




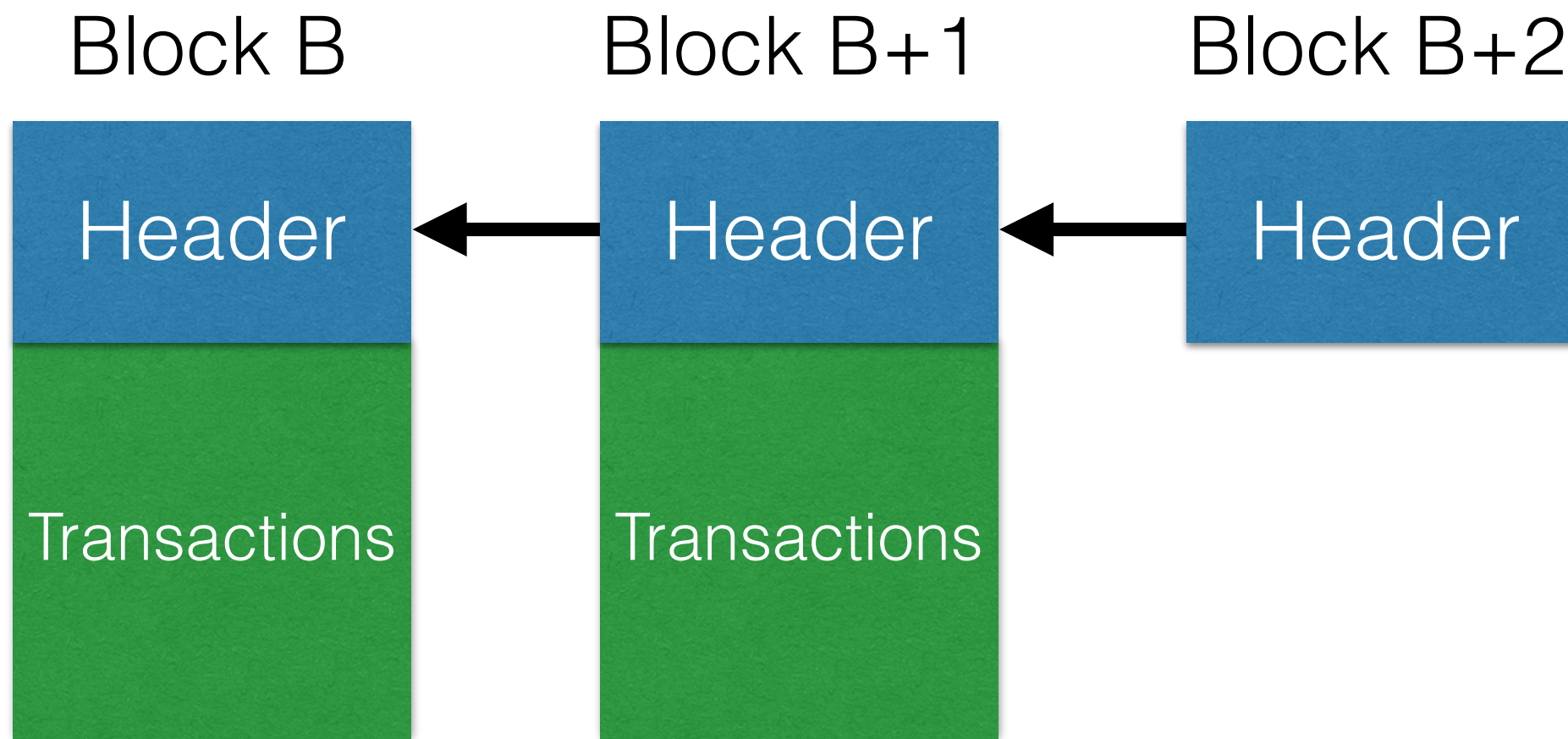
Eclipse Attacks - Delaying Blocks

Block delivery time > 20 min


1. Requirement for victim 
 - Must not receive block header
 - Must not receive version message

Block delivery time > 20 min

Header-first synchronization

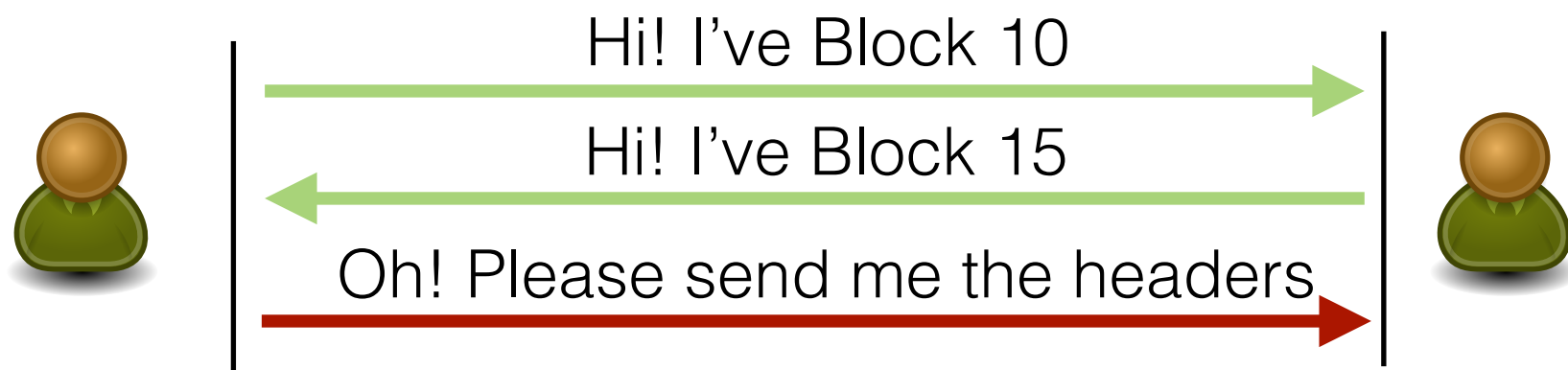


Block delivery time > 20 min

1. Requirement for victim 
 - Must not receive block header
 - Must not receive version message

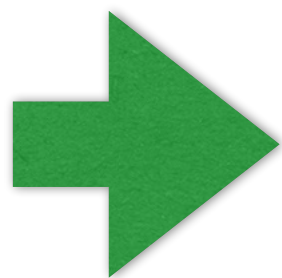
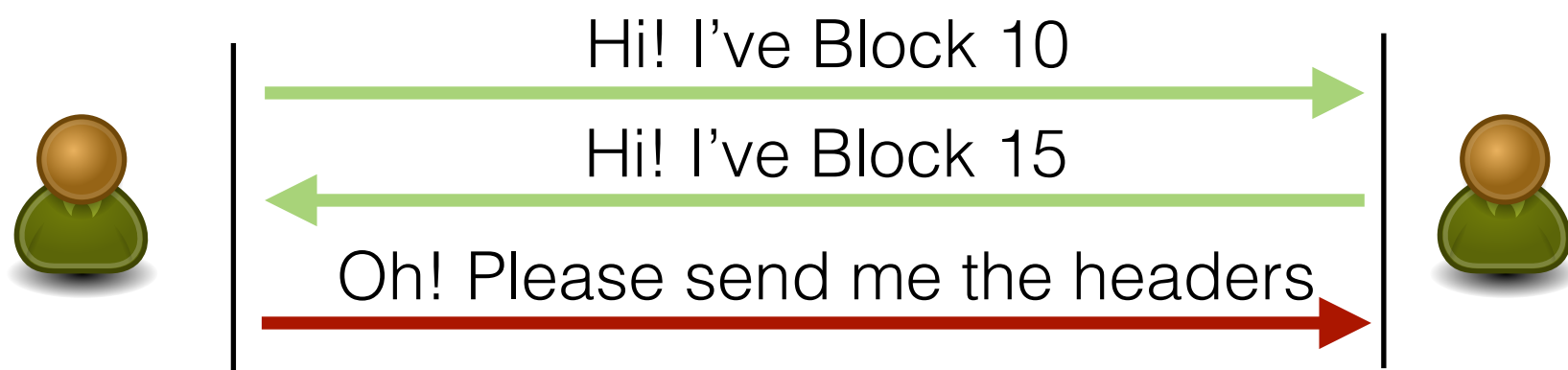
Block delivery time > 20 min

Version message exchange
on connection initiation




Block delivery time > 20 min

Version message exchange
on connection initiation





Occupy all open connection slots
No new connections

Block delivery time > 20 min

1. Requirement for victim 
 - Must not receive block header
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Block delivery time > 20 min

