



## 4000 Users Accommodation Under One Roof

Tier 3 Routed Campus LAN implemented for Country's Leading Mobile Operator GP HQ



**G**rameen Phone as country's one of the largest corporate demanded a large integration in their new HQ for 4000 employees to work in a paperless office connected in a single network with seamless mobility. To ensure the Wifi to cover every spot of the building Spectrum did a test based survey with professional tools which reduced the chance of relocation of Wifi devices after installation, thus reduced time and cost. The solution provided mainly was establishing a TIER 3 Campus Network with 10GBPS backbone capacity.

### Client Speaks for Us

**Grameenphone** started its journey with the Village Phone program: a pioneering initiative to empower rural women of Bangladesh. The name Grameenphone translates to "Rural phone". Starting its operations on March 26, 1997, the Independence Day of Bangladesh, Grameenphone has come a long way. Grameenphone pioneered the then breakthrough initiative of mobile to mobile telephony and became the first and only operator to cover 98% of the country's people with network. Grameenphone was also the first telecommunication operator in Bangladesh to introduce the pre-paid service in September 1999. It established the first 24-hour Call Center, introduced value-added services such as VMS,

*"As a leading operator we always maintain the highest quality of work in house and we demand similar from our vendors. Spectrum had ensured and delivered expected service which made us think we made the right decision choosing them."*

- Name

SMS, fax and data transmission services, international roaming service, WAP, SMS-based push-pull services, EDGE, personal ring back tone and many other products and services. In October 2013 the company launched 3G services commercially. Today, Grameenphone is the leading and largest telecommunications service provider in Bangladesh with more than 48.68 million subscribers as of March 2014.



Grameenphone official site: [www.grameenphone.com](http://www.grameenphone.com)

## Outcome of our Hard Work

*4000 users connected on a single network infrastructure*

*Users can access application from Data Center/DR using this infrastructure*

*Centralized user traffic monitoring and enforce policy for particular user group or all users*

*Seamless mobility and roaming for wireless users*

*Achieved wireless user scalability through different wireless VLAN group under single login*

*Access applications on wireless from anywhere in campus*

## Cisco's Solution at its best

Cisco 6500 is used to establish the Campus Core Network. For Wireless LAN Controlling we used Cisco WiSM module on 6509 switches. Wireless Access Points are on Cisco Aironet 1252. Distribution and Access network is built with Cisco 3750-E switches. Cisco ACS 4.2 was used as AAA authentication server and Cisco NAM module on 6509 switches were used for user traffic monitoring.

## Solution that we delivered

### For Campus LAN

- Hierarchical Tier-3 Routed campus architecture(Core-Distribution-Access)
- 10Gbps backbone capacity
- VLAN wise user segregation according to functional groups
- High Availability through OSPF and RIP dynamic routing
- OSPF area wise network segregation and redistribution RIP-to-OSPF on Access
- OSPF totally stubby area configuration and inject default route from backbone area
- DHCP server configuration on switch for user IP allocation
- Dynamic ARP inspection, DHCP snooping and Broadcast storm control for LAN network security



*Grameenphone impacting life of villagers*

### For Secure Wireless Mobility

- Controller based unified wireless around the campus
- High Availability through Access Point failover with multiple controller
- HSRP configuration for wireless users gateway redundancy

*bringing quality service, we are proud that we have been a part of their HQ network project*

Spectrum's official site  
[www.spectrum-bd.com](http://www.spectrum-bd.com)

- Automatic Radio Frequency and channel management through wireless controller
- Multiple wireless VLAN under single SSID configuration
- 802.1x EAP-TLS certificate based authentication
- WPAv2 for Guest access
- Seamless wireless layer-3 mobility on multiple Wireless controllers/Access Points

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