

MSR6 WG – Why and How ?

IETF114 Philadelphia

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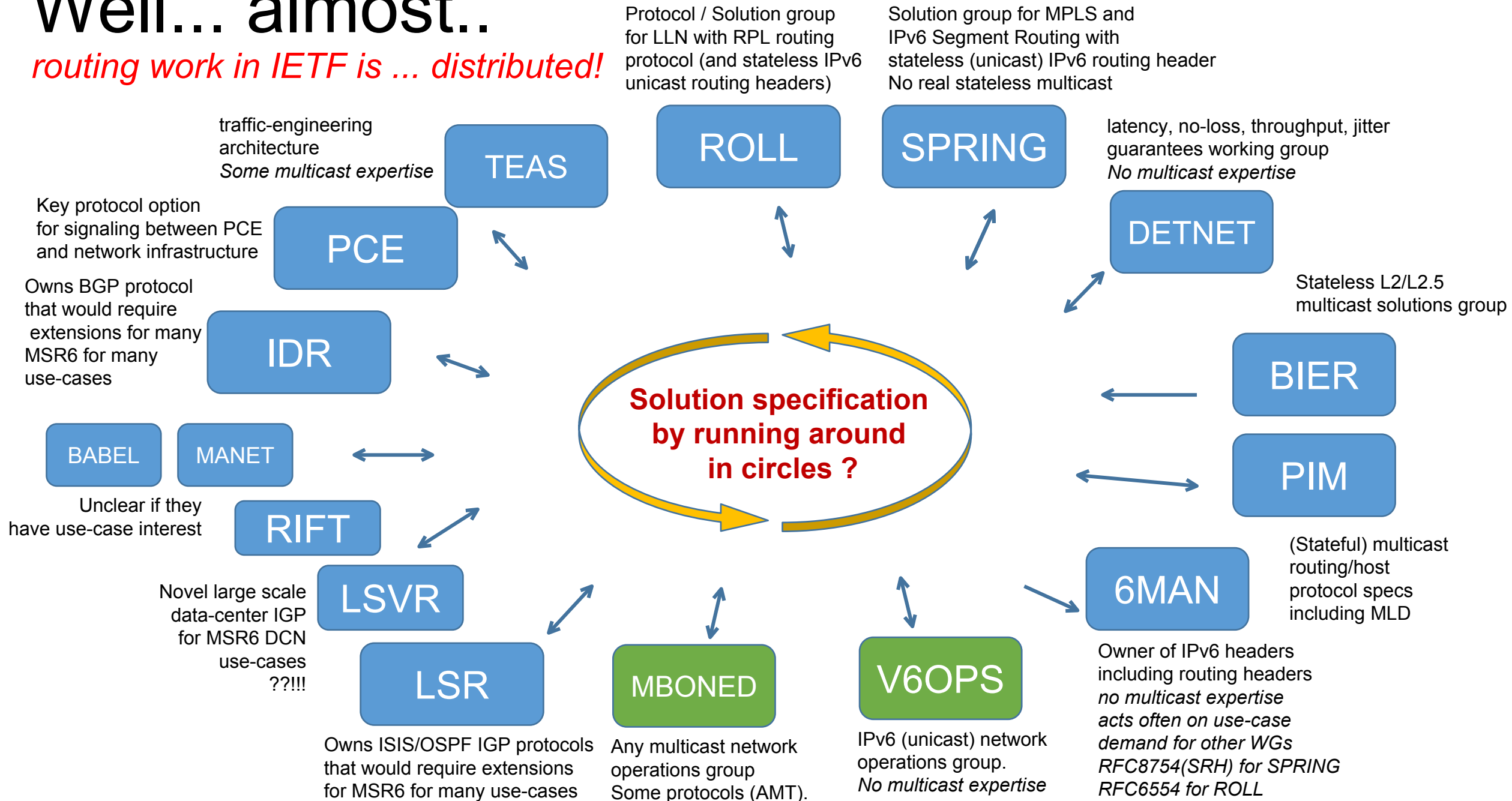
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How do we specify MSR6 solutions in the IETF

