Technology Implications and Costs of Dodd-Frank on Financial Markets

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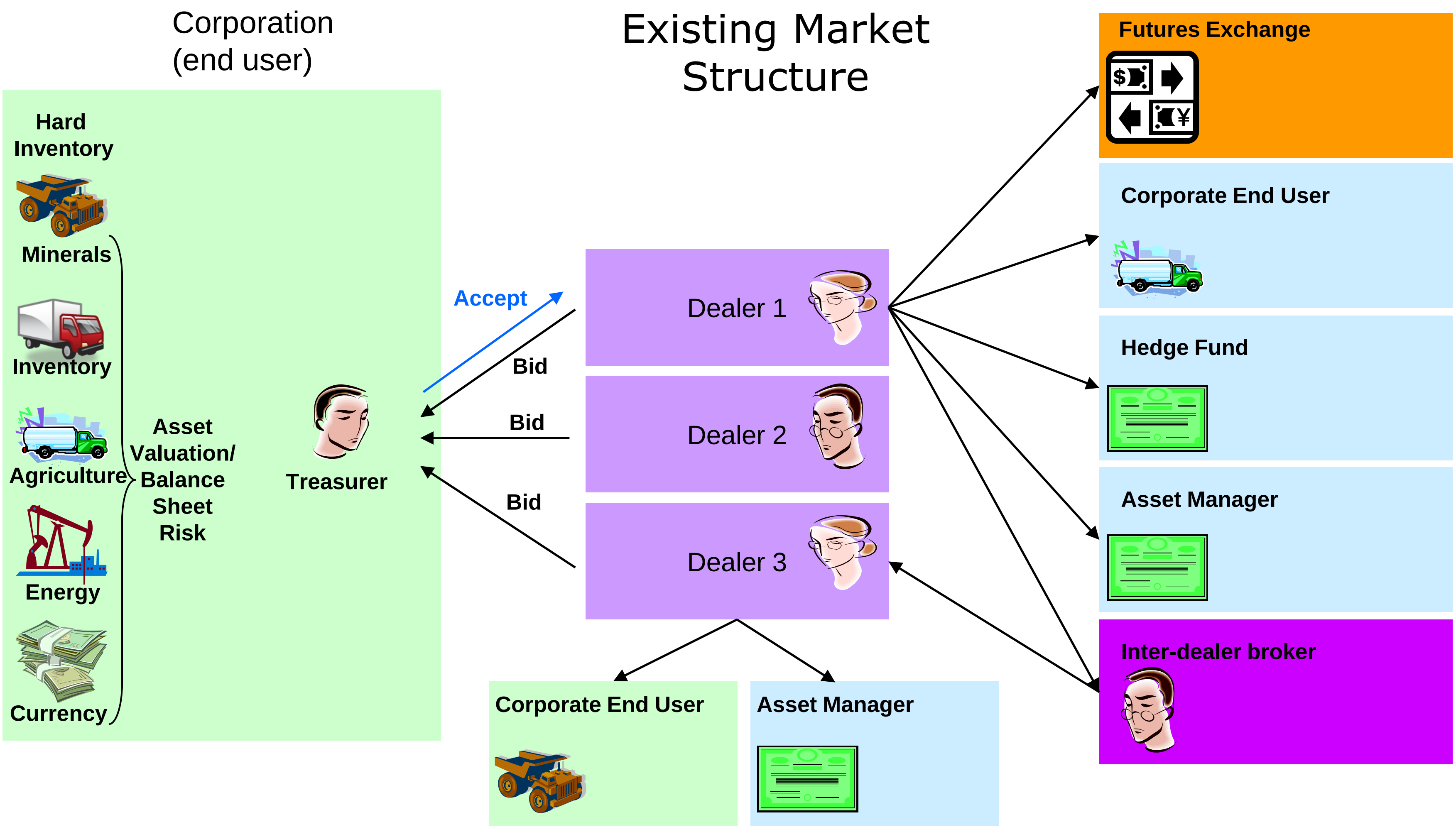
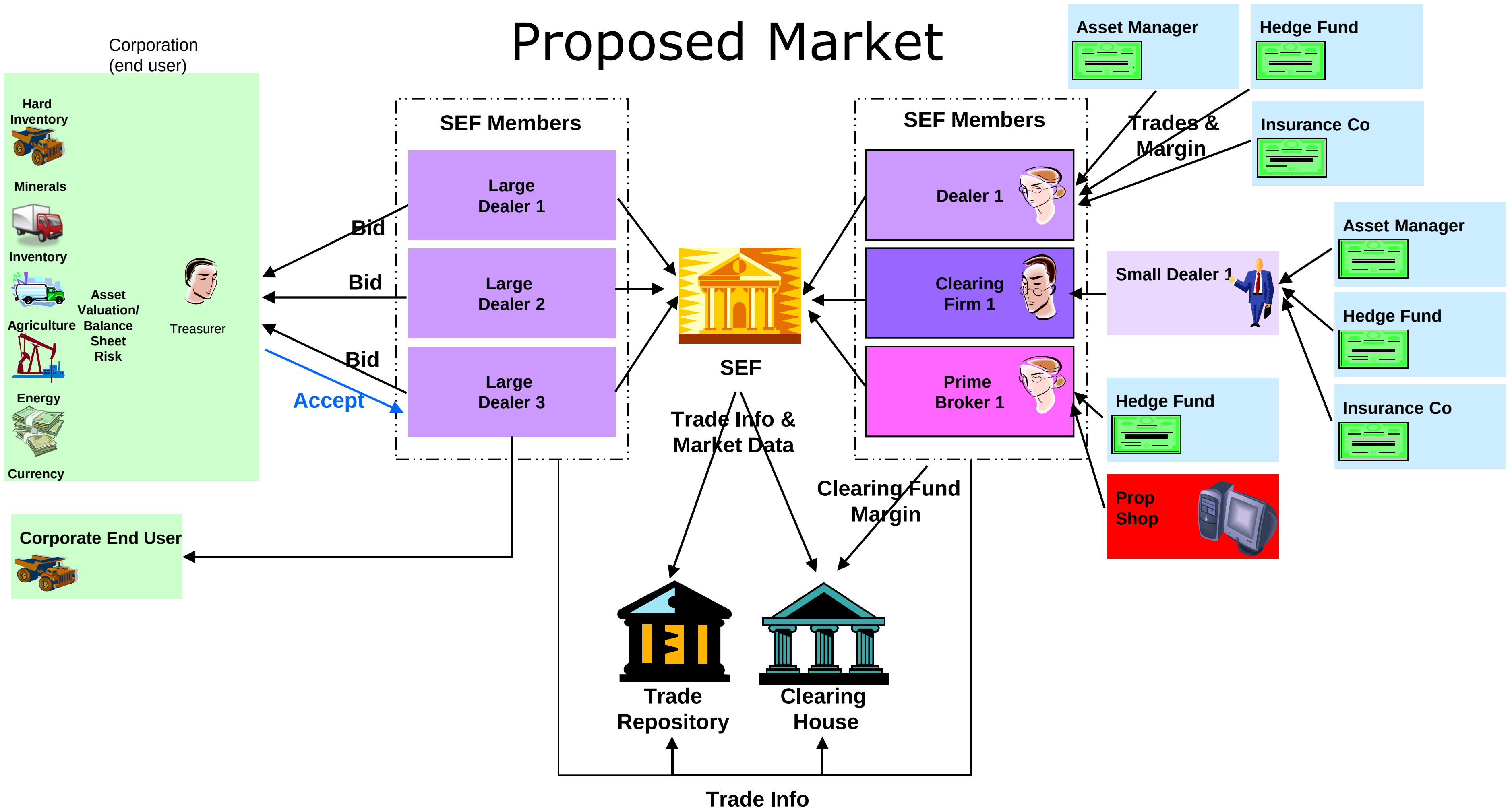
The existing market is bilateral with dealers in the middle



