



KUKNOS Network and Paymon Token Whitepaper

Abstract

As a modern digital economy platform, Distributed Ledger Technology (DLT) has extensive applications in optimizing both financial and non-financial transactions ranging from Know Your Customer (KYC) to bartering. The DLT is an irreversible, immutable, and permanent record of transactions with a high degree of verifiability, credibility, and reliability. Using this technology, the Kuknos Network creates an integrated platform of reputable anchors and issuers to facilitate the exchange of Paymon Tokens (PMN) to help the prosperity and development of the national economy. The underlying principles and values of Kuknos are based on the technological requirements of the DLT and as well as domestic and international laws and regulations. This whitepaper sets out to explain the building blocks, architecture, technical infrastructure, and the economics of the Kuknos Marketplace and Paymon.

Disclaimer: Kuknos is capable of supporting various tokens with different technical and economic properties. Investors are well-advised to carefully examine each token's whitepaper before making a commitment.

1- Introduction

1-1- Blockchain technology and its more general counterpart, the Distributed Ledger Technology (DLT), have paid attention to unprecedented adoption from firms, markets, and industries. The realization of reception and effectiveness, enabled by eliminating centralization and establishing decentralization, has been the primary driver of this adoption.

1-2- Financial institutions have been spearheading DLT adoption and innovation, with the financial industry being the largest investor in the sector. This is a testament to the enormous gains in both efficiency and effectiveness generated by decentralized mechanisms and systems.

1-3- The advantages of using the DLT in the financial industry are manifold including the following: (1) the reduction of Know Your Customer (KYC) costs through sharing identity information; (2) streamlined asset management through uninterrupted access to asset data; (3) simplifying recoding multi-agent transactions; (4) improved credibility, trustability, and documentation; (5) increased security; (6) globalized markets, more widespread asset trades; (7) attracting micro-investments especially in low-return or no- return markets; and (8) a reasonable increase in the value of investments.

1-4- Thus, in the digital economy, all major markets require access to a robust technology platform that supports and operationalizes this plethora of modern applications. To facilitate market formation, the platform must be able to handle an extremely high load of financial transaction data while remaining flexible and user-friendly. Decentralization is one of the best solutions to achieve these benefits.

1-5- This whitepaper presents the values, ideals, approaches, and plans of the founding members of Kuknos. It also sets out to facilitate and ensure solidarity and integrity among current and future participants of the Ecosystem.

2- Definitions

2-1- Whitepaper: The present document detailing the technical features and the applications of the Kuknos network as well as its native asset (Paymon), ecosystem of stakeholders, economics, and binding network rules to which the anchors agree.

2-2- Kuknos: Also referred to as the Kuknos Ecosystem, it comprises links between anchors, supervisors, issuers, service providers, startups, sponsors, developers, and users. The Ecosystem is based on the Distributed Ledger Technology (DLT) that enables the tokens, including the native asset (Paymon), to be offered and exchanged.

2-3- Distributed Ledger Technology: A consensus-based technology to manage decentralized storage of duplicated, shared, and synchronized digital data in domestic and international contexts. The ledger is maintained and updated using a consensus mechanism, and a data architecture agreed upon by the anchors.

2-4- Kuknos Network: Also referred to as "Network," it is a network of anchors that use DLT to monitor, verify, and record all user transactions and operations. The Network is decentralized and autonomous in that the anchors process the transactions using an automatic consensus protocol.

2-5- Anchor: anchors form the Network's computational infrastructure. In addition to accessing the ledger, they create a transaction proposal package and participate in the consensus-based voting mechanism. In Kuknos, anchors are Network leaders.

2-6- Issuer: An anchor-monitored natural or legal person with authority to issue tokens. Anchors are required to advertise issuer details and token specifications.

2-7- Asset: Any movable or immovable, tangible or intangible property or right and its associated obligations and privileges can be tokenized and used in transactions.

2-8- Digital Asset: Any data message stored in distributed ledger platforms, which includes the right of ownership.

2-9- Token: A type of digital asset that is classified into three types of Asset Token, Utility Token and Payment Token, defined in clauses 2-10, 2-11 and 2-12.

2-10- Asset Token: A type of digital asset issued by the issuer that indicates the ownership of the token holder for a particular asset with the terms and conditions agreed in the documents and contracts related to the relevant token.

2-11- Utility Token: A type of digital asset issued by the issuer that implies the token holder's privilege to access or use a predetermined service or product, in accordance with the terms and conditions agreed in the relevant token documents and contracts.

2-12- Payment Token: A type of digital asset issued by the issuer that is used by its holder as a payment instrument to cover liability. It should be noted that Paymon is not a payment token.

2-13- Tokenizing: The process by which the issuer, under supervision of the anchor, issues a token of three types of asset, utility or payment, observing the provisions of the Whitepaper and the relevant specified Whitepaper.

2-14- Base Diamond: A one-carat white diamond with a good round cut, white J color, and VS2 clarity, which is equivalent to one hundred thousand Paymon tokens.

2-15- Reserve Diamonds: Diamonds verified by GIA¹ certification and laser printing of certification serial number on diamonds provided by Kuknos Network anchors. The anchors lend these diamonds to reputable institutions. The ratio of the number of Paymon available for each reserve diamond to the number of Paymon for base diamond is equal to the ratio between the price of the diamonds.

2-16- Diamond Price: Equals to price of diamond in Rapaport report, in addition to the overhead costs of obtaining GIA certificate and laser printing. Additional costs of obtaining a GIA certificate include grading report, diamond shipping to certification lab, laser serial inscription, and customer service, details of which are provided in Appendix 2.

2-17- Paymon: Kuknos Network base token, which is a utility token, and the anchors are committed to performing 200 operations on the Kuknos Network per unit (Appendix 1, List of Authorized Kuknos Network Operations). This digital asset is known as the only option to receive in-house transaction fees and must not be used as a payment instrument.

2-18- Peanuts: The smallest unit of Paymon equal to a ten-millionth (10^{-7}) of a single token.

2-19- Operations: A Network operation which cannot be recorded in the ledger without being associated with a transaction. Operations may have financial or non-financial consequences for Kuknos accounts.

2.20- Transaction: A package of one or more operations, including an associated electronic signature, that can be processed and recorded in the distributed ledger of Kuknos Network.

2-21- Pair Key: A pair of private and public keys used to access Kuknos Network account and sign transactions. In Kuknos Network, this key pair is based on the ED25519 cryptographic algorithm.

2-22- User: Any natural or legal person (without legal restrictions) along with their computer systems used to create accounts and perform transactions on the network.

¹ The Gemological Institute of America is an internationally recognized authority on the authenticity, evaluation and certification of diamonds.

2-23- Account: An entity in Kuknos Network whose address or identifier equals to the owner's public key and may contain one or more signatures with a dedicated key pair.

2-24- Wallet: A tool used to manage user key pairs, allowing owners to safely store their keys, and send and receive tokens on the Network.

2-25- Distribution Control Account: each anchor has at least a distribution control account in the Kuknos Network by which issuance operation of every new sort of token is done.

2-26- Issuing: A process on the Network whereby a user account creates a defined number of tokens under the same exclusive name. Anchors are required to determine detailed token specifications before issuing its special Whitepaper. Issuing a group Whitepaper for tokens, considering their commercial, financial and legal necessities is allowed.

2-27- Distribution: A process whereby the issuing account transfers the created tokens to a "distribution account." The number and structure of the distribution accounts are determined by the distribution policy of the token.

2-28- Digital Asset Exchange System: Abbreviated as "Exchange System", is a decentralized system provided by anchors in the core layer of the Kuknos Network where users exchange their digital assets with each other based on the bid/ask price in accordance with Kuknos terms and conditions.

2-29- Supervisors: Governance authorities, especially regulators, supervisory authorities, inspectors, financial auditors, law enforcement agencies, and judiciary bodies, who reserve the legal right to monitor and, if necessary, store transaction histories.

2-30- Kuknos Consensus: The consensus mechanism in Kuknos is based on the Stellar Consensus Protocol (SCP), with at least 51% of the votes required for a transaction to be validated.

2-31- Kuknos Foundation: Also referred to as the "Foundation," it comprises the anchors on the Network who form a self-regulated structure based on relevant case laws.

2-32- Kuknos Co.: Also referred to as the "Company," it is a private joint-stock company registered under the name "Yekta Kuknos Pars Distributed Information and Financial Technologies" registered in the Islamic Republic of Iran by the registration number 537364 and national identity number 1400836853.

2-33- Paymon nominal price: is equivalent to Paymon's gold price based on local currency value, in addition to the Paymon's issuing fee.

2-34- Paymon market price: The weighted average price of last Paymon recorded transaction in any market, including Kuknos exchange center or any other market that is affected by its supply and demand.

3- Problem Statement

3-1- E-markets are a critical component of the digital economy. A market is essentially a network of transactions and connections where goods, services, and payments are exchanged. To operate without interruption, e-markets rely on 24/7 electronic transactions. Not bound by geographical borders, e-markets allow buyers and sellers to directly negotiate, agree, and even barter in a web-based environment.

3-2- However, current capital markets are severely limited in that they lack the prerequisites of a true e-market. For instance, services are only available at certain times, assets cannot be bartered, and settlements are not performed in real-time. Also, lack of transparency, occasional reversibility, and price manipulation and limit-setting cause various problems.

3-3- In the following, we discuss the most significant challenges that Kuknos aims to address in an attempt to promote Iran's digital economy.

