ADVANCED ENTERPRISE NETWORK ARCHITECTURE PROJECT OVERVIEW

By-
Ritesh Jaiswal
Electronics & Communication Engineering Department
Maulana Azad National Institute Of Technology,Bhopal,India

Networking requirements in a typical enterprise -

- The Model is divided in 6 parts-
    1. Data Centre
    2. Head office
    3. Branch office
    4. An individual internet user
    5. Internet Service Provider
    6. Internet
- Data Centre has DNS and Web server which should only be accessed by the employees.
- The individual user has an internet connection from the ISP. This individual user has a Gmail account as well.
- Branch office and Head office should be connected with each other and to the Data Centre as well, but Branch office should not directly connected to Data Centre. Branch office should be connected through the Head office to the Data Centre so that Branch office can be disconnected by Head office when required.
- Internet connectivity to Head office, Branch office and Data Centre.
- Protect enterprise network from attacks like MAC Flooding and secure the WAN connection among Data Centre, Head office and Branch office.
- Company should have a public website and a mail server, for all his employees, hosted by some other organization on the internet.

Strategy applied to fulfill all above requirements –

- Access Control List (ACL) is maintained at Data Centre router to avoid access to Data centre by external users.
- Setup proper routing protocol (EIGRP) on routers.
- Avoided MAC Flooding by enabling Port-Security feature on all the switches.
- Maintained internet connection to Head office, Branch office, Data Centre by configuring Port Address Translation (PAT) on Head office router.
- Configured DHCP protocol on Head office, Branch office and Data Centre routers for their respective hosts configuration.
- Configured PPP encapsulation with CHAP on all three routers of Head office, Branch office and Data Centre to make the WAN connection between them more secured.
- Web server in Data Centre has enabled HTTP service which hosts 'www.mycompany.com' and DNS service for employee's use only. Enterprise has one public website also with domain 'www.mycompanyweb.com'.
- Configured mail server (SMTP) of enterprise by creating the e-mail accounts on mail server like 'DATA_HEAD@mycompanyweb.com' and then logged on all computers for their respective e-mail accounts.
- Configured individual user's Gmail account on Gmail's mail server like 'ritesh@gmail.com'.