Corporate end users accumulate risk through their day to day business. This could be inventory, commodities, currencies, credit or interest rate risk. They work with dealers to model the risk and solicit bids from one to multiple dealers to hedge that risk. The corporate treasurer picks a dealer who wins the deal. The dealer typically will try to find and end user or a financial institution that wants the opposite risk and will try to sell it to another counterparty. Sometimes the dealer with use and Interdealer broker to lay off the risk with another dealer

Source: TABB Group

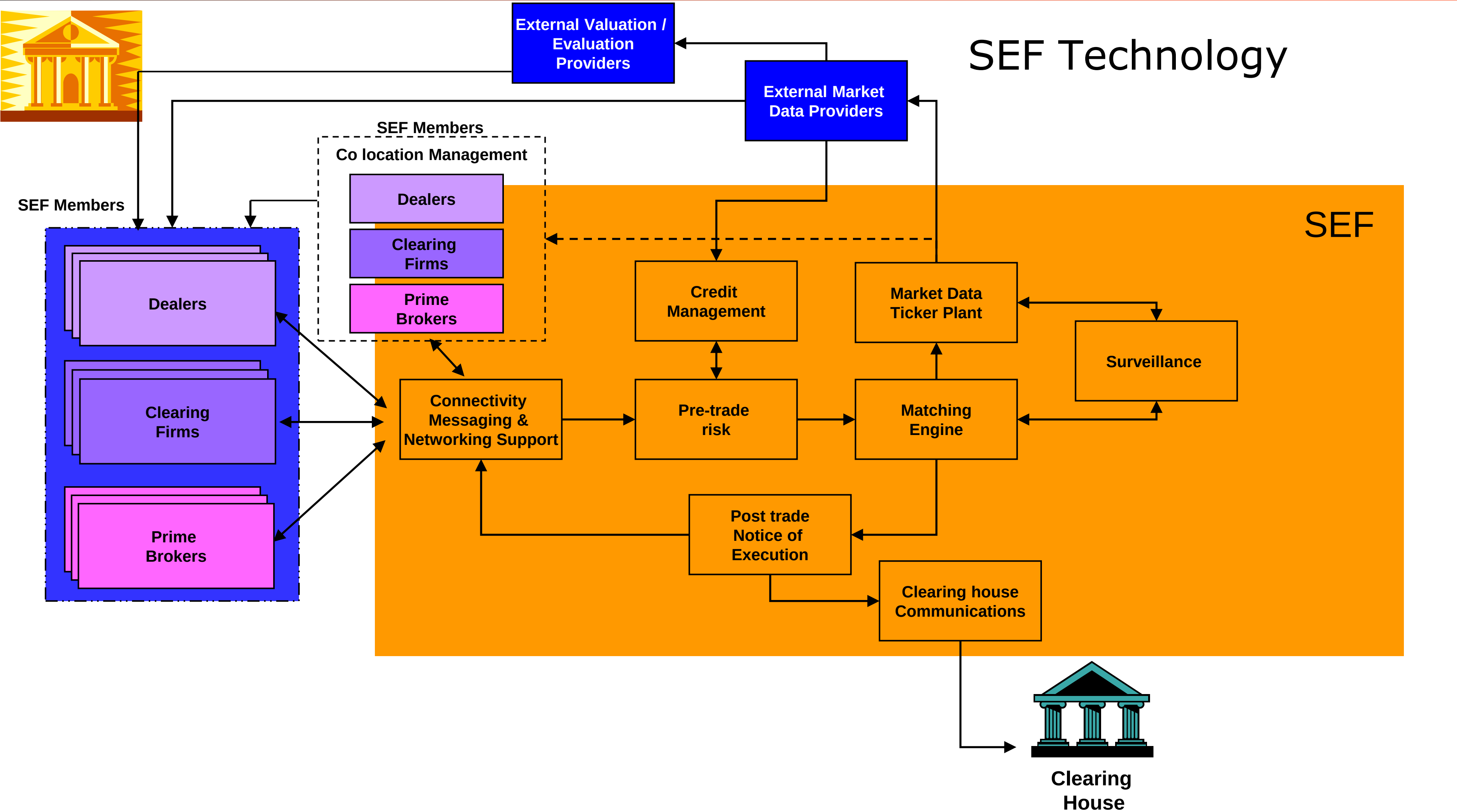
Under DF, standardized swaps are matched by SEF, centrally cleared, & centrally reported



