

CF Staking Series

Methodology Guide

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1 Version History

Version	Date Issued	Summary of Change	Owner
V1.0	22 Oct 2023	Document creation	CF Benchmarks Management
V1.1	21 Nov 2023	Updated logo (AKC v2) & format	CF Benchmarks Marketing
V1.2	06 Feb 2024	Addition of section 6.4 Delayed Calculation & Publication Updates to the Administrator communication procedures for Delayed Calculation & Publication; Calculation Failure; Restatement & Republishing and Market Failure Events	CF Benchmarks Compliance Officer
V1.3	10 Oct 2024	Addition of the CF SOL Staking Indices	CF Benchmarks Management
V1.4	27 Jan 2025	Parameterize the reward rate aggregation function equation 1.	CF Benchmarks Management
V1.5	07 Apr 2025	Demising of: • CF ETH Staked Return Index Blends (40/60) • CF ETH Staked Return Index Blends (30/70) • CF ETH Staked Return Index Blends (20/80) • CF ETH Staked Return Index Blends (10/90) • CF SOL Staked Return Index Blends (30/70) • CF SOL Staked Return Index Blends (20/80) • CF SOL Staked Return Index Blends (20/80) • CF SOL Staked Return Index Blends (10/90)	CF Benchmarks Compliance Officer
V1.6	20 May 2025	Addition of the CF APT Staking Indices	CF Benchmarks Management
V1.7	23 Jun 2025	Addition of the CF NEAR Staking Indices	CF Benchmarks Management



2 Overview

Staking rewards are an essential aspect of blockchain networks that utilize the Proof of Stake (PoS) consensus algorithm. PoS-based blockchains, as opposed to Proof of Work (PoW) systems like Bitcoin, rely on the concept of staking, wherein network participants lock up or "stake" their native cryptocurrency in order to validate transactions and maintain the security of the network. These participants, also known as validators or delegators, are then rewarded with staking rewards for their contributions. Staking rewards are a crucial incentive mechanism, encouraging users to actively participate in the consensus process, which in turn strengthens the overall stability and reliability of the network.

The importance of staking rewards in PoS blockchains cannot be overstated. These rewards help maintain a decentralized and secure network by providing an economic incentive for validators/delegators to act honestly and follow the rules. Validators who engage in malicious behaviour or attempt to manipulate the network can lose their staked tokens as a penalty, which further deters such actions. Staking rewards also serve to distribute newly minted tokens to participants, thereby maintaining a healthy and balanced ecosystem while controlling inflation.

Beyond the significance of staking rewards for the maintenance and growth of a PoSbased blockchain, they also offer investors and users an opportunity to earn passive income. By staking their tokens, users can generate a consistent return on their investment, which can be an attractive proposition for both long-term holders and new investors alike. This encourages more actors to enter the ecosystem, thus increasing the network's adoption, visibility, and overall value. As a result, staking rewards play a pivotal role in fostering a robust and thriving blockchain community, making them an indispensable component of PoS-based systems.

The CF Staking Series is intended to serve as a transparent and representative indicator of the daily realised reward associated with the staking of digital assets. It serves investors in providing an accurate measure of the economic incentives associated with a specific PoS network, which investors can choose to allocate resources to.



3 Definitions

API:

Application programming interface.

Observable Time Window:

The 24-hour period over which the staking reward rate is observed.

Validator:

An entity on the blockchain participating in the consensus for the entire Observable Time Window.

Delegator:

An entity on the blockchain that delegates its assets to a validator, indirectly participating in consensus throughout the **Observable Time Window**. Delegators earn staking rewards proportional to the amount of assets delegated.

Delegator Pool:

A collective group of delegated assets from multiple **Delegators** managed by a single **Validator**. Assets in a delegator pool indirectly participate in consensus and receive staking rewards proportionate to their contributions.

Staking Service Provider:

A non-custodial staking service provider is an centralize legal entity that manage multiple Validators on behalf of clients.

Parent Entity:

An entity responsible for coordinating or managing staking activities during the whole **Observable Time Window**. A Parent Entity may be:

- an off-chain legal entity (e.g., a Staking Service Provider managing validators), or
- an on-chain protocol participant (e.g., a validator managing delegator stakes).

The applicable Parent Entity per asset is defined in the Index Parameter Table.



Observed Entity:

The on-chain entity from which staking rewards are measured for index calculation purposes. Observed Entities may be:

- a validator managed by a Staking Service Provider,
- a delegator assigning stake to a validator, or
- a delegator pool operating under a validator.

The specific form of **Observed Entity** is determined per asset and defined in the Index Parameter Table.

Publication Time:

The time at which the index is published by the Index Administrator, as specified in Appendix 1.

Reward Period:

The protocol-defined interval over which staking rewards are distributed.

Finalized Reward Period:

A Reward Period that has passed a protocol-defined number of confirmations and is therefore finalized. See Section 9 for each asset's Finality Time.

Eligible Reward Period:

Corresponds to all **Finalized Reward Period** that were finalized in the **Observable Time Window**.

Asset Staked:

The amount of the digital asset that is locked and eligible to earn rewards, as recognized by the protocol's staking mechanism.

