

How IT helped NCDEX switch over to a NextGen trading and surveillance system

In an interview with ETCIO.COM, Anand Iyer, Chief Information Officer, NCDEX narrates the story of deployment of the NextGen trading platform and how his team managed a project of such magnitude. Sneha Jha | ETCIO | January 16, 2017, 09:53 IST

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Leading commodity bourse [NCDEX](#) has switched over to a new trading and surveillance system called 'NextGen' for its futures and forward segments. The NextGen project is NCDEX's biggest project till date with 2 core systems migrating to a completely new product and corresponding changes to 18 downstream systems. In an interview with ETCIO.COM, [Anand Iyer](#), Chief Information Officer, NCDEX narrates the story of deployment of the Next Gen [trading platform](#) and

how his team managed a project of such magnitude.

NCDEX has switched over to a new trading and surveillance system called 'NextGen' for its futures and forward segments. What is the business imperative behind the move?

NCDEX was created by NSE and ICICI Bank in 2003. Most of its systems, including the trading and surveillance system were inherited from NSE. At that time, NSE systems were already 13 years old. By the time NCDEX finished 10 years, it was running a 23-year-old system.

In 2014, the exchange decided to revamp its trading infrastructure with a state-of-the-art, world-class architecture. Around this time, NCDEX also envisaged new products that were to be launched. Moreover, with SEBI taking over the Commodity markets, it was only a matter of time before new products like Options were allowed in the market. To be able to meet these challenges, NCDEX decided to upgrade its core infrastructure to cater to growing market demand.

NCDEX always has been at the forefront of governance and compliance. With SEBI taking charge, NCDEX wanted to be in a good position to put in place business rules that make the market place better and stronger. The new systems would help NCDEX put various validations to ensure SEBI guidelines were adhered to.

The NextGen project is NCDEX's biggest project till date with 2 core systems migrating to a completely new product and corresponding changes to 18 downstream systems. From a business standpoint, what did it entail? Can you take us through the course of implementation?

The road to implementation was very tough, keeping in mind, that not only the Exchange had to change its core systems, it also had to change the 18 downstream systems, that derived its data from the main trading engine. Moreover, NCDEX decided to upgrade the market infrastructure by giving the internationally-benchmarked Financial Information Exchange (FIX) protocol, as the only messaging standard to communicate to the market. This meant that along with the Exchange, all brokers also upgraded their trading software to interface with NCDEX over the FIX Messaging standard. The entire project now assumed gigantic proportions!

Upgrading NCDEX to a FIX infrastructure meant that brokers could now employ international front end systems, as that software were already FIX compliant. Moreover, the FIX messaging standards give better flexibility and security to the transactions that are conducted on a daily basis.

The Exchange employed the "risk upfront" philosophy, where instead of waiting for an

event to happen and its corresponding risk to play out, the Exchange forced the event to mitigate the risks upfront. This would mean that any factor, due to which something could go wrong, was made live, before the new trading engine went live. It was like learning to drive on the road, before being given a driver's license.

The market realized the benefits and helped tremendously. A total of 12 mock sessions were conducted in which all brokers participated. There were monthly meetings kept with the Software Vendors who were coached into adjusting with the new FIX format. As a result, the Go-live was a non-event and till date, no production issues or downtime has happened on the Trading or Surveillance systems.

The NextGen Project involved three simultaneous migrations. How did you manage the ensuing complexity?

In 2015, NCDEX signed up with London Stock Exchange (LSE) owned, Colombo-based, [Millennium Technologies](#) Software. The project involved a technical migration to a new trading and surveillance platform provided by Millennium Technologies.

It required a functional migration introducing a new Simplified Spreads contract having different business rules, that was made available in the new engine only.

The project also entailed a market migration. The new trading engine was made available in FIX Protocol only, forcing the market participants to migrate their front office systems to a more modern FIX protocol. Other exchanges had made the new trading engine available on both, the old and the new protocols, in order to avoid a simultaneous market migration.

We didn't have a choice of not doing all three migrations together. Our trading system was more than 20 years old, so we had to replace it. Moreover, the business also needed to introduce new products for the market. And we did not have the luxury of handling two communication protocols simultaneously.

How did IT achieve the feat?

The main mantra for IT to achieve this feat was "extreme collaboration". IT team at NCDEX was working with MIT, a new partner. It was important to establish trust between both teams considering the nature and gestation period of the project.

The "Risk Upfront" philosophy made the exchange collaborate early with third-party software vendors as well as data feed providers like Reuters and Bloomberg. All partners appreciated the hand-holding provided by the NCDEX IT team in order to make them successfully connect to the new trading engine.

What are some of the benefits you hope to realize with the NextGen Trading and Surveillance systems?

The NextGen system is among the country's fastest trading systems. It will bring a more dynamic experience to users, with features such as tick-by-tick broadcast and ease of executing complex trading strategies. It will speed up to order execution by five times. So it will bring greater convenience, speed, safety and transparency to the market.

Fortified with a large processing capacity of 1,000 orders per second, the NextGen system supports FIX protocol, which is the industry norm. Built on highly specialized fault-tolerant technology, its replica processes ensure uninterrupted trading even in the face of software or hardware outages

The NextGen trading platform will also be better suited to offer products such as options and indices, besides having enough capacity to handle algorithmic trading (high-frequency trading). Additionally, it will be able to execute regulatory changes more quickly and cost-effectively, which will assist in efficient intra-day closure, pre-order checks and order flow monitoring.

The new Surveillance system gives ample flexibility for NCDEX to monitor markets real-time, detect trading patterns and address them instantly.

Costs have also gone down with the new systems having an open architecture. The earlier system was a mainframe-equivalent system that had high maintenance costs. Additionally, the new systems require less maintenance and monitoring leading to reduction in operational expenses