

Silk Project

RIPE and Local Internet Registry Status

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Silk LIR Status Outline

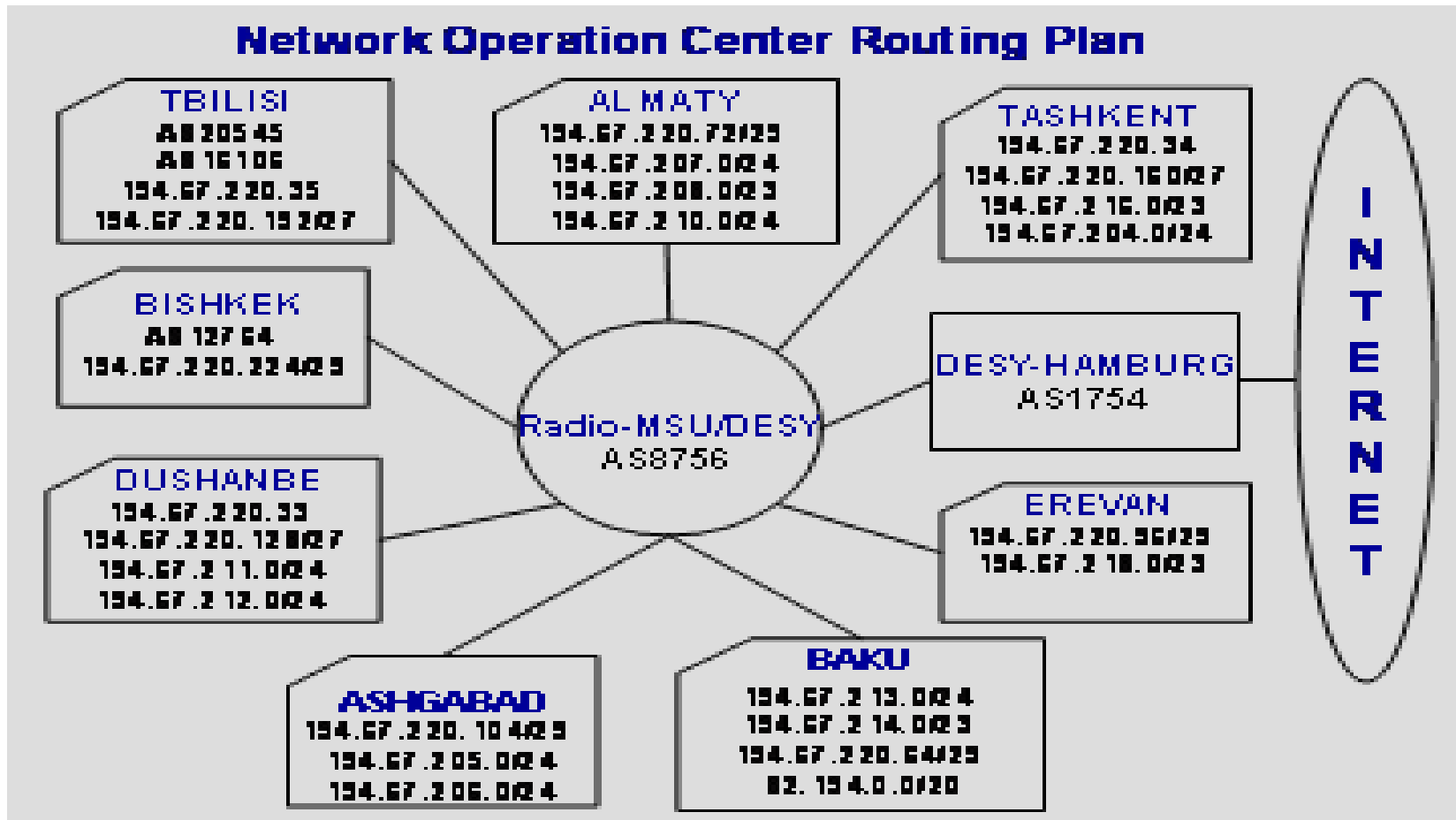
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Definitions and Background

