

# Market Application

## - University & College



# Private/ Campus Network – University & College

## Application:

- Deployment of campus WLAN at low cost
- Expanding existing LAN to full campus coverage
- Wireless access for dormitory
- Ad-hoc network connection e.g. enrollment, orientation, interflow program activities...
- Anywhere connection to campus resources e.g. classroom, hall, outdoor...
- Anywhere distant learning
- Outdoor teaching



# The Altai Solution

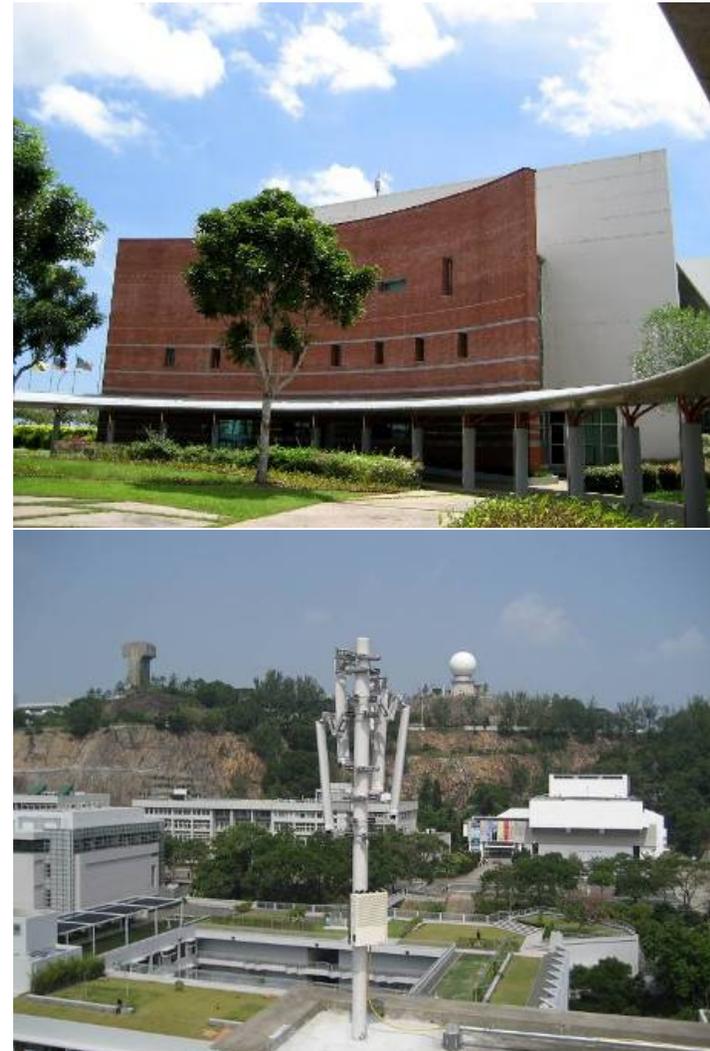
# Private/ Campus Network – University & College