1. Requirement for victim 
- Must not receive block header
 - Must not receive version message

2. Requirements for adversary 
- Must be first relay for all blocks
 - Should perform connection depletion

Extending the block delivery time - Example



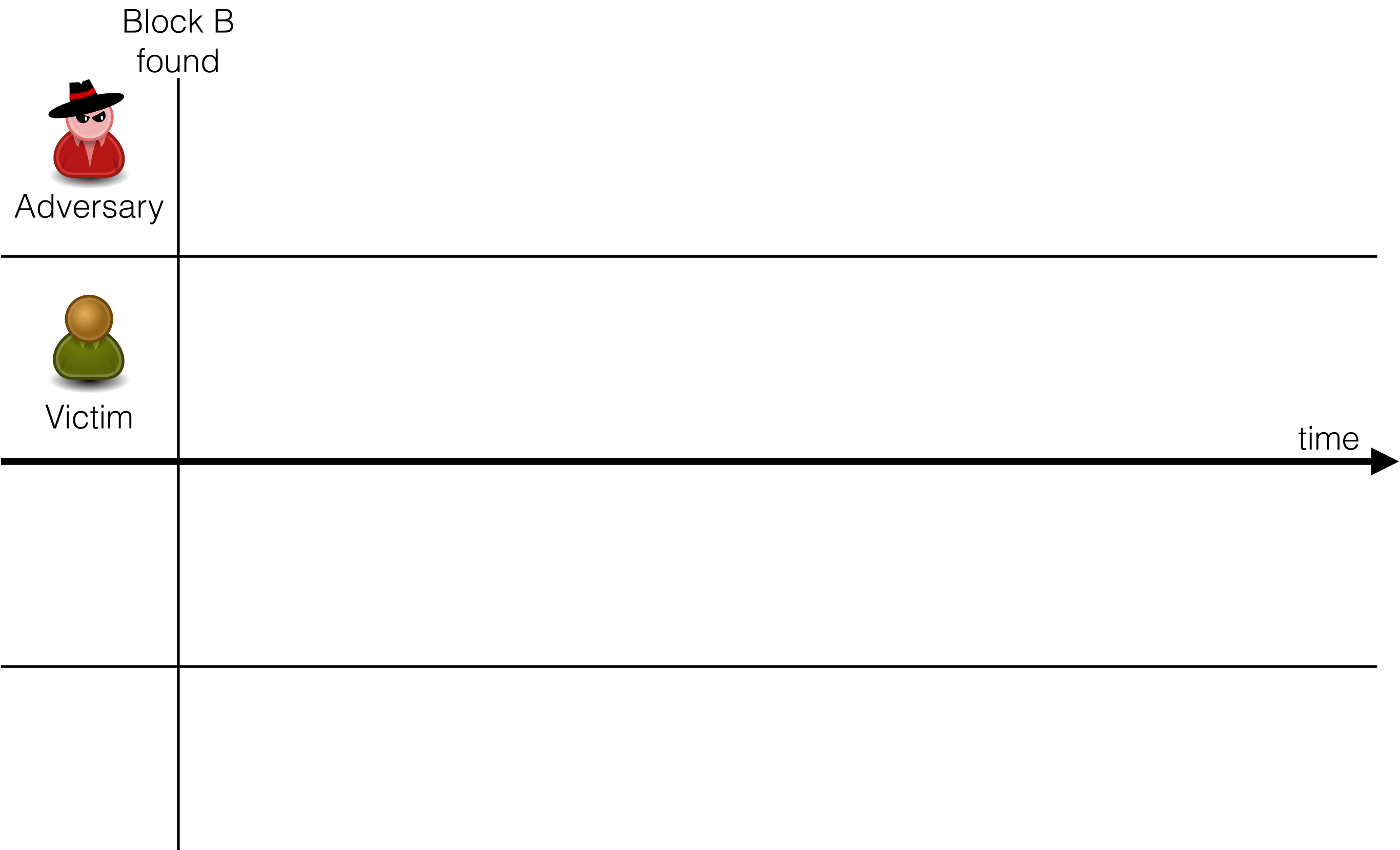
Adversary



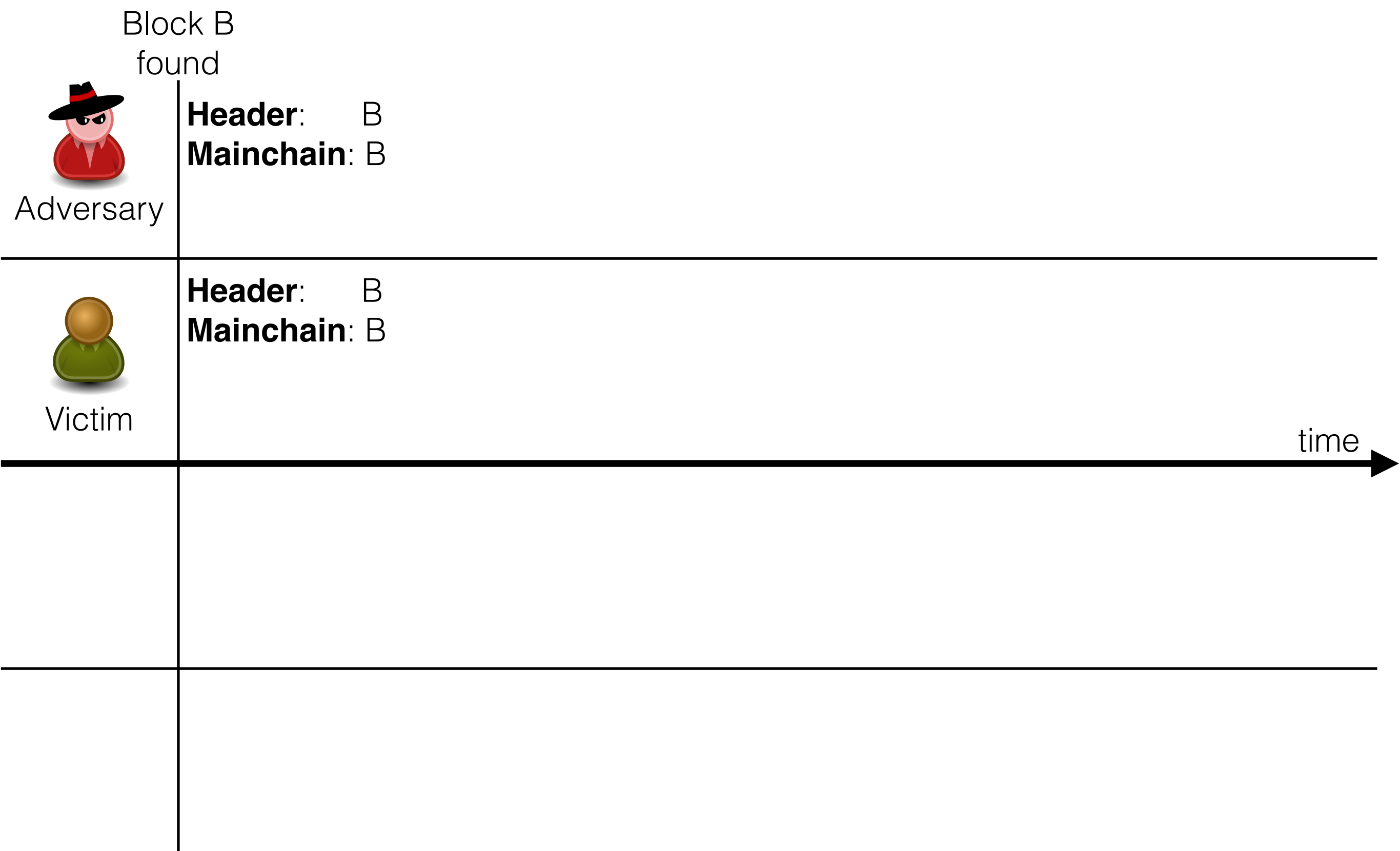
Victim

time

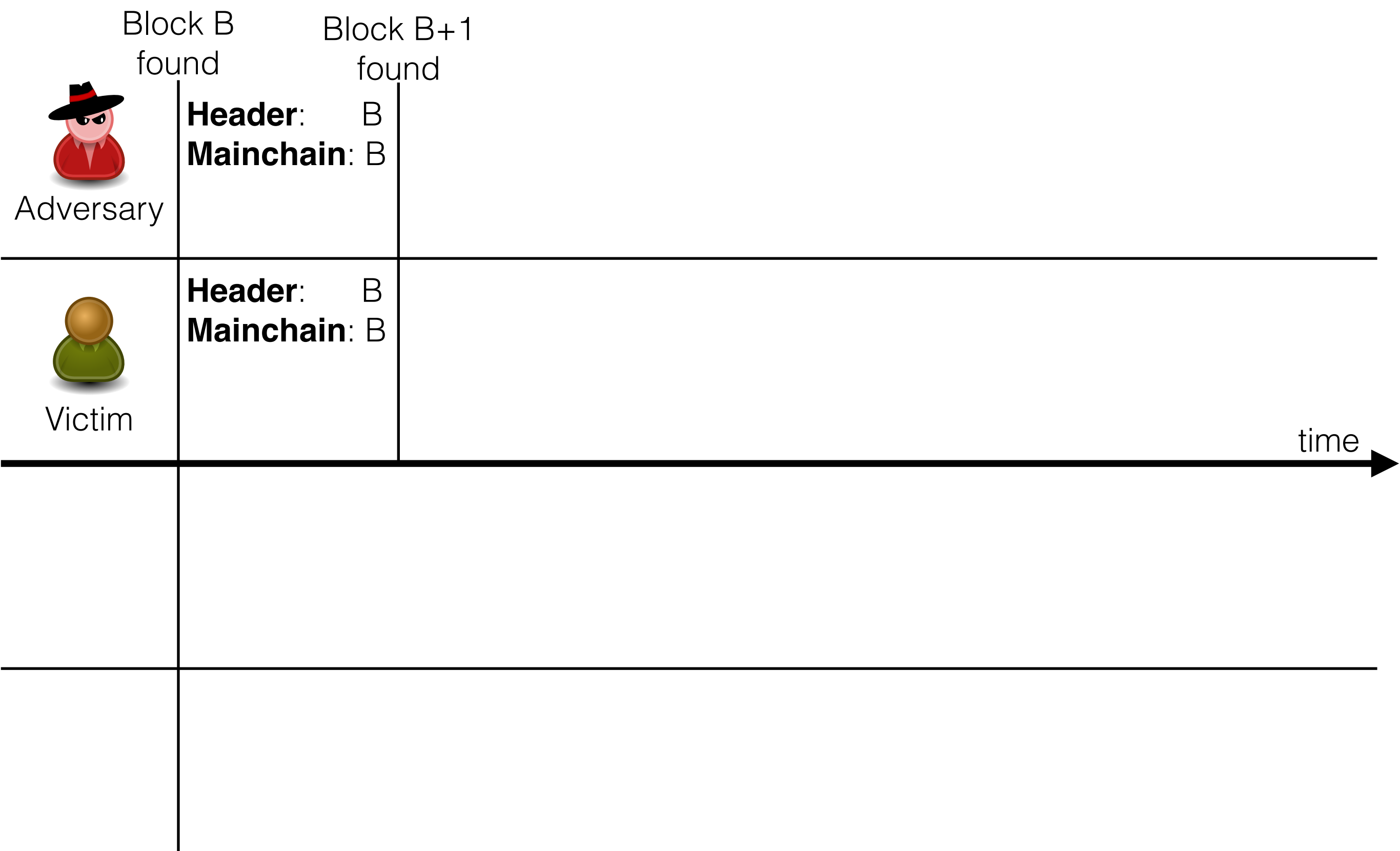
Extending the block delivery time - Example



