



Aparajita Bose-Mullick  
SmartStream

Aparajita Bose-Mullick (Dalal) has over 20 years of front-office experience across multiple industries. She was thrown in the deep end for her first foray into capital markets – as the first employee, outside the US, for a start-up where she was instrumental in the growth and expansion of the company readying it for acquisition. At SmartStream's Reference Data Utility, she is the global product manager for the portfolio of RDU products. She works directly with clients to set the vision for product evolution, and various internal stakeholders to intellectualise the challenges that our clients present so that the RDU can extensively surface the processes that need to be discovered.

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# How SmartStream is taking away the headache of tracking exchange notifications

SmartStream RDU's Aparajita Bose-Mullick recalls how a client conversation led to the recent launch of its Exchange Notification Service and explains how hedge funds can make best use of its derivatives monitoring offering

**S**martStream this year launched an industry-first solution to the longstanding and laborious task of monitoring notifications from the diverse range of global derivatives exchanges.

The data processes behind its Exchange Notification Service (ENS) for exchange-traded derivatives (ETD) had been tried and tested for several years as an in-house application. "To maintain our data quality, we constantly monitor derivatives exchanges for changes that impact reference data," says Aparajita Bose-Mullick, global product manager at SmartStream. "We are our own customers."

However, when speaking to their client base, SmartStream quickly realised that the complicated task of processing notifications had real commercial value.

"A client asked how we maintained the exceptional quality of our derivatives data, which is unmatched in the market," explains Bose-Mullick. "We explained the process we employ to track notifications from the exchanges that impact reference data, and our client asked whether

we could give them the same notifications before the trading day starts.

"It was then that the penny dropped: if our best practices can help a client use the data in an innovative way, that's very exciting for us."

The collaboration led to the external launch of ENS in May. Designed to "cut the expense and headache of tracking notifications", according to the company, ENS processes ETD data at source before it goes to clients. SmartStream cleanses, removes fragmentation, normalises, centralises, maps and cross references the data.

"We extrapolated the utility model to exchange notifications," Bose-Mullick says. "You can now get the ENS data in a single pipe, you don't have to process it yourself. You take it almost like a golden source of data, and you apply it to your other systems."

### Problem solvers

One of the many problems ENS is designed to solve is to reduce the likelihood of 'fat finger errors' – mistakes that can

creep in when manually inputting or interpreting data. Such errors not only impact the front end – the trade strategies executed by hedge funds and banks (or anyone trading options, futures, and options on futures), but the risk flows all the way through to back-office reconciliation. In the main, processing exchange notifications does not readily lend itself to automation as they are "trend driven, not standardised", Bose-Mullick says.

Standardisation is a key feature of ENS. It is a significant challenge for most trading desks, as the nomenclature across exchanges is "very fragmented and there is no consensus on processing exchange notifications within an institution", she adds.

SmartStream covers over 100 exchanges, which often employ different descriptions and definitions for similar terms. Even simple terms such as 'contract multiplier' can be defined and interpreted differently, Bose-Mullick explains. For example, on one exchange, a contract multiplier applies to the contract size, while on others it an adjustment factor.

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"Imagine receiving a notification that contract size has been adjusted," she says. "You may assume that it's a contract multiplier, but it could actually be a divisor. You could accidentally multiply by 10,000 when you mean to divide by 10,000. It sounds extreme, but typographical errors can cause exchange outages.

"We standardise, normalise and centralise – that is a massive value-add."

The timeline for notifications is another crucial benefit from ENS. There is little point receiving a notification at the end of the trading day after the changes have occurred. Bose-Mullick says SmartStream currently delivers data before the trading day and is "moving towards real time".

The cost of processing exchange notifications, to both banks and large hedge funds, can run into millions of dollars. Perhaps 10% of that must be written off due to errors in processing exchange notifications, even before accounting for the impact on upstream and downstream systems.

"A 'fat finger error' may result in a trade break," Bose-Mullick says. "That's going to impact your entire trading cycle. And it might not just be for that day – getting it resolved could extend into the next day."

### Prioritising efficiency

The aim of ENS is to efficiently process notifications – and, importantly, alert the client to underlying changes that impact reference data. For example, when a stock split takes place, there is a "ripple effect". The ENS is a way to alert clients to changes, so they do not miss exchange notifications and corporate actions that impact reference data, and the subsequent consequences.

The service is valuable to compliance teams too – each exchange group has

its own rules, and compliance teams need to stay on top of these changes.

"If you break the exchange's rules, you may get fined," says Bose-Mullick. "And fines are not necessarily insignificant – some organisations have an obligation to be a liquidity provider."

There is a direct cost-saving from the removal of duplications and the reduction of errors in exchange notifications. In addition, there are indirect cost-savings from having fewer broken trades. "The systems that ENS data touches should operate more efficiently," Bose-Mullick says.

Smartstream uses ENS internally to keep its reference data "up-to-date, cleansed and best-of-breed", she continues. "From our perspective, it's efficiencies from fewer trade breaks. Amongst other benefits, it's fewer fines and 'fat-finger errors'."

ENS data can be used for many purposes. While some clients use the service to ensure compliance with rules and regulations, different groups can find unique values in the same data.

Clients can be quite secretive about how they use the data – especially hedge funds. "They won't necessarily tell you how they're using it," says Bose-Mullick, "but you can gauge [the use case] by who engages – whether it's a trading desk, which could potentially use it for arbitrage or another ROI activity, or a compliance team."

Indeed, ENS can be used as a feed directly into a trading strategy and could be very valuable to anyone trading futures on options, and options on futures.

"It wouldn't surprise me if our clients are already looking at this. For example, our MiFID data could be used for upcoming EMIR Refit regulations. That is the case with all of our products. How you use it, how you internalise it, is up

to you," says Bose-Mullick. "Our clients have an exhaustive understanding of futures and options trading strategies, so they're going to potentially find intelligence in the ENS data that we didn't even think of."

### Future enhancements

Reference data is, of course, not static and requires constant maintenance. While data quality is a key concern of every financial services company, not all of them realise the need for ongoing upkeep.

Bose-Mullick explains: "Our job is not just to give you reference data on day one. It is to make sure that you have the best quality reference data possible on an ongoing basis. We are constantly maintaining, managing and cleansing the data."

With a team of 45 in-house operations staff and subject matter experts maintaining the ENS data, SmartStream is now planning further enhancements. The company is exploring the use of automation technologies to make the service as close to 'real time' as possible as part of "a marriage of human intellect and technology".

Bose-Mullick says that many technology companies start by finding something that can be automated by machines or algorithms and then "throwing spaghetti at a wall and seeing what sticks".

"We've intellectualised the challenge," Bose-Mullick concludes. "We had been doing it manually for years and have identified where we can gain efficiencies, component by component. We now know which tasks can be automated and which still need human intervention. Only once you have done that process discovery, can you decide which parts are best suited for automation. That's how we're edging toward real time."