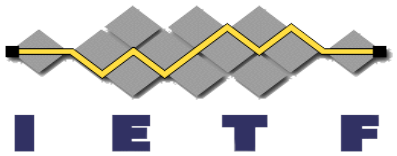
ML-KEM Security Considerations



draft-sfluhrer-cfrg-ml-kem-security-considerations

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(and anyone else who wants to contribute)

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The purpose of this draft

This draft is intended to give guidance to protocol designers and implementors about how to use ML-KEM.

- It is intended for non-cryptosavvy readers
- It tries to give straight-forward actionable advice.
  - Nothing in this draft should be at all controversial to anyone here
  - It is here to give best practices for using ML-KEM

It is open for anyone in the CFRG to contribute..

The state of this draft

We have put together a first cut

- I believe that it’s in a decent basic state, but improvements can certainly be made
- There have been a number of edits since the quiet period started; mostly word-smithing, fixing typo’s and moving things between sections.

One Concern of Mine

People will end up using ML-KEM in lots of different ways

How much should it talk about the various use cases?

- Key exchange is easy (and pretty much is there)
- Public key encryption – it should be more explicit about RFC9180 (although ML-KEM parameter sets would be nice)
- Anything else (such as authentication)? I don't know what guidance to give

Next Steps

I ask that this be made a research group item

- I believe there is an immediate need for ML-KEM
- We need to give protocol designers advice now (before they freeze their design decisions in RFCs)