

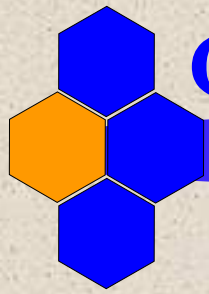
Stutler Technologies Users Group

**“West Central Net/Central Texas 700 MHz,
2.5 MHz Case Study”**

Wednesday, February 16, 2011



Griff Griffin
Technical Operations Manager

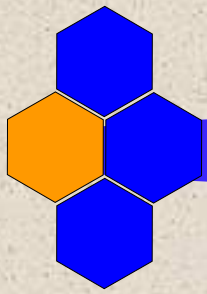


Central Texas Telephone Cooperative

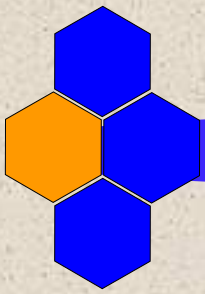
- Established 1951 Goldthwaite, Texas
- ILEC
- Dial up / Broadband Internet
- Wireless Fixed Broadband Internet (700 & 2.5 MHz)
- Wireless Cable TV
- Long Distance

Total Retail Customer Accounts: 70,000

West Central Wireless



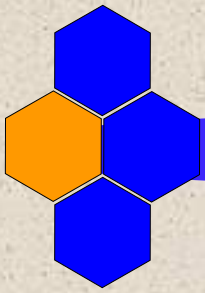
- **Established 1986**
 - **26 Counties of Retail Operation in West Central Texas**
 - **200 Wireless Cellular Tower Sites**
 - **Retail Product Offerings**
 - **Post Pay Cellular**
 - West Central Wireless/ Five Star Wireless/ Mid-Tex Cellular
 - **PrePaid / Flat Rate Cellular**
 - Right Wireless
-



West Central Net

- **West Central Net 1995**
- **Retail Offerings**
 - **West Central Net/ Net Jet**
 - **Dial Up & Wireless Internet**
 - **7 – 700 MHz sites**
 - **27 – Other wireless internet sites**

Total Retail Customer Accounts: 55,000



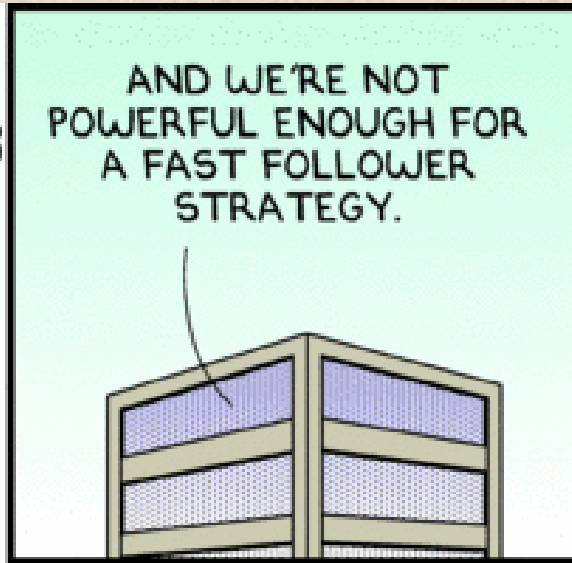
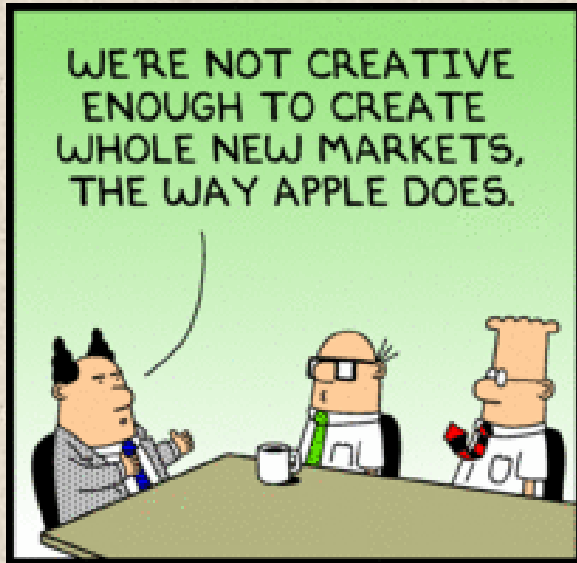
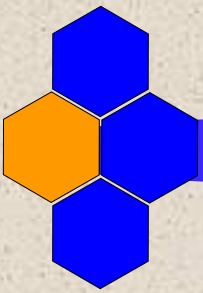
West Central Wireless/Net

