ISE CTA Cloud Computing™ Index Methodology

Index Description

The ISE CTA Cloud Computing Index is designed to track the performance of companies involved in the cloud computing industry.

Index Calculation

The ISE CTA Cloud Computing Index is a modified equal weighted index. The value of the Index equals the aggregate value of the Index share weights, also known as the Index Shares, of each of the Index Securities multiplied by each such security's Last Sale Price\(^1\), and divided by the divisor of the Index. The divisor serves the purpose of scaling such aggregate value to a lower order of magnitude which is more desirable for Index reporting purposes. If trading in an Index Security is halted on its primary listing market, the most recent Last Sale Price for that security is used for all index computations until trading on such market resumes. Likewise, the most recent Last Sale Price is used if trading in a security is halted on its primary listing market before the market is open. The Index began on December 31, 2007, with a base value of 100.00.

The formula for index value is as follows:

\[
\frac{\text{Aggregate Adjusted Market Value}}{\text{Divisor}}
\]

The formula for the divisor is as follows:

\[
\left(\frac{\text{Market Value after Adjustments}}{\text{Market Value before Adjustments}}\right) \times \text{Divisor before Adjustments}
\]

Three versions of the Index are calculated:

- The price return index in USD (Nasdaq: CPQ) is ordinarily calculated without regard to cash dividends on Index Securities.
- The total return index in USD (Nasdaq: CPQTR) reinvests cash dividends on the ex-date.
- The net total return index in USD (Nasdaq: CPQNTR) reinvests cash dividends on the ex-date and adjusts for an Index Security’s country of incorporation withholding rate. The net total return index began on February 6, 2017 at a base value of 400.00.

All Indexes reflect extraordinary cash distributions.

The Indexes are calculated and disseminated once per second from 9:30:01 to 17:16:00 Eastern Time (ET) in USD. The closing value of the Indexes may change up until 17:15:00 ET due to corrections to the Last Sale Price of the Index Securities.

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\(^1\) For purposes of this document, Last Sale Price refers to the last regular way trade reported on such security’s Index Market. The Index Market is the listing market for which prices are received and used by Nasdaq in the Index calculation and generally will represent the most liquid trading market of the Index Security. If a security does not trade on its Index Market on a given day or the Index Market has not opened for trading, the most recent last sale price from the Index Market (adjusted for corporate actions, if any) is used. For securities where Nasdaq is the Index Market, the Last Sale Price may be the Nasdaq Official Closing Price (NOCP) when Nasdaq is closed.
Eligibility

Index eligibility is limited to specific security types only. The security type eligible for the Index include common stocks, ordinary shares and depositary receipts. Security types not eligible for the index include closed-end funds, exchange-traded funds (ETF) or Real Estate Investment Trusts (REIT).

Eligibility Criteria (*)

To be eligible for inclusion in the Index, a security must meet the following criteria:

- be classified as a Cloud Computing company defined below by the Consumer Technology Association (CTA):
  1. Infrastructure-as-a-Service (IaaS): Companies that deliver cloud computing infrastructure – servers, storage, and networks – as an on-demand service.
  2. Platform-as-a-Service (PaaS): Companies that deliver a platform for the creation of software in the form of virtualization, middleware, and/or operating systems, which is then delivered over the internet.
  3. Software-as-a-Service (SaaS): Companies that deliver software applications over the internet enabling other companies to conduct their operations using the application.
- be listed on the Nasdaq Stock Market, New York Stock Exchange, NYSE American or CBOE BZX Exchange;
- have a minimum market capitalization of $500 million;
- have a minimum three-month average daily dollar trading volume (ADDTV) of $5 million;
- have a minimum free float of 20%;
- one security per issuer is permitted\(^2\);
- have “seasoned” for at least three months on an index recognized market (three months prior to the effective date of the Index Evaluation);
- the issuer of the security may not have entered into a definitive agreement or other arrangement which would likely result in the security no longer being Index eligible;
- may not be issued by an issuer currently in bankruptcy proceedings; and
- the issuer of the security may not have annual financial statements with an audit opinion that is currently withdrawn.

*For the purpose of Index Eligibility Criteria, if the security is a depositary receipt representing a security of a non-U.S. issuer, the references to the “issuer” are references to the issuer of the underlying security.

Index Evaluation

The Index is evaluated quarterly in March, June, September and December. The criteria are applied using market data as of the end of January, April, July and October, respectively. Securities meeting the criteria are included in the Index. Security additions and deletions are made effective after the close of trading on the third Friday in March, June, September, and December.