3-3-1- Lack of an Agile, Flexible Technological Platform to Offer Tokens

The advantages of blockchain, including transparency, reliability, and data persistence, allow financial institutions to offer various types of assets as tokens and create a diverse set of products for their customers. Kuknos aims to build a flexible, agile infrastructure that allows members to issue and exchange tokens without any restrictions.

3-3-2- Illiquidity of Frozen Assets

Frozen or non-productive assets refer to a category of assets that are illiquid or cannot generate an income stream for their owners. According to banking data, illiquid assets, especially surplus real estate, are a significant portion of bank assets. In some countries, only a few potential buyers can afford to purchase these high-priced assets. Therefore, the assets are unlikely to be sold. To resolve the issue, depending on the ratio of the country's economy to its frozen assets, encouraging micro-investments or global markets can prove useful. However, this requires access to efficient and transparent mechanisms based on DLT.

3-3-3- Depreciation of micro-capital

In the absence of transparent, observable structures to attract and lead micro-investments toward productive areas such as real estate and production, investments gravitate toward non-productive sectors. However, an efficient, transparent mechanism based on DLT can prevent unconventional market fluctuations, and more importantly, prevent the loss of resources.

3-3-4- Transparency, immutability, and availability

Centralized services have three persistent problem areas: (1) transparency, (2) changeability, and (3) availability. Efforts to establish information security and integrity result in loss of transparency; the excuse of data protection mechanisms reduce the effectiveness of external monitoring efforts, that increases the possibility of system corruption; and data aggregation in centralized servers improves serviceability and compliance but may create a single point of failure which can decrease availability.

3-3-5- KYC

The majority of financial services cannot be provided without taking appropriate KYC measures. As a result, banks and financial institutions obtain and store user identity data. However, a unified identification process does not exist. Many financial institutions rely on time-consuming, costly in-person visits, and physical copies of identification documents to perform KYC tasks. These inefficiencies are caused by the absence of a centralized entity that provides identification services as well as incompatible regulations, presence of multiple valid KYC mechanisms (e.g., social media), and the legal challenges of sharing identity information with financial institutions. As a result, customers' personal information is at a high risk of theft and abuse.

4- Proposed Solution

4-1- Kuknos proposed solution to solve the aforementioned challenges is to apply and customize "Stellar" technology and establish it in the form of a new and independent network that allows the issuance of various digital assets.

4-2- On Kuknos Network, issuers might issue various types of payment, asset, and utility tokens. The most important features of the Kuknos Network to operationalize this solution are as follows:

4-2-1- Independent public network based on permissioned anchors;

4-2-2- Self-regulation structure and mechanism for evaluation of anchors' competency;

4-2-3- Establishment of a distributed exchange system for facilitating transactions;

4-2-4- Tokenization capability of various assets under supervision of anchors and within legal territory of theirs;

4-2-5- Providing flexible multi-signature account structure for users;

4-2-6- Facilitating the KYC process with members' participation and commercializing the process with direct ownership and management of users' identity information by themselves;

4-2-7- Providing required speed and capacity for high volume of transactions;

4-2-8- Support for data model and specialized smart contracts of value industry;

4-2-9- Support for Lightning capability and creature of channels outside the network;

4-2-10- Issuer control option for the maximum ownership of token holders;

4-2-11- Support for easy and human readable addressing service;

4-2-12- Ability to support white list for token holders;

4-2-13- Ability to support timed transactions;

4-2-14- Ability to support pre-processed transactions;

4-2-15- Ability to return tokens to issuer;

4-2-16- Ability to freeze tokens in user's account by correspondent issuer;

4-2-17- Support for automated market maker;

4-3- Kuknos has envisioned two ways to respond to new requests that Stellar's technological solution may not meet:

4-3-1- Development of Stellar core and ecosystem based on newly identified requirements;

4-3-2- Utilization of other platforms and launching of Cross-Chain.

5- Principles and Values

Kuknos is founded on the following principles and values, any damage to which may result in loss of credibility or the potential collapse of the entire network. Therefore, all anchors are required to adhere to these principles. Clearly, all other agreements between members or between members and non-members that violate the principles are void.

5-1- Decentralized Leadership

The ledger is inherently decentralized, and recording network transactions requires active participation from all the anchors. Therefore, the network is managed in a decentralized manner, and any attempt to centralize its functionality is in direct disagreement with the nature

and applications of this technology. All measures to extend or upgrade Kuknos must adhere to the principle of decentralization.

5-2-Legal adherence

The most distinct advantage of DLT is that, compared to centralized solutions, it establishes a much higher degree of confidence in the validity of the transactions. This, more than anything, showcases our desire to abide by the rule of law. As such, all aspects of the Network's operations are continuously monitored by all members (especially supervisors) to ensure proper adherence. These include the legal identities of anchors, issuers, and users as well as the legality of token-related goods and services distribution of tokens, and the mechanisms used to record and store transactions and contracts.

5-3- Paymon as a built-in Token

Members of the Kuknos Ecosystem acknowledge that Paymon, whose details are presented in this whitepaper, is used as the basis for token valuation, exchange of debt and liabilities, and charging transaction fees. They refrain from defining and allocating other native assets in any form or amount.

5-4- Regulated Fees

Members of the Ecosystem acknowledge to only charge transaction fees according to the arrangements outlined in this whitepaper, in a fair manner, and by respecting the maximum and minimum allowable values.

5-5- Transparency

The voting process in Kuknos is based on consensus and follows the procedure presented in this whitepaper. Anchors are assumed to vote based on their knowledge of each transaction's nature. Therefore, given the transparency of the Network, the transactions are credible and trustable. Elaborate precautions are taken to ensure that the transparency requirements do not violate stakeholder privacy or lead to the disclosure of commercial secrets.

5-6- Compatibility

Kuknos is founded on the principle of compatibility. Although anchors are free to define and operationalize their own tokens and transactions, they must be able to interact with one another. Therefore, anchors need to consider compatibility in all aspects of their infrastructure

and technical development. This, in turn, leads to a higher degree of synergy among participants.

5-7- Availability

Kuknos anchors should provide the infrastructures as well as the technical and technological mechanisms compatible with the PMN whitepaper's terms and conditions to keep their services and applications available to and accessible by the Kuknos ecosystem.

5-8- Irreversibility

Members of the Ecosystem acknowledge that, once recorded, all transactions are Immutable and that the correctness and integrity of the records on the Network are guaranteed. To modify an old transaction, one can only generate and record a new transaction.

6- Technical Infrastructure

The Network relies on DLT to implement the requirements set forth by the Kuknos Foundation.

6-1- Network Architecture

6-1-1- Kuknos is a public-permissioned network. To join, candidate anchors must meet the eligibility criteria in Paragraph 753 of this whitepaper. The network represents a customization of the Stellar solution. The overall architecture of the Network can be seen below.

6-1-2- In this architecture, anchor-provided applications are connected to the core of an active node via interface services. Together, the core nodes form the entire network.

6-1-3- Tokens are sent and received in a way that all related regulations including AML/compliance requirements will be strictly fulfilled. The diagrams below present the conceptual models of how a user can send/receive a token.

6-2- Technical Components

This section presents the minimum technical components of the Kuknos Ecosystem. Anchors can decide to extend these components to match their business models.

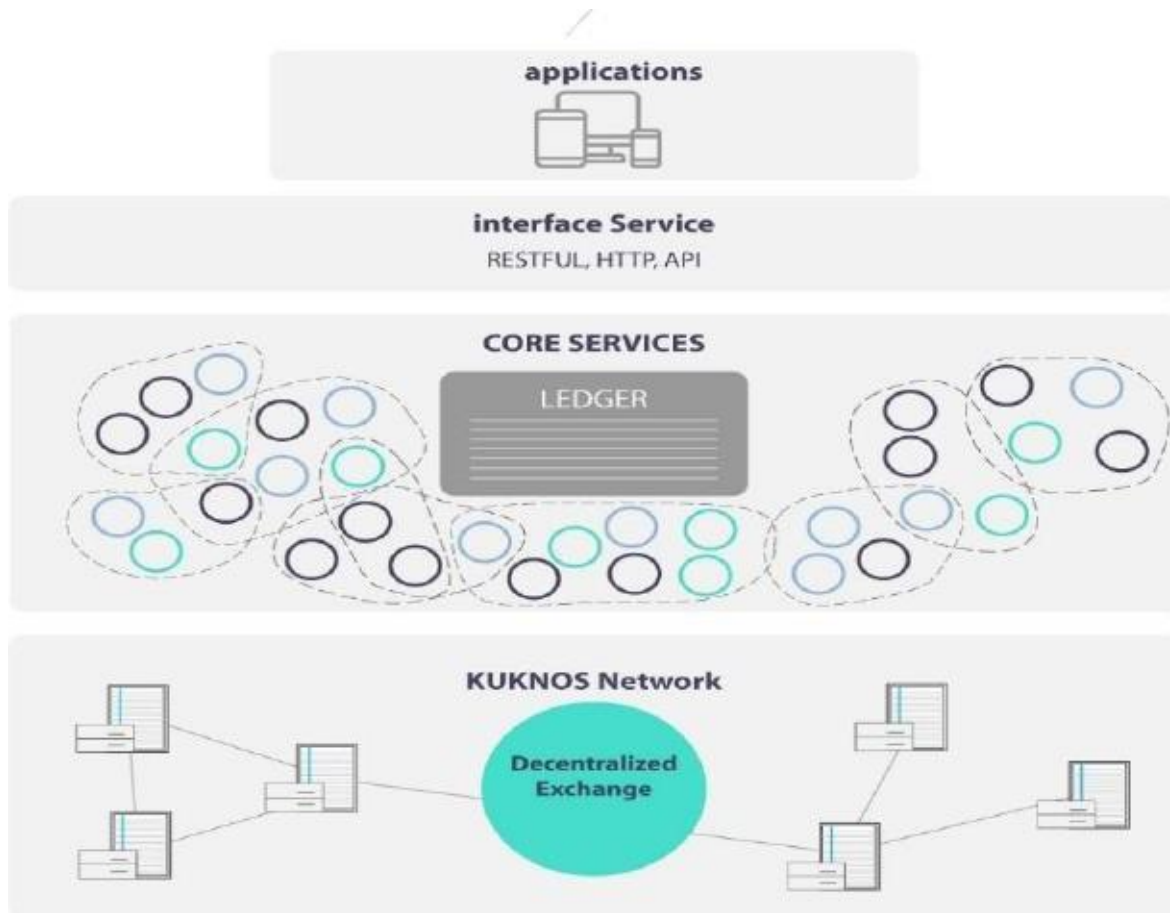


Figure 1. The overall architecture of Kuknos

6-2-1- Core Service

The core service forms the backbone of the Network. Its primary functions include managing a local copy of the ledger, communicating with other nodes, and remaining homogeneous with other nodes. Optionally, the core service can provide archiving services and participate in the consensus to record transactions. The main components of the core service are as follows:

6-2-1-1- SCP: The Network's consensus protocol based on Stellar's consensus algorithm.

