Proof of Work

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Block
Prev Hash | Nonce
Tx | Tx | ...

Block
Prev Hash | Nonce
Tx | Tx | ...

Challenge

Proof of Work

Keep inserting
Random bits

Proof ✚ Challenge

Prev BC Hash

Hash

When 1 zero added,
work will be doubled

0000000...0xxxxxxxxx...x

Threshold zeros

Because $2^5 = 2^4 * 2$
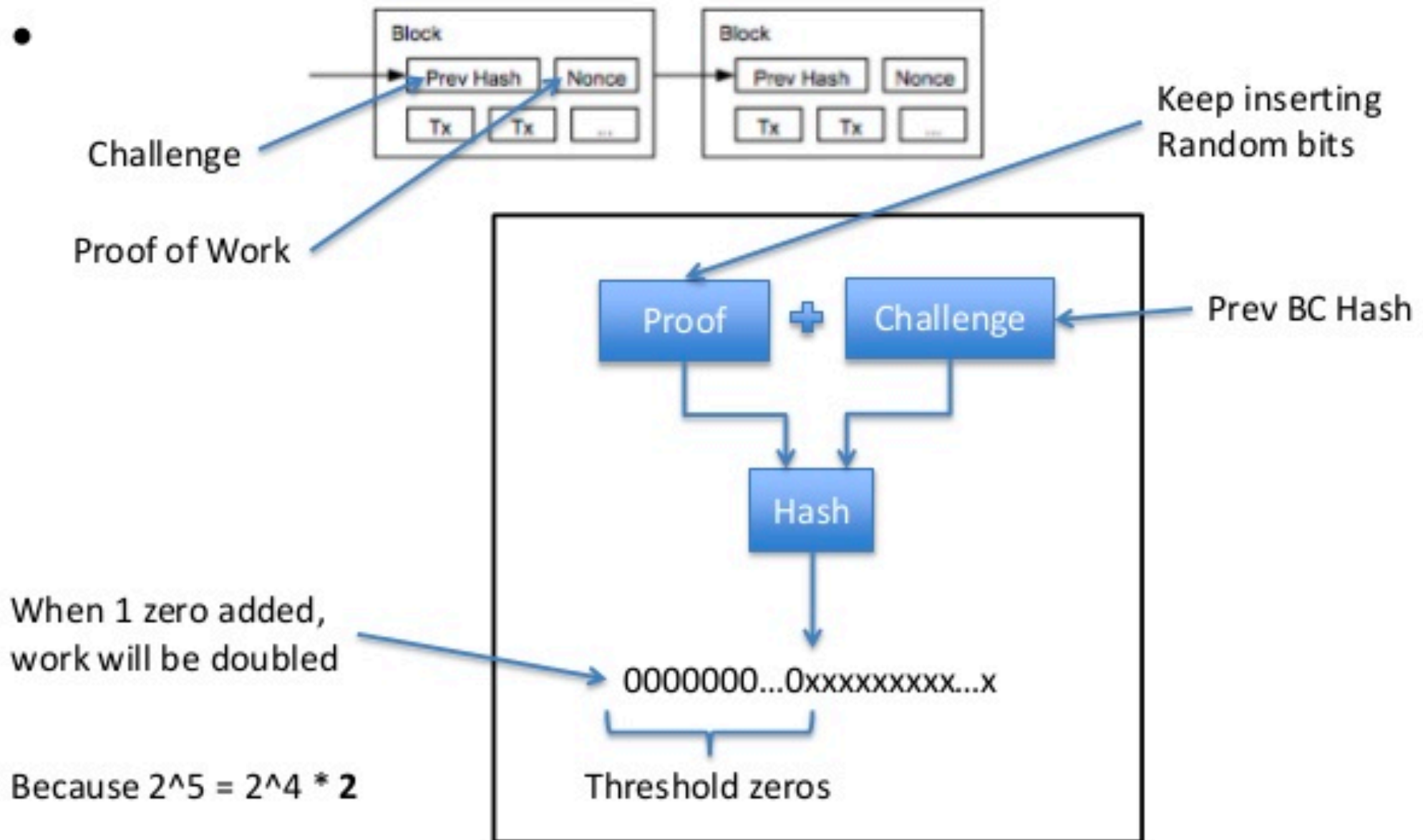
Protects Against Web Spam

It is typical for "SEO Marketing Companies" to take advantage of forums and blogs by creating worthless posts and comments with links to a website they are promoting.

If your web-property allows user-generated content, you are likely to use CAPTCHA. CAPTCHAs are not perfect:

- They annoy your visitors.
- They provide an illusory sense of security.

Today it is possible to buy access to an API which solves any CAPTCHA for just $0.70 per 1000 CAPTCHA images. And do you think your customer will be happy to try to solve one of these ridiculous CAPTCHAs?

Secures Against Brute Force Attacks

Many modern web-applications are susceptible to brute force attacks.

Take a typical login form, for example. Hackers can compromise account security by trying every possible password combination. They can also leverage a large network of proxy servers to parallelize this attack.

Forcing their browser to work hard makes it too expensive and slow for hackers to perform a brute force attack.