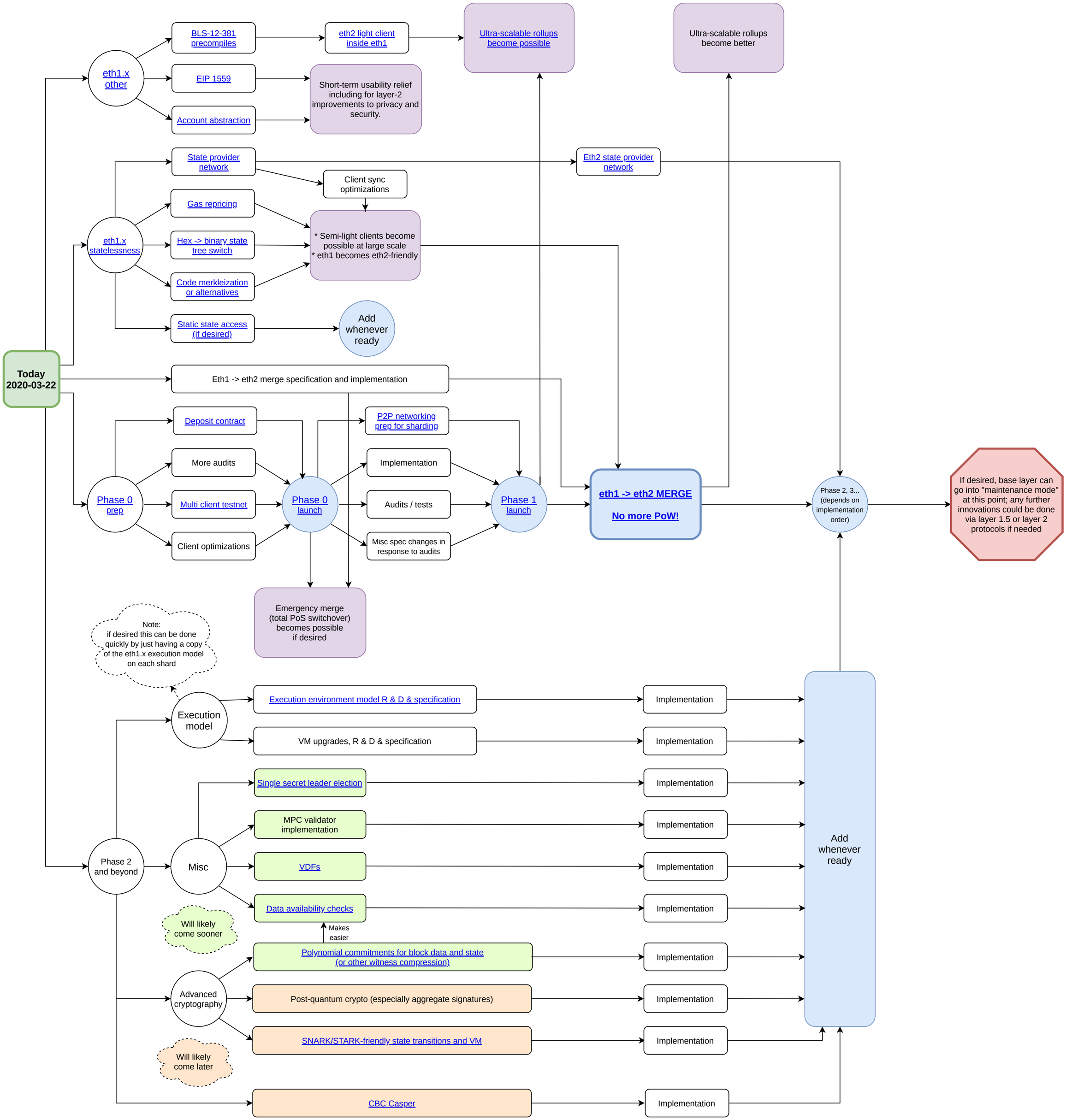
Today
2020-03-22
eth1.x
other
BLS-12-381
precompiles
eth2 light client
inside eth1
Ultra-scalable rollups
become possible
Ultra-scalable rollups
become better
EIP 1559
Account abstraction
Short-term usability relief
including for layer-2
improvements to privacy and
security.
eth1.x
statelessness
State provider
network
Eth2 state provider
network
Client sync
optimizations
Gas repricing
Hex -> binary state
tree switch
Code merkleization
or alternatives
* Semi-light clients become
possible at large scale
* eth1 becomes eth2-friendly
Static state access
(if desired)
Add
whenever
ready
Eth1 -> eth2 merge specification and implementation
Phase 0
prep
Deposit contract
More audits
Multi client testnet
Client optimizations
Phase 0
launch
P2P networking
prep for sharding
Implementation
Audits / tests
Misc spec changes in
response to audits
Phase 1
launch
eth1 -> eth2 MERGE
No more PoW!
Phase 2, 3...
(depends on
implementation
order)
If desired, base layer can
go into "maintenance mode"
at this point; any further
innovations could be done
via layer 1.5 or layer 2
protocols if needed
Emergency merge
(total PoS switchover)
becomes possible
if desired
Note:
if desired this can be done
quickly by just having a copy
of the eth1.x execution model
on each shard
Execution
model
Execution environment model R & D & specification
VM upgrades, R & D & specification
Implementation
Phase 2
and beyond
Misc
Single secret leader election
MPC validator
implementation
VDFs
Data availability checks
Makes
easier
Will likely
come sooner
Polynomial commitments for block data and state
(or other witness compression)
Advanced
cryptography
Post-quantum crypto (especially aggregate signatures)
SNARK/STARK-friendly state transitions and VM
Will likely
come later
CBC Casper
Add
whenever
ready