Contributor Fee:

The expected fee incurred for accessing staking services provided by a **Parent Entity**. This fee reflects what a typical client, meeting the provider's requirements, would pay for non-custodial staking services at specified quantities (see Section 9).



If the staking fee is defined and deducted at the protocol level, that on-chain value is used as the Contributor Fee.

All rewards and fees should reflect what can reasonably be expected by a holder using the **Parent Entity** under standard service conditions.



4 Index Parameters

4.1 Index Denomination

Indices in the CF Staking Reward Rate Series are denominated in the index underlying asset.

Indices in the CF Staked Return Index Series are denominated in U.S. Dollar.

Indices in the CF Staked Return Index Blends Series are denominated in U.S. Dollar.

4.2 Calculation & Publication Frequency

The Index shall be calculated at the frequency stated in the Index Parameter Table – Section 9.

4.3 Constituent Weighting

Constituents of an Index in the CF Staked Return Index Blends Series are fixed weighted. The Constituent weights are defined in the Index Parameter Table - Section 9.

4.4 Index Constituent Pricing Sources (Input Data)

4.4.1 Settlement Price

An Index in the CF Staked Return Index Series or the CF Staked Return Index Blends Series Constituent Pricing Source shall be the CF Settlement Prices and CME CF Reference Rates available at www.cfbenchmarks.com. The respective methodologies for each of these pricing sources are available at <u>www.cfbenchmarks.com</u>.

4.5 Rebalance Price Determination Time

An Index in the CF Staked Return Index Blends Series time of the price determination used in the rebalance weight calculation and specified in the Index Parameter Table – Section 9.

4.6 Rebalance Implementation Point

An Index in the CF Staked Return Index Blends Series Rebalance Implementation Point is at the Calculation & Publication time on the first business day of Rebalance month.



4.7 Rebalance Determination Pricing Sources

An Index in the CF Staked Return Index Blends Series Rebalance Determination Pricing Source shall be the CF Benchmarks Reference Rates, Settlement Prices, or other CF Benchmarks pricing sources. The respective methodologies for each of these pricing sources is available at www.cfbenchmarks.com. Should these sources become permanently unavailable then CF Digital Asset Index Family Ground Rules - Section 6 Input Data Hierarchy shall be applied after review by the CF Cryptocurrency Index Family Oversight Function ("**the Function**" or "**the Oversight Function**").



5 Methodology

5.1 Qualitative Description

The CF Staking Series is composed of three sub-Series:

- CF Staking Reward Rate Series,
- CF Staked Return Index Series,
- CF Staked Return Index Blends Series.

5.1.1 Qualitative Description: CF Staking Reward Rate Series

The staking reward rate in the CF Staking Reward Rate Series is calculated daily and represents the reward rate net of fees obtained by staking the digital asset on its native blockchain. The reward rate is represented in annualised percentage form, capturing rewards received by observed entities participating in network validation and consensus processes. Reward tokens must be fungible, denominated in the blockchain's native digital asset, and must become available after the respective blockchain's unstaking period.

The published reward rate will be the aggregation of the contributions. Contributions that exceed Potential Erroneous Reward Rate parameters are excluded from the calculation (see Section 6.3).

5.1.2 Qualitative Description: CF Staked Return Series

A staked return index in the CF Staked Return Index Series is calculated daily and aims to represent the sum of an asset's daily performance level and its daily staking reward rate. CF Staked Return Index is declined in two variants:

- CF Staked Return Index main variant is calculated using a simple interest mechanism.
- CF Staked Return Index compounded variant is calculated using a compounded interest mechanism.

5.1.3 Qualitative Description: CF Staked Return Index Blends Series

A staked return index in the CF Staked Return Index Series is calculated daily and aims to represent the performance of a portfolio of non-staked assets and staked assets. The portfolio is fixed weighted and rebalances quarterly.

5.2 Mathematical Representation

5.2.1 CF Staking Reward Rate Calculation

The following table shows the symbols used in the mathematical representation of CF Staking Reward Rate Series.

Symbol	Name	Description	Туре
Т	Effective Calculation Time	The time at which the Index is calculated	Parameter, see Section 9
С	Parent Entity	The Parent Entity	Parameter, see Section 9
<i>RDT_j</i> , <i>j</i> ∈ {1, <i>N</i> }	Reward Distribution Time of the Finalized Reward Period j	The time at which the rewards of Finalized Reward Period j within the Observable Time Window are distributed and observable on the public ledger. No staking reward distribution within the Observable Time Window is possible	Input
RDT ₀	Last Reward Distribution Time	The time at which the last rewards prior to the Observable Time Window has been distributed and observable on the public ledger	Input
$\frac{DAYS(RDT_N - RDT_0)}{RDT_0}$	Effective Period in Days	The time difference between RDT_N and RDT_0 in days, not rounded	Input
R _{c,j,i}	Total Observed Entity Reward Amount	The sum of all rewards for the Observed Entity i for Parent Entity c at time <i>RDT</i> _j	Input
R _{c,j}	Total reward amount	The sum of all rewards across all Observed Entities for Parent Entity c at time <i>RDT_j</i>	Calculated
Fee _{c,j}	Contributor fee	Fee paid to the Parent Entity at time <i>RDT</i>_j in percentage	Input



