Whitepaper

Bedrock is continually evolving. Some recent upgrades of the system will necessitate a complete rewriting of our basic documentation: the Whitepaper, the FAQs, and the Get Started guide. This will be undertaken presently. For the moment, however, please peruse this brief summary. The newer policies detailed there will supersede some aspects of this document.

Proposal for a Digitized Bullion System

By Jonathan Carriel

BEDROCK
Digitized Bullion System

BedrockDBS.com

Latest update: July 3, 2024

[Note: Text highligted in blue indicates matters still to be decided before Bedrock officially goes into operation.]

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THE CONCEPT

What is it?

First and foremost, it is a *system* – a system with the overriding purpose of safely *preserving private wealth*. But its secondary purposes distinguish it from existing firms that already do that. Like those businesses, Bedrock preserves wealth in the form that has been the mainstay of wealth preservation for millennia – in gold bullion.

Its second purpose is to facilitate the *free exchange* of this wealth among its clients.

And in our increasingly intrusive age, the only way that that freedom can be managed safely is by taking extraordinary care for privacy – of communications and transactions. Therefore, *privacy* is the essential third goal of the Bedrock system.

The **Bedrock Digitized Bullion System** is a new private business that combines the ancient need to safeguard precious metal with 21st Century capabilities for free exchange and freedom of communications.

Using blockchain technology, it converts secured bullion into electronic tokens representing exact divisions of the total *weight* of vaulted precious metal.

Using cryptography and "onion-routing" technology, it ensures maximum privacy for its clients' economic decisions.

How does it start?

Once Bedrock's creators are satisfied that the project is complete and secure, two groups of people are expected to be "first out of the gate," the *pioneers* who will initialize the Bedrock system.

- 1) Individual clients who desire to preserve wealth in the most time-honored form, but who also perceive that the ability to *trade* tokenized bullion may be valuable to them, will initially acquire tokens through Bedrock.
    - The "pioneers" can only get tokens by first arranging for the acquisition of bullion into Bedrock's system. The acquired bullion will immediately and irrevocably be "converted" into their electronic Bedrock tokens, which are called *Nuggets*. Tokens can only be created *after* bullion is placed into the system.
- 2) Client business organizations which perceive the projected utility of digitized gold tokens aligned with secure holdings will want to acquire a significant "working" quantity of the tokens. For "pioneers," large quantities, especially, can only be acquired through Bedrock's arrangements.

Pioneers send national fiat money or cryptocurrency to Bedrock, which will immediately re-send it to [NAME], one of the world's premier bullion retailers. [NAME] will use it to acquire bullion in the least expensive form available – virtual allocations of *London Good Delivery* ("LGD") bullion bars, the basis of the international gold trade. (The bullion is seldom physically moved, incidentally: it is *already* stored in one of the world's safest vault systems.) [Note: there are only a few firms, world-wide, that would meet Bedrock's criteria; the specific selection has not yet been made.]

- [NAME] reports back to Bedrock the precise number of *Troy ounces* of bullion that have been acquired. That amount is merged into Bedrock's total allocated holding.
- It is then *digitized*, "converted" into the identical number of Nugget tokens, and assigned to the account of the pioneering client. Each and every Nugget is therefore private property, virtual secured bullion denominated in objective terms of *weight* – specifically, the precise quantity of Troy ounces of pure ".9999" gold bullion already stored by Bedrock. Clients can rest assured that in ten, twenty, or one hundred years, one Nugget will still equal one ounce of pure gold.
    - Neither the bullion retailer nor the vault provider ever knows which of Bedrock's clients possesses any claim on the vaulted bullion. (Bedrock goes to great lengths to maintain every client's anonymity, especially during this "pioneer" acquisition process. (*See Get Started section B.1.*)
    - Pioneer clients also have the assurance that while Bedrock-the-business facilitates anonymous transactions, *it itself is not anonymous*. It is legitimately domiciled in [COUNTRY], and subject to its civil and criminal laws and sanctions. Its officers' names and addresses are public information, well known to officials, arbitrators, auditors, and its banks and vaults. Clients are as protected from corporate fraud as they are with any other business.
- Following the original acquisitions of bullion, the first Nuggets are created. When the Bedrock trading system is fully tested, trading will be activated. That moment will be known as Bedrock's Initial Token Deployment ("ITD"). After the ITD, *all* clients, whether "pioneers" or not, can begin to trade Nuggets regularly with any other clients.
- Nugget tokens bear functional similarity to cryptocurrency tokens (such as *Bitcoin, Ethereum,* or *Tether*), because they are created, assigned, and exchanged *via* a globally decentralized internet blockchain. But they are radically different in essence: Bedrock's Nuggets bear *absolute relation to already existing physical assets*.
    - <u>To clarify further</u>: As opposed to traditional cryptocurrencies, there will be no *Initial Coin Offering* ("ICO"), because no tokens are "offered." New Nuggets are all immediately distributed to the specific pioneer clients who arranged

acquisitions, in exact proportion to the amount of bullion they have each afforded.

  - Also in contrast to cryptocurrencies, Nuggets cannot be created by "mining." Mining is understood in the cryptocurrency world as a transaction validation mechanism, success in which is rewarded by earning tokens newly brought into existence. Validations of Bedrock transactions are paid for by *fees* – in Nuggets.

