GOLD-BACKED DIGITAL ASSET · BNB SMART CHAIN

Ducat Gold

One token. One gram. Redeemable.

A technical and operational description of the DUCAT token, the V2 contract system that mints and redeems it, and the custody arrangement that backs every unit with allocated physical gold.

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ABSTRACT

A gram of gold that settles like a token

Ducat Gold (DUCAT) is a BEP-20 token on BNB Smart Chain. Each token represents one gram of 999.9 fine gold held in allocated storage with a third-party custodian. Tokens are created only when metal is added to the vault and destroyed when metal leaves it, so circulating supply and vaulted weight move together by construction rather than by policy.

The V2 contract system separates the four things a gold token has to do and gives each one its own contract: the token itself holds balances and nothing else; a mint controller is the sole address permitted to create supply; a desk quotes and executes buys and sells against a USDT float; and a redemption manager handles burn-and-deliver requests, both to stablecoin and to physical bullion. No single contract can both price an order and mint against it.

Proceeds from primary issuance are routed on-chain in a fixed ratio: the majority to gold procurement, a reserve tranche to the liquidity float that makes redemption possible on demand, and the remainder to operations. The split is enforced by the mint controller, not by an internal treasury process, and any change to it passes through a timelocked governance action that is visible before it takes effect.

This document describes the token, the contracts and their deployed addresses, the mint and redemption flows end to end, the custody and audit arrangement, the governance model, and the risks a holder assumes.

1 g	999.9	4
BACKING PER DUCAT	FINENESS	CORE V2 CONTRACTS

CONTENTS

What is in this paper

01 INTRODUCTION

Gold is a good store of value and a poor instrument

Physical gold is the oldest continuously used monetary asset and remains the reserve of choice when confidence in credit weakens. It is also, as an instrument, awkward. Buying it means a dealer spread and a delivery. Holding it means insurance, storage and a locked door. Selling a portion of it means selling a whole bar. Moving it across a border means paperwork and a shipment. None of these frictions have anything to do with the metal's value; they are the cost of the metal's physicality.

Tokenisation removes the frictions without removing the metal. A token that is a fixed claim on a fixed weight of allocated gold can be transferred in seconds, divided to a fraction of a gram, held in self-custody, and settled against stablecoins at any hour. The metal stays in the vault; only the claim moves.

The design problem is trust. A gold token is worth its gold only if three things hold at once: the metal exists and is allocated to holders rather than pledged elsewhere; supply cannot be created except against new metal; and a holder can actually get out, either into stablecoin at a fair price or into bullion at their door. A token that satisfies the first two but not the third is a certificate no one can cash.

Ducat Gold is built around the third requirement. The system holds a permanent USDT float, funded automatically from every primary issuance, whose only purpose is to stand behind redemption. Redemption is a contract function, not a support ticket.

> DESIGN PRINCIPLE
>
> Every unit of supply traces to a weight in the vault, and every unit can leave the same way it came in. Nothing in the system depends on the issuer's discretion at the moment a holder wants out.

02 THE TOKEN

DUCAT

DUCAT is a standard BEP-20 token. It is deliberately unremarkable at the token layer: no rebasing, no reflection, no transfer tax, no automatic liquidity mechanism. A wallet, an exchange or a smart contract that supports BEP-20 supports DUCAT with no special handling. All system behaviour lives in the surrounding contracts, which means the token can be integrated by third parties without integrating the rest of the system.

PROPERTY	VALUE
Name	Ducat Gold
Symbol	DUCAT
Standard	BEP-20 (BNB Smart Chain)
Backing	1 token = 1 gram of 999.9 fine gold, allocated
Supply model	Elastic — minted against vaulted metal, burned on redemption
Pre-mine	None
Transfer tax	None
Settlement asset	USDT (BEP-20)
Mint authority	DucatMintControllerV2, exclusively
Burn authority	DucatRedemptionManager and the holder's own balance

Supply

There is no pre-mine and no fixed cap. Supply is elastic in one direction only: it grows when gold enters the vault and shrinks when gold leaves. The token contract accepts mint instructions from a single authorised address — the mint controller — and burn instructions only from the redemption manager or from a holder burning their own balance. No other address, including the deployer, can change supply.