SA _{c,j,i}	Total Observed Entity staked amount	The sum of all Staked Asset for the Observed Entity i for Parent Entity c at time <i>RDT_j</i>	Input
SRR _{c,j}	Reward Rate	Reward rate of Parent Entity c at time <i>RDT</i> _j	Calculated
SRR _c	Reward Rate	Annualised reward rate for Parent Entity c	Calculated
SRR _T	CF Staking Reward Rate	CF Staking Reward Rate calculated at time T	Calculated
P _T	Price	Daily price of the asset at time T	Parameter, Section 9
SRI _T	CF Staked Return Index	CF Staked Return Index calculated at time T – Simple Interest	Calculated
SRI _T	CF Staked Return Index – Compounded	CF Staked Return Index calculated at time T – Daily Compounded	Calculated
SRI ₀	Initial Value	Index Value at inception	Parameter, Section 9
С	Set of Parent Entity	Set of Parent Entity	Parameter, Section 9
I _c	Set of Observed Entity	Set of Observed Entities for Parent Entity c	Input
Ν	Number of Reward Period	Number of Finalized Reward Period with Finality in the Observable Time Window	Input
ACT	Observable Time Window Length	Length in days of the Observable Time Window	Parameter, see Section 9
PEDP	Potential Erroneous Data Parameter	Maximum deviation from an aggregated contributing reward rate to the median of all reward rates	Parameter, see Section 9
PAGG	Aggregation function	Function to aggregate staking reward rates	Parameter, see Section 9



The reward rate of **Parent Entity** c at time *R***DT**_{*i*}:

$$SRR_{c,j} = PAGG(\frac{R_{c,j,i}}{SA_{c,j,i}}) - Fee_{c,j}$$
 Eq. 1

Based on the Parameter table defined in Section 9, if the Staking Reward Rate annualization does not use compounded interest the **Reward Rate** of **Parent Entity** c is:

$$SRR_{c} = \left(\sum_{j=1}^{N} SRR_{c,j}\right) * 365 / DAYS(RDT_{N} - RDT_{0})$$
 Eq. 2.1

Based on the Parameter table defined in Section 9, if the Staking reward rate annualization uses compounded interest the **Reward Rate** of **Parent Entity** c is:

$$SRR_{c} = \left(1 + \sum_{j=1}^{N} SRR_{c,j}\right)^{\frac{365}{DAYS(RDT_{N} - RDT_{0})}} - 1$$
 Eq. 2.2

The above formula is calculated based on the following conventions: simple interest, UK Money Market day count fraction ACT/365 Fixed.

At time T, the median of all aggregated contributing reward rates is:

$\widehat{SRR} = MEDIAN(SRR_c)$	Eq. 3
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At time T, the Potential Erroneous Data are removed from the input dataset:

$$PED = \left\{ SRR_c \text{ such that } \frac{|SRR_c - \widehat{SRR}|}{\widehat{SRR}} > PEDP \text{ for all } c \in C \right\}$$
Eq. 4

At time T, the CF Staking Reward Rate is:



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$$SRR_{T} = \frac{1}{N_{eff}} * \sum_{c=1}^{C \setminus PED} SRR_{c}$$
 Eq. 5

with $N_{eff} = |C| - |PED|$, where |PED| is the number of potentially erroneous contributor. Note: The CF Staking Reward Rate is rounded as per the Table Parameter in section 9.

5.2.2 CF Staked Return Index Calculation

Note: The symbols for this section are the same used in the section above 5.2.1.

At time T, the CF Staked Return Index:

In the case where the Staking Reward Rate has simple interest:

$\begin{cases} SRI_{T} = SRI_{T-1} * \frac{P_{T}}{P_{T-1}} + SRI_{0} * \frac{P_{T}}{P_{0}} * SRR_{T} * \frac{DAYS(RDT_{N} - D)}{365} \end{cases}$	$\frac{RDT_0}{2} , \text{if } T > 0$	Eq. 6.1
$(SRI_T = SRI_0, \text{if } \mathbf{T} = 0 $		

In the case where the Staking Reward Rate has compounded interest:

$$\begin{cases} SRI_{T} = SRI_{T-1} * \frac{P_{T}}{P_{T-1}} + SRI_{0} * \frac{P_{T}}{P_{0}} * ((1 + SRR_{T}) \frac{DAYS(RDT_{N} - RDT_{0})}{365} - 1), & \text{if } T > 0 \\ SRI_{T} = SRI_{0}, & \text{if } T = 0 \end{cases}$$
 Eq. 6.2

At time T, the CF Staked Return Index - Compounded:

In the case of simple interest Staking Reward Rate:

$$\begin{cases} SRI_{T}^{C} = SRI_{T-1}^{C} * \frac{P_{T}}{P_{T-1}} * (1 + SRR_{T} * \frac{DAYS(RDT_{N} - RDT_{0})}{365}), & \text{if } T > 0 \\ SRI_{T}^{C} = SRI_{0}^{C}, & \text{if } T = 0 \end{cases}$$

