



SOUTH WEST GAUTENG COLLEGE
EDUCATION OF DISTINCTION

TENDER SPECIFICATION DOCUMENT
FOR
TELEPHONY INFRASTRUCTURE UPGRADE
2012

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Executive Summary

South West Gauteng College has a need to replace its current managed WAN and PABX Systems to cater for growing business needs.

This includes a full PABX forklift at each site to multiple I.P based systems which will allow for integration into current Telkom lines, with the ability to utilise VoIP for outgoing calls and free inter-branch calling between campuses.

In the event that the VoIP network fails, each branch will need to be able to make calls over the Telkom network and act autonomously.

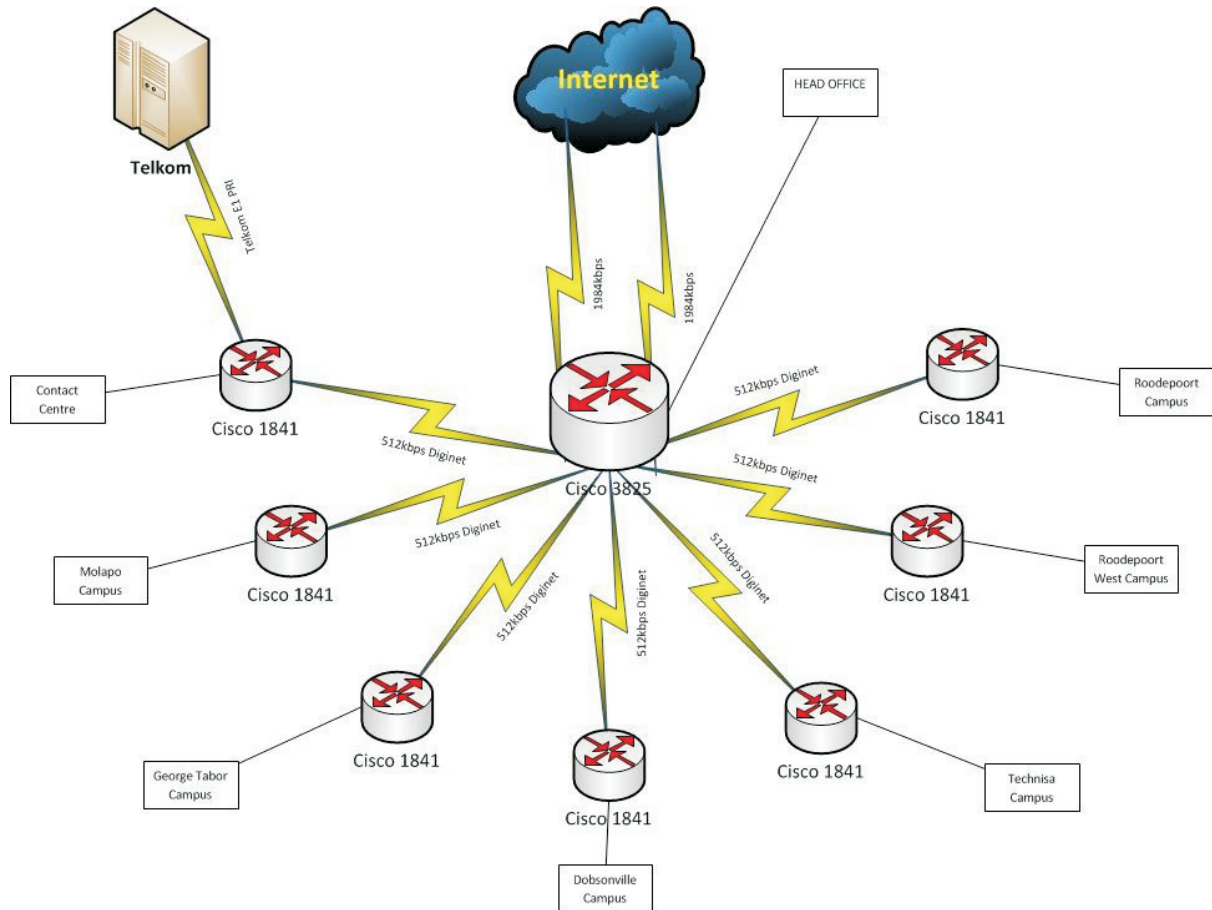
SWGC require Network infrastructure to provide for Connectivity, Security and Management.