6-2-1-2- Herder: The interface between the consensus algorithm and other core services.

6-2-1-3- Overlay: A component that communicates with the other nodes, transmits information, and remains informed of their statuses.

6-2-1-4- Ledger: Provides the set of transactions for the consensus algorithm. It also transmits the events of other components to the network. The ledger also inserts the transactions in the bucket list and archives.

6-2-1-5- History: Publishes the transactions and ledgers to outside storage.

6-2-1-6- Bucket list: A storage for verified ledgers. It also manages the disks and controls their hash values to prevent duplication.

6-2-1-7- Transaction: Implements the different types of transactions.

6-2-2- Interface Service

The interface service provides a set of APIs that connect user software to the Network. The service acts as an intermediary layer between core services and applications to facilitate software development on the Network.

6-2-3- Federation Service

The federation service converts human-readable addresses into real addresses on the network. The human-readable addresses are in the user*domainname.ir format and are mapped to key pair addresses.

6-2-4- Exchange Service

6-2-4-1- Kuknos has a decentralized distributed exchange infrastructure called the "Digital Asset Exchange System" making it possible to exchange all types of tokens and create an independent market for each pair of digital assets. Thus, token holders, based on market conditions, make request to exchange types of tokens available on the network.

6-2-4-2- To serve its customers' unique needs, an anchor is free to create a customized GUI for the exchange service. Unique and user-friendly UX can become a competitive advantage.

6-2-5- Archive Service

This service is an independent tool connected directly to the core archive service. It is only used to create an off-chain archive.



Figure 2. Conceptual model of the Decentralized Exchange Service

6-2-6-Kuknos Wallet

Anchors are free to create customized wallets that suit the specific needs of their customers. However, user authorization is mandatory.

6-2-7-Kuknos Dashboard

Allows users to monitor the Network, anchor, transaction details, and the ledger. The service is available via <https://dashboard.kuknos.org>.

6-2-8- Kuknos Laboratory

The laboratory environment is connected to Kuknos's testnet and makes it possible to test different ideas without going through the entire software development process. All the services provided by service interface APIs can be tested in the laboratory. The service is available via <https://lab.kuknos.org>.

6-2-9- Kuknos Explorer

Kuknos Explorer is a tool connected to the Kuknos Network that makes it possible for users to observe ledger and recorded transactions. To access this tool, visit the Secretariat website at <https://explorer.kuknos.org/>.

6-2-10- Kuknos Software Development Kits

A collection of code, libraries, and samples of software resources in various programming languages that enable the development of software based on Kuknos Network features. To access these resources, visit the Secretariat website at <https://github.com/KuknosOrg>.

6-2-11- Decentralized Applications (DApps)

In order to develop decentralized applications, Kuknos provides a set of tools, standards, communication protocols, code samples, and anchoring infrastructure for such software. Details of Kuknos Decentralized Application Development Infrastructure are available at <https://github.com/KuknosOrg>. It is recommended that such software be developed as open source and open access.

6-2-12- Decentralized File Service (IPFS)

IPFS is a peer-to-peer and decentralized file distribution system. This system utilizes a content-based storage method; Thus, the address of each file is stored decentrally, as a hash, on the network nodes and is retrieved using the same hash. Kuknos Network utilizes an IPFS network with dedicated distributed nodes for decentralized data storage. Any server on Kuknos Network will be an IPFS node.

6-2-13- Automated Market Maker Service (AMM)

This service makes it possible to create automated market maker pools for different pairs of Kuknos Network tokens. This service, in combination with path payment capability, helps to increase the liquidity of any network token. Users can make profit from participating in these pools through providing liquidity.

6-3- Mainnet, Testnet and Deployment of Anchors

6-3-1- Kuknos consists of a mainnet and a testnet. The latter is utilized as a platform for developing, training and testing innovative ideas.

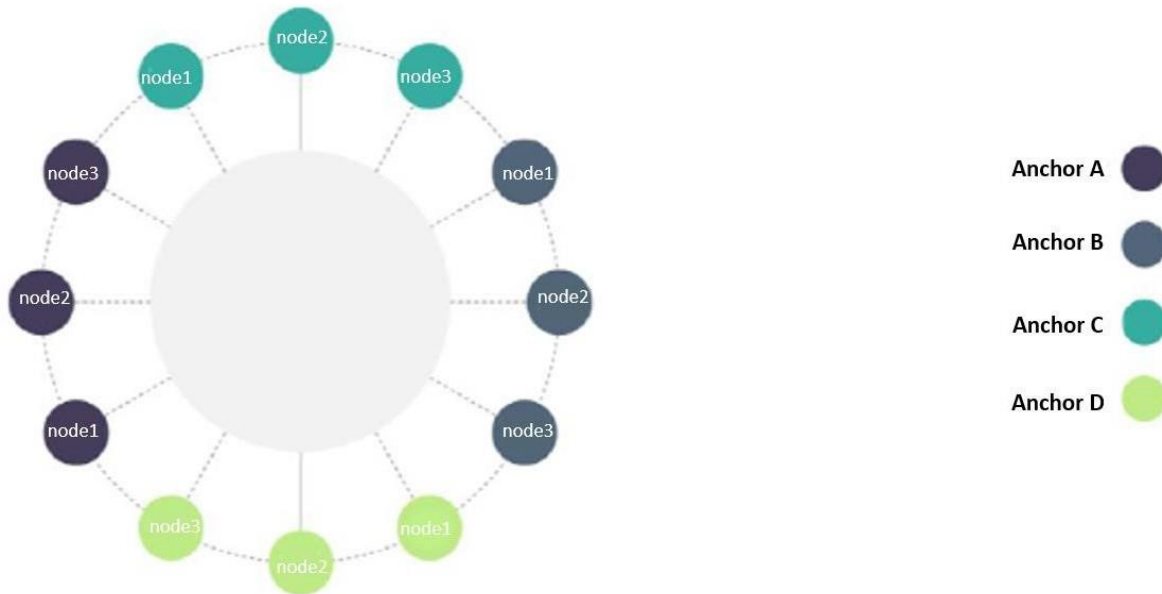


Figure 3. An illustration of how anchors nodes are connected

6-3-3- As the first step to create a dynamic mainnet, each founding member acts as an anchor and creates three active nodes in three different data centers. The initial network consists of at least three anchors, each of which has three active node service providers.

6-3-4- The source code repositories of Kuknos services are available at <https://git.kuknos.org> for the anchors to access. New anchors can implement and deploy their services by accessing this source code.

6-3-5- To simplify service deployment for anchors and accelerate network updates, the system uses application virtualization and Docker. Anchors can download the necessary Docker Images from <https://repository.kuknos.org> to make the service deployment process faster and easier.

7. Roles and Members

7-1-1- Founding Members

711. The Kuknos Network is founded by a coalition of technology companies consisting of Tecvest (Technology Investors), Sadad data processing Co., Parsian Bank Data Processing

Group Co. Fanavaran Hooshmand Behsazan Farda Holding Company, Fanap ICT Co., Yekta Kuknos Pars Distributed Information and Financial Technology Company.

7-1-2- As the founding members, these companies contribute the initial technical infrastructure (e.g., servers) as well as the minimum economic requirements, so that Network operations can begin per the principles and values outlined in this whitepaper.

7-1-3- The founding members are free to act as independent anchors to offer proprietary services and applications. However, they are not granted any privileges for being a founding member.

7-1-4- Prior to the public offering of Paymon, the founding members act as anchors, and their decisions per Paragraph 7-2 are regarded as the decisions of the Kuknos Foundation.

7-2. Kuknos Foundation

7-2-1- The Foundation is a self-regulated distributed organization.

7-2-2- The Foundation is a nonprofit non-union institution.

7-2-3- Each anchor has two representatives in the Foundation with independent voting rights.

7-2-4- Any eligible anchor can become a member of the Foundation contingent on the condition that 51 percent of the anchors agree to the addition

7-2-5- To make strategic decisions, at least 80 percent of the Foundation members must reach a consensus. Such decisions include interpreting or revising the whitepaper, regulating the relationships between members of the Ecosystem, identifying violations and setting penalties (e.g., prohibiting anchor participation in the network), resolving anchor disputes, and appointing a secretariat of anchors with specific responsibilities and authority.

