gateway to have unique number allocated.
  - Each number contains four parts: <IAC><CC><OP><EN>

# Gatekeeper levels

- The gatekeepers in the GDS are hierarchically connected at several levels



# The National Gatekeeper

- The function of the national gatekeeper (SERBIA\_GK) is to receive LRQ (Location Request) messages from the NREN gatekeeper (AMRES\_GK) and forward them to the world gatekeeper to resolve them.
- The national gatekeeper (SERBIA\_GK) should receive LRQ messages from the world's gatekeepers for resolving the <IAC><CC> (00381) prefix and forward such requests to the NREN (AMRES\_GK) gatekeeper.



# NREN and institutional Gatekeeper

- The NREN\_GK (AMRES\_GK) gatekeeper serves the needs of the NREN users. Its role is to resolve local NREN, national and international calls for NREN users.
- In cases there is a institutional gatekeeper connected to the GDS network via the NREN gatekeeper, NREN gatekeeper should ensure call forwarding from and to the institutional gatekeeper.



- The installation is automated with the script written for the Red Hat and Debian distributions
- The script has been prepared as part of the GEANT 3 Plus EDUconf Task in order to automate the process of gatekeeper installation.
- You can find it in BPD **H.323 gatekeeper installation and configuration** or downloaded via the following link:  
[https://educonf-directory.geant.net/gnugk/educonf\\_gnugk\\_builder.sh](https://educonf-directory.geant.net/gnugk/educonf_gnugk_builder.sh)

# Installing the GNU Gatekeeper

```
Installing:
gcc                               i686                4.4.7-11.e16                base                8.2 M
Installing for dependencies:
cloog-pp1                         i686                0.15.7-1.2.e16             base                93 k
cpp                               i686                4.4.7-11.e16                base                3.4 M
glibc-devel                       i686                2.12-1.149.e16_6.5         updates            984 k
glibc-headers                     i686                2.12-1.149.e16_6.5         updates            620 k
kernel-headers                   i686                2.6.32-504.8.1.e16         updates            3.3 M
libgomp                           i686                4.4.7-11.e16                base                135 k
mpfr                              i686                2.4.1-6.e16                 base                153 k
pp1                               i686                0.10.2-11.e16              base                1.3 M
Updating for dependencies:
glibc                             i686                2.12-1.149.e16_6.5         updates            4.3 M
glibc-common                     i686                2.12-1.149.e16_6.5         updates            14 M
libgcc                            i686                4.4.7-11.e16                base                113 k
```

## Transaction summary

```
-----
Install      9 Package(s)
Upgrade      3 Package(s)
```

Total download size: 37 M

Downloading Packages:

(1/12): cloog-pp1-0.15.7-1.2.e16.i686.rpm	93 kB	00:00
(2/12): cpp-4.4.7-11.e16.i686.rpm	3.4 MB	00:01
(3/12): gcc-4.4.7-11.e16.i686.rpm	8.2 MB	00:01
(4/12): glibc-2.12-1.149.e16_6.5.i686.rpm	4.3 MB	00:01
(5/12): glibc-common-2.12-1.149.e16_6.5.i686.rpm	14 MB	00:03
(6/12): glibc-devel-2.12-1.149.e16_6.5.i686.rpm	984 kB	00:00
(7/12): glibc-headers-2.12-1.149.e16_6.5.i686.rpm	620 kB	00:00
(8/12): kernel-headers-2.6.32-504.8.1.e16.i686.rpm	3.3 MB	00:01
(9/12): libgcc-4.4.7-11.e16.i686.rpm	113 kB	00:00
(10/12): libgomp-4.4.7-11.e16.i686.rpm	135 kB	00:00
(11/12): mpfr-2.4.1-6.e16.i686.rpm	153 kB	00:00
(12/12): ppl-0.10.2-11.e16.i686.rpm	1.3 MB	00:00

```
-----
Total                                          2.8 MB/s | 37 MB  00:13
```

Running rpm\_check\_debug

Running Transaction Test

Transaction Test Succeeded

Running Transaction

```
  Updating   : libgcc-4.4.7-11.e16.i686                1/15
  Installing : kernel-headers-2.6.32-504.8.1.e16.i686 [#####] 2/15
```

