

# System Performance Challenges at NSDL

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## Invited Abstract

National Securities Depository Ltd. a company promoted by IDBI, UTI and NSE was set up under the provisions of Depositories Act passed by the Parliament in 1996 to set up India's first securities depository and pioneer the concept of Dematerialization in India. Subsequent to its success in pioneering this reform, NSDL also received a mandate to set up Tax Information Network (TIN) from Income Tax Department (ITD) and was later nominated Central Record keeping Agency (CRA) by Pension fund Regulatory and Development Authority (PFRDA) for New Pension Scheme (NPS). It has through its fully owned subsidiary set up and manages National Skills Registry for IT/BPO companies and on-line transaction processing system for Special Economic Zones for the Ministry of Commerce and Industry.

All the projects thus handled by NSDL have been first of its kind pan India ground up project where not only the very concept went through evolution but even the volumes were uncertain while planning and building systems. The projects also required a quick launch so as to get market participants engaged, get their feedback and evolve system. For depository NSDL adopted system developed by TCS for Swiss Depository SEGA Intersettle as a base under licensing arrangement to enable quick launch, however, due to fundamental difference in depository legislation as well as scale of operations India has in securities market vis a vis Switzerland right at the early stages managing growth of volume became a challenge. This presentation highlights how NSDL with systems Integrator TCS managed to scale up the depository system. NSDL under guidance of IIT Bombay, recently re-developed the entire system ground up again through TCS so as to have a linearly scalable and platform as well as database agnostic system. The presentation also highlights key design considerations that went into making system N fold scalable. The presentation also briefly highlights kind of technical challenges that systems for TIN, CRA and recently awarded project for Goods and Service Tax (GST) will have to face.