BLOCK AUDIT REPORT

Smart Contract Security Audit Report

Phenomenal Protocol
PNM Token (PNM)

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Block Audit Report Team received the phenomenalprotocol.sol file for smart contract security audit of the Phenomenal Protocol PNM Token (PNM) on May 05, 2022. The following are the details and results of this smart contract security audit:

Project Name: Phenomenal Protocol PNM Token (PNM)

The Contract address: 0xd9ec19FE88140Ac0a3AB5517F8e54a2143599F80

Link Address:
https://bscscan.com/address/0xd9ec19FE88140Ac0a3AB5517F8e54a2143599F80#code

The audit items and results:

(Other undiscovered security vulnerabilities are not included in the audit responsibility scope)

Audit Result: Passed

Audit Number: BAR0020805072022

Audit Date: May 07, 2022

Audit Team: Block Audit Report Team

Table of Content

Introduction

This Audit Report mainly focuses on the extensive security of Phenomenal Protocol PNM Token (PNM) Smart Contract. With this report, we attempt to ensure the reliability and correctness of the smart contract by complete and rigorous assessment of the system's architecture and the smart contract codebase.

Auditing Approach and Methodologies applied

The Block Audit Report team has performed rigorous testing of the project including the analysis of the code design patterns where we reviewed the smart contract architecture to ensure it is structured along with the safe use of standard inherited contracts and libraries. Our team also conducted a formal line by line inspection of the Smart Contract i.e., a manual review, to find potential issues including but not limited to;

- Race conditions
- Zero race conditions approval attacks
- Re-entrancy
- Transaction-ordering dependence
- Timestamp dependence
- Check-effects-interaction pattern (optimistic accounting)
- Decentralized denial-of-service attacks
- Secure ether transfer pattern
- Guard check pattern
- Fail-safe mode
- Gas-limits and infinite loops
- Call Stack depth

In the Unit testing Phase, we coded/conducted custom unit tests written against each function in the contract to verify the claimed functionality from our client.
In Automated Testing, we tested the Smart Contract with our standard set of multifunctional tools to identify vulnerabilities and security flaws.
The code was tested in collaboration of our multiple team members and this included but not limited to;

- Testing the functionality of the Smart Contract to determine proper logic has been followed throughout the whole process.
- Analyzing the complexity of the code in depth and detailed, manual review of the code, line-by-line.
- Deploying the code on testnet using multiple clients to run live tests.
- Analyzing failure preparations to check how the Smart Contract performs in case of any bugs and vulnerabilities.
- Checking whether all the libraries used in the code are on the latest version.
- Analyzing the security of the on-chain data.

Audit Details

Project Name: Phenomenal Protocol PNM Token (PNM)
Website/ Bscscan Code (Mainnet):
0xd9ec19FE88140Ac0a3AB5517F8e54a2143599F80

Languages: Solidity (Smart contract)
Platforms and Tools: Remix IDE, Truffle, Ganache, Mythril, Contract Library, Slither, Dapp.Tools, Echidna, Etheno

Audit Goals

The focus of the audit was to verify that the Smart Contract System is secure, resilient and working according to the specifications. The audit activities can be grouped in the following three categories:

Security Sight

Identifying security related issues within each contract and the system of contract.

Sound Architecture

Evaluation of the architecture of this system through the lens of established smart contract best practices and general software best practices, standard software design principle, design patterns and practices.

Code Correctness and Quality

A full review of the contract source code. The primary areas of focus include:

- Accuracy
- Readability
- Usability vs Security
- Sections of code with high complexity
- Quantity and quality of test coverage

Issue Categories

Every issue in this report was assigned a severity level from the following:

Critical Severity Issues

Issues of this level are critical to the smart contract's performance/functionality and should be fixed before moving to a production environment.

High level severity issues

Issues on this level are strongly suggested by the team to be fixed before moving to the production environment.

Medium level severity issues

Issues on this level could potentially bring problems and should eventually be fixed.

Low level severity issues

Issues on this level are minor details and warning's that can remain unfixed but would be better fixed at some point in the future.

Issues Checking Status

№	Issue description	Checking status
1	Compiler warnings.	Passed
2	Race conditions and Reentrancy. Cross-function race conditions.	Passed
3	Oracle calls.	Passed
4	Timestamp dependence.	Passed
5	DoS with Revert.	Passed
6	DoS with block gas limit.	Passed
7	Methods execution permissions.	Passed
8	Economy model.	Passed
9	The impact of the exchange rate on the logic.	Passed
10	Malicious Event log.	Passed
11	Scoping and Declarations.	Passed
12	Uninitialized storage pointers.	Passed
13	Arithmetic Operations accuracy.	Passed
14	Design Logic.	Passed
15	Cross-function race conditions.	Passed
16	Safe usage for Open Zeppelin module.	Passed
17	Fallback function security.	Passed
18	Send & receive ether.	Passed
19	Zero race condition approval attacks.	Passed
20	Short address attack.	Passed
21	Owner’s authority to freeze.	Passed
22	Attempt to block ether flows.	Passed
23	Redundant inheritance check.	Passed
24	Silent overrides of mapping structs.	Passed
25	Function state mutability.	Passed
26	Unnecessary conversion of type.	Passed