The new WAN requires enough capacity for both voice and data with QOS for voice being an imperative.

Only vendors that can outsource and support the end to end solution will be considered. For purposes of clarity this is from the I.P handset level to the network.

See below regarding network layout and technical specifications.

Network Diagram



Breakdown per Campus

1. Molapo – 15 Extensions; x4 BRI Lines
2. Technisa – 33 Extensions; x4 BRI Lines
3. Dobsonville – 31 Extensions; x4 BRI Lines
4. Roodepoort Campus – 44 Extensions; x4 BRI Lines
5. Roodepoort West Campus – 19 Extensions
6. Head Quarters – 39 Extensions
7. George Tabor – 14 Extensions
8. Contact Centre; x1 PRI integrating into current Call Centre via E1

I.P PABX Specifications

A full I.P based system at each site, including handsets; no analogue or digital/hybrid systems will be considered.

Non-negotiable requirements;

- x The systems needs to allow for free inter-branch/extensions dialling utilising the VPN
- x Voice recording per extension
- x Integration into Telkom lines as per the above schedule
- x Video Calling enabled
- x Ability to integrate smart phones such as Apple I-phone and Android-based phones
- x Ability to expand to include an integrated wireless network per campus
- x Telephone Management System to report on ALL sites
- x Management Console for ALL sites

Network Specifications

The new WAN requires enough capacity for both voice and data with QOS for voice being an imperative.

Non-negotiable Requirements –

- x VPN
- x Content Filtering
- x Firewall
- x Uncapped Data with voice prioritised
- x Each Site to have local Internet breakout (**split-tunnel**) secured by a Firewall/IDS/IPS

VPN Connectivity; required between campuses over a secure network backbone

Routers will be required for each campus

VPN must support:

- x Open VPN (SSL)
- x IPSec
- x PPTP
- x L2TP
- x Branch-to-Branch and Mobile

Last mile connectivity; all sites including redundancy

Firewall (Must Include);

- x Stateful
- x Deep Packet Inspection
- x Next Generation
- x Policy Enforced

IDS/IPS (Must Include);

- x Rule-driven language combining the benefits of signature, protocol and anomaly-based inspection methods
- x Malware Protection and Mitigation
- x Botnets Detection and Mitigation
- x Phishing and Fraud Protection
- x Automated Security with Contextual Awareness

Threat Detection provided must include:

DoS Attacks	Invalid Headers	IPv6 Attacks
Buffer Overflows	Blended Threats	Statistical Anomalies
P2P Attacks	Rate-based Attacks	Protocol Anomalies
Worms	Zero-day Threats	Application Anomalies
Trojans	Port Scans	Malformed Traffic
Backdoor Attacks	VoIP Attacks	TCP Segmentation
Spyware		IP Fragmentation

Wi-fi

- x Captive Portal

Bandwidth Management

- x Layer 7 or Protocol and OS-based Bandwidth Prioritisation
- x Web Category-based Allocation
- x Time-based Allocation
- x Committed and Burstable Bandwidth
- x Logging and Reporting
- x Automated Failover
- x Load Balancing
- x Traffic Steering

High Availability (Failover)

Automated Failover functionality must be present

Management and Reporting

- x Content Filtering
- x Web-based reporting and administration:
 - Historical Reports RRD Graphs
 - Real Time Reports SVG Graphs
 - Internet User Reports
- x Zero downtime
- x Management System Integration (SNMP, NetFlow, IPFix, sFlow)

Pricing Schedule

ALL Costs to be included –

- x Capex amount of hardware per site
- x Installation amount for WAN
- x Installation amount for PABX systems per site
- x Monthly service costs for the outsource of the WAN network
- x Monthly service costs of the PABX outsource per month

Layout on Tender

1. Management Summary with a high level overview of the proposed solution
2. Network Diagram
3. Breakdown of Monthly Costs
4. Capex Amount for All Hardware Required
5. Project Plan – Project to be delivered by 1 June (non-negotiable)