

Wireless Strategies Inc.

***Legacy Backhaul is Too Expensive
for Data Dominant 4G***

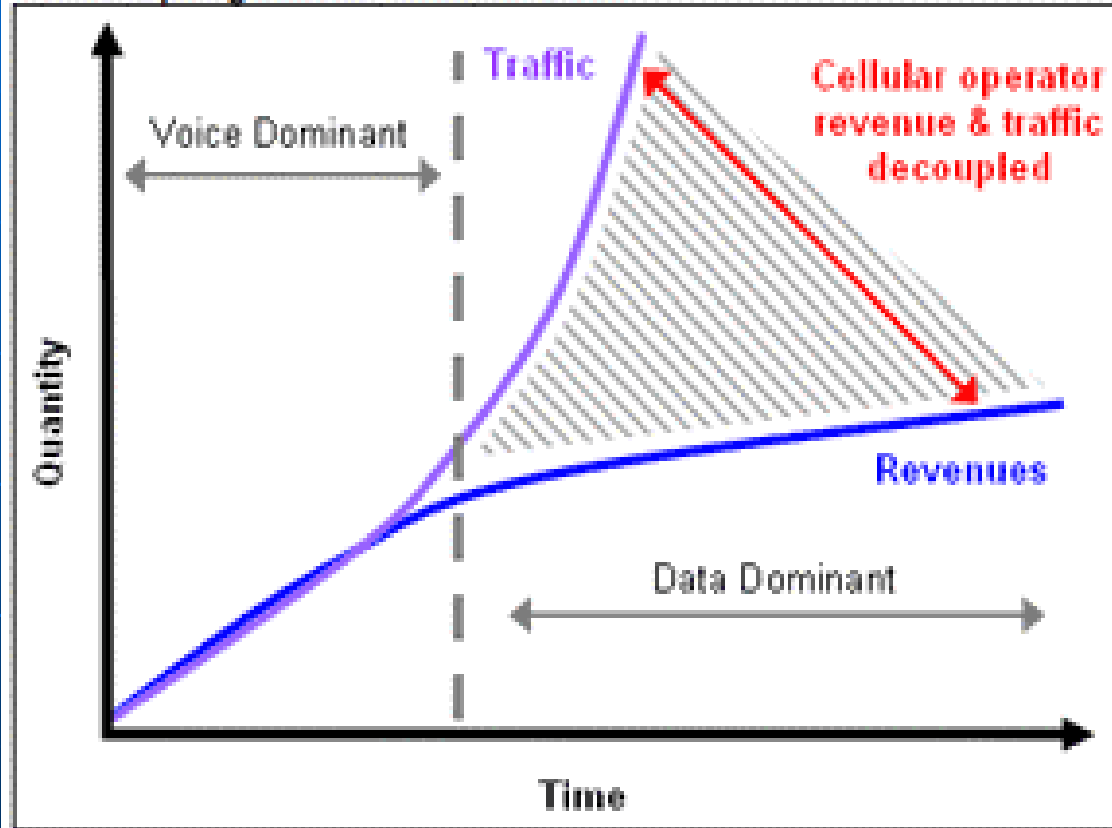
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Concurrently Coordinated Networks The Key to 4G Profitability

The Problem

The Coupling of Traffic & Revenue



Source: Heavy Reading

- Voice Traffic Revenue Growth has Slowed

- The only way to Increase Revenues is to Add Content and Services which Require Much More Traffic (data bits)

- For the Business Case to Work the Cost per Bit per Subscriber Has To Be Lowered Dramatically

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Legacy Backhaul is Too Expensive for 4G

Legacy Backhaul Voice Dominant Services

Revenue	\$1.00
Cost of Service	\$0.57
SG&A	<u>\$0.35</u>
Oper. Profit	\$0.08

Legacy Backhaul Data Dominant Services

Revenue	\$1.00
Cost of Service	\$5.70
SG&A	<u>\$0.35</u>
Oper. Loss	\$5.05

The Solution

Concurrently Coordinated Networks

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Consider Seventy 4G Cell Sites within 6 miles of a City Center

	<u>Legacy PTP Backhaul</u>	<u>Concurrently Coordinated PTMP Backhaul</u>	
•Large Antennas	140	4	} CapEx Savings 90%
•Transceivers	140	74	
•Prior Coordinations	70	4	
•Licensing Sites	140	3	
•Site Ant Leases	140 Large Ants	4 Large Ants	} OpEx Savings 97%