Used Code from other Framework/Smart Contracts (direct import)

- _msgSender()
- _msgData()

[+] contract Ownable is Context

- owner()
- lockedLiquidity()
- buybackWallet()
- setBuybackWallet(address pay ...
- setLockedLiquidityAddress(ad ...
- renounceOwnership()
- transferOwnership(address ne ...
- authorize(address adr)
- unauthorize(address adr)
- isAuthorized(address adr)

[+] interface IUniswapV2Router01

- factory()
- WETH()
- addLiquidity(
- addLiquidityETH(
- removeLiquidity(
- removeLiquidityETH(
- removeLiquidityWithPermit(
- removeLiquidityETHWithPermit ...
- swapExactTokensForTokens(
- swapTokensForExactTokens(
- swapExactETHForTokens(
- swapTokensForExactETH(
- swapExactTokensForETH(
- swapETHForExactTokens(
- quote(
- getAmountOut(
- getAmountIn(
- getAmountsOut(uint256 amount ...
- getAmountsIn(uint256 amountO ...

[+] interface IUniswapV2Router02 is IUnis ...

- removeLiquidityETHSupporting ...
- removeLiquidityETHWithPermit ...
- swapExactTokensForTokensSupp ...
- swapExactETHForTokensSupport ...
- swapExactTokensForETHSupport ...

[+] interface IUniswapV2Pair

- name()
- symbol()
- decimals()
- totalSupply()
- balanceOf(address owner)
- allowance(address owner, add ...
- approve(address spender, uin ...
- transfer(address to, uint256 ...
- transferFrom(
- DOMAIN_SEPARATOR()
- PERMIT_TYPEHASH()
- nonces(address owner)
- permit(
- MINIMUM_LIQUIDITY()
- factory()
- token0()
- token1()
- getReserves()
- price0CumulativeLast()
- price1CumulativeLast()
- kLast()
- mint(address to)
- burn(address to)
- swap(
- skim(address to)
- sync()
- initialize(address, address)

[+] interface IUniswapV2Factory

- feeTo()
- feeToSetter()
- getPair(address tokenA, addr ...
- allPairs(uint256)
- allPairsLength()
- createPair(address tokenA, a ...
- setFeeTo(address)
- setFeeToSetter(address)

[+] interface IERC20

- totalSupply()
- balanceOf(address account)
- transfer(address to, uint256 ...
- allowance(address owner, add ...
- approve(address spender, uin ...
- transferFrom(

[+] library EnumerableSet

- _add(Set storage set, bytes3 ...

- _remove(Set storage set, byt ...
- _contains(Set storage set, b ...
- _length(Set storage set)
- _at(Set storage set, uint256 ...
- _values(Set storage set)
- add(Bytes32Set storage set, ...
- remove(Bytes32Set storage se ...
- contains(Bytes32Set storage ...
- length(Bytes32Set storage se ...
- at(Bytes32Set storage set, u ...
- values(Bytes32Set storage se ...
- add(AddressSet storage set, ...
- remove(AddressSet storage se ...
- contains(AddressSet storage ...
- length(AddressSet storage se ...
- at(AddressSet storage set, u ...
- values(AddressSet storage se ...
- add(UintSet storage set, uin ...
- remove(UintSet storage set, ...
- contains(UintSet storage set ...
- length(UintSet storage set)
- at(UintSet storage set, uint ...
- values(UintSet storage set)

[+] library SafeMath

- tryAdd(uint256 a, uint256 b)
- trySub(uint256 a, uint256 b)
- tryMul(uint256 a, uint256 b)
- tryDiv(uint256 a, uint256 b)
- tryMod(uint256 a, uint256 b)
- add(uint256 a, uint256 b)
- sub(uint256 a, uint256 b)
- mul(uint256 a, uint256 b)
- div(uint256 a, uint256 b)
- mod(uint256 a, uint256 b)
- sub(
- div(
- mod(

[+] library Address

- isContract(address account)
- sendValue(address payable re ...
- Call(address target, ...
- Call(
- CallWithValue(

[+] CallWithValue(

- CallWithValue(

- StaticCall(address t ...

[+] StaticCall(

- StaticCall(
- DelegateCall(address ...