In the case of compounded interest Staking Reward Rate:



 $\begin{cases} SRI_{T}^{C} = SRI_{T-1}^{C} * \frac{P_{T}}{P_{T-1}} * ((1 + SRR_{T}) \frac{DAYS(RDT_{N} - RDT_{0})}{365}), & \text{if } T > 0 \\ SRI_{T}^{C} = SRI_{0}^{C}, & \text{if } T = 0 \end{cases}$

5.2.3 CF Staked Return Index Blends Calculation

Symbol	Name	Description	Туре
Т	Effective Calculation time	The time at which the Index is calculated	Parameter, see Section 9
k_i	Rebalance Implementation time	The time when the rebalance parameters are implemented at the <i>ith</i> rebalance	Parameter, see Section 9
s _i	Rebalance Price Determination Time	The time of the price determination used at the <i>ith</i> rebalance	Parameter, see Section 9
$c \in C_i$	Index Constituents	The list of constituents that are determined to be index constituents at the i^{th} rebalance	Parameter, see Section 9
w ^a _i	Weights	The weight of constituent a effective at the <i>ith</i> rebalance	Parameter, see Section 9
g _i ^a	Relative Supply	The relative supply of constituent a at the <i>i</i> th rebalance	Calculated
Q _{si}	Rebalance Determination Price	The price of constituent c used at the Rebalance Price Determination Time s_i .	Input
P_T^a	Constituent Pricing Source	The price of constituent a at time T	Input



PSB _i	Index Price	Price of the CF Staked Return Index Blends at time T	Calculated
d_i	Divisor	Divisor used for the <i>ith</i> rebalance	Calculated
R _i	Return Factor	Return factor for the <i>ith</i> rebalance	Calculated
A _i	Return amount	Return Amount for the <i>i</i> th rebalance	Input

Usage of Parameters between Variants: Parameters ϱ_i^a , P_T^a , R_i , A_i and PSB_i are different between variants of this index family. Each section shall apply to each variant independently, except for those equations which have parameters marked with the variant label:

Туре	Label
Spot Rate	RTI
Settlement Price	RR
Total Return	TR
Price Return	PR

5.2.3.1 Supply Calculation

The relative supplies g_i^a can be inferred from the weights w_i^a using the following relation:

$$\begin{cases} g_1^a = \frac{w_1^a PSB_1}{\varrho_1^a}, & \text{for } i = 1 \\ g_i^a = \frac{w_i^a \sum_{a \in C_i} g_{i-1}^a \ \varrho_i^a}{\varrho_i^a}, & \text{for } i > 1 \end{cases}$$
 Eq. 9

The Index inception value PSB_1 is define in the Index Parameter Table – section 9.

5.2.3.2 Index Calculation

The index value at time T where $k_i \leq T < k_{i+1}$ is given by

$$PSB_i = \frac{R_i}{d_i} \sum_{a \in C_i} g_i^a P_T^a$$
 Eq. 10

About *R_i*:

At index inception there are no distributions or deductions hence $R_1 = 1$.

Distribution and Deductions refers to **Section 8 Treatment of Distributions** and **Section 9 – Treatment of Deductions** of the **CF Digital Asset Index Family - Multi Asset Series**, which covers how forks, airdrops, rewards not related to staking, and deduction events.

If the application point of distribution and deduction events is at the i^{th} rebalance, let the Return Amount A_i be the sum of all Distribution Proceeds and Deductions Amounts from said events. Then the return factor shall be:

$$\begin{cases} R_i^{TR} = R_{i-1}^{TR} \left(1 + \frac{A_i}{\sum_{a \in C_{i-1}} g_{i-1}^a \varrho_i^{a,RR}} \right), for all i \ge 2, \\ R_i^{PR} = 1 \end{cases}$$
 Eq. 11

About d_i :

The divisor is used to scale the index so that the value of the index is fixed at inception and continuous at each rebalancing. The divisor factor shall be:

$$\begin{cases} d_{1} = \frac{1}{PSB_{1}} \sum_{c \in C_{i}} g_{k_{1}}^{c} p_{k_{1}}^{c,RR} \\ d_{i} = d_{i-1} \cdot \frac{\sum_{c \in C_{i}} g_{k_{i}}^{c} \varrho_{k_{i}}^{c,RR}}{\sum_{c \in C_{i-1}} g_{k_{i-1}}^{c} \varrho_{k_{i}}^{c,RR}} \end{cases}$$
Eq. 12





6 Contingency Calculation Rules

6.1 No Expected Data

Expected lack of data is treated according to the following rules:

If no staking reward distribution are observed for all **Observed Entities** of all **Parent** Entities on the public blockchain/ledger, the published value shall be 0 and shall be
 marked by a maker (**).

6.2 Delayed Data and Missing Data

Delayed data is treated according to the following rules:

- If the Retrieval Time of Reward Period input data of a Parent Entity is older than the Publication Time, the Parent Entity Reward Period input data is excluded from the calculation of the CF Staking Reward Rate during this day.
- If the Retrieval Times of the contributing reward rates of all or all but one Parent Entities are older than the Publication Time, a CF Staking Reward Rate Calculation Failure will be deemed to have occurred (see Section 6.5).
- 3. If no Staked Amount is observed on all or all but one **Parent Entities** on a given Calculation Day, then a CF Staking Reward Rate Market Failure Event will be deemed to have occurred (see Section 8).