- Since the Nugget will be exchangeable via the same *mechanisms* as modern cryptocurrencies, however, it too will have a symbolic "logo" to assist instant recognition. This is the working graphic:

OPERATIONS

How It Continues:

After the Initial Token Deployment, all clients can freely exchange Nuggets for whatever consideration they agree upon. "Following-wave pioneers" can continue to acquire significant quantities of tokens in the same manner as the first wave. It will always be possible to add Nuggets to the system by adding bullion.

- It is anticipated that Nugget tokens will soon command a modest but variable market premium over the spot-price of the ounce of gold that they virtually represent, due to their greater fungibility – the greater ease with which they can be exchanged.
  - Many speculative persons and organizations are therefore likely to attempt to capitalize on this situation, by acquiring bullion through Bedrock's system at the spot price, in order to sell Nuggets to new clients.
- As the quantity of vaulted bullion increases, the number of Nugget tokens increases in exact proportion.
- Exchanges of tokens between pioneering clients and others should eventually result in a wide global dispersal of Nuggets.
- All transactions involving Nuggets will be updated on the blockchain with the equivalent speed and accuracy now found among cryptocurrencies.

- All such exchanges pay *transaction fees*, and all Nugget holdings incur monthly *maintenance fees*, both of which are automatically deducted from each client's account *in Nuggets.*
- Transaction fees will be identical for all exchanges, and kept as low as possible. Maintenance fees will be proportionally based on each account's holding.
- All fees are paid in Nuggets. Therefore, there is absolutely no change in the total bullion stored, or the total number of extant tokens, as a consequence of any transaction or fee payment. The system is effectively "sealed."
- There is also never any record of the value of any transaction in terms of a national fiat currency. Bedrock transactions *barter commodity weight* for whatever consideration clients may choose.

Bedrock Clients

- *Anyone* can become a Bedrock client by filling out the access form on its private website. Clients can be individuals, businesses, or other entities.
  - Clients are **Null** until they acquire a holding, or after they liquidate one. Null clients pay no fees but can explore its documentation. They will retain the ability to begin using the system as long as they wish.
  - **Pioneer** clients, both before and after the Initial Token Deployment, acquire their Nugget holdings by arranging for physical bullion to be placed in Bedrock's account with [NAME] vault. They remit monthly maintenance fees and fees on all transactions. (While pioneering may be promoted with limited reductions of fees, there is no permanent practical difference between pioneer and regular clients.)
  - **Regular** clients – anticipated to become the numerical majority – acquire Nugget holdings through exchange. They pay transaction fees on exchanges plus maintenance fees on their Nugget holdings.
  - **Client Arbitrators** and **Executors,** selected by other clients, have Null Accounts, but can log into and read Bedrock's private website, and also view specific transaction information as explicitly permitted by the clients who have named them. They can become Regular clients at will, but as long as they hold no Nuggets, they pay no fees.
    - Client Arbitrators must meet certain minimal standards set by Bedrock's **Board of Governors**. Accepted Client Arbitrators will be listed on Bedrock's private website.

- Two independent consultants, particularly appointed by Bedrock's Board of Governors, will be retained.
    - The **General Arbitrator** will adjudicate all disputes between clients and Bedrock Digitized Bullion System. It would also manage the restitution of clients in the event of a Bedrock liquidation.
    - The **Appellate Arbitrator** will be available for review of decisions by other Arbitrators – including the General Arbitrato. In cases where fraud is determined, it will set details of restitution and possible account closure and/or forfeiture.
        - (See the *Governance* section below, for more information regarding the Board of Governors and arbitrators.)
    - **Staff** Clients – Bedrock's employees, consultants, suppliers, and validators – *can*, like everyone, be Regular clients. Depending on their individual business function, Staff clients have temporary access to various areas of Bedrock's blockchain and records. As Regular clients, they will pay identical transaction fees on all exchanges, plus maintenance fees on their personal holdings.
    - **Bedrock** – the business as distinguished from the system – is *itself* a "client," given that it receives and disburses Nuggets. It pays maintenance fees on its holdings and transaction fees on its Nugget exchanges.
        - Bedrock does not pay transaction fees when sending or receiving transaction fees.
- All clients will be identified on the system only by their account number, wallet address, e-mail address, and login authentication procedures. *Any additional personal identification will be at the client's sole discretion.*
- All clients must view and accept the *Standard Client Contract* [to come]. Its most important clause states that any future contention a client may have with Bedrock Digitized Bullion System will be referred to the private General Arbitrator appointed by Bedrock's independent Board of Governors.
    - Bedrock's encrypted client database will present the option of adding further self-identification, plus personal preferences for languages, system interfaces, preferred arbitrator elections, and other consumer choices.