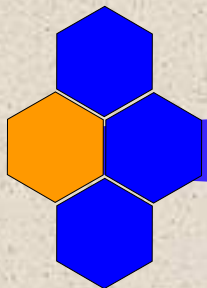
■ Wholesale Product Offerings

- Cellular Voice & Data Switching – GSM, CDMA, & UMTS
- Cellular Tower Rental
- Internet Bandwidth Sales
- Email & Web Hosting
- 24/7 After Hours Internet Customer Support
- Network Consulting
- Computer Service Repairs

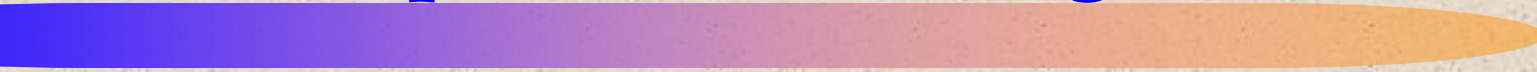
Total Wholesale Customers Supported: 50,000

Rural Carrier Moto





Spectrum Holdings



- BRS/EBS 2.5 MHz
 - Broadband Radio Service/Educational Broadband Service

- LMDS
 - Local Multipoint Distribution Service

- 850 MHz B Band Cellular

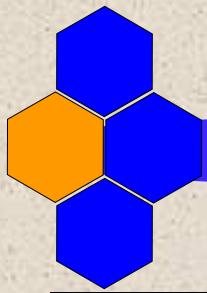
- 1900 MHz PCS

- 1700/2100 MHz AWS

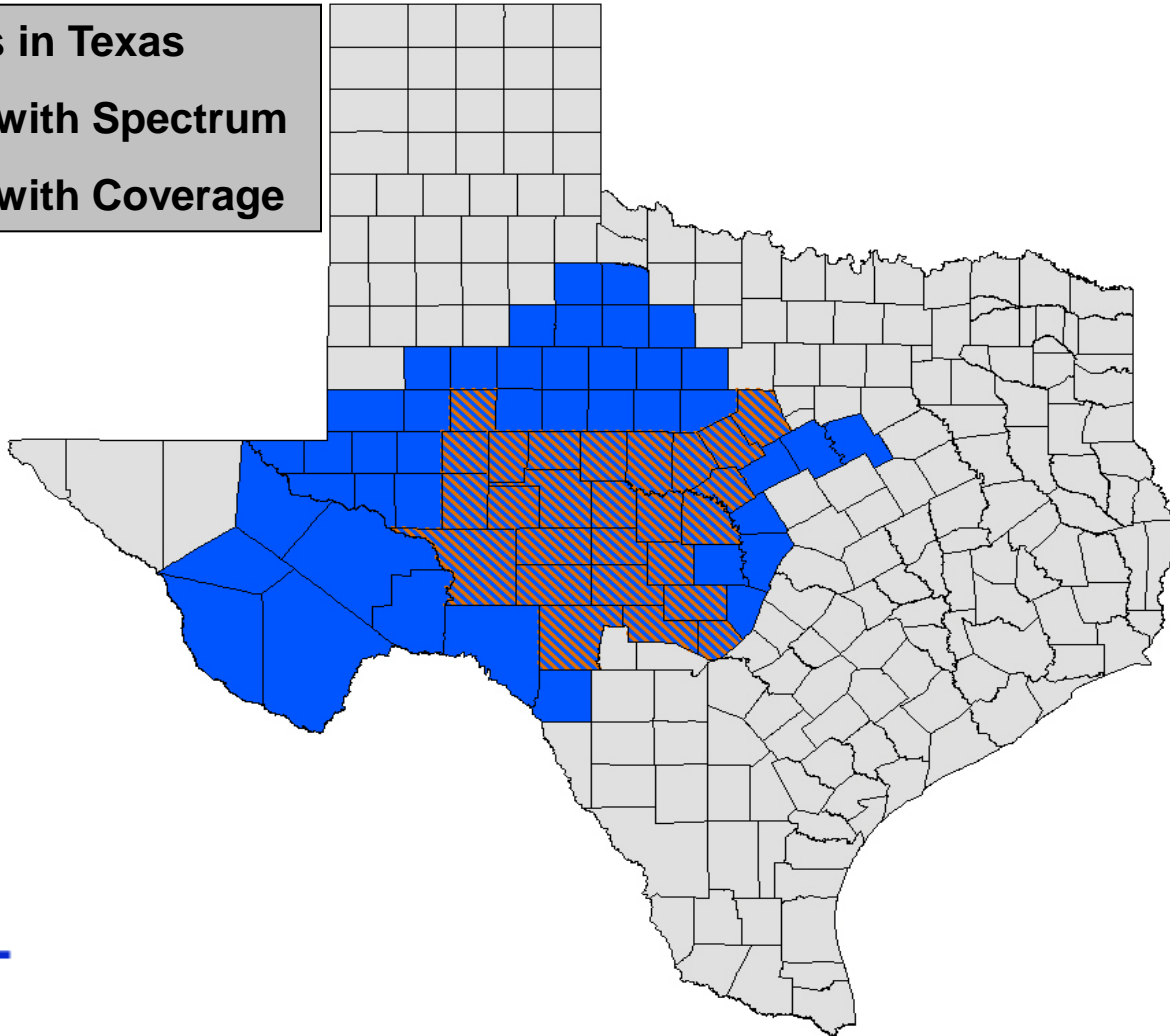
- 700 MHz

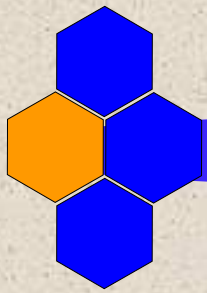


Primary Service Area



254 Counties in Texas
68 Counties with Spectrum
26 Counties with Coverage