6.3 Erroneous Reward Rates

All Relevant **Reward Rates** are subject to an automated filtering process according to the following rule.

- If a Relevant **Reward Rate** contains any entries with a non-numeric or non-positive reward rate, then any such entries are flagged as erroneous.
- If a Relevant **Reward Rate** contains less than 50% of Reward Periods in the **Observable Time Window**, then any such entry is flagged as erroneous.

All entries in a **Reward Rate** which are flagged as erroneous for a given **Observable Time Window** are disregarded in the calculation of the CF Staking Reward Rate for that **Observable Time Window.**

6.4 Potential Erroneous Reward Rates

All retrieved **Reward Rate** by the Calculation Agent for a given Calculation Day are subject to an automated screening for potentially erroneous data according to the following rules:

- 1. For each **Reward Rate**, the absolute percentage deviation from the median of the **Reward Rates** of all **Parent Entities** is calculated.
- If for any **Parent Entity** the absolute percentage deviation, as calculated in the previous step, exceeds the Potentially Erroneous Data Parameter (see section 9) then the **Reward Rate** for that **Parent Entity** is flagged as potentially erroneous.

Reward Rates flagged as potentially erroneous for a given Calculation Day are disregarded in the calculation of the CF Staking Reward Rate for that Calculation Day. The occurrence of any such flag is reported to the Oversight Function. If all **Reward Rates** of all **Parent Entities** are flagged as potentially erroneous for a given Calculation Day, a calculation failure occurs for that Calculation Day (see Section 6.5).

6.5 Potential Manipulation Exclusion Filter

All staking reward rates retrieved by the Calculation Agent are subject to an additional automated screening for potential manipulation, termed the Potential Manipulation Exclusion Filter (PMEF). The applicability of PMEF to a given index within the CF Staking Reward Rate Series is defined in the respective Index Parameter Table (see Section 9).

Where PMEF is applied, **Observed Entities** will be excluded from the calculation of the CF Staking Reward Rate if both of the following conditions are simultaneously met:

- **Inclusion Frequency:** The **Observed Entity** is included in the index calculation on more than 80% of the days within any consecutive 7-day period.
- **Reward Rate Deviation:** Within the same consecutive 7-day period, the **Observed Entity** 's staking reward rate deviates from the median staking reward rate of all **Observed Entities** by more than the Potential Erroneous Data Parameter (PEDP) on more than 50% of epochs, persisting for at least two consecutive calculation days.

Observed Entities excluded under PMEF shall remain excluded from the index calculation until the **Administrator** has sufficient material evidence indicating the absence of manipulation.

Occurrences of exclusions due to PMEF will be reported to the Oversight Function.

6.6 Delayed Calculation & Publication

Where for any reason the Administrator is not able to calculate and publish either Prices for the CF Staking Reward Rate Series, CF Staked Return Index Series or CF Staked Return Index Blends Series ("CF Staking Series Prices") within the Dissemination Time on any given Calculation Day then the Administrator shall clearly communicate to all licensees via Status page that calculation and publication has been delayed. The Administrator will seek to publish the CF Staking Series Prices for that Calculation Day as soon as it is able to. Should the Administrator not be able to calculate and publish any of the CF Staking Series Prices by 23:59:59 London time then the provisions of Rule 6.6 shall come into effect.

6.7 Expert Judgement

The Administrator does not utilise expert judgement in the day-to-day calculation of the CF Staking Reward Rate. In extraordinary circumstances Expert Judgement may be exercised by the Administrator in accordance with its codified policies and processes which are available upon request.

6.8 Calculation Failure

If a CF Staking Reward Rate cannot be calculated for a given **Observable Time Window**, for instance because:

- the retrieval times of the **Reward Rates** of all **Parent Entities** are each older than the end of the **Calculation Time**, or
- all Relevant **Reward Rates** are flagged as erroneous or potentially erroneous (see Sections 6.2 and 6.3); or
- any other reason or circumstance that prevents the orderly calculation of a CF Staking Reward Rate,

then the CF Staking Reward Rate for that Calculation Day is given by the CF Staking Reward Rate published on the previous Calculation Day and this Reward Rate value shall be published, and an indication will be given that the clause has been applied.

The occurrence of any CF Staking Reward Rate calculation failure is reported to the Oversight Function. Any Calculation Failure events will be clearly communicated to all licensees via Statuspage.



7 Restatement & Republishing

CF Staking Series Indices are subject to restatement and republishing before 23:59:59 London time of any given Calculation Day due to errors made by the Calculation Agent or its systems. CF Staking Series Indices will not be subject to republishing after this time.

