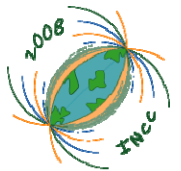




Should Pakistan leapfrog the developed world in broadband?

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LUMS - LAHORE

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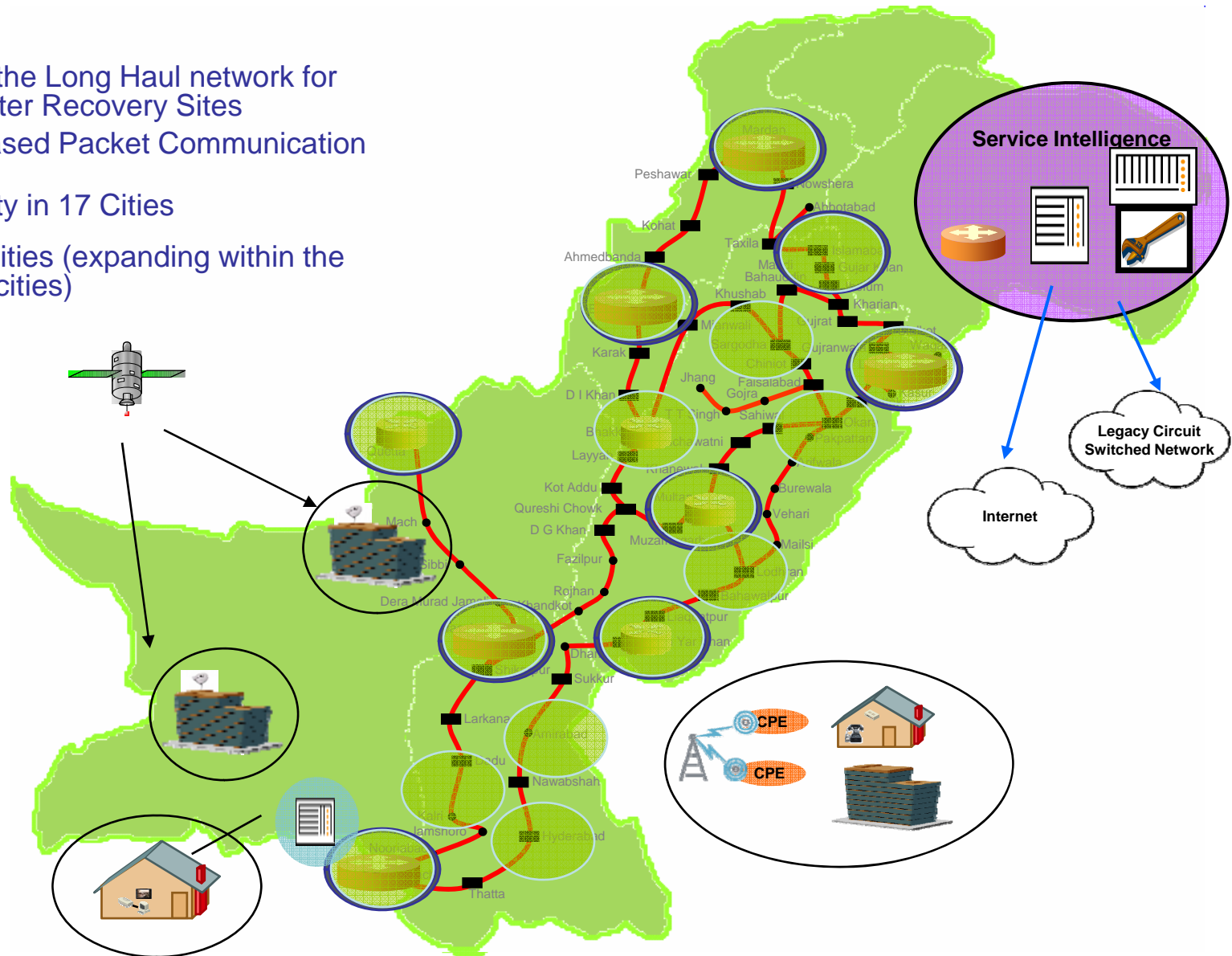
- Broadband Need/Availability & Technologies
- Status of deployment in Pakistan
- Strategies for large scale adoption

- Very few and low quality copper lines available
- Wireless access networks are faster and comparatively more cost effective to rollout
- Wireless medium is a preferred choice in emerging countries due to lack of effective town planning
- No need for “time consuming” Right of Way to install network
- WiMAX has the potential to deliver more bandwidth than other WLL technologies
- Standards track end-to-end flat IP architecture allows rapid introduction of new services
- Green field operators



The Status of Deployments

- Points of Presence on the Long Haul network for Telehousing and Disaster Recovery Sites
- MPLS Core for QoS based Packet Communication
- Fiber Metro Connectivity in 17 Cities
- WiMAX Access in 22 Cities (expanding within the year to more than 100 cities)
- Satellite Connectivity
- IMS Based Services



■ Coverage

- Coverage at the right place... Make your business teams work
- Indoor penetration --- Setting the expectation and Cost to Benefit analysis
- Outdoor Usage --- Way to Address SME market
 - Cost to business Vs Real User Experience for Res users
- Site Selection (applicable to site sharing environments)
- Educating the Business Stakeholders ... Get it right in first place, right projections, right areas to be covered, right service packaging, Work with your business teams so that common ways and common expectations yield positive results...Make your business and sales team understand the technology and its selling points
- Network Noise Floor – Key to stable service



■ Capacity

- Availability of spectrum
- Guard Band
- Bandwidth control at access layer
- Acceptable User Experience

- Solutions for ALL segments: Technical Partner with E2E experience to guide through DESIGNING of all solutions and customizing around YOUR customers
- CPE provisioning solutions --- You cannot manually provision 100K CPE's !!!Think the process challenges ahead
- CPE Support --- Need to think who will stand behind your Field Engineering team as you go to market --- Strong and Dedicated CPE support team
- Franchise/Sales Channel Training --- New Technology this is not GSM so be ware, Invest in this with the help of technology partner
- Call Center Bench Marking --- You need to educate your customers with the WIMAX... You need to benchmark issues at Call Center while educating your customers at it at the same time. This will give you a definitive punch list to work at enhance your customer satisfaction
- Constant network evolution --- WIMAX is not simple...It is IP world an ever changing applications environment, so monitor and evolve.... Don't expect to deploy something as on paper and it will work...You need to evolve
- Process Efficiency --- Work on your processes together with the technical partner to reach optimum performance

Strategies for Mass Market Adoption

■ Bundled Pricing

- Services
- CPE
- Installation
- Localized your service (Translated Manuals to educate customers)

■ Availability of affordable CPE

- DSL modem is now available at approx \$25 whereas WiMAX CPE is still around \$150-200 mark
- Only way to drive down CPE cost is faster adoption of WiMAX globally
- Eco-system is gaining momentum
- Focus on IOT between equipment vendors and device manufacturers

■ Extension of costing savings to end customers

■ Hybrid Selling adoption --- New Technology challenge with Door to Door and Mass Market selling hybrid model ... Make your first customers your sales agents

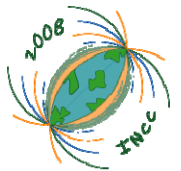




Thank You

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