



## Overview

The Bedrock Consortium is a [Linux Foundation](#) project that supports the operation of the Bedrock Utility (or "BBU"), an independent self-governed and self-sustainable public identity utility.



The members of the Bedrock Consortium represent a collection of international private sector companies and organizations that operate and manage the Utility. The Bedrock Consortium, a directed fund of the BBU, serves the purpose of raising, budgeting and spending funds in support of the Utility and the Bedrock Utility is tasked with the mission of supporting the technical needs of the Utility.

LF Governance Networks, Inc., a Delaware non-profit corporation, supports the Utility by executing contracts relating to the management of, or transacting with, the Utility.

The BBU is intended to serve organizations that desire to participate in [digital trust ecosystems](#) and will have a governance framework that will:

- Enforce permissioned-writes with contractual instruments that will conform to privacy regulations
- Maintain financial sustainability of the consortium members without the use of cryptographic keys
- Establish a governing board so that no single organization owns the [Identity Utility Network](#)
- Require adherence to specified open standards and protocols

To meet these requirements, the BBU operates pursuant to its own governance framework. Consortium members pay membership fees and provide supporting infrastructure to maintain a sustainable permissioned identity system. The BBU is structured as an enterprise safe-space and purpose built for trusted commerce. The consortium leverages the [Identity Utility Service Provider](#) as a fee-based administrator for the delivery of a [DID Ledger](#) associated with the BBU Namespace, `did:bbu`.

This document serves as the *constitution* for the BBU and represents the official BBU Governance Framework.

The governing body responsible for the BBU-GF is the *Governing Board*.



# Consortium

## Non-Profit Organization

The **Bedrock Consortium** ("Consortium") is a project of the Linux Foundation and is backed by members to ensure the verifiability of both physical and online digital identity interactions. The Consortium is focused on building a new standard for digital identity ("BBU-GF").

## Legal Entity Structure

The [Linux Foundation](#) (the "LF") is dedicated to building sustainable ecosystems around open source projects. The LF provides a legal structure for the establishment of open source projects as non-profit legal entities for members.

Joint Develop  
(Washington)

Sole Member

Joint Development  
Foundation Projects LL  
(Delaware Series LLC)



is a

Series 1

Series ...

Members

Member

Activity Type	Entity Name	Legal Structure
Directed Fund	Bedrock Consortium Directed Fund	The Linux Foundation, (Oregon Mutual Benefit Corporation)
Utility	Bedrock Business Utility	LF Governance Networks Inc, LLC (Delaware Non-Profit Corporation)
Technical Project	Bedrock Technical Project	LF Projects LLC (Delaware Series LLC)

## Legal Entity Registration

The *Bedrock Consortium* (the “Directed Fund”), is a directed fund project of the LF. The Directed Fund:

1. Manage the operation and maintenance of the *Bedrock Business Utility* (“the Utility”).
2. Support for the *Bedrock Technical Project* (the “Technical Project”), an open source project, a

## Membership Signing Requirements

Participation in or use of a project entity may require the signing of one or more contractual instru-

# Entity

# Signing

The Linux Foundation  
(Oregon Mutual Benefit Corporation, 501(c)6)

Bedrock Consortium  
Directed Fund

Sign LF  
Membership  
Agreement

Members

Anyone

LF Governance Networks, Inc.  
*(Delaware Nonprofit Corp)*

Bedrock Business Utility

LF Projects LLC  
*(Delaware Series LLC)*

Bedrock Technical Project  
Series LLC

Sign CLA  
(optional)

Activity Type	Entity Name	Contractual Instruments
Directed Fund	Bedrock Consortium Directed Fund	LF Membership Agreement, BBU Participation Agreement
Utility	Bedrock Business Utility	Utility Agreements, USP Contracts
Technical Project	Bedrock Technical Project	None

The [Bedrock Consortium Participation Agreement](#) binds members to project funding commitment.

For details pertaining to Utility Agreements, see "Exhibit B" of the Bedrock Consortium Charter (Exhibit B).

The *Bedrock Technical Project* does not require the signing of a *Contributors License Agreement* (Exhibit C).

## Consortium Name

The name of the member-driven funding entity supporting the BBU is the Bedrock Consortium. The BBU is the acronym for Bedrock Business Utility.

The term "Bedrock" carries two pertinent meanings:

1. Gold accumulates at this solid foundational layer of the earth because water can't "wash it down".
2. A "bedrock" principle is one that forms the basis for others principles. Our public identity utilizes this concept.

## Governing Board

The business of the Bedrock Consortium is overseen by a Governing Board. The Governing Board oversees the BBU and its three projects.

## Governance Framework

The Governing Board is responsible for establishing and maintaining the governance framework for the Bedrock Consortium.



# Motivation

## Global Growth

The [Sovrin Foundation](#) entered into the decentralized identity market as a permissioned public ledger. It has since grown to include over 100 members from around the world.

During this same period, a global spotlight on privacy protection has spawned regulation such as the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA), which have contributed to this privacy protection movement.

At the same time, the grassroots energy focused on “identity for all” shifted or accelerated the third-party ecosystem of Sovrin participants. Some of these participants are now no longer part of the Sovrin Community.

Meanwhile, the hype around decentralized identity also spawned new federated identity systems like the Global Address Identifier (GADI). GADI is built on the Sovrin Network and follows the [GADI by Design Principles](#). GADI architecture enables a collection of Digital Address Providers (DAPs) to issue and verify digital identities.

The Sovrin Community is comprised of minimally two disparate market segments. Both segments are characterized by different needs and approaches to identity management, particularly in how they approach at the technology or governance levels.

Accelerated energy towards a public permission-less utility that leverages a utility token may be socially acceptable, but it creates a number of **risk mitigation dilemmas** for participating institutions.

The oscillation between the extremes needs to steer the pendulum to strike a **balance between**

To counter the pendulum bob swinging so far to the left, we have witnessed proposals for alternative models that strike a balance between open privacy by design and financial risks.

# Reality Check

In the Autumn of 2019, early prospective members of the Bedrock Consortium responded to this question:

1. Policy Gridlock
2. Permissioned Safe Zone
3. Token-free Economics

## Policy Gridlock

The Sovrin approach for decentralized identity was to tackle it at global scale. The Sovrin Community had to balance privacy regulation compliance, identity access for all, and the sustainability of a stable and reliable ledger.

The Sovrin Foundation needed to find ways for it to [a] stay true to its vision; [b] aid all stakeholders. Businesses and Governments around the world must be able to balance risk mitigation and technological innovation. Hyperledger Indy, which like many consensus algorithms, carries an expected threshold of optimism.

The decentralized identity community cannot afford to have disputes at the network level. We must have a single network that can meet the needs of everyone and continued attempts to do so will minimize disputes.

The Sovrin Foundation was in gridlock throughout all of 2019 due to apprehension between policy makers. Businesses and governments were apprehensive to have their own governance framework while participating in the Sovrin Community. One approach was to have a public-write ledger.

## Permissioned Safe Zone

Preventive measures for avoiding the possible insertion of personal data into an immutable ledger were taken. Businesses and governments were apprehensive to embrace a permission-less governance model. A diligent effort was made within the Sovrin Foundation to mitigate these risks for each stakeholder under both the public-write and permissioned write models. Unfortunately, this did not resolve the issue.

One approach to reducing the complexity of governance policies was to transition the existing Sovrin Foundation to a permissioned ledger.

## Token-free Economics

The Sovrin Foundation spent a huge amount of money investing in a new Governance Framework. This framework was designed to allow access up to a very diverse community that is currently unable to establish a trusted identity reputation system.

While the social benefits of such an approach are appealing to many, the ability for many enterprises to come together around a common vision but comprised of safe-spaces for each segment to establish

## Common Ground

The pathway to a common vision for decentralized identity has always been rooted in open standards:

- an Open by Design approach based on open standards
- avoidance of any deviation from an open approach at the technology or governance levels
- the need to support a network of networks model that enables disparate market segments to coexist

Fundamentally, no single organization can own a network (system of ledgers) and the network must be open to all.

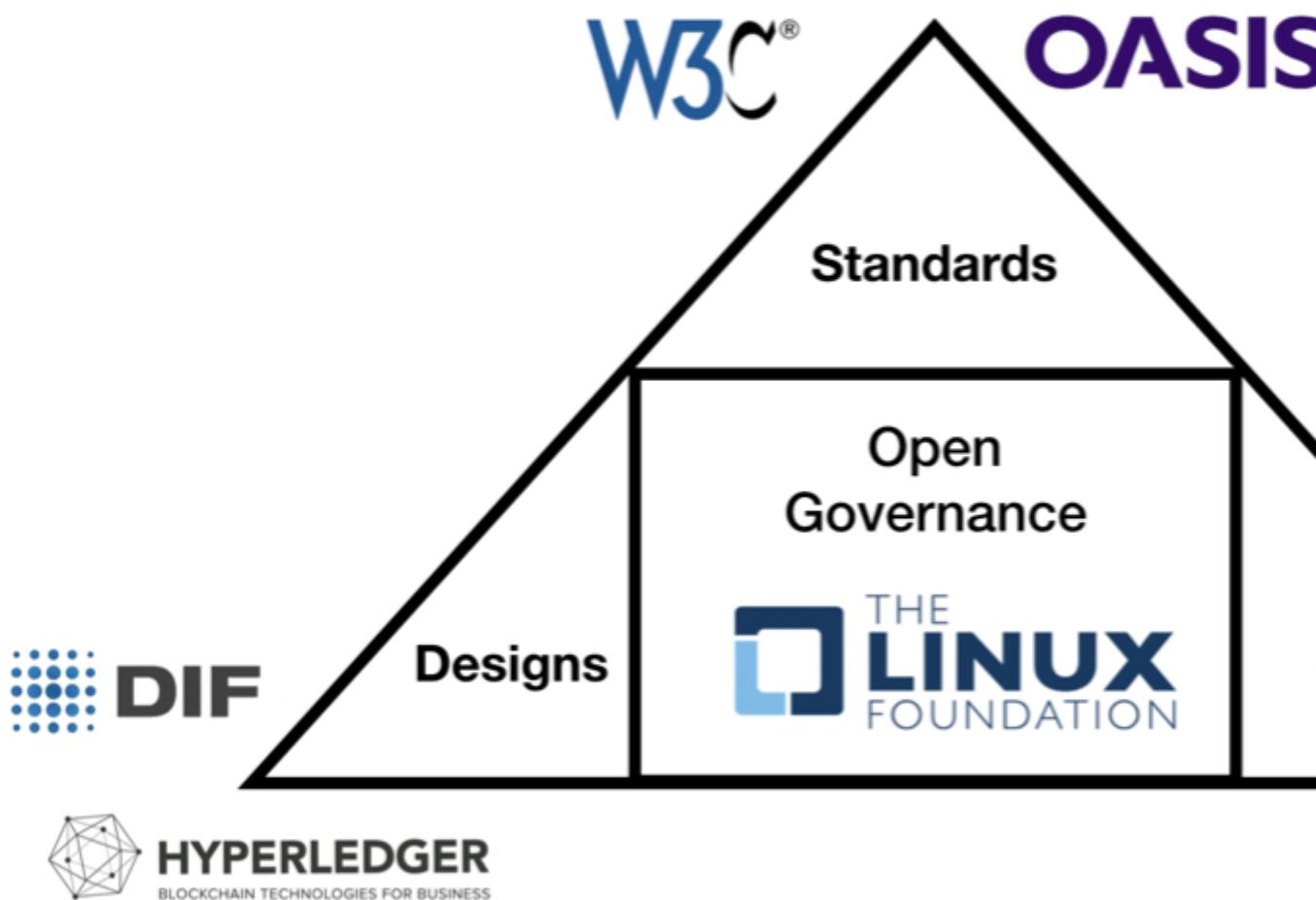
## Transition

In March 2020, the Sovrin Foundation's ongoing attempts to serve multiple disparate market segments

The [ToIP Foundation](#) offered all community stakeholders the flexibility to establish one or more local

## Digital Trust Marketplace

As the proliferation of decentralized identity utility networks continued to increase, the global identity ecosystem must



In collaboration with [ToIP Utility Foundry Working Group](#), organizations can establish independent standards for how things interact (devices, sensors, appliances, vehicles, buildings, cities, etc.). The ToIP Architecture is designed to provide verifiability at the technical machine layer with human trust at the business, social, and legal layers.



# Membership

The concepts outlined herein provide an informational synopsis for the operation of the Bedrock Blockchain participation in the Bedrock Consortium. The executable [BBU Participation Agreement](#) (the "Participation Agreement") specifically [Exhibit B](#) and [Exhibit C](#), supersedes this content.

## Utility Infrastructure Requirements

The Utility is an instance of a [ToIP Layer One Public Utility](#) based on [Hyperledger Indy](#) ("Indy"). In order to define the budget for the Utility, several infrastructure assumptions must be considered.

1. Budgetary requirements dictate how much revenue is required to keep the Utility sustainable.
2. Distributed ledger technologies, like Indy, leverage consensus algorithms that come with an operational threshold value. This threshold value dictates the number of validator nodes required to operate the Utility. To maintain a decentralized ledger, each validator node must be operated by an independent and unique participant. A requirement associated with one or more classes of members will be tied to the number of required nodes. These nodes may also be referred to as *utility infrastructure nodes* or *Stewards* from a historical [Sovrin Glossary](#) for more details.

A balance between budget requirements and technology limitations will define the number of validator nodes required for the Utility. Initially this will be set at twenty-five (25) utility infrastructure nodes. The set of active nodes will be periodically pulled from a pool of available nodes.

## Validator Node Pool

In order to efficiently operate the ledger associated with the Utility, a combination of production, test, and development environments are necessary. The Governing Board is responsible for defining the requirements as well as the costs. It is important to note that such Governing Board decisions will be influenced by both technical performance requirements as well as budgetary demands.

Framework Facet	Required Quantity	Comment
Governing Board Seats	7	Minimum Governing Members. Governing Board seats considered.
Minimum Production Pool Size	19	Considers production and Governing Board factors.
Minimum Test Pool Size	3	Ledger used by Utility Service Provider and Technical Provider.
Minimum Development Pool Size	3	Ledger used by Utility Service Provider and Technical Provider.
Minimum Total Pool Size	25	Considers requirements across all environments.

## Steward Population Dynamics

The number of Board of Director seats SHOULD be consistent as the population of Stewards (Governors/Members) increases.

Board of Director Seats	Required Stewards	BoD%
7	25	0.28
9	36	0.25
11	44	0.25
13	52	0.25
15	60	0.25

The Governing Board maintains a **FIFO Waiting List** of Operational Members that have maintained their position on the waiting list. Position on the waiting list is based upon date of membership of the Operational Member. This list is used to fill available Governing Board seats upon availability due to attrition or growth.

# Membership Types

Building on our [Glossary](#), participants in the Consortium are referred to as *Trust Community Members* who have agreed to participate in the *Trust Community* known as the Bedrock Consortium. Participation in the Consortium does not require formal legal contracts or membership agreements.