7.1 Restatement of a CF Staking Series Index Value with a Replacement CF Staking Series Index Value

The Administrator shall only Restate and Republish CF Staking Series Index if both the below conditions are met:

1. **Timeliness** – where the Administrator can **RESTATE** and **REPUBLISH** a CF Staking Series Index value before 23:59:59 of the given Calculation Day

2. **Materiality** – where the **RESTATED** CF Staking Series Index has an absolute variance greater than 0.20% for the respective CF Staking Series Index for the given Calculation Day

Example:

- A CF Staking Series Index on a given Calculation Day is published as 0.0550
- A CF Staking Series Index will only be RESTATED if it is:
 - o Greater than 0.0551 OR
 - o Less than 0.0549

Where the above conditions are met the Administrator shall clearly communicate to all licensees via Statuspage that a restatement and republishing of the CF Staking Series Index will take place for that Calculation Day. The Administrator shall restate the impacted CF Staking Series Index as soon as possible and shall do so by overwriting the previously published CF Staking Series Index. This restated CF Staking Series Index will carry no mark when published and will be final and not subject to any further change or republication.

8 Market Failure Event

Where a Market Failure Event has occurred, this shall be clearly communicated to all licensees via Status page. The CF Staking Reward Rate, CF Staked Return Index or CF Staked Return Index Blends on a day where a Market Failure Event has occurred shall be given by the CF Staking Reward Rate; CF Staked Return Index or CF Staked Return Index Blends published for the previous Calculation Day. Any CF Staking Reward Rate, CF Staked Return Index or CF Staked Return Index Blends published on a day when a Market Failure Event has occurred shall be marked by a maker (*).

The occurrence of a Market Failure Event is reported to the Oversight Function.



9 Staking Reward Rate Parameters

9.1 Parameters

9.1.1 CF Staking Reward Rate Series

Name	CF ETH Staking Reward Rate Index
Ticker	ETH_SRR
PEDP	50%
Observable Time Window	00:00 am UTC included until 00:00 am UTC excluded
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Reward Period	Each Epoch
Finality Time	Two epochs
Parent Entities	Staking Service Providers, see section 9.2
Observed Entities	Validators
Interest Calculation Method	Simple Interest
Digital Asset Amount associated with the Parent Entity Fee	320 ETH
Decimals Precision	6
Provider Aggregation function (PAGG)	Arithmetic mean
PMEF Applicable	False

Name

CF SOL Staking Reward Rate Index

Ticker	SOL_SRR
PEDP	20%
Observable Time Window	00:00 am UTC included until 00:00 am UTC excluded
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Reward Period	Each Epoch
Finality Time	Ten slots
Parent Entities	Staking Service Providers, see section 9.2
Observed Entities	Delegators
Interest Calculation Method	Compounded Interest
Digital Asset Amount associated with the Parent Entity Fee	N/A – Parent Entity Fee is defined on the protocol level
Decimals Precision	6
Provider Aggregation function (PAGG)	Arithmetic median
PMEF Applicable	False

Name	CF APT Staking Reward Rate Index
Ticker	APT_SRR
PEDP	20%
Observable Time Window	00:00 am UTC included until 00:00 am UTC excluded
Calculation & Publication Frequency	Once per day, 365 days a year



Publication Time	Between 16:05 and 16:30 London time
Reward Period	Each Epoch
Finality Time	One second
Parent Entities	All active validators
Observed Entities	Delegator Pools
Interest Calculation Method	Compounded Interest
Digital Asset Amount associated with the Parent Entity Fee	N/A – Staking Service Provider Fee is defined on the protocol level
Decimals Precision	6
Provider Aggregation function (PAGG)	Identity function – only one Delegator Pool per validator
PMEF Applicable	True

Name	CF NEAR Staking Reward Rate Index
Ticker	NEAR_SRR
PEDP	20%
Observable Time Window	00:00 am UTC included until 00:00 am UTC excluded
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Reward Period	Each Epoch
Finality Time	One second
Parent Entities	All active validators



Observed Entities	Delegator Pools
Interest Calculation Method	Compounded Interest
Digital Asset Amount associated with the Parent Entity Fee	N/A – Staking Service Provider Fee is defined on the protocol level
Decimals Precision	6
Provider Aggregation function (PAGG)	Identity function – only one Delegator Pool per validator
PMEF Applicable	True

9.1.2 CF Staked Return Index Series

Name	CF ETH Staked Return Index
Ticker	ETHUSD_SRI
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Price Source	CME CF Ether-Dollar Reference Rate
Inception Date	20 th November 2023
Inception Value	2040.79 (CME CF Ether Dollar Reference Rate on Inception Date)
Interest Calculation Method	Simple Interest
Decimals Precision	4

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Name	CF ETH Staked Return Index - Compounded
Ticker	ETHUSD_SRIC
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Price Source	CME CF Ether-Dollar Reference Rate
Inception Date	20 th November 2023
Inception Value	2040.79 (CME CF Ether Dollar Reference Rate on Inception Date)
Interest Calculation Method	Compounded Interest
Decimals precision	4

Name	CF SOL Staked Return Index
Ticker	SOLUSD_SRIC
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Price Source	CME CF Solana Dollar Reference Rate
Inception Date	1 st March 2024
Inception Value	132.15 (CME CF Solana Dollar Reference Rate on Inception Date)
Interest Calculation Method	Compounded Interest
Decimals precision	4