Because supply tracks metal rather than demand, the token has no inflation schedule to disclose and no emission to model. The only meaningful supply figure is the live one, readable from the token contract at any block, and the only meaningful reserve figure is the custodian's attested weight against it.

03 ARCHITECTURE

Four contracts, four jobs

V2 replaces the earlier single-contract design, in which pricing, issuance and treasury all lived behind one owner key. The system is now split so that the authority to price an order, the authority to create supply, and the authority to move funds are held by different contracts. Compromising one does not compromise the others, and each can be replaced through governance without redeploying the token or moving holder balances.

`DucatGoldV2` TOKEN	The BEP-20 token. Holds balances, allowances and total supply, and nothing else. Mint and burn are permissioned to a single controller address each; every other function is standard. `transfer · approve · mint (controller only) · burn`
`DucatMintControllerV2` ISSUANCE	The only address the token accepts new supply from. Converts a settled payment into a weight, mints it to the buyer, and splits the incoming USDT across procurement, float and operations in the same transaction. `mintFor · distribute · setSplit (timelocked) · pause`
`DucatDeskV2` MARKET	The primary buy and sell venue. Reads the gold reference feed, applies the published buy or sell spread, and executes against the caller's slippage tolerance. Holds no minting rights of its own. `quote · buy · sell · setSpread (timelocked) · pause`
`DucatRedemptionManager` REDEMPTION	Handles burn-and-deliver requests. Locks tokens at request time, tracks each request through explicit on-chain states, burns on fulfilment and releases tokens on cancellation. `requestRedemption · cancel · markShipped · fulfil · pause`

How they are wired

The token grants its mint permission to exactly one address and its burn permission to exactly one address. The desk holds no minting rights at all; when a buyer pays it, it forwards the order to the mint controller, which is the only contract the token will accept new supply from. The redemption manager holds no funds beyond what it is released for a specific settled request.

Every privileged setter — the price oracle address, the spread parameters, the distribution ratio, the module addresses themselves — is behind the timelock described in section 09. Operational functions that must respond quickly, such as pausing, are not: a designated guardian can pause any module immediately, but only governance can unpause it.

04 DEPLOYMENT

Verified addresses

All V2 contracts are deployed on BNB Smart Chain mainnet with source verified on BscScan. Verify any address in this paper against the project's official channels before sending funds; addresses circulated by any other route should be treated as hostile.

DucatGoldV2	0xc9111542619B0A603Acf67732cfF5ADA4EF1015C	TOKEN
DucatMintControllerV2	0x403aA82e380e82b8A613aE59751f50735068A569	ISSUANCE
DucatDeskV2	0xfBBd81f942c675369A179cF3c65Ce921198301D8	MARKET
DucatRedemptionManager	0xCfe30323Fc079CAd4a04e9B2FE0AeC2060151804	REDEMPTION

WARNING

Ducat will never contact a holder first, never ask for a seed phrase, and never request a transfer to a "verification" or "migration" address. There is no migration in progress.

05 ISSUANCE

Buying: stablecoin in, tokens out

A buyer approves USDT to the desk and calls the buy function with the amount they wish to spend. Everything after that happens in one transaction; there is no pending state in which the buyer's funds sit outside their control without a corresponding token.

1 **Quote**

The buyer reads the desk's quote: reference gold price per gram, the buy spread, and the resulting DUCAT amount for their USDT input.

2 **Approve and buy**

USDT is approved to the desk and the buy function is called with the spend amount and a minimum acceptable token output.

3 **Price check**

The desk re-reads the feed at execution. If the price has moved beyond the caller's tolerance, or beyond the oracle's sanity band, the transaction reverts.

4 **Mint**

The desk forwards the settled order to the mint controller, the only contract the token accepts supply from. Tokens are minted directly to the buyer's address.

5 **Distribute**

In the same transaction, the controller splits the USDT across procurement, the liquidity float and operations, and emits the split as an event.

