Upgrade	Description	On/Off Chain	Scaling a Improvement	Known People Working on It	Status	Optimistic Launch Date
Increase gas limit	Miners increase gas limit	On chain	<u>2-8x</u>	2-10	Waiting for miner adoption	mid 2017
Parallel process transactions	<u>Transactions can be processed by nodes</u> <u>simultaneously instead of one by one</u>	On chain	2-8x	1-3	Concept	late 2017
Swap virtual machines	Swapping the Ethereum virtual machine (EVM) for web assembly (WASM)	On chain	3-10x	1-2	Code in progress	2018
Proof of stake	Changing consensus algorithm from proof of work to proof of stake	On chain	2-5x	<u>3-5</u>	Code in progress	late 2018
Payment channel networks	Parties exchange signed transactions off chain, allowing infinite transactions with only an initial and closing transaction on chain	Off chain	10-100x+	4-8	Code in progress	2018
<u>Truebit</u>	Off-chain smart contract execution through a verification game with dispute resolution	Off chain	10-100x+	<u>2-5</u>	Concept	2018
<u>Plasma</u>	Tree hierarchy of blockchains where only fraud proofs are reported up the tree	On chain	10-100x+	<u>2-5</u>	Concept	2019
Sharding	Validators only need validate some, not all, of the network's transactions	On chain	10-100x+		Unlikely before proof of stake	2019

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	Web 2.0	Web 3.0 (dApps)	Status
Scalable computation	Amazon EC2	?	Not started
File storage	Amazon S3	?	Not started
External data	3rd party APIs	?	Not started
Monetization	Ads, selling goods	?	Not started
Payments	Credit Cards, Paypal	Bitcoin	Ready

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	Web 2.0	Web 3.0 (dApps)	Status
Computation	Amazon EC2	Ethereum, Truebit	In progress
File storage	Amazon S3	IPFS/Filecoin, Storj	In progress
External data	3rd party APIs	Oracles (Augur)	In progress
Monetization	Ads, selling goods	Token model	Ready
Payments	Credit Cards, Paypal	Ethereum, Bitcoin, state channels, 0x	Ready