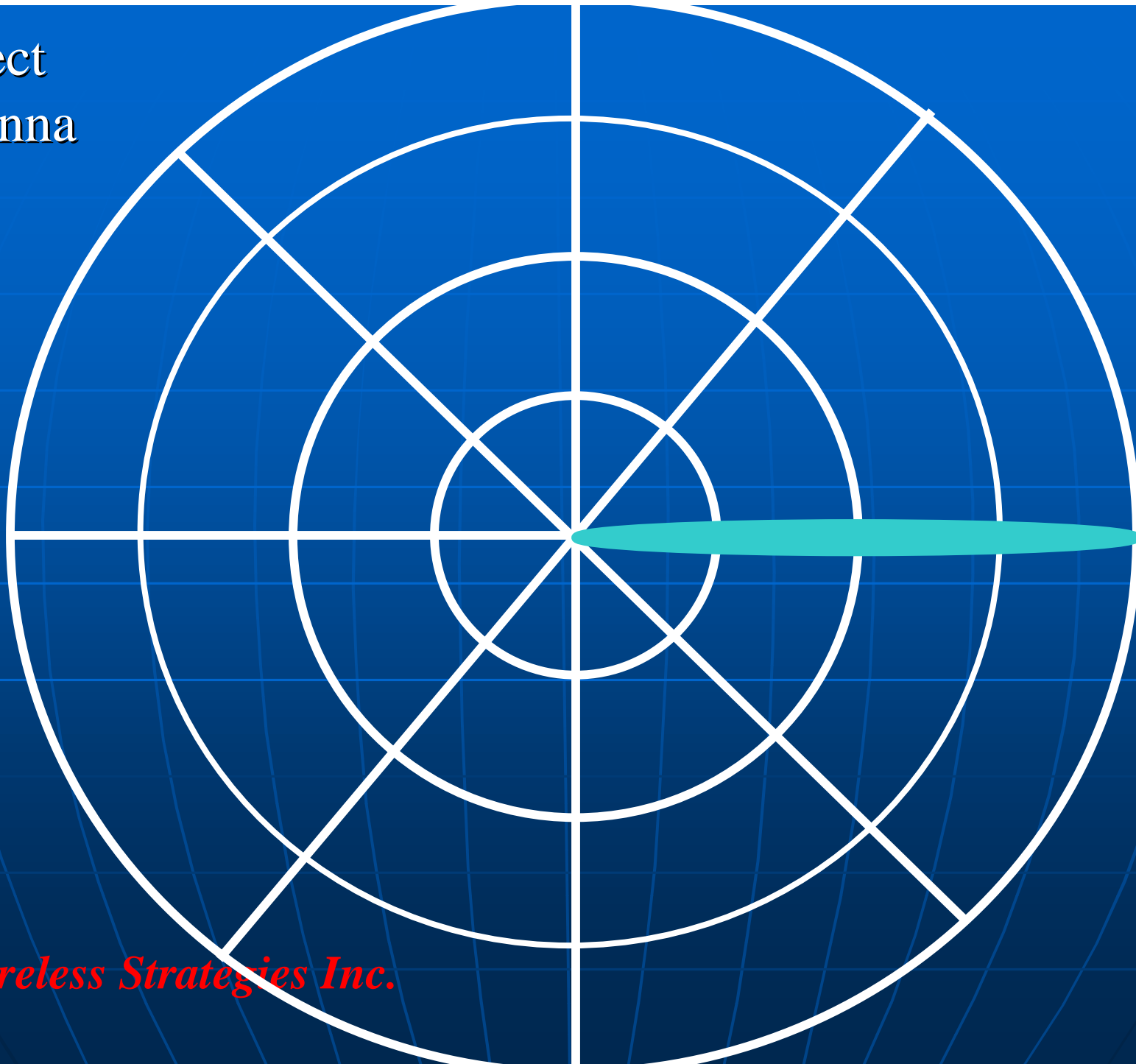
What is Concurrent Coordination?

Methodologies for Putting into Productive Use the Side-Lobe Radiation of a Directional Antenna (which was Coordinated at the Same Time as the Antenna's Main Lobe).

Perfect Antenna

- **In a Perfect World there would only be the Main Lobe, and therefore only the Main Lobe would have to be Coordinated.**

