



LSD SYNDICATE

Formal Verification

Report: Verification with Certora Prover

Project:  Blockswap
network

Prepared by: Blockswap Labs joint work with Certora

Date: May 2023

Visit: www.blockswaplabs.com

Rule name	Result	Notes	Certora result from master spec
unstakeSplittedUnitTest	PASS	Sanity flagged	https://prover.certora.com/output/55041/505c9cc496b542109ae109b1877f6f49/?anonymousKey=f10af155ace1a96593bd3501a937e83a11afd248
seTHBalanceOfSenderIncreasesAfterUnstaking	PASS		https://prover.certora.com/output/55041/a4159bce36f347b193a885089cc07a76/?anonymousKey=b1069b1aed17dfed1e9b6bcc8349c3ff51001816
unstakingAccountingInvariants	PASS		https://prover.certora.com/output/93493/787d60d9050d4030aa7d30ab3f86c577/?anonymousKey=a3fb3fa9ef7a01f6b4f972a188aaa49e0d9520d5
registerKnotsDilutesUnprocessedETHForAllColla	PASS	Sanity flagged	https://prover.certora.com/output/55041/27a73c5b606845dabf6d733987d0e99d/?anonymousKey=f7b34895b56ae9a0f885af19f08cdbe83f41c0fd
ethForSlotTypesIsEqualAfterUpdateAccrued	PASS	Sanity flagged	https://prover.certora.com/output/55041/7635834730f44c719be1dffbdcbb4132b/?anonymousKey=1217398691077b1a2f601905935655c8a73605a8
onlyRegisteredActiveKnotsCanBeStaked	PASS	Sanity flagged	https://prover.certora.com/output/55041/25ff32b85f7046f69d70cd2c798fd191/?anonymousKey=b5c51660b18894839a918e78fe61e55bbb6bce5c
knotRegisteredCannotBeDeregistered	PASS	Sanity flagged	https://prover.certora.com/output/55041/0d90671bd7c44f0fb0c5aeb2082bbb47/?anonymousKey=c0deb75ee14b10c3a915d263b034b6ab826c61cb
registerKnotsToSyndicateUpdatesStates	PASS	Sanity flagged	https://prover.certora.com/output/55041/6dcfb3e938dc4454a8fc68429201b3b4/?anonymousKey=1ec4cdb3d1f4e28603404212c5f59dba96ee79ac
inActiveKnotCannotRegister	PASS		https://prover.certora.com/output/55041/d61595333e454b26a169ec072a6d8440/?anonymousKey=57a9d6eae3d47498d3f999ae9c9afe7614fa6c1e
inactiveKnotCanNotBeRegistered	PASS		https://prover.certora.com/output/55041/4d2c79fd1995424c942f5275dde2bfeb/?anonymousKey=caef7959902257c6f581e5134794a954e10c8cde
StakerReceivesExactsETH	PASS		https://prover.certora.com/output/55041/1d3cd20e30834c2fa11449f310729c8c/?anonymousKey=6828829aabbda46f165dfee62c05e70cb0c60f34
othersCannotClaimMyRewards	PASS		https://prover.certora.com/output/55041/dfcd5c913be148349ba7cd5406b4be3e/?anonymousKey=3d34e8961a6ec58ede5d22808540466d12869cea
unstakingIncreasesSETHAmount	PASS		https://prover.certora.com/output/55041/cb2f134e9902427da9bfc7887a194bb4/?anonymousKey=35e267d588f5cf9c707882d985e80bef8db947c3
deregisteredMeansActivated	PASS		https://prover.certora.com/output/55041/49ade560bcd34f67b4103f43c41c66d9?anonymousKey=56e61dac5b45d22b54740a0ce8689c540376054f
claimedPerCollateralizedVsTotal	PASS	Sanity flagged	https://prover.certora.com/output/55041/834c53d264734e02847d2a144cf5def4/?anonymousKey=8ccbfa41afd761065df59c7dc1a90df427f41ba