[+] DelegateCall(

- DelegateCall(
- verifyCallResult(

[+] contract PNM is Context, IERC20, O ... *

- name()
- symbol()
- decimals()
- totalSupply()
- balanceOf(address account)
- transfer(address recipient, ...
- allowance(address owner, add ...
- approve(address spender, uin ...
- approve(address owner, addre ...
- transferFrom(address sender, ...
- increaseAllowance(address sp ...
- decreaseAllowance(address sp ...
- totalJackpotOut()
- totalJackpotBuyer()
- totalJackpotBuyback()
- excludeFromFee(address accou ...
- includeInFee(address account ...
- setBuyFees(uint256 liquidity ...
- getBuyTax()
- setSellFees(uint256 liquidit ...
- getSellTax()
- setJackpotFeatures(uint256 _ ...
- setJackpotHardFeatures(uint2 ...
- setJackpotTimespanInSeconds(...
- setMaxTxAmount(uint256 txAmo ...
- setMaxWallet(uint256 amount)
- setNumTokensSellToAddToLiqui ...
- fundJackpot(uint256 tokenAmo ...
- isJackpotEligible(uint256 to ...
- usdEquivalent(uint256 bnbAmo ...
- getUsedTokens(uint256 accSum ...
- getTokenShares(uint256 token ...
- setSwapAndLiquifyEnabled(boo ...
- isExcludedFromFee(address ac ...
- isExcludedFromSwapAndLiquify ...
- includeFromSwapAndLiquify(ad ...
- excludeFromSwapAndLiquify(ad ...

- setUniswapRouter(address oth ...
- setUniswapPair(address other ...
- transfer(address from, addre ...
- enableTrading()
- getJackpot()
- jackpotBuyerShareAmount()
- jackpotBuybackAmount()
- getLastBuy()
- getLastAwarded()
- getLastBigBang()
- getPendingBalances()
- getPendingTokens()
- processBigBang()
- awardJackpot()
- swapAndLiquify(uint256 token ...
- swapTokensForBnb(uint256 tok ...
- addLiquidity(uint256 tokenAm ...
- tokenTransfer(address sender ...
- transferBasic(address sender ...
- transferStandard(address sen ...
- processAmount(uint256 tAmoun ...
- takeTransactionFee(address t ...

Manual Audit:

For this section the code was tested/read line by line by our auditors. We used Remix IDE's JavaScript VM and testnet Kovan to test the contract functionality in a simulated environment.

c095e49c3a794663296c49cd1e96f1dbf24a3bd8922557108b8cda53d89dbf...

File: Pheno... | Language: solidity | Size: 74455 bytes | Date: 2022-05-07T16:10:04.623Z

Critical	High	Medium	Low	Note
0	0	0	0	0

Pnm (YToken)	0xd9ec19FE88140Ac0a3AB5517F8e54a2143599F80	Passed
BNBX (XToken)	0xCF80DCE72ea504002071A296Efa59b1BEaaF8c97	Passed
Pnm DaoFund	0x4C52Bef02710c70996b919FdEC6fa0A99b6A4f73	Passed
Pnm devFund	0x45b336284D852A8F3cbC3Caf1A4592a127a214A3	Passed
PnmTreasuryFund	0xf827D8F57DB4f23E36e26C0E3cC42D929feB7dD4	Passed
PnmReserve	0x6D935f6371E944DAD7D0f646c359b9Fb2ADEb2A2	Passed
Pnm-WBNB	0xC0C3f9820a50F4c7F1DC477d3c983138Ed589c12	Passed
BNBX-WBNB	0xB168e03777bb117c6B86659eD06F8aAD495bD36e	Passed
Pool	0x0fcc8Ae5b838a929506037eB86028D6b315F443D	Passed
Oracle_PNM_BNB(UniswapPairOracle	0x3a5C6893F98c8c57b51D4CAFbBCf5362BB2c9580	Passed
Oracle_BNBX_BNB(UniswapPairOracle)	0xA33d14EaC285CB9a65a35422960A4a2DC23a7690	Passed
MasterOracle	0x73bff35Cf04d3D5840083Ea2D233bf8DDD55faE	Passed
PhenomenalChef	0x41e1B77965B5B266eCC0cF851B0453dBdc8E8810	Passed
PhenomenalStaking	0x0e3d22040A45C9692D7Fa5d146591Ad99Fb1cCB6	Passed
PhenomenalTreasury	0x5DBe047fCB6242967a7549e1284DEc4e5d665389	Passed
SwapStrategyPOL	0x9498F464c00db89d4Dc96628b0060A059da76f74	Passed
StratReduceReserveLP	0x19cc3A7bc9E20B318761377c9CB3DaA66D284Da9	Passed
PhenomenalZapPancakeSwap	0x4DF811fcB50cf0C8E693B77897818ef127632254	Passed

Critical Severity Issues

No critical severity issues found.

High Severity Issues

No high severity issues found.

