

Inter-domain Source Address Validation (SAVNET) Architecture

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SAVNET WG, IETF 121

Background

- Inter-domain SAVNET architecture aims to provide a comprehensive framework for developing new inter-domain SAV mechanisms
 - ◆ Address the problems of existing inter-domain SAV mechanisms.
 - ◆ Meet the requirements proposed in [draft-ietf-savnet-inter-domain-problem-statement].
- Historical versions
 - ◆ draft-wu-savnet-inter-domain-architecture-00, IETF 115 SAVNET WG
 - ◆ draft-wu-savnet-inter-domain-architecture-01, IETF 116 SAVNET WG
 - ◆ draft-wu-savnet-inter-domain-architecture-03, IETF 117 SAVNET WG
 - ◆ draft-wu-savnet-inter-domain-architecture-05, IETF 118 SAVNET WG
 - ◆ draft-wu-savnet-inter-domain-architecture-07, IETF 119 SAVNET WG
 - ◆ draft-wu-savnet-inter-domain-architecture-09, IETF 120 SAVNET WG
 - ◆ draft-wu-savnet-inter-domain-architecture-10, August 1, 2024
 - ◆ draft-wu-savnet-inter-domain-architecture-11, September 17, 2024
 - ◆ **draft-wu-savnet-inter-domain-architecture-12, IETF 121 SAVNET WG**

Removing the Descriptions for Comparisons of Different SAV-related Information

□ Comments on [comparisons of different SAV-related information](#)

- ◆ The table in Figure 4 is misleading and ill-advised. In the performance assessment of each data type, the draft unfortunately appears to assume that there is a SAV solution based on each type of data only. That is incorrect. Also, there is no need to compare the performance of solutions in this document because this document is meant to provide architectural guidance to the solutions and should not pre-suppose solutions. (Sriram)
- ◆ The architecture draft really should just mention there are various types of data sources for SAV. (Sriram)
- ◆ I have the same concern with Sriram. About Figure 4, the comparison results between SAV-specific message, RPKI, IRR, etc., there is no reference for the results source and no experimental data support, so it is not convincing for me. (Xueyan)
- ◆ **Revision:** We have removed Figure 4 and only introduced the four available SAV information sources including RPKI ROA and ASPA objects, local routing information, IRR data, and SAV-specific information in Section 5 as suggested.

Updating the Descriptions of SAV-specific Information and SAV-specific Information Communication Mechanism

□ Comments on SAV-specific information and communication mechanism

- ◆ For the statement “Compared against general information, SAV-specific information is more accurate and trustworthy, while it can update the SAV rules in a timely manner to adapt to the prefix or route changes.” in Section 5, soften it down using words like “it may be expected that” . (Sriram)
- ◆ SAV-specific communication mechanism depends on BGP AS_PATH information to learn about inter-connections between ASes. I think the AS_PATH can hide some interfaces that exist between ASes in topological scenarios involving fork and merge. (Sriram)
- ◆ In the architecture document, we should only provide some requirements for the solution to cover more specific scenarios in one general manner. (Aijun)
- ◆ **Revision:** We have softened the statement above down in Section 5. Also, we have added the statement “If the legitimate incoming directions of SAV-specific information are learned from BGP AS_PATH information, it needs to note that BGP AS_PATH may hide some interfaces that exist between ASes in the scenarios involving topological fork and merge.” , and we have **simplified Figure 8 and provided the descriptions of the design requirements** for the SAV-specific information communication mechanism in Section 7.1. 4

Incorporating a New Paragraph for Conducting New Potential SAV Solutions

□ Comments on [the guidance for conducting new potential SAV solutions](#)

- ◆ To provide a comprehensive and balanced perspective, and to give due consideration to alternative solution approaches, Sriram recommends that a new paragraph for considering a solution using RPKI data and BGP data as the potential BCP for inter-domain SAV into the draft. (Sriram)
- ◆ **Revision:** [We have incorporated the suggested new paragraph into Section 4 as the following: “SAV-specific information communication mechanism will require specifying a new inter-router \(or inter-AS\) communication protocol or modifying an existing one. Therefore, while this is pursued, a new SAV mechanism that utilizes RPKI objects \(e.g., ROA, ASPA\) and BGP data \(RIB/FIB\) can be pursued. The latter solution may have the potential for deployment in the near term since it utilizes existing SAV-related information and can be deployed by network operators by policy configuration on routers.”](#)

Integrating Controller-based Solutions and Updating Management Information Communication Mechanism

□ Comments on [integrating controller-based solutions into the draft](#)

- ◆ There are proposals to use the controllers, but there is no such descriptions within the current architecture document. Should we consider to add the controller component within the architecture document? Then we can encompass all the possible solutions together. (Aijun)
- ◆ **Revision:** In [Section 4](#), we have discussed how ASes can utilize network controller to communicate SAV-specific information or distribute SAV-specific information across ASes managed by the same controller when ASes support network controllers.

□ Comments on management information communication mechanism

- ◆ Suggest the following revisions to make the descriptions understood more easily (Aijun): SAVNET operation /s SAVNET performance analysis, Inter-domain SAVNET provisioning /s Inter-domain SAVNET deployment provisioning, and explain them with detailed illustrations.
- ◆ **Revision:** In [Section 7.3](#), we have revised the descriptions of the management information communication and illustrated them accordingly.

Summary of Comments and Corresponding Revisions

- We have summarized the comments discussed in the mailing list by grouping them into different categories and sorted out the discussion process of different revision suggestions and questions in detail, as well as our corresponding revisions
 - ◆ All the comments, responses, and revisions can be found at <https://github.com/SAVNET-ProblemStatement-Architecture/Inter-domain-SAVNET-Architecture/issues>.
- We have provided our responses to all the questions and introduced our revision summary in the SAVNET mailing list

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[savnet] Re: Adoption Call for Inter-domain Sourc... Sriram, Kotikalapudi (Fed)
[savnet] Re: Adoption Call for Inter-domain Sourc... Libin Liu
[savnet] Re: Adoption Call for Inter-domain Sourc... Sriram, Kotikalapudi (Fed)
[savnet] 答复: Re: Adoption Call for Inter-domain S... Aijun Wang
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Thanks!

□ Any comments?