The corporate end-user business is unlikely to change much of the clearing requirements for end-users has been exempt – and under FASB133 only exact hedges can get balance sheet relief and it is not expected that a significant amount of customized products will be centrally cleared and SEF-traded. However, it is mandated that all standardized swaps be both centrally cleared and traded on an SEF. We anticipate that much of this business will be done with financial non-dealer financial institutions such as hedge funds, asset managers, insurance cos, and proprietary trading houses

Source: TABB Group

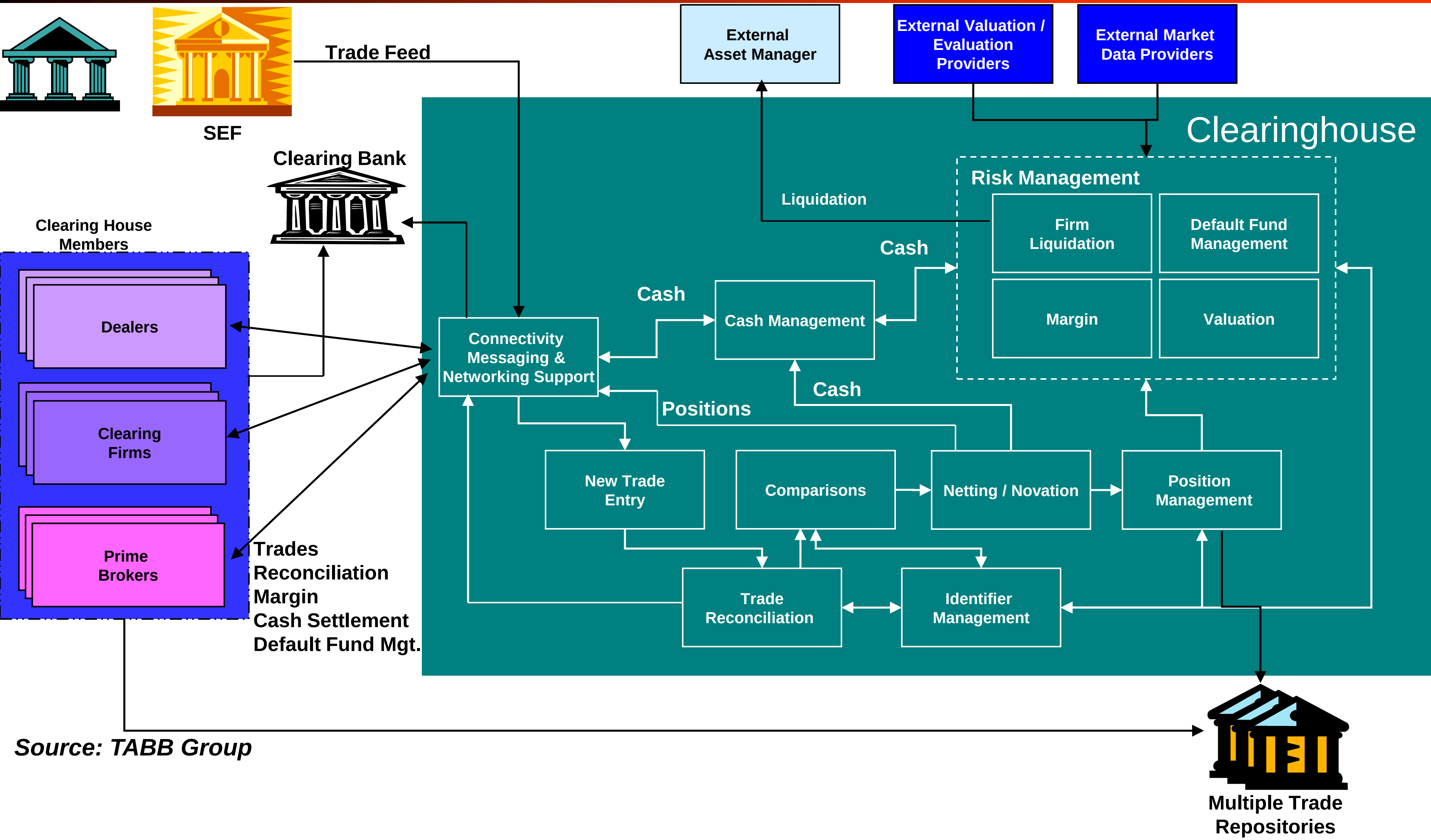
SEFs, while not fully defined, will need some very specific technology