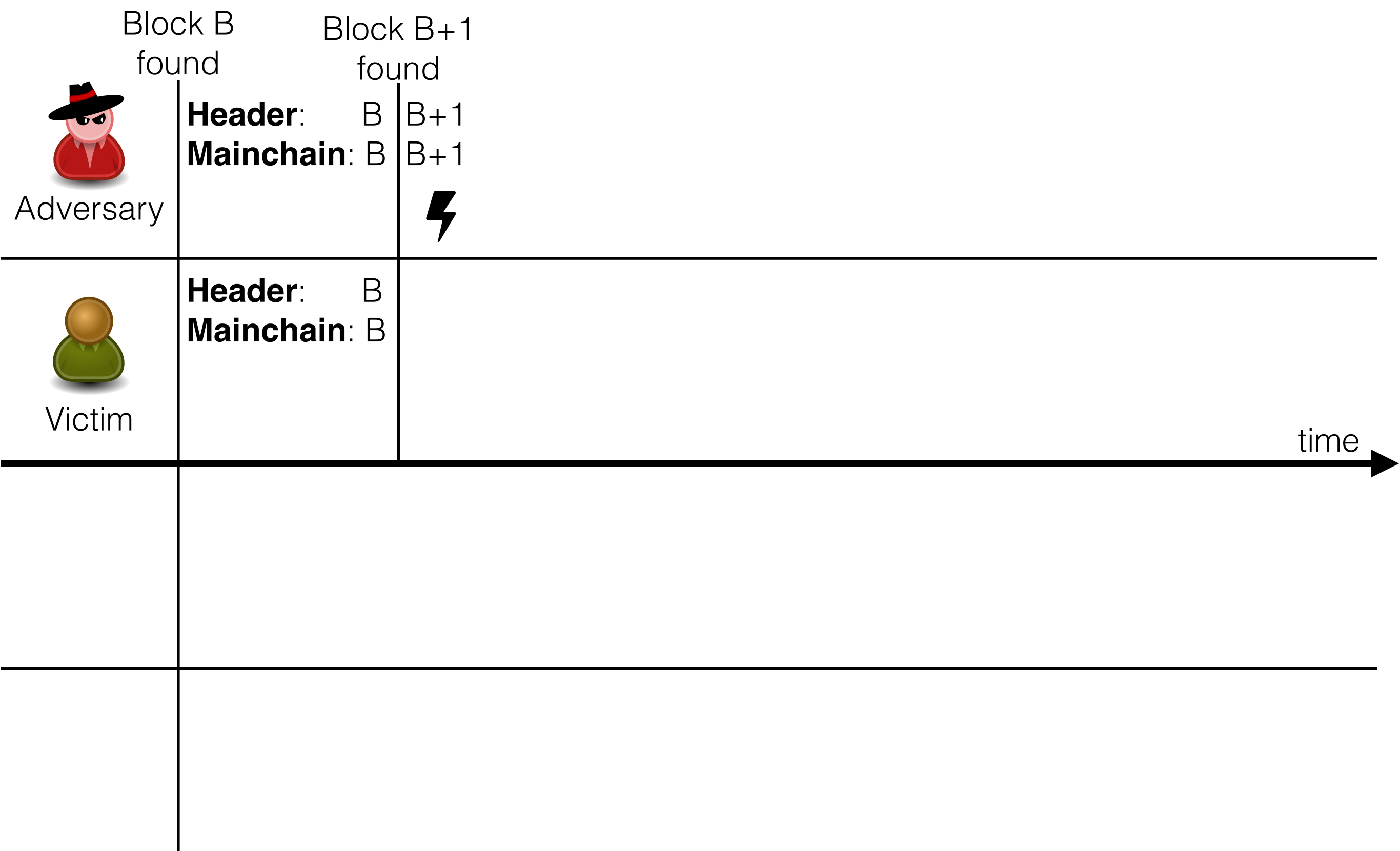
Extending the block delivery time - Example



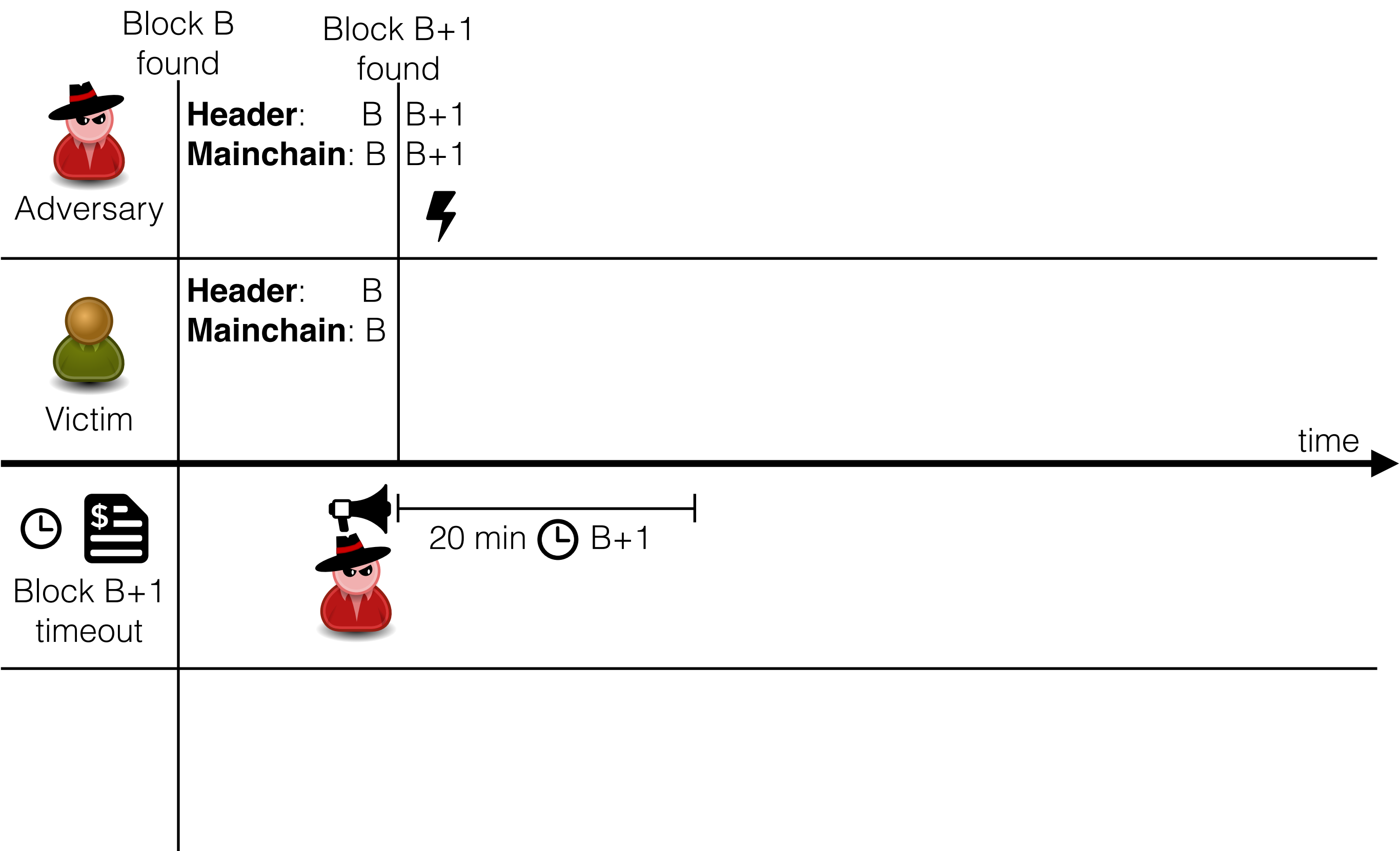
Extending the block delivery time - Example



