



# Securing Routing Information Roundtable Report

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## Attendees

- Jay Borkenhagen – AT&T
- Wes George – Sprint
- Monika Machado- Microsoft Networks
- Jared Mauch – NTT America
- Taka Mizuguchi – NTT Communications
- Chris Morrow - Google
- Heather Schiller – Verizon Business
- Jason Schiller – Verizon Business
- Tom Scholl – AT&T
- Ryan Shea – Verizon Business
- Ruediger Volk – Deutsche Telekom
- Tomoya Yoshida – NTT Communications
- Leslie Daigle – ISOC
- Mat Ford – ISOC
- John Schnizlein - ISOC

## Consensus Needs

- RPKI should be pursued for both IPv4 and IPv6
- Uniqueness of IP address certification at the global level is required
- IPv6 data cleanup – IPv4 harder and later
- Authentication of resource holders (local solutions)
- Need certificate distribution and validation widget
- Cost of (safe) business needs to be reduced, shared software tools would help
- Investigation needed w.r.t. path validation (short term: without changing BGP – long term: fix BGP)?
- How invalidation of authority to route is done (disputes)?

## Priority

### Short term

Cert-validation widget

Open software tools

Origin protection

Clean IPv6 data

Partial implementation

Revocation

Path protection - w/o  
protocol changes

### Long term

Hardware changes

Path protection – with protocol changes

AS path relationships

Protocol changes

Clean IPv4 data

Bootstrapping-exception handling

## Differences

- Clean data in IRR (RADB) or WhoIs?
- Single root certificate needed or practical to preclude conflicts?
- Do Relying Parties as Trust Anchors (Kent) resolves the single-root issue?
- Partial deployment
  - Hampered by elimination of BOAs?
  - AS-0 sufficient replacement for BOAs?
  - Sufficiency/utility of max-length parameter in ROA
- Does RPKI lack functionality: signal neighbor to black-hole
- Feasibility of path validation in the short term: without changing BGP?

## Conclusions and Path Forward

- Roundtable exposed the extent to which problems are shared
- Situation is different in different regions
- Each network operator depends on deployment of by others
- Participants to influence the larger community
- Further meetings, including more network operators



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Full report:

[http://www.isoc.org/educpillar/resources/docs/routingroundtable\\_200909.pdf](http://www.isoc.org/educpillar/resources/docs/routingroundtable_200909.pdf)



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