

Presentation on Nepal Stock Market and Dematerialization



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What is Stock Market?



- Most Public Limited Companies have investors who hold their investments in the form of 'Share'
- A **share** is a unit of account for various investments such as stocks, mutual fund shares etc
- If someone holds 'shares' of a certain company, that means that person has invested in that particular company.
- These 'Shares' could be traded by buyers and sellers in a common platform.
- This Common Platform is called Stock Market
- There are other complicated details about stock markets which is not so relevant in my short presentation.



Nepal Stock Market



- Nepal Stock Exchange, in short NEPSE, is established under the company act, operating under Securities Exchange Act, 1983.
- Government of Nepal, Nepal Rastra Bank, Nepal Industrial Development corporation and members are the shareholders of NEPSE.
- Nepal Stock Exchange(NEPSE) is the only stock exchange currently operating in Nepal
- The basic objective of NEPSE is to impart free marketability and liquidity to the government and corporate securities by facilitating transactions in its trading floor through member, market intermediaries, such as broker, market makers etc

Paper Based Trading



- Until sometime before, buying and selling of shares were conducted in a paper based format
- Under this system, people holding shares of companies were issued share certificates that indicated the quantity of shares held and their nominal value.
- If a person wanted to sell his/her shares, then that person needed to go to the respective share registrar and verify personal details and signature and then go to one of the licensed stock broker and request a sale order
- The buyer of such shares had to wait for several days for a certificate to be issued under his/her name. For sales of these shares, same process had to be followed as mentioned above.
- This system was very tedious and time consuming



IT Infrastructure



- System Hardware

- Mixed Vendor

- ✦ Rackmount Server
- ✦ Tower Server

- System Software(OS)

- ✦ Linux OS
- ✦ Windows server 2012 R2
- ✦ Citrix Xen /vSphere server(Virtualization)

IT Infrastructure



- Application

- A trading application is the software that allows investors and traders to place trades and monitor accounts. Oftentimes, trading platforms will incorporate market analysis software as well, whereby traders and investors can chart the markets and perform stock screens.
 - ✦ Trading System
 - ✦ programming language used: c#
 - ✦ .NET Framework 4.0 (to build, deploy and run program)

- Database Server

- ✦ Windows Platform (Windows SQL Server 2012)

- Web Server

- ✦ IIS 8.0

Client

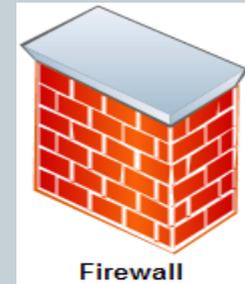
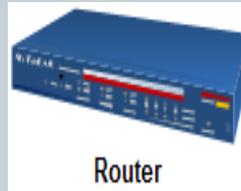
- Windows XP/7/8/10
- Internet explorer 6.0/7.0 (web browser)