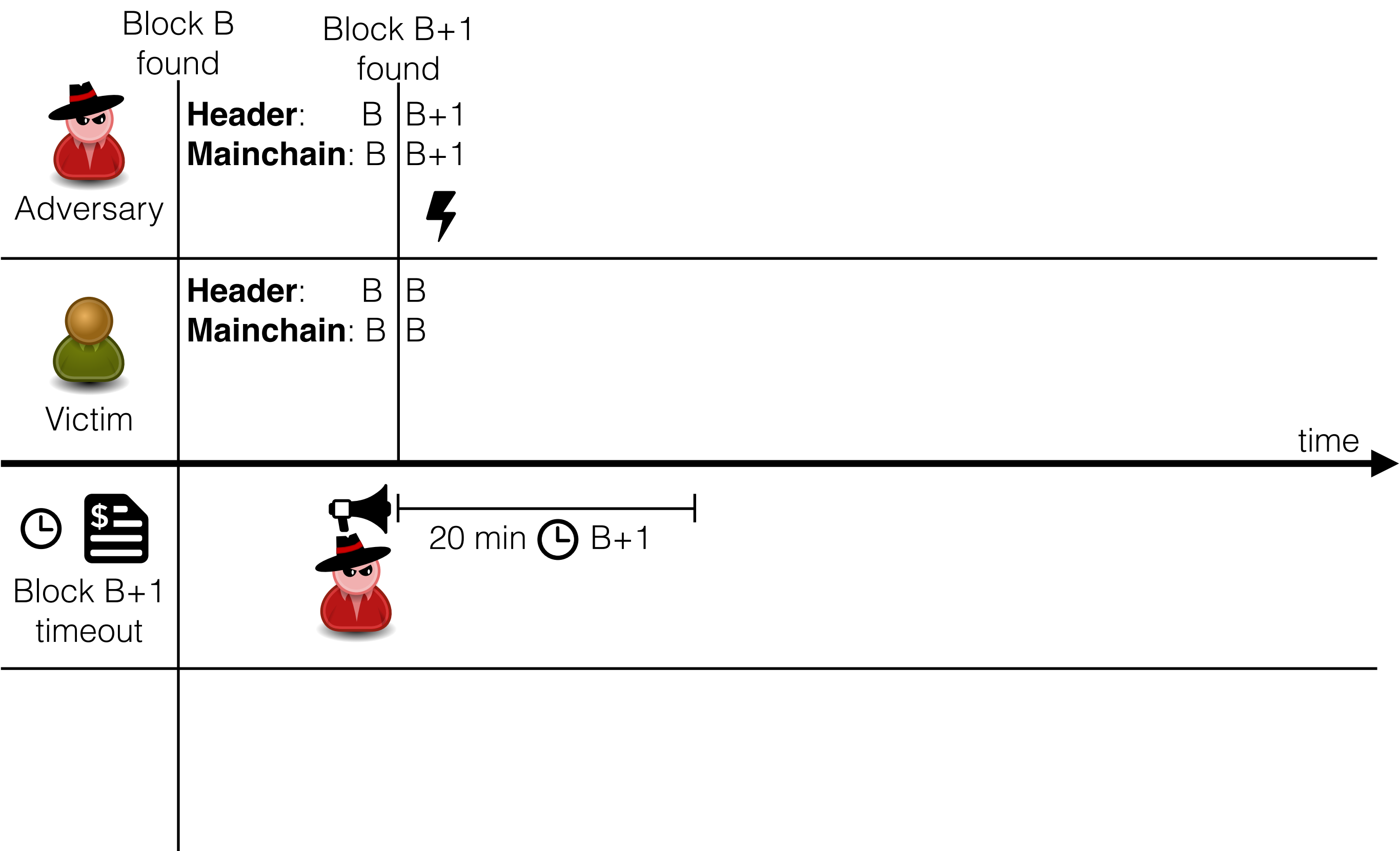
Extending the block delivery time - Example



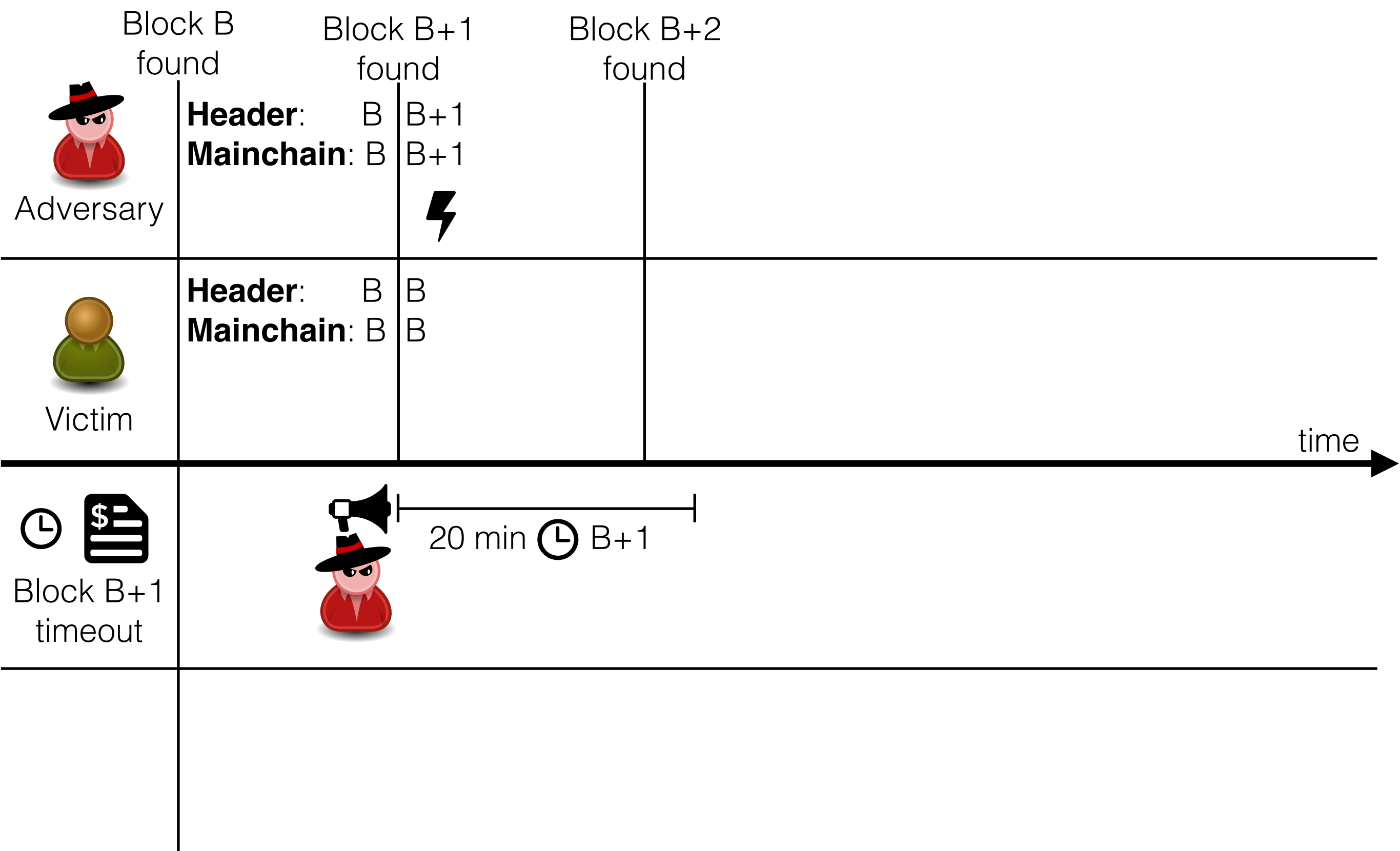
Extending the block delivery time - Example