Medium Severity Issues

No medium severity issues found.

Low Severity Issues

No low severity issues found.

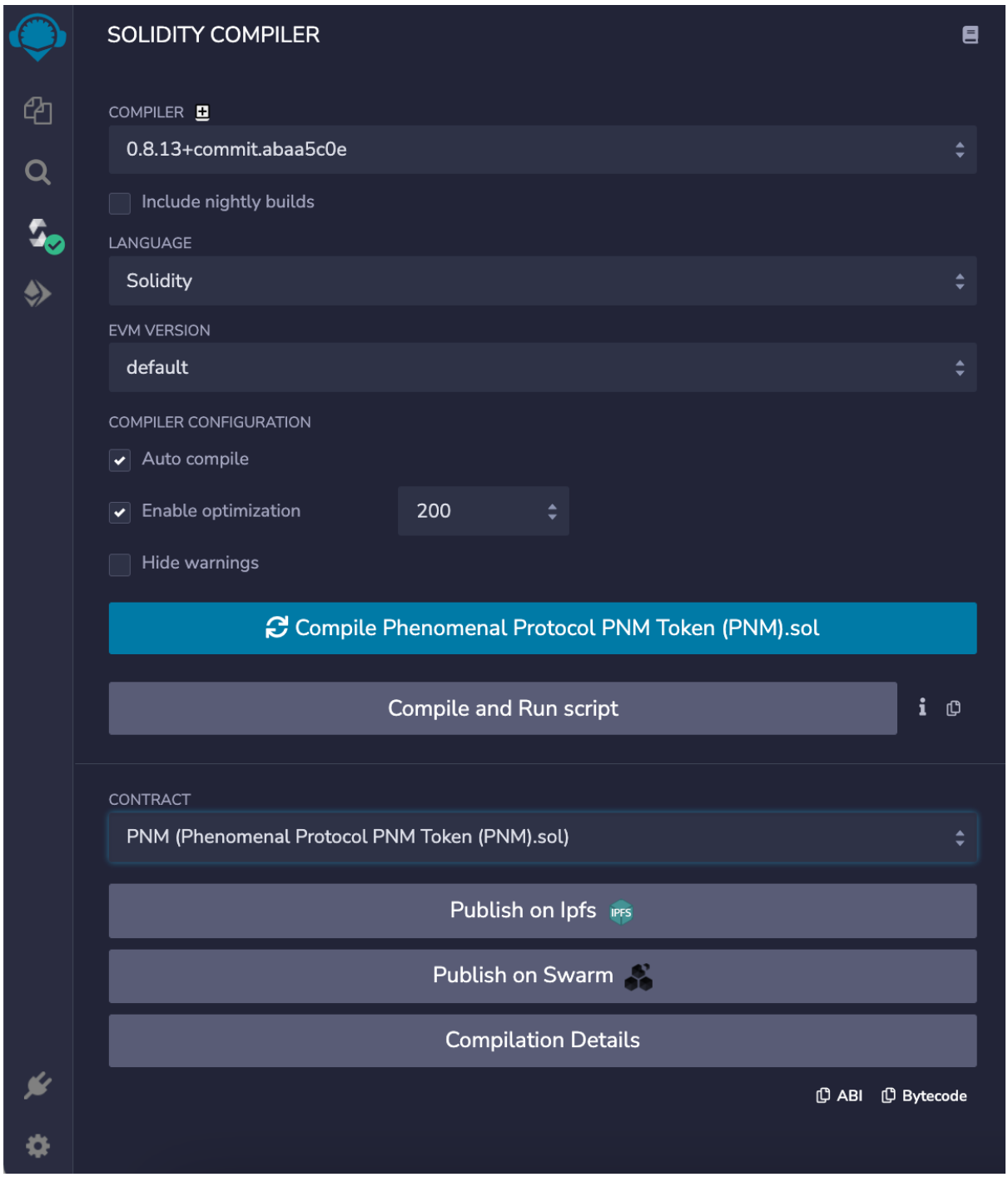
Owner privileges

- None

Automated Audit

Remix Compiler Warnings

It throws warnings by Solidity's compiler. If it encounters any errors the contract cannot be compiled and deployed.



Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for the client to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that the client should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for the client to conduct the client's own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the received smart contracts alone. No related/third-party smart contracts, applications or operations were reviewed for security. No product code has been reviewed.

Summary

Smart contracts received in file named: “Phenomenal Protocol PNM Token (PNM)” do not contain any high severity issues!

Note:
Please read the disclaimer above and note, the audit claims NO statements or warranties on business model, investment advice/ attractiveness or code sustainability. This report is provided for the only set of contracts mentioned in the report and does not claim responsibility to include security audits for any other contracts deployed by Owner.

BLOCK AUDIT REPORT

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