Properties of AEAD algorithms

draft-irtf-cfrg-aead-properties-01

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IETF 116, March 2023

November 2022 – March 2023

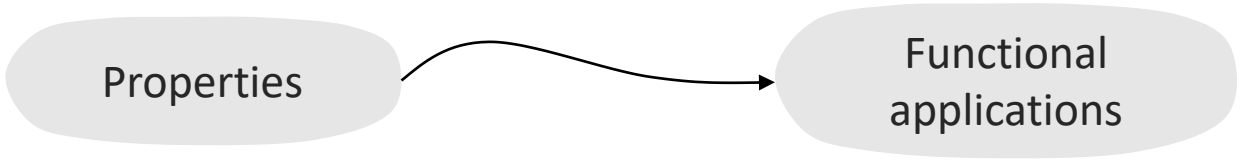
- Draft adopted by CFRG
- Community comments were addressed. Thanks everyone!
- Some new properties were added, some updated (22 in total, more to come)
- New section with basic AEAD definitions for consistency
- Classification of properties was improved and explained

How to make the document be useful for implementers?

Property

- Definition
- Synonyms
- Functional applications
- Algorithms examples
- Further reading
- Notes

Step 1. Functional application – how the property can contribute to a higher level application; why do I need it for my AEAD choice?

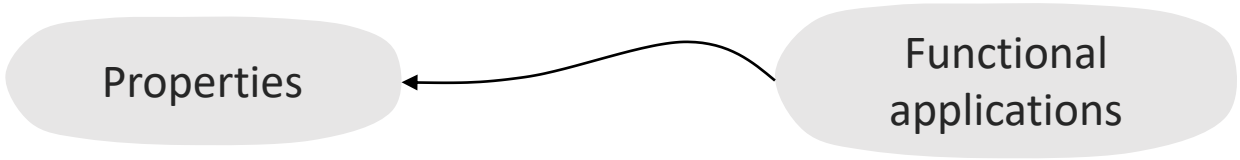


How to make the document be useful for implementers?

Functional application/requirement

- Description
- Properties needed
- Further reading
- Notes

Step 2. Compile a Functional applications vocabulary.
So that if an implementer has some functional requirement for AEAD, they could easily map it into properties.



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– I can’t store the whole plaintext in a secure memory when I decrypt. Is it possible to do something with that?
– Yeah, you should use RUP secure AEAD. But…

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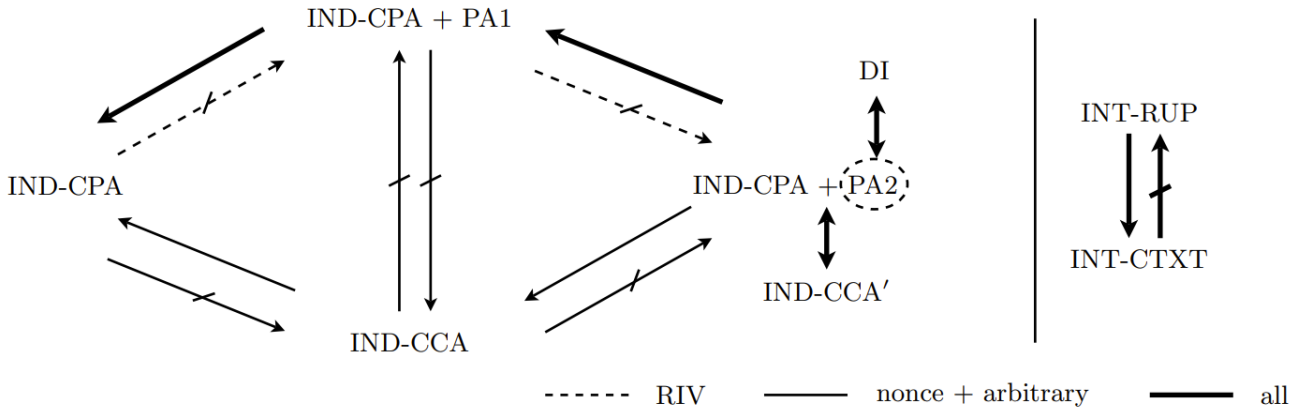
Example.
– I can't store the whole plaintext in a secure memory when I decrypt. Is it possible to do something with that?
– Yeah, you should use RUP secure AEAD. But… We have RUP integrity and we also have two flavors of RUP confidentiality. Let me draw a picture* for you…



*Andreeva, E. et al. (2014). How to Securely Release Unverified Plaintext in Authenticated Encryption. ASIACRYPT 2014.

In the next episode

- Step 0 and Step 1 of the plan
  If you have an opinion on the questions above, or know some good examples of functional applications, I would be happy to hear from you!

- Add new properties
  Let me know if you want any property to be covered in the document!

- Expand sections about current properties, make definitions more precise
  There's always room for improvement!

Questions?

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