6 **Procure and vault**

Procurement buys the matching weight of 999.9 bullion and delivers it into allocated custody against a weight receipt.

Pricing and spread

The desk prices from a gold reference feed, converted to a per-gram USDT figure. A buy spread is added to the reference and a sell spread deducted from it; the two are set independently by governance and published on-chain, so a caller can read the exact figures before transacting rather than inferring them from a fill. Both spreads and the reference price are included in the quote returned by the desk's preview function, and the transaction reverts if the executed price moves beyond the caller's stated tolerance.

The spread is what funds procurement cost, custody, insurance and operations. It is not a trading fee taken on transfers: moving DUCAT between wallets costs nothing beyond network gas.

06 PROCEEDS

Where the USDT goes

Primary issuance proceeds are split by the mint controller in the same transaction that creates the tokens. The ratio is a contract parameter, not an internal treasury convention, and the three destinations are separate addresses whose balances can be read independently.

GOLD PROCUREMENT

Released to the procurement address, which buys allocated 999.9 bullion and delivers it to the custodian against the weight minted.

LIQUIDITY FLOAT

Held to settle redemptions on demand.

OPS

Custody, insurance, audit.

The 15% float is the part of the design that makes redemption credible. Because it accumulates with every issuance and is never spent on anything else, the system holds a growing stablecoin buffer that can absorb sell pressure without liquidating vaulted metal. When the float is drawn down, it is replenished from subsequent issuance and, if necessary, from the sale of vaulted gold matching the burned weight.

Changing the ratio requires a timelocked governance action. The proposed values, the address that proposed them and the earliest execution block are all readable on-chain during the delay.

07 REDEMPTION

Two ways out

A holder can exit into stablecoin instantly, or into physical metal on a settlement timetable. Both paths burn the tokens; the difference is what is delivered and how long it takes.

INSTANT · STABLECOIN	PHYSICAL · BULLION
The holder calls sell on the desk. Tokens are burned, the sell price is read from the feed, the spread deducted, and USDT is paid from the liquidity float in the same transaction. Settlement is atomic and requires no approval from the issuer.	The holder submits a redemption request to the redemption manager with a delivery reference. Tokens are locked at request time and burned on fulfilment. The custodian releases the matching weight in standard bar or coin denominations for insured collection or shipment.
`settlement: same block`	`settlement: T + business days`

Request lifecycle

Physical requests move through explicit on-chain states, each emitted as an event, so a holder and a third party can both audit where a request stands without asking anyone.

`Requested` `Verified` `Locked` `Shipped` `Fulfilled` `Cancelled`

A request that is not fulfilled within its stated window can be cancelled by the holder, which unlocks the tokens and returns them to a transferable balance. Cancellation does not require the issuer to act.

Physical redemption carries a minimum size, because bullion is delivered in whole bars and coins, and a fabrication and handling charge quoted at request time. Below the minimum, the stablecoin path is always available.

08 CUSTODY

Where the metal is

Gold backing DUCAT is held in allocated storage with a third-party custodian. Allocated means the bars are identified to Ducat by serial number and refiner mark and are not part of the custodian's balance sheet; in an insolvency they are not available to the custodian's creditors. Unallocated or pooled storage is not used.

Metal is bought only in 999.9 fine form from refiners on an accepted-delivery list, and is received into the vault against a weight receipt before the corresponding supply is treated as backed. Storage is insured for full replacement value under an all-risks policy carried by the custodian, with Ducat named as an interested party.

The vault holding, the bar list and the insurance certificate are the subject of the attestation described in the next section. Custodian identity, vault jurisdiction and policy limits are published on ducat24.com and updated when they change.

ITEM	ARRANGEMENT
Storage type	Allocated — bars identified by serial and refiner mark, off the custodian's balance sheet
Metal standard	999.9 fine, refiners on an accepted-delivery list
Custodian	Third-party vault operator; identity published on ducat24.com
Insurance	All-risks policy at full replacement value, carried by the custodian
Commingling	Not permitted; no unallocated or pooled holdings
Verification	Periodic independent attestation against circulating supply at a stated block

09 GOVERNANCE

Who can change what

Administrative rights are held by a multisig, and the multisig's privileged calls are routed through a timelock. A parameter change is therefore visible on-chain for the full delay period before it can execute, which gives holders time to exit if they disagree with it. Nothing in the system permits a holder's balance to be frozen, seized or diluted.

