



### What Makes a Great E/CTRM? Part 6 – Valuations

Bob began his interview with Sue, his company's middle office manager, as part of his preparations for selecting a C/ETRM system for his company. If you missed Bob's interview with Joe, a physical trader, you can find the interview [here](#).

"Tell me what you expect from a C/ETRM system," Bob began his interview with Sue. Here's my list, she said. Sue passed to Bob a Post-it note having a few handwritten notes.

1. Daily Deal Valuations
2. PNL Attribution Analysis
3. Broker Reconciliation
4. End of Day Process
5. End of Month Process

That's quite a list, Bob said encouragingly. Tell me more about Daily Deal Valuations. Sue began by explaining that each deal has two sides: A cash side and a physical side. The cash side is an estimate of the value of cash, which will eventually be exchanged between our company and its supplier or customer. The physical side is an estimate of the market value of a physical commodity. Netting both cash and physical value estimates together calculates a profit or loss (or PNL) for each deal. I monitor this PNL each day and prepare reports for management to explain changes in PNL.

That's a really good summary, Bob told Sue. So, you need a system to calculate deal PNL each day? Yes, stressed Sue. Because, she continued, the next step, after calculating PNL for a given day, is to compare the results to the previous day's PNL and explain the differences. Bob didn't quite know what that meant. So, he asked, is that hard to do? Sue explained that it can be a very complicated calculation. You see, she said, there are lots of reasons why PNL changes from one day to the next. The most common reason is that forward market curves change each day. So, at the very least, deal valuations will change from day to day because the forward market changes. But there are many other reasons, too. And, management wants me to be able to explain all changes to PNL.

Sounds like a big job added Bob. Bigger than you know, Sue replied with a smile. Just about anything and everything affects PNL. And, with everyone doing their daily jobs, lots of data will change each day, causing lots of changes to PNL. For instance, each day, traders enter new trades, right? That affects PNL. And, now and then, deals must be cancelled. So, removing deals causes PNL changes. What if a trader enters a deal, and a couple of days later changes something on the deal? That changes

PNL, too. But the change can be hard to find and explain.

Bob's appreciation for Sue's job swelled. Bob was glad he had his job and not Sue's job. Sue continued. The operations team changes lots of data, too, when scheduling cargo deliveries, resulting in PNL changes. All of that must be explained. And, options, whether physical or financial, have a huge impact on PNL, and the impact is difficult to explain. All these Greek value calculations affect both deal value and volume, which impact PNL. So, you see, whatever C/ETRM system our company selects better have a PNL attribution report, preferably as a standard report. Otherwise, my job may be impossible to perform.

Bob thought about this report. If a C/ETRM system didn't have this PNL Attribution report as a standard out-of-the-box feature, writing one from scratch sounded very difficult to do. From Sue's description of her job, Bob appreciated that her job was to summarize the daily impact to PNL resulting from everyone doing their everyday jobs. There were a seemingly countless number of pieces of data changed each day. Trying to explain the impact of each change seemed daunting at the very least. Bob made a note that any C/ETRM system, which his company seriously considered, would have a PNL Attribution report as a standard feature.

Bob looked up after finishing his note and then glanced back down at the Post-it note. Looks like Broker reconciliation is next on your list. Tell me more about that. Well, first of all, Sue began again, broker reconciliation is very tedious. Each day, our financial traders execute lots of trades with exchanges. After the exchanges close each day, brokers prepare a statement for each of our exchange accounts as of the end of each business day. The statements show new trades, open positions, closed positions, and changes to the amount in our exchange trading accounts. My job is to make sure the statements have no mistakes.

Tell me about the tedious part, Bob encouraged. As I said, stressed Sue, there are many trades each day. They begin to pile up after a while. For the new trades, I need to make sure that they are booked in our trade capture system, which isn't exactly state-of-the-art. Then, I make sure that broker commissions are calculated correctly.

For open trades, I check broker mark-to-market valuations, which impact our margining accounts.

Mark-to-market valuations? Bob raised an eyebrow. Sue answered by gesturing with a dismissive wave of her hand. It's just another way of saying deal PNL. I mentioned that earlier. Market value less cash value. That's what mark-to-market means. Whenever a deal is losing money—meaning its market value is less than the cash value we receive for purchases, and vice versa for sales—the loss amount will be taken from our company's trading account. When a deal is gaining in value, which is the opposite condition, the gain amount will be added to our company's trading account. I track these changes to our account as unrealized gains or losses.

