"Route Server Project" Overview and Progress Report

Overview

- Update from last time
- Concepts
- Goals
- GIX
- Route Server
- Routing Registry
- Plan
- Status
- Issues

Update from last time

- November 1992, Washington D.C.
  - Implementation plan tabled

"Internet Routing in a Multi Provider, Multi Path Open Environment"

--> "(ripe-82)" <--

by Bates, Karrenberg, Lothberg, Stockman and Terpstra

  - Consensus on plan and pilot.

- RARE project as part of RARE Technical Program being carried out at RIPE NCC
- Project funded by SURFnet through RARE

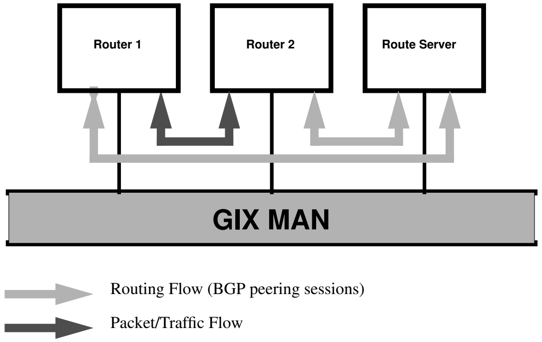
Concepts

- Three main components for the project
  - The physical "**GIX**" itself
  - The "**Route Server (RS)**"
  - The "**Routing Registry (RR)**"

Main Goals

- Establishing a route server on the GIX itself
  - RS aspects as opposed to transport
- Making it possible to document European routing policies to make RR viable

Route Server



Routing Registry

- ❍ Neutral run registry (RIPE NCC)
- ❍ Would manage routes for a region or domain (model used -- Geographic)
- ❍ Registration of routing policy information
  - ❍ Proposal for a format for documenting routing policy

"Representation of IP Routing Policies in the RIPE Database"

(ripe-81)

- ❍ Generic guidance document as well as having direct relevance to European Route Server work

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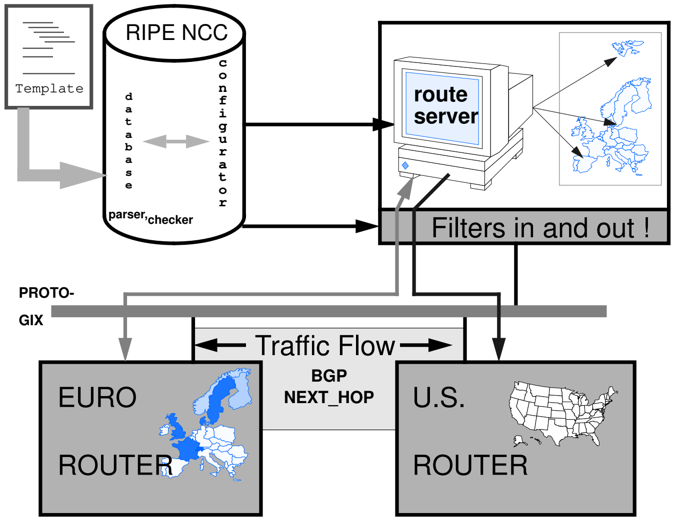
Routing Registry

- ❍ Database and objects must be easily derived for use by the route server
- ❍ Creation of tools for routing policy
- ❍ Information/debugging tools
  - ❍ "prcheck" -- consistency checker
  - ❍ "prpath" -- extract AS-path information
  - ❍ "prconn" -- display connectivity
  - ❍ "prtrace" -- policy derived traceroute
- ❍ Configuration tools
  - ❍ Network-based lists generator
  - ❍ Interactive Configurator
- ❍ RS/RR interaction tools



Plan

- 12 point plan produced (work in progress)
- Ongoing plan of course
- Key points (refer to paper for timescales)

-- Routing Registry

  -- New database objects in RIPE database

  -- Modification of software

  -- Impact document for providers

  -- Development of database software

  -- Development of Tools

  -- Development of update and transition procedures

Plan

-- Route Server

  -- Install Route-Server on the Proto-GIX itself

  -- Test and possibly enhance route server software (keep focus of initial RS ideas of ripe-82)

  -- Work in collaboration with the NA route server

  -- Clear and smooth transition with the providers at the GIX

  -- Use the RS for operational traffic **(ULTIMATE GOAL)**

Status

Routing Registry

- Ripe-81 produced and general consensus seems very good
    - Large effort of data collection underway
    - Positive results so far (some way to go yet)
    - Daily generated information of current routing policy information as seen “in routing tables” as opposed to the RIPE database
- Database software enhanced (whois for AS info)
- Prototype configuration tools working for cisco and gated network and as-path based filter lists
- Prototype “prtrace” tools working

Status

Route Server

- Route Server installed at Sprint POP
- Many thanks to Sprint, SUNET and AlterNET
- Up and running !!
    - SUN IPC running “gated” alpha
- Initial testing done using some test-networks in Amsterdam and Stockholm
- Currently peering with ENSS and ICM-DC-1 as a test doing third party routing correctly
- ENSS “rpc_routed” **DOES NOT** support BGP NEXT_HOP correctly
- Generated European list could be used today

Status

- Development RS installed in Amsterdam on IBR LAN (Ebone Amsterdam DMZ)
- Test cisco also due soon

General

- Good response from Providers at the GIX (appreciated and needed)
- On Schedule with proposed timescales
- **Going Well !!!!**

Issues

- Service Providers Input
- Other RS'
  - North American plans coming together...
  - What about others ?
- Future thoughts
  - Does our model scale ?
  - Does our model work with source-based routing ?