

# DRIP Architecture Update

S. Card, A. Wiethuechter, \*

R. Moskowitz, \*\*

Shuai Zhao \*\*\*

A. Gurtov \*\*\*\*

# Update summary

- Current revision <https://tools.ietf.org/html/draft-ietf-drip-arch-05>
- Issues addressed from reviewers
- Proposed suggestions to move forward

We put Notes where we will take actions in the following revisions, so do review those sections lightly.

# Overview of current DRIP drafts

#	DRIP Drafts	Description
1	<b>DRIP Requirement</b> (draft-ietf-drip-reqs-06)	RID problem space: <ul style="list-style-type: none"><li>• N-RID, B-BRID, USS/UTM, DRIP focus</li></ul> Requirements in 4 dimensions: <ul style="list-style-type: none"><li>• General, Identifier, privacy, registries</li></ul>
2	<b>DRIP Architecture</b> (draft-ietf-drip-arch-05)	<ul style="list-style-type: none"><li>• Describe the DRIP ecosystem:</li></ul>
3	<b>UAS Remote ID</b> draft-ietf-drip-rid-04	HHIT as UAS RID with modern encryption approach
4	<b>Crowd Sourced Remote ID</b> drip-crowd-sourced-rid-05	A gateway for Broadcast RID to Network RID
5	<b>UAS Operator Privacy for RemoteID Messages</b> (draft-moskowitz-drip-operator-privacy-06)	Encrypt operator/pilot sensitive data using hybrid ECIES
6	<b>Secure UAS Network RID and C2 Transport</b> (draft-moskowitz-drip-secure-nrid-c2-01)	Secure transport of UAS N-RID and C2 messaging using HIP and DTLS
7	<b>DRIP Authentication Formats</b> (draft-wiethuechter-drip-auth-05)	include trust into B-RID
8	<b>DRIP Identity Claims</b> (draft-wiethuechter-drip-identity-claims-03)	UAS ID Proofs (in the form of Claims, Certificates and Attestations) for DRIP and UTM

# My two cents on the scope of DRIP architecture.

- DRIP architecture should not be focusing on external UAS RID related architectures such as
- My personal view is that DRIP Arch shall only focus on the "UAS RID ecosystem", which may include only the domains mentioned in the current DRIP drafts:
  - The Design of the RID to comply with UAS RID standardization (ex: ASTM F3411-19)
    - A RID MAY a HHIT, with modern encryption method
  - The communication among N-RID, B-RID, Register, DNS, operator, GCS, USS/UTM and the internet
  - The security/trustworthiness of a RID
  - The Privacy
  - The RID authentication
  - The RID identification

# Addressed comments from Michael

- Section 1.1, extend ASTM F3411-19 to the extends that fits into DRIP's architecture.
- Add Section 1.2.1 and Section 1.2.2 for N-RID and B-RID intro
- Section 1.4 updated issue list
- Add section 3 the "Definition and Abbreviations" to explain TLAs
- Add Section 4 HHIT for UAS ID with notes to be addressed in the following revisions
- Comments about informational language usage align with BCP14 yet needs to be fixed.
  
- Are those agreeable?

# More comments from Daniel, Carsten, Amelia

- Removed hybrid RID subsection
- Added section 1.2.2 for B-RID figure
- refinement of safety vs security distinction, yet to be addressed:
  - May clarify it in section 10: “Security Consideration”
  
- Are those agreeable?

# Way to move forward...

- In Section 1:
  - Update N-RID (Sec 1.2.1) and B-RID (Sec 1.2.2) figures to show the UA, GCS and DNS interacts
  - In Section 1.2.2 to clarify what Broadcast RID can do with or without Observer Internet connectivity (Crowd sourced?)
  - in Section 1.4, “Overview of the DRIP Architecture”, to clarify the connectivity requirements among UA, GCS, SP, DP...
- In Section 4, “HHIT for UAS RID”
  - Clarify how HHIT may be used as a RID solution for the listed issues.
- In section 5, “DRIP RID Entities”
  - May add “DNS register” subsection to address Daniel’s comment regarding:
    - What information is static/dynamic and when register may access DNS through network
    - Why should RID be in reverse DNS lookup?
- In Section 6, “UAS Remote Identifiers”
  - Clarify “why should RID be in reverse DNS lookup?”
  - Address the possibility of naming collision using HHIT
  - Justify why X.509 and PKI will not address the DRIP requirement
  - explain continuing role of some kind of CA even w/o X.509 PKI??
  - expand on different uses of & relationship between optional manufacturer-assigned HI & subsequent single-use HIs??
- Are those agreeable?

Thanks,