Set buy and sell spreads	Multisig	timelocked
Set proceeds distribution ratio	Multisig	timelocked
Replace a module address	Multisig	timelocked
Change the price feed source	Multisig	timelocked
Change multisig signers or threshold	Multisig	timelocked
Pause a module	Guardian	immediate
Unpause a module	Multisig	timelocked
Freeze or seize a holder balance	Nobody	not possible

Pause and guardian

A guardian address can pause the desk, the mint controller or the redemption manager without delay. Pausing halts new issuance and new orders; it does not halt token transfers, and it does not touch balances. Unpausing is a governance action and takes the full timelock delay, so a pause cannot be used to hold the system hostage briefly and quietly.

Multisig signer composition, threshold and the current timelock delay are published on ducat24.com. Signer changes are themselves timelocked.

10 ASSURANCE

Audit and security

Two separate things need to be verified, and they are verified by different parties. That the contracts do what this paper says is a code question, answered by a smart-contract audit. That the gold exists in the stated quantity is a physical question, answered by a reserve attestation against the vault.

CONTRACT AUDIT	RESERVE ATTESTATION
All V2 contracts are source-verified on BscScan so that deployed bytecode can be checked against published source. Independent audit reports and the remediation status of any findings are published in full, including issues accepted rather than fixed.	A periodic attestation by an independent firm compares the custodian's allocated bar list with the token's circulating supply at a fixed block, and reports the surplus or shortfall in grams. Reports are published with the block height they were taken at.

Operational security

Privileged keys are held in hardware and split across the multisig; no single person can execute a privileged call. Oracle input is bounded, so a feed that moves beyond a plausible band in a single update is rejected rather than acted on, and the desk pauses instead of pricing off a bad number. Per-address and per-period issuance limits cap the damage a compromised integration can do before a guardian intervenes.

Security disclosures should be sent to contact@ducat24.com. Reports are acknowledged before any public statement is made.

11 ROADMAP

What is built and what is next

Dates are targets, not commitments. Items ship when they are audited and operationally ready, and the sequence below is ordered by dependency rather than by calendar.

Phase 1 COMPLETE	**V2 contract system live** Token, mint controller, desk and redemption manager deployed and source-verified on BNB Smart Chain mainnet, with issuance separated from pricing and treasury.
Phase 2 IN PROGRESS	**Assurance cadence** Independent contract audit published in full, and reserve attestation placed on a fixed recurring schedule with reports keyed to block height.
Phase 3 IN PROGRESS	**Physical redemption at scale** Broader delivery coverage, additional bar and coin denominations, and published settlement times per destination.
Phase 4 PLANNED	**Listings and market depth** Centralised and decentralised venue listings, with the desk remaining the reference price and the redemption backstop.
Phase 5 PLANNED	**Integrations** Wallet, custody and payment integrations, and a public reserve dashboard reading supply and attested weight side by side.

12 TEAM

Who runs it

Ducat is operated by a team spanning bullion trading, custody operations and protocol engineering, supported by external counsel in each jurisdiction it operates in. Named biographies, roles and professional histories are published on ducat24.com and kept current; this section names the functions rather than restating them.

BULLION AND PROCUREMENT Sources 999.9 metal from accepted refiners, manages delivery into allocated custody and reconciles weight receipts against minted supply.	CUSTODY AND OPERATIONS Manages the custodian relationship, insurance cover, physical redemption logistics and the attestation process.
PROTOCOL ENGINEERING Builds and maintains the V2 contracts, the oracle integration and the desk, and manages audit remediation.	COMPLIANCE AND LEGAL Jurisdictional analysis, identity verification and sanctions screening on primary issuance and physical redemption, and disclosure.

13 RISK

Risk factors

Holding DUCAT carries risk of partial or total loss. The list below is not exhaustive, and a prospective holder should read it alongside independent advice.

