ICE Bandwidth Guide

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1 Purpose

ICE has created the following guide to allow clients to provision the appropriate amount of bandwidth for connections that subscribe to ICE trading data either through WebICE (the ICE-provided desktop application), FIX Order routing, FIX Trade capture, and ICE's proprietary iMpact data feed which may be consumed via Multicast or TCP (may not be available for all product offerings).

Note that these values are based off of ICE's existing product offerings and current market conditions and may change with time. ICE strongly recommends that clients audit/review bandwidth allocations regularly; we recommend that this be done at least once quarterly and that the data evaluated consist of data collected and averaged over a maximum one second interval.

2 WebICE Connections

The bandwidth for each WebICE user varies greatly depending on what specific instruments are subscribed to by each individual user. ICE has evaluated the aggregate bandwidth for several companies with 25+ simultaneous users and has determined the average rate to be 512kbps per user. Taking into account this average rate is comprised of a large set of users (including view-only or "low-use"), ICE recommends that clients with 5 or less users allocate a minimum of 1024kbps per user.

3 Server-based Connections

3.1 FIX Order Routing

The bandwidth for these connections is dependent on the frequency and number of orders sent by the client. The recommended bandwidth figures provided for Market Data connections are inclusive of the typical amount of bandwidth required for FIX Order Routing sessions.

3.2 FIX Trade Capture

The bandwidth for these connections is dependent on the number of deals consummated by the client. If the feed is used for real-time risk calculation, a minimum of 1 Mbps is recommended.

3.3 Market Data Connections (iMpact Multicast)

Clients may choose to connect to ICE directly and/or through managed service providers to receive the iMpact Multicast Data Feed. ICE does not support any production use of multicast over the Internet. Clients have the flexibility of subscribing to the multicast groups that are best suited to their individual needs.

For more information regarding ICE Multicast, please review the following document:
https://www.theice.com/publicdocs/technology/ICE_Multicast_Connectivity_Guide.pdf

3.4   Market Data Connections (iMpact TCP)

PEAK (to date) - The statistics in the "PEAK" column represent the "to date" maximum bit rate recorded for the particular bandwidth group.

RECOMMENDED - Based on recent activity and historical growth, ICE has forecasted the values in the "RECOMMENDED" column which represent the projected bandwidth that will be required within the next 6-12 months.

ICE Bandwidth Groups	Bandwidth (kbps) per Gateway	
	365 d PEAK (to date)	RECOMMENDED
ICE Futures US Agricultures	2420	4840
ICE Futures US Financials (includes Russell Indices)	1360	2720
ICE Futures US (Liffe)	1475	2950
ICE Futures Europe Oil	12300	24600
ICE Futures Europe Non Oil	1060	2120
ICE Futures Europe (Liffe)	2080	4160
ICE OTC	24250	48500
ICE Futures Canada	670	1340
ICE Endex	2435	4870
All Markets	**48.05 Mbps**	**91.23 Mbps**

B5P Bandwidth Groups	Bandwidth (kbps) per Gateway	
	365 d PEAK (to date)	RECOMMENDED
ICE Futures Europe(Liffe) STIRS	7030	14060
ICE Futures Europe(Liffe) Three Month Euro and EONIA	6390	12780
ICE Futures Europe(Liffe) Medium and Long Term IR	860	1720
ICE Futures Europe(Liffe) Equity and Indices	7160	14320
ICE IRS SWAP Futures	190	380
All Markets	**21.63 Mbps**	**43.26 Mbps**

NOTE: If you have printed or downloaded a copy of this document, make certain to check the ICE Website for an updated copy as these recommendations might change from time to time.