

Small Cells/Big Impact

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Presented by Soren Bakken



GREETINGS FROM SPRINT!!!

Speaker: *Soren Bakken – Sprint Network Development*

Topic: *Small Cell Technology Solutions*

➤ **NYSE: S**

**“#3 among America’s
Greenest Companies”**



➤ **Currently the 3rd Largest Wireless Carrier**

➤ **~40,000 Employees**

➤ **HQ Overland Park, KS**



**“Highest Satisfaction with the
Purchase Experience among Full
Service Wireless Providers, Four
Times in a Row” by J.D. Power and
Associates¹**

➤ **ND&E HQ in Reston, VA**

**“Best places for diverse
managers to work”**



¹Disclaimer: Sprint received the highest numerical score among full service wireless providers in the proprietary J.D. Power and Associates 2011 (Vol. 2), 2012 (Vol. 1 and 2) and 2013 (Vol. 1) Full Service Wireless Purchase Experience Studies SM. 2013 Vol. 1 study based on responses from 7,777 consumers measuring 4 full service wireless providers and measures opinions of consumers who purchased a wireless product or service within last 6 months. Proprietary study results are based on experiences and perceptions of consumers surveyed July-December 2012. Your experiences may vary. Visit jdpower.com

GROWING PAINS = DIMINISHING GAINS

- FCC forecasted U.S. data growth to increase 35X from 2009 - 2014²
- By 2017 mobile users in North America will grow from 288M ('12) to 316M!³
- Global mobile data traffic will increase 13X from 2012 to 2017!⁴
- By 2017 global mobile data traffic will reach 134 EB per year!⁵
- By 2017 the monthly mobile traffic usage will jump from 201MB (2012) to 2.0GB (2017)!⁶
- By 2017 average mobile speeds increase 7.4X! 0.5kbps ('12) to 3.9Mbps⁷

Wireless carriers will not be able to scale to forecasted growth using traditional Macro-Network technology alone.

- Cost Prohibitive – Towers/Capacity
- Inherent Spectral/Performance Challenges
- Speed of Deployment



²FCC Technical Staff Paper, *Mobile Broadband: The Benefits Of Additional Spectrum*, October 2010, Exhibit 4, p.9.

³Cisco Visual Networking Index (VNI) Global Mobile Data Traffic Forecast, 2012–2017. ⁴Ibid. ⁵Ibid. ⁶Ibid. ⁷Ibid.

SMALL IS BEAUTIFUL!!!

Carriers will need to employ innovative ideas to scale networks to meet demands generated by the imminent “Data Tsunami”.

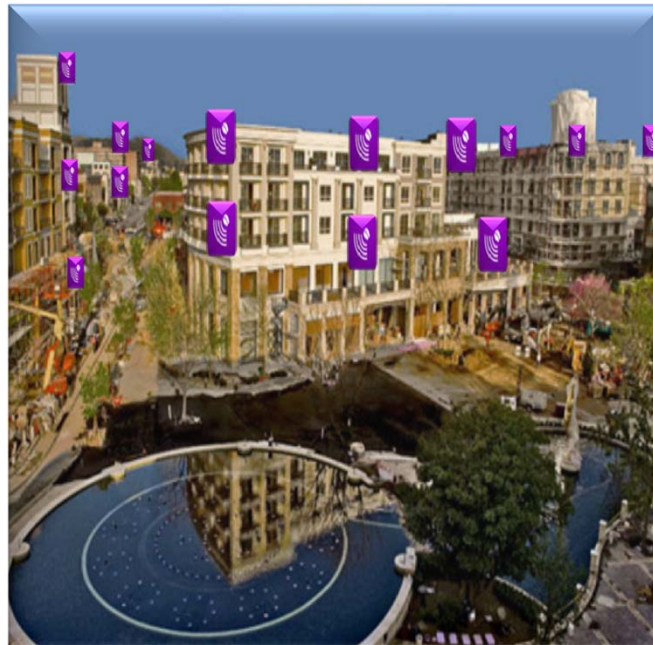
The industry is already moving towards “Het-Net” architecture.

Sprint will leverage “Small Cell” technology to keep up with demand and provide a best-in-class user experience.

**Picocell
Technology**

**Femtocell
Technology**

**Wi-Fi
Technology**



Lower Unit Cost

Speedy Deployment

Spectral Efficiency

Macro - Offload

Enhanced UE

Thank You!!!



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