## Annual Membership

Membership details herein provide a synopsis of the information outlined in "Exhibit B" and "Exhibit C" of the Participation Charter within the [Bedrock Consortium Participation Agreement](#) (the "Participation Agreement").

Private sector entities (businesses) can join and renew membership on an annual basis under three categories:

Membership Type	Validator Node Hosting Required	Required Governing Body Participation	Authorized to Host
Governing Member	Yes - 1	Yes - 1 Person Per Governing Body	Yes - Unlimited
Operational Member	Yes - 1	Yes - 2 Persons	Yes - Unlimited
Subscriber	No	No	Yes - Limited

### 1. Governing Member:

- **Description:** Members that are willing to contribute to the infrastructure, management, and operation of the Consortium.
- **Obligations:**
  - a. MUST host one or more utility infrastructure *Validator Nodes* as defined in [Exhibit C](#) of the Participation Agreement.
  - b. MUST sign the required Utility Agreements as set forth in [Exhibit B](#) of the Participation Agreement.
  - c. MUST assign appropriately skilled resources, as detailed in [Exhibit B](#) of the Participation Agreement, to fulfill the required commitments for the Governing Board, the Committees, additional committees established by the Directed Fund in the future, and the Technical Project.
- **Entitlements:**
  - a. MAY appoint a representative on the Governing Board, provided, however, that a Utilitarian member may not appoint a representative to the Governing Board.

b. MAY appoint a representative to any Committee, provided that a Utility Service Provider representative to the Finance Committee.

c. MAY act, pending signed Utility Agreements, as a Transaction Endorser.

d. MAY write Transactions as a Transaction Endorser as defined in Exhibit C of the Participation Agreement.

• **Restrictions:**

a. Membership is limited to the number of Board of Director seats available.

b. A FIFO waiting list is maintained by Governing Board to allow for new members to fill available seats.

c. Utility Service Providers MAY NOT be a Governing Member.

d. Utility Service Providers MAY NOT participate in the Finance Committee.

From 12 months after the inception of the Directed Fund, or from such other point in time as the Governing Board determines, a new Member may join the Directed Fund as a Governing Member only if the total number of Governing Members (including the new Member in this count) is equal to or less than 25% of the total number of Seats (including the total of Governing Members and Operational Members). The Directed Fund will maintain a waiting list of Members that wish to become Governing Members, and new Governing Member spots will be filled by the highest ranked Operational Member status among Operational Members on the waiting list.

## 2. Operational Member

• **Description:** Members that are willing to contribute to the infrastructure, management, and operation of the Directed Fund Network. Minimally, this requires the member to contribute a *Validator Node* to the operational network.

• **Obligations:**

a. MUST host one or more utility infrastructure *Validator Nodes* as defined in Exhibit C of the Participation Agreement.

b. MUST sign the required Utility Agreements as set forth in Exhibit B of the Participation Agreement.

c. MUST assign appropriately skilled resources, as detailed in Exhibit B of the Participation Agreement, to fulfill the required commitments of at least one Committee and the Technical Project.

• **Entitlements:**

a. MAY appoint a representative to any Committee.

b. MAY act, pending signed Utility Agreements, as a Transaction Endorser.

c. MAY write Transactions as a Transaction Endorser as defined in Exhibit C of the Participation Agreement.

d. MAY request to be added to the Governing Member waiting list.

- **Restrictions:**

- a. Membership is limited to the number of nodes required to maintain optimal consensus. This limit here must take into consideration a balance with decentralization requirements. The Board will annually determine the number of nodes required to meet both consensus, decentralization and security requirements.

### 3. Subscriber

- **Description:** Members that are willing to be responsible for the endorsement of transactions.

- **Entitlements:**

- a. MAY appoint a representative to any Committee.
- b. MAY act, pending signed Utility Agreements, as a Transaction Endorser.
- c. MAY write Transactions as a Transaction Endorser as defined in [Exhibit C](#) of the [BBU Constitution](#).

### 4. All Members are entitled to:

- a. Participate in Directed Fund general meetings, initiatives, events and any other activities;
- b. Identify themselves as members of the Bedrock Business Utility Fund supporting the Bedrock Business Utility Fund.

## Members and non-Members

### 1. Transaction Author

- **Description:** Any entity that is the submitter of a write transaction in support of using the ledger for decentralized identity interactions.

- **Obligations:**

- a. MUST sign the required *Transaction Author Agreement* as set forth in [Exhibit B](#) of the [BBU Constitution](#).
- b. MAY interact with a *Transaction Endorser* for the processing of write requests to the ledger.

- **Restrictions:**

- a. Can only submit those transaction types outlined in the [BBU Constitution](#), specifically the [ledger data policies](#).

- **Entitlements:**

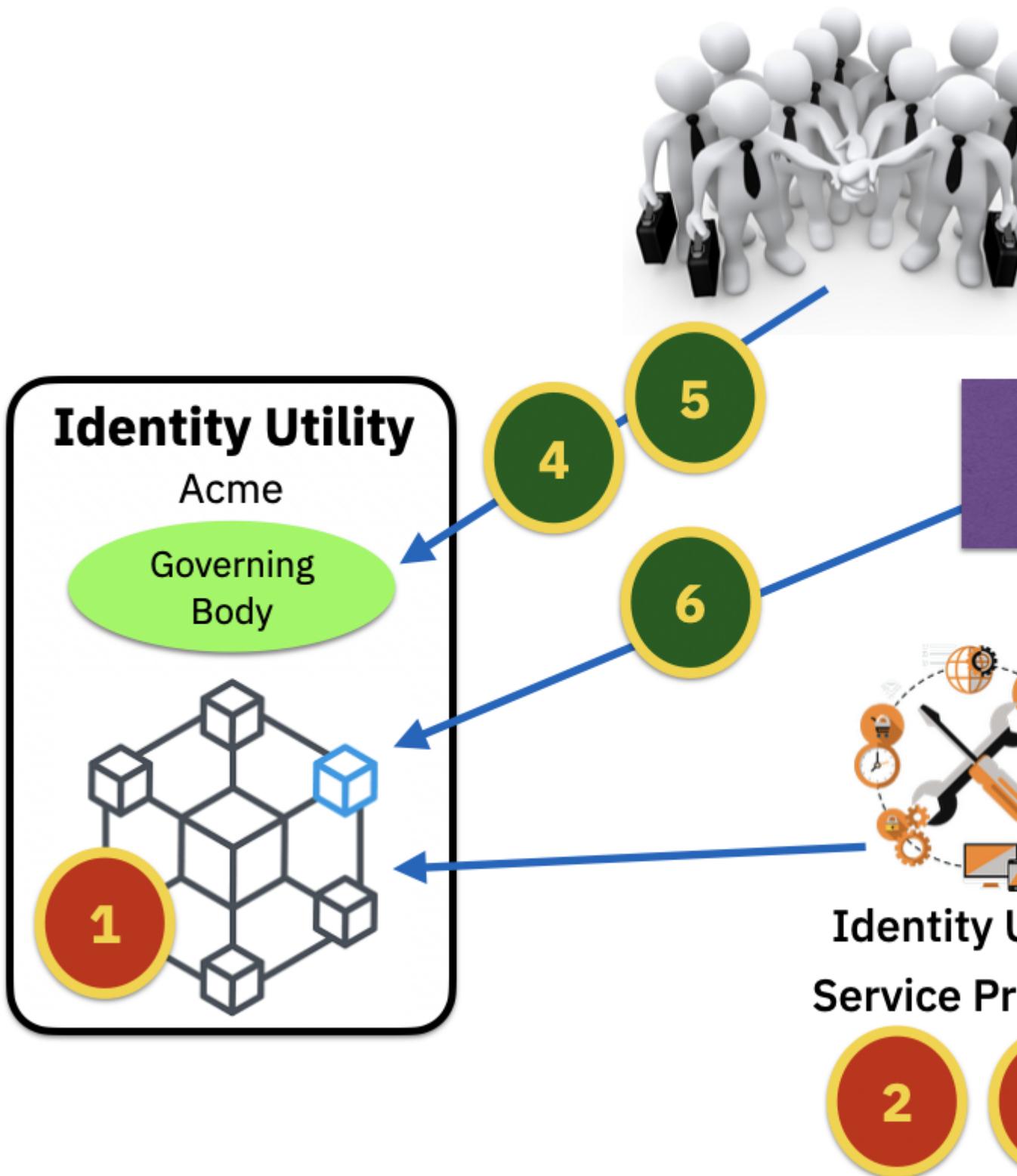
- a. Ability to use ledger for decentralized identity interactions.

### 2. Contributors to the Technical Project: Contributions to the Technical Project are made pursuant to the [Technical Project Charter](#) for the Technical Project.



# Business Model

When a consortium of organizations such as those associated with the Bedrock Business Utility or identity utility there are several factors that need to be considered with respect to a sustainable bu



Identity Utility Networks have specific income and expense characteristics that are addressed by the outlined in their governance frameworks.

Expenses	Income
1. Node Hosting	4. Consortium Membership
2. Network Operation and Maintenance Services	5. Community Donations
3. Consortium Governance	6. Transaction Revenue

## Utility Operations

### Node Hosting

#### General Concept

The deployment of decentralized identity solution based on distributed ledger technology (i.e.: blockchain) will not be a single centralized entity that owns and operates the ledger or the nodes attached to the distributed ledger. The distributed ledger owns the responsibility for defining the technology that is used to establish and run the ledger. The responsibility of each node owner to provide an operational compute node that meets the requirements of the ledger. Fulfillment of the node owner's responsibilities comes at a cost regardless of their decision to manage the hosting provider.

Some governing bodies may place diversity requirements on node owners. These requirements may be not limited to:

- Number of nodes hosted in a specific data center
- Number of nodes hosted in a geolocation
- Number of nodes running on the [IaaS](#)
- Number of nodes hosted by the same hosting provider

#### BBU Perspective

Any member of the Bedrock Business Utility that is [required to host a utility infrastructure node](#) is responsible for the financial demands of hosting a node. Such expenditures are considered out-of-pocket to the members annual membership obligations. However, the BBU-GF does recognize the infrastructure costs and MUST adjust membership fees accordingly.

Stewards MUST adhere to the [Member Technical and Organizational Policies](#) set forth in the Cont

## Network Operation and Maintenance Services

### General Concept

The management of a distributed ledger MUST be administered by skilled personnel that is familiar

- designing, building, testing and deployment of networks based on [distributed ledger technolo](#)
- maintaining and releasing reliable versions of a DLT
- onboarding and configuration of nodes
- monitoring and tuning of Hyperledger Indy networks

The governing body of a public identity utility is responsible for hiring in-house or external resources. The cumulative costs of such services have a direct impact on the financial budget for the Utility.

The [ToIP Foundation](#) recognizes the importance of the services of Utility Service Providers and has established a [Foundry Working Group](#) to aid governing bodies in selection and hiring of such providers. For example, a governing body may utilize the [Request for Proposal](#) (RFP) templates. Typically, a governing body would initiate a bidding process for an annual contract with a provider, which includes service-level-agreements (SLAs).

### BBU Perspective

The Governing Board of the Bedrock Business Utility with advice from the [Finance Committee](#) and [Risk Management Committee](#) will hire personnel responsible for the operation and maintenance of the Utility.

## Consortium Governance

### General Concept

The development and maintenance of a governance framework complete with legal instruments is a complex task. A governing body of a public identity utility may establish a [Governance Framework Working Group](#) to handle the effort. The group may leverage the services of a Utility Service Provider for all or portions of the effort.

The [ToIP Foundation](#) recognizes the complexity of this task and has established a dedicated [Utility Service Provider](#) program. The program includes RFP templates for governance frameworks along with access to experienced service providers.

## **BBU Perspective**

The Governing Board of the Bedrock Business Utility leverages the inexpensive volunteer services of the *Governance Framework Working Group* that is responsible for the task.

## Utility Revenue

### Consortium Membership

#### **General Concept**

A public identity utility serves the needs of interested stakeholders by allowing for both read and write transactions. Read transactions are generally publicly accessible and free, write transactions are typically fee-based. A consortium may offer write transactions as an entitlement of membership and charge members for participation in the Utility.

#### **BBU Perspective**

The Governing Board of the Bedrock Business Utility publishes a [fee schedule](#) for participation in the Utility as a guaranteed source of income.

## Community Donations

#### **General Concept**

Meeting budgetary requirements via subsidized donations is not a recommended business model. However, it is possible and often welcomed.

#### **BBU Perspective**

While the Governing Board of the Bedrock Business Utility MAY accept donations, such income is not a recommended business model.

## Transaction Revenue

#### **General Concept**

Users of a permissioned ledger, known as Transaction Authors, have a desire to submit transactions. Transaction Authors own the entitlements to perform those writes. The governing body of a public identity utility may charge fees for these writes.

may also charge different fees for the different types of data writes allowed to the ledger. Transaction fees can be collected in a number of ways such as but not limited to:

- Centralized endorser operated by the Utility
- Utility tax on endorsers who collect directly from Transaction Authors
- Selling write entitlements to endorsers and/or Transaction Authors

### **BBU Perspective**

The Bedrock Business Utility Governance Framework **does not** collect revenue from transaction fees. The exchange of value (value) between the Transaction Endorser and a Transaction Author is *out-of-scope*. Transaction Endorsers are responsible for the fees they desire for access to their write transaction entitlements.



# Pricing

## Disclaimer

The concepts outlined herein provide an informational synopsis for the use of the Utility and participation in the Directed Fund. The executable [BBU Participation Agreement](#) (the "Participation Agreement"), specifically [Exhibit C](#), supersedes this content.

## Currency

Unless specified otherwise, all fees are in USA Dollars.

## Membership Rates

The membership levels and associated fees are listed below.

Membership Class	Annual Membership Fees	Node Hosting Requirement	Write Transaction Entitlement
Governing Member	TBD	1	Unlimited
Operational Member	TBD	1	Unlimited
Subscriber	TBD	0	50

## Subscription Packages

Subscriber membership comes with a preset level of transaction entitlements per annual membership. Additional transactions can be acquired per annum according to the following table. While a Subscriber may purchase an unlimited number of entitlement packages, all unused transactions expire at years end without rollover./

Transaction Entitlements	Package Cost
50	TBD

## Process

### Membership

Members, excluding Associates, must be members of the [Linux Foundation](#) to qualify as a member of the BBU. Refer to the legal and fee requirements outlined in the Participation Agreement. For instructions on how to become a member, please refer to [getting started](#).

**Note:** See [Issue 10](#) regarding Join v. Contact Us.

### Subscription Plans

Please visit the [BBU Subscription Procurement](#) website.

## Usage

Non-members who desire to submit transactions to the Utility will need to contract directly with members who are providing Transaction Endorser services. The BBU has no authority over the fee schedules associated with the services of Transaction Endorsers. Each Transaction Endorser can and / or sell their transaction entitlements as they deem appropriate.