SEF infrastructure is fairly straightforward. The four major technology aspects of a SEF will be managing connectivity and messaging, risk management (however, not as substantial as the clearing house), matching, and market data. SEFs typically do not pay for connectivity, however the larger and more successful, the more challenging is the communications and infrastructure requirements. Increasingly there may also become demand for co-location.

Source: TABB Group

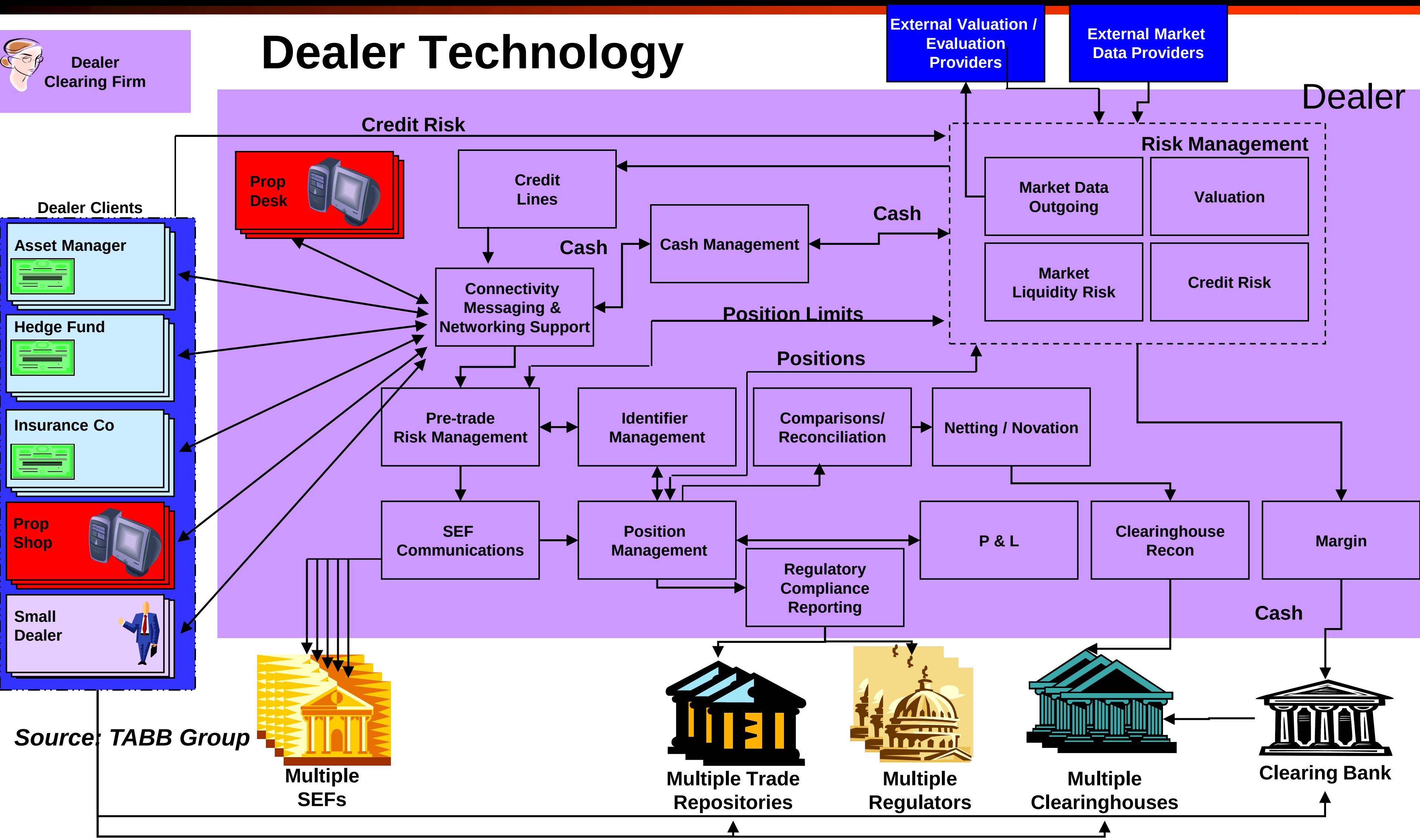
Clearinghouse's primary job is to manage default risk – but that encompasses a lot