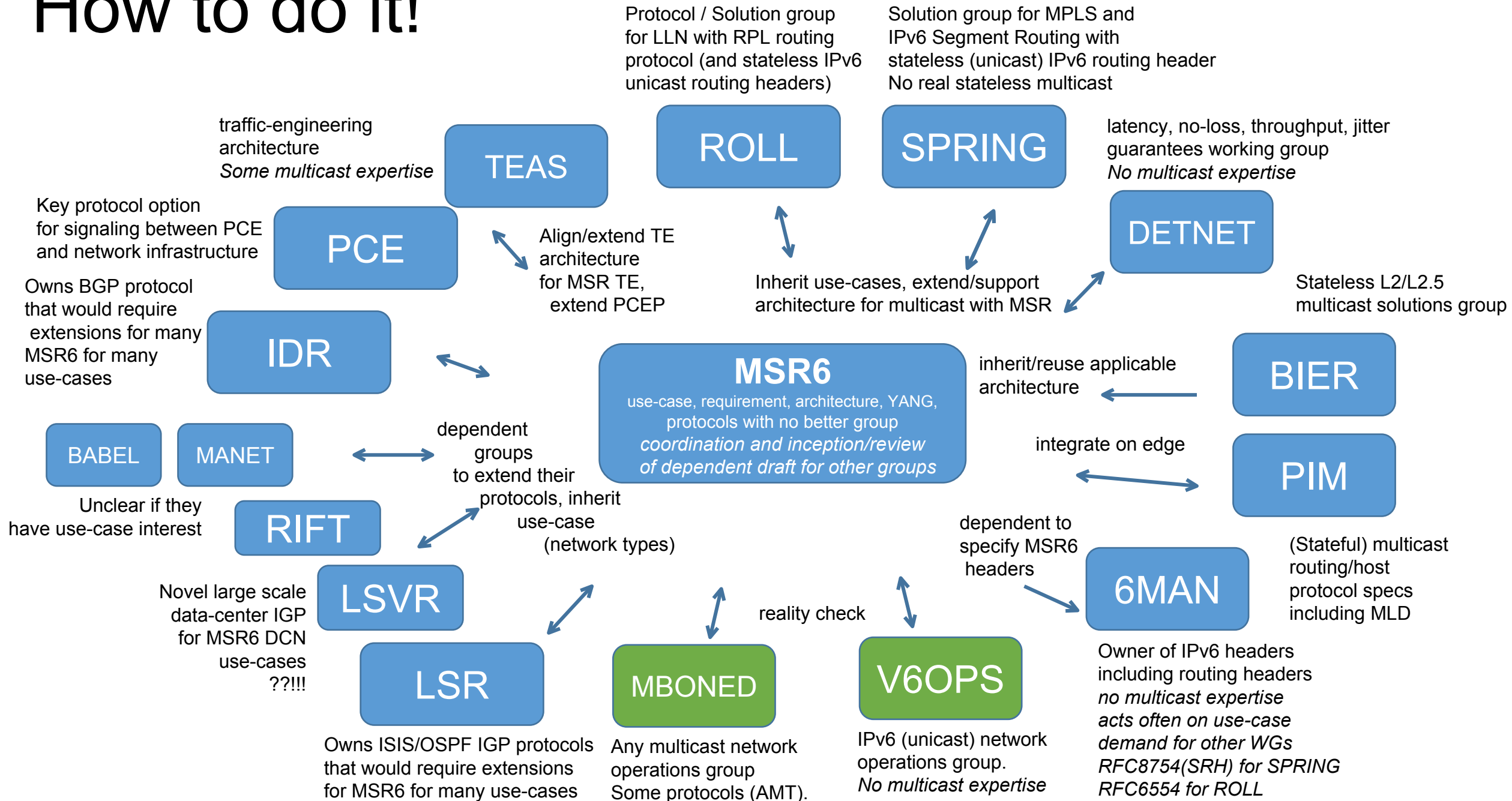
- Assume there is enough support to work on MSR solutions
 - because native IPv6 could use better multicast
 - Or whichever use-case spurs your interest to collaborate/contribute!
- There would surely be already a single IETF WG that we could just bring the work to, right ?
 - There are already so many working groups, just pick the right one!

Well... almost..

routing work in IETF is ... distributed!



How to do it!