Name	CF APT Staked Return Index
Ticker	APTUSD_SRIC
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Price Source	CF Aptos-Dollar Settlement Price
Inception Date	1 st March 2024
Inception Value	11.5902 (CF Aptos-Dollar Settlement Price on Inception Date)
Interest Calculation Method	Compounded Interest
Decimals precision	4

Name	CF NEAR Staked Return Index
Ticker	NEARUSD_SRIC
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Price Source	CF NEAR-Dollar Reference Rate
Inception Date	1 st March 2024
Inception Value	3.94 (CME CF Near Protocol-Dollar Reference Rate on Inception Date)
Interest Calculation Method	Compounded Interest
Decimals precision	4



9.1.3 CF Staked Return Index Blends Series

9.1.3.1 ETH

Name	CF ETH Staked Return Index Blends (90/10)
Ticker	ESRIB9OLDN_RR_TR
Constituent Weights	 CF ETH Staked Return Index - Compounded: 90% CME CF Ether-Dollar Reference Rate: 10%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	20 th November 2023
Inception Value	2040.79 (CME CF Ether Dollar Reference Rate on Inception Date)
Decimals precision	4

Name	CF ETH Staked Return Index Blends (80/20)
Ticker	ESRIB80LDN_RR_TR
Constituent Weights	 CF ETH Staked Return Index - Compounded: 80% CME CF Ether-Dollar Reference Rate: 20%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time



Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	20 th November 2023
Inception Value	2040.79 (CME CF Ether Dollar Reference Rate on Inception Date)
Decimals precision	4

Name	CF ETH Staked Return Index Blends (70/30)
Ticker	ESRIB70LDN_RR_TR
Constituent Weights	 CF ETH Staked Return Index - Compounded: 70% CME CF Ether-Dollar Reference Rate: 30%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	20 th November 2023
Inception Value	2040.79 (CME CF Ether Dollar Reference Rate on Inception Date)
Decimals precision	4

Name	CF ETH Staked Return Index Blends (60/40)
Ticker	ESRIB60LDN_RR_TR
Constituent Weights	 CF ETH Staked Return Index - Compounded: 60% CME CF Ether-Dollar Reference Rate: 40%

Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	20 th November 2023
Inception Value	2040.79 (CME CF Ether Dollar Reference Rate on Inception Date)
Decimals precision	4

Name	CF ETH Staked Return Index Blends (50/50)
Ticker	ESRIB50LDN_RR_TR
Constituent Weights	 CF ETH Staked Return Index - Compounded: 50% CME CF Ether-Dollar Reference Rate: 50%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	20 th November 2023
Inception Value	2040.79 (CME CF Ether Dollar Reference Rate on Inception Date)
Decimals precision	4

9.1.3.2 SOL

Name	CF SOL Staked Return Index Blends (90/10)
Ticker	SSRIB9OLDN_RR_TR
Constituent Weights	 CF SOL Staked Return Index - Compounded: 90% CME CF Solana-Dollar Reference Rate: 10%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	132.15 (CME CF Solana Dollar Reference Rate on Inception Date)
Decimals precision	4

Name	CF SOL Staked Return Index Blends (80/20)
Ticker	SSRIB8OLDN_RR_TR
Constituent Weights	 CF SOL Staked Return Index - Compounded: 80% CME CF Solana-Dollar Reference Rate: 20%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	132.15 (CME CF Solana Dollar Reference Rate on Inception

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	Date)
Decimals precision	4

Name	CF SOL Staked Return Index Blends (70/30)
Ticker	SSRIB70LDN_RR_TR
Constituent Weights	 CF SOL Staked Return Index - Compounded: 70% CME CF Solana-Dollar Reference Rate: 30%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	132.15 (CME CF Solana Dollar Reference Rate on Inception Date)
Decimals precision	4

Name	CF SOL Staked Return Index Blends (60/40)
Ticker	SSRIB60LDN_RR_TR
Constituent Weights	 CF SOL Staked Return Index - Compounded: 60% CME CF Solana-Dollar Reference Rate: 40%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec



Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	132.15 (CME CF Solana Dollar Reference Rate on Inception Date)

Name	CF SOL Staked Return Index Blends (50/50)
Ticker	SSRIB50LDN_RR_TR
Constituent Weights	 CF SOL Staked Return Index - Compounded: 50% CME CF Solana-Dollar Reference Rate: 50%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	132.15 (CME CF Solana Dollar Reference Rate on Inception Date)

9.1.3.3 APT

Name	CF APT Staked Return Index Blends (90/10)
Ticker	ASRIB9OLDN_RR_TR
Constituent Weights	 CF APT Staked Return Index - Compounded: 90% CF Aptos-Dollar Settlement Price: 10%
Calculation & Publication Frequency	Once per day, 365 days a year

Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	11.5902 (CF Aptos-Dollar Settlement Price on Inception Date)
Decimals precision	4

Name	CF APT Staked Return Index Blends (80/20)
Ticker	ASRIB80LDN_RR_TR
Constituent Weights	 CF APT Staked Return Index - Compounded: 80% CF Aptos-Dollar Settlement Price: 20%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	11.5902 (CF Aptos-Dollar Settlement Price on Inception Date)
Decimals precision	4

