Silicon Data GPU Rental Index Series: Governance, Methodology & Control Framework

Overview

The Silicon Data GPU Rental Index Series measures the hourly rate of renting Graphics Processing Unit ("GPU") compute capacity across the global market. Administered by Silicon Data in alignment with the International Organization of Securities Commissions (*IOSCO*) *Principles for Financial Benchmarks*, the index series is constructed from a broad data foundation comprising both transaction records and executable listing prices.

This governance and methodology framework focuses primarily on Silicon Data's flagship settlement indices: **Silicon Data H100 Rental Index ("SDH100RT")**, **Silicon Data B200 Rental Index ("SDB200RT"),** tracking the non-hyperscaler ("neoclouds") ecosystem. The controls described therein apply across Silicon Data's broader suite of GPU benchmarks, including indices tracking the A100, H200, B300, and MI300X models, as well as capacity offered by hyperscalers. Each day, Silicon Data processes thousands of verified price records across independent neocloud providers and GPU marketplaces. Index values are published daily by 21:00 UTC via the Silicon Data portal, direct API, and institutional distribution partners including Bloomberg, Reuters/Refinitiv, and Kaiko.

1. Governance Structure & Oversight

Silicon Data serves as the Benchmark Administrator and retains responsibility for accurate and timely compilation, publication, and distribution of each benchmark across every stage of the determination process. The Silicon Data Board of Directors holds ultimate institutional accountability, supported by an independent Benchmark Oversight Committee ("BOC") that challenges, approves the policy suite, and oversees the governance framework.

1.1 Independent Oversight Committee (Benchmark Oversight Committee)

- **Composition:** The Benchmark Oversight Committee is chaired by the Chief Compliance Officer and comprises the Head of Price Assessment (Head of Pricing), the Head of Data Operations, and at least one independent member who holds no operational role, equity, commercial ties, or conflict of interest, and who reports directly to the Board of Directors.
- **Mandate & Authority:** The BOC oversees benchmark data collection, methodology production, quarterly provider reviews, weight-cap calibrations, and the conflicts-of-interest policy suite. The BOC holds authority to approve or reject material methodology changes, review source-list

additions or removals, commission independent external reviews, require information from any corporate function, and escalate governance matters directly to the Board of Directors.

- **Operations & Quorum:** The committee convenes formally at least once per quarter. A valid quorum requires the presence of the independent member, and decisions are reached by consensus or escalated directly to the Board. The BOC delivers a formal oversight report to the Board of Directors at least annually.

1.2 Conflicts of Interest Policy

Silicon Data operates exclusively as an independent benchmark administrator and market intelligence platform. To ensure unimpeachable benchmark integrity under Designated Contract Market ("DCM") Core Principle 3 and the IOSCO Principles, Silicon Data enforces a strict structural and operational Conflicts of Interest Policy:

- **Prohibition on Proprietary Trading and Physical Exposure:** Silicon Data does not trade compute derivatives and does not own, operate, lease, or hold balance-sheet inventory of GPU capacity. Maintaining complete separation from balance-sheet risk ensures the Administrator has no pecuniary interest in whether a benchmark prints at a higher or lower level.

- **Shareholder & Commercial Insulation:** Silicon Data's shareholders include financial institutions and trading firms. Ownership-related and commercial conflicts are insulated through strict operational separation and BOC oversight. No shareholder has any role in index determination or access to non-public constituent input data or pre-publication index values. Benchmark production is segregated from commercial functions, and staff compensation is never linked to the level of any index determination or the commercial outcomes of benchmark-linked products.

- **Affiliated Entity Barriers:** Silicon Data's Chief Executive Officer, Carmen Li, concurrently serves as Chief Executive Officer of Compute Exchange, an independent spot GPU procurement marketplace that acts solely as a matching venue without engaging in proprietary trading or holding physical risk exposure. The two entities operate as separate corporations with distinct technical infrastructure and strict information barriers. Ms. Li is excluded from all benchmark production and data validation processes, holds no voting rights on the BOC, and may only attend BOC meetings in a non-voting observer capacity to provide factual market context.