# Master Document

## Preface

This is an official document of the Bedrock Business Utility Governance Framework ("BBU-GF"). If [us](#).

## Version Control

- **Version:** 0.2
- **Governing Board Approval Date:** TBD
- **Comments:** Ratification of the BBU-GF will take place upon the formation of the Governing Board.
- **Status:** BBU Governance Framework Working Group is currently developing the BBU-GF.

## Acknowledgements

This document was produced on behalf of the BBU Governing Board by the BBU Governance Framework Working Group.

## Introduction

The purpose of the Bedrock Business Utility is to provide a decentralized global public utility for the [One Public Utility Governance Framework](#) under the guidance of the [ToIP Utility Foundry Working Group](#).

toip-stack

The BBU-GF leverages the principles, policies, terminology, and standards necessary to enable true interoperability.

A key objective of the BBU-GF is to address any concerns or risks that Consortium members may have regarding the General Data Protection Regulation (GDPR), the California Consumer Privacy Act (CCPA), and the Canadian Personal Information Protection and Electronic Documents Act (PIPEDA).

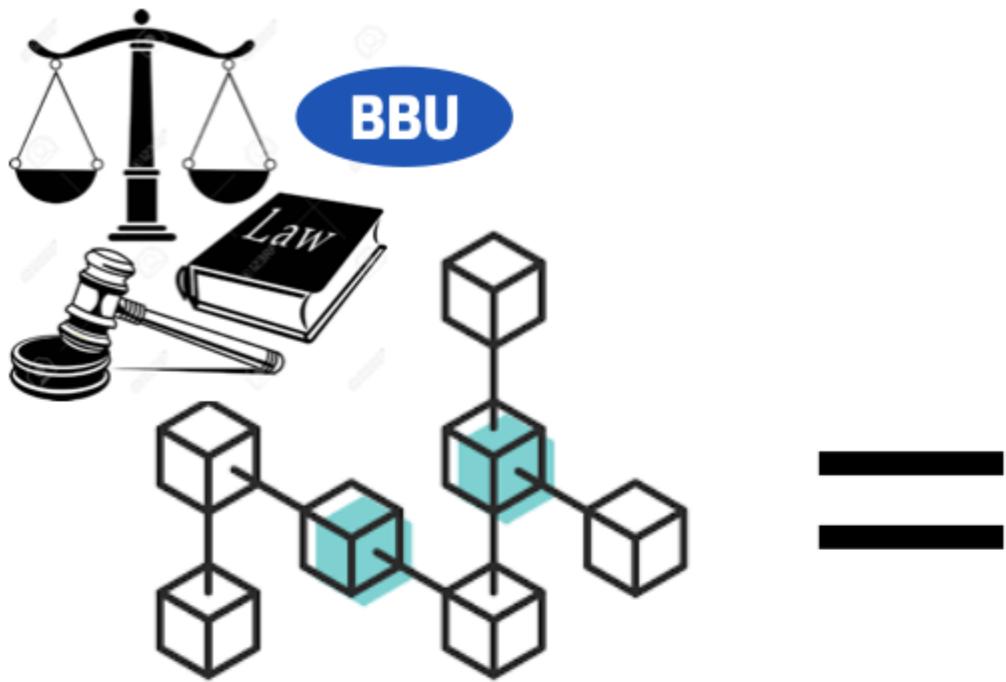
The purpose of the Bedrock Consortium is to administer decentralized governance for Bedrock Business Utilities.

# Governance Framework

## Governance Documents

The BBU-GF formally consists of a set of interrelated documents that collectively form the government's governance framework. The documents are color-coded based on their purpose:

- White** = Informative.



## **Bedrock Business Utility Governance Framework (BBU-GF )**



Category	Name	Description
Primary (White)	Bedrock GF Whitepaper	Introduction to the framework
Primary (Blue)	Bedrock Governance Framework (BBU-GF) Master Document	The “constitution” of the framework
Primary (Blue)	Bedrock Glossary	A comprehensive glossary of terms
Primary (Yellow)	Bedrock Trust Assurance Framework	This document defines the trust assurance process
Legal (Blue)	Bedrock Business Utility Participation Agreement	Contractual instrument
Legal (Blue)	Bedrock Steward Agreement	Contractual instrument
Legal (Blue)	Bedrock Steward Data Processing Agreement	Contractual instrument
Legal (Blue)	Bedrock Transaction Endorser Agreement	Contractual instrument
Legal (Blue)	Bedrock Transaction Endorser Data Processing Agreement	Contractual instrument
Legal (Blue)	Transaction Author Agreement	Contractual instrument
Controlled Documents (Blue)	Governing Body Policies	The governance of the framework
Controlled Documents (Blue)	Ledger Access Policies	Governing policies
Controlled Documents (Blue)	Member Business Policies	Governing qualifications
Controlled Documents (Blue)	Member Technical Policies	Governing the service
Controlled Documents (Blue)	Economic Policies	Governing economy
Controlled Documents (Blue)	Bedrock Certification Mark Policies	Governing the ecosystem

## Core Principles

See [BBU Principles](#).

## Core Policies

In keeping with all Core Principles and especially the Decentralization by Design and Security by Design principles:

1. Policies, practices, procedures, and algorithms governing participation of [Stewards](#) and operational partners.
2. The Consortium MUST publish the following Controlled Documents managed as specified by the [Controlled Document Management System](#):

## Inclusion

In keeping with the Inclusive by Design principles but in recognition of the permissioned write structure:

1. Read access to the Bedrock Business Utility MUST be open to all types of entities.
2. Write access will be limited to members and non-members in good standing within the Consortium.
3. Write access will be limited to members and non-members that have signed the necessary [User Agreement](#).

## Trust Assurance

In keeping with all Core Principles and especially the Decentralization by Design principles:

1. The Consortium MUST specify policies, practices, and procedures for assessing conformance to the [Controlled Documents](#) developed by the Governing Bodies. The Controlled Documents may leverage resources and guidance from the [Controlled Document Management System](#).
2. The Bedrock Consortium MUST publish a Bedrock Trust Mark Policies as a Controlled Document.

## Economics

In keeping with the Sustainability principle:

1. The Consortium MUST publish the Bedrock Economic Policies as a Controlled Document managed by the [Controlled Document Management System](#).
2. The Consortium MUST manage Ledger Fees and any mechanism used for paying them to ensure the [Bedrock Business Utility](#) is sustainable.
3. The Consortium MAY retain a qualified Auditor to publish an annual public audit of Consortium financials.

## Governance

The Bedrock Governance Framework Master Document and the Controlled Documents listed in Appendix A.

## General

1. The Consortium MUST publish BBU Governance Bodies as a Controlled Document managed by the Bedrock Consortium.
2. BBU Governance Bodies MUST specify the Bedrock Consortium Governing Body for each Control Document.
3. All BBU-GF documents, including Controlled Documents, MUST use keywords in policies as defined in the [Controlled Document](#) section of this document.
4. All BBU-GF documents MAY be revised to add non-normative content, such as references to additional documents or external links.

## Source Control

All BBU-GF documents will reside in a [Github source control repository](#) and will use the associated version control system.

## Approved Framework Process

1. Stable versions of the BBU-GF must be approved by the Board of Directors.
2. Approved versions need to be specified in the [Version Control](#) section of this document.
3. A static PDF file associated with the approved version MUST be stored in the [/pdf/approved](#) directory.
4. [Appendix A](#) of this document must be updated to point to the newly approved PDF file.

## Master Document Revisions

These policies apply to any normative revision to the present document, exclusive of [Appendix A](#). 1. Decisions made by the Consortium no later than the time of commencement. 3. Decisions in the revision process involving the present document MUST be approved by a supermajority vote of at least two-thirds of the Governing Board and before the present document is published.

## Controlled Document Revisions

These policies apply to any normative revision to the Controlled Documents listed in [Appendix A](#). 1. Decisions made by the Consortium no later than the time of commencement. 2. A Controlled Document MUST be stored in and use the source control mechanism defined in the [Controlled Document](#) section of this document.

## Appendix A: Controlled Documents

The following Controlled Documents are normative components of the BBU-GF. All framework components

1. A static PDF document representing the entire governance framework in a single document.
  - Latest compilation of material from the GitHub Repo
  - Official Governing Board Approved Version
2. A sub-section of the [BBU website](#) so that all documentation is easily navigated.
3. Independent markdown files ( `.md` ) in the [GitHub Repo](#).

## Definitions

Document Name	Description	Governed By
BBU Glossary	Definitions of all terms used in the BGF	Governance Framework
Governing Bodies	Definitions of governing bodies within the Consortium	Bedrock Governing Board
Ledger Transaction Data	Defines the data and metadata process by a Steward Node	Technical Steering Committee

## Specifications

Document Name	Description	Governed By
Decentralized Identifiers	<a href="#">Specification for DIDs and DID documents</a>	W3C Credential Working Group
BBU DID Method 1.0 Specification	Specification for the BBU DID Root Namespace. See <a href="#">Issue 13</a>	Technical Steering Committee
Verifiable Credentials Data Model 1.0	<a href="#">Specification for verifiable credentials</a>	W3C Verifiable Credentials Working Group

## Policies

Document Name	Description
Governing Body Policies	Chartering and functioning of BBU Governing Bodies
Ledger Access Policies	Read and write access to the Bedrock Business Utility
Member Business Policies	Member qualification, enrollment, and operational status
Membership Technical Policies	Technical requirements for operating and protecting components of the BBU infra
Economic Policies	Budgetary policies for the BBU.
Trust Mark Policies	Acceptable uses of the Bedrock Trust Mark

## Frameworks

Document Name	Description	Governed By
Trust Assurance Framework	Trust assurance for BGF actors	Governance Framework Working Group



# Glossary

The Industry working on a convergence of industry terms between several glossary efforts, namely:

- [ToIP Glossary](#)
- DIF Glossary Working Group](<https://dif.groups.io/g/glossary>)
- [Sovrin Glossary](#)
- [NIST Glossary: A Taxonomic Approach to Understanding Emerging Blockchain Identity Management Systems \(p50-51\)](#)

The contents herein are considered additional terms specific to the **Bedrock Business Utility**.

Note: See [BBU Issue 12](#)

## Steward

A general term for an organization that is responsible for providing and maintaining a portion of the infrastructure necessary to establish a public identity utility. Minimally, the organization must meet the requirements to be a member of the public identity utility and must operate at least one `Node`.

## Node

A computer network server running an instance of the code necessary to operate a distributed ledger or blockchain. In the Bedrock Consortium, a Node is operated by a Steward running an instance of the Bedrock Open Source Code to maintain the Bedrock Business Utility ( or DID Ledger). A Node must be either a Validator Node or an Observer Node.

## Bedrock Open Source Code

The computer software that is installed on all Nodes associated with the Bedrock Business Utility (BBU). This code determined by the Bedrock Board of Directors.

The BBU adheres to code selection and version guidance provided by the Technical Steering Committee ("TSC") of the Bedrock Technical Project. The TSC collaborates within the Hyperledger Indy Project of the Linux Foundation to establish a TSC approved version of Hyperledger Indy within the the Bedrock Code Repository managed by the TSC.

## Bedrock Ledger Environments

The corpus of DID Ledgers used by the Bedrock Consortium to operate the Bedrock Business Utility. For example: `prod`, `test`, and `dev`.

## DID Namespace

Building on URI Standards, the DID Specification allows for both root namespace (`did:xxx`) and sub-namespace (`did:xxx:yyy`) conventions.

## Governing Body

An organization or consortium that is responsible for the management of an Identity Utility Network.

## Backbone Network

A distinct system of domain specific ledgers operated by decentralized peer nodes and associated with a DID Namespace. Governed by its own governance framework. See also *Identity Utility Network*.

## Peer-Net (*Deprecated*)

A distinct system of domain specific ledgers operated by decentralized peer nodes and associated with a DID Namespace. Governed by its own governance framework. See also *Backbone Network*.

## Network of Networks

A decentralized collection of discoverable and interoperable Identity Utility Networks. The internet is an exemplar of a network of networks structure based on DNS and URI standards.

## DID Ledger

A distinct system of domain specific ledgers operated by decentralized peer nodes and associated with a DID Namespace. See *Identity Utility Network (IUN)*

## Identity Utility Network (IUN)

A distinct system of domain specific ledgers operated by decentralized peer nodes and associated with a DID Namespace. Preferably built on Hyperledger Indy, this `DID Ledger`, is governed by an independent governing body and its own governance framework. Due to the overuse of terms such as "Network" and "Ledger", the term "Utility" has been accepted by the Bedrock Consortium to allow for additional clarity. See also *Backbone Network*.

## Remote Identity Utility (Remote IUN)

An Identity Utility Network associated with a DID Root Namespace that operates under its own Governance Framework.

## Decentralized DID Namespace Registry (DDNR)

Provides registration, discovery, and access for an Identity Utility Network.

## Identity Utility Administrator

See *Utility Service Provider*

## **Utility Service Provider**

The provider of operational and maintenance services for an Identity Utility Network.

## **Trustee**

An Identity Owner entrusted with specific identity control responsibilities by another Identity Owner or with specific governance responsibilities by a Governance Framework. See *Recovery Key Trustee*

## **Consortium Trustee**

A Trustee who is a member of the Bedrock Consortium Board of Directors. The trust in Consortium Trustees is bestowed collectively on behalf of all Identity Owners.

## **Key Recovery**

The process of recovering access to and control of a set of Private Keys—or an entire Wallet—after loss or compromise. Key Recovery is a major focus of the emerging DKMS standard for cryptographic key management. See also Recovery Key.

## **Recovery Key**

A special Private Key used for purposes of recovering a Wallet after loss or compromise. In the DKMS key management protocol, a Recovery Key may be cryptographically sharded for secret sharing among multiple Trustees.

## **Recovery Key Trustee**

A Trustee trusted by another Identity Owner to authorize sharing back a Recovery Key for purposes of restoring a Wallet after loss or compromise.

## **Membership Management System**

The means by which the Governing Board tracks membership entitlements and status. This MAY be implemented via a Salesforce tenant operated by the Linux Foundation with custom hooks into the Bedrock Business Utility.

## **Digital Trust Ecosystem**

An interdependent group of enterprises, people and/or things that share a standardized trust model for mutually beneficial purposes, such as consumer and commercial interactions that are verifiable.

## **CLI Private Key**

The Private-Key used by a Steward when interacting with the Indy CLI.

## **Validator Private Key**

The Private-Key used by the Validator Node when performing concensus.



# Governing Bodies

## Governing Bodies

This is a Controlled Document of the Bedrock Governance Framework was approved by the Bedrock Consortium Board of Directors.

Document Name	Bedrock Governing Bodies
Version	v0.9
Approval Date	
Status	Pre-Launch Phase: Governance Framework Development
Governs	Governance bodies within the Bedrock Consortium
Governed By	Bedrock Consortium Governing Board

This document lists all official governing bodies of the Bedrock Consortium Foundation as determined by the Bedrock Consortium Board of Directors.