Bullion Vendors and Vault Providers

- In order to diversify risk, Bedrock may decide to avail itself of more than one single bullion vendor or vault provider. However, the acquired and stored bullion will always be London Good Delivery ingots whose fineness is attested and whose collective *weight* can easily be calculated.
    - Many vendors themselves distribute their bullion storage among various major vaults around the world, to decentralize risk. Bedrock may avail itself of this option for the same reason. Such physical dispersion as can be safely arranged will help to avoid concentrating Bedrock's account in any one specific geopolity.
- In every case, the name, address, and management of the retail or storage entity will be visible to all Bedrock clients.
- Also, precise, audited details of Bedrock's account with [NAME(s)] will be readily available.
    - However, there will be no estimation of the value of the holdings in terms of any fiat currency.
    - And of course there will be no public detail regarding *individual* accounts.
- Although placing bullion in any publicly-known vault facility entails certain risks, it is the least-dangerous storage option, and necessary to the creation of a digitized system.
    - The precise definition of *London Good Delivery* bullion ingots ensures that, no matter where they are physically located, they are *homogeneous*. Nuggets anchored by them will therefore always be deemed *interchangeable by weight.*

Operational Basics

- Bedrock's fundamental "ecosystem" will consist of an encrypted client database and an encrypted transaction ledger. Both will be maintained on a private blockchain, possibly hard-forked from the open-source Polygon Edge system and tailored to Bedrock's unique requirements.
- That program was in turn "cloned" from the Ethereum blockchain, which offers all the benefits of cryptocurrencies – speed, divisibility, inexpensiveness, and global reach – plus the important ability to add specific contractual details to any transaction.
    - To clarify: Although Bedrock will most likely "piggy-back" on an Ethereum-based system, and the Nugget token will be "*ERC-20 compatible"* (that is, easily exchangeable with many popular cryptocurrencies), strictly speaking it is not a cryptocurrency. A Nugget is simply a *transferable electronic vault*

receipt that can be used to barter a secured commodity. It has no par value or fixed original price.

- In order to preserve the integrity and anonymity of Bedrock's clients and operations, clients will only be able to access the client and transaction databases from Bedrock's website located on the private web. They will need to use the free *TOR Browser* (or compliant smartphone "apps") to do so. This may at first appear as an imposition to many; however, it will vastly lessen the dangers of criminal or bureaucratic interference in the private business of all customers.

Client Transactions

All transactions with Nuggets must occur *among Bedrock clients* – this being the only means of ensuring each client's privacy and anonymity. (It is anticipated that many businesses, as well as individuals, will perceive the value of this approach and become clients.)

- The basic fact of all Bedrock transactions is that one client sends an amount of Nuggets to another. In each instance, one client is therefore the *Sender*, the other is the *Recipient*.
  - The transaction fee for the exchange will be deducted automatically from the Sender's Nugget account.
- A rudimentary transaction between individuals would work as follows. One client – either the Sender or the Recipient – believes the other may accept a transaction he or she would like. The client logs into the private website, opens Bedrock's *Standard Transaction Form*, adds the specific details (in compliance with Bedrock's requirements), marks his or her explicit approval, and sends it to the correspondent by Bedrock's internal e-mail. The latter reviews the proposed transaction, accepts or rejects it in its entirety, or sends a revised counter-proposal back to the first client. When both agree unanimously, the exchange is examined on the blockchain and, if validated, effected.
  - This procedure is only slightly more complicated than familiar on-line exchanges. In more commercial situations, such as on-going retail transactions, Bedrock will offer a *Standard API* ("Application Programmer Interface"), incorporating the same information, which can be employed by businesses to expedite matters.
- The information on Bedrock's Standard Transaction Form and Standard API will be in two parts: *basic data*, and *customer information*.
  - 1) The ***basic data*** will automatically include a transaction ID, a timestamp, and the account numbers of the contracting clients. The clients will enter the amount to be transferred, and one optional component:
    - The transaction will be either **Immediate** or **Delayed**.

        - **Immediate** transactions transfer Nuggets from the Sender to the Recipient as soon as the transaction is validated.
        - **Delayed** transactions (the default choice, expected to be the majority of all transactions) will transfer Nuggets into Bedrock's **Quarantine Locker**.
    - If a Delayed transaction is chosen, the clients must also agree on a specific number of calendar days (the "*Delay Interval*") that will elapse before the Nuggets will be automatically transferred from the Quarantine Locker to the Recipient.
        - On the elapse of the selected number of days chosen for a Delayed transaction, the accounts of the Quarantine Locker, the Recipient, and Bedrock are updated accordingly.
        - The "Quarantine Locker" – presumptively the property of the Recipient – is simply an accounting entry that the Nuggets are temporarily inert, and cannot be employed in any manner.
  - 2) The ***customer information*** section includes *two required fields*, plus any additional contractual agreements desired. The two required fields are:
    - 1) explicit agreement that, in the event of any future dispute about the transaction, the matter will be referred to a private **Client Arbitrator** chosen from the list approved by Bedrock's Board of Governors.
        - Ordinarily, both clients will simply mark a checkbox. If clients already have a mutually-acceptable approved arbitrator, they can indicate that individual or firm.
    - And: 2) a mutually acceptable statement of the **substance** of the transaction.
- Both clients will have viewed the same form, with completely identical information and choices. Bedrock's transaction program will not accept an exchange that has a discrepancy.
  - The transaction program will automatically divide the form into the two sections, both identified by the transaction ID and stored on the blockchain.
    - However, the *basic data* can be retrieved by Bedrock and its validators in addition to the two clients. The *customer information* section, however, can *only* be retrieved by the clients or, by their permission, their chosen Client Arbitrator or Executor.
  - Bedrock will therefore not be able to perceive either the agreed substance of the transaction, or the specific Client Arbitrator chosen to adjudicate it in case of a dispute. It knows only that the required fields were completed to mutual agreement, and that both clients concurred upon the entire form.