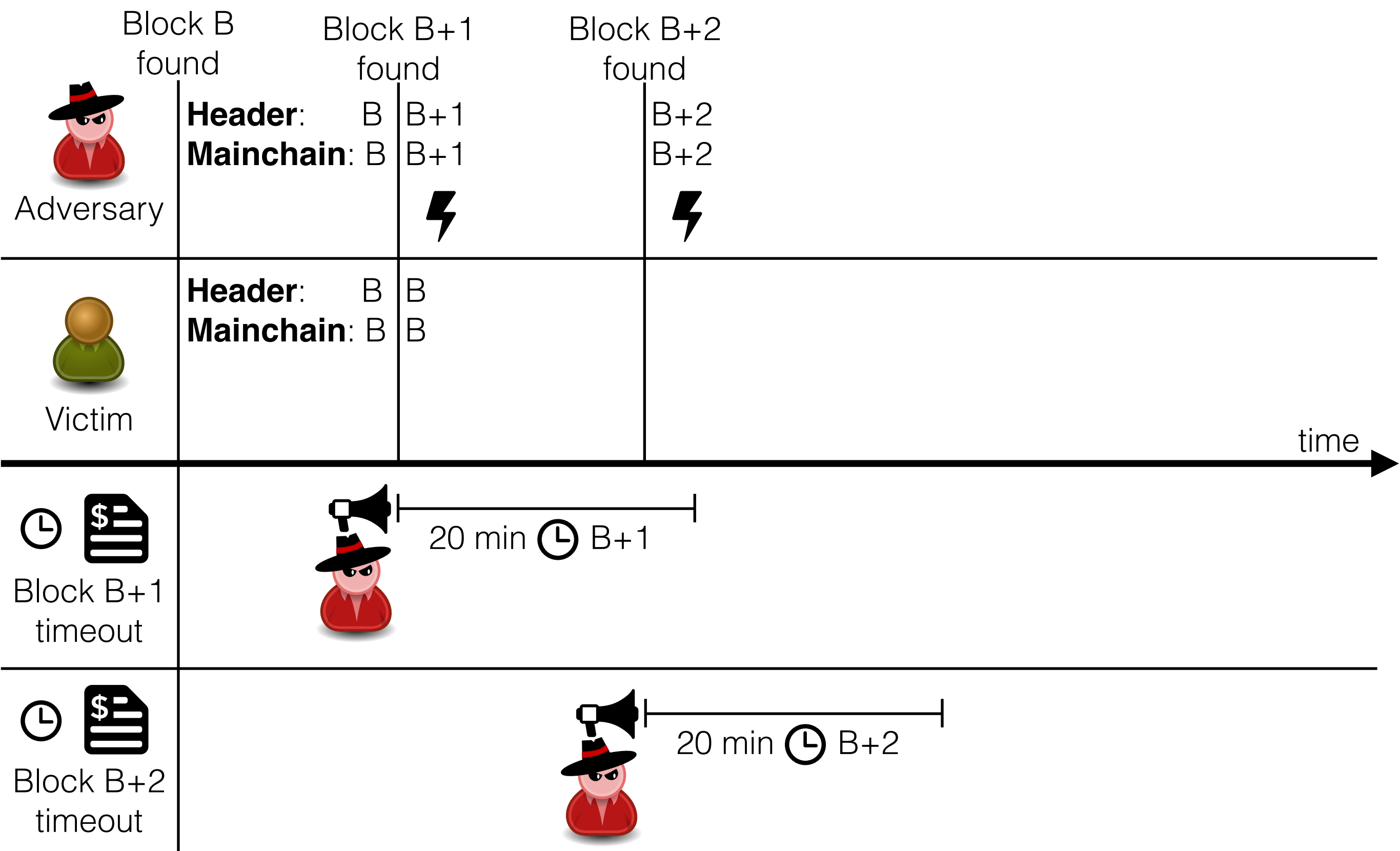
Extending the block delivery time - Example



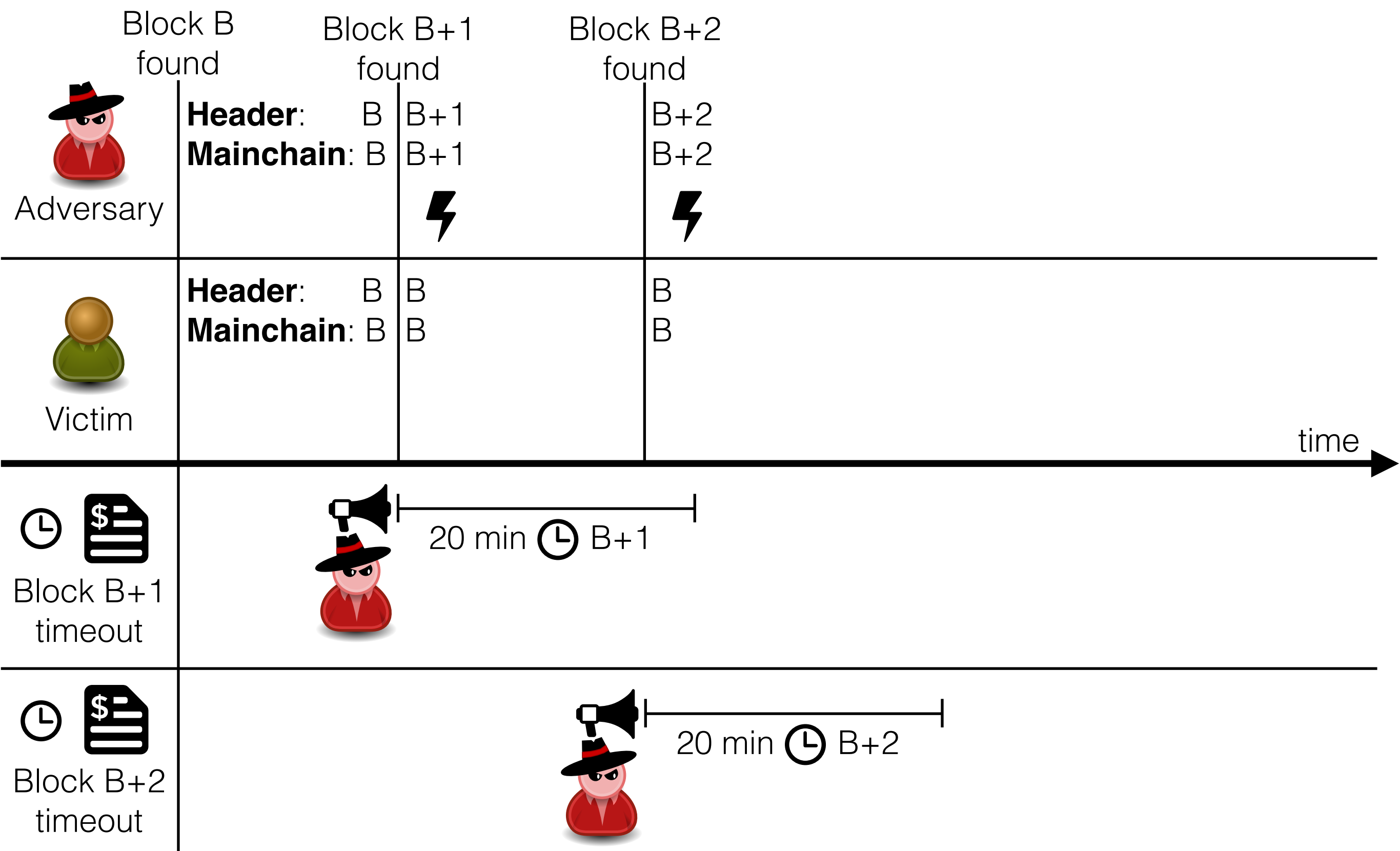
Extending the block delivery time - Example



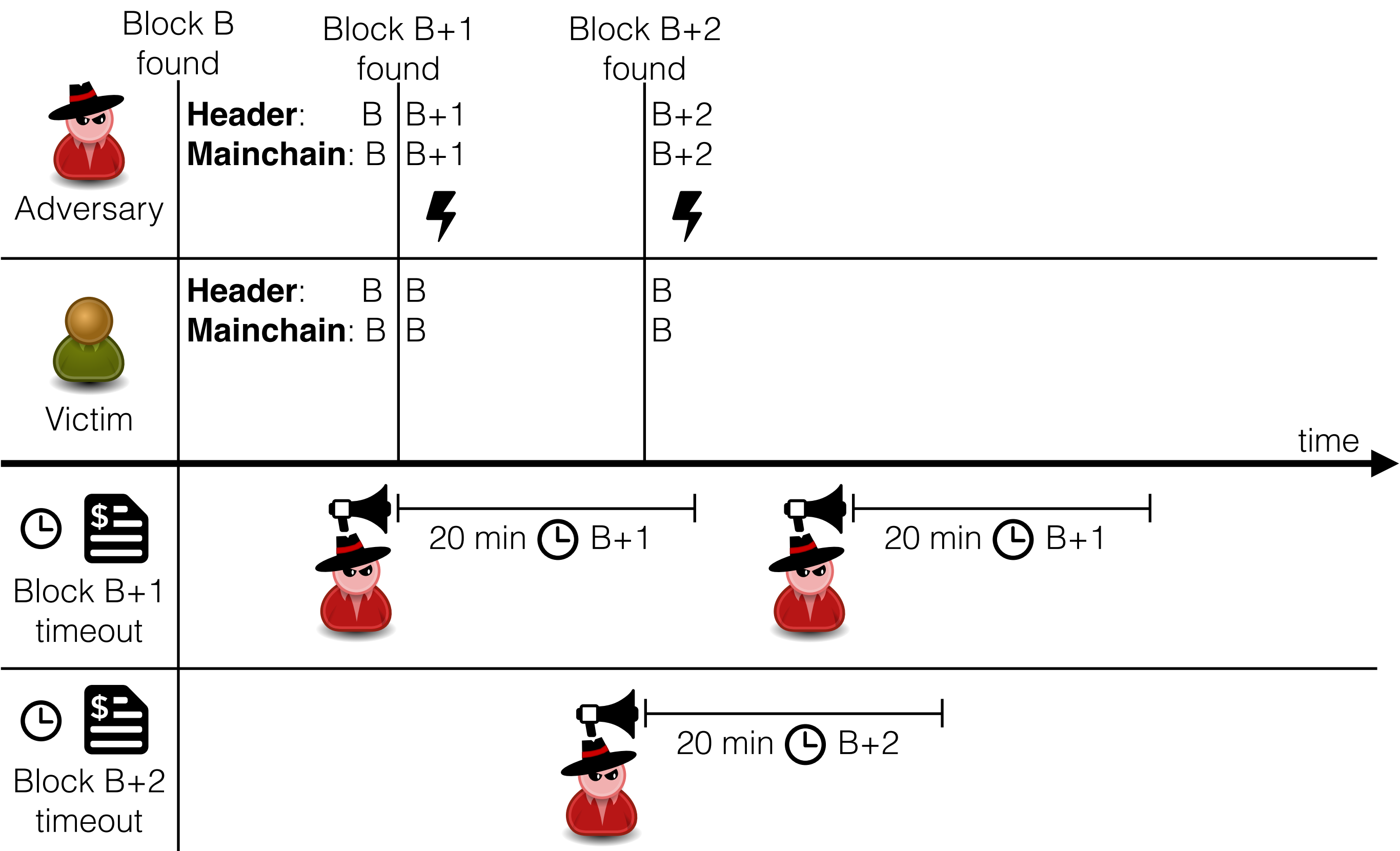
Extending the block delivery time - Example