**NOTE** This document is pending resolution to [Issue 19](#).

## Preface

1. All Bedrock Consortium Governing Bodies operate under the Bedrock Consortium Governing Body Policies.
2. By default, all Governing Bodies will leverage the Wiki assigned by the [Linux Foundation Groups Collaboration Tool](#). See [Issue 18](#)
3. For access to the current membership roster, meeting information, agenda, and the minutes of any Bedrock Consortium Governing Body, follow the link to its meeting page.

4. Unless otherwise noted, membership in any governing body is limited to BBU members in good standing.

## Governing Board

The Bedrock Consortium Governing Board is the overall governing body of the Bedrock Consortium Foundation. It is chartered by the Bedrock Business Utility Fund as stated in the Participation Agreement. The Governing Board is composed of **Governing Members** who have the obligation to represent the interests of the Identity Owners of the Bedrock Consortium Community.

- **Charter Location:** [Participation Agreement \(MS-WORD\)](#)
- **Suggested Participant Skills:** The strategic thinking leaders that have some degree of technical and business problem solving skills. People management and contract negotiation experience is a plus. A passion for understanding public identity utilities and a stakeholder in the success of an interoperable digital trust marketplace.

It has sole authority for:

1. Approving the charters of all Bedrock Consortium Governing Bodies.
2. Approving at least one chairperson of each Bedrock Consortium Governing Body.
3. Approving new versions of the BBU Governance Framework.
4. Approving new versions of each Controlled Document.

## Technical Steering Committee (TSC)

The Technical Steering Committee is responsible for the technical design, architecture, and policies governing Bedrock Consortium Infrastructure. Membership in this committee is open for all but it should be comprised of representatives from the Consortium members. The Chair of this committee MUST be a representative of the Steward community.

- **Charter Version:** xx

- **Charter Approval Date:** 2020-xx-xx
- **Charter Location:** [Technical Steering Committee Charter](#)
- **Meeting Page Location:** [Technical Steering Committee Meeting Page](#)
- **Suggested Participant Skills:** Understanding of distributed ledger technology and willingness to learn Hyperledger Indy ("Indy"). Preferred candidates will have experience deploying Indy nodes and optimally contributing to Indy. Ideally, candidates should be willing and able to contribute to Indy once they join the Committee. Candidate should also possess strong communication skills and ability to work with members of a *Utility Service Provider*.

## Governing Board Subgroups

Excluding the TSC, all Committees and Working Groups are governed by and fall under the the Governing Board.

## Membership Committee

The Chair of this committee MUST be a representative of the Steward community.

The Membership Committee has the following responsibilities:

1. Communications amongst members
2. Membership campaigns to keep membership numbers stable for sustainability
3. Gathering and synthesizing feedback from members for consumption by the BoD.
4. **Charter Version:** xx
5. **Charter Approval Date:** 2020-xx-xx
6. **Charter Location:** [Membership Committee Charter](#)
7. **Meeting Page Location:** [Membership Committee Meeting Page](#)
8. **Suggested Participant Skills:** Passion and willingness to learn of the foundational concepts of a public identity utility. Candidate should have

strong communication and presentation skills. Persistent negotiation tactics are a plus. Basic tools like Google Docs, MS-Excel and MS-Word are required.

## Finance Committee

The Chair of this committee MUST be a representative of the Steward community.

The Finance Committee has the following responsibilities:

1. Budget Management
2. Utility Service Provider Bid Process
3. **Charter Version:** xx
4. **Charter Approval Date:** 2020-xx-xx
5. **Charter Location:** [Finance Committee Charter](#)
6. **Meeting Page Location:** [Finance Committee Meeting Page](#)
7. **Suggested Participant Skills:** Experience in providing financial analysis, advice, and oversight of an organization's budget (large or small). Candidate should have strong negotiation, communication and presentation skills. Basic tools like Google Docs and MS-Excel are required. Ability to model budgets is preferred.

## Marcom Committee

The Marketing and Communications ("Marcom") Committee is responsible for assisting the Governing Board in fulfilling marketing and external communication activities. Marcom is targeted interactions with members and prospects using a variety of communication mechanism.

- **Charter Version:** xx
- **Charter Approval Date:** 2020-xx-xx
- **Charter Location:** [Marcom Committee Charter](#)
- **Meeting Page Location:** [Marcom Committee Meeting Page](#)
- **Suggested Participant Skills:** Excellent communicator that is passionate about the BBU and the role it serves. A big picture thinker with an eye for

detail. Ability to collaborate and manage projects to timely completion. Knowledgeable about a broad variety of communications channels and how to be creative within the parameters of the Linux Foundation. Basic tools like Google Docs, MS-Excel and MS-Word are required.

## Governance Framework Working Group

The Bedrock Governance Framework Working Group (BGFWG) is responsible for development and revision of the BBU-GF. The Chair of this working group MUST be a representative of the Steward community.

- **Charter Version:** xx
- **Charter Approval Date:** 2020-xx-xx
- **Charter Location:** [Governance Framework Working Group Charter](#)
- **Meeting Page Location:** [Governance Framework Working Group Meeting Page](#)
- **Suggested Participant Skills:** Problem solvers that can minimally generate and maintain content using [Markdown](#). Must possess a willingness to learn new tools and must not be shy of GitHub. Must be willing to pair with others to solve governance issues. Must be willing to work with legal professionals on the formation and maintenance of contractual instruments. Basic tools like Google Docs and MS-Word are required. Experience with GitHub is preferred.

# Bedrock Consortium Bylaws

The Bedrock Consortium Charter, as represented in "Exhibit B" of the [Bedrock Consortium Participation Agreement](#), describes the bylaws of the **Bedrock Consortium**.



# Governing Body Policies

## Governing Body Policies

This is a Controlled Document of the Bedrock Governance Framework was approved by the Bedrock Board of Directors.

Document Name	Bedrock Consortium Governing Body Policies
Version	
Approval Date	
Status	Pre-Launch Phase: Governance Framework Development
Governs	Chartering, Types and Membership, Chairpersons, Facilitators, Voting, Self-Organization, Meetings
Governed By	Bedrock Consortium Governing Board

**NOTE:** \* See [Issue 17](#) \* See [Issue 20](#)

### 1. Chartering

1. The organizers of a new Bedrock Consortium Governing Body MUST submit a charter to the Bedrock Governing Board.
2. The charter MUST be based on the Bedrock Consortium Governing Body Charter Template made available by the Secretary of the Bedrock Consortium BoD.
3. This template MUST include:
  - a. Version number and date of approval.
  - b. General Policies.
  - c. Status (see Types and Membership, below).
  - d. Purpose.

- e. Principles (if any beyond the Core Principles).
  - f. Activities and Duties.
  - g. Membership.
  - h. Chairperson(s).
  - i. Facilitator(s).
  - j. Voting.
  - k. Funding.
  - l. Meeting Schedule.
  - m. Meeting Page.
  - n. Version History.
4. The version history MUST include the version numbers, dates, and links to all previous versions.
  5. After the required public review period (see Bedrock Consortium Governance Framework V2 M section 4.3), a new or revised charter MUST be approved by the Bedrock Consortium Governing Body before it becomes active.
  6. Once approved, information about the new or revised Bedrock Consortium Governing Body MUST be made available:
    - a. The Bedrock Consortium Governing Bodies Controlled Document, including all the information contained therein.
    - b. The Bedrock Consortium Foundation website.

## 2. Types and Membership

1. A Bedrock Consortium Governing Body MUST be one of the following types:
  - a. Council.
  - b. Committee.
  - c. Working Group.
2. All Bedrock Consortium Governing Bodies MUST:
  - a. Have at least one and MAY have up to three chairpersons, either appointed by the Bedrock Consortium Governing Board or elected by their members.
  - b. Have at least three members, including the chairperson(s).

c. State any other specific membership requirements in its charter.

3. A council:

- a. MUST have at least one chairperson appointed by the Bedrock Consortium Governing Body. If the chairperson is already a Trustee, shall serve as an ex-officio Trustee unless an exception is made by the Board.
- b. MAY limit the total number of voting members.
- c. MAY establish membership term limits.

4. A committee:

- a. SHOULD have a Trustee serving as at least one of its chairperson(s).
- b. MAY limit the total number of voting members.
- c. MAY establish membership term limits.

5. A working group:

- a. MUST be open to participation by any member of the Bedrock Consortium Community.
- b. MUST NOT establish membership term limits.

### 3. Chairpersons

1. A chairperson of a Bedrock Consortium Governing Body:

- a. MUST be a member of that Bedrock Consortium Governing Body.
- b. MUST NOT be an employee of the Bedrock Consortium Foundation unless an exception is made by the Board.
- c. SHOULD NOT be a chairperson of another Bedrock Consortium Governing Body.

2. If a Bedrock Consortium Governing Body has more than one chairperson, they MUST NOT be from the same organization.

### 4. Facilitators

- 1. A Bedrock Consortium Governing Body MAY have one or more facilitators.
- 2. It is NOT REQUIRED for a facilitator to be a member of that governing body.
- 3. An employee of the Bedrock Consortium Foundation MAY serve as a facilitator.

## 5. Subgroups

1. In keeping with the Decentralization by Design Principles (section 2.8 of the Bedrock Consortium Document), and in particular the Distributive principle (section 2.8.7), all Bedrock Consortium SHOULD self-organize and delegate work to subgroups as much as possible.
2. A Bedrock Consortium Governing Body MAY appoint the following types of subgroups as needed to support its mission:
  - a. Team – an ongoing subgroup organized around a focus area.
  - b. Task Force – a short-term subgroup organized to accomplish a specified task within a specific time frame.
3. An organized subgroup of a Bedrock Consortium Governing Body MUST be listed on its meeting page with information about how to participate in that subgroup.
4. An organized subgroup SHOULD maintain its own meeting page separate from but linked from the governing body's main meeting page.

## 6. Funding

1. A Bedrock Consortium Governing Body MAY request a specified level or type of funding in its budget.
2. A Bedrock Consortium Governing Body MAY make a special request for funding to engage outside contractors or other external resources to assist in their work provided any financial compensation is approved by the Bedrock Consortium Foundation Executive Director.

## 7. Voting

1. All Bedrock Consortium Governing Bodies SHOULD strive to reach decisions by consensus.
2. Consensus MAY be achieved via discussion at a web-meeting or face-to-face meeting or via a written communication mechanism, such as a mailing list, that provides adequate notice to all members and enables them to lodge an objection and request a formal vote.
3. When a formal vote is required, it MUST be conducted using a voting process agreeable to the members of the group, or if such an agreement cannot be reached, then under Roberts Rules of Order, Newly Revised, ISBN 978-0-306-82021-2.
4. If members feel that a decision has been reached improperly, they may appeal the decision to the Bedrock Consortium Governing Board who MUST serve as the final authority in all disagreements.

## 8. Intellectual Property Rights

1. In keeping with the mission of the Bedrock Consortium Foundation as an open public trust organization, contributions by participants in a Bedrock Consortium Governing Body MUST be free of intellectual property or other usage restrictions.
2. Excluding explicit contributions as defined in 8.1, participants in a Bedrock Consortium Governing Body retain all rights to their existing intellectual property and participation in a Bedrock Consortium Governing Body shall not be construed as a license to any existing intellectual property rights.

## 9. Meetings

1. In keeping with the Transparency Principle ( Bedrock Consortium V2 Master Document section 8.2), All Bedrock Consortium Governing Bodies:
  - a. MUST conduct open, transparent meetings with the exception of special closed sessions.
  - b. MUST only conduct special closed sessions (not open to the public) when the group needs to discuss sensitive matters where confidentiality is required due to:
    - i. Legal regulation.
    - ii. Security concerns (breach responses, confidential procedures, etc.).
    - iii. Steward concerns (policy violations, business transitions, etc.)
    - iv. Discrimination, harassment, or other human resource matters.
    - v. Other matters where confidentiality is advised by Bedrock Consortium Foundation legal counsel.
  - c. SHOULD conduct meetings that allow virtual participation whenever possible.

## 10. Meeting Pages

1. All Bedrock Consortium Governing Bodies MUST maintain a meeting page based on the Bedrock Consortium Governing Body Meeting Page Template .
2. A link to the meeting page for a Bedrock Consortium Governing Body MUST be included in the Bedrock Consortium Governing Bodies Controlled Document and on the Bedrock Consortium Governing Body Meeting Page Template .

3. The meeting page MUST include:

- a. All information about the group listed in Bedrock Consortium Governing Bodies , includin charter.
  - b. A list of the current chairperson(s).
  - c. A list of the current facilitator(s).
  - d. A list of current active members.
  - e. Information about how to join the group.
  - f. Information about any organized subgroups, including:
    - i. The name and purpose of the subgroup.
    - ii. Membership requirements.
    - iii. Instructions on how to participate.
    - iv. A link to the subgroup's meeting page, if applicable.
  - g. A schedule of open public meetings.
  - h. Information about how to participate in open public meetings (physical or virtual).
  - i. Information about how to participate in open public chat channels (e.g., Rocketchat).
  - j. Agendas and meeting minutes/notes listed in reverse chronological order.
  - k. Links to any archived versions of the meeting page.
4. The minutes or notes of each meeting MUST be recorded on or linked to the meeting page.
5. The meeting page SHOULD be periodically archived to prevent it from growing too large.

## 11. Reporting

1. All Bedrock Consortium Governing Bodies:

- a. SHOULD designate a member to attend and give a monthly report to the Bedrock Consort
- b. MUST submit a monthly summary report of activity to the Bedrock Consortium Governing
  - i. An oral report given during the monthly Governing Board meeting with a written summa Governing Board Meeting Page.
  - ii. A written report added to or linked to the Governing Board Meeting Page
- c. SHOULD send the same monthly report to the Steward mailing list.

2. The Secretary of the Bedrock Consortium Governing Board MAY request oral or written report



# Ledger Access Policies

This is a Controlled Document of the Bedrock Governance Framework was approved by the Bedrock Consortium Board of Directors.

Document Name	Bedrock Consortium Ledger Access Policies
Version	v0.9
Approval Date	
Status	Pre-Launch Phase: Governance Framework Development
Governs	Policies for reading and writing to the Bedrock Business Utility
Governed By	Bedrock Governance Framework Workgroup

## 1. Declaration of Intent

The Bedrock Business Utility (the "Utility") will operate with limited write access as specified by the Permissioned Write Access processing section declared herein.

The scope of these policies pertains to the full corpus of **Utility Environments**, namely all the ledgers associated with the Bedrock Business Utility (i.e.: prod, test, dev).

## 2. Recommended Reading

The terms used in this Controlled Document are more fully explained in the [Glossary](#), as well as in the [Legal Architecture Overview](#) which includes a visual diagram.