        - See Section B.3. of the *Get Started* page for an imagined actual person-to-person transaction.
    - Bedrock anticipates that the majority of transactions will eventually proceed via external client firms' on-line markets. The external firms, however, will be required to effect their transactions using Bedrock's *Standard Application Programming Interface* ("API"), which will present a particularized copy of the *Standard Transaction Form*, and speedily connect both parties to Bedrock's private web for completion.

Security of Transactions

How can Bedrock clients confidently make exchanges with anonymous others whose identity is not even known to Bedrock?

- First of all, clients always have the option of *privately* demanding their correspondent's verifiable identity, as a business pre-requisite.
    - This demand can be handled through Bedrock's private e-mail system (See *FAQs* section A.3.)
- More likely, normal retailers, eager to achieve brand recognition, will be perfectly forthright in avowing their identity. Transactions are anonymous *on Bedrock's system*, but not necessarily or even usually between clients.
- Bedrock presents **two additional mechanisms**:
    - 1) The time-delay Quarantine system offers base assurance of fulfillment. Should an exchange be late, incomplete, or unsatisfactory, the Recipient must notify the mutually-agreed Client Arbitrator (or the General Arbitrator) before the Delay Interval expires. The Arbitrator will "freeze" the Nuggets involved in the Quarantine Locker, pending resolution of the issue.
    - 2) Although Bedrock does not attempt to "know" its customers, if clients find themselves in contention with anonymous others, the chosen Client Arbitrator *can and will* demand identifying information.
    - Any client who refuses to cooperate with the Arbitrator's requirements can expect a negative finding.
        - Should either party become dissatisfied with the exchange *after* the Nuggets have changed hands, a specific Client Arbitrator must be selected (if not previously arranged).
            - Should the clients be unable to agree on a specific Client Arbitrator, the General Arbitrator will select one for them.
        - Although the selected Client Arbitrator will learn the identities of both clients, he or she does not generally reveal the identities to either, to Bedrock, or to the public.

        - Should the Arbitrator determine that one of the parties has defaulted, he or she will notify Bedrock what remedial action should be taken against the account, but will normally divulge no further information.
            - Clients will then have a limited number of days to appeal the matter any further. Should either client do so, the contention will be referred to the Appellate Arbitrator, whose decision will be final.
    - Should the Client Arbitrator additionally find that one client has acted negligently or fraudulently, he or she informs Bedrock, which will then freeze that client's account pending review by Bedrock's independent General Arbitrator. He or she will determine whether the plaintiff client merits restitution, additional Nugget awards for damages, and whether the offending client merits rejection from the Bedrock system. In the most extreme case, that client's remaining Nugget account would be forfeited and donated to a charity chosen by Bedrock's Board of Governors.

Creation of the Business

As of the preparation of this *Whitepaper*, Bedrock Digitized Bullion System is a work in progress, not yet operational. It will proceed in three basic stages:

- 1) Bedrock will select the optimal polity in which to register itself, then open a bank account denominated in fiat currency to receive and manage development costs.
- It will prepare organizational By-Laws and select officers, staff, and consultants in accordance with them.
- It will create a standard client contract.
- It will acquire, prepare, and test the hardware and software necessary for operations.
- It will create and test its databases, private blockchain, client interfaces, and support procedures.
- 2) When satisfied that a viable level has been reached, Bedrock will accept fiat or cryptocurrency from its first pioneer clients, acquire bullion, convert it into Nugget tokens, and distribute the tokens proportionately to those clients, noting these changes on a temporary, centralized encrypted database. At this point, however, the tokens cannot be exchanged.
- 3) Once *fully* prepared, the centralized database will be amalgamated into the global blockchain, and the Initial Token Deployment ("ITD") will be declared. Regular Nugget trading will commence and continue indefinitely.

GOVERNANCE

Fundamental organization

Although its entire business is "extra-national" – that is, global and independent of all political relation – Bedrock will, of necessity, have a corporate identity with a reported domicile, and fiat bank accounts in particular polities, whose laws and regulations it will strictly obey.

- Its *visible* operations can only be perceived by the public and public authorities either as another system to facilitate the cold-storage of commodity bullion or yet another cryptocurrency "based on gold." Its barter functions are conducted entirely in private, notably without any mention or traceable use of recognizable national currencies.
- As an extra-national institution, it will use as its bedrock guide to conduct the modern revision of the venerable, privately developed "law merchant" – the ancient *lex mercatoria* – as formulated today by the International Chamber of Commerce (ICC).
    - The distinction of *international* law from *extra-national* law is a fine point, given that both primarily rely on voluntary compliance … and what can only be called *human common sense*.
- Though its contracted bank account(s), vault(s), staff, and clients must obviously be located in various contemporary polities, Bedrock will present its core digitized token exchange function as existing in cyberspace, outside any governmental cognizance or reach.
    - As all clients create their accounts, they must agree that any possible dispute between them and Bedrock shall be referred to [NAME], Bedrock's private General Arbitrator for redress.
    - As two clients commit themselves to a transaction, they must agree that any possible dispute between them shall be referred to one of the approved Client Arbitrators listed by Bedrock's Board of Governors.
- Bedrock understands that these policies may be a stumbling block for some potential clients, despite the overwhelming prevalence of private arbitration over public legal proceedings today. Bedrock will strive to demonstrate its good faith with transparent practices, open-source software, and regular audits by well-known private auditing institutions.
- Bedrock will present itself as an uncontroversial service that offers its clients the opportunity to transact private *barter exchanges* without any reference to, or use of, fiat currency.

