BIP99 and uncontroversial hardforks

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Outline

Introduction

Uncontroversial consensus forks

Disagreements and controversial consensus forks
BIP99: Let’s classify consensus forks

- Why?
- Common terminology
- Deployment recommendations
- Let’s deploy an uncontroversial hardfork!
Softforks vs Hardforks

► **Softfork**: Everything that was invalid, is still invalid and more
  (backwards compatible for non-mining full nodes)

► **Hardfork**: Some previously-invalid blocks will be valid from now on
  (breaks backwards compatibility)
Unintentional consensus forks

- Accidents happen
- Softforks vs Hardforks?
- Deployment recommendation: **Do not deploy**
- What is the **specification** of the consensus rules anyway?
Specification (aka Libconsensus)

- Not this: https://en.bitcoin.it/wiki/Protocol_rules
- Current API: VerifyScript
- Future API?: VerifyHeader, VerifyTx, VerifyBlock
- Eventually its own repository?
- Specification and Implementation
Uncontroversial softforks

- Backwards compatible
  (infinite time to upgrade unless you want to use the new features)
- Successful precedents:
  - BIP30: #915 March 15th 2012 [block.nTime]
  - BIP16: #748 April 1st 2012 [block.nTime]
  - BIP34: #1526 March 25th 2013 (block 227931) [nHeight]
  - BIP66: #5713 July 4th 2015 [ISM v3]
  - BIP65: #6351 [Currently being deployed with ISM block version=4]
- Miners’ upgrade confirmation (aka voting)
- Deployment recommendation: BIP9 (Version bits[specifically 29 of the 32 bits])
Uncontroversial hardfork: never too late for...

- Fix the "timewarp attack"
- Recovery of soft-fork bits from nVersion / reset the minimum version to 0 (unsigned)
- Increase of soft-fork NOP space.
- Recovery of low-order bits from CBlockHeader::hashPrevBlock
- ...

...
Uncontroversial hardfork: deployment, let’s do a hard fork asap!

- How long is “asap” and “long enough” at the same time? 1 year? 2 years? 5 years?
- Deployment recommendation: Minimum temporal threshold + BIP9
- Temporal threshold: header.nTime, block.nHeight, MedianTime(block.prev)
Controversial softfork

- Coordinated censorship
- Unpopular restriction
- Deployment recommendation: Please, miners, don’t deploy
Schism hardfork deployment

- Don’t care about miners opinion
- Deployment recommendation: only time threshold (no BIP9)
- Let’s avoid hurt bystanders
- The first block in the fork should have a previously invalid nVersion
Schism hardfork examples

- Anti-Block-creator hardfork (without ASIC-reset)
- ASIC-reset hardfork
- Anti-cabal hardfork
- Spin-offs
- Differences in fundamental values
“People can disagree for unbounded amounts of time”

**Example:** Some people disagree with this statement to date.

Funny fact: until they agree, they represent a counter-example to falsify the opposite statement

**Do people have to follow the majority?**

- As shown by anti-ASIC hardforks, not the hashrate majority
- The user’s majority is **not measurable**
- So called “economic majority” doesn’t guarantee currency unification
Questions???

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