One topic pertinent to ledger access is the concept of a [Tombstone](#). A Steward MAY, for regulatory or individual business requirements, determine that it needs to forbid access to a ledger entry and therefore require the ability to mark the subject entry as "deleted". While the Bedrock Consortium has taken action to minimize such risk by prohibiting public write access, a *Tombstone* provides an added protection mechanism that will help mitigate risk for Stewards who are contractually obligated to carry out read and write transactions.

**The Utility will allow for Tombstones once this feature is implemented in Hyperledger Indy.** The Bedrock Consortium will collaborate with the Hyperledger Indy Community and the [Bedrock Technical Project](#) (the "Technical Project") to allow a Steward to:

1. Mark a Transaction as "deleted" thereby suggesting it should no longer be returned in response to requests for read access.
2. Declare a Transaction as "deleted" under one of two categories: *Node-Specific Tombstone* or a *Ledger-Wide Tombstone*.

Tombstones do not modify data on the ledger. Instead they impact the behavior of a Steward Node that serves data from the ledger. In the general, a Tombstone MAY be used by a Steward that is forced to comply with a legal demand to stop returning a specific Transaction, such as a Transaction containing data that is locally considered Personal Data or that is illegal or violates the Transaction Author Agreement in some other way. In such a case, other Stewards may not face the same legal demands and may take different action.

## 1. Transaction Author Agreement

1. The Bedrock Consortium MUST:
  - a. Publish a Transaction Author Agreement between a Transaction Author and the Bedrock Consortium (representing the Bedrock Business Utility as a whole) specifying the terms and conditions under which Transaction Authors agree to submit write Transactions to the Utility, including the policies defined in this Controlled Document.
  - b. Publish a Steward Data Processing Agreement (DPA) specifying the requirements for a Steward to serve as a Data Processor on behalf of

Transaction Authors as Data Controllers and the Bedrock Consortium as a Designated Data Controller.

- c. When necessary, revise the Transaction Author Agreement and the Steward DPA under the same policies as a Controlled Document as specified in the Governance section of the Bedrock Governance Framework Master Document.
  - d. Maintain a published version of the Transaction Author Agreement and the Steward DPA in the [Bedrock Consortium Code Repository](#).
2. A Transaction Author MUST agree not to submit Transactions that contain:
- a. Data that would violate the intellectual property rights of others.
  - b. Data that may not lawfully be written to the Utility, where the definition of applicable law in this context is provided in the Transaction Author Agreement.
3. A Transaction Author MUST agree not to submit a Transaction that contains Personal Data.
4. A Transaction Author MUST agree that if it is determined in a court of law that one or more Transactions made by the Transaction Author violated the terms and conditions of the Transaction Author Agreement, the Transaction Author consents to the marking of those Transactions with a Tombstone and, if possible, the revocation of the State Proof(s) pertaining to the Utility data for those Transactions.

## 2. Transaction Endorser Agreement

1. The Bedrock Consortium MUST:
- a. Publish a Transaction Endorser Agreement between the Transaction Endorser and the Bedrock Consortium specifying the terms and conditions under which Transaction Endorsers agree to write Transactions to the Utility, including the policies defined in this Controlled Document.
  - b. Publish a Transaction Endorser Data Processing Agreement (DPA) specifying the requirements for a Transaction Endorser to serve as a

Data Processor on behalf of Transaction Authors as Data Controllers and the Bedrock Consortium as a Designated Data Controller.

- c. When necessary, revise the Transaction Endorser Agreement and the Transaction Endorser DPA under the same policies as a Controlled Document as specified in the `Governance` section of the Bedrock Governance Framework Master Document.
  - d. Publish the current version of the Transaction Endorser Agreement and the Transaction Endorser DPA in the [Bedrock Consortium Code Repository](#).
2. A Transaction Endorser MUST adhere to membership entitlements that constrain the number of transactions that may be submitted as specified in the Transaction Endorser Agreement.
  3. A Transaction Endorser MUST:
    - a. Only submit Transactions from Transaction Authors who have explicitly agreed to the Transaction Author Agreement by physically signing a copy.
    - b. Maintain physical or digital evidence of conformance to this policy.

### 3. Permissioned Write Access

1. The scope of the policies defined in this section is defined as follows:
  - a. The policies in this section MUST apply to all Utility Environments.
  - b. The policies governing write access to non-production Utility Environments (i.e.: Dev, Test) MAY be defined separately by other Controlled Documents.
2. Bedrock Consortium Trustees are permitted to write Transactions to the Utility under the following rules:
  - a. This policy MUST apply only to Trustees acting in their role as Trustees of the Bedrock Consortium.

- b. A Trustee MUST only make the following Transactions if the Transaction has been approved by a motion of the Bedrock Consortium Board of Directors.
    - i. Add or remove a Trustee.
    - ii. Add or remove a Steward.
    - iii. Add or remove a Transaction Endorser.
    - iv. Update or receive updates from the Membership Management System.
  - c. A Trustee MAY make Utility maintenance Transactions if the Transaction is approved by either the Bedrock Consortium Board of Directors.
3. Bedrock Consortium members who are permitted to serve in the role of Transaction Endorsers MUST agree to the Transaction Endorser Agreement by submitting a physically or digitally signed copy to the Bedrock Consortium.
4. Transaction Authors are permitted to write Transactions to the Utility provided::
- a. Each Transaction includes a valid digital signature from the Transaction Author.
  - b. The Transaction is endorsed by an approved Transaction Endorser.
  - c. If the Transaction updates the state of a ledger-persisted data structure, it MUST be digitally signed by the same Transaction Author that recorded the previous state.

## 4. Public Write Access

1. Public Write Access is PROHIBITED.
2. All Utility Environments MUST adhere to Permissioned Write Access processing.

## 5. Public Read Access

1. The Utility MUST be publicly available for anyone to submit read transactions.
2. Stewards MUST provide public read access without cost for all Transactions on the Utility unless marked by a Tombstone.
3. Once Tombstone functionality has been:
  - a. implemented by the underlying ledger technology,
  - b. approved by the Bedrock Technical Steering Committee, and
  - c. approved by the Bedrock Consortium Board of Directors, a Steward MAY mark a Transaction as a Node-Specific Tombstone if:
    - i. Requested by the Transaction Author of a Transaction for a valid reason as specified by the Transaction Author Agreement.
    - ii. Required of the Steward by a court order.
    - iii. The Steward has evidence that the Transaction violates the terms and conditions of the Transaction Author Agreement.
4. A Steward MUST NOT use a Node-Specific Tombstone for any other reason.
5. Ledger-Wide Tombstones MUST NOT be implemented until policies governing their usage are published in a future version of this Controlled Document.

NOTE: Ledger-Wide Tombstones are not planned in the near future.



# Ledger Data Policies

## Ledger Data Policies

This is a Controlled Document of the Bedrock Governance Framework was approved by the Bedrock Technical Steering Committee.

Document Name	Bedrock Ledger Transaction Data
Version	v0.9
Approval Date	
Status	Pre-Launch Phase: Governance Framework Development
Governs	Data and metadata processed by Nodes operated by Stewards in the course of completing a Transaction.
Governed By	Bedrock Technical Steering Committee

## Ledger

This document assumes that Member Validator Nodes ("Nodes") are all running instances of [Hyperledger Besu](#).

### Transaction Data

Data and metadata processed by Nodes operated by Members in the course of completing a transaction.

1. **Ledger Transaction Data Definitions:** Comply with the authoritative definitions for transaction data:
  - a. General Transaction Information
  - b. Domain Ledger Transactions
    - i. NYM
    - ii. ATTRIB
    - iii. SCHEMA

iv. CLAIM\_DEF

c. Pool Ledger Transactions

i. NODE

ii. Config Ledger Transactions

iii. POOL\_UPGRADE

iv. NODE\_UPGRADE

v. POOL\_CONFIG

2. Ledger Transaction Requests: The authoritative definition of requests for Transactions with the following types:

a. Ledger Node Requests

## Anoncreds Workflow

The diagram below describes how and when data is written to the Ledger. For a detailed discussion of the Anoncreds workflow, see the Anoncreds Overview.

**Walleted Issuer**



# Member Business Policies

This is a Controlled Document of the Bedrock Governance Framework was approved by the Bedrock Consortium Board of Directors.

Document Name	Member Business Policies
Version	v0.9
Approval Date	
Status	Pre-Launch Phase: Governance Framework Development
Governs	Steward Qualification, Application, Activation, Operation, Notification, Suspension, Termination,
Governed By	Bedrock Governance Framework Work Group

## 1. Member Qualification

See [Issue 21](#) for review.

### General

Prospective members MUST apply to the Governing Board and receive approval to be a Member of the Consortium. See [Application](#) process herein.

### Stewards

Prospective members seeking qualification under a membership type that is assigned the responsibility of running a utility infrastructure node MUST be:

1. A corporate member of The Linux Foundation.

2. A business entity that is identifiable with at least one of the following business verification services:
  - a. [DUNS Number Lookup](#)
  - b. [Legal Entity Identifier Lookup](#)

## Subscribers

Prospective members seeking qualification as a Subscriber MUST be:

1. A corporate or affiliate member of The Linux Foundation.
2. An entity that meets one of the following criteria:
  - a. A business entity that is identifiable with at least one of the following business verification services:
    - i. [DUNS Number Lookup](#)
    - ii. [Legal Entity Identifier Lookup](#)
  - b. A governmental body or agency, or an entity predominantly owned and controlled by the state or local government in which it has its principal place of business, or a political subdivision of such a jurisdiction as defined in the [Glossary](#).
  - c. A governmentally regulated institution with at least five (5) years operating history.
  - d. A law firm, accounting firm, or other legally-regulated institution with at least five (5) years operating history.
  - e. A non-governmental organization (NGO) or Social Purpose Organization with at least five (5) years operating history.
  - f. An accredited university or other institution of higher education with at least five (5) years operating history.
  - g. A certificate authority (CA) with at least five (5) years operating history.

## 2. Application Process

See [Issue 22](#).

## Prospective Member

To apply, an entity MUST submit a written application to the Membership Committee as directed on the Consortium website.

## Membership Committee

The committee MUST:

1. Ensurer that all specific Practices and Procedures involved in the Member application process are documented on the Bedrock Consortium website.
2. Ensure that Member application process follows the guidelines for Self-Certification, Certification and Accreditation as specified by the Bedrock Consortium Trust Assurance Framework.
3. Ensure that the application form available upon request and minimally publicly documented on the Consortium's BBU-GF source control repo and/or website.
4. Notify the Linux Foundation of approved applications.
5. Notify applicants of application approval/rejection status.

## Governing Body

The Governing Board MUST:

1. Take action on applications within 30 days of receipt.
3. Activation

## Stewards

A Steward SHOULD submit a utility infrastructure node to the Identity Utility Administrator using the process outlined by the Technical Steering Committee after the following dependencies have been resolved:

1. Have their application approved by the responsible Bedrock Consortium Governing Body.
2. Complete the onboarding process with the Linux Foundation including the signature of all pertinent contractual instruments.

Before a Member may qualify to have an active Validator Node on the Utility, the Member MUST:

1. Pass any required tests on the Bedrock Consortium Test Network as specified by the Technical Steering Committee and documented in the Bedrock Consortium Code Repository.

After a Member has qualified to have an active Validator Node, the Member MUST designate the Utility environment(s) (e.g., prod, test, dev) which their Node may be activated.

1. The Member MUST make this designation following the procedures specified by the Technical Committee.
2. The Member MUST designate activation in at least one Utility environment.
3. The Member MAY designate activation in more than one Utility environment.
4. The Member MUST have at least one node designated for production.

## 4. Operation

1. A Member MUST operate its Node in compliance with the Member Technical and Organization Requirements.
2. A Member MUST requalify at least annually via the requalification process in effect at that point in time, as specified by the responsible Bedrock Consortium Governing Body and documented on the Bedrock Consortium website.

## 5. Notification

1. A Member MUST maintain current contact information for its business and technical points of contact, sufficient to ensure its staff are reachable in a timely manner.
2. A Member MUST notify the responsible Bedrock Consortium Governing Body if:
  - a. There is a change to the beneficial ownership of its Organization.
  - b. There is a change to the Member's legal name, trademark, or logo.
  - c. The Member changes the values of any of the Member's attributes submitted in the Member application, including legal jurisdiction, legal status, Node location, Node hosting type, or technical specifications, that are material to the Node Selection Algorithm.
  - d. There is any other substantial change to its Organization that impacts the qualification criteria in the Member Qualification section.
  - e. It suffers a data breach or other public event which may reasonably call into question its ability to comply with the Governance Framework.
3. In the case of any of the changes listed in #2 above, the responsible Bedrock Consortium Governing Body MAY require the Member to requalify.

4. The Bedrock Consortium MUST provide Members with at least 30 days notification of any major changes to the business policies implemented in Bedrock Consortium Network environments. Information about technical changes is covered under Bedrock Consortium Member Technical and Organizational Policies .

## 6. Suspension

1. A Member MUST be suspended by the responsible Bedrock Consortium Governing Body under the following conditions:
  2. The Member no longer complies with the Member Business Policies, Member Technical and Organizational Policies, or any other requirements of the Bedrock Consortium Governance Framework.
    - a. The Member's Node has failed to achieve 98% availability over a period of 30 days.
    - b. A security intrusion or violation has been reported and the Technical Steering Committee is satisfied that the Member has performed adequate remediation.
    - c. The Member fails to requalify under its annual requalification process specified in section 5.
    - d. The Member has, in the sole judgment of the Bedrock Consortium Board of Directors, violated all of the Governance Framework principles, taken action against the purpose of the Bedrock Consortium, or has shown behavior contrary to the collective interest of the Bedrock Consortium, or performed action that brought the Bedrock Consortium or the Consortium into disrepute.
  3. A Member who is suspended MUST not have an active Node on any Bedrock Consortium Ledger until such time as Member is able to provide reasonable assurance to the responsible Bedrock Consortium Governing Body that:
    - a. The Member is back in compliance with all requirements of the Bedrock Consortium Governance Framework, and
    - b. The Member has the ability to maintain compliance for the foreseeable future.
  4. At the request of a suspended Member, the responsible Bedrock Consortium Governing Body will examine the Member's remediation efforts and make one of the following decisions:
    - a. Reactivate the Member.
    - b. Request further remediation by the Member.
    - c. Terminate the Member.

## 7. Termination

1. A Member who has breached the terms of the Participant Agreement and/or associated Utility  
MAY be terminated by a majority vote of the responsible Bedrock Consortium Governing Body  
ratification by the Board of Directors.
2. A Member who has been suspended and not been reactivated within 180 days following suspen  
be notified of automatic termination.
3. An Organization who has been previously terminated as a Member and who applies to be reir  
disclose the previous termination in their application and explain the remediation steps that th  
has taken to requalify.



# Member Technical and Organizational Policies

This is a Controlled Document of the Bedrock Governance Framework was approved by the Bedrock Board of Directors.