Board of Governors

In addition to its operating officers and staff, Bedrock's By-Laws will provide for a semi-independent, multi-person Board of Governors, chosen for staggered two-year terms.

- The first Board members will be appointed by Bedrock management.
- Subsequently, there will be scheduled annual *elections*, open to all Bedrock's clients with positive holdings.
  - Holdings will be recorded at a single point in time, a month prior to the election. Votes will then "count" in proportion to the total of Nuggets outstanding at that instant.
- All candidates for a Board position must volunteer to be personally identified.
- Each member of the Board must be an *interested party* – that is, a Bedrock client with a significant positive balance, but no other business relationship with the firm.
- The functions of the Board of Governors will be as follows:
  - They will select and retain the General Arbitrator.
  - They will select and retain the Appellate Arbitrator.
  - They will set basic parameters for Client Arbitrators, and will have final approval for inclusion in Bedrock's vetted roster.
  - On the rarely-anticipated occasions that a Nugget holding becomes unclaimed (as a result of forfeiture decreed by the Appellate Arbitrator, or extended inactivity and unresponsiveness), they will select an appropriate charity to receive the tokens. (Unclaimed Nuggets will never revert to Bedrock.)
- The expenses of the Board members and the General and Appellate Arbitrators will be remunerated, and they will also receive a stipend. (Both will be regularly budgeted and negotiated with company management, and will be tendered, in Nuggets, from the business' accumulation of Management Fees.)

PRACTICALITIES

Education

Bedrock, like all businesses offering unfamiliar new products, will obviously need to demonstrate its special utility to the public – that is, it has an education task ahead of it. Though a small portion of its potential clientele may be well versed in its overall rationale, probably most will not be. Aiming to focus entirely on customer benefits, avoiding ideological distractions, Bedrock will strive to improve awareness of:

- The importance of precious metals as savings and exchange mediums
- The urgency of protecting one's privacy in an age of mass surveillance
- The utility of new internet-based tools

- The promise that learning its new way of doing business will reward those who make the extra effort
- The education function will be located on Bedrock's "clearnet" website, easily accessible to all internet users.
- The first stumbling block, for many potential clients who find an interest in proceeding with Bedrock, will be *access* to the private net website.
    - Bedrock will strive to assist new clients over all these hurdles, secure in the belief that savings in precious metals, understanding and use of internet privacy, and reliance on mechanisms of private governance such as independent arbitrators *is in everyone's interest*, whether or not the clients opt for any connection with Bedrock Digitized Bullion System.

Support

No business exists in a social or economic vacuum, of course. Bedrock frankly expects that many *external service firms* will perceive the utility of Nuggets, and the appeal Bedrock will have for their own clients, and will endeavor to capitalize on that perception. (This has occurred in recent times in the servicing of cryptocurrencies and other emerging industries.) With Bedrock scrupulously avoiding mixing its digitizing business with any other commercial activity, external firms and their customers can be entirely assured regarding the fundamental base of their common transactions.

- All **external service firms** that receive, hold, or divest Nuggets will necessarily be Regular Bedrock clients, subject to the same fees as all others.
- Bedrock will offer no endorsement or guarantee for an external service firm or any other client. All clients will necessarily have to perform due diligence before dealing with others, mindful of the ancient principle of *caveat emptor*.
    - Current Bedrock employees and consultants will not be permitted to be simultaneously professionally involved with any external firm servicing Bedrock clients.
- Many of the service firms that Bedrock anticipates *already exist* – they would merely have to reorient their offerings to include Nugget-based bartering (in addition to fiat or crypto currencies). For example:
    - Private arbitration organizations
    - On-line token exchanges
    - On-line retail businesses
    - Payment processors

    - Lending institutions
    - Debit and credit card vendors
    - Insurance firms
    - Developers of on-line applications
- Bedrock will certainly encourage all such entities to become clients and coordinate their offerings with Bedrock's system. However, to avoid customer confusion, it must retain its complete independence, and cannot *sponsor* or *partner* with any other business. (Please see *Section 3.B.* of our *Frequently Asked Questions* for considered speculation as to how all the valuable services of *External Support* firms could be provided with Bedrock's Nugget as the base of exchange.)

Commencement of Trading

How will *trading* get started? Who will actually want to *trade* Nuggets?