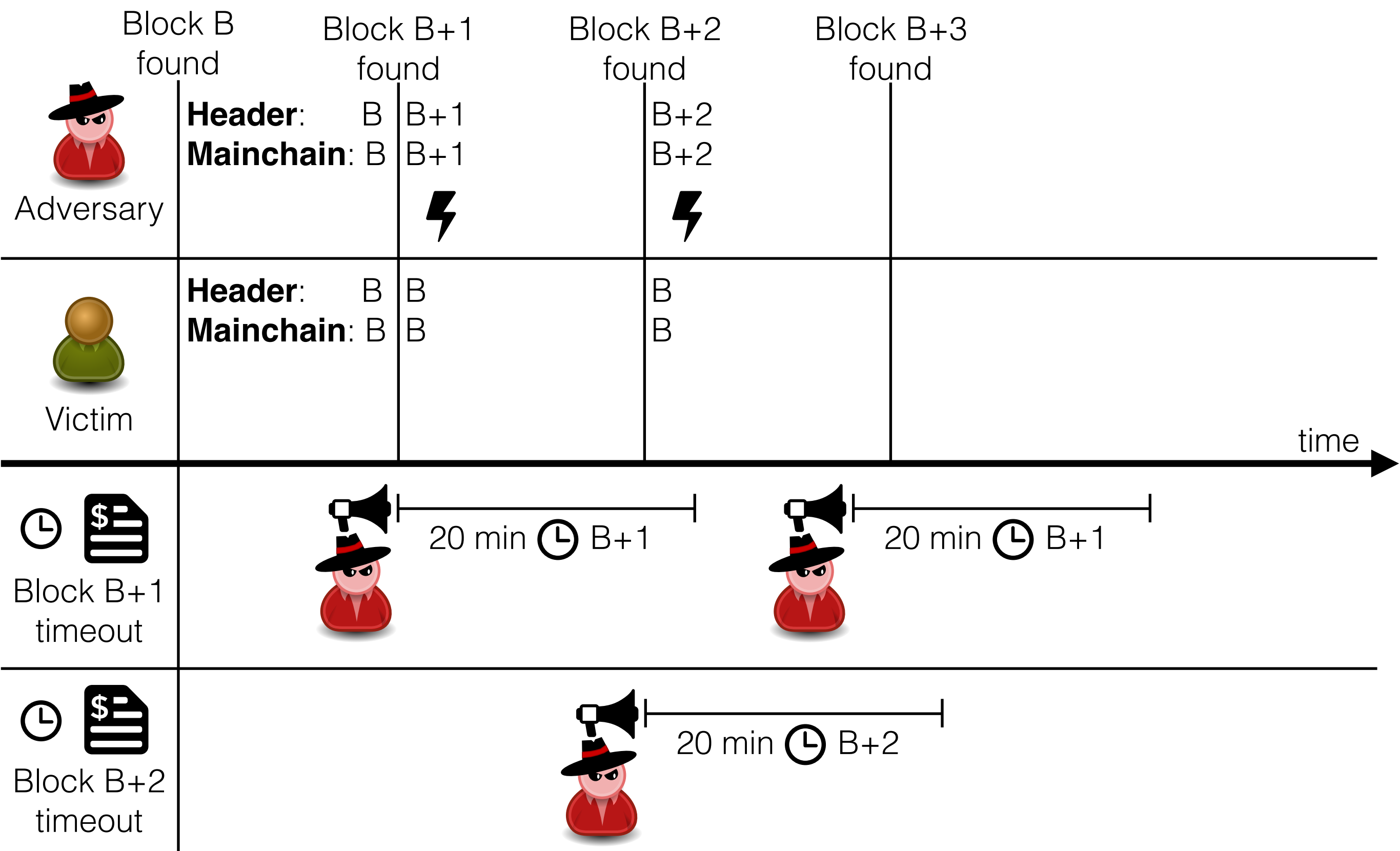
Extending the block delivery time - Example



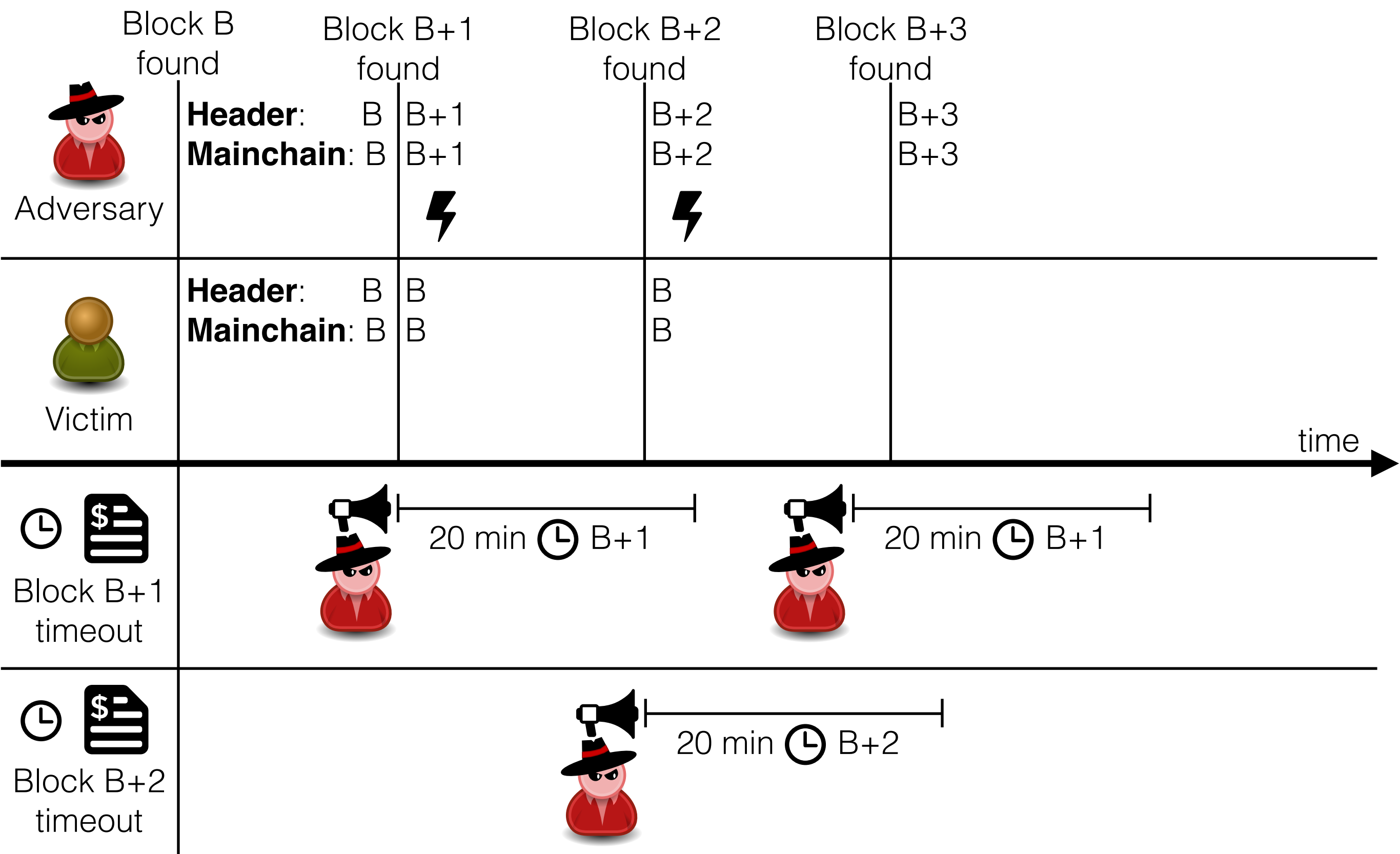
Extending the block delivery time - Example