## The Problem:

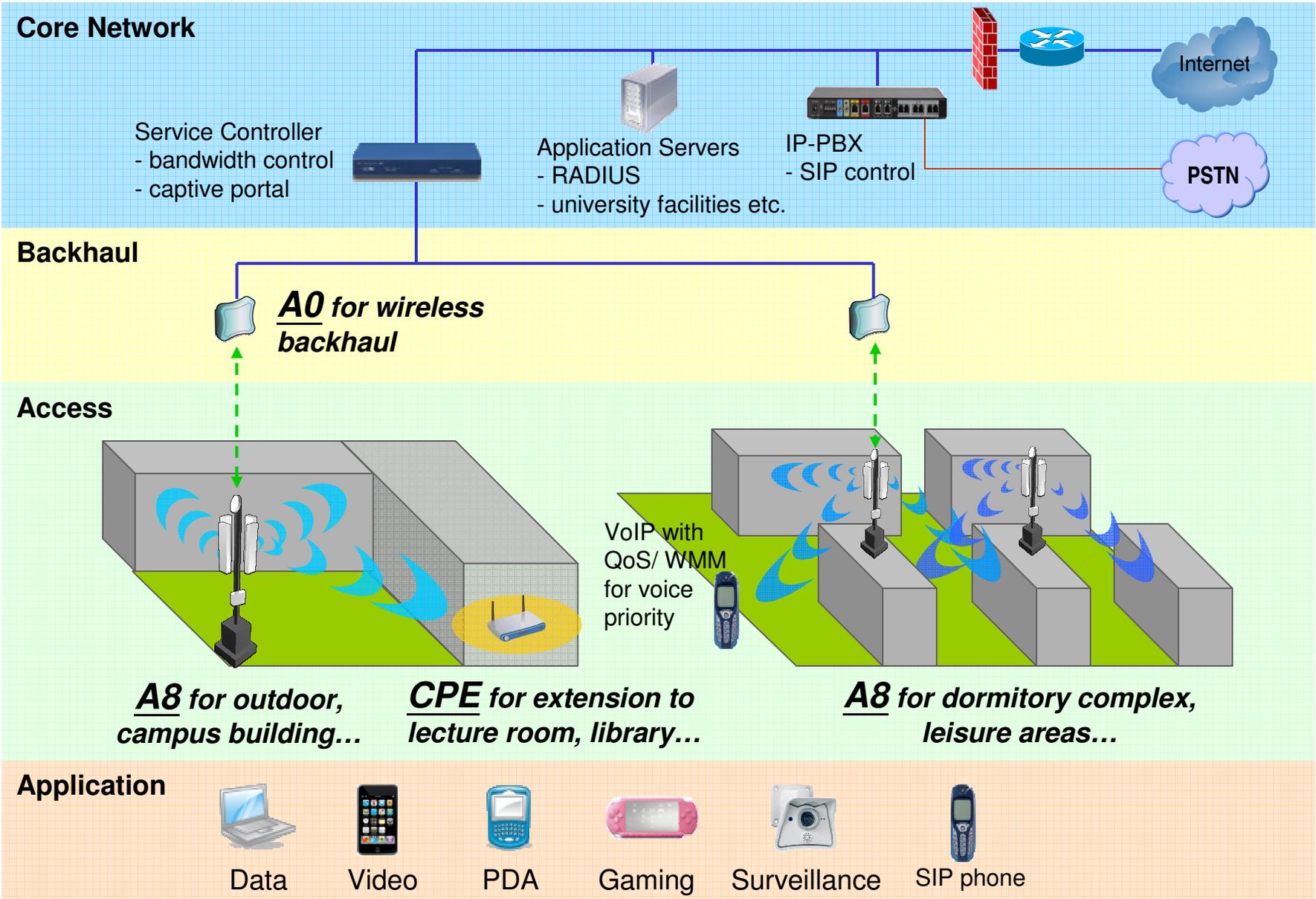
- No interruption to students
- Complicated environment
- Congested block wiring
- Intensive users

## The Altai Advantage:

- Fast deployment in hours
- No in-house wiring required
- Flexible antenna mounting
- Only a few BTS are needed
- High throughput capacity
- Bandwidth & access control



# University/ College Network Solution



# The Altai Advantage

# Flexible and Fast Deployment

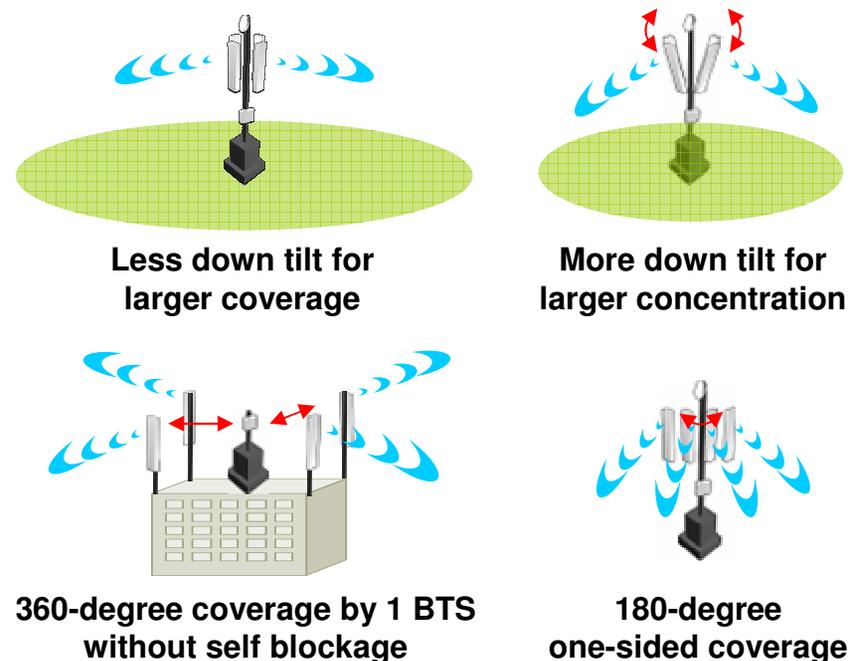
## The Altai technology:

