CASE STUDY & DISCUSSION: FROM T+3 TO T+1

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The financial industry's sophisticated use of information technology is undisputed. Having enjoyed the many benefits of its early adoption of computer and communications services, the financial sector is now saddled with the legacy systems and processes—enhanced though they may be-that have permitted it to cope with phenomenal growth in trade volume. Concurrent with volume increase has been the shortening of the trade-settlement interval in securities exchange, from five (T+5) to three (T+3) business days. Peter Aiken of Virginia Commonwealth University and the Vanguard membership discussed the inherent challenges and opportunities presented by a further compression of processing time, both to next-day settlement (T+1) and ultimately to real-time (T+0) trade and settlement.

The securities transaction lifecycle includes numerous steps: place order, trade, position keeping, clearing, settlement, accounting, and reporting. Each stage involves two parties, whether they be a customer-broker pair or brokers in contra positions. Shortening the cycle time requires all parties to maintain pace with one another, while simultaneously maintaining full risk management under the guidance of regulatory authorities. Whereas the securities industry responded to the paper crunch of 1968 by instituting numerous automated and electronic procedural shortcuts, the T+3 settlement period is lengthier than might be anticipated from such a digital forum. (It should be noted, however, that Aiken's point of view was highly U.S.-centric. For instance, as recently as 1999, India was burdened by a T+45 transaction interval due to its intractable volume of paper handled.) Today in the U.S., customer funds are typically kept in broker-held cash management accounts, instead of in banks, providing ready access when a buy order is placed. Similarly, the securities are typically not physically held by individual investors, but are kept at the brokerage. Centralized book-entry settlement under the auspices of the Depository Trust Company (DTC) simplifies settlement affirmation by changing the name associated with a set of shares. Within-house end-of-day netting of transactions is currently endorsed, and, although the exchanges are set up for low trade volumes, they hold up admirably under the 500-fold increase witnessed in the past half century.

With T+3 and widespread Internet access, qualitative changes in trading behavior are evident. Individuals micromanage portfolios from their Net-enabled devices, laptop-toting farmers sell their crops on the commodity futures market, and day trading has become 25% of market activity. Yet the movement from T+3 to T+1 is fraught with challenges. Tighter processing constraints promise to stress the batch-based antiquated systems that have just overcome the Y2K hurdle. Relying on multimillion-line programs—often with numerous specialized instantiations to account for distinct business needs, regional laws, and differing platform requirements—retooling today's IT assets for tomorrow's needs is indeed a daunting task. Nevertheless, the financial industry realizes that action is imperative, even if faster cycle time would replace netting by trade-by-trade electronic clearing. Adding to the melee, individual processing is expected to increase transaction volume by orders of magnitude, data structure reengineering is imperative, and decimalization threatens to raise volume as traders seek to maximize gain by leveraging the power of continuous vs. discrete mathematics. Although the target date for reaching T+1 is 2001, some players see 2002 as the earliest date, with 2005 being not out of the question. Although the equities market is a huge beast to move, it should be noted that T+1 is not foreign to the industry. Indeed, currency and mutual funds achieve next-day settlement.

For equities, historic methods for credit risk management depend on substantial latency to be built into the trade – settlement timeframe. Time is needed to verify the existence of funds prior to clearing the transaction. As guarantors of the trade, financial institutions are simply unwilling to accept the level of risk inherent in processing a transaction lacking verified liquidity. Along the same lines, shares that are not yet owned cannot be sold without a time lag. As a corollary, with any time lag ($T + n$, where $n \neq 0$), an unethical seller could simultaneously promise verified shares to more than one buyer. If this were to occur, a scrupulous (and sufficiently lengthy) settlement process would expose the discrepancy. As noted by David Reed, "The risk is an artifact of the ancient system, not an artifact of reality."

However, if direct progress to real-time $T + 0$ transactions occurred, many of the present set of risks would become nonissues. If it were possible to have instantaneous knowledge of the veracity of the proxy or certificate, then credit-, settlement-, and counterparty-risk management would all become obsolete; nevertheless, market transparency (i.e., the last trade price) may become obscured. Digital cash, digital certificates, and digital settlement over the Internet are almost certain to be parts of the solution. From a process point of view, the mere idea of direct transition to T+0 is difficult for the industry to digest, given its long history of inherent latency. John Perry Barlow, however, believes that the pain involved with making the T+3 to real-time settlement is little greater than that associated with going to T+1. If this view is accurate, why not move directly to the inevitable? Who, however, will take the first step? After all, as one Vanguard participant emphasized, "T+0 means that literally not only do you have what it takes to make it happen, but that the other side does, too." Will the regulatory agencies endorse and empower such a change, or will a single potent player (or a consortium) place a stake in the ground? The answers to these questions remain elusive, with no contender yet exposing its intentions.

"T+0 and T+1 are completely different animals: one is an elephant, the other is a fish,"

— VANGUARD MEMBER
MR. JOHN "BAKER" COREY,
DASHBOARDS SOFTWARE