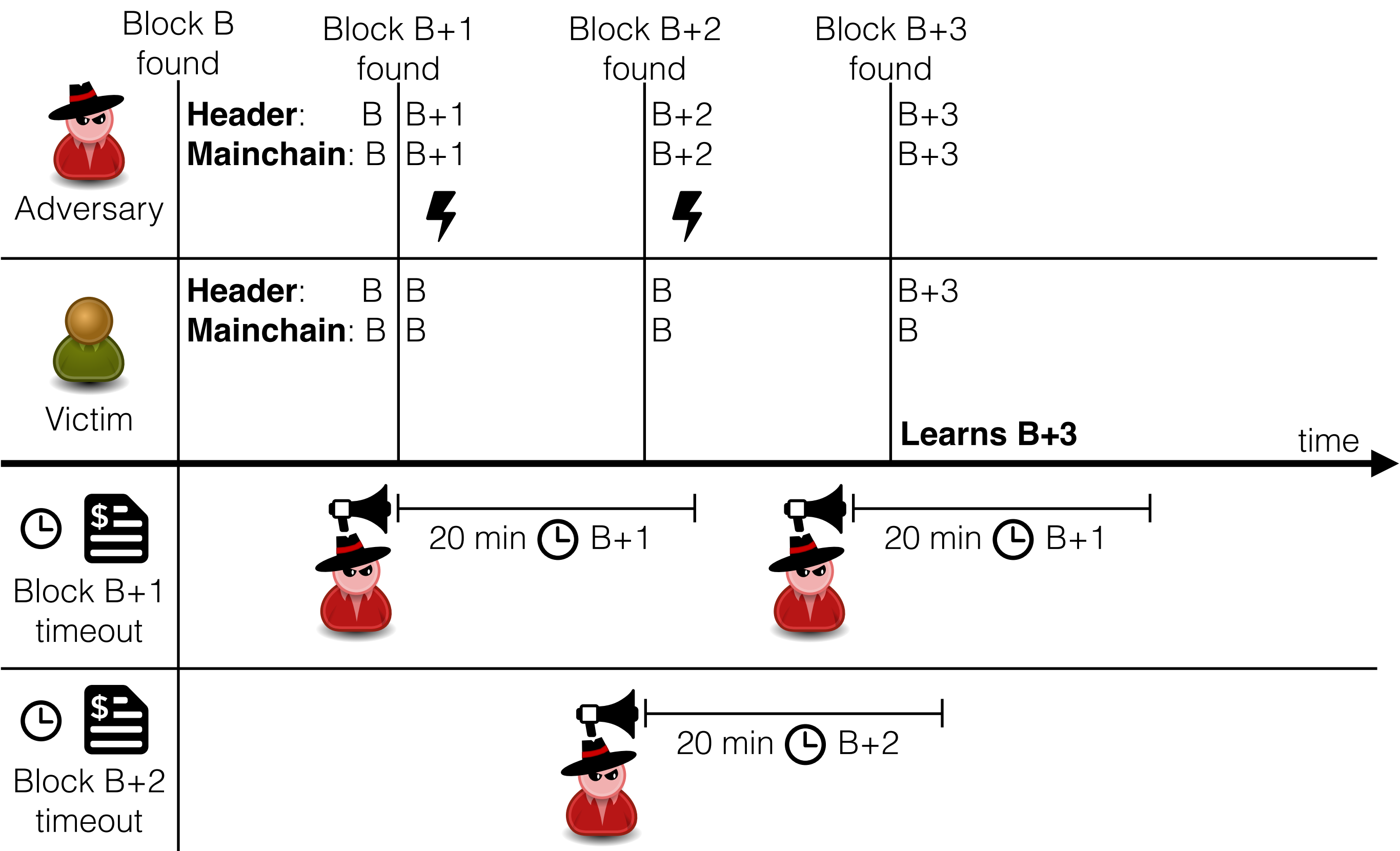
Extending the block delivery time - Example



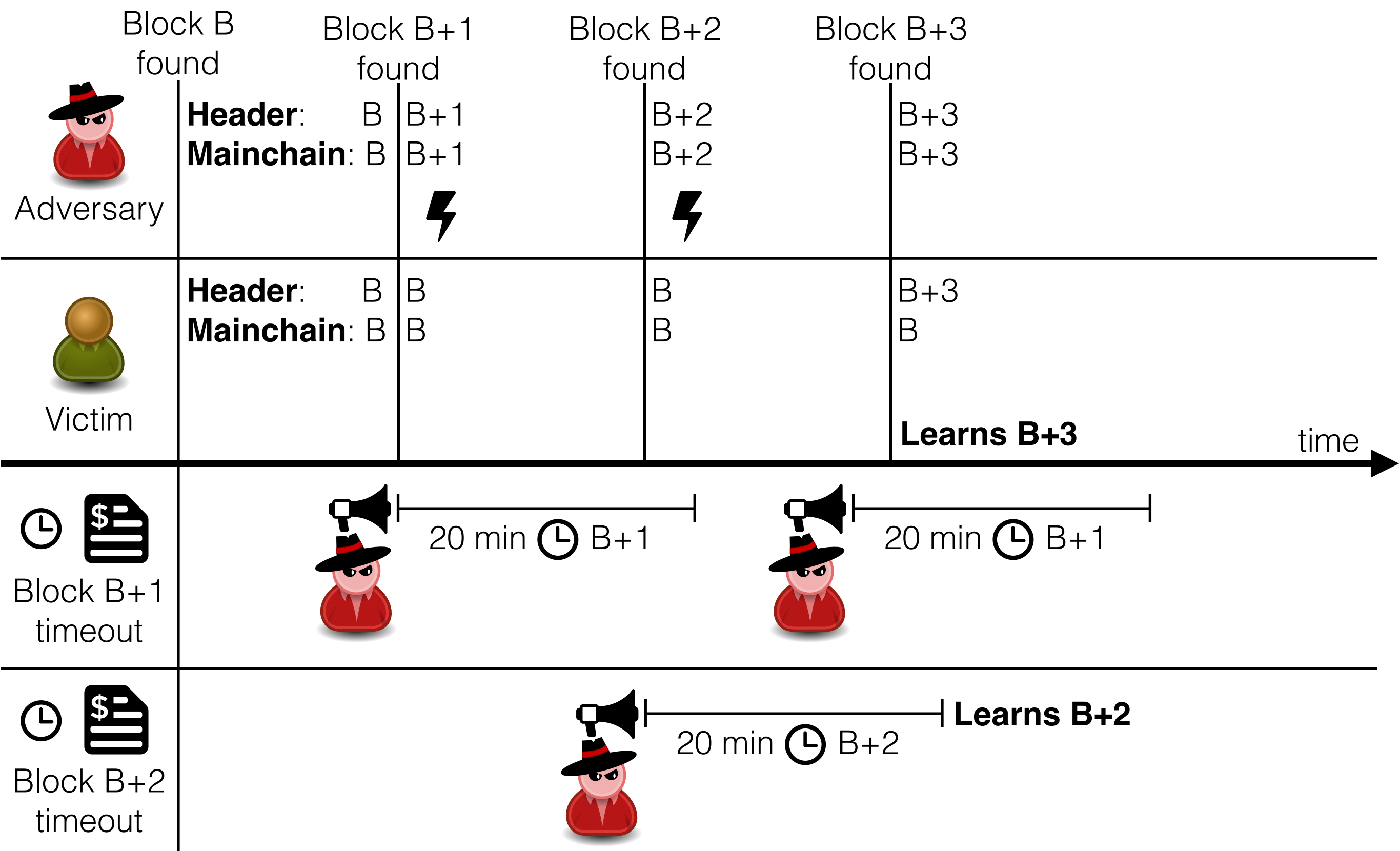
Extending the block delivery time - Example



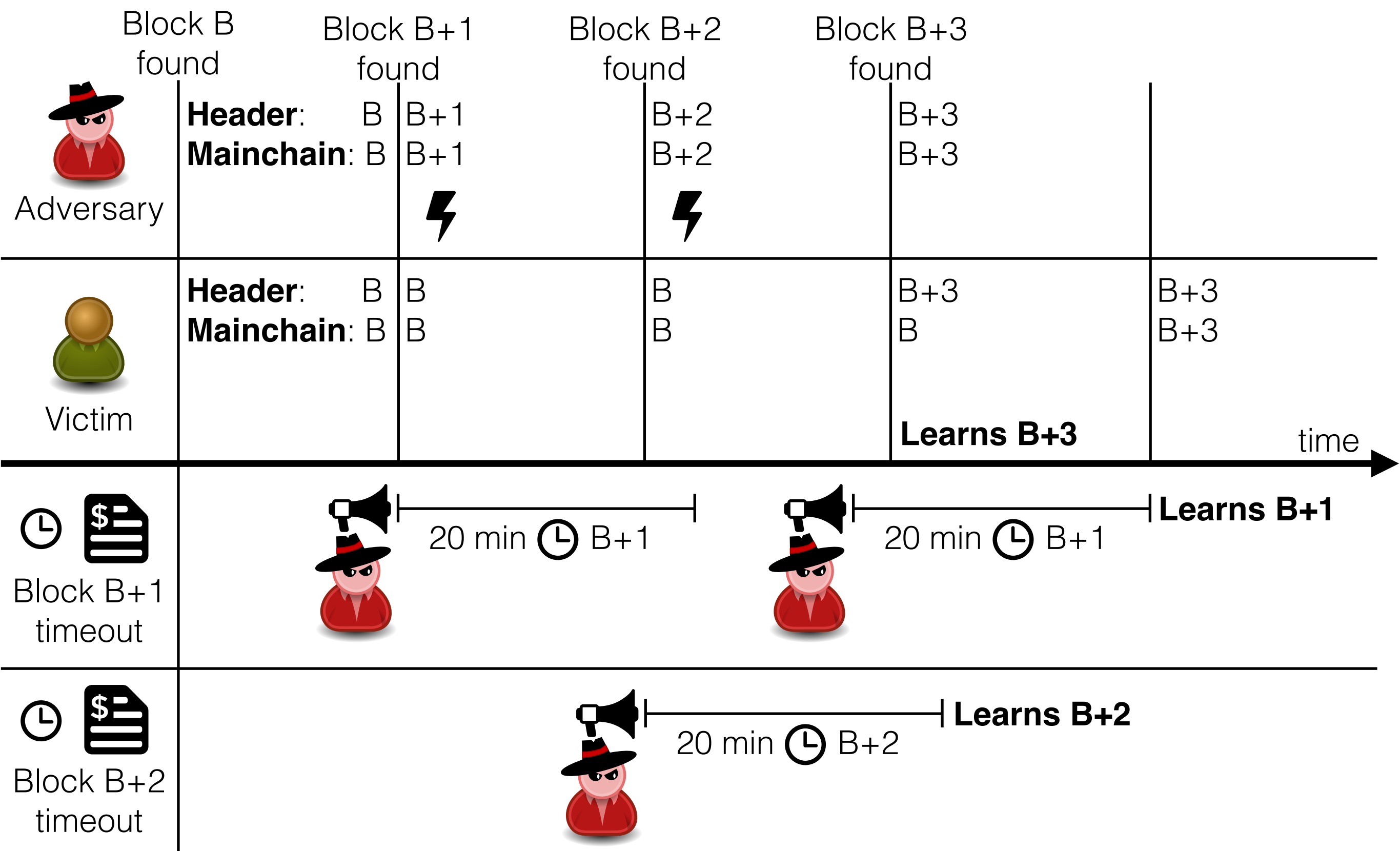
Extending the block delivery time - Example