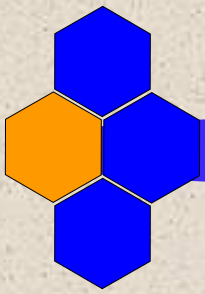


700 MHz Spectrum



Beach Front Property

700 MHz Decision Points



- Timeline
- Challenges
- Options



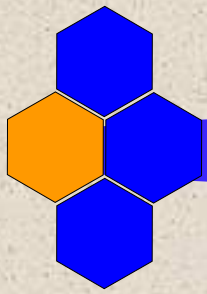


700 MHz Decision Points

■ Timeline

- Auction 73 closed March, 2008
 - Buildout Requirements
 - Lower 700 MHz – 35% Geographic area in 4 years & 75% in 10 years
 - Upper 700 MHz – 40% Population in 4 years & 75% in 10 years
 - **The 4 year mark is June, 2013 – 10 year mark June, 2019**
 - Miss the 35% buildout then the 75% mark goes to 8 years
-

700 MHz Decision Points

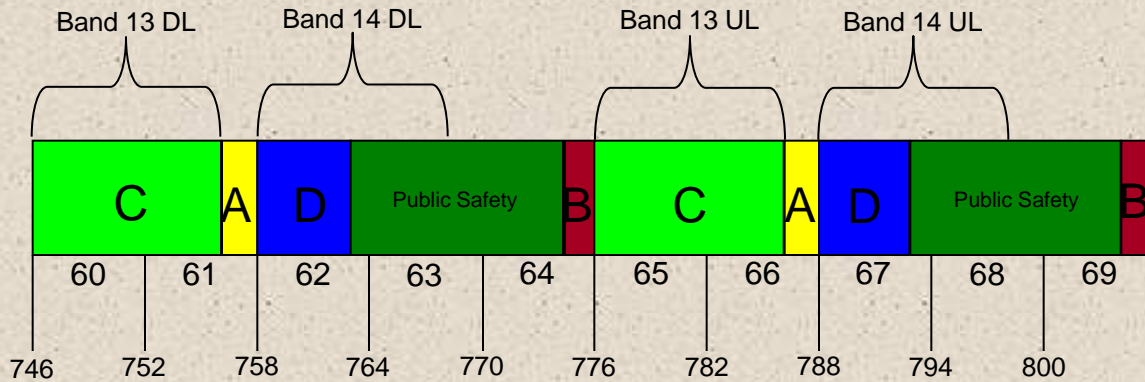
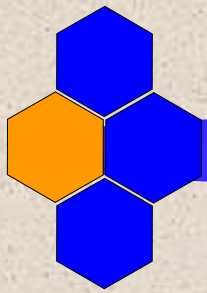


■ Challenges

- Make a decision – Who do I want to align with, if anybody, who do I want to compete with
- Buildout Requirements – 4 year date is almost here
- Equipment & device availability
 - Band Plan