Document Name	Member Technical and Organizational Policies
Version	v0.9
Approval Date	
Status	Pre-Launch Phase: Governance Framework Development
Governs	General Security Policies, Node Technical Policies, General Security Policies, Node Security Policies
Governed By	Bedrock Governance Framework Work Group, Bedrock Technical Steering Committee

## 1. Ledger Software Policies

1. The Bedrock Board of Directors **MUST** decide the software technology and version used by all nodes in the network. This includes the consensus algorithm, the ledger database, and the node code.
2. The Bedrock Board of Directors **MUST** require the TSC to establish best practices for continuous monitoring and reporting of node health.
3. The Bedrock Board of Directors **MUST** require the TSC and/or the Utility Service Provider to develop a process for identifying and addressing security vulnerabilities as they are recognized and act when upgrades are available.
4. The Bedrock Board of Directors **MAY** leverage the Technical Steering Committee (TSC) or another group to provide guidance on software selection and implementation.
5. The Bedrock Board of Directors **SHOULD** require the TSC and/or the Utility Service Provider to develop a process for handling software updates and downtime.
6. The Bedrock Board of Directors **MUST** require the TSC and/or the Utility Service Provider to clearly define the responsibilities of each node in the network during downtime.
7. The Bedrock Board of Directors **SHOULD** require the TSC and the Utility Service Provider to RECOMMEND that Stewards stand up their own Hyperledger Indy nodes when standing up their Steward node if they are not going to procure Node-aaaS from a Hostin...

## 2. General Security Policies

1. A Member MUST maintain and follow IT security policies and practices that are integral to the Member's Business Continuity and Disaster Recovery Plan ("BCDR Plan"). These policies and practices must be mandatory for all employees of the Member, including the CIO or another officer to provide executive oversight for such policies, including formal governance, risk management, and compliance processes.
2. A Member MUST review its IT security policies at least annually and amend such policies as necessary to reflect changes in the Member's operations and environment.
3. Because Node administrators are a potential threat vector, a Member MUST maintain and follow strict access controls and monitoring procedures. Employees involved with providing its Member Services and will extend such requirements to wholly-owned entities and joint ventures. In addition to the Member's internal process and procedures, these requirements MUST be periodically reviewed and updated, including regular audits, validation, and additional checks as deemed necessary by the Member. Each Member company is responsible for ensuring that its Node administrators are subject to the same level of security and compliance requirements as the Member and are held to the same standards of conduct and behavior. Such requirements may include, but are not limited to, mandatory two-factor authentication, regular password changes, and adherence to industry best practices.
4. Employees of a Member involved with providing its Member Services MUST complete security training and certification programs that cover the Member's ethical business conduct, confidentiality, security, privacy, and data protection policies. Such training and certification programs must be conducted on an annual basis and must include modules on administrative access to components that are specific to their role within the Member's operations.
5. If a Member hosts its Node in its own data center, the Member's security policies MUST also apply to the Member's internal processes and procedures.
6. If the Member hosts its Node using a third-party Hosting Provider, the Member MUST ensure that the Hosting Provider complies with the requirements in this document.
7. A Member MUST make available to the Bedrock Consortium upon request evidence of stated compliance and operational performance, including certificates, attestations, or reports resulting from accredited third-party audits, such as SOC 2, ISO 27001, and PCI DSS.

## 3. General Node Policies

A Member Node:

1. MUST be available to run as a Validator Node or Observer Node on any of the formal ledgers maintained by the Bedrock Consortium.
2. MUST run a release of the Bedrock Open Source Code that has been approved and designated by the TSC.
3. MUST facilitate an upgrade to a new version of the Bedrock Open Source Code within three (3) months of the release date, unless otherwise specified by the TSC.
  - a. recommended by the TSC, and
  - b. accepted by the Bedrock Consortium.
4. MUST register all Node configuration data in a timely manner and keep information up to date.

5. MUST have at least two (2) IT-qualified persons assigned to administer the node, and at least one of them must be available 24x7 to respond to an emergency, such as the network being unable to reach consensus or being under attack. See the Node Security section for more information.
6. MUST supply contact info for all administrators to the Bedrock Consortium, whose accuracy is checked every 24hrs).
7. MUST recover the system from failure in one hour or less.

## 4. Node Technical Policies

For all ledgers within the Utility environments list, the following requirements apply to Nodes on the ledger. Members MAY implement the following requirements for Nodes on ledgers that are for non-production purposes.

1. MUST run on robust server-class hardware.
2. If a Node is run on a VM, the Member:
  - a. MUST run on a mainstream hypervisor that receives timely patches from its vendor or community.
  - b. SHOULD apply hypervisor patches on a regular basis.
3. The Node MUST run in an OS that is dedicated to the validator, i.e., a single-purpose (physical or virtual) OS that is specifically approved by the TSC, and MUST NOT run any other software. Software required to support the validator's function is considered approved as a general category. However, Members should discuss with the TSC any software that is not specifically approved.
4. MUST run a server with compatible versions of the operating systems supported by the Hypervisor.
5. MUST have adequate compute power (in late 2020, 8 or more cores is considered adequate).
6. MUST have adequate RAM (in late 2020, 32 GB of RAM is considered adequate).
7. MUST have at least 1 TB, with the ability to grow to 2 TB, of reliable (e.g., RAIDed) disk space.
8. MUST have a high-speed connection to the internet with highly available, redundant pipes (as defined by the TSC).
9. MUST have the following dedicated NICs:
  - a. a public NIC for all Validator-to-Validator consensus traffic that is a stable, static, world-wide IP address.
  - b. a private NIC for all CLI-to-Validator traffic
10. MUST prevent traffic originating from the Validator node to reach the Validator's intranet domain.
11. MUST be implemented in a way that does not endanger Bedrock's high availability architecture. This includes having a higher responsibility for high availability than what is contemplated by the Node Selection Algorithm (e.g., using a different set of keys for each epoch), using exactly one set of keys to respond to BBU/Indy protocol traffic at any one time, and having a failover mechanism in place (or 30 seconds if not specified).

12. MUST have a system clock that is demonstrably in sync with well-known NTP servers.
13. SHOULD have a power supply consistent with high availability systems.

## 5. Node Security Policies

A Member:

1. MUST maintain its [CLI Private Key](#) on a separate machine from the machine that runs their node. The *Private Key* to authorize the Node to participate in the pool, and is thus the basis for trust for the Node. While it is not required to have high-end hardware, but in terms of IT best practices for security, it must meet or exceed the requirements of the TSC.
2. MUST provide certification that their Node runs in a locked datacenter with appropriate levels of physical security (other standards may also be acceptable).
3. MUST assert that their Node is isolated from internal systems of a Member (because the Validator will never be connected to privileged internal networks).
4. MUST assert that their Node, and its underlying systems, uses state-of-the-art authentication technologies.
5. SHOULD implement two-factor authentication for SSH access.
6. MUST NOT allow access (remote or local) to the Node or CLI systems by anyone other than authorized members of the Node's organization.
7. MUST apply the latest security patches within one (1) week or less (24 hours or less is recommended).
8. MUST attest that the Node runs on a server protected by a firewall that, at minimum:
  - a. Disallows public ingress except on ports used by the Node software (different machines may be used for different software components if required).
  - b. Optionally enables SSH, Remote Desktop, and similar remote access tools but constrains access to only authorized admins.
  - c. Locks down egress ports to limit the ability to jump from Node to some other location.
9. MUST run a set of TSC prescribed tools and receive TSC approval of the results before the Node can be added to the pool.
10. MUST run a set of TSC prescribed tools from time to time as requested by the TSC and provide the results to the TSC.

See [Issue 24](#).

## 6. Node Operating Policies

A Member:

1. MUST equip at least two (2) technical points of contact responsible for administering the Member's Node.
2. SHOULD aim to achieve at least 99.9% (three nines) uptime for their Node (this amounts to about 53 minutes of downtime per year).
3. SHOULD coordinate downtime with other Members in advance via a mechanism as determined by the Bedrock Consortium Governing Body.

## 7. Node Selection Algorithm

1. The TSC will take direction from the Bedrock Consortium Board of Directors, or a designated Entity, to define the requirements for the Node Selection Algorithm.
2. The selection of active Validator Nodes at any point in time, at least on the BBU, MUST be governed by the Node Selection Algorithm.
3. Non-technical inputs or policy decisions implemented by the Node Selection Algorithm MUST be transparent and auditable.
4. At any point in time, the Node Selection Algorithm MUST represent the TSC's best efforts at defining the Node Selection Algorithm based on the Bedrock Consortium's Governance Framework. Recognizing the inherent tension and tradeoffs between some of the following principles:
  - a. The Decentralization by Design principles, in particular the principles of Diffuse Trust and System Diversity.
  - b. The Security by Design principles, in particular the principles of System Diversity and Security.
5. A human-readable, understandable, and explainable description of the current design of the Node Selection Algorithm must be made available in the Foundation Code Repository and made visible to all Members via a web page on the Bedrock Consortium's website.

## 8. Reporting Policies

1. A Member MUST report to the responsible Bedrock Consortium Governing Body any substantive change.

## 9. Diversity Goals

While the *Node Selection Algorithm* will be tuned from time-to-time to address Performance as well as Security, the following diversity goals SHOULD be considered:

Concern
Should restrictions be applied that limit the number of nodes in the active Validator Pool that are hosted in a specific data center?
Should restrictions be applied that limit the number of nodes in the active Validator Pool that are hosted in a specific geographic region?
Should restrictions be applied that limit the number of nodes in the active Validator Pool that can be hosted on the same server?
Should restrictions be applied that limit the number of nodes in the active Validator Pool that can be hosted by the same hosting provider?

## IaaS Policy

1. If a Steward desires to take on the compliance costs for in-house hosting certification, this will be a significant cost.
2. Some Stewards MAY desire to meet the needs of their membership obligations using external cloud providers. These providers often offer world-wide data center coverage. The following SHOULD be considered when Stewards choose to host their Validator Pool in the cloud (e.g., *Software as a service (SaaS)*, or *Platform as a service (PaaS)*):
  - a. In 2019, [Gartner listed](#) the following top 6 global enterprise cloud providers: AWS, Microsoft Azure, Google Cloud Platform, IBM Cloud, Oracle Cloud Infrastructure, and SAP Cloud Platform. These providers have strict compliance requirements for Stewards:
    - i. Standards compliance and certification;
    - ii. Many (>15) availability zones across numerous (>5) geographic regions.
  - b. There is no simple way to determine the appropriate degree of granularity relative to geolocation of availability zones within a particular IaaS.
    - i. No more than 10% of total Active Validator Pool SHOULD be hosted in the same availability zone.
    - ii. Assuming an Active Validator Pool of 25, this would be no more than 2 nodes on any one availability zone.
  - c. To minimize the impact IaaS vulnerabilities may have on consensus, no more than 33% of the Active Validator Pool SHOULD be hosted in the same availability zone.
  - d. Assuming an Active Validator Pool of 25, this would imply that no more than 8 nodes should be hosted in the same availability zone.

## Hosting Provider Policy

The relationship between a Steward and a Hosting Provider is outside the scope of the BBU-GF. However, the BBU-GF Consortium SHOULD NOT insert itself into that decision making process.

While no restrictions are suggested, a Steward SHOULD expect hosting providers to offer multi-cloud across the BBU.



# Endorser Business Policies

## Transaction Endorser Business Policies

This is a Controlled Document of the Bedrock Governance Framework was approved by the Bedrock Consortium Board of Directors.

Document Name	Transaction Endorser Business Policies
Version	v0.9
Approval Date	
Status	Pre-Launch Phase: Governance Framework Development
Governs	Operational Requirements, Contractual Obligations, Author Vetting
Governed By	Bedrock Governance Framework Work Group, Bedrock Technical Steering Committee

## General

All members that are approved to be *Transaction Endorsers* must adhere to the procedures and policies outlined herein.

## Operational Requirements

1. They are **obligated to use Consortium approved endorser software and accountable for vetting the entities** (*Transaction Authors*), that submit write requests.
2. MUST perform entitlement checks with the ledger a prior of endorsing write transactions.

## Contractual Obligations

All members approved for the role of *transaction Endorser* MUST:

- \* Sign Transaction Endorser Agreement
- \* Sign Transaction Endorser DPA Agreement

## Transaction Author Vetting

1. Ensure the Transaction Author has signed the Bedrock Consortium Transaction Author Agreement



# Endorser Technical and Organizational Policies

## Endorser Technical and Organizational Policies

This is a Controlled Document of the Bedrock Governance Framework was approved by the Bedrock

Document Name	Endorser Technical and Organizational Policies
Version	v0.9
Approval Date	
Status	Pre-Launch Phase: Governance Framework Development
Governs	General Security Policies, Node Technical Policies, General Security Policies, Node Security Policies
Governed By	Bedrock Governance Framework Work Group, Bedrock Technical Steering Committee

## 1. General Security Policies

1. Transaction Endorser MUST maintain and follow IT security policies and practices that are integrated into its internal IT security framework. These policies MUST be mandatory for all employees. Endorser shall designate its CIO or another officer to provide executive oversight for such policies and ensure their enforcement.
2. Transaction Endorser MUST review its IT security policies at least annually and amend such policies as necessary to reflect changes in its business environment or regulatory requirements. Services.
3. Transaction Endorser MUST maintain and follow its standard mandatory employment verification procedures. These procedures must be consistent with applicable law. Endorser may extend such requirements to wholly-owned subsidiaries involved with providing its Endorser Services. These requirements MUST be periodically reviewed and MUST include, but may not be limited to, background checks, drug testing, and other measures deemed necessary by the Transaction Endorser. Each Transaction Endorser company is responsible for ensuring that its employees are qualified and permitted under local law.

4. Employees of a Transaction Endorser involved with its Endorser Services MUST complete security training on the Transaction Endorser's ethical business conduct, confidentiality, security, privacy, and data protection principles. Transaction Endorsers may also be granted administrative access to components that are specific to their role within the Transaction Endorser.
5. If a Transaction Endorser performs its Endorser Services in its own data center, the Transaction Endorser must control access to the data center according to industry best practices.
6. If a Transaction Endorser performs its Endorser Services using a third-party Hosting Provider, the policies of the Hosting Provider must meet the requirements in this document.
7. Transaction Endorser MUST make available to the Bedrock Consortium upon request evidence of the security controls implemented by the Transaction Endorser, including certificates, attestations, or reports resulting from accredited third-party assessments.

## 2. Security Incident Policies

1. Transaction Endorser MUST maintain and follow documented incident response policies consistent with the data breach notification terms of the Transaction Endorser Agreement.
2. Transaction Endorser MUST investigate unauthorized access of which the Transaction Endorser becomes aware and execute an appropriate response plan. The Bedrock Consortium may notify the Transaction Endorser upon request.
3. Transaction Endorser MUST notify the Bedrock Consortium without undue delay upon confirmation of an incident that affects the Transaction Endorser to affect the Consortium. The Transaction Endorser will provide the Bedrock Consortium with the status of any of the Transaction Endorser remediation and restoration activities.