- Adaptive Antenna Positioning – orientation, down-tilt and distance adjustment
- Allow different target distances and cell shapes

## The user benefit:

- Much simpler site planning
- Fast deployment in days or hours
- Any horizontal beamwidth coverage
- Improved throughput density by converged coverage
- Rooftop, pole, ceiling, wall mounting or special tube antenna for lamppost

### Flexible Antenna Mounting



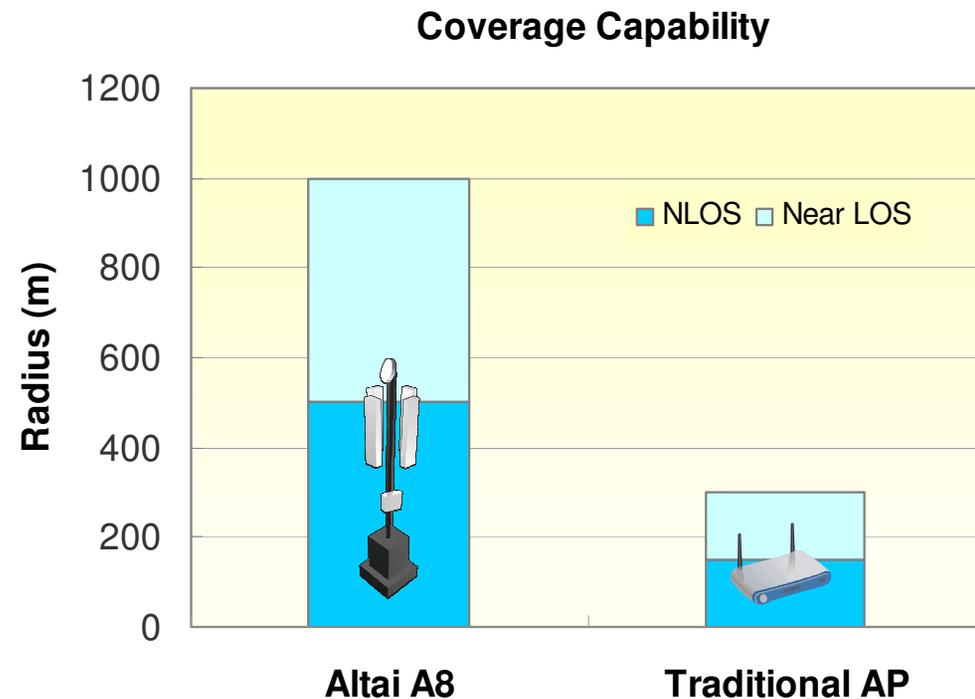
# Large Coverage Super WiFi

## The Altai technology:

- Multiple radios – multi-path, signal processing gain
- Smart Antenna – array and diversity gain

## The user benefit:

- 3X the range, up to 500 m NLOS in urban and up to 1 km near LOS in rural areas
- 10X the area coverage, 2 to 4 BTS/ km<sup>2</sup>
- Minimum installation sites, 1/6 of traditional AP



