

ISE Cyber Security™ Index Methodology

Index Description

The ISE Cyber Security Index is designed to track companies actively involved in providing cyber security technology and services.

Index Calculation

The ISE Cyber Security Index is a modified market capitalization 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 Price¹, 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, 2010 with a base value of 100.

The formula for index value is as follows:

$$\text{Aggregate Adjusted Market Value/Divisor}$$

The formula for the divisor is as follows:

$$(\text{Market Value after Adjustments/Market Value before Adjustments}) \times \text{Divisor before Adjustments}$$

Three versions of the Index are calculated:

- The price return index (Nasdaq: HXR) is ordinarily calculated without regard to cash dividends on Index Securities.
- The total return Index (Nasdaq: HXRTR) reinvests cash dividends on the ex-date.
- The net total return index (Nasdaq: HXRNTR) reinvests cash dividends on the ex-date and adjusts for an Index Security's country of incorporation withholding rate.

All Indexes reflect extraordinary cash distributions.

The Indexes are calculated during the trading day and are disseminated once per second. The Indexes are calculated five (5) days a week, Monday through Friday, starting by the earliest time zone Asia/Tokyo and close by the latest time zone America/New York.

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 stock and depository receipts. Security types not eligible for the index include closed-end funds, exchange-traded funds (ETF), holding companies, investment vehicles or real estate investment trusts (REIT).

Eligibility Criteria

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

- be a direct service provider (hardware/software developer) for cyber security and for which cyber security business activities are a key driver of the business, or a company whose business model is defined by its role in providing cyber security services and for which cyber security business activities are a key driver of the business;
- not be listed on an exchange in a country which employs restrictions on foreign capital investment such that those restrictions render the component effectively non-investible, as determined by Nasdaq;
- a minimum market capitalization of \$100 million; and
- a minimum three-month average daily dollar trading volume (ADDTV) of \$1 million.

Stock Selection

Securities meeting the criteria are then evaluated as followed:

1. If a component has multiple share classes, include the most liquid issue for that company (using average daily value traded during the prior six-month period) and remove the remaining classes.
2. For each component classification group, assign an overall weight using the following equations:

$$\text{i. } W_{INF} = \frac{\sum(CAP_{INF_i})}{\sum(CAP_{SVC_i} + CAP_{INF_i})}$$

$$\text{ii. } W_{SVC} = 100\% - W_{INF}$$

where:

W_{INF} = Aggregate weight of index components categorized as "infrastructure provider"
 CAP_{INF_i} = Market capitalization of index component I categorized as "infrastructure provider"
 W_{SVC} = Aggregate weight of index components categorized as "service provider"
 CAP_{SVC_i} = Market capitalization of index component i categorized as "service provider"

2. Adjust each component's weighting to an equal weight within its sector's aggregate weight using the following equation:

$$W_i = \frac{\sum_{i=1} (C_{Si})}{W_S}$$

where:

W_i = Weight of each component

W_S = Weight of each sector

C_{Si} = Component (i) of sector (S)

Once initial component weights are established those weights are then optimized to account for component securities exhibiting traits of limited liquidity and/or low levels of market capitalization. Components are optimized for liquidity first and then optimized for market capitalization. The mechanism by which these adjustments are made is the same for both and can be described as follows:

1. Set liquidity optimization criteria:
 - a. Calculate three month average daily value (ADV) traded for each component based on daily closing price and number of shares traded.
 - b. Set theoretical index tracking product one-time investment threshold.
 - c. Set percentage of three month ADV traded threshold.
2. Set market capitalization optimization criteria:
 - a. Set market capitalization based on total outstanding shares issued.
 - b. Set theoretical index tracking assets under management.
 - c. Set percentage market capitalization held threshold.
3. Determine component weighting limits given the respective criteria using the following equations:

$$ADV_{\%i} = \frac{W_i \times INV_{\$}}{ADV_{\$i}}$$

where:

W_i = Weight of each component

$ADV_{\%i}$ = Percentage of three month average daily value traded for component i

$ADV_{\$i}$ = Three month average daily dollar value traded for component i

$INV_{\$}$ = Theoretical index tracking product one-time investment threshold

$$MKT_{\%i} = \frac{W_i \times AUM_{\$}}{MKT_{\$i}}$$

where:

W_i = Weight of each component

$MKT_{\%i}$ = Percentage of market capitalization held of component i

$MKT_{\$i}$ = Current market capitalization of component i

$AUM_{\$}$ = Theoretical index tracking product assets under management

4. If calculated values are less than the percentage thresholds then the weight of component i does not need to be adjusted.
5. If calculated values are greater than the percentage thresholds then assign new component i weight equal to each percentage threshold using the following steps:
 - a. For liquidity optimization calculate component weight based on the theoretical investment threshold and three month average daily value traded threshold using the follow equation:

$$W'_i = \frac{ADV_{\$i} * ADV'_{\%i}}{INV_{\$}}$$

where:

W'_i = Modified weight of component i

$ADV_{\$i}$ = Three month average daily dollar value traded for component i

$ADV'_{\%i}$ = Percentage ADV threshold

$INV_{\$}$ = Theoretical index tracking product one-time investment threshold

- b. For market capitalization optimization calculate component weight based on theoretical index tracking product assets under management and percentage market capitalization held threshold using the following equation:

$$W'_i = \frac{MKT_{\$i} * MKT'_{\%i}}{AUM_{\$}}$$

where:

W'_i = Modified weight of component i

$MKT_{\$i}$ = Current market capitalization of component i

$MKT'_{\%i}$ = Current market capitalization held threshold

$AUM_{\$}$ = Theoretical index tracking product assets under management

6. For both approaches take the aggregate difference between the initial and adjusted weights of those components that fail respective threshold test and distribute evenly among components passing respective threshold test using the following equations:

$$W_{adj} = \frac{\sum_{i=1} (W_i - W'_i)}{n'}$$

where:

W_i = Initial weight of component i failing respective threshold test

W'_i = Modified weight of component i failing respective threshold test

W_{adj} = Adjustment for weight of component i passing respective threshold test

n' = Number of components failing respective threshold test

- a. Adjust weight of components passing respective threshold test using the following equation:

$$W''_i = W_i + W_{adj}$$

where:

W_i = Initial weight of component i passing respective threshold test

W''_i = Modified weight of component i passing respective threshold test

W_{adj} = Adjustment for weight of component i passing threshold test

7. Repeat steps 5 and 6 until all components pass liquidity and market capitalization threshold tests

Note that the index portfolio does not have a fixed number of stocks and attempts to include every stock in the industry that meets the eligibility requirements contained herein.

No single component stock represents more than 20% of the weight of the index, and the cumulative weight of all components with an individual weight of 5% or greater do not in the aggregate account for more than 50% of the weight of the index. This particular requirement will be satisfied at the conclusion of each of the indexes rebalance periods.

Index Evaluation

The Index is evaluated in March, June, September and December. Security additions and deletions are made effective after the close of 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 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. Additionally, 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.

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.

Unscheduled component weight adjustments may occur between review periods if any component accounts for more than 20% of the index weight. The market capitalization of any component representing more than 20% of the index weight will be adjusted such that its new weight is no more than 15%.

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

September 2017