- Local Internet Registry (LIR)
 - IPv4 and IPv6 address blocks are allocated to the LIR by the RIR for subsequent allocation or assignment
- Regional Internet Registry (RIR)
- Réseaux IP Européens
Network Coordination Center (RIPE NCC)
 - RIPE is one of the five current RIRs that allocate IPv4 and IPv6 address blocks to LIRs
 - RIPE is responsible for Europe, Russia, ...
 - Other RIRs are: AFNIC (Africa; under construction), APNIC (Asia Pacific), ARIN (the Americas), LACNIC (Latin America y Carribean)
 - Address blocks are allocated to the RIRs by IANA (Internet Assigned Numbers Authority)

Current Silk Routing

Network Operation Center Routing Plan



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Current Silk LIRs

- AZ
- DESY
- GE
- KG
- MSU
- UZ

Current Silk LIR Status

- Four of the Silk NRENs currently have their own LIR and RIPE address block:
 - AZ, GE, KG, UZ
- All others have received a 1..4 subnetwork /24 from the RADIO-MSU LIR block.
- The current future plan is the transit to an independent LIR for all NRENs (obtaining address block and AS number from RIPE).
- Such service is a little expensive for some sites -- but it should be done as soon as the NREN obtains a second Internet link and becomes multi-homed (for reliable and redundant connectivity).
- The NOC can provide additional /24 networks for the NRENs if they need it for their customers.
 - Each NREN would have to follow the ordinary procedure and fill out the form as explained in the RIPE documentation. (This was done in every NREN at least once.)

RIPE Billing and Finances

- Special attention now given for Russia and Ukraine to pay outside of Russia and for monthly billing
- Decrease in average service fee 10%
- Sign-up fee for new members decreased 20%
- New members now in Extra Small category
- Provider Independent (PI) IPv4 resources taken into account in the algorithm
- Change in Billing Score algorithm

RIPE LIR Fees

LIR Billing Category	Per year	Per half year	Per quarter
EXTRA SMALL	€2,000	€1,050	€550
SMALL	€2,500	€1,300	€675
MEDIUM	€3,500	€1,800	€925
LARGE	€5,000	€2,550	€1,300
EXTRA LARGE	€6,750	€3,425	€1,738

RIPE Fee Schedule Determinants

- The cumulative percent of total members is 19.1 for Extra Small and 75 for Small.
- There is a Billing Score algorithm.

RIPE Cumulative % of Total Members

	number	%
EXTRA SMALL	15	19.1
SMALL	47	75
MEDIUM	274	95
LARGE	1,182	99
EXTRA LARGE	14,320	100

Size, Planning, Renumbering, and Routing

- “If you obtain address space from your ISP, it is very likely that you will need to renumber should you decide to change upstream providers and/or if you grow considerably. As this renumbering may affect your customers (and their customers, etc.) if they are using dedicated lines, you should carefully weigh the cost/benefit involved in obtaining address space from your upstream provider.
- The minimum routable block is often a /19, so if you plan on enlarging, it is better to pay the fees to the RIPE (the Regional Internet Registry) now and obtain a /19 block so that you will not have to renumber later.”
 - RFC 2901 Wenzel, Klensin, Bush, Huter

Should Silk Become a LIR?

- Central LIR *Pros*
 - Provider Aggregatable (PA)
 - Less expensive (money and management)
 - Sustainability?
- Central LIR *Cons*
 - Need to plan for different growth paths
 - Routing (problems with backup)
 - No country ownership

Silk ExCo Decision on Fees

- Action 6.33.2 (September 2004)
 - “Silk ExCo agreed to provide a Silk Local Internet Registry (LIR) and Autonomous System Numbers (ASNs) for NRENs unable to afford RIPE costs for small countries (USD \$3000 per year), but urge NRENs to pay for it themselves.”

Conclusion and Question

- Should the Silk Project become a LIR?
- Should each NREN become a LIR?