Source: TABB Group

While Clearinghouse technology is not as real-time as an SEF, the Central Clearing House manages risk. Clearing houses typically receive two copies of each trade – one from the SEF and the other from the members. They are reconciled, netted/novated, cash is settled and then placed in a position repository where they are valued each day, and the excess/deficit values are exchanged with dealers on a daily basis.

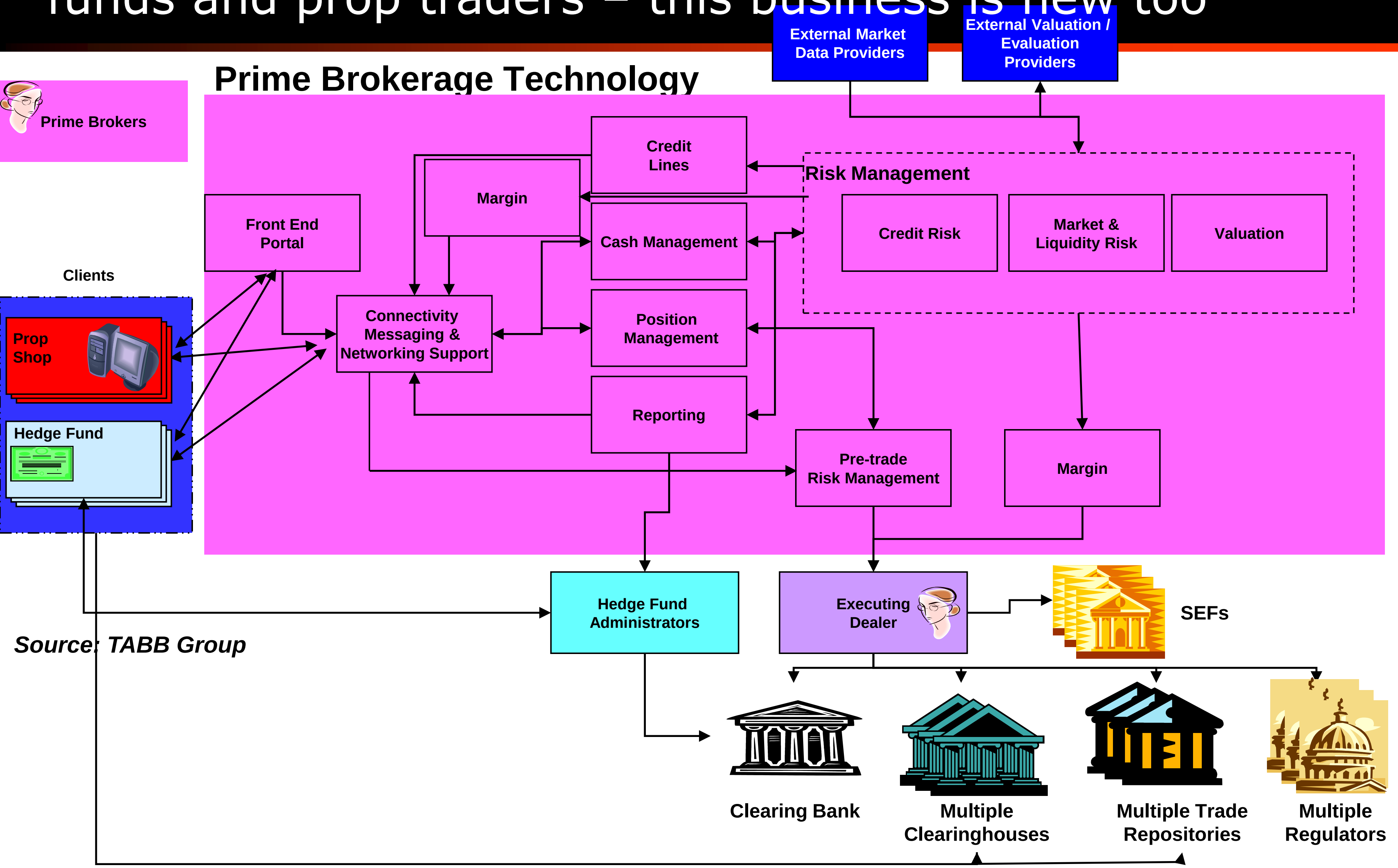
Unfortunately for dealers, much of their infrastructure needs to be added as business is expected to shift



Source: TABB Group

Dealers will have significant technology investments to make. SEF's don't exist, SEF eligible products don't exist, all trade repositories don't exist, many clearinghouses are just getting started. Also Prime brokerage facilities are not set up, credit lines, as well as ways of modeling the products are not standardized.