7-2-6- The Foundation manages the unbacked Paymon accounts. The tokens are distributed among the anchors according to the procedures in this whitepaper, provided that at least 51 percent of the members reach a consensus.

7-2-7- To create a transparent, credible leadership structure, the voting infrastructure is implemented using a public ethereum smart contract as a Distributed Autonomous Organization (DAO). The details of the smart contracts are published at <https://www.kuknos.org/dao>.

7-3- Secretariat

7-3-1- Kuknos Secretariat is elected every two years from among the anchors with the vote of eighty percent (80%) of the members of Foundation. Re-election of an anchor as secretariat is permissible.

7-3-2- The executive regulations of the Secretariat of Kuknos Foundation is binding upon the proposal of the Secretariat and the approval of fifty-one percent (51%) of the members.

7-3-3- Secretariat affairs cover a wide range of responsibilities including but not limited to establishing collaboration among members of the Ecosystem to develop technical infrastructure and novel authorized services, connecting new members to the Network, monitoring the Network and markets, holding relevant events, accepting and proposing revisions to the whitepaper, regulating the relationships among ecosystem members, identifying violations, and setting penalties.

7-3-4- Members of Foundation must pay a subscription fee to cover the expenses of the Secretariat.

7-3-5- To help with the goals of Foundation, Secretariat is permitted to accept gifts and donations from natural or legal persons.

7-4- Supervisors

7-4-1- Competent authorities responsible for governance issues pertaining to members of the Ecosystem have the capacity to serve as supervisors with respect to policy, regulation, management, auditing, surveillance, and judiciary system.

7-4-2- Supervisors are only regarded as members of Kuknos in their capacity to follow up governance issues pertaining to one or more anchors. Relevant anchors invite the supervisors.

7-4-3- Supervisors are not involved in validating the transactions. They can only view and store records.

7-4-4- To become members of the Foundation, supervisors must agree to follow the provisions of this whitepaper.

7-4-5- Supervisors are free to serve as anchors as long as their anchoring interests are not in conflict with their supervisory duties. The Foundation judges potential conflicts of interest.

7-5- Anchors

7-5-1- All natural or legal persons from the public or private sector can become anchors provided that they agree to the provisions of the whitepaper, and satisfy the technical and economic

requirements. When operating anchors, government entities are solely responsible for complying with their own rules and regulations.

7-5-2- The addition of new anchors is contingent on fulfilling the eligibility requirements and a majority vote (51 percent) of the current anchors.

7-5-3- Anchors eligibility requirements are as follows:

7-5-3-1- Applicants must have no criminal conviction related to their professional activities. However, it is not mandatory to provide a certificate of clearance from a competent authority. Applicants need to declare their status and agree to accept the consequences of being dishonest.

7-5-3-2- Applicants must have an excellent reputation in their professional field.

7-5-3-3- Applicants must have all the necessary certificates and licenses and comply with all the respective rules and regulations.

7-5-3-4- Applicants must present a draft Whitepaper and issue at least one token - as a first token- on Kuknos Network through sponsor anchor.

7-5-3-5- Applicants must sign a contract with at least one current anchor to fully guarantee their debts and liabilities toward Kuknos stakeholders. Anchors are not allowed to have mutual guarantees.

7-5-3-6- Letter of commitment for accepting responsibility of non-operation, non-transmission and non-disclosure of information and systems related to the Kuknos Network.

7-5-3-7- Applicants are required to provide at least three active service providers for the mainnet and testnet in accordance with the technical conditions.

7-5-3-8- Applicants must demonstrate the technical capacity to effectively use the infrastructure provided by Kuknos.

7-5-3-9- At least 51 percent of the current anchors must agree with applicant's request to join the network.

7-5-3-10- Applicants must hold at least 500,000 Paymon in their accounts.

7-5-3-11- Notwithstanding paragraph 7-5-3-10, applicants must provide liquidity at least 500,000 Paymon and equivalent value of first token, in Paymon/anchor's-first-token AMM pool.

7-5-4- Anchors' responsibilities with respect to the supply, distribution, and market-making of the backing diamonds are detailed in Section 8-3 of the Whitepaper.

7-5-5- Anchors are responsible for acquiring, supporting, and monitoring issuers. They are free to simultaneously act as issuers and service providers.

7-5-6- The active anchors are listed at <https://www.kuknos.org/anchor>

7-6- Issuers

7-6-1- Legal entities and individuals are able to assume the role of an issuer after obtaining consent from at least one anchor.

7-6-2- Issuers can interact with multiple anchors at the same time.

7-6-3- The publisher utilizes its anchor infrastructure and software.

7-6-4- Tokens must be issued according to the requirements and conditions of the respective anchor.

7-6-5- Anchors are obligated to publish issuer-related information with sufficient transparency.

7-6-6- Provision of other Kuknos services by the issuer (e.g., wallet and exchange) is contingent on the respective anchor accepting the relevant responsibilities.

7-6-7- Issuers are obligated to publish a whitepaper for each token. The verification and publishing process of the whitepaper includes the following steps:

7-6-7-1- The issuer prepares a draft of the whitepaper according to the Foundation's approved template.

7-6-7-2- The issuer delivers the Whitepaper to the anchor.

7-6-7-3- The anchor validates the conformity of the Whitepaper to laws and checks for compliance with the Kuknos's whitepaper and the approved template.

7-6-7-4- The anchor approves the revised whitepaper and signs a contract with the issuer.

7-6-7-5- The anchor confirms that the issuer has obtained all the required certificates and licenses relevant to the scope of the whitepaper.

7-6-7-6- The anchor publishes the final version of the whitepaper on its website.

8- Paymon

8-1- Issuing

8-1-1- The Foundation initially issues Paymon (PMN) tokens at the outset of Network operations.

8-1-2- Initially, the Foundation issues one billion unbacked tokens and transfers them to its distribution accounts. The required diamond reserves are acquired relative to the level of Network activity, and the tokens are transferred from distribution accounts to anchor accounts to be offered publicly.

8-1-3- Details of the token issuance process are available via <https://www.kuknos.org/Paymon>

8-1-4- Nine hundred million (900,000,000) unbacked tokens (out of one billion) were transferred to an irreversible account (an account with a permanently expired signature). Therefore, a total of 100,000,000 unbacked tokens can be offered on the network.

8-2- Minimum Account Balance

8-2-1-To prevent dormant accounts and spam transactions, several minimum Paymon balance requirements are established and checked before conducting transactions.

8-2-2-The minimum balance is calculated based on the following relation:

Minimum balance = (2 + # of entities) * base reserve

- base reserve = 0.5 Paymon
- Entities include the following:
 - o Number of trustlines
 - o Number of offers
 - o Number of signers
 - o Number of data entries

8-3- Distribution

8-3-1- Paymon distribution accounts (excluding the founding members) require multiple signatures, with all members of the Foundation having their signatures defined for these accounts. Paymon distribution is contingent on the majority fifty-one percent vote (51 %) of the anchors.

8-3-2- There are four distribution accounts with the following token allocations:

8-3-2-1 Twenty percent (20%) of the 100,000,000 tokens for the anchors.

8-3-2-2- Seventy-five percent (75%) of one hundred million tokens, for the monthly supply on a floating basis and in proportion to the activity of the anchors in the network;

8-3-2-3- Five percent (5%) of one hundred million tokens, especially for the Kuknos Founding Group, the list and value of each of which is determined by the Kuknos Foundation

8-3-3- Terms and framework of Paymon distribution

8-3-3-1- Twenty percent (20%) of one hundred million tokens, especially for anchors:

8-3-3-1-1 At least one million Paymon were distributed among eligible anchors, in the beginning of Kuknos Network launch.

8-3-3-1-2- Each anchor provided reserve diamonds in proportion with the received Paymon.

8-3-3-1-3- The initial offering period to the anchors was from November 6, 2019 to December 5, 2019.

8-3-3-1-4 Providing their required Paymon, new anchors, by the end of the initial offering, are to refer to active anchors and participate in their monthly offering.

8-3-3-2- Seventy-five percent (75%) of one hundred million tokens, especially for monthly offering on a floating basis and in proportion to the anchor activity:

8-3-3-2-1- Monthly offerings started from October 30, 2019.

8-3-3-2-2- Meeting anchoring conditions is a prerequisite for receiving a monthly distribution Paymon.

8-3-3-2-3- Maximum monthly Paymon available to the anchors is calculated by following formula:

$$((\text{Total Paymon offered} / \text{Total monthly votes}) + 1) * \text{One hundred thousand} * \text{Number of active anchors} = \text{Total monthly offering}$$

8-3-3-2-4- The maximum Paymon that can be received by each anchor is calculated by following formula:

$$((\text{Total monthly vote} / \text{monthly vote for the anchor}) + 1) * \text{One hundred thousand} = \text{maximum monthly offering to the anchor}$$

8-3-3-3- Five percent (5%) of Kuknos Founder Group:

8-3-3-3-1- The tokens are offered when at least 70 percent of the group members reach a consensus. The tokens are offered gradually (up to 20 percent each year).

8.3.3.3.2 Ten (10) representative members of the Kuknos Founding Group are appointed as the signatories of the distribution account.

8-3-3-3-3- Kuknos Founding Group members are required to supply the reserve diamonds of Paymon. Diamonds are supplied in proportion with the value of Paymon offered to the market.