- **Personal Dealing & Prohibition on Derivative Trading:** Silicon Data strictly prohibits personnel who have access to non-public input data or pre-publication index values from trading derivatives that reference Silicon Data benchmarks. All conflicts are declared at onboarding, annually, and as they arise, and are logged in a formal Conflicts Register reviewed quarterly by the BOC.

1.3 Accountability, Three Lines of Defense, and External Assurance

Silicon Data retains full accountability for its benchmarks, including all outsourced functions. Governance controls follow a "Three Lines of Defense" model:

1. **First Line:** Data Operations and Index Production teams executing daily validation and rules-based pipelines.
2. **Second Line:** The Chief Compliance Officer and the Benchmark Oversight Committee monitoring adherence to methodology and regulatory standards.
3. **Third Line:** Periodic, formal independent third-party assurance. Silicon Data engages an independent accounting firm to conduct an independent attestation examination under AICPA AT-C 205 / ISAE 3000 standards evaluating the control objectives and system design governing the GPU Rental Index series.

2. Benchmark Design & Methodology

Each Silicon Data GPU Rental Index represents a standardized, weighted average of hourly GPU rental rates across the commercial neocloud ecosystem, published once each business day by 21:00 UTC.

2.1 Market Segmentation & Input Eligibility

To track the dynamic clearing price of compute capacity and preserve contract fungibility under CFTC Core Principle 3, the settlement indices isolate the commercial neocloud segment and explicitly exclude traditional hyperscaler rate cards. (Silicon Data concurrently publishes standalone Hyperscaler Indices so market participants with direct hyperscale exposure can monitor and hedge basis risk independently.)

Admissible Input Data:

- **Verified Executed Transactions:** Private, arm's-length rental transaction records capturing actual prices paid across spot, on-demand, and reserved agreements, ingested directly from compute providers and marketplaces under binding legal data license agreements.
- **Directly Executable Listings:** Publicly observable rental offers where availability and rates are verified by Silicon Data or authorized third-party entities.
- **Excluded Inputs:** Static marketing rate cards, unverified aggregator-relayed feeds, promotional/discounted trial rates, and records lacking verified hardware metadata are excluded.

2.2 Standardization & Econometric Normalization Pipeline

To ensure that routine shifts in daily transaction composition (e.g., volume shifting between hardware configurations, contract tenors, or regions) do not introduce artificial, non-pricing volatility into the benchmark, every admitted record passes through a deterministic, rules-based two-step standardization pipeline:

Step 1: Unit Price Conversion

To compare diverse billing structures (such as monthly bare-metal server leases versus hourly on-demand instances), all raw records are first converted into a standardized hourly rental rate per single GPU (USD/GPU-hour):

$$UnitPrice = \frac{TotalRentalPrice}{Numberof GPUs \times Duration(Hours)}$$

Step 2: Econometric Basis Adjustment

Every unit price record is mapped to a predefined benchmark baseline configuration (an on-demand, U.S.-baseline reference configuration specific to the GPU model) using a deterministic econometric pricing model calibrated to historical market data:

$$AdjustedPrice = RawUnitPrice + BasisAdjustment$$

This rules-based basis adjustment quantitatively isolates and removes price premiums or discounts attributable to idiosyncratic contract features, including but not limited to:

- **Contract Tenor:** Spot and long-term reserved commitments are normalized to their on-demand equivalent
- **Hardware Configuration:** Various instance hardware specifications are mathematically adjusted to the baseline specs.
- **Geographic Basis:** Non-U.S. and regional inputs are adjusted to the U.S. baseline reference

2.3 Two-Tier Aggregation, Weighting & Rules-Based Rebalancing

To prevent providers with high quote frequencies or large record counts from skewing the settlement value, the benchmark employs a two-tier aggregation framework:

1. **Tier 1 (Provider-Level Consolidation):** For each active provider j on day t, an arithmetic mean is calculated across all of that provider's basis-adjusted records, yielding a single consolidated provider price $P_j(t)$.