- Businesses such as cryptocurrency exchanges that perceive the long-term viability of Bedrock's system would want to position themselves early to get a lead on their market.
    - Given the extraordinary enthusiasm that currently attends the debut of even questionable cryptocurrencies, it would not be surprising if professional speculators in the field were to become pioneers.
- "Early adopter" Regular clients will choose Bedrock over acquiring precious metals in non-digitized vaults if they hope to be able to *use* some part of their precious metal assets for future exchanges.
- Clients whose primary goal has always been to amass precious metal savings "in the event of an emergency" … might be pondering what they would do should an emergency actually develop – particularly of a sudden. (How would a stack of one ounce gold coins help pay for mundane daily needs for groceries, gasoline, or dry cleaning? One might have to accept a wheelbarrow of fiat paper as change!)
    - Though any such societal situation would clearly be deeply fraught, foresight suggests it would pay to have any more practical method arranged in advance – and even be somewhat practiced in using it.
- Many likely initiators of on-going Nugget *transactions* might well be younger working people, however, striving to balance current bills against a desire to accumulate savings in small amounts. Combined with a greater generational

facility with the internet and electronic commerce, they will tend to have a more immediate readiness to popularize the exchange of Nuggets.

APPENDIX: *Direct Comparisons to Other Exchange Systems*

Precious Metals vs. Fiat Currency

By "fiat currency" we mean a commercial exchange mechanism that is created and imposed on a nation by government mandate. Fiat currencies have had precious metal content in the past, and may again in the future, but the amount per nominal exchange unit will always be legally decreed and subject to change. Over the most recent half-century, all the world's fiat currencies have been devoid of commodity backing, and based only on the "faith and credit" of the government, and the assumed present and future production of the citizens.

As explained by Aristotle twenty centuries ago, to serve real human purposes, money must be *recognizable*, *durable*, conveniently *portable*, *divisible*, *scarce*, and *valuable* in and of itself. By these criteria, contemporary fiat currencies do not merit the name of money. They may be locally recognizable and momentarily convenient, but they are slips of paper not valuable in and of themselves and, most critically, they are not scarce.

Precious metals – particularly gold and silver – were noted and employed by the ancients as the most popular choice. And across the continents and across the millennia, they have remained the universal primary choice. Even today, central banks are holding and accumulating bullion – all the while insisting *it isn't money*.

An unfortunate historical fact has been that politicians – kings, originally – have from the first appropriated the prerogative of denominating *how* precious metal units would be used. They gave the units names that did not reflect their content, put their portraits on them as a supposed guarantee of authenticity, and often decreed that citizens had to use *only* national coinage.

Whatever the original arguments may have been in support of political control of

"The Money Changer and his Wife" by renaissance German painter Ludwing Von Langenmantel. The earliest "bankers" had painstaking comparisons to make when evaluating Venetian *ducats*, Florentine *florins*, French *livres*, and Arabian *dinars*.

money, they are completely irrelevant today. What do people really need to know about exchange units?

- Is this item what it says it is?
- Is it as pure as it says it is?
- Does it weigh what it says it weighs (or is supposed to weigh)?
- Can I be confident about all these assertions?

Modern science and technology have provided some answers.

- The periodic table has shown us that gold and silver are unique elements.
- Chemistry has provided assayers the means to determine precise levels of purity.
- And technology has devised internationally accepted standards of weights and measures.

None of these factors is subject to political manipulation. In the last analysis, most modern people, like their ancient forebears, must *trust* that a unit's purity, especially, is as advertised. But centuries of economic progress have been derived from precious metal coin exchange systems.

21st Century alternative exchange systems (compared to Nuggets)

1. The Nugget *vs*. **bullion coins with national currency denominations**
2. The Nugget *vs*. **bullion rounds denominated only be weight and fineness**
3. The Nugget *vs*. **privately-vaulted, allocated but non-exchangeable bullion**
4. The Nugget *vs*. **unallocated private vault services**
5. The Nugget *vs*. **cryptocurrencies "based on" gold**
6. The Nugget *vs*. **general cryptocurrencies**
7. The Nugget *vs.* **"stablecoins"**
8. The Nugget *vs.* **Central Bank Digital Currencies**

1. Comparing Nuggets to **bullion coins with national currency denominations**

- We are comparing, for example, Nuggets to US gold coins issued prior to 1933, and US silver coins issued prior to 1965. All of these were of a fixed weight in bullion that was consistently sustained for many decades, and all were denominated in US "Dollar" units.
    - The obvious problem is that the Dollar, in common with all fiat currencies, has been politically re-defined, to the point where it has no grounding in bullion at all.
- Nuggets are designed to be as *anonymous*, *untraceable*, and *irreversible* as traditional forms of person-to-person cash exchange.
- Nuggets are not susceptible, as nominal currency coins are, to political manipulation. Nuggets are anchored by their denomination in units of *substance*, *fineness,* and *weight.* Unlike national units, these criteria are internationally established by independent science and technology, and cannot be redefined to suit real or imagined political needs.

2. The Nugget *vs*. **bullion rounds denominated only be weight and fineness**

- In recent decades, some governments and various private firms *have* offered pure bullion rounds *without* any reference to national currencies. To date, such items have almost universally been hoarded, never offered for exchange.
- These items have the advantage of physical visibility, and often of beauty.
- Nuggets are as "hard" an asset as precious metal coins. However, being invisible and weightless, and requiring a basic level of technological equipment, knowledge, and trust, they are far less emotionally appealing.
- Their use also requires a small transaction fee – identical for all exchanges – but, unlike physical coins, they can be exchanged globally and instantly, through cyberspace.
- They have many advantages in addition.
- First, Nuggets are superior to coins in that they are minutely *divisible*.