8-4- Paymon Offering

8-4-1- The anchors will supply and sale Paymon to the market through several ways including Paymon they hold, token wallet, Kuknos distributed exchange system and other defined mechanisms. Receiving Paymon from Kuknos Distribution Accounts depends on the value of monthly sales and the supply of new reserve diamonds, and in this regard the anchors submit their requests to the Foundation. The Foundation will make an appropriate decision for supplying Paymon from the distribution accounts to the requesting anchor, regarding the anchor's sales records and supply documentation of new reserve diamonds.

8-4-2- In sale process of Paymon, the anchors are permissible to tokenize the common currency within the framework of laws and regulations and offer it to the users, thus, users can exchange/ purchase Paymon in Kuknos exchange system with a common currency token.

8-4-3- The minimum supply rate of Paymon by the anchors in the form of a bid (nominal price) in Kuknos exchange system or other markets with a common local currency, is determined according to the following formula. It should be noted that the transaction rate of Kuknos users in the exchange system will not be subject to this formula:

$$\text{nominal price} = \frac{\text{Base diamond exchange prices at the current price of the place of supply} * 1/1}{100000}$$

8-4-4-The price of reserve diamonds is calculated on the basis of the price announced in Rapaport weekly reports. Information related to the pricing of base diamonds and Paymon reserve diamonds is regularly published on the Kuknos Foundation website. Because all diamonds are GIA certified, the cost of obtaining a certificate is added to the value stated in the Rapaport report, details of which are given in Appendix 2.

8-4-5-The base diamond is divided into one hundred thousand (100,000) Paymon. The count of available Paymon in proportion to each of the reserve diamonds is calculated at the time of reservation based on the following formula:

$$\text{Paymon count} = (\text{overhead costs of GIA Certificate Acceptance} + \text{reserve diamond price in Rapaport}) / (400 + \text{base diamond price in Rapaport}) \times 100,000$$

8-5- Paymon Redemption and Reserve Diamond Delivery

8-5-1- Redemption of Paymon means that anchor pays user the nominal price of Paymon regrading the formula in “8-4-3”. The fee is determined by the anchor.

8-5-2- Users can refer to the foundation's website, view the list of reserve diamonds and holders of each, and after selecting a reserve diamond, record their request on the relevant anchor website..Therefore, anchor will deliver the reserve diamond to the user in coordination with the secretariat. Users can receive the diamond within three business days from the designated anchor office. If several requests are recorded for a same reserve diamond, priority will be to a request that has been recorded earlier. For this purpose, the user must provide the count of tokens declared in paragraph "8-4-5" and pay the delivery fee, to receive the selected diamond. When the reserve diamond is delivered to the user, the anchor must transfer the tokens corresponding to the delivered diamond to Paymon return account, without taking into account the fee and only according to the formula mentioned in paragraph "8-4-5", to be excluded from the supply cycle.

8-5-3- Maximum Paymon redemption fee and maximum diamond delivery fee is 1% which is received in the form of Paymon.

8-5-4- If the Foundation approves, the balance of Paymon return account will be transferred to the monthly distribution account.

8-5-5- Redemption of Paymon in local currency based on the nominal price of Paymon with deduction of commission will be done only when there is a valid price according to paragraph "8-4-3".

8-6- Terms of Guarantee of Reserve Diamonds

8-6-1- The anchor must issue a certificate of secure lending of reserve diamond for Paymon or its insurance documents.

8-6-2- In order to ensure the adequacy of the reserve diamond, the anchor is required to allow for continuous inspection of the secretariat or other competent governmental authorities.

8-6-3- In case of failure of the responsible anchor to fulfill its obligations and/or to pay its debts resulting from its activities on Kuknos, including the inability to provide sufficient backing diamond, the guaranteeing anchor is responsible for those liabilities.

8-6-4- The reserve diamond, under the supervision of the secretariat, will be given to the guarantor anchor, in case the responsible anchor leaves Kuknos Network.

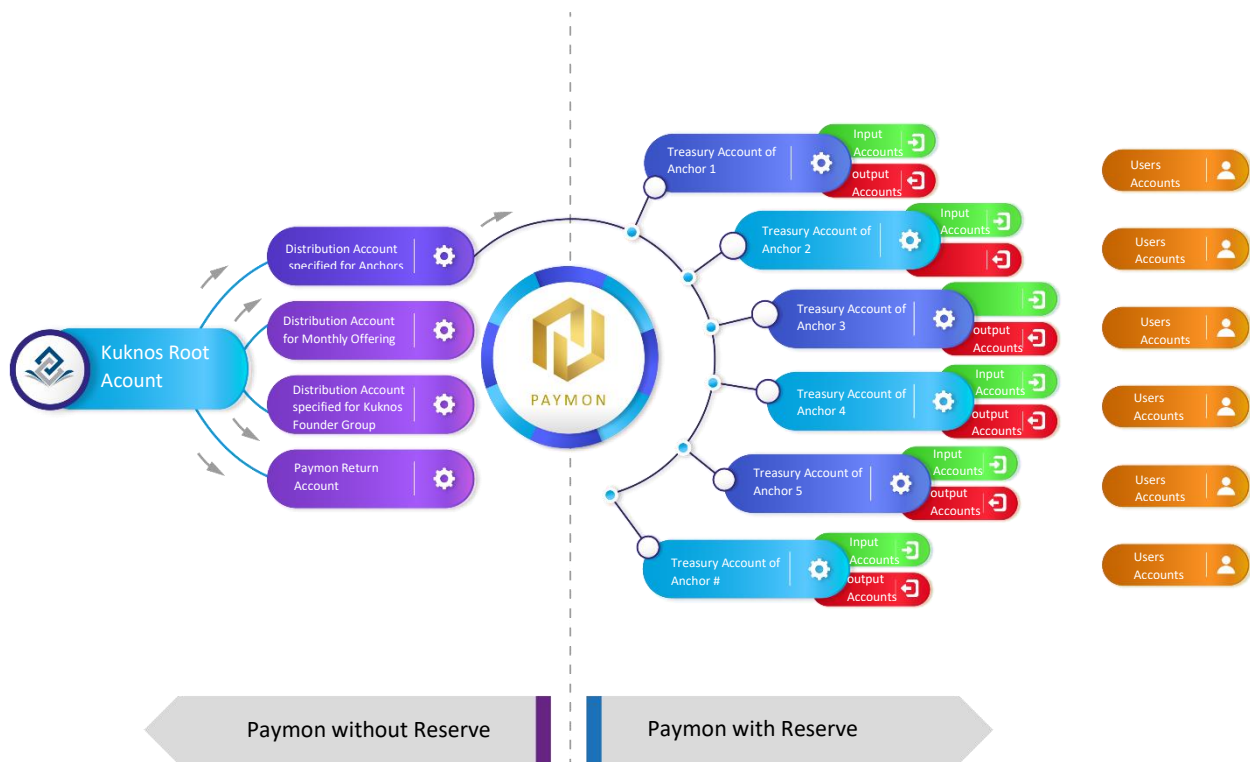


Figure 4 - Structure of Paymon distribution and offering accounts

8-7- Conditions for Using Paymon Token in Kuknos Ecosystem

8-7-1- To prevent the use of Paymon tokens as payment tools, Kuknos Company and all anchors are required to monitor and supervise users and in case they come across an abuse they block network access of the misuser.

8-7-2- Having been informed about the use of Paymon token as a means of payment, the judicial authority or the supervisory body announce it to the Secretariat, thereafter, offending anchor is required to execute all judicial authority' instructions and Secretariat is to report it to the judicial authority.

8-7-3- Kuknos Company and all anchors prevent the use of Paymon tokens as payment tools in systems, mobile applications and digital currency trading platforms, and as soon as they become aware of the issue by an announcement of the Central Bank, they take immediate and deterrent measures.

8-7-4- In case pillars of Kuknos ecosystem violates the Whitepaper and/or Paymon sales contract, or in case of legal dispute between users and service providers in Kuknos Network before the full establishment of the 2nd version of Kuknos Network and Paymon Token Whitepaper, Kuknos Foundation Secretariat will then take over all legal action.

9- Anchors Revenue Pattern

9-1- Income sources of anchors are as follows:

9-1-1- Fee for service providing based on Kuknos Network capacities;

9-1-2- Fee from issuer for token issuance, by agreement;

9-1-3- Revenue from Paymon supply and demand management (market price minus nominal price);

9-1-4- Revenues from participation in depositing tokens in Automated Market Making Pools;

9-1-5- Paymon redemption fee, up to one percent (1%) of the number of redeemed Paymons, in the form of Paymon;

9-1-6- Paymon reserve diamond delivery fee

9-1-7- The fee for each operation in Kuknos Network is fifty thousand (50,000) Peanuts, which is paid to anchors on a monthly basis according to the number of votes received from users;

9-1-8- Fees from other service providers, by agreement.

10 - Anchors Competition

10-1- Anchors and issuers have no restrictions in developing and diversifying their markets, provided that their actions not violate the principles laid out in this whitepaper.

10-2- If necessary, the Foundation takes the necessary measures to regulate the market and prevent and counteract anti-competition practices by any member(s) of the Kuknos Ecosystem.

10-3- The maximum and minimum fees are set in the whitepaper to incentivize anchors to improve service quality, optimize interests, and promote healthy competition.

10-4- Users vote for anchors based on the Paymon balance in their accounts. Therefore, by creating diversified and user-friendly channels and services, anchors can attract more votes and increase their revenue in the following areas:

10-4-1- Fair distribution of network operation fees.

10-4-2- Receiving more distributable Paymon tokens each month.

11- Kuknos Legal System

11-1- Governing Laws

11-1-1- It is necessary to pay attention to the principles derived from the law of electronic commerce in the analysis of the legal system governing Kuknos Network. According to Article 3 of the Electronic Commerce Act: "The international origin, the need to promote uniformity in its application, and the observance of good faith should always be taken into consideration in the interpretations of this Law."