Name	CF APT Staked Return Index Blends (70/30)
Ticker	ASRIB70LDN_RR_TR

Constituent Weights	 CF APT Staked Return Index - Compounded: 70% CF Aptos-Dollar Settlement Price: 30%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	11.5902 (CF Aptos-Dollar Settlement Price on Inception Date)
Decimals precision	4

Name	CF APT Staked Return Index Blends (60/40)
Ticker	ASRIB60LDN_RR_TR
Constituent Weights	 CF APT Staked Return Index - Compounded: 60% CF Aptos-Dollar Settlement Price: 40%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	11.5902 (CF Aptos-Dollar Settlement Price on Inception Date)

Name

CF APT Staked Return Index Blends (50/50)

Ticker	ASRIB50LDN_RR_TR
Constituent Weights	 CF APT Staked Return Index - Compounded: 50% CF Aptos-Dollar Settlement Price: 50%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	11.5902 (CF Aptos-Dollar Settlement Price on Inception Date)

9.1.3.4 NEAR

Name	CF NEAR Staked Return Index Blends (90/10)
Ticker	NSRIB90LDN_RR_TR
Constituent Weights	 CF Near Staked Return Index - Compounded: 90% CME CF Near Protocol-Dollar Reference Rate: 10%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024

Inception Value	3.94 (CME CF Near Protocol-Dollar Reference Rate on Inception Date)
Decimals precision	4

Name	CF NEAR Staked Return Index Blends (80/20)
Ticker	NSRIB80LDN_RR_TR
Constituent Weights	 CF Near Staked Return Index - Compounded: 80% CME CF Near Protocol-Dollar Reference Rate: 20%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	3.94 (CME CF Near Protocol-Dollar Reference Rate on Inception Date)
Decimals precision	4

Name	CF NEAR Staked Return Index Blends (70/30)
Ticker	NSRIB70LDN_RR_TR
Constituent Weights	 CF Near Staked Return Index - Compounded: 70% CME CF Near Protocol-Dollar Reference Rate: 30%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time



Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	3.94 (CME CF Near Protocol-Dollar Reference Rate on Inception Date)
Decimals precision	4

Name	CF NEAR Staked Return Index Blends (60/40)
Ticker	NSRIB60LDN_RR_TR
Constituent Weights	 CF Near Staked Return Index - Compounded: 60% CME CF Near Protocol-Dollar Reference Rate: 40%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	3.94 (CME CF Near Protocol-Dollar Reference Rate on Inception Date)
Decimals precision	4

Name	CF NEAR Staked Return Index Blends (50/50)
Ticker	NSRIB50LDN_RR_TR
Constituent Weights	 CF Near Staked Return Index - Compounded: 50%



	 CME CF Near Protocol-Dollar Reference Rate: 50%
Calculation & Publication Frequency	Once per day, 365 days a year
Publication Time	Between 16:05 and 16:30 London time
Rebalance Frequency	Quarterly – 1 st business day of March, June, Sept, Dec
Return Types	Total Return
Inception Date	1 st March 2024
Inception Value	3.94 (CME CF Near Protocol-Dollar Reference Rate on Inception Date)
Decimals precision	4

9.2 Staking Service Providers Details

CF ETH Staking Reward Rate

- Blockdaemon, https://www.blockdaemon.com/
- Figment, https://figment.io/
- Kiln, https://www.kiln.fi/
- Staked, https://staked.us/1

CF SOL Staking Reward Rate

- Blockdaemon, https://www.blockdaemon.com/
 - Validator ID: CAo1dCGYrB6NhHh5xb1cGjUiu86iyCfMTENxgHumSve4
- Kiln, <u>https://www.kiln.fi/</u>
 - Validator ID: 5pPRHniefFjkiaArbGX3Y8NUysJmQ9tMZg3FrFGwHzSm
- Staked, <u>https://staked.us/</u>²
 - Validator ID: 7cVfgArCheMR6Cs4t6vz5rfnqd56vZq4ndaBrY5xkxXy

¹ Payward, Inc. is the owner and operator of Staked, a provider of block production and validation nodes for decentralized PoS protocols on behalf of institutional investors. Staked.us is a source of input data for certain CF Benchmarks indices.

² Payward, Inc. is the owner and operator of Staked, a provider of block production and validation nodes for decentralized PoS protocols on behalf of institutional investors. Staked.us is a source of input data for certain CF Benchmarks indices.



10 Methodology and Review Changes

This methodology is subject to internal review by the Administrator and the Oversight Function at least annually.

Any changes to this methodology are overseen by the Oversight Function, and in accordance with UK BMR Article 13.

All *material* changes to the methodology shall only be implemented after a consultation process with users and relevant stakeholders that shall be conducted according to the Administrator's policies and overseen by the Oversight Function.

Should the Administrator deem it necessary to cease providing any of the Reward Rates it shall only do so after a consultation process with users and relevant stakeholders that shall be conducted according to the Administrator's policies and overseen by the Oversight Function.



Contact Information

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