## 3. General Technical Policies

In performing its Endorser Services, Transaction Endorser MUST:

1. Comply with all relevant Bedrock Consortium Ledger Access Policies.
2. Follow any additional guidelines published by the Technical Steering Committee on the Bedrock Consortium.

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# Economic Policies

## Economic Policies

This is a Controlled Document of the Bedrock Governance Framework was approved by the Bedrock Consortium Board of Directors.

Document Name	Economic Policies
Version	v0.9
Approval Date	
Status	Pre-Launch Phase: Governance Framework Development
Governs	Membership, Incentives, Regulatory Compliance
Governed By	Bedrock Governance Framework Work Group

## Membership

The Bedrock Consortium MUST establish economic procedures that will achieve the following:

### 1. Procurement

- a. Collection of membership dues.
- b. Sale and renewal of Subscription plans.
- c. Membership management and ledger transaction usage that track membership entitlements and status. See [Membership Management System](#).

### 2. Currency

- a. All income MUST be denominated in U.S. Dollars (USD).

### 3. Publication

- a. All Bedrock Consortium subscription plan offerings SHOULD be publicly disclosed on the Bedrock Consortium website.
- b. The Bedrock Consortium SHOULD publish the current schedule of Membership Fees on the Bedrock Consortium website.

## Utility Service Providers

The Bedrock Consortium MUST establish economic procedures that will achieve the following:

1. Bidding Process
2. Request for Proposal publication process.
3. Provider selection process.
4. Procurement
5. Payment process from Directed Fund for service providers.

## Incentives

The Bedrock Consortium MAY provision economic incentives designed to for the following purposes:

1. To reward Developers, Agencies, or other community members to contribute to the Bedrock Open Source Code or to any other community asset of benefit to the Consortium, the Bedrock Business Utility or organizations such as the ToIP Foundation.

## Regulatory Compliance

The Bedrock Consortium MUST provide auditable information (IFRS, International Financial Reporting Standards) about all monetary collections and disbursements. **NEED TO VALIDATE**



# Certification Mark Policies

## Trust Marks

1. The Consortium MAY publish the set of Trust Marks designated in this document on the BBU website together with:
  - a. A link to these policies governing their usage.
  - b. The Trust Mark License.
  - c. Instructions for publishing a Self-Certification Page.

## Stewards

1. Stewards who are active members in good standing:
  - a. Any Steward that was a member upon the launch of the Utility MAY use the Trust Mark designated for Founding Stewards under the terms of the Steward Agreement.
  - b. MAY use the Trust Mark designated for Stewards under the terms of the Steward Agreement.

## Agencies

1. Agencies who meet the requirements of Self-Certification according as defined in the Trust Assurance Framework and who wish to signal that conformance publicly MUST do so by:
  - a. Using the Trust Mark designated for Self-Certified Agencies under the terms of the Trust Mark License.
  - b. Publishing a Self-Certification Page.

## Developers

1. Developers who meet the requirements of Self-Certification as defined in the Trust Assurance Framework and who wish to signal that conformance publicly MUST do so by:
  - a. Using the Trust Mark designated for Self-Certified Developers under the terms of the Trust Mark License.
  - b. Publishing a Self-Certification Page.

## Directory

1. The Consortium MAY offer a public directory of Agencies, Developers, or other Infrastructure Roles who meet the requirements of this Controlled Document.
2. Participation in such a public directory MUST be opt-in.
3. All listings in such a public directory that are based on Self-Certification MUST include a link to the Self-Certification Page.



# Trusted Network Policies

## Ecosystem of Trust

This is a Controlled Document of the Bedrock Governance Framework was approved by the Bedrock Consortium Board of Directors.

Document Name	Trusted Network Policies
Version	v0.9
Approval Date	
Status	Pre-Launch Phase: Governance Framework Development
Governs	General Trust Policies
Governed By	Bedrock Governance Framework Work Group

## Network Trust Perspective

The Bedrock Consortium strives to establish and position ledgers, such as the Bedrock Business Utility, to be reliable and trusted ledgers for businesses seeking to perform decentralized identifier verification tasks. However, each entity operating in the roles of issuer or verifier MUST arrive at their own independent determination of a trusted identity network.

## General Trust Policies

The Governing Board for the Bedrock Consortium WILL work with the ToIP Ecosystem Foundry Working Group to help position the Bedrock Business Utility as a trusted utility for use by ecosystem projects.



# Architecture

## Introduction

The Bedrock Business Utility (the "Utility") is governed by the Bedrock Consortium as a dedicated platform for Transaction Authors (see below) to publish decentralized identifiers (DIDs) and other cryptographic keys.



Supports Collaboration  
of Utility Software

**LF Projects LLC**  
Delaware Series LLC

**Bedrock Technical Project**

**LF Projects LLC**  
*Delaware Series LLC*

**GitHub Repo:** [bedrock-consortium/tsc](https://github.com/bedrock-consortium/tsc)

The Utility is legally represented as three (3) distinct but related legal entities which are associated for purposes:

1. Manage the operation and maintenance of the Bedrock Business Utility (“the Utility”), a LF Open Source Project
2. Support for the Bedrock Technical Project, (the “Technical Project”), an open source project, a LF Open Source Project

It is expected that the Utility will be used primarily by businesses who have a need to exchange truly personal information. This approach avoids issuers increasing risks associated with personal data under data protection regulations such as the California Consumer Privacy Act (CCPA).

## Data Protection

The Sovrin Foundation in conjunction with its legal counsel [Perkins Coie](#) published a white paper titled [The TolP Stack](#).

The Bedrock Consortium recognizes this work-product as prior art given its applicability to any public key infrastructure transition effort of the Sovrin Foundation.

## Legal Architecture

The following figure is a visual illustration of the key roles and agreements in the Bedrock Consortium.



The following sections explain the actors, roles, policies, and legal agreements depicted in this diagram.

## Actors & Roles

### Bedrock Consortium

The Bedrock Consortium is an international non-profit public trust organization chartered to provide a framework for the Utility. It is responsible for the operation of the Utility and the management of relationships between Transaction Authors, the *Primary Data Controller*, and other Utility actors.

### Consortium Members

In order to participate in the Consortium as either a Steward, a Transaction Endorser or both; the organization must be a member of the Bedrock Consortium.

### Transaction Authors

A Transaction Author is any Organization who submits a Transaction to be written to the Utility. Transaction Authors may write any data type supported by the Utility – see [What Goes On The Ledger](#).

### Transaction Endorsers

A Transaction Endorser is an Organization that has been approved by the Bedrock Consortium to add their digital signature to a Transaction so it will be accepted and written by the Stewards. Transaction Endorsers are also referred to as Subscribers.

### Subscribers

Subscribers are trusted institutions who desire to participate in the Consortium as Transaction Endorsers.

### Stewards

Stewards are trusted institutions who operate a Node of the Utility. Stewards MUST meet the qualifications set forth in the Steward Agreement with the Bedrock Consortium. Stewards are automatically qualified to be Transaction Authors.

## Utility Access Policies

**Membership Types approved  
to perform the role of  
Transaction Endorser :**

- Governing Members
- Operational Members
- Subscriber Members

**Membership Types, known as  
Stewards, are required to run  
Hyperledger Indy  
Validator Nodes:**

- Governing Members

## **Permissioned Write Access**

This is the set of policies that require Transaction Authors to obtain the endorsement of a Transaction Endorser.

1. It protects the Utility by requiring Transaction Endorsers, who have a direct contractual relationship with the Utility, to sign off on a Transaction before it is recorded on the ledger. Payment for a Transaction. Write Units are acquired based on Membership Type.
2. It reduces the risk of Personal Data being written to the Utility as that is currently prohibited under the BBU-GF. See the *Data Protection* section of this document for more details.

## **Public Write Access**

Under Public Write Access policies, the requirement of a Transaction Endorser signing a Transaction is waived.

**This form of access to the Utility is prohibited under the BBU-GF.**

# Legal Document Architecture

## Primary Legal Agreements

*Informational*

## **Governance Framework Home Page**

(Web page)

**Gov  
Fra  
M  
Do**

**GI**

## **Participation Agreement**

This is the contractual agreement between the Bedrock Consortium and all members. It has been

## **Transaction Author Agreement**

This is the contractual agreement between the Bedrock Consortium and all Transaction Authors. It is intended to give effect to the data protection principles set out in the Data Processing Agreement. The Transaction Author also agrees to be bound by the terms and conditions applicable to the Transaction Endorser and the Steward. It also provides for the authoritative record of all Transaction Author Agreement signatures.

## **Transaction Endorser Agreement**

This is the contractual agreement between the Bedrock Consortium and all Transaction Endorsers. It is intended to give effect to the Data Processing Agreement. The Transaction Endorser Agreement requires that the Transaction Endorser implement its own Technical and Organizational Measures (TOMs) that MUST meet or exceed the Transaction Author Technical and Organizational Measures (TOMs) that are required under the Transaction Author Agreement. The Transaction Endorser Agreement also provides for the exchange of payment (value) between the Transaction Endorser and the Transaction Author.

## **Steward Agreement**

This is the contractual agreement between the Bedrock Consortium and all Stewards. It covers all aspects of the Steward's role, including their responsibilities under the Data Processing Agreement.

## **Data Processing Agreements (DPAs)**

### **Transaction Endorser DPA**

This is the DPA required of all Transaction Endorsers acting as Data Processors for the Transaction Author. It requires that the Transaction Endorser implement its own Technical and Organizational Measures (TOMs) that MUST meet or exceed the Transaction Author Technical and Organizational Measures (TOMs) that are required under the Transaction Author Agreement.

### **Steward DPA**

This is the DPA required of Stewards. It requires that the Steward implement its own TOMs that must meet or exceed the Transaction Author TOMs.

## **Technical and Organizational Policies (TOPs)**

### **Transaction Endorser TOPs**

This is the set of policies in the Bedrock Governance Framework that establish the minimum technical and organizational measures required for the safe handling and processing of personal data by Transaction Authors and the Bedrock Consortium.

## **Steward TOPs**

Similar to the Transaction Endorser TOPs, this is the set of policies in the Bedrock Governance Framework that define adequate security, privacy, and data protection for Transaction Authors and the Bedrock Consortium.

# Services

The Bedrock Consortium leverages the following legal services through the The Linux Foundation.

Activity	Legal Entity	Support Resource
Directed Fund	The Linux Foundation (Oregon Mutual Benefit Corporation, 501(c)6)	Linux Foundation
Technical Project	LF Projects LLC (Delaware Series LLC)	Linux Foundation
Bedrock Business Utility	LF Governance Networks, Inc. (Delaware Nonprofit Corp)	Linux Foundation

# Member Agreements

Members are required to enter into contractual agreements with the Bedrock Consortium.

## All Participants

All members MUST sign the [Participation Agreement \(MS-WORD\)](#)

## Stewards

Any member that is required by the Participation Agreement to [host a utility infrastructure node](#) is considered a Steward and MUST sign these contractual instruments:

- [Steward Agreement \(MS-WORD\)](#)
- [Steward Data Processing Agreement \(MS-WORD\)](#)
- [Transaction Endorser Agreement \(MS-WORD\)](#)
- [Transaction Endorser Data Processing Agreement \(MS-WORD\)](#)
- [\*Optional\* Transaction Author Agreement \(MS-WORD\)](#)

## Subscribers

- [Transaction Endorser Agreement \(MS-WORD\)](#)
- [Transaction Endorser Data Processing Agreement \(MS-WORD\)](#)
- [\*Optional\* Transaction Author Agreement \(MS-WORD\)](#)

# Non-Member Agreements

Any non-members that desires to use the Utility MUST enter into certain contractual agreements between the Bedrock Consortium.

## Transaction Authors

- [Transaction Author Agreement \(MS-WORD\)](#)



# Trust Assurance

## Bedrock Trust Assurance Framework

### Introduction

The Bedrock Business Utility ("BBU") is intended to provide supporting infrastructure to maintain a level of assurance for digital credentials. The purpose built for trusted commerce.

Users of the BBU, namely Issuers and Verifiers of digital credentials, expect a level of assurance provided by the BBU. The Bedrock Consortium have a vested interest understanding the level of assurance that can be assigned to digital credentials. Stakeholders also desire an understanding the level of assurance to help set business verification policies but the BBU will not be able to provide this information.

### Assurance Requirements

The BBU aspires to ensure reliability, low processing latency, and a maximum uptime of the service. These requirements may evolve over time depending on a number of factors including:

- Member Compliance
  - Adherence to technical and operating policies
  - Contract status
- Ledger Reliability
  - Probability that verification requests (ledger reads) will operate without failure for a specific response-time.
  - Probability that transaction author requests (ledger writes) will operate without failure for an acceptable response-time.
- Ecosystem Trust Factor

As the BBU matures towards a production ready and actively used ledger, the degree of assurance will increase.

### Pre-Production Phase

1. No assurances for public use (read transactions).
2. Membership status will be public through Bedrock Consortium website.

## **Early Production Phase**

1. No assurances for public use (read transactions).
2. Membership status will be public through Bedrock Consortium website.
3. Ledger Reliability expectations will be set and audit procedures will be established.

## **General Production**

1. No assurances for public use (read transactions).
2. Membership status will be public through Bedrock Consortium website.
3. Ledger Reliability expectations will be set and audit procedures will be established.

## **Versioning**

Each version of this document is tied to the BBU Governance Framework at a specific point of time.

## **Terminology**

All terms in First Letter Capitals that are not defined in this document (as called out in a specific section)

## **Purpose**

The purpose of the BBU Trust AssuranceFramework is to identify:

1. The Trust Elements that Trust Actors assert in relationship to the BBU.
2. The The BBU Roles that assert and rely upon trust.
3. Generally-Accepted, Bedrock-Specific, or Domain-Specific Trust Criteria used in the evaluation.
4. The Trust Assertions that BBU Roles make against Trust Criteria.
5. The Trust Evidence that Trust Actors produce to create assurance regarding their trust assertions.
6. The Trust Mechanisms in place to assert and evaluate trust.
7. The process of Trust Governance whereby trust assertions are evaluated and deemed trustworthy.

## Level of Assurance

This document describes the Level of Assurance a Relying Party can derive from the BBU Governance Framework.

The BBU Governance Framework claims a **maximum** level of a **reasonable** Level of Assurance.

In May 2013, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) updated its Internal Control - Integrated Framework. This framework has gained broad acceptance and is widely used around the world. It is recognized as a standard for assessing the effectiveness of internal control. Internal control is defined as follows:

Internal control is a process, effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of the entity's objectives relating to operations, reporting, and compliance.