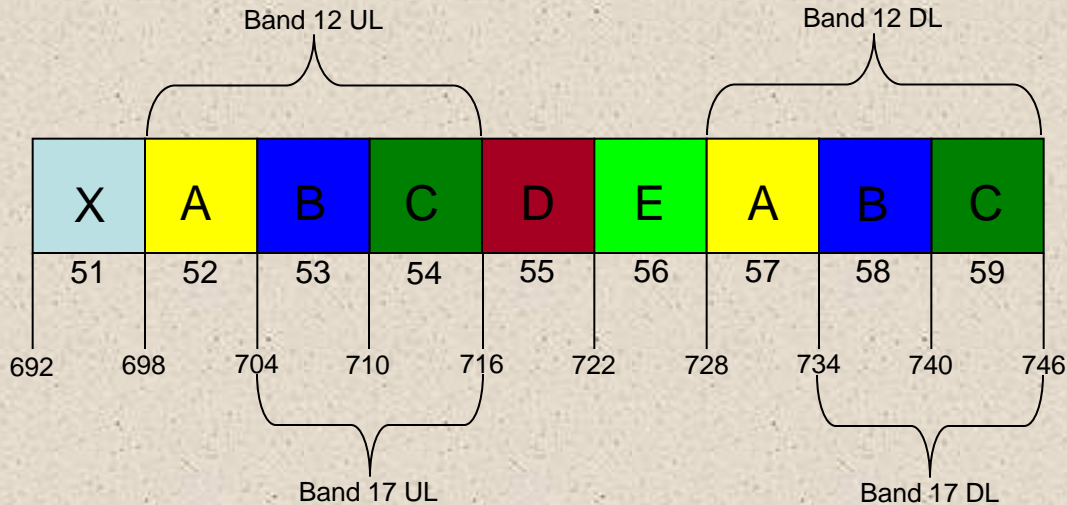
700 MHz Decision Points



<u>BLOCK</u>	<u>BANDWIDTH</u>	<u>LICENSE</u>	<u>PRIMARY</u>
A	2 MHz 2 x 1	MEA 52	??
B	2 MHz 2 x 1	EAG 6	??
C	22 MHz 2 x 11	REAG 12	VERIZON
D	10 MHz 2 x 5	National	??

Upper 700 MHz

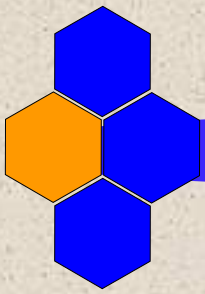
700 MHz Decision Points



<u>BLOCK</u>	<u>BANDWIDTH</u>	<u>LICENSE</u>	<u>PRIMARY</u>
A	12 MHz 2 x 6	EA 176	Rural
B	12 MHz 2 x 6	CMA 734	AT&T/Rural
C	12 MHz 2 x 6	CMA 734	AT&T/Rural
D	6 MHz	EAG 6	??
E	6 MHz	EA 176	??

Lower 700 MHz

700 MHz Decision Points



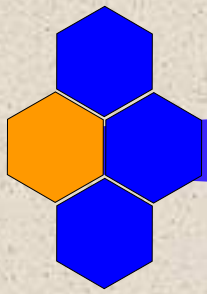
■ Challenges

- Make a decision – Who do I want to align with.....if anybody
 - Buildout Requirements – 4 year date is almost here
 - Equipment & device availability
 - Band Plan
 - Backhaul
-

700 MHz Decision Points



700 MHz Decision Points



- Options



MiMo

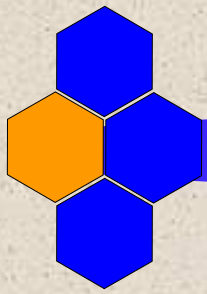
TDD

EPC
Evolved Packet Core

FDD

WiMAX

700 MHz Decision Points



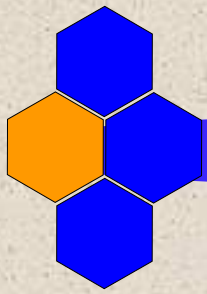
■ Options



**Verizon's first LTE
phone to come in mid
2011**
March, 2010

**Scandinavia gets world's
first LTE network; U.S.
still puttering at 3G**
December, 2009

700 MHz Decision Points

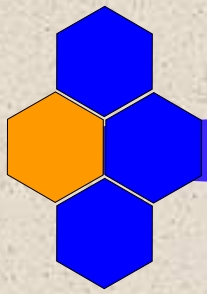


- Options



WiMAX





Contact Information

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