    - If you reckon the value of a gold ounce at 2,000 USD, for example, and divide that by one million, you get a fifth of a current US cent. Like Bitcoin and most cryptocurrencies, Nuggets are divisible to *eight* decimal places – *one one-hundredth* of a *billionth* of a unit.
        - The smallest division of a cryptocurrency unit is called a "Satoshi," in honor of Bitcoin's pseudonymous inventor, and Bedrock will follow the practice. Thus, at the above exchange rate, one would need 50,000 Nugget Satoshis (which could also be expressed as 0.0005 Nuggets) to barter for a single US dollar.
    - This is not as preposterous as it may first appear: it allows precise proportional divisions of interest or fees to inconsequential levels before necessitating rounding errors.
- Bullion coin *premiums* also vary widely by mint, by design, by date, and especially by weight. All matters of trust being equal, smaller, less valuable coins are easier to exchange, and therefore command significantly higher premiums over the bullion spot price. Nuggets have the advantage of *interchangeability*. Although the spot Nugget-per-ounce premium will vary over time, there's no reason to expect that there would be a different premium for 1 Nugget than for 100 Nuggets. They can be divested or acquired with equal ease. This is *one less factor to be calculated* for each exchange.
- And of course Nuggets have the modern advantage of instant and global fungibility that all hand-to-hand exchanges necessarily lack.

3. Comparing Nuggets to **privately-vaulted, allocated but non-exchangeable bullion**

We are considering such popular and well-known firms as Goldmoney and BullionVault. Both were created in the early years of this century, after the creation of the World Wide Web, but before the advent of cryptocurrencies, decentralized blockchains, and the private web. Bedrock shares much in common with them:

- Critically, their prime motivational impetus is to ensure clients' ability to retain savings in allocated precious metal bullion. Their internet base also gives them a global reach that offers considerable refuge from local inflation.

- It was also desired to enable private exchange of allocated bullion among clients. However, that capability was illegalized by the US government, despite their being non-US institutions.
- Since they all work over the clearnet, their activities are, despite their best intentions, fully visible to sophisticated private and public interlopers. Though they are probably the best currently available option for the preservation of wealth, this makes them susceptible to increasing interference and prevents any possibility of free exchange.

4. How does Bedrock differ from **unallocated private bullion vault services**?

- According to a startling, worthwhile on-line statement by private vendor BullionVault, the *majority* of individuals who buy gold as a safe-haven asset purchase it from private sources in *unallocated* form … to their peril.
  - **Unallocated bullion storage services** are most commonly offered by *banks*. Banks, however, are legally permitted to *hypothecate* clients' holdings – that is, to pool them and lend them at risk, and to amalgamate their value with all other assets they possess. Should the bank become insolvent, whatever gold it maintains will be joined with, among other assets, non-performing loans, and distributed to creditors that way.
    - A clear clue that private gold storage is unallocated is a dangerous supposed benefit: banks generally do not charge fees, and sometimes pay fiat interest, on bullion assets that could be far more easily liquidated in an emergency than a bad loan.
- Bedrock's holding in [NAME] vault is allocated solely to it. Correspondingly, Bedrock's bullion tokens are its clients' allocated private property.

5. Cryptocurrencies somehow "based on" gold

According to an impressive database compiled by Goldscape.net [July 2023], there are 33 active gold cryptocurrencies; 30 more "in development"; 20 "status unknown"; and 57 that are definitely defunct. The businesses are domiciled all over the globe, from Chile to South Korea. (Dismissed, incidentally, are several more cryptos that use "gold" in their names, but have no more to do with bullion than a "Gold" MasterCard.)

- All of them either acquire bullion on the client's behalf or, having previously acquired it, sell their tokens to the client "at current market rates."

- A minority of the "active" firms persuasively assert that their clients can be assured that a true one-to-one relation exists between their tokens and a weight of vaulted bullion – without explaining exactly how.
- Others vary in the manner in which they acquire, store, and digitize bullion. The total number of crypto tokens – and their relation to stored bullion – is often not easy to discern. Consequently, the relationship of the token to publicly-traded bullion on the international market is problematic.
- Many acknowledge – or even boast – that they are overseen or *regulated by government agencies*, and require a KYC self-identification procedure to begin an account.
- Many – either automatically or as an option – do not charge storage expenses, and even offer interest (in gold, fiat, or crypto). This implies that the business that is holding the bullion *is also lending it out* on its own recognizance, creating an unknown counterparty risk for the client.

Of the plethora available, some of the most innovative and prominent are:

- ComTech Gold [CGO token]
- Kinesis Money [KAU token]
- Paxos Gold [PAXG token]
- SEBA Bank
- Goldmint [MNTP token]
- VaultOro

Note: A very recent and very interesting technological development, not specific to precious metals, is the "tokenization of Real-World Assets." All of the above (and Bedrock as well) could be said to be related to this blockchain-based modern trend.

6. Comparing Bedrock's Nugget to **general cryptocurrencies**

What do Bitcoin and most of its alternative cryptos offer?