This definition reflects certain fundamental concepts. Internal control is:

- Geared to the achievement of objectives in one or more categories—operations, reporting, and compliance
- A process consisting of ongoing tasks and activities—a means to an end, not an end in itself
- Effected by people—not merely about policy and procedure manuals, systems, and forms, but through people's actions
- Able to provide reasonable assurance—but not absolute assurance, to an entity's senior management and employees
- Adaptable to the entity structure—flexible in application for the entire entity or for a particular business unit or function. It captures important concepts fundamental to how organizations design, implement, and monitor internal control processes across their organization, including those in different entity structures, industries, and geographic regions.

The [ICAEW definition of a reasonable assurance audit engagement](#) is: Where the practitioner need only detect material misstatement (that is, a risk that there is a reasonable chance that a material misstatement will not be expressed when the information on the subject matter is materially misstated) to an acceptably low level. Such risk is never reduced to nil and therefore, there can never be absolute assurance. Per the ICAEW, the practitioner need only detect material misstatement to an acceptably low level to provide reasonable assurance based on their evaluation of the BBU Governance Framework and the BBU Internal Control - Integrated Framework.

## Trust Elements

The following Trust Elements guide the development of specific Trust Criteria asserted by Trust Assessors. These criteria are based on the ICAEW's [Definition of a reasonable assurance audit engagement](#) and the COSO's [Internal Control - Integrated Framework](#), for use in attestation or consulting engagements to evaluate the effectiveness of internal control.

a subsidiary, division, or operating unit level; (c) within a function relevant to the entity's operation of the entity.

- Security. Information and systems are protected against unauthorized access, unauthorized disclosure, integrity, confidentiality, and privacy of information or systems and affect the entity's ability to meet its objectives.
- Availability. Information and systems are available for operation and used to meet the entity's objectives.
- Processing integrity . System processing is complete, valid, accurate, timely, and authorized to meet the entity's objectives.
- Confidentiality. Information designated as confidential is protected to meet the entity's objectives.
- Privacy. Personal information is collected, used, retained, disclosed, and disposed to meet the entity's objectives.

## BBU Roles Making Trust Assertions

The following BBU Roles make Trust Assertions with regard to the Trust Elements to Relying Parties:

1. Bedrock Consortium (including the Governing Board).
2. Steward.

## Trust Criteria

### **Bedrock-Specific Trust Criteria**

For the BBU Governance Framework, the only Trust Criteria in operation are self-developed by the Bedrock Consortium. This includes the governance Policies the Bedrock Consortium has set for itself and the [Bedrock Member](#) organizations.

## Trust Evidence

Trust assertions are empty without evidence to support it. The following are examples of Trust Evidence:

1. Signed Contracts.
2. Signed Agreements.
3. Configurations.
4. Signed Approvals.
5. Policies.
6. Procedures.

7. Logs. a. Security. b. Application. c. System. d. Database.

## Incident Records

For the BBU Governance Framework, see the Trust Assurance Matrix (Addendum) for the specific

## Trust Actors

The following is the set of BBU Entities who play a role in the Bedrock Consortium Governance Fra

1. Governing Board. Issues the Policies within the Bedrock Consortium Governance Framework and perform Self-Certification to evoke assurance from Relying Parties.
2. Stewards. Agree to the Steward Agreement and perform Self-Certification of compliance with the Stewardship Principles.
3. Legal Authorities. Enforce laws in the Jurisdictions of the Bedrock Consortium, its Stewards and other BBU Entities.

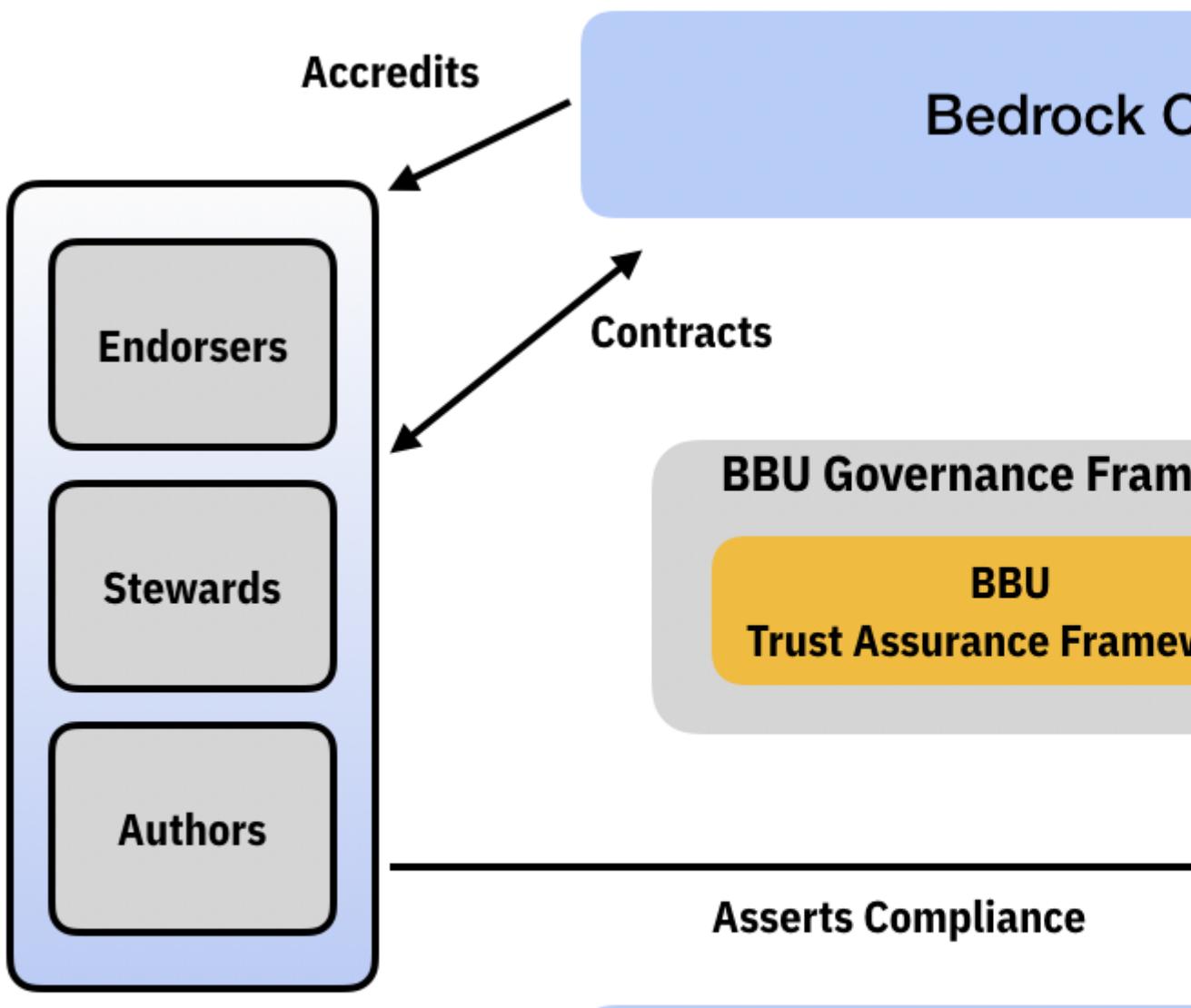
## Trust Mechanisms

The following are actions that the Bedrock Consortium takes to assert and assure trust:

1. Contracts and Agreements
2. Self-Assertion a. Bedrock Consortium Trust Criteria Compliance b. Legal Compliance

## Trust Governance

The following is a graphical and procedural depiction on how trust asserted from BBU Roles are co



For the BBU Governance Framework:

1. The Bedrock Governing Board has established the BBU Governance Framework and this BBU Stewards in their Role within the BBU.
2. The Bedrock Governing Board requires members to sign the contractual instruments and perform [Policies](#) and [Bedrock Member Technical Policies](#). This Self-Certification is reviewed by the respective approval of the Steward.

## Trust Assurance Matrix

The BBU Trust Assurance Matrix is a tabbed spreadsheet which correlates existing Bedrock Governance requirements with relevant stakeholders. This matrix is the foundation of self and third-party audits needed to verify compliance.

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# FAQ

## Who owns the Bedrock Business Utility (BBU)?

No single organization owns the BBU.

The Bedrock Consortium is a [Linux Foundation](#) project that supports the operation of the Bedrock Business Utility (the “Utility” or “BBU”), an independent self-governed and self-sustainable public identity utility.

The members of the Bedrock Consortium represent a collection of international private sector companies and other organizations that operate and manage the Utility. The Bedrock Consortium, a directed fund of the Linux Foundation (“LF”), serves the purpose of raising, budgeting and spending funds in support of the Utility and the Bedrock Technical Project , which is tasked with the mission of supporting the technical needs of the Utility.

LF Governance Networks, Inc., a Delaware non-profit corporation, supports the Utility by executing the various agreements relating to the management of, or transacting with, the Utility.

## What are the key markets that would use the BBU?

The BBU is designed to be a public access utility for all industries and sectors. Participation in the BBU is not restricted to any set of industries.

## How does a business benefit from joining the BBU?

We know that convening ecosystems is time consuming and challenging. The BBU is an established digital trust ecosystem supplying a permissioned infrastructure to foster accelerated ecosystem adoption eliminating the need for individual organizations to “grow their own” – reducing cost and complexity and improving speed to market when implementing a solution.

Becoming a member of this network affords businesses a low cost option to access a trusted, decentralized ledger that enforces privacy regulation, a

sustainable financial model, collective ownership and adherence to open standards and protocols of TolP as well as access to a wide range of ecosystem partners.

1. Read access to the Bedrock Business Utility is open to all types of entities.
2. Write access is limited to members good standing within the Consortium.

As contributors to the infrastructure of a public identity utility, BBU members are entitled to unlimited or limited write access rights depending on membership level. Membership rates are determined by the selected membership level (e.g. Governing, Operational or Subscriber). Details can be found in [Pricing](#).

## Who makes up the governing board?

The Governing Board is comprised of representatives from members as outlined in the Bedrock Consortium's Charter. Details can be found in the [Bedrock Consortium Participation Agreement](#).

## How will the BBU onboard legitimate financially sounds members?

The BBU Governance Framework outlines [membership qualification policies](#) for the onboarding of financial stability and legitimacy companies. These qualified members will provide the infrastructure for the BUU.

The Membership Committee is tasked with the procedures and processes for running membership campaigns to keep membership quantity and quality stable for sustainability of the public identity utility.

## What service level requirements will a member be required to adhere to?

Each member must sign a set of legal agreements that cover the obligations, restrictions and other concerns associated with the role a member will play within the consortium. Member requirements by role are described in detail [Participation and Utility Agreements](#).

## Who will be able to access the network?

The BBU, a public identity utility, is publicly accessible for members and non-members via read access only APIs. Members will have the ability to write to BBU. Write access entitlements will depend on [membership type](#).

## Who controls what is written to the BBU?

A Transaction Endorser is a data processor that works on behalf of a data controller, known as a Transaction Author. A Transaction Endorser is responsible for adhering to the [Endorser Technical and Organizational Policies](#) as well as all relevant [Bedrock Consortium Ledger Access Policies](#). A [Trust Assurance Framework](#) is also used to ensure that a Transaction Endorser can supply evidence of stated compliance with these policies and any relevant accreditations, including certificates, attestations, or reports resulting from accredited third-party audits, such as ISO 27001, SSAE SOC 2, or other industry standards.

## How is the BBU different from the Sovrin Foundation?

The goals of the BBU are based on a [number of motivating factors](#). To this end, the BBU strives to:

1. Enforce permissioned-writes with contractual instruments that will conform to privacy regulations such as GDPR.
2. Maintain financial sustainability of the consortium members without the use of cryptographic tokens.
3. Establish a governing board so that no single organization owns the public identity utility.
4. Require adherence to specified open standards and protocols

## Why is the BBU not using a crypto/token payment model?

The BBU will operate on [token-free economics](#) as the risks and sustainability of a public write token payment model have yet to be proven.

## What agreements is a member required to sign to join the BBU?

Each member must sign a set of legal agreements that cover the obligations, restrictions and other concerns associated with the role a member will play within the consortium. Member requirements by role are described in detail [Participation and Utility Agreements](#).

## How much does it cost to be a member?

Membership rates will be determined by the selected membership level (e.g. Governing, Operational or Subscriber). Details can be found in [Pricing](#).

## Who is responsible for hosting and managing a node?

Any member of the Bedrock Business Utility that is required to host a utility infrastructure node is considered a Steward and is responsible for the financial demands of hosting a node. Such expenditures are considered out-of-pocket expenses and are not related to the members annual membership obligations. See [membership types](#).

## What are the participation requirements for members with respect to working groups?

Governing and Operational members will be required to assign participation of appropriately skilled resource(s) on as part of committees/working groups as well as the technical project. Subscribers are not required to fulfill such requirements. See [membership types](#).

## What is a financially incentive for a Steward to continue long-term participation?

Each participating member will need to make an annual decision on the ROI of their investment.

It is assumed that some members will charge their clients for access to their entitlement transactions while others may not charge and include such access as a perk/benefit.

## How can we ensure that node hosting remains diverse?

The BBU Governance Framework outlines a set of diversity goals and makes suggestions for how these goals can be achieved. See [Infrastructure Diversity Guidelines](#).

## What types of data can be written to the ledger?

The BBU has strict [ledger data policies](#) that restrict the type of data that can be written to the ledger so that compliance risks with GDPR, CCPA and other privacy regulations are mitigated.

## What if my organization wants to establish its own network as part of the Digital Trust Marketplace?

In collaboration with [ToIP Utility Foundry Working Group](#), organizations can establish independent self-governed and self-sustainable public utilities, at layer one of ToIP Architecture. The BBU is an example of a public identity utility. Participation in the BBU would allow for an organization to gain familiarity and benefits from a cross-industry public identity utilities before tackling the challenge of convening their own utility.

## Will other networks/utilities be able to connect into the BBU?

The [ToIP Foundation](#) establishes human trust between peers—trust between real-world individuals and organizations and the things with which they interact (devices, sensors, appliances, vehicles, buildings, cities, etc.). The BBU is an example of a public identity utility at layer one of the [ToIP Architecture](#). The BBU is not connected to any other public identity utilities but it can be trusted by one or more [ToIP Ecosystem Projects](#).

The BBU and similar public identity utilities are used by verifiers who seek to perform cryptographic verification check processing against immutable decentralized identifiers (DIDs). These public identity utilities do not communicate with one-another.

# Contact us

## Bedrock Business Consortium

### **Contact Board of Directors**

Email [bod@bbu.sovrin.org](mailto:bod@bbu.sovrin.org)

NOTE: Need to setup emails and or Google Groups/Forums

### **Contact Governance Framework Working Group**

Email [bbugf-wg@bbu.sovrin.org](mailto:bbugf-wg@bbu.sovrin.org)

### **Contact Identity Utility Administrator**

The Sovrin Foundation is the provider of administrative services to the Bedrock Business Consortium. Our Network Administrator is:

Name	Email	Phone
xxxxx	<a href="mailto:sovadmin@bbu.sovrin.org">sovadmin@bbu.sovrin.org</a>	999-999-9999