Secure Protocols for the Routing Infrastructure
SIDR BOF

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Secure Protocols for the Routing Infrastructure

• Security of the routing infrastructure is an important problem, but no traction on consensus on deployable solutions

• Starting mid-March, three workshops have been held with a wide net of the interested parties
  – Operators (ISPs, access and content providers), vendors, security geeks, researchers
  – DHS hosted - desiring to find and facilitate (*N*O*T* MANDATE) a solution

• Strong call from operators: need authenticated list of authorized AS for prefix originations
Securing Prefix Origination

• Operator’s intended use:
  – Responding to customer requests to route a prefix
  – Debugging routing difficulties
  – Building prefix filters
  – (necessary first step of any solution for securing the AS_PATH)
    • (next step is *authenticating* the authorized origination)

• What is needed:
  – Accurate data from prefix and AS number authorities (RIRs)
    • Known problems with existing data – staleness, corruption
  – A way to collect the prefix->AS mapping (securely)
    • Authentication down through sub-allocations

• Bootstrapping
  – Glean believable prefix->AS mapping from route history
    • Need metrics for judging quality
  – Work with RIR to record prefix->AS mapping with prefix template

• Issues of communicating the list – centralized/ distributed, retrieval at rate suitable for its use, inline/OOB, etc.
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