Primes will provide leverage and access for hedge funds and prop traders – this business is new too



Source: TABB Group

Prime brokers' provide credit and credit intermediation services (transact using the banks' credit and not the fund's credit. This allows the fund to buy at better prices. Primes also provide financing (for securities – not necessary for derivatives) and manage margin. Because of the lending relationship the Prime needs to keep a close eye on the financial condition and the leverage of the fund.

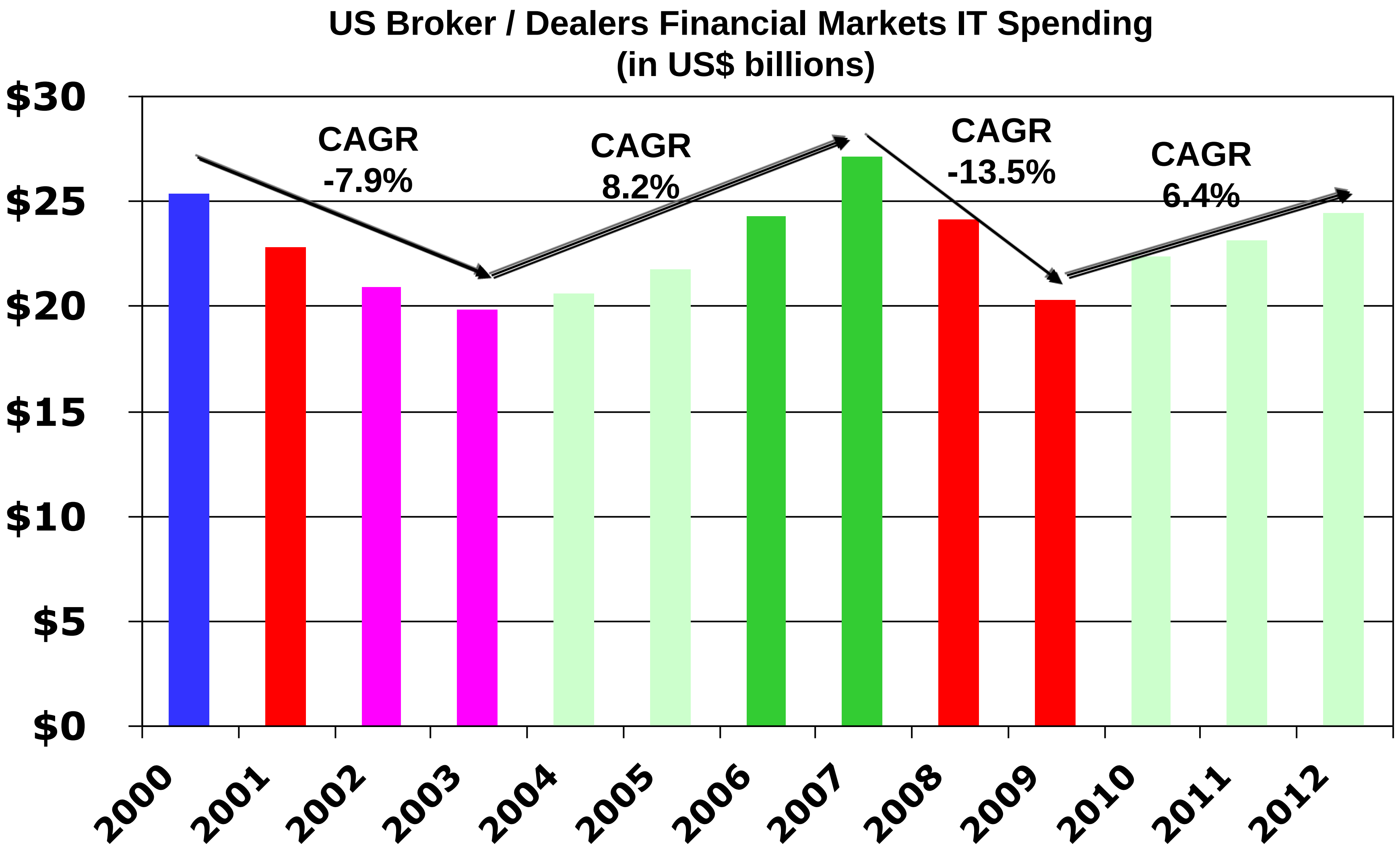
Largest dealers will spend over $1.8b to restructure OTCD business for Dodd-Frank

IT Spending Estimates for large dealers (top 15)
(2010 - 2012

	Top Tier (3-4 firms)	Mid Tier (4-5 firms)	Third Tier (5-6 firms)	TOTAL
eCommerce	$ 158	$ 87	$ 35	$ 281
Low-touch Distribution	$ 162	$ 90	$ 36	$ 288
CCP	$ 217	$ 120	$ 48	$ 385
Risk	$ 347	$ 193	$ 77	$ 617
Collateral	$ 129	$ 72	$ 28	$ 230
TOTAL	$ 1,015	$ 563	$ 225	$1,804

