

Central Queensland University Questnet 2007

Network Design Report
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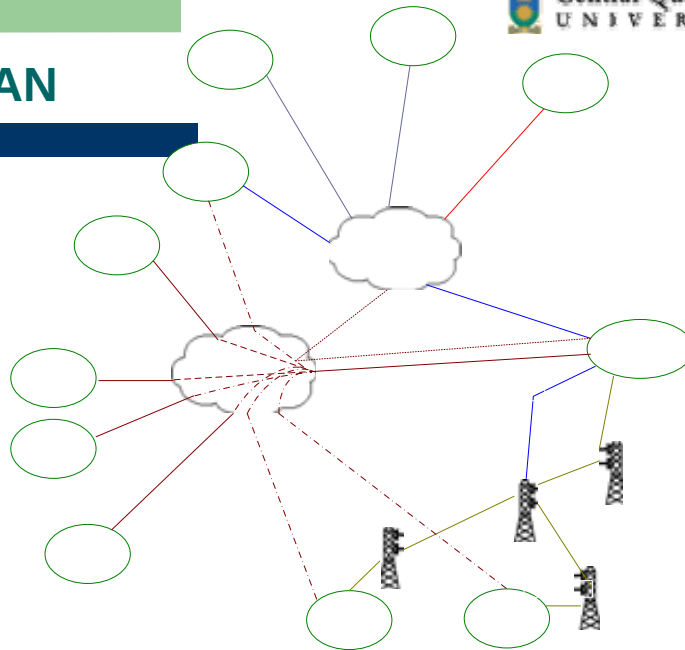
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Topics

- Wide Area Network
- Core Network and IP address structure
- Wireless
- Security
- Current challenges/issues

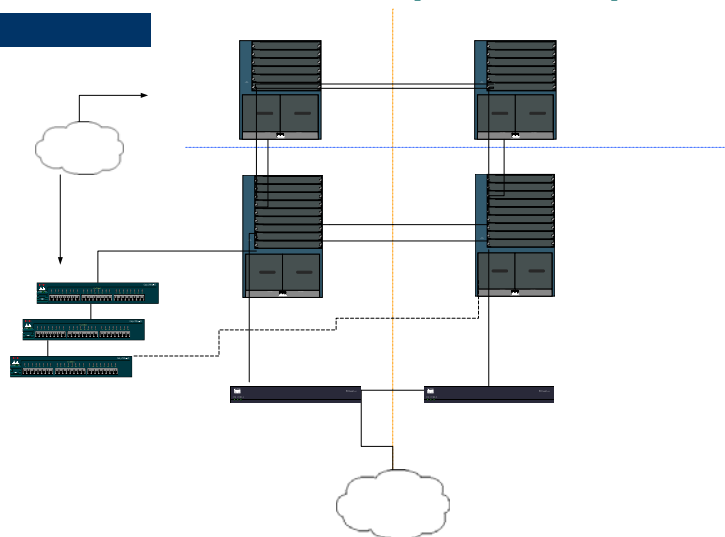
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WAN



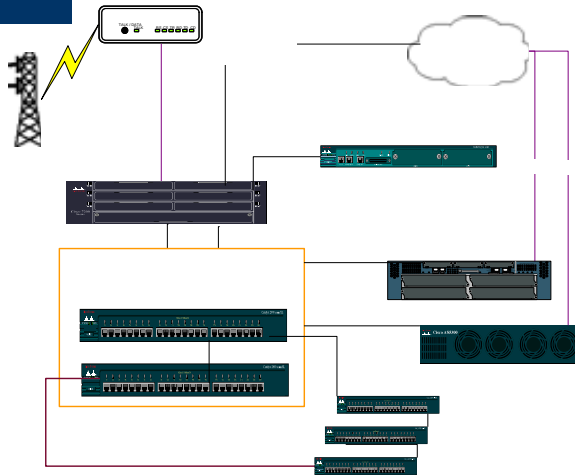
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Core Network – Rockhampton Campus



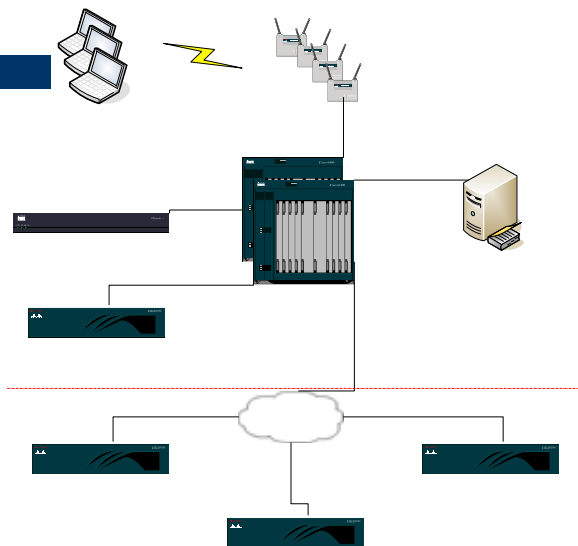
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Core Network – Regional campuses



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Wireless



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IP Address structure

- 192.168.0.0 for management and local networks
- 138.77.0.0 class B divided in 2:
 - Half used in Rockhampton
 - Other half in regional and international Campuses
- Example Gladstone: (/21 per campus)
 - 138.77.136.0/23 for staff
 - 138.77.138.0/24 for staff wireless
 - 138.77.139.64/26 for multicast
 - 138.77.139.128/26 for VoIP and video
 - 138.77.139.248/30 for Content engine
 - 138.77.140/23 for Students
 - 138.77.142/24 for students wireless

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Security

- Dual 6506 Firewall at the front
- PIX firewall for international campuses
- IPS in the core
- Access lists on insecure vlans
- Port security on PC labs
- NBAR and IP accounting in main gateways
- Wireless 802.1x WPA with TKIP

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Current challenges/issues

- Power and AC capacity in the 2 datacentres
- CSS 11503 load
- QoS over VPN tunnels
- Student PCs attacks and staff virus management
- Wireless coverage and security
- Assigning IP address for servers
- Network security structure