

TFI – Wireless Industry Panel

T-Mobile

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T-Mobile's Binge On

INTRODUCING

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NEW RULES:

- **What You See Should Be What You Pay – Taxes & Monthly Fees Included**
- **You Shouldn't Have to Pay for What You Don't Use – Introducing KickBack**
- **Only YOU Should Have the Power to Change What You Pay – Introducing Un-contract**
- **The Mobile Internet Shouldn't Be Sold by Bits & Bytes**

What The Fee (WTF)

WTF? (What the fee?)		AT&T Plan 4 lines 25GB shared data	T-Mobile ONE 4 lines All unlimited
Advertised Price		\$110/mo.	\$160/mo.
Access Fee		+ \$80.00	Huh?
Administrative Fee		+ \$3.04	Saywhat?
Regulatory Charge		+ \$5.00	For real?
Federal Universal Service Charge		+ \$5.12	Yep, covered
City Utility Users Surcharge		+ \$5.88	That's included
Government Taxes & Fees		+ \$13.08	Totally included
TOTAL PER MONTH		\$222/mo. Whoa! That's \$112 more.	\$160/mo. What you see is what you'll pay.



T-Mobile Network Stats

- 313 M LTE pops covered
- 320 M LTE pops covered by EOY 2017
- 250 M LTE pops covered – 700MHz low band
- 12 Qtrs. in a Row Fastest LTE network
- 64% of Voice Traffic on VoLTE – Global Lead
- 90% of Data on LTE
- 70% of Spectrum re-farmed to LTE
- 2G through 2020 – thin layer – card
- 600 MHz Auction – March 2017?

600 MHz Auction

Stage 4 Forward Auction Over ~\$18B

- \$18b offer covers broadcasters \$10b asking price, and represents \$1.257 per MHz POP

FCC Spectrum Reserve Bidding Starts

- 30 MHz reserved for auction-eligible-bidders

		<u>Reverse</u>				Forward			
Stage	MHz	Start Date	End Date	Rounds	\$(bn)	Start Date	End Date	Rounds	\$(bn)
1	100	31-May-16	29-Jun-16	52	\$86.4	16-Aug-16	30-Aug-16	27	\$22.5
2	90	13-Sep-16	13-Oct-16	53	\$54.6	19-Oct-16	19-Oct-16	1	\$21.5
3	80	1-Nov-16	1-Dec-16	52	\$40.3	5-Dec-16	5-Dec-16	1	\$19.7
4	70	13-Dec-16	13-Jan-17	53	\$10.1	18-Jan-17	?	?	?
5	60								

Source: FCC, Morgan Stanley Research.

The Gigabit – LTE Advanced

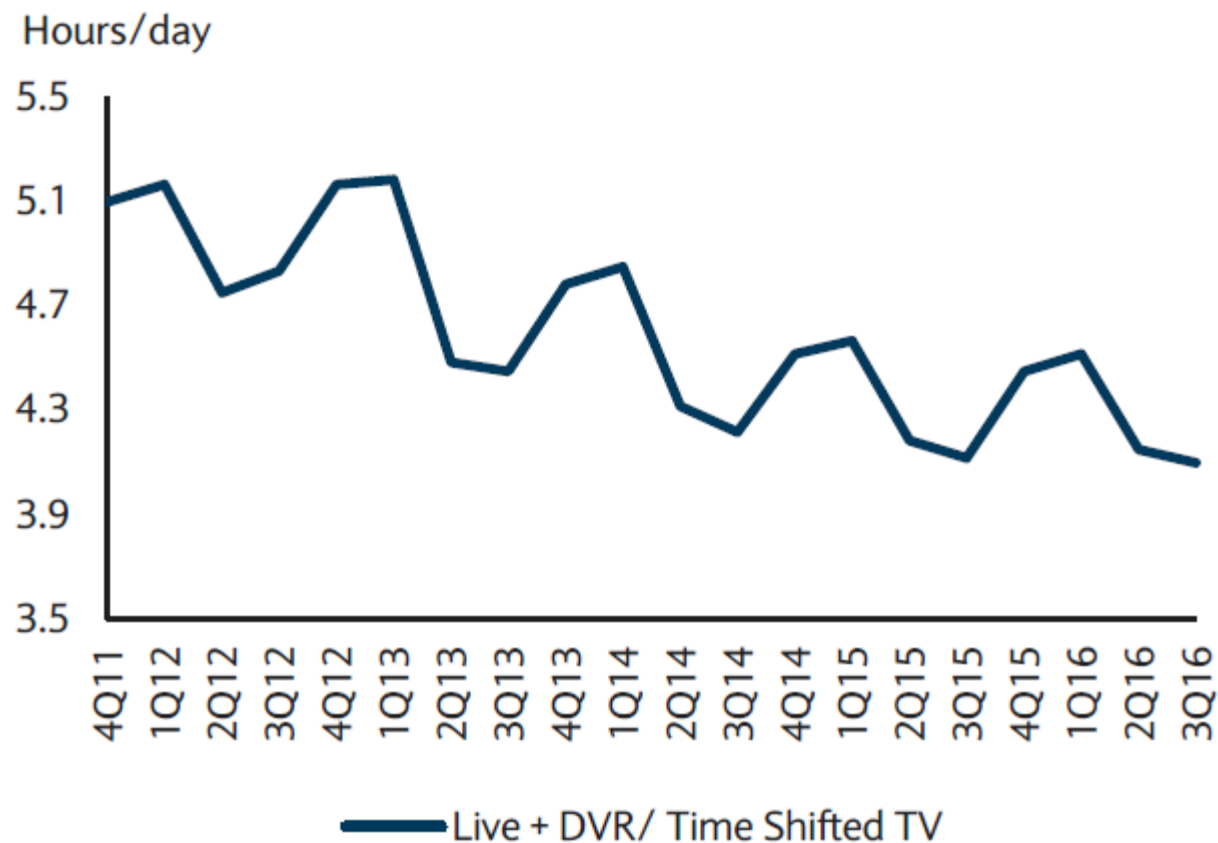
Start	3 Carrier Aggregation		
Start	5 MHz Carrier	35-38	megabits per second (Mps)
Add (+)	256 QAM technology	~ 50	Mps
Add (+)	4X4 MIMO	~ 100	Mps
Add (+)	5 MHz Carrier X 10 *	~1,000	Mps
Or	50 MHz Download	~ 1	Gigabit per second