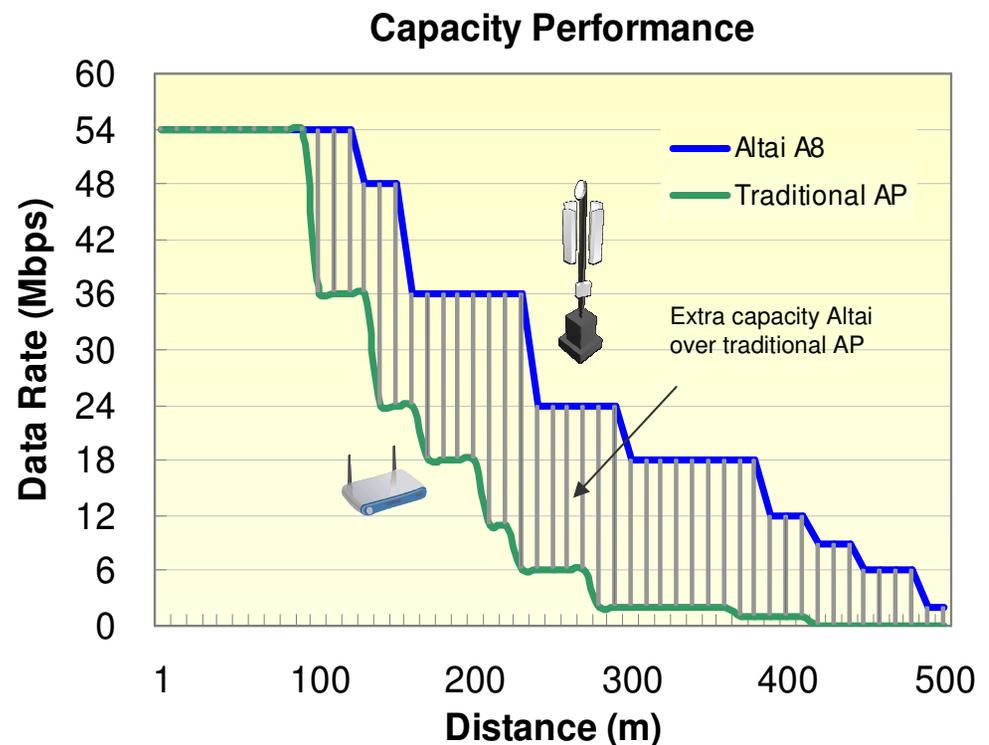
# High Capacity WiFi

## The Altai technology:

- Higher data rate at the same distance
- Multi-path Signal Sampling – improve overall throughput capacity
- QoS and WMM – traffic priority

## The user benefit:

- 2X the capacity at 100-200 m NLOS, 4X at 250 m
- 30 to 40 voice, 10 to 15 video surveillance or 250 Internet clients/ BTS
- Good voice quality at high traffic



# High Performance Super WiFi

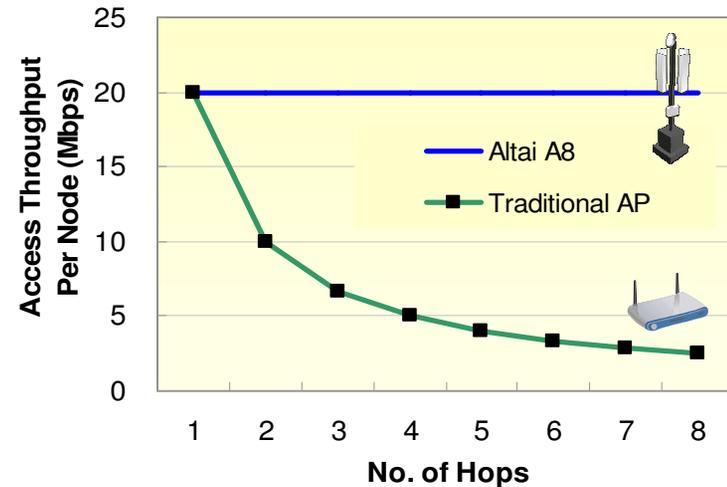
## The Altai technology:

- Dedicated backhaul
- Direct access – no hopping

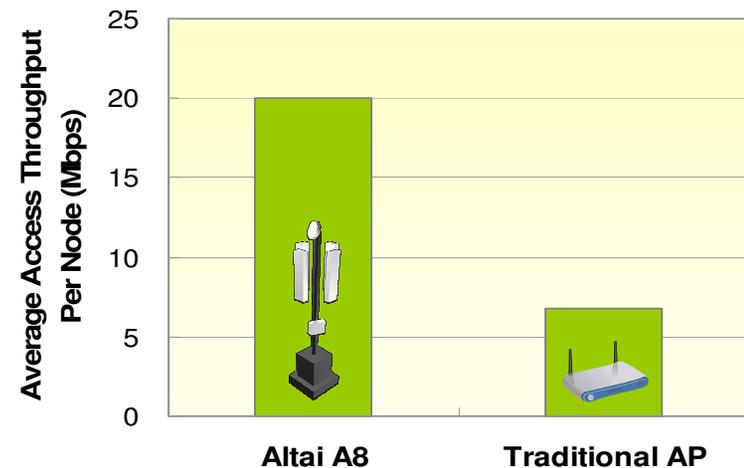
## The user benefit:

- 20 Mbps high access throughput/ BTS
- Direct access to user (1 BTS equivalent to 7 – 8 traditional AP but without hopping)