Source: TABB Group

IT spending by US Broker/Dealers took a in credit crisis but back on the positive trend



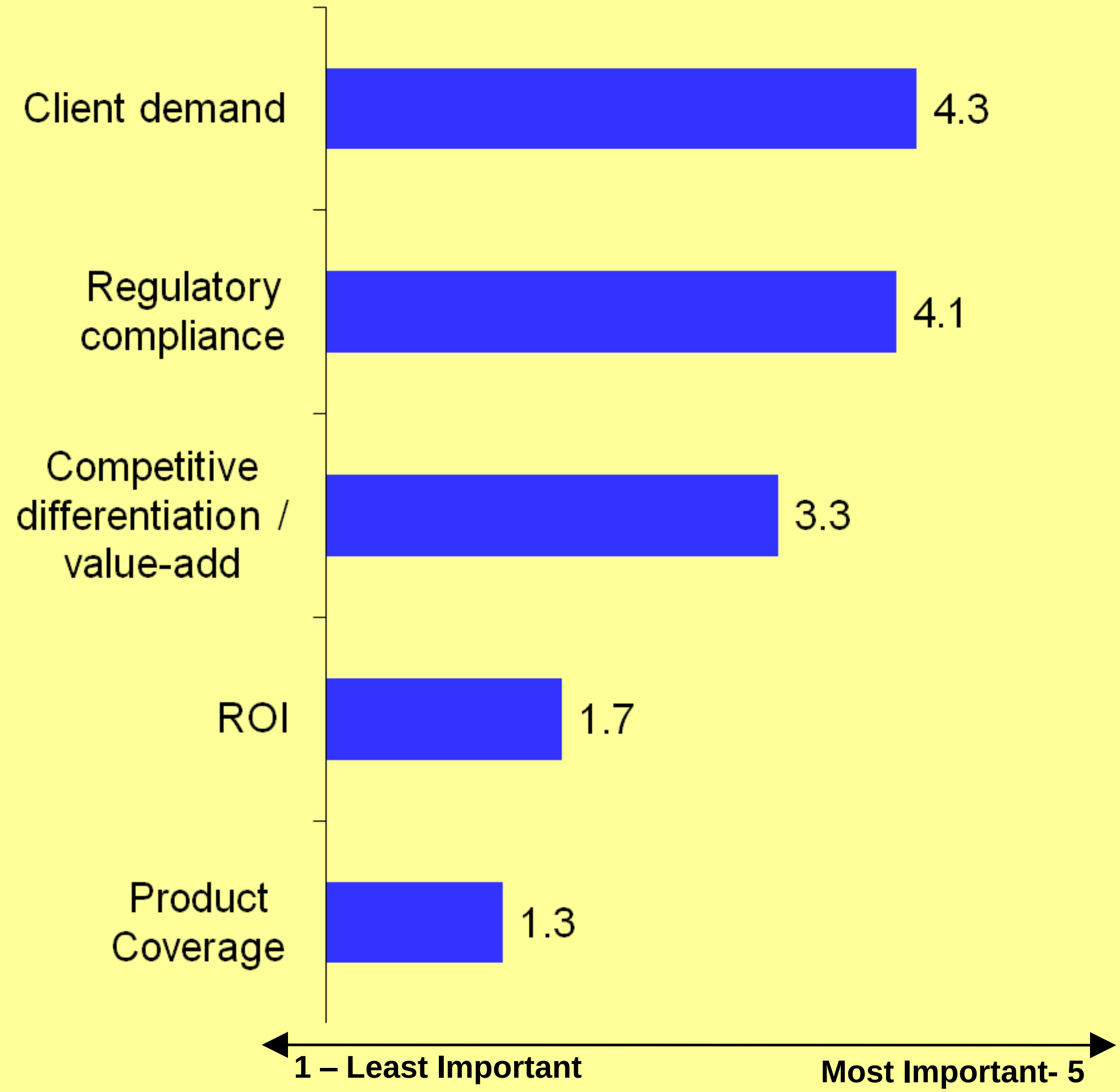
Source: TABB Group

Client needs, which are focused on new regulations, drive prioritization of IT initiatives

- Regulations drive client demand, and responding to client demand provides competitive differentiation; hence the top three drivers behind IT prioritization
- Client demand is the clear primary driver for major dealers as that is what will bring more order flow.
- Inter-dealer brokers are more focused on competitive differentiation and regulatory compliance as client demands have changed little post-legislation.
- Reducing costs/ROI is not the primary driver for any participants in our study.

Source: TABB Group

Drivers behind prioritization of OTC derivative reform IT initiatives



Clearing and execution have been the primary focus for dealers, inter-dealer brokers and service providers

- Both top and mid-tier brokers feel confident in their current readiness for central clearing.
- Top tier dealers are generally more prepared for changes in the execution landscape than are mid-tier brokers.
- Inter-dealer brokers are prepared for changes to the execution landscape and are less focused on clearing.
- Overall compliance, reporting and reference data changes are further from completion for all as many of the detailed rules are still to be written.