QAM Quadrature Amplitude Modulation in an “unreleased handset.”

MIMO Multiple-Input/Multiple-Output antenna technology

* With License Assisted Access (LAA) and other combinations

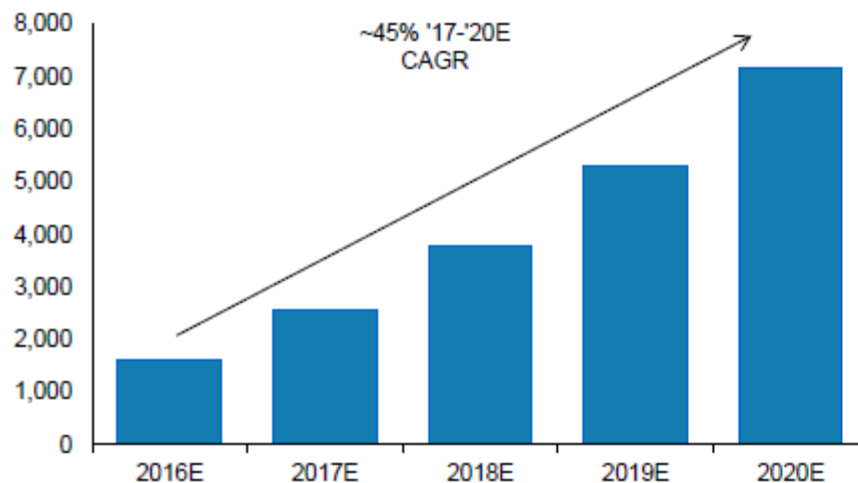
TV – Live & Time Shifted is Decreasing



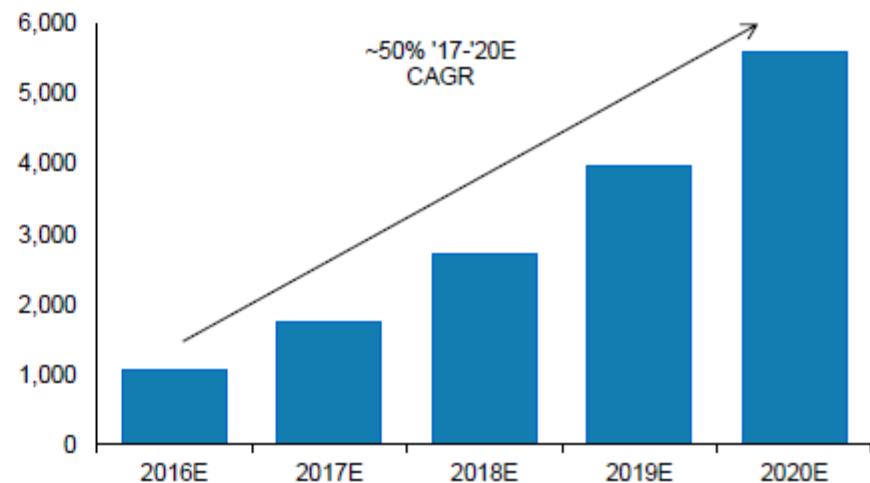
Source: Nielsen Total Audience Report 3Q16, Barclays Research