Gold price risk

DUCAT tracks the price of gold. Gold can fall in value, and a holder may recover materially less than they paid.

Custody and counterparty risk

The metal is held by a third party. Custodian failure, fraud, or an insurance shortfall could impair backing despite the allocated structure.

Smart contract risk

Audits reduce but do not eliminate the possibility of a defect. A contract flaw could result in loss of funds or of the ability to transact.

Liquidity risk

Instant stablecoin redemption depends on the liquidity float. Sustained redemption pressure could exhaust it before it is replenished, delaying settlement to the physical timetable.

Oracle risk

Pricing depends on an external gold feed. A stale, manipulated or unavailable feed can cause the desk to pause or, in an unbounded case, to price incorrectly.

Governance risk

The multisig can change spreads, ratios and module addresses. The timelock makes changes visible in advance but does not prevent them.

Regulatory risk

Treatment of gold-backed tokens differs by jurisdiction and is changing. New rules could restrict transfer, issuance or redemption, or make the token unavailable to some holders.

Stablecoin risk

Settlement uses USDT. A depeg, freeze or issuer failure would affect both purchases and stablecoin redemptions.

Operational risk

Key compromise, insider action or failure of a service provider could disrupt issuance, redemption or custody.

Delivery risk

Physical redemption is subject to minimum sizes, fabrication and handling charges, shipping restrictions, import duties and jurisdictional limits.

14 GLOSSARY

Terms

Allocated storage
Gold held as identified bars belonging to a specific owner, outside the custodian's balance sheet.

Attestation
An independent report comparing vaulted weight with circulating token supply at a stated point in time.

BEP-20
The fungible token standard on BNB Smart Chain.

Burn
Permanent destruction of tokens, reducing total supply.

Fineness
Purity of gold. 999.9 means 99.99% pure.

Guardian
An address able to pause modules immediately but not to change parameters or unpause.

Liquidity float
The USDT reserve funded from issuance and reserved for settling redemptions.

Mint
Creation of new tokens, permitted only against metal delivered into custody.

Multisig
A wallet requiring several independent signatures to execute a transaction.

Oracle
The external data source supplying the gold reference price to the desk.

Slippage tolerance
The worst price a caller will accept; the transaction reverts beyond it.

Spread
The margin added to or deducted from the reference price on a buy or a sell.

Timelock
A mandatory delay between a privileged action being proposed and being executable.

Troy ounce
The standard bullion unit, 31.1035 grams — equivalent to 31.1035 DUCAT.

15 LEGAL

Disclaimer

This document is provided for information only. It does not constitute an offer to sell, or a solicitation of an offer to buy, any security, commodity interest, financial instrument or other regulated product in any jurisdiction, and it is not a prospectus or offering memorandum. Nothing in it is investment, legal, tax or accounting advice.

DUCAT is intended to function as a digital representation of allocated physical gold. It is not a deposit, is not insured by any deposit protection scheme, and confers no equity, profit share, dividend, voting right or claim on the issuer beyond the redemption rights described in this paper.

The value of gold fluctuates and may fall as well as rise. Past performance of gold or of any digital asset is not a guide to future performance. Holders may recover less than the amount originally paid, and may lose the entire amount.

Availability of the token, of the desk and of physical redemption is restricted in certain jurisdictions and to certain persons. It is the responsibility of every prospective holder to establish that participation is lawful for them, and to comply with any applicable registration, reporting and tax obligation. Ducat may apply identity verification and sanctions screening to primary issuance and to physical redemption, and may decline a request where verification cannot be completed.

Statements about future development, including the roadmap in section 11, are forward-looking and subject to change without notice. Contract addresses, parameters, custodial arrangements and service providers may change through the governance process described in section 09.

To the fullest extent permitted by law, Ducat and its contributors accept no liability for any loss arising from reliance on this document, from use of the contracts described in it, or from any error or omission in it. This document may be superseded; the current version is the one published at ducat24.com.

Contact

Questions on the contracts, custody, listings or physical redemption reach the same inbox. Verified contract addresses and the current version of this paper are published on the website.

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WEB

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NETWORK

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