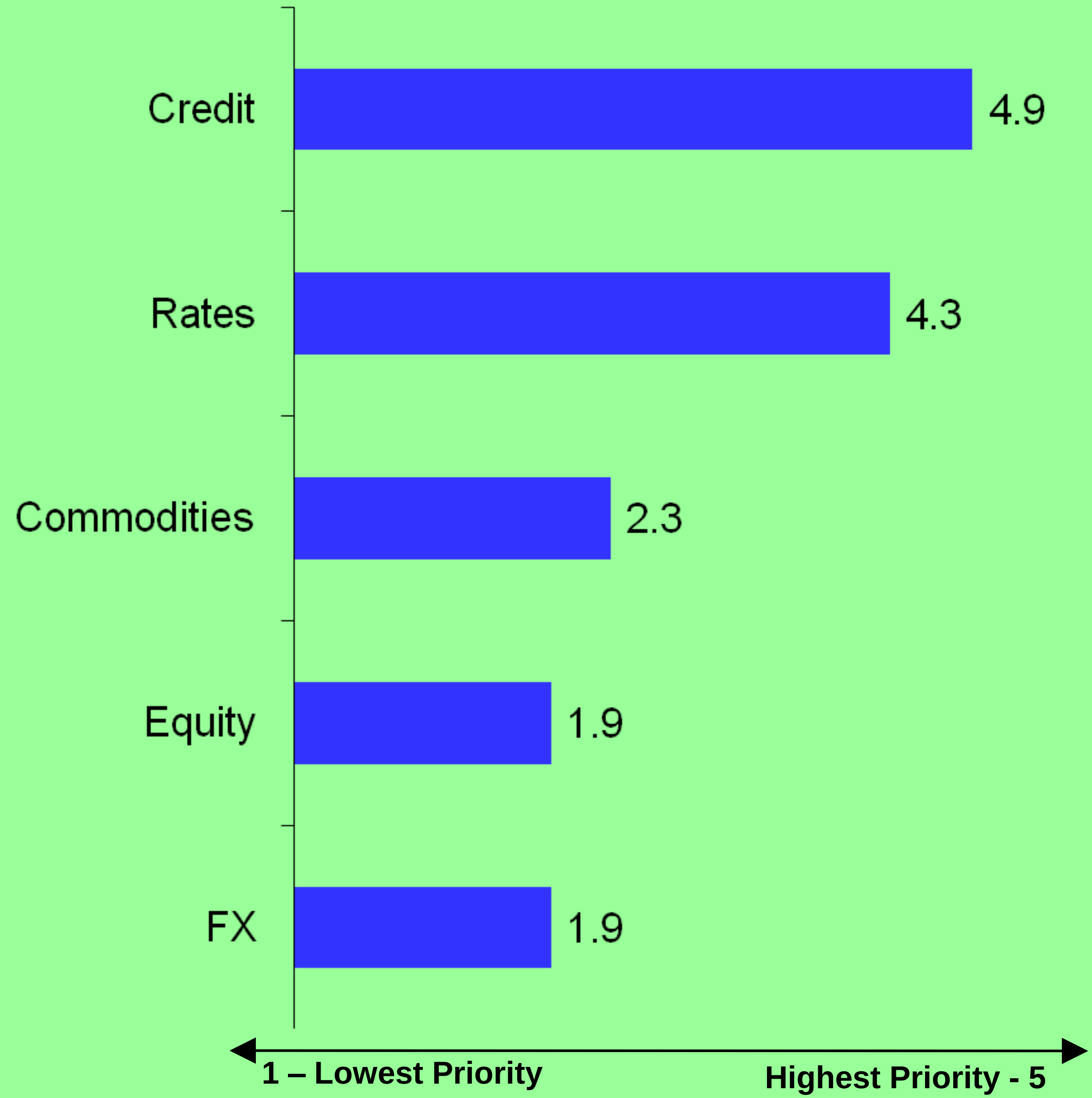
Readiness with major OTC derivatives reform related initiatives

Source: TABB Group

Credit and Rates are the primary focus of dealers, inter-dealer brokers and service providers

- The early focus on central clearing of CDS forced it to the to top of the priority list for most market participants.
- The last few months have seen a shift of focus to interest rate swaps as the asset class will likely see the high percentage of positions move to central clearing.
- Commodities (including energy swaps), OTC equity derivatives and OTC FX derivatives are taking a back seat for dealers, inter-dealer brokers and (for the most part) with regulators.

Product priorities for OTC derivatives reform IT initiatives



Source: TABB Group

Conclusions

- The dealers are currently scrambling to build out their capabilities
- TABB estimates that the largest 15 dealers will spend approximately $1.8B to implement the Dodd-Frank rules for derivatives
- While dealers have invested heavily over the decades, products, clearing, trading, business and distribution models are all changing
- While regulation is significant, client demand driving development
- From a business perspective clearing and execution are the key investment areas
- Firms are focused on heavily on credit and rates than Commodities, Equity, or FX Swaps

Source: TABB Group