11-1-2- The contractual systems of the Kuknos Network are based on the free will and agreements of individuals, as long as they do not explicitly contradict the laws of the country. According to Article (10) of the Iran's Civil Code: "Private contracts are valid for those who have concluded it, unless it is explicitly against the law."

11-1-3- The rules and regulations of international institutions and or conventions to which the Government of the Islamic Republic of Iran has joined to or ratified and implemented their provisions have a force of law and shall be binding for Kuknos.

11-1-4- Considering the fact that the basis of obligations in the Kuknos Network, is occasionally unilateral announcements and acceptance of obligations of each of the Kuknos Network actors in addition to bilateral or multilateral contractual agreements, the validity of these declarations according to Articles 1275 to 1283 of the Civil Code and Articles 202 to 205 The Code of Civil Procedure and the Revolution in Civil Matters are accepted by the Kuknos Network.

11-2- Validating Kuknos Ecosystem

11-2-1- The Secretariat Requests all required licenses from qualified national and transnational competent authorities.

11-2-2- All members of Kuknos are required to Request pertinent licenses from competent authorities. Their responsibilities cannot be abdicated based on the licenses obtained by Kuknos.

11-2-3- If the licenses of any Ecosystem member, especially anchors, are revoked, operations of Kuknos remain unaffected unless the conditions in Paragraph 11-16-1 apply.

11-3- Kuknos Foundation Votes

11-3-1- Foundation votes do not signify competence, license to operate, or the revocation thereof in Paragraph 11-2-2.

11-3-2- With respect to strategic issues enumerated in this whitepaper, decisions are made based on a supermajority (80 percent of the votes) of the anchors. Disagreements about strategic issues are also resolved using the same approach.

11-3-3- Transaction verification, the addition of new anchors, and Paymon distribution management require a simple majority vote (51 percent).

11-3-4- The Foundation does not interfere with the managerial and internal affairs of the anchors and among them. All decisions must be made based on relevant whitepapers, agreements, and contracts.

11-4- Ownership of Kuknos

11-4-1- Kuknos is not owned by any of its members.

11-4-2- All anchors have full ownership of their technical infrastructure.

11-4-3- Reserved diamonds of Paymon and the assets backed by other tokens belong to their issuers, unless the contract or law allows the holders of the tokens to acquire and seize the backed assets.

11-4-4- Excluding proprietary intellectual properties belonging to the anchors, all intellectual properties associated with the Kuknos name and brand, as well as their material benefits, belong to the Foundation.

11-5- Kuknos Trades

11-5-1- Recording trade transactions in the ledger does not imply their legitimacy. Contracting parties are bound to consider all related laws.

11-5-2- In compliance with Article 10 of the Civil Code of the Islamic Republic of Iran on the freedom of will, all contracts and agreements between the anchors, issuers and users shall be agreed and signed by the relevant parties in format of accepted forms of contract in legal system.

11-5-3- The issuer and anchor are responsible for setting a legal framework and contract type for their respective token(s).

11-5-4- The issuer(s) and anchor(s) are jointly obligated to conduct their duties and responsibilities.

11-5-5- Contracts between members will be concluded in accordance with the relevant laws and regulations and with authentication in a Kuknos-approved manner.

11-6- Privacy

11-6-1- Kuknos respects the privacy of its members and all other stakeholders. Anchors must provide fully transparent privacy terms in their tools and services.

11-6-2- All Kuknos applications must publish independent privacy and data protection policies. Relevant anchors are responsible for developing and publishing those policies.

11-6-3- In all Kuknos contracts, breach of user privacy and private stakeholder information must be anticipated as a violation of the contract, and appropriate guarantees must be obtained.

11-7- Security

11-7-1- Anchors, issuers, and users are responsible for the security of their respective applications, infrastructures, and systems. Anchors are responsible for monitoring activities and must deploy appropriate urgent response systems.

11-7-2- In case of any threats to any application, the respective anchor must inform other entities, especially its issuers and users, in the shortest possible period.

11-7-3- Each anchor is required to notify users of potential security events and possible solutions either directly or through the issuers.

11-7-4- Users are responsible for the safekeeping of their private keys. No entity in the Kuknos Ecosystem is responsible for the theft or misuse of private keys.

11-8- Referability

11-8-1- All stakeholders can reference recorded transactions. Unrecorded transactions can be referenced by the anchor.

11-8-2- Having access to transaction records does not prevent one from requesting them. It is possible to request records maintained by other parties for purposes such as comparison.

11-8-3- The initiator must store operations that do not result in a transaction.

11-8-4- All transaction records must be stored for at least two years.

11-8-5- Registered records in the Kuknos Ledger have the validity of secure electronic signature of Kuknos Protocols.

11-9- Undeniability

11-9-1- Each transaction is presumed to be referable/attributional to the person who is the owner of the account which has applied for the registration of such transaction in the Ledger.

11-9-2- Kuknos transactions cannot be denied with the quality of identity information connection to account number being determined based on the requirements of each KYC level. The desired anchor is fully responsible for making the connection.

11-10- Transparency

11-10-1- All hosts and supervisors have access to transaction records.

11-10-2- Each transaction has different information requirements and follows different regulations.

11-10-3- Requests for further transparency are contingent on the protection of other stakeholders' rights, especially with respect to reputation and ownership.

11-10-4- Binding national or transnational laws of Anti-Money Laundering (AML), anti- terrorism, or other serious crimes supersede ownership or reputation rights of the Ecosystem members.

11-10-5- Transparency does not entail publicly announcing all available information. It is sufficient to allow competent authorities and stakeholders access to relevant information.

11-10-6- Members of the Ecosystem are required to establish appropriate (preferably 24/7) support and communication channels with their stakeholders and recruit experienced technicians to handle the responsibilities.

11-11- Announcements

11-11-1- All public, limited, or individual announcements about Kuknos are solely made by the Secretariat and can be republished provided that a reference is given.

11-11-2- Anchors are allowed to own and operate independent media.

11-12- Liabilities and Responsibilities

11-12-1- Anchors and issuers are responsible for managing the legal aspects of all their services.

11-12-2- The losses incurred by a delay in distribution or failure to redeem the distributed Paymon tokens are covered by the anchor, in proportion to their supply of Paymon.

11-12-3- The losses incurred by a delay in distribution or failure to redeem asset tokens are covered jointly by the issuer(s) and the anchor.

11-12-4- The anchor or issuer is liable for any responsibility related to/resulting from any failure to respect administrative regulations and/or applicable obligations or any criminal or civil

responsibility resulting from crimes as mentioned in local applicable laws of anchors and/or issuers country.

11-12-5- Users are responsible for the following issues:

11-12-5-1- Failure to comply with the rules and regulations governing user activities in Kuknos Network.

11-12-5-2- Failure to comply with the security requirements notified by the Network or according to the case, any of anchors and issuers.

11-12-5-3- User's failure to comply with contract terms and conditions inserted at Kuknos Network.

11-12-5-4- Having insufficient knowledge of the terms and requirements of each market, member, or trade in Kuknos.

11-12-5-5- Any Failure to comply with safety or security regulations or any fault or negligence or non-compliance with the rules and agreements set by the user or any misuse of tokens;

11-12-5-6- Any Risk of buying and selling tokens and their price fluctuations according to market conditions and the value of their support;

11-12-5-7- Any Risk of force majeure or unforeseen events beyond the control of Kuknos anchors.

11-13- Compensations

11-13-1- Any approval or rejection of any request for registration of any transaction in the ledger shall cause no responsibility for the voting anchors or supervisors. The applicant of such request or transaction is directly and specifically responsible for all obligations resulting from the request or transaction

11-13-2- All and any losses, whether be material or immaterial, caused by trades and interactions on Kuknos, must be compensated by the issuers, hosts, and users, in accordance with the contract and the terms and conditions agreed between them.

11-14- Anchor Exit

11-14-1- To exit Kuknos, whether mandatory or optional, an anchor must go through the following steps:

11-14-1-1- Publicly announcing the exit at least three months prior.

11-14-1-2- Ceasing all customer (i.e., issuers and users) acquisition efforts.

11-14-1- 3- Removing the anchor's signature from all of the Foundation's accounts.

11-14-1-4- Providing the Secretariat with timed exit procedures verified by the guaranteeing anchor.

11-14-1-5- Transferring the Paymon backing diamond to the guaranteeing anchor.

11-14-1-6- Transferring other backing assets and asset tokens to the guaranteeing anchor.

11-14-1-7- Transferring all issuance account keys associated with all tokens to the guaranteeing anchor.

11-14-1-8- Transferring all issuer and user contracts to the guaranteeing anchor.

11-14-1-9- Disconnecting from technical infrastructure and transferring user service provision channels to the guaranteeing anchor.

11-14-1-10- Transferring customer information as well as connected to or independent from the Kuknos Network to the guaranteeing anchor.

11-14-1-11- Anchors guaranteed by the exiting anchor must introduce a new guaranteeing anchor within 3 months.

11-15- Dispute Resolution

11-15-1- Anchors are required to have a dispute resolution clause in their contracts and other legal documents.

11-15-2- In case of disputes among anchors with respect to the terms of the whitepaper or mutual interactions, especially between the anchors that support and provide similar applications, the Foundation can act as the arbitration authority or mediator to solve the disputes between the parties amicably and in a peaceable manner.

11-16- Kuknos Termination

11-16-1- Kuknos ceases to exist if there are fewer than 3 anchors in the network.