# Installing the GNU Gatekeeper



```
gnugkinstall/h323plus/include/h235/h2356.h
gnugkinstall/h323plus/include/h235/h235chan.h
gnugkinstall/h323plus/include/q922.h
gnugkinstall/h323plus/include/h323caps.h
gnugkinstall/h323plus/include/h501.h
gnugkinstall/h323plus/include/gkclient.h
gnugkinstall/h323plus/include/h323.h
gnugkinstall/h323plus/include/h235auth.h
gnugkinstall/h323plus/include/h235pluginmgr.h
gnugkinstall/h323plus/include/svcctrl.h
gnugkinstall/h323plus/include/h501pdu.h
gnugkinstall/h323plus/include/h248.h
Creating log directory
Log directory is found
Running PTLIB configuration
Directory PTLIB exists
running configure
*****
PTLIB
*****
running configure
please wait.....
make: *** No rule to make target `clean'.  Stop.
*****
Running make .....
please wait.....
```

```
ptlib/common/getdate.y: conflicts: 4 shift/reduce, 18 reduce/reduce
PTLIB has been compiled continuing
Running h323 Plus configuration
running configure
*****
```

```
H323
*****
Running compiler .....
please wait.....
make: *** No rule to make target `clean'.  Stop.
*****
Running make .....
please wait.....
```

```
/root/gnugkinstall/h323plus/src/h460/h460_std18.cxx:55:2: warning: #warning ("H.460.18/.19
ent License. http://www.tandberg.com/collateral/tandberg-ITU-license.pdf")
/root/gnugkinstall/h323plus/src/h460/h460_std23.cxx:59:2: warning: #warning ("H.460.23/.24
ng@h323plus.org for licensing terms.")
H323plus has been compiled continuing
Running gnugk configuration
Directory gnugk exists
```

```
Make clean from previous compile...
running again configure
*****
GNUGK
*****
Do you want an advance configuration od GNUGK? (y/n)█
```



# National Gatekeeper configuration



```
[Gatekeeper::Main]
  Fourtytwo=42
  Name=SERBIA_GK
  EnableIPv6=1
  Home=128.66.4.205, [2001:DB8:0:1::205]
  TraceLevel=2
  TotalBandwidth=100000
  StatusPort=7000
  StatusTraceLevel=2
  UseBroadcastListener=0
  rule=explicit
  127.0.0.1=allow
  default=forbid
  Shutdown=forbid.
  DelayReject=5

[Gatekeeper::Auth]
  FileIPAuth=required;RRQ,LRQ,Setup
  any=reject

[LogFile]
  Rotate=Weekly
  RotateDay=Sun
  RotateTime=03:59
  Filename=/var/log/gnugk/gnugk.log

[RoutedMode]
  CallSignalPort=1720
```

```
[RasSrv::Neighbors]
  AMRES_GK=GnuGk
  EDUconf=GnuGk
  Janet=CiscoGk

[Neighbor::AMRES_GK]
  GatekeeperIdentifier=AMRES_GK
  Host=128.66.4.79
  SendPrefixes=003819
  AcceptPrefixes=00,!003819
  ForwardLRQ=always
  ForwardHopCount=10

[Neighbor::EDUconf]
  GatekeeperIdentifier=EDUconf
  Host=128.66.31.225
  SendPrefixes=00,!00381
  AcceptPrefixes=00381
  ForwardLRQ=always
  ForwardHopCount=10

[RasSrv::LRQFeatures]
  NeighborTimeout=5
  SendRetries=3
  AcceptForwardedLRQ=1
  AcceptNonNeighborLCF=1
  AcceptNonNeighborLRQ=1
  IncludeDestinationInfoInLCF=0
  CiscoGKCompatible=1
```

# NREN Gatekeeper configuration



```
[RoutedMode]
  GKRouted=1
  H245Routed=0
  AcceptNeighborsCalls=1
  AcceptUnregisteredCalls=1
  SupportNATedEndpoints=1
[RasSrv::Neighbors]
  SERBIA_GK=GnuGk
  INST_GK=GnuGk
[Neighbor::SERBIA_GK]
  GatekeeperIdentifier=SERBIA_GK
  Host=128.66.4.205
  SendPrefixes=00,!003819
  AcceptPrefixes=003819
[Neighbor::INST_GK]
  GatekeeperIdentifier=INST_GK
  Host=128.66.4.102
  SendPrefixes=*,!0038191
  AcceptPrefixes=0038191
  ForwardLRQ=always
  ForwardHopCount=10
```

- Description on h.323 Gatekeeper functionalities
- Global Dialing Scheme (GDS) and Gatekeeper hierarchy with service implementation
- GNU Gatekeeper installation demonstration using script
- GNU Gatekeeper configuration examples

Thank you and  
**any questions?**