2. **Tier 2 (Index-Level Weighted Aggregation):** The daily settlement index value is calculated as the weighted sum of consolidated provider prices across all N active providers:

$$Index(t) = \sum_{j=1}^{N} w_j(t) \times P_j(t)$$

Governance Parameter	Operational Rule & Specification
Minimum Contributor Threshold	Each settlement index must be calculated each business day from no fewer than 5 independent providers.

Provider Onboarding Eligibility	Prospective providers must pass a documented quality review (coverage, stability, metadata integrity), build at least 90 consecutive days of internal model history**,** and receive formal BOC approval prior to inclusion.
Weighting & Concentration Caps	Provider weights (w_j) are static between BOC reviews. In principle, weights are distributed nearly equally across the majority of providers, with bounded adjustments by the BOC to reflect relative supplier scale and market share. Under no circumstances may any single provider account for more than 20% of total index weight.
Model & Weight Rebalancing	The constituent provider list and static weights exist in a versioned configuration file with dated validity windows and are reviewed and reset periodically, and no less frequently than every 3 months, by the BOC. Econometric model parameters are calibrated to historical data and locked under version control without manual overrides.

2.4 Material Methodology Changes, Public Consultation & Cessation Policy

Consistent with IOSCO Principles 12 and 13, Silicon Data distinguishes between routine index maintenance and material methodological changes:

- **Routine Data Source Adjustments:** Because constituent provider identities are kept confidential to prevent front-running and manipulation, and because fluid market conditions require timely panel updates, routine provider additions or removals do not constitute material methodological changes and do not trigger public consultation.
- **Material Methodological Changes (No Open Derivative Interest):** Where no derivative open interest references the index, a material change (defined as an alteration to core index design or a change impacting the index level by >5%) requires an impact assessment, BOC approval, and at least 14 calendar days' public notice.
- **Material Methodological Changes (With Active Derivative Open Interest):** Silicon Data will not alter, modify, or re-weight any core index calculation methodology for an index with listed derivative open interest without prior formal consultation with and approval from the listing DCM. Transitioning such indices requires the completion of a structured public consultation and transition timeline. Silicon Data utilizes the following 90-day timeline as a template. However, the exact consultation process and transition mechanics may be adjusted according to listing DCM rules, prevailing market conventions, and relevant regulatory requirements

    1. *Advance Consultation & Proposal Announcement:* Silicon Data publishes a formal consultation document detailing the proposed update, underlying rationale, and estimated quantitative impact, providing market participants and open interest holders a minimum

30-day comment window. Following the comment window, Silicon Data publishes a summary of responses and the final action adopted.

2. *Parallel Observation & Value Differential:* Silicon Data publishes daily parallel assessments comparing the legacy and updated index specifications for 60 days to establish a transparent daily value differential.

3. *Regulatory Certification & Exchange Notice:* The listing Exchange submits required regulatory filings (e.g., CFTC Special Executive Reports) and publishes Clearing Advisory Notices.

4. *Staggered Implementation & Settlement Revaluation:* To protect contract continuity, prompt contract months are exempted from lump-sum revaluation and instead settle against the new assessment adjusted by monthly value differentials. Deferred contract months with open interest are revalued by the Exchange and Clearing House using a calculated One-Time Adjustment figure via clearinghouse cash adjustments.

- **Index Cessation & Transition Policy (IOSCO Principle 13):** An index is formally reviewed for cessation if, among other triggers, active contributing providers fall below the minimum threshold of five (5) for 30 consecutive calendar days. Permanent cessation requires BOC approval, coordination with any listing DCM, at least six (6) months' advance public consultation and notice, identification of a recommended successor benchmark where feasible, and retention of all historical records for a minimum of five years.

3. Source Regulation & Data Integrity

Inputs are restricted to executed and executable GPU rental prices from Silicon Data's approved sources: neocloud provider platforms, GPU marketplaces, and licensed data partners. No unverified substitute data from outside the approved source configuration is ever permitted.