Perfect Antenna



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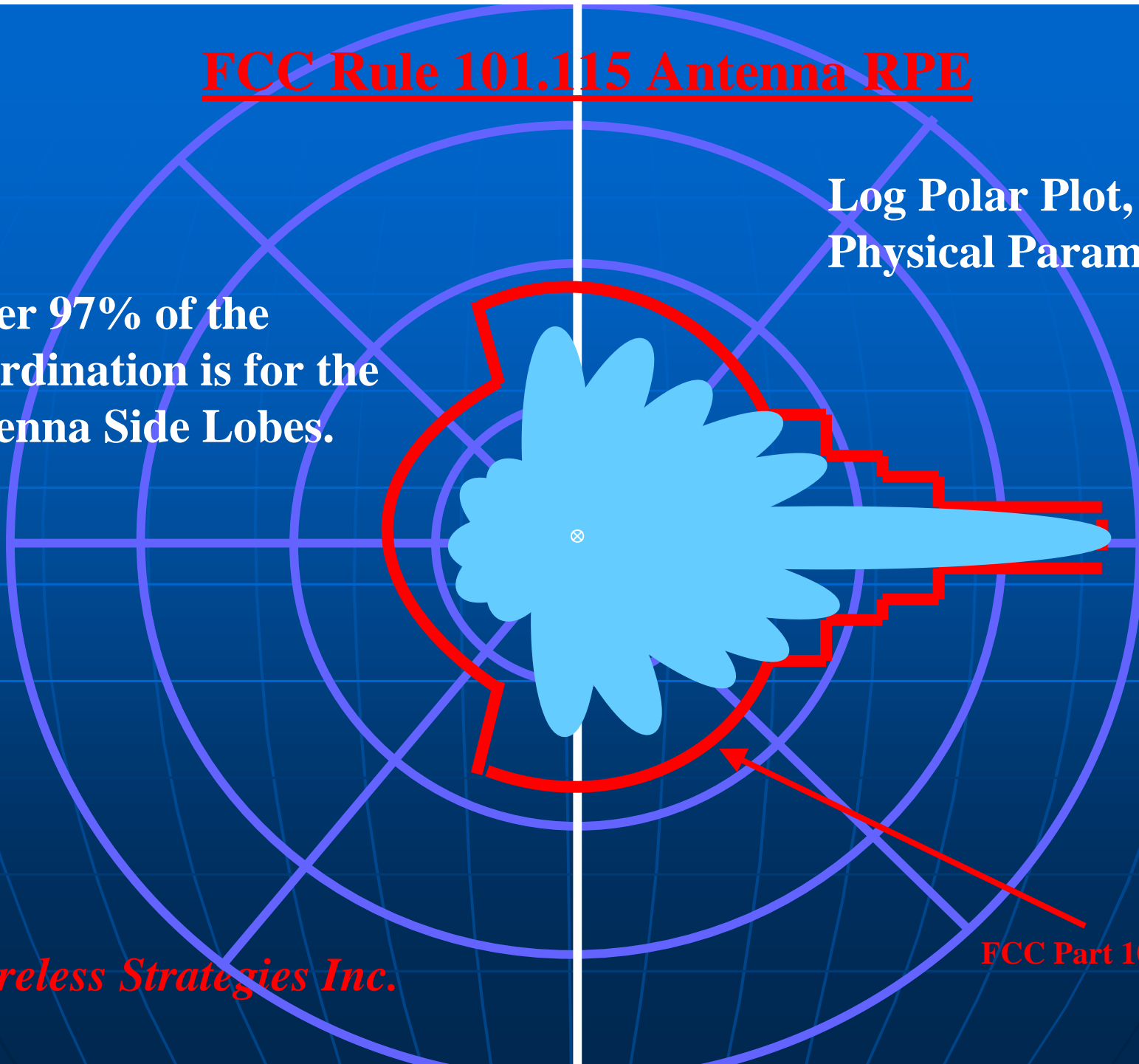
Real World Antenna

- **In the Real World Antennas have Side Lobes and therefore the Side Lobes Must, by FCC Regulations, be Coordinated at the same time (Concurrently) with the Main Lobe for All Angles Around the Antenna to a Distance of 125 miles, 250 miles within +/- 5 degrees of the Main Lobe**

FCC Rule 101.115 Antenna RPE

Log Polar Plot, No
Physical Parameters

•Over 97% of the
Coordination is for the
Antenna Side Lobes.