Throughput Performance Against Hopping



Throughput Performance



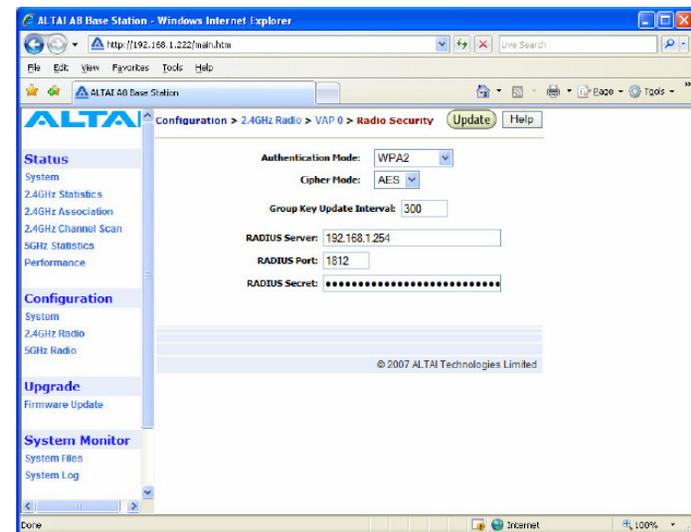
# Highly Secure WiFi

## The Altai technology:

- WPA and WPA2-PSK, 802.1x (PEAP, TLS, TTLS) authentication, MAC address filtering
- WEP, TKIP and AES encryption
- SSID disable, intra-VAP traffic blocking, captive portal for guest access
- Physical security
- Per user, base station or SSID bandwidth control, captive portal and login password authentication

## The user benefit:

- Latest encryption and authentication support
- Low cost authentication by service controller



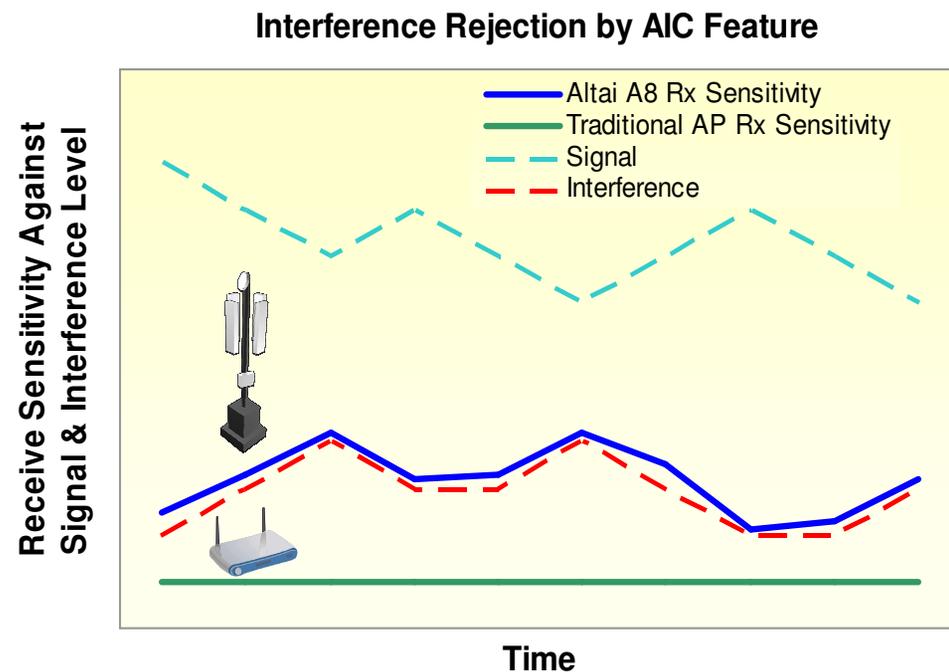
# Superior Interference Mitigation

## The Altai technology:

- Adaptive Interference Control – rejects interference dynamically
- 2.4 GHz Channel Scan – provides radio parameters in nearby environment
- Overall Scan Report – shows which channel is the best to use

## The user benefit:

- High network throughput and stability in much interference urban areas
- Save time in radio planning
- More choices of site and reduction in site



# Complete NMS & Bandwidth Control

## The Altai technology:

- Altai Wireless Management System (AWMS) – configuration, fault, security, performance, wireless link and client management
- Service Controller – per user, SSID or base station bandwidth control, access authentication
- SSID – 16 levels, independent priority and security setting

## The user benefit:

- Save network management cost
- Speedy reaction at downtime
- Prevent single user in dumping the network
- Simple access authentication for billing control