3.1 Input Data Hierarchy

In accordance with IOSCO Principle 8 and the *IOSCO Principles for Oil Price Reporting Agencies*, Silicon Data enforces a strict, deterministic input data hierarchy:

Hierarchy Level	Input Data Type	Operational Condition

Level 1 (Default)	Verified executed rental transaction records received via authenticated channels (API, SFTP, or dedicated secure upload) under binding legal license agreements, combined with verified, executable listings from approved provider platforms and marketplaces.	Standard daily calculation.
Level 2 (Staleness Fallback)	The specific provider's most recently collected and validated price record.	Triggered automatically when an approved provider is temporarily unreachable, for up to a maximum of 30 calendar days.
Level 3 (Last Resort)	A deterministic, model-derived price generated strictly from historical data already residing in the pipeline.	Applied rarely under pre-specified rules when Levels 1 and 2 are unavailable due to isolated technical disruptions.

3.2 Submitter Code of Conduct & Centralized Surveillance Conduit

- **Submitter Code of Conduct:** All providers and marketplaces contributing executed transaction records or account-gated feeds are bound by legal data license agreements and a formal Submitter Code of Conduct. Contributors must transmit data through authenticated channels, warrant data accuracy, and adhere to prohibitions against manipulation or artificial quote shading. Silicon Data's internal benchmark staff are similarly bound by an internal Code of Conduct prohibiting manipulation, collusion, or misuse of non-public information.
- **Centralized Surveillance Conduit (DCM Core Principle 4):** Because the compute supply landscape evolves rapidly across hundreds of global neoclouds, Silicon Data serves as a centralized surveillance conduit between underlying cash-market data sources and regulatory authorities. Through its binding legal agreements and version-controlled data lake, Silicon Data provides listing DCMs and the CFTC with a single, auditable point of access to anonymized, instance-level constituent data upon request.

3.3 Vendor & Third-Party Calculation Agent Oversight

Silicon Data collects, cleans, validates, and normalizes all input data. For the flagship SDH100RT and SDB200RT indices, Silicon Data has appointed Syntax Data as the independent third-party calculation agent. Syntax Data computes the final index values from the normalized prices supplied by Silicon Data;

Silicon Data then validates the returned value, publishes the official benchmark, and retains full legal and regulatory responsibility as Administrator.

All third-party vendors are tiered by operational criticality. Every critical vendor (including the calculation agent) is subject to a documented contingency and exit plan, a designated alternate calculation capability, annual continuity testing, and quarterly performance reviews by the BOC.

4. Outlier Processing, Finality & Exception Handling

Erroneous data and non-pricing anomalies are intercepted prior to publication through a provider-level multi-stage screening gate before any record enters the calculation. The gate applies uniformly to collected listings and transaction records.

4.1 Data Exclusion Policies & Multi-Stage Filtering

Every provider-and-GPU pair is screened daily against historically observed ranges across four automated metrics: (i) absolute price level, (ii) day-over-day price change, (iii) total record count, and (iv) day-over-day record count change.

- **Pre-Calculation Holds & Exclusions:** Any record breaching these automated corridors is flagged and held for validation review prior to index calculation. Records are permanently excluded from calculation if they fail deduplication, lack verified hardware configuration metadata, reflect promotional/trial terms, remain stale beyond 30 calendar days, or originate from a provider experiencing a known system outage.
- **Retention of Excluded Data:** Every excluded data record, together with the specific timestamp and documented rationale for its exclusion, is preserved in the version-controlled data lake for a minimum of five years.

4.2 Business Continuity, Shock Resilience & Fallback Rules

Silicon Data prioritizes settlement integrity over mechanical publication: non-publication or prior-day carry-forward is strictly preferred over publishing an unverified or distorted value. Production pipelines operate across redundant multi-zone cloud architectures with cross-region backups.