Then, there are the closed positions, Sue continued. Brokers close out open positions when they can match together an earlier open trade with a new trade: A purchase against a sale, or a sale with a purchase. After matching, the two trades are said to be closed out, resulting in a realized gain or loss, which also impacts our trading accounts. Here the issue is that I need to match the same trades in our trade management system, such as it is, which our brokers matched in their system. Then, our valuations will match our broker's valuations.

This is the tedious part. Ideally, whatever C/ETRM system our company selects to replace what we currently use as a system should close out trades the same way our brokers close out our trades, and automatically, preferably. Trying to manually duplicate the closeout process used by our brokers takes a great deal of my time each day.

Done, said Bob. I'll make sure our future C/ETRM system automatically closes out trades. Sue looked hopeful, but not convinced. Let me share with you one small, but possibly important detail, Sue added. We don't exactly know how a broker chooses trades to match and closeout. Bob's optimism waned a bit. You see, Sue continued, the rule is supposed to be FIFO, or First In First Out, meaning the earliest similar trade should be matched to a new trade. But we have no way of knowing which is earliest. And, there is no timestamp on each trade. I am talking about the broker's timestamp. Not our timestamp.

And, we aren't even certain FIFO is the method used. I suggest we find out what options are available in C/ETRM systems.

Fair enough, Bob agreed. Can we move on to the next thing on your list? Sure, Sue said. The End of Day process. This means I simply need a way of revaluing all my trades and generating management reports. I would like to see what these C/ETRM systems can do. One important thing: How long does revaluing trades and generating standard reports take? Some businesses can initiate this process early in the evening and let the process run all night long. So, processing speed isn't such an important issue. But our business doesn't get market data until early the next day of business. So, we need to initiate this process during working hours. Will running this process affect others trying to use the system to do their jobs?

That's a very good point. Bob began to think of how system resources could be tied up because of this end of day process. Others using the system would very likely be affected. At the very least, the system may not be responsive, frustrating users. And that frustration would ultimately be directed towards Bob. He could hear their words already: "Just do something about it." Bob made another note to investigate system performance options. Bob wanted to be prepared by knowing what performance tuning options existed BEFORE purchasing and implementing a C/ETRM system.

There may be one more thing about end of day processes, of which you may want to be aware, Sue began again. Let me first remind you that our company has operations in Europe, North America, and Asia-Pacific. Bob nodded. He knew about those operations, too. Well, Sue continued, our business day begins when the business day of one of the other operations nears its end. And, a business day for another operation begins when ours ends. Bob nodded again. If we are all using this new C/ETRM system, Sue emphasized, will we step on each other's toes? I mean, can I close out my business day and run reports when other locations are still actively doing business?

Do I exclude their positions? When can I run our end of day process without affecting their business?

It isn't the end of day somewhere for at least one part of our company's global operations.

Sue had made an important point. Bob hadn't previously considered it. System resources aside, how will each operation across the globe affect each other's operation? When is the end of a business day if it is all continuous as the Sun moves across the sky? Should each operation use its own copy of a C/ETRM system? If so, how would management reports be rolled up across all business operations? If not, could all operations be co-located and managed within the same C/ETRM database? Bob made a note to ask each vendor this question. Bob didn't have an answer. Didn't even know what a right question might be. He wondered how vendors might respond.

Very good point, Bob praised Sue. I'll check on that. Shall we move onto your last point then? Yes, replied Sue. The end of month process. It isn't necessarily a process, per se. More like a reporting requirement. We post these accruals to the general ledger each month so that financial accounting can close out their books monthly according to our company's accounting policies and procedures. I would like our C/ETRM system to calculate the amounts of these accruals so that I don't need to calculate them off-system.

And, if the accruals can be calculated and sent to our general ledger automatically, electronically, that would be even better. I wouldn't need to manually post the accruals to the general ledger. In the overall scheme of things, posting accruals manually requires several hours each month. But, calculating the accruals and checking for mistakes takes several days. So, you see, I would like to know what a C/ETRM system can do to offload some of these tedious tasks.

Bob made more notes and thanked Sue for her valuable time. Bob's next stop of his company's operational team. Donna was selected to meet with Bob to be interviewed. More about that interview can be found in next week's instalment of Bob C/ETRM system memoirs.