- Promise of non-inflationary currency
- Anonymous transactions
- Near-costless transactions
- Immediate transactions
- Free cross-border transactions
- "Coolness," chic

What can they *not* offer?

- *Self-explanation* beyond the above: a non-self-referential description of what an individual unit of their currency represents.
    - Some cryptocurrencies do, however, represent real *services rendered* – usually within the cryptocurrency field.

What does Bedrock offer?

- All of the above values, *plus*
- Demonstrable core value

7. The Nugget *vs*. **"stablecoins"**

"Stablecoins" are a popular class of cryptocurrencies intended to maintain fixed price relationships to external values such as relatively stable fiat monies or baskets of assets. The best known are *Tether, USD Coin*, and *Binance USD*. Stablecoins are promoted as reliable *non-speculative* assets, in contrast to Bitcoin, Ethereum, and most others, yet still offering the special exchange benefits of cryptocurrencies. (Several "gold-based" cryptocurrencies present themselves as stablecoins.)

- Many prominent stablecoins resemble interest-bearing bank savings account deposits: client funds are taken over by the firms and invested *at risk*, with a certain proportion of assets reserved in the event of a "run on the bank."
    - The May 2022 failure of related stablecoins *Terra Coin* and *Luna* came about when the algorithm organizing the proportions of "hard" currency assets to tokens did not anticipate a general, simultaneous drop in the stock market and cryptocurrencies.
- Although they resemble stablecoins, *Nuggets* are different. They are digitized bullion, not digitized national currency; and they are 100% anchored in pre-existing metal. The Nugget *is* stable, in that it will always equal exactly one Troy ounce of pure gold – and it's historically observable that the *purchasing power* of gold holds up far better over time than any fiat currency. (Bedrock would actually prefer that its token *not* be regarded as a cryptocurrency; rather, it is simpler, a transferable electronic vault receipt representing precious metal bullion.)

8. The Nugget *vs*. **Central Bank Digital Currencies**

- "CBDCs" are electronic fiat exchange units intended to function on a blockchain with the facility of cryptocurrencies, but which completely wreck the impetus of freedom that drove the cryptos' original creations. CBDCs are merely digital tokens for existing national fiat currencies, which would soon be proclaimed

"legal tender." They could be distributed on plastic cards to a nation's entire documented population (perhaps with some free "helicopter money" attached). They would then be forcibly merged with any bank, brokerage, or credit card account a citizen had, and cash – the paper money and coins that could still be privately exchanged – would be phased out.

- This would bring about a touted "cash-less" economy in the name of the public's convenience. However, every exchange made by every individual would be monitored by algorithmic programs that would call bureaucratic attention to any transaction that failed to conform to the priorities set by the government. The population would be watched for any purchase that deviated from politically fashionable norms.
- CBDCs are simply the worst of all alternatives in current discussion.

Assessment of Cryptocurrencies

Bedrock contends that private cryptocurrency – to which it concedes honors for invention, the creation of valuable infrastructures, and also the growing societal awareness of exchange alternatives in general – may continue to be useful, in the absence of anything better, for quick contemporary exchanges. But not for long-term value storage or overall reliability. No matter that some issues follow Bitcoin by insisting that they have an ultimate upper limit to their issuance of tokens, *the fundamental value of each token is obscure*.

If you look at details of the popular compendium of cryptocurrencies, CoinMarketCap.com, you'll notice that each token has a listing for *Maximum Supply, Circulating Supply*, and *Total Supply*. Definitions are supplied – for what they are worth. Not all of the "alt-coins" (alternatives to *Bitcoin*, which remains by far the most prominent) have followed its precedent by stating a Maximum Supply. And although one can trust that complex mathematical calculations are involved, the logic that arrives at any of these numbers is unfathomable to normal human beings, and doubtless one reason why they are no more popular than they are. Users simply don't know what they're exchanging.

The reason cryptocurrencies are notoriously volatile is precisely the combination of public fascination with new – and indeed exciting – products, and general confusion regarding their intrinsic value. Each of the various competing cryptocurrencies appears to be proclaiming, "My electrons are better than your electrons!"

General Assessment of Modern Alternatives

The above comparisons of Bedrock's Nugget to plain vaulted gold, gold-based and general cryptocurrencies, and "stablecoins" … are not intended to assert that any of them are without value, particularly as fiat currencies lose purchasing power all about the globe. [Disclosure: the author has accounts with several of them.] Bedrock does not expect to supplant these services. Our point is simply to assert Bedrock's revolutionary new method of holding and exchanging economic value.

The Bedrock Difference

Why commit savings to Bedrock? **What makes Bedrock unique among its competitors?**

Bedrock Digitized Bullion System offers three values not found together elsewhere:

anchored units
usable tokens
maximum privacy

Bedrock clients will rest assured, knowing their exchange units exactly match stored bullion.

Bedrock clients will find that others are increasingly persuaded of the utility of Nuggets, relative to its many commercial alternatives.

Bedrock clients are confident of their total privacy. Their business is *theirs*, not subject to oversight or interference by any other party.

Thank you for reading Bedrock's Whitepaper. You can learn much more by examining our Frequently Asked Questions and our Get Started page. And while Bedrock is currently a work-in-progress, you can find out how to follow – or even support – its progress.

Bedrock Digitized Bullion System
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Sometown, Someplace