Common Randomness Amplification: A Constructive View

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ETH Zürich

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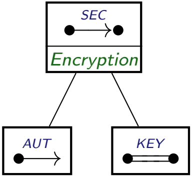
Composable Security Definitions Are Essential

Composable Constructions



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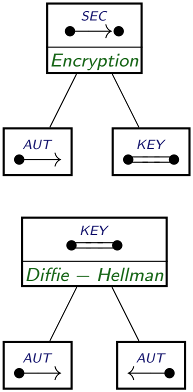

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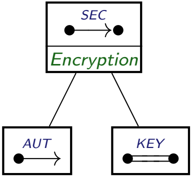

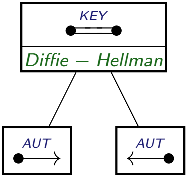

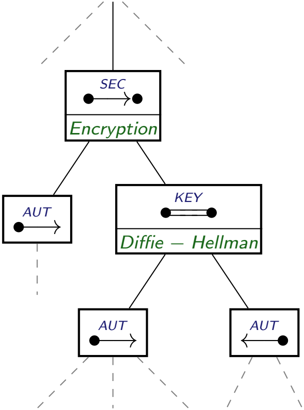

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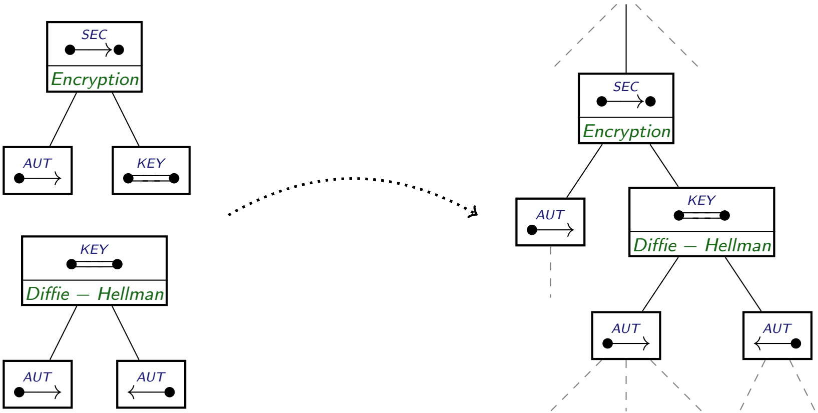

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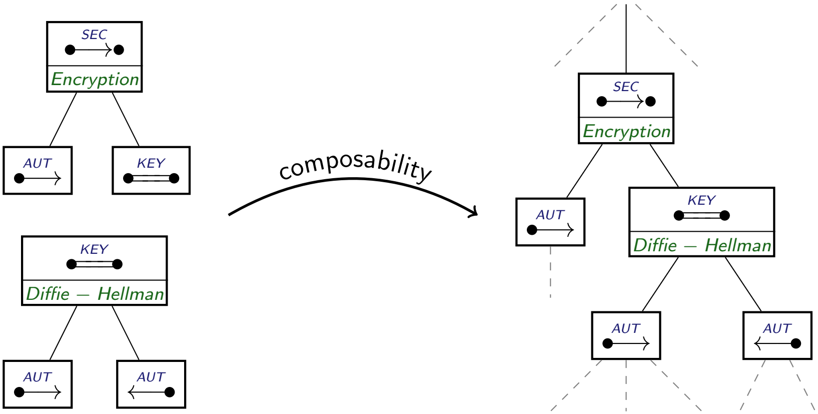

Secure Amplification of Common Randomness

- Can two *distrustful* parties create more common randomness than they initially share?

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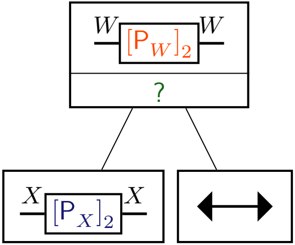
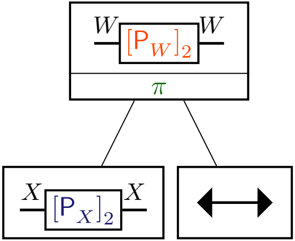


and $H(W) > H(X)$

Secure Amplification of Common Randomness

- ~~Can two distrustful parties create more common randomness than they initially share?~~



$$\Longrightarrow H(W) \lessapprox H(X)$$

Thank You!