11-16-2- If the number of anchors does not fall below the threshold in Paragraph 11-16-1, anchor exists (whether ... or ...) do not affect Kuknos operations.

11-16-3- Anchors are obliged to protect the reserved diamonds backing the Paymon and their issued tokens from any seizure and confiscation resulting from legal and judicial actions. Otherwise, they are solely responsible for the consequences of claims and accusations such as fraud, unjust enrichment of another's property, betrayal of the trust or sale of another's property.

11-17-Enforcement of Whitepaper

11-17-1- The present whitepaper comes into effect after it is signed by at least 3 anchors and communicated to the Secretariat.

11-17-2- Whitepaper revisions are considered strategic decisions and come into effect after being communicated to the Secretariat.

11-17-3- Issuer whitepapers come into effect as soon as the official approval of anchors confirming lack of conflict between Kuknos whitepaper and the relevant whitepaper. Anchor audits must be performed within 10 working days. Failure to present an opinion is regarded as approval.

11-17-4- Anchors that sign the whitepaper hereby agree and are obliged to respect and protect the terms and conditions resulted from this whitepaper and its further amendments in all relevant agreements, minutes and contracts irrevocably. Anchors agree to follow this whitepaper themselves and keep it binding for their relevant contractual parties.

11-17-5- This document is the final version of the agreement between signatory anchors. Once the present whitepaper comes into effect, all previous versions of the whitepaper, as well as all bilateral and multilateral agreements among anchors, whether written or spoken, are considered to be void.

Appendix II



GIA

Part 1: Calculating GIA Certification Costs for Diamond Base

Additional costs of obtaining a GIA certificate include:

- Grading Report
- Transportation of diamonds to a certification laboratory (Shipping)
- Laser Inscription
- Customer Service (Client Service)

For example, for a base diamond, which is priced at \$ 5,600 in the Rapaport report dated 1/21/2022, the minimum costs for a one-carat base diamond with service on the day of delivery will be as follows:

| List of overhead costs of obtaining a certificate | |
|---|--------------|
| Grading report | \$220 |
| Shipment of diamonds to a certification laboratory | \$50 |
| Laser serial insertion | \$30 |
| customer services | \$100 |
| Total | \$400 |

Base Diamond Price = Rapaport Report Price (\$ 5,600) + GIA Certificate Overhead Costs (\$ 400)

Thus, the diamond price is equal to \$ 6,000.

Part II: GIA Certificate Cost Calculation Tables

An updated version of all the information contained in this appendix is available on the official GIA website at:

www.gia.edu/gem-lab-fee-schedule

| DIAMOND GRADING REPORT | |
|--|--------------------------------|
| Includes 4Cs assessment, plotted clarity diagram and proportions diagram. GIA report number laser inscription available at an additional charge. | |
| Weight (carats) | Fee |
| 0.15 to 0.22 | \$48 |
| 0.23 to 0.46 | 59 |
| 0.47 to 0.69 | 64 |
| 0.70 to 0.99 | 78 |
| 1.00 to 1.19 | 110 |
| 1.20 to 1.49 | 115 |
| 1.50 to 1.99 | 130 |
| 2.00 to 2.99 | 180 |
| 3.00 to 3.99 | 265 |
| 4.00 to 4.99 | 355 |
| 5.00 to 5.99 | 505 |
| 6.00 to 7.99 | 595 |
| 8.00 to 9.99 | 705 |
| 10.00 to 11.99 | 975 |
| 12.00 to 14.99 | 1,150 |
| 15.00 to 19.99 | 1,400 |
| 20.00 to 24.99 | 1,825 |
| 25.00 to 29.99 | 2,125 |
| 30.00 to 39.99 | 2,575 |
| 40.00 to 49.99 | 3,050 |
| 50.00 and above | available upon written request |

LASER INSCRIPTION

Inscribe your diamond's unique GIA report number, a personal message, symbol or logo on your diamond's girdle. Diamonds that require the "TREATED COLOR" inscription will be charged according to the below fees.

| Weight (carats) | Report Number | Graphics or up to 15 characters | Additional up to 15 characters |
|-----------------|---------------|---------------------------------|--------------------------------|
| 0.15 to 0.99 | \$12 | \$15 | \$12 |
| 1.00 to 1.49 | 15 | 19 | 15 |
| 1.50. to 1.99 | 16 | 20 | 16 |
| 2.00 to 2.99 | 24 | 30 | 24 |
| 3.00 to 3.99 | 33 | 42 | 33 |
| 4.00 to 4.99 | 44 | 56 | 44 |
| 5.00 to 5.99 | 62 | 79 | 62 |
| 6.00 to 7.99 | 73 | 93 | 73 |
| 8.00 to 9.99 | 86 | 110 | 86 |
| 10.00 to 11.99 | 119 | 153 | 119 |
| 12.00 to 14.99 | 140 | 179 | 140 |
| 15.00 to 19.99 | 172 | 219 | 172 |
| 20.00 to 24.99 | 223 | 286 | 223 |
| 25.00 to 29.99 | 261 | 333 | 261 |
| 30.00 to 39.99 | 316 | 405 | 316 |
| 40.00 to 49.99 | 372 | 476 | 372 |
| 50.00 and above | | available upon written request | |



RUSH SERVICE

Some services may be completed in 48-72 hours. Contact your Client Services Representative for more details. GIA does not offer the Rush service on colored diamonds that may be considered green or blue in color.