dBm

FCC Part 101.115

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Use of Coordinated Spectrum

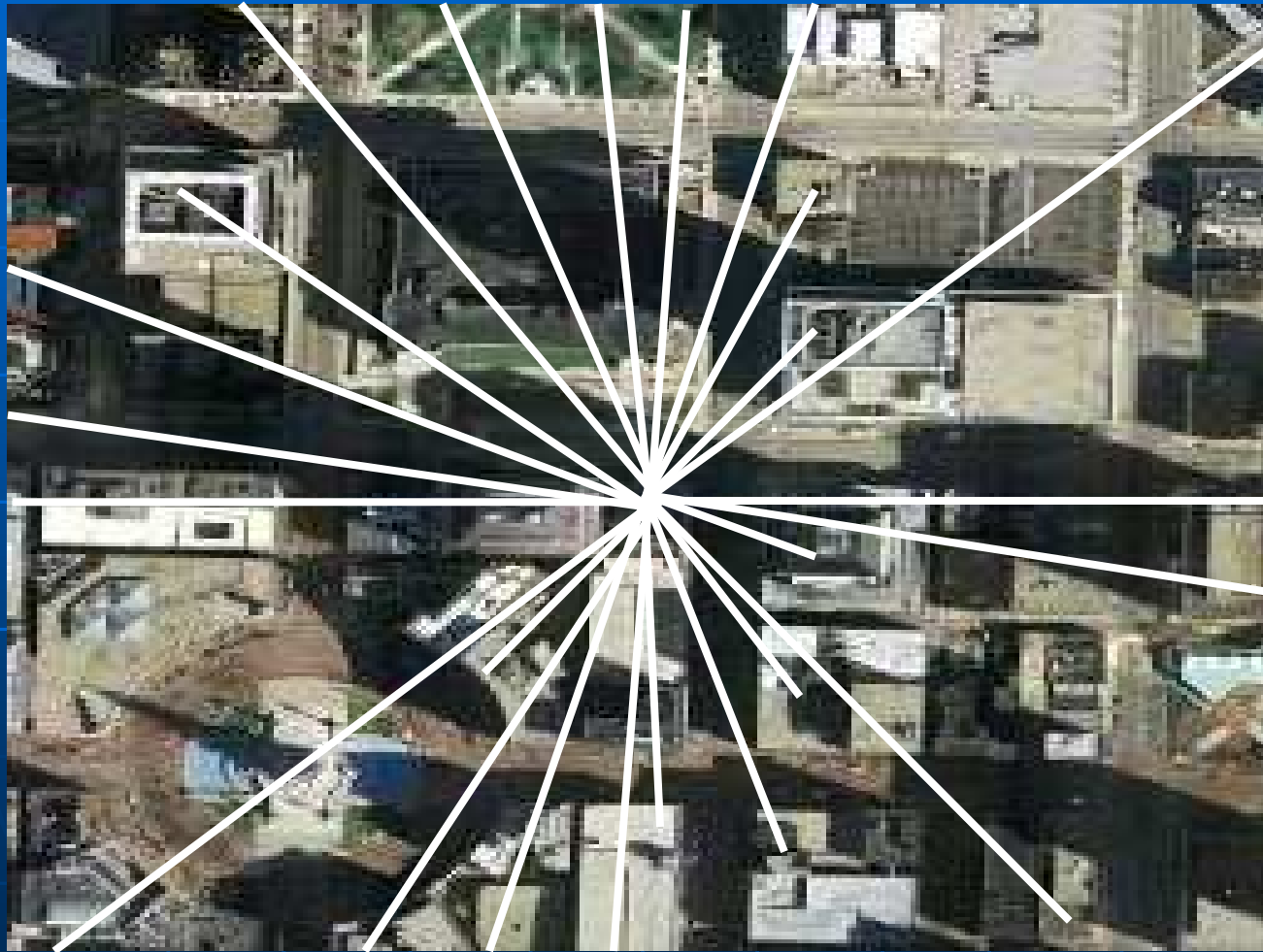
Legacy PTP

Does NOT use the Coordinated Side Lobe Radiation. It is Wasted!

Concurrently Coordinated PTMP

DOES use the Coordinated Side Lobe Radiation. All Coordinated Radiation is put to Productive Use

Concurrently Coordinated PTMP



- **Effective Use of Spectrum**
- **Multiple Paths Per Frequency**
- **No Additional Interference**
- **Per Path Cost 1/10th Legacy PTP for Access and Backhaul**

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Status/Plans

- **WSI is working with Wireless Carriers and Equipment Manufacturers to Facilitate the Introduction of Concurrently Coordinated Networks Nationwide**
- **WSI has been issued the First Part 101 Licenses for Baltimore and Philadelphia that Support PTP and Concurrently Coordinated PTMP Operation**
- **WSI has a Request for a Declaratory Ruling on the use of Antennas with Distributed Radiating Elements Pending at the FCC**
- **WSI Plans to Conduct a Field Trial in Baltimore in this Quarter (Q2, 2008)**
- **WSI Plans to Cut to Traffic in Baltimore and Philadelphia in Q3, 2008**

Summary

- **Concurrently Coordinated Spectrum is Technology Neutral**
- **Concurrently Coordinated Networks Significantly Increases the Effective Use of Spectrum**
- **Concurrently Coordinated Networks will Significantly Reduce the Cost of Wireless Backhaul and Access**

***Concurrently Coordinated Networks
Are the Key to Increased 3G Profits
and to 4G Profitability***

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A scenic landscape photograph of a mountain valley. The foreground is a dry, grassy field with sparse green and yellow vegetation. In the middle ground, there are rolling hills and a valley floor. In the background, there are large, rugged mountains with some snow patches. The sky is a deep blue with scattered white clouds. The overall mood is bright and expansive.

All our Industry has to do is:

“Go off and do something wonderful”

-Robert Noyce, Intel co-founder

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