

BIP 0068 - Relative lock-time using consensus-enforced sequence numbers (soft fork)

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Table 1: Data sheet for Relative lock-time using consensus-enforced sequence numbers

Title	Relative lock-time using consensus-enforced sequence numbers
Layer	Consensus (soft fork)
Author	Mark Friedenbach, BtcDrak, Nicolas Dorier, kinoshitajona
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Abstract

This BIP introduces relative lock-time (RLT) consensus-enforced semantics of the sequence number field to enable a signed transaction input to remain invalid for a defined period of time after confirmation of its corresponding output.

Motivation

Bitcoin transactions have a sequence number field for each input. The original idea appears to have been that a transaction in the mempool would be replaced by using the same input with a higher sequence value. Although this was not properly implemented, it assumes miners would prefer higher sequence numbers even if the lower ones were more profitable to mine. However, a miner acting on profit motives alone would break that assumption completely. The change described by this BIP repurposes the sequence number for new use cases without breaking existing functionality. It also leaves room for future expansion and other use cases.

The transaction `nLockTime` is used to prevent the mining of a transaction until a certain date. `nSequence` will be repurposed to prevent mining of a transaction until a certain age of the spent output in blocks or timespan. This, among other uses, allows bi-directional payment channels as used in [Hashed Timelock Contracts \(HTLCs\)](#) and [BIP112](#).

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