Based on availability

Add 100% of total service charges



Part 3: Sample Rapaport Report

| RAPAPORT DIAMOND REPORT | | | | | | | | | | | | | | | | | | | | | | | |
|--|------|------|-----|------------------|-----|-----|---|-------------------|-----|----|----|------|------|------|------|------|-----|-----|-----|-----|-----|----|----|
| Tel: 877-987-3400 | | | | www.RAPAPORT.com | | | | info@RAPAPORT.com | | | | R | | | | | | | | | | | |
| April 15, 2022 : Volume 45 No. 15: APPROXIMATE HIGH CASH ASKING PRICE INDICATIONS : Page 2 Round Brilliant Cut Natural Diamonds, GIA Grading Standards per "Rapaport Specification A3" in hundreds of US\$ per carat. We grade SI3 as a split SI2/I1 clarity. Price changes are in Bold , higher prices underlined, lower prices in italics. Rapaport welcomes price information and comments. Please email us at prices@Diamonds.Net. 0.95-0.99 may trade at 5% to 10% premiums over 0.90 1.25 to 1.49 Ct. may trade at 5% to 10% premiums over 4/4 prices. | | | | | | | | | | | | | | | | | | | | | | | |
| RAPAPORT : (.90 - .99 CT.) : 04/15/22 | | | | | | | ROUNDS RAPAPORT : (1.00 - 1.49 CT.) : 04/15/22 | | | | | | | | | | | | | | | | |
| IF | VVS1 | VVS2 | VS1 | VS2 | SI1 | SI2 | SI3 | I1 | I2 | I3 | IF | VVS1 | VVS2 | VS1 | VS2 | SI1 | SI2 | SI3 | I1 | I2 | I3 | | |
| D | 143 | 126 | 110 | 97 | 85 | 69 | 58 | 47 | 38 | 23 | 15 | D | 220 | 176 | 152 | 137 | 121 | 95 | 77 | 63 | 52 | 26 | 16 |
| E | 126 | 116 | 103 | 90 | 80 | 65 | 54 | 44 | 37 | 22 | 14 | E | 171 | 155 | 141 | 129 | 113 | 90 | 73 | 60 | 50 | 25 | 15 |
| F | 115 | 107 | 95 | 83 | 75 | 62 | 50 | 42 | 36 | 21 | 13 | F | 152 | 144 | 130 | 121 | 107 | 85 | 70 | 57 | 47 | 24 | 14 |
| G | 104 | 94 | 84 | 77 | 70 | 59 | 47 | 40 | 35 | 20 | 12 | G | 129 | 123 | 117 | 111 | 102 | 81 | 66 | 55 | 45 | 23 | 13 |
| H | 87 | 79 | 74 | 70 | 66 | 55 | 44 | 37 | 33 | 19 | 12 | H | 109 | 105 | 101 | 96 | 91 | 74 | 63 | 52 | 42 | 22 | 13 |
| I | 71 | 67 | 64 | 61 | 58 | 49 | 41 | 35 | 30 | 18 | 11 | I | 88 | 85 | 82 | 78 | 74 | 67 | 58 | 48 | 38 | 21 | 12 |
| J | 59 | 56 | 54 | 51 | 48 | 43 | 36 | 30 | 26 | 17 | 10 | J | 72 | 69 | 66 | 62 | 59 | 55 | 49 | 43 | 35 | 20 | 12 |
| K | 49 | 47 | 45 | 42 | 40 | 36 | 31 | 26 | 23 | 15 | 9 | K | 60 | 56 | 53 | 50 | 47 | 44 | 40 | 37 | 33 | 18 | 11 |
| L | 42 | 40 | 38 | 36 | 34 | 30 | 26 | 23 | 20 | 13 | 8 | L | 50 | 47 | 45 | 43 | 41 | 37 | 34 | 32 | 29 | 17 | 10 |
| M | 37 | 35 | 33 | 31 | 29 | 27 | 23 | 21 | 17 | 11 | 7 | M | 44 | 42 | 40 | 38 | 36 | 34 | 30 | 28 | 26 | 16 | 10 |
| W: 94.24 - 0.00% T: 48.71 - 0.00% | | | | | | | W: 130.12 - 0.00% T: 64.65 - 0.00% | | | | | | | | | | | | | | | | |
| 1.70 to 1.99 may trade at 7% to 12% premiums over 6/4. 2.50+ may trade at 5% to 10% premium over 2 ct. | | | | | | | | | | | | | | | | | | | | | | | |
| RAPAPORT : (1.50 - 1.99 CT.) : 04/15/22 | | | | | | | ROUNDS RAPAPORT : (2.00 - 2.99 CT.) : 04/15/22 | | | | | | | | | | | | | | | | |
| IF | VVS1 | VVS2 | VS1 | VS2 | SI1 | SI2 | SI3 | I1 | I2 | I3 | IF | VVS1 | VVS2 | VS1 | VS2 | SI1 | SI2 | SI3 | I1 | I2 | I3 | | |
| D | 284 | 245 | 213 | 191 | 166 | 134 | 110 | 90 | 75 | 36 | 18 | D | 460 | 370 | 310 | 260 | 225 | 185 | 151 | 114 | 94 | 43 | 19 |
| E | 249 | 225 | 199 | 177 | 155 | 127 | 103 | 84 | 70 | 34 | 17 | E | 375 | 330 | 285 | 240 | 210 | 175 | 141 | 107 | 90 | 41 | 18 |
| F | 220 | 200 | 178 | 162 | 145 | 119 | 96 | 82 | 67 | 33 | 16 | F | 320 | 295 | 260 | 225 | 195 | 163 | 132 | 101 | 85 | 39 | 17 |
| G | 182 | 170 | 155 | 143 | 131 | 113 | 90 | 77 | 64 | 31 | 15 | G | 265 | 240 | 220 | 200 | 180 | 150 | 123 | 94 | 82 | 37 | 16 |
| H | 149 | 140 | 133 | 126 | 117 | 106 | 85 | 72 | 60 | 30 | 15 | H | 215 | 200 | 190 | 175 | 160 | 139 | 116 | 87 | 78 | 35 | 15 |
| I | 124 | 117 | 111 | 105 | 99 | 91 | 79 | 67 | 55 | 28 | 14 | I | 175 | 165 | 155 | 145 | 136 | 123 | 109 | 81 | 72 | 33 | 15 |
| J | 103 | 97 | 92 | 87 | 81 | 75 | 70 | 60 | 49 | 26 | 14 | J | 145 | 136 | 128 | 118 | 112 | 105 | 95 | 76 | 66 | 30 | 14 |
| K | 85 | 79 | 75 | 71 | 67 | 63 | 58 | 52 | 45 | 24 | 13 | K | 121 | 111 | 102 | 94 | 89 | 83 | 77 | 67 | 58 | 28 | 14 |
| L | 73 | 68 | 63 | 59 | 56 | 52 | 47 | 43 | 40 | 23 | 12 | L | 99 | 91 | 82 | 76 | 71 | 67 | 63 | 57 | 50 | 27 | 13 |
| M | 64 | 59 | 53 | 50 | 47 | 44 | 41 | 38 | 35 | 22 | 12 | M | 81 | 75 | 69 | 64 | 60 | 56 | 52 | 47 | 43 | 26 | 13 |
| W: 178.20 - 0.00% T: 89.10 - 0.00% | | | | | | | W: 256.20 - 0.00% T: 122.29 - 0.00% | | | | | | | | | | | | | | | | |
| 3.50+, 4.5+ may trade at 5% to 10% premium over straight sizes | | | | | | | | | | | | | | | | | | | | | | | |
| RAPAPORT : (3.00 - 3.99 CT.) : 04/15/22 | | | | | | | ROUNDS RAPAPORT : (4.00 - 4.99 CT.) : 04/15/22 | | | | | | | | | | | | | | | | |
| IF | VVS1 | VVS2 | VS1 | VS2 | SI1 | SI2 | SI3 | I1 | I2 | I3 | IF | VVS1 | VVS2 | VS1 | VS2 | SI1 | SI2 | SI3 | I1 | I2 | I3 | | |
| D | 700 | 560 | 490 | 410 | 350 | 275 | 225 | 149 | 107 | 49 | 21 | D | 860 | 720 | 635 | 535 | 440 | 315 | 255 | 155 | 111 | 54 | 23 |
| E | 565 | 495 | 440 | 375 | 320 | 250 | 210 | 140 | 102 | 47 | 20 | E | 685 | 615 | 550 | 490 | 410 | 295 | 240 | 145 | 106 | 52 | 22 |
| F | 475 | 425 | 380 | 335 | 295 | 230 | 195 | 133 | 97 | 45 | 19 | F | 590 | 535 | 490 | 425 | 365 | 275 | 225 | 138 | 101 | 50 | 21 |
| G | 390 | 355 | 325 | 290 | 255 | 210 | 175 | 121 | 91 | 43 | 18 | G | 480 | 445 | 405 | 370 | 325 | 245 | 200 | 127 | 95 | 47 | 20 |
| H | 310 | 285 | 260 | 235 | 215 | 190 | 157 | 108 | 86 | 41 | 17 | H | 370 | 345 | 325 | 305 | 270 | 215 | 180 | 114 | 90 | 44 | 19 |
| I | 250 | 230 | 215 | 195 | 185 | 170 | 142 | 99 | 80 | 38 | 16 | I | 290 | 270 | 255 | 240 | 215 | 190 | 160 | 105 | 86 | 41 | 18 |
| J | 200 | 185 | 175 | 165 | 155 | 140 | 126 | 90 | 71 | 35 | 15 | J | 230 | 215 | 200 | 190 | 175 | 155 | 140 | 95 | 75 | 39 | 17 |
| K | 160 | 150 | 140 | 135 | 125 | 115 | 103 | 76 | 62 | 33 | 15 | K | 190 | 180 | 165 | 155 | 145 | 130 | 120 | 83 | 66 | 36 | 17 |
| L | 128 | 121 | 114 | 108 | 100 | 92 | 82 | 65 | 55 | 31 | 14 | L | 155 | 145 | 135 | 125 | 115 | 105 | 100 | 73 | 59 | 34 | 16 |
| M | 105 | 99 | 93 | 87 | 82 | 77 | 67 | 58 | 47 | 30 | 14 | M | 125 | 115 | 105 | 100 | 95 | 90 | 80 | 65 | 50 | 32 | 16 |
| W: 381.40 - 0.00% T: 171.51 - 0.00% | | | | | | | W: 479.40 - 0.00% T: 205.34 - 0.00% | | | | | | | | | | | | | | | | |
| Prices for select excellent cut large 3-10ct+ sizes may trade at significant premiums to the Price List in speculative markets. | | | | | | | | | | | | | | | | | | | | | | | |
| RAPAPORT : (5.00 - 5.99 CT.) : 04/15/22 | | | | | | | ROUNDS RAPAPORT : (10.00 - 10.99 CT.) : 04/15/22 | | | | | | | | | | | | | | | | |
| IF | VVS1 | VVS2 | VS1 | VS2 | SI1 | SI2 | SI3 | I1 | I2 | I3 | IF | VVS1 | VVS2 | VS1 | VS2 | SI1 | SI2 | SI3 | I1 | I2 | I3 | | |
| D | 1200 | 970 | 850 | 765 | 630 | 450 | 335 | 175 | 125 | 60 | 25 | D | 1850 | 1480 | 1305 | 1180 | 990 | 665 | 490 | 250 | 140 | 66 | 27 |
| E | 905 | 825 | 745 | 670 | 570 | 415 | 315 | 170 | 120 | 57 | 23 | E | 1380 | 1275 | 1155 | 1045 | 900 | 615 | 455 | 235 | 135 | 63 | 26 |
| F | 775 | 715 | 645 | 585 | 505 | 380 | 300 | 160 | 115 | 54 | 22 | F | 1180 | 1110 | 1005 | 900 | 780 | 565 | 425 | 220 | 130 | 60 | 25 |
| G | 645 | 595 | 550 | 505 | 435 | 340 | 280 | 150 | 110 | 51 | 21 | G | 990 | 930 | 855 | 775 | 670 | 515 | 395 | 205 | 125 | 57 | 24 |
| H | 505 | 475 | 435 | 395 | 350 | 285 | 240 | 140 | 100 | 48 | 21 | H | 790 | 740 | 685 | 620 | 540 | 435 | 350 | 185 | 120 | 55 | 23 |
| I | 385 | 360 | 335 | 310 | 275 | 240 | 205 | 130 | 95 | 46 | 20 | I | 600 | 560 | 530 | 495 | 435 | 365 | 295 | 170 | 115 | 52 | 22 |
| J | 300 | 275 | 255 | 240 | 220 | 205 | 180 | 120 | 88 | 43 | 19 | J | 470 | 430 | 400 | 375 | 350 | 305 | 250 | 150 | 110 | 49 | 21 |
| K | 235 | 220 | 205 | 190 | 180 | 170 | 155 | 110 | 81 | 41 | 18 | K | 360 | 340 | 320 | 300 | 280 | 240 | 205 | 135 | 100 | 47 | 20 |
| L | 190 | 175 | 165 | 155 | 145 | 135 | 125 | 100 | 69 | 37 | 17 | L | 285 | 270 | 250 | 230 | 215 | 195 | 165 | 120 | 85 | 45 | 19 |
| M | 155 | 145 | 140 | 130 | 120 | 110 | 100 | 80 | 60 | 34 | 16 | M | 230 | 215 | 205 | 190 | 180 | 165 | 140 | 105 | 75 | 43 | 18 |
| W: 649.80 - 0.00% T: 269.87 - 0.00% | | | | | | | W: 1005.20 - 0.00% T: 405.02 - 0.00% | | | | | | | | | | | | | | | | |

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