



Number Resource Certification

Done. Where do we go from here?



History

- APNIC starting the effort (RIPE 51)
- RIPE NCC tasked to develop a Certification system (RIPE 52)
- ARIN joining development
- RIPE NCC forming taskforce for member guidance (RIPE 53)
- RIPE NCC developing rapidly
- RIPE NCC offering testbed (RIPE 57)
- RIPE NCC planning operational rollout in 2009



What is a Certificate?

- An authoritative statement of an allocation's registration in the RIPE NCC's resource registry
- All information contained is certified as correct at the time of issuing the certificate
- A digital certificate contains:
 - Digital identification of the issuing registry (either the RIPE NCC or an LIR)
 - The public key provided by the resource holder when the certificate was issued
 - Resources covered by the certificate

What is a ROA?

- *Route Origin Authorization*
- Signed by address space holder
- States that address space holder has authorized an Autonomous System (AS) to originate routes to the address space covered
- Verifiable in RPKI system



Goals for Certification

- Enhance RIPE NCC resource registry:
 - Certification derived from Registration data
 - Regular verification of registration data
 - Reason for regular contact of resource holder with RIPE NCC
- Benefits for Resource Holder
 - better proof of right of use
 - automated and open interface
 - global (across RIRs)
- Benefits for upstream and transit providers
 - better verification of right of use
 - automated and open interface
 - global (across RIRs)



Enabled Applications

- Resource transfers
 - Enhance trust and legitimacy in transfer transactions
- Efficient / Automated Provisioning
 - Easy checking of ROAs for operators asked to announce address blocks.
- Secure Inter Domain Routing
 - ROAs based on the RPKI may be used to increase the security the routing system



The Times They Are A-Changin'

- Look beyond technical capabilities
 - *Potential for fundamental change to the Internet*
 - *Good, or not so good?*
- Regular interaction with law enforcement
 - Good for improved mutual understanding
 - Clear goals: Throw perpetrators of the Internet!
- No change yet:
Not possible without operators' action
- It is in your hands...



Considerations

- Feedback during Dubai Meeting
 - Concern about RIPE NCC revoking certificates
 - Clearly, explicit policies and procedures are needed
- In general, not much feedback either way
 - Expected more interest & participation
- Do you want us to deploy? Or not?
 - Global impact if we don't
 - Potential for efficiency gains for operators
 - ... and Law Enforcement?



Measures of Success

- How do we proceed?
- Implementation is “ready to roll”
- What do we consider “successful deployment”?
 - n % of resources certified within m years?
 - Action on failure?
- Legacy resources?
 - Speaking of registration...
 - Need for policies covering legacy space



We are listening...