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# APIs as input for TAPS

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# “Systematic approach”

- Would like to reduce the amount of arbitrariness in the process
  - Speeds it up
  - Makes the result more useful
- How to do this?
  - Define rules and go by them

# TAPS goal 1 and its problems

- Some services that we always talk about: reliability; ordered / unordered delivery; error detection (checksum); user message bundling / fragmentation
- Goal 1: get a list of those and many more
  - Problem 1: how do we agree what is a “service” and what not? Where do we draw the line?
  - Problem 2: they are heterogeneous in how an app uses them! So how will we expose them?

# Problem 1: how do we agree what is a “service”? where does the line go?

- “Is ECN a service? Is SACK a service? Is Packet Erasure Coding a service? Is flow control a service?”
  - Listing components does not make these decisions easier
- What is now exposed to apps according to existing RFCs has already gone through IETF discussion
  - Hence, should be reasonable to consider as a service
- Suggest to start with SCTP
  - Because it can do much, including what TCP can do, but user can turn almost everything \*off\* (ordering, reliability, ...)
  - My theory: go through SCTP’s API and we’re almost done!

## Problem 2: services are heterogeneous in how apps use them

- Categories in draft-gjessing-taps-minset-00: (details in the draft)
  - functional vs. non-functional
  - static vs. initialization vs. dynamic
  - single-sided vs. both-sided
- Considering these will be necessary for doc #2
  - But they are all visible in APIs
  - If we don't begin by looking at APIs, we have to search these things in APIs later
  - Have we missed something? APIs will tell us!

# Consider the final system

- Imagine **not** doing this: then...
  - Doc 1 contains:  
reliability; ordered / unordered delivery; error detection (checksum); user message bundling / fragmentation, ....
  - Doc 2 contains a shorter list and some text saying:  
“this is provided by protocol XY, this by protocol Z”
- Then, a TAPS system is built... how?
  - No way around considering how APIs interact with apps at some point, can only postpone it

# Thank you!

## Discuss!