Network Systems



Network Devices

- Routers
- Switches
- Firewalls
- Application Firewall



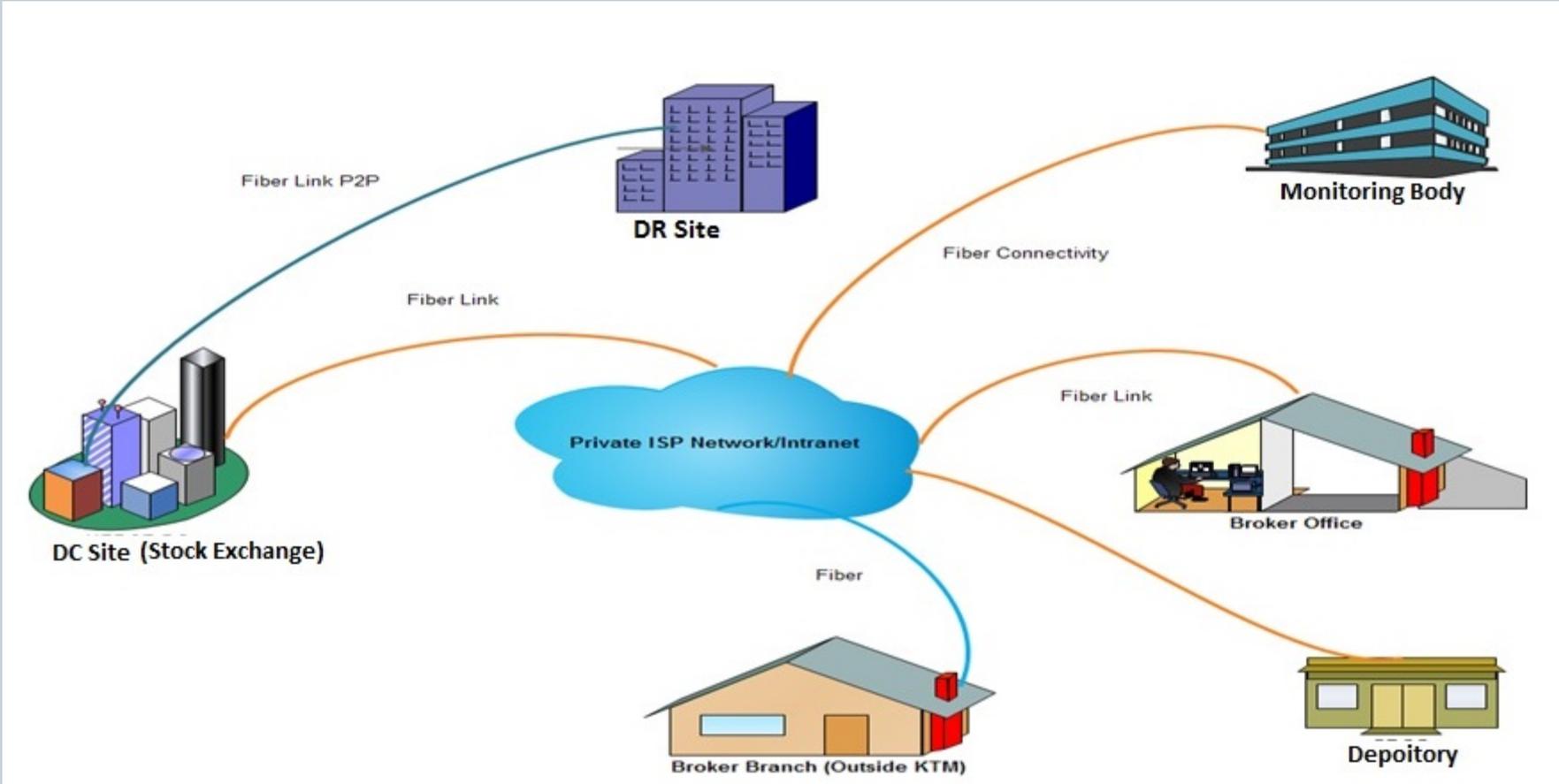
Vendors

- Cisco ASA router/firewall
- Cisco Integrated router
- Fortinet Firewall
- Network Switch(multi-vendor)

Network Diagram



Physical Network



Network Devices : Implementation



Application Firewall

- ✦ Resides at DR site
- ✦ Provide security for web server, mail server and database mirroring server

Edge Router/Firewall

- ✦ Cisco ASA Firewall, resides at DC site.

Core Router/Firewall

- ✦ Fortinet Firewall, resides at DC site.
- ✦ Connection to the intranet to brokers, depository and other monitoring body.
- ✦ Different firewall policies, VPN connection etc, have been implemented here.

Network Switches

- ✦ Resides at DC site
- ✦ Layer-2 Switches of different vendor, implemented in the network.
- ✦ Implemented VLAN and port security feature.

Information Dissemination



Various electronic means are used to disseminate real-time trading information.

- ✦ Trading System
- ✦ Website
 - Live Trading
 - Trading Market Depth
- ✦ Mobile Apps
- ✦ LED Display at different locations

Related URL's :

<http://www.nepalstock.com.np/stocklive>(website)

Or <http://www.nepalstock.com/stocklive>

URLs for Market Depth

<http://www.nepalstock.com.np/marketdepth> Or

<http://www.nepalstock.com/marketdepth>

Trading steps :Trading system



1. Initial Stage- pre-open/open session

- System performs a Capital Adequacy check on all User logins(Brokers) in the system
- All brokers who do not have adequate capital adequacy limits and have due settlement(T+3), are suspended from trading
- Opening price are calculated on basis of pre-set rules
- Circuit filter limits are applied to all the securities
- Brokers are allowed to post buy/sell orders
- Supports trading of Shares, Mutual fund
- Orders are pushed into the order queues on FIFO basis within a best price option

Trading steps :Trading system contd...



2. Intermediate Stage- Continuous Trading

- Order matching engine is based on price-time algorithms
- Rule based engine matches orders in real time
- Continuous trading- order entry, order matching, capital adequacy check
- Transaction matching in real time
- Index calculation and broadcast on a continuous basis to all output terminals
- Generate various trading reports
- Provision of circuit break if required (increase/decrease of index by 3%, 4%&5%)
- Online surveillance module provides continuous alerts on various pre-defined parameters (loss, gain etc.)

Trading steps :Trading system contd...



3. Final Stage- Market Closing/Post Closing

- Closing price calculation
- Market closing time- user defined parameter(in Nepal's case it is at 3 pm)
- Final index calculation
- File generation for settlement processing
- File/Report generation and download for traders, CDSC
- Generation of Daily Traded Stocks file/Report
- Day end MIS reports.
- Other MIS reports

Dematerialization of Shares



- **Dematerialisation** is the process of converting physical **shares** into electronic format.
- Investors who want to dematerialize their **shares** need to open a demat account with Depository Participant.
- Investors surrender their physical **shares** and in turn gets electronic **shares** in their demat account.



Depository Participant



- **Storage of Dematerialized Shares - Depository**

Depository is the body which is responsible for storing and maintaining investor's securities in demat or electronic format. In Nepal there is CDS and Clearing Ltd. for this service.