usersShouldNotHaveMoreThanTwelveEthPerKnc	PASS	Sanity flagged	https://prover.certora.com/output/55041/15095bb0091048dba3ecdeca1a23900/?anonymousKey=ea372335fe2415c9e86b144899f81c918b542e9f
numberOfRegisteredKnotCorellation	PASS	Sanity flagged	https://prover.certora.com/output/55041/83f94994e82747a3ae74136846c9ec2e/?anonymousKey=2eabfe5e84ca6fea147a600553c1ca5ac4e8841a
sETHSolvency	PASS	Sanity flagged	https://prover.certora.com/output/55041/3544f2675cd340e995752e641ce48027/?anonymousKey=04b6eac2945f0e55831c74b284c6e275f1ca2c72
sETHSolvencyCorrollary	PASS	Sanity flagged	https://prover.certora.com/output/55041/2cf1cb8ec4b046cbad66d10115d3823d/?anonymousKey=2c0bdefd33466b0f4652d2e610bc472411f1a130
notDeregisteredKnotHasNoLastAccumulatedETH	PASS	Sanity flagged	https://prover.certora.com/output/55041/3873be03969846fb818432979dda7e9d/?anonymousKey=58be0d43f8bd428892b6da631837571cc49e5f49
totalStakeForKnotEqualsSumOfStakesBalances	PASS	Sanity flagged	https://prover.certora.com/output/55041/d50b6e3b33e64f16b88e04fe6bf1a9d3/?anonymousKey=a863d129320bb30cf7fc6cdede0d4586fdec5db9
sETHTotalStakeGhostsMatch	PASS	Sanity flagged	https://prover.certora.com/output/55041/44b46ea401234c3cbb3db9b187b0e2bb/?anonymousKey=377d5b8d7a5a63ecedbca3b7620bed63ef25e648
calculatedETHGTElastSeenETHPerFreeFloating	PASS	Sanity flagged	https://prover.certora.com/output/55041/32a5b7571687427399a68aa7e8e740b5/?anonymousKey=32ea087d3aab831734a8ac86878e768a874d1f06
noStakeOnBehalfOfAddressZero	PASS	Sanity flagged	https://prover.certora.com/output/55041/4058195a9f244223b250e334376eec4d/?anonymousKey=5bb3162919f2c8103876e895c9342d32194008dd
stakePerKnotLTETotal	PASS	Sanity flagged	https://prover.certora.com/output/55041/10cfc604f14c41959cc89a9f13a32158/?anonymousKey=6bdfce06162c95d1b77fb247e74cc7eed68be497
lastSeenETH	PASS	Sanity flagged	https://prover.certora.com/output/55041/299c6e5689ce40a89e65a8004b21958d/?anonymousKey=9dc71dc9df097f2367a90bc861a0f06be22a926f
imprecisionIsBounded	PASS	Sanity flagged	https://prover.certora.com/output/55041/76fcd2aa97cf413eb64e39b791a6a25b/?anonymousKey=138f31113d07e4f63fca97b55ec8b5b8be46eaa9
increasesAll	PASS	Sanity flagged	https://prover.certora.com/output/55041/960ef2690b4c40a998a04357de984b1d/?anonymousKey=734add854c22f3d2f9a9feeac3de7ac4574799df
stakerInvariantsMustNeverDecrease	PASS	Sanity flagged	https://prover.certora.com/output/55041/32eb73da7f9a4c88ab09c9113f3f69af/?anonymousKey=b52c48343cc435066f52a3ac90cb7d4f797ddb8e
lastAccumulatedETHPerFreeFloatingShareMustA	PASS	Sanity flagged	https://prover.certora.com/output/55041/3378e08b2b4a41078fb63f8395a0b91c/?anonymousKey=cb6f6916169858e2cdf103d823566b06b51796fa
activateProposersNonBootstrapActiveCanClaim	PASS	Sanity flagged	https://prover.certora.com/output/55041/29ae9c6e2a6c4bd9a94784333a28e9f9/?anonymousKey=5aa0425c0b543443bd85b8de430ba918e23fff01
activateProposersBootstrapActiveCanClaim	PASS	Sanity flagged	https://prover.certora.com/output/55041/f0bacb81277a45c2bc3c48436d66a6af/?anonymousKey=54e2ef7b6e7a42dda2a788a35bc3f0912c18be50