Additionally, if at any time during the year other than the Evaluation, an Index Security is determined to have become ineligible for continued inclusion in the Index due to 

\(^2\) If an issuer has multiple securities, the security with the highest three-month ADDTV will be selected for possible inclusion into the Index.
bankruptcy, delisting, or a definitive agreement that would likely result in the security no longer being Index eligible, the security is removed from the Index and is not replaced. In the case of mergers and acquisitions, the Index Security may be removed the day following the shareholder vote or the expected expiration of the tender offer, provided the acquisition is not contested. In the event the acquisition is contested then the deletion will occur as soon as reasonably practicable, once results have been received that indicate the acquisition will likely be successful. Ordinarily, a security will be removed from the Index at its Last Sale Price. If, however, at the time of its removal the Index Security is halted from trading on its primary listing market and an official closing price cannot readily be determined, the Index Security may, in Nasdaq’s discretion, be removed at a zero price. The zero price will be applied to the Index Security after the close of the market but prior to the time the official closing value of the Index is disseminated, which is ordinarily 17:16:00 ET.

Index Maintenance

Index Share changes are not made during the quarter however changes arising from stock dividends and stock splits are made to the Index on the evening prior to the effective date of such corporate action. In the case of certain spin-offs or rights issuances, the price of the Index Security is adjusted and a corresponding adjustment is made to the Index Shares such that the weight of the Index Security does not change as a result of the action. However, for a spin-off event, if there is a no when-issued trading available for the spin-co security, the spin-co security may be added to the index at a zero value. In this case, the spin-co security will be removed from the Index after two full days of trading.

A special cash dividend announced by the listing exchange, will result in an adjustment to the Last Sale Price for the special amount distributed and a corresponding adjustment to the Index Shares of an Index Security prior to market open on the ex-date such that the weight of the Index Security will not change as a result of the action. A special dividend may also be referred to as extra, extraordinary, non-recurring, one-time, unusual, etc.

Ordinarily, whenever there is a change in an Index Security as noted above, the divisor is adjusted to ensure that there is no discontinuity in the value of the Index which might otherwise be caused by any such change. All changes are announced in advance and are reflected in the Index prior to market open on the Index effective date.

Index Rebalancing

The Index employs a modified equal weighted methodology. At every Index Evaluation, each security receives a binary score of 0 or 1 for each category (IaaS, PaaS, and SaaS) defined above according to CTA where a security who is operating in that category receives a score of 1 and where a security who is not operating in that category receives a score of 0.

IaaS = \{0,1\}
PaaS = \{0,1\}
SaaS = \{0,1\}

The Cloud Score, CS, for each security \((i)\) is calculated as shown below:

\[
CS[i] = 3*IaaS[i] + 2*PaaS[i] + 1*SaaS[i].
\]

The weight, \(W\), of each security \((i)\) is defined as follows:
\[ W[i] = \frac{CS[i]}{\text{Sum}(CS[1,\ldots,n])} \]

where \( n \) is the number of securities in the basket.

After the weights are calculated from all security Cloud Scores, if necessary a 4.5% cap is employed such that any security that has a weight greater than 4.5% will be capped at 4.5% and any excess weight is proportionally distributed to all securities that have not yet been capped.

If the total number of securities in the Index exceeds 80, an Intensity Rating is utilized for companies involved only in the SaaS category. The Intensity Rating captures the perceived degree of a company’s SaaS involvement within the Cloud Computing industry. Securities are ranked by their Intensity Rating within the SaaS category (higher Intensity Rating = higher rank). If there is a tie in the Intensity Rating, the security that has the higher three-month average daily dollar trading volume is ranked higher. The top securities from this Intensity Rating are selected such that the total number of securities in the Index is equal to 80. If the total number of securities in the Index is less than 80, all the companies within the SaaS category are included.

The modified equal weighted methodology is applied to the capitalization of each Index Security, using the Last Sale Price of the security at the close of trading on the last day in February, May, August and November. Index Shares are then calculated by multiplying the weight of the security derived using the above methodology by the new market value of the Index and then dividing the modified market capitalization for each Index Security by its corresponding Last Sale Price. The changes are effective after the close of trading on the third Friday in March, June, September and December, respectively.

Nasdaq may, from time to time, exercise reasonable discretion as it deems appropriate in order to ensure Index integrity.

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