- [Depository Participant](#) (DP) is the market intermediary through which investors can get the depository services. Depository Participant provides financial services and includes organizations like banks, brokers, custodians and financial institutions.

Process of Dematerialization



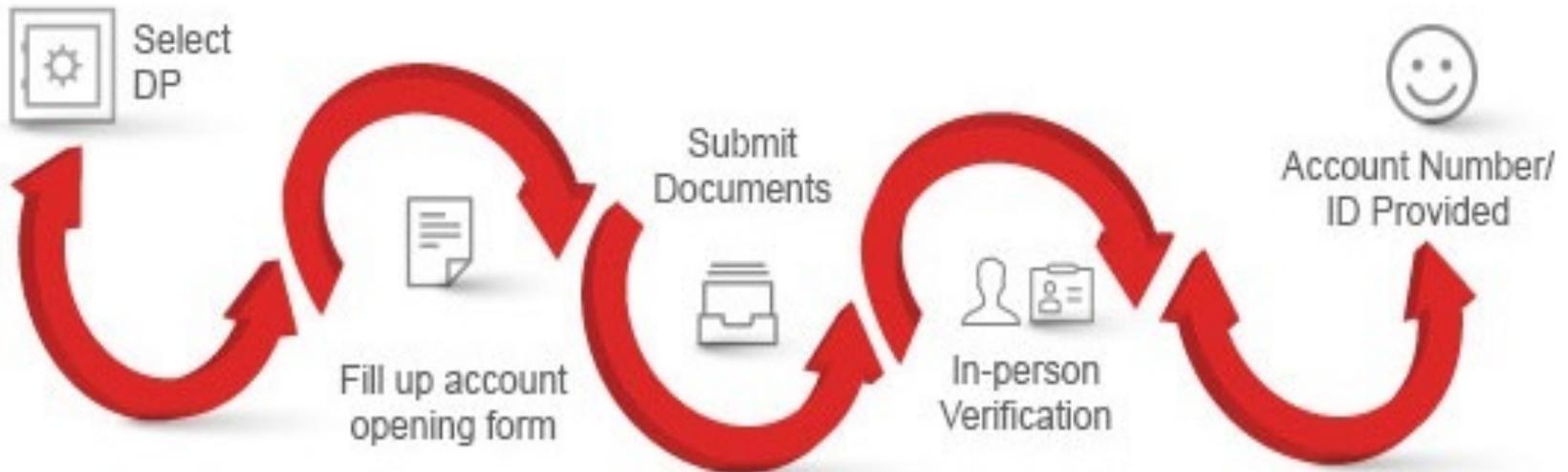
- **Step 1:** Beneficiary Owner (BO) has to open a demat account with a Depository participant (DP) and obtain an account number.
- **Step 2:** BO need to fill in a Demat Request Form (DRF) and submit the same with the physical certificate/s to the DPs for dematerialization. For each ISIN, a separate DRF has to be used.
- **Step 3:** DP would verify that the DRF has been filled correctly.
- **Step 4:** DP would setup a demat request on the depository system and send the same to the Company and the Registrar and Transfer Agent.
- **Step 5:** Issuer/ Registrar and Transfer Agent (RTA) would verifies the genuineness of the certificates and confirms the request.
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Process of Dematerialization contd.....



- **Step 6:** Once the request has been successfully made, DP would deface and mutilate the physical certificates, generate a Demat Request Number (DRN) and send an electronic communication to the depository and courier the DRF and the share certificate to the company by courier.
- **Step 7:** On receiving confirmation, depository will credit an equivalent number of securities in the demat account of the BO maintained with CDSL or NSDL.
- **Step 8:** The depository will electronically download the details of the demat request and communicate the same to the electronic registry maintained by the Registrar of Companies.

How to open a Demat Account?



Benefits of Dematerialization



- Demat format reduces the risk of bad deliveries
 - Time and money is saved as you are not dealing in paper now. You need not go to the notary, broker for taking delivery or submitting the share certificate
 - Liquidity is very high in case of demat format as whole process is automated.
 - All the benefits of corporate action like bonus, stock split, rights etc are managed through the depository leading to elimination of transit losses
 - Interest on loan against demat shares are less as compared to physical shares
 - Investors save stamp duty while transferring shares in demat format.
 - One needs to pay less brokerage in case of demat shares

Next Step?



- Nepal Stock Market is gearing towards online trading after full implementation of Demat System.
- Online Stock Investors who trade through an online brokerage firm are provided with a [online trading platform](#). This [online trading platform](#) acts as the hub, allowing investors to purchase and sell such [securities](#) as [fixed income](#), [equities/stock](#), [options](#), and [mutual funds](#).
- Included with the platform are tools to track and monitor securities, portfolios and [indices](#), as well as research tools, real-time streaming quotes and up-to-date news releases; all of which are necessary to trade profitably.



*Thank
You*



Any Queries ??