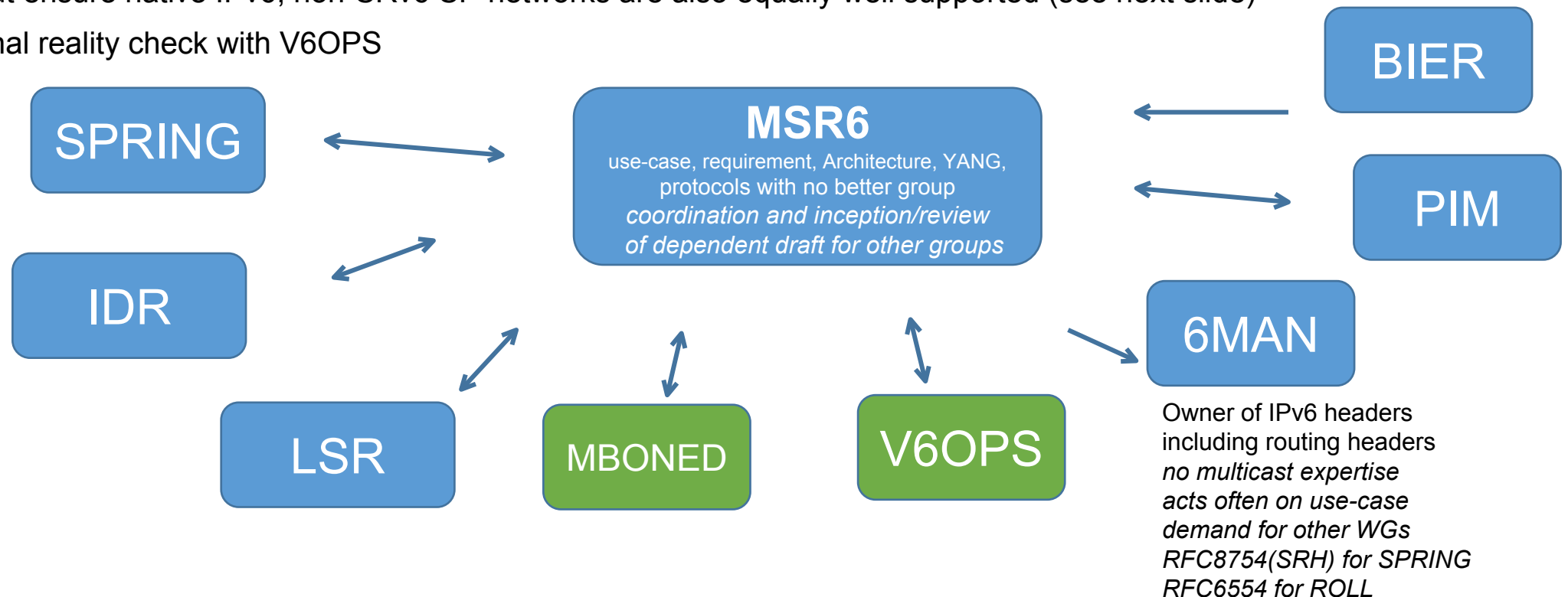


So you want to boil the ~~ocean~~ planet IETF ?

- Thank you for raising IETF std. concern #1
 - No tongue in cheek. This IS important!
- No! There already is enough global warming ;-(
 1. Determine list of candidate deployable solution
 2. Select Top “Minimum Viable Solution(s)” (MVS) – low complexity, big deployment gain
 - Determine functional specifications required to implement/deploy MVS (not necessarily MSR6 drafts only, but e.g.: 6MAN, LSR)
 - Prioritize contributor cycles accordingly
 3. Constrain MSR6 solution documents scope based on MVS, so they can be ready together with functional spec
 - There are always –bis RFCs. And those could be started in parallel (individually) to track future work. They just will not be given WG adoption/cycles/review until it’s their time to be worked on (serialization!) (many WGs have such work hanging individually for years to ensure MVS work is prioritized).
 - If need be (AD concerns about boiling): Constrain charter to MVS, expand later.
- This is NOT rocket science. Just good WG / solution stewardship.
 - Yes, IETF is best at “small” incremental work, but we have learned how to grow solutions that way (ROLL, SPRING, BIER for example!).

Example – If MVS was MSR6 BE for native IPv6 ISPs because (arguable) BIER MVS was stateless multicast (MVPN) for MPLS SP networks

- Well limited / plannable spec work
- IDR/LSR/(PIM): Ideally share/reuse, else adjust/improve work from BIER/MPLS solution
- Select best initial MRH (Multicast Routing Header) for BE (simulations, PoC implementation), spec in 6MAN
- MSR6: spec minimum use-cases, architecture, YANG spec, ? Pass over to responsible W when minimum quality met ?!
- Support / align with SPRING (terminology, architecture)
 - But ensure native IPv6, non-SRv6 SP networks are also equally well supported (see next slide)
- Additional reality check with V6OPS



SP -> DCN: Build once, sell twice ?!!

- MSR6 MVS for SP should be easily adoptable to DCN
- Many (especially newer) DCN built for native IPv6 (not L2 or MPLS)
 - SRv6/SRH less necessary for TE (FlowLabel because of ECMP etc..).
 - SRv6 may just rely on Destination Address SID semantics without SRH.
- E.g.: Stateless multicast can scale/simplify in-DCN multicast/broadcast for (thousands of) virtual LANs between VMs
- Additional work for MSR6 in DCN ?
 - Analyze use-case specifics:
 - Extend MSR6 MVR to additional IGP (RIFT, LSVR)
 - Biggest step (to scale): MSR6 into the Host (e.g.: KVM, ESXI).
 - May not require MSR6 architecture/spec changes when you have routing in the host!
 - But good new spec work if DCN hosts are not routers.
 - And need to revisit MRH option for DCN scalability (O(larger) number of Hosts than SP/PE).