Disruption Scenario	Deterministic Fallback & Continuity Rule
Single Provider Data Unavailable	The provider's most recently validated price is carried forward (Level 2 input) for up to 30 calendar days. After 30 days, the provider is excluded and its weight is redistributed equally among remaining active providers until the next BOC review.

Localized Power Grid Failure or Regional Outage	Records from providers experiencing known outages are excluded. Global geographic basis normalization and static per-provider weight caps mathematically prevent localized supply shocks from distorting the settlement index.

4.3 Expert Judgment Policy (IOSCO Principles 8 & 9)

The Silicon Data calculation pipeline is deterministic and rules-based, operating without manual overrides during normal market conditions. The use of Expert Judgment is strictly confined to pre-defined last-resort circumstances: (i) evaluating whether a daily index movement exceeding the 5% variance trigger reflects genuine market fundamentals or an underlying data anomaly, (ii) authorizing a prior-day value carry-forward during an unresolved cutoff exception, and (iii) assessing market-relevance tiers during formal quarterly BOC provider reviews.

- **Authorization & Four-Eyes Review:** Only trained, designated pricing assessors may propose Expert Judgment, and any deviation from standard automated rules requires contemporaneous "four-eyes" sign-off and formal approval from the Chief Compliance Officer prior to publication.
- **Documentation & Disclosure:** Every exercise of Expert Judgment is logged in real time with its quantitative and qualitative rationale, reported to the BOC at every committee meeting, and publicly flagged when a published index value reflects its application.

4.4 Publication Finality & Error Correction Policy

Once a daily index value is finalized and published at 21:00 UTC, it is immutable. While the collection data lake ingests intraday updates continuously, the specific input dataset consumed by the daily production run is frozen at calculation.

- **No Retroactive Daily Restatements:** Silicon Data does not retroactively restate a realized daily settlement value due to late-arriving contributor feeds or post-publication revisions by a supplier.
- **Exchange-Coordinated Intraday Corrections:** If a material calculation or technical error is identified on the day of publication prior to the listing DCM's clearing settlement window, Silicon Data coordinates directly with the listing DCM in accordance with the Exchange's settlement-price rules.
- **Historical Backfills & Restatements:** Historical series restatements are restricted to foundational methodology updates executed prior to the existence of impacted derivative open interest. Any historical recalculation must be approved by the BOC, executed uniformly via non-discretionary production algorithms across archived raw data, and fully logged for independent reproduction.

5. Recordkeeping & Transparency

Silicon Data maintains complete operational transparency and historical reproducibility.

5.1 Immutable Audit Trails & Retention Policy

All raw inputs (both collected listing prices and private licensed transaction logs), intermediate pipeline normalization states, econometric model parameters, excluded records (with exclusion rationales), calculation outputs, and Expert Judgment logs are stored in a version-controlled data lake. Formal Benchmark Oversight Committee minutes and governance records are retained for a minimum of seven (7) years.

5.2 Public & Regulatory Disclosures

- **Publicly Available Documentation:** Silicon Data publishes the current index methodology, version history, methodology change notice, and material consultation documents on its public documentation portal.
- **Simultaneous Daily Dissemination:** Realized daily index values are released simultaneously to all market participants via the Silicon Data website, direct API, Bloomberg, Reuters/Refinitiv, and Kaiko.
- **Confidential Regulatory & DCM Access:** To protect against front-running, collusion, and misappropriation of partner proprietary data, Silicon Data does not publicly disclose its constituent provider list. However, the complete econometric model, versioned configuration files, constituent provider lists, and anonymized instance-level market data can be made available to the U.S. regulators on a confidential basis to support Core Principle 2, 3, and 4 oversight.
- **Complaints Handling Policy:** Stakeholders may submit formal complaints regarding index determinations, methodology application, or operational administration via the Silicon Data portal. All complaints are formally acknowledged within two (2) business days, investigated independently of the personnel involved in the disputed determination with a target resolution window of 20 business days, and may be escalated directly to the Benchmark Oversight Committee.