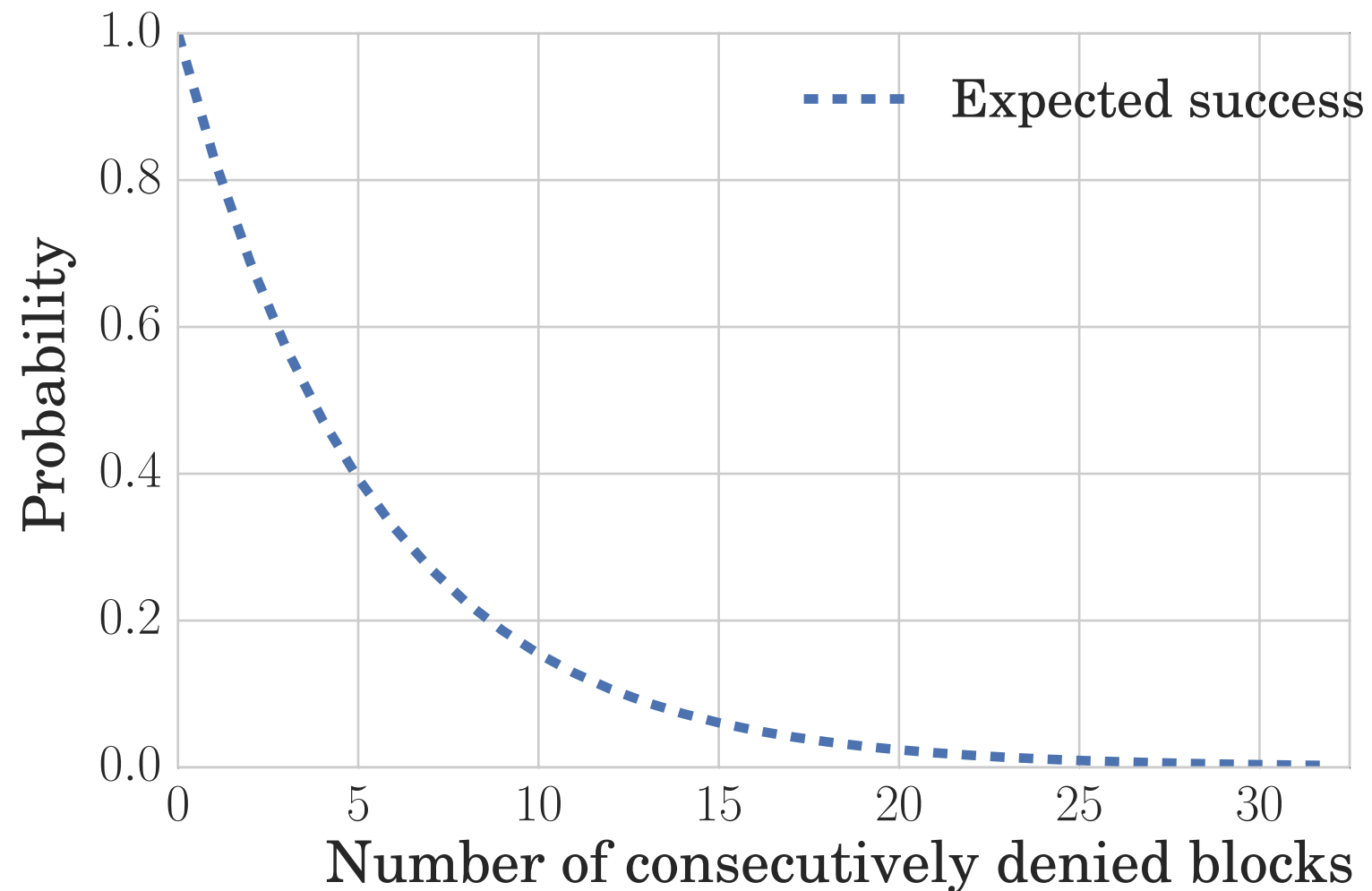
Extending the block delivery time - Example



Extending the block delivery time - Example



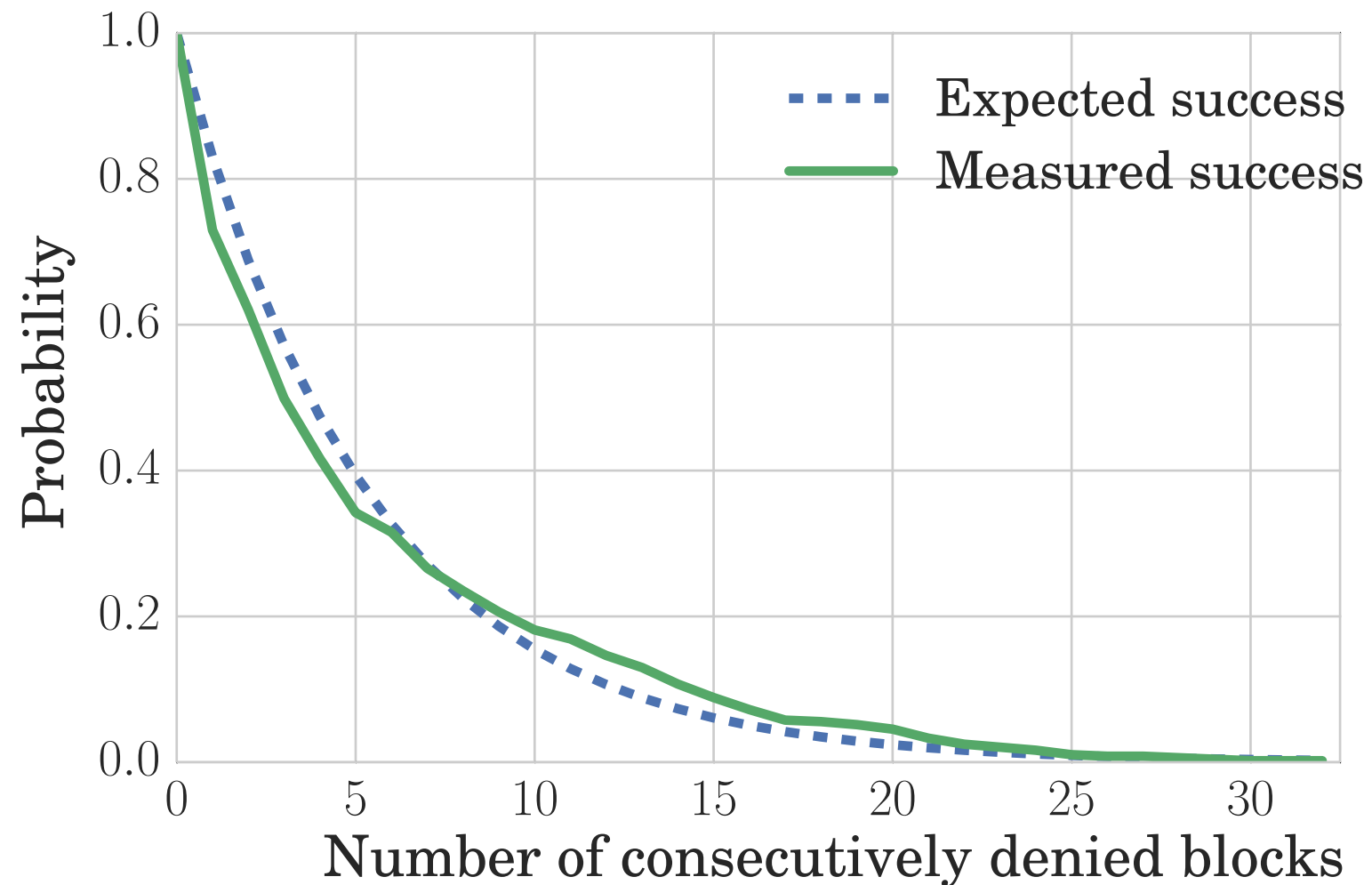
Experimental validation - Continuous block denial



Probability for N blocks = P^N

based on $P = 0.83$

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