Mobile data, led by video, continues rapid growth

North America Mobile Consumer Internet Traffic
(PB / month)



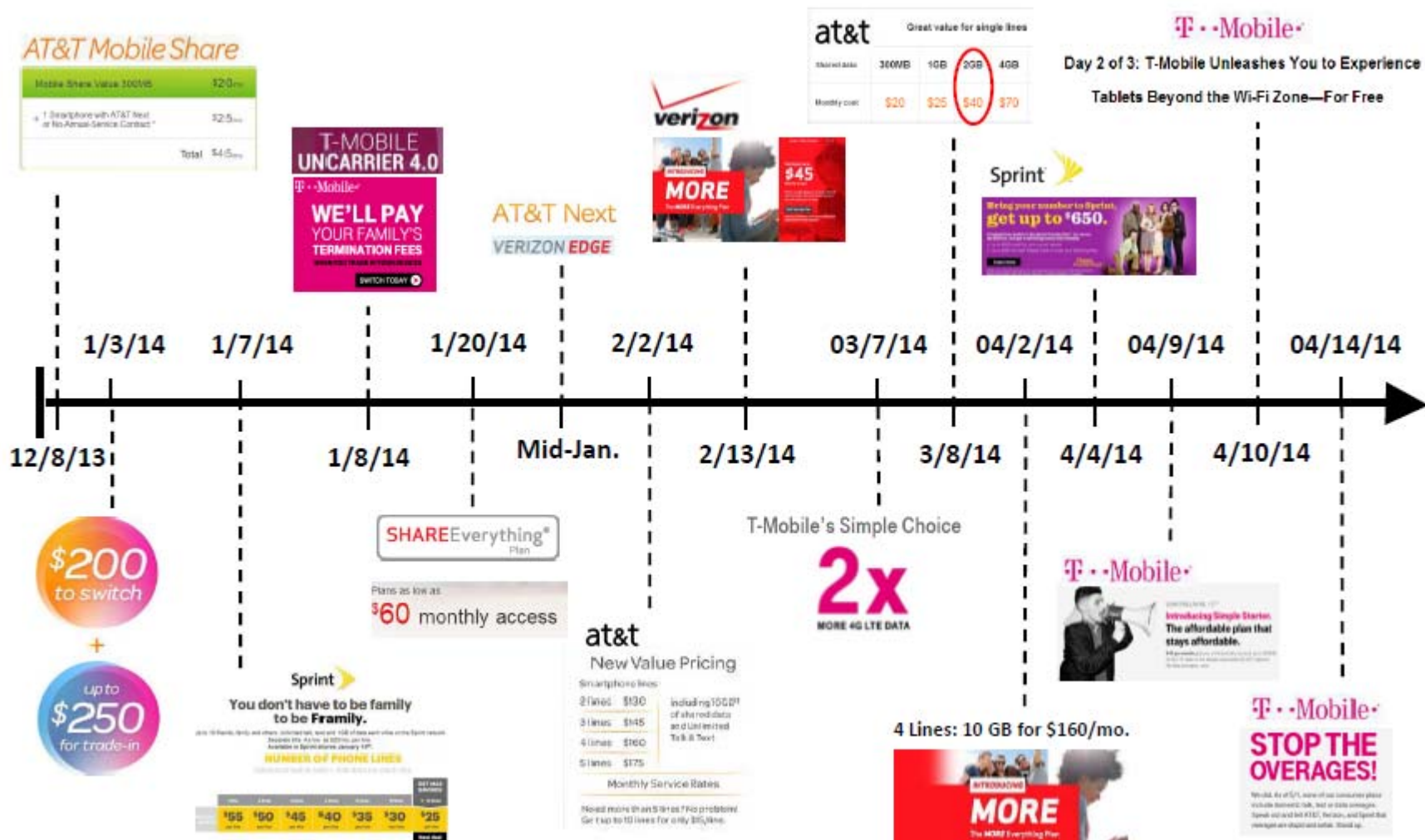
North America Mobile Consumer Internet Video Traffic
(PB / month)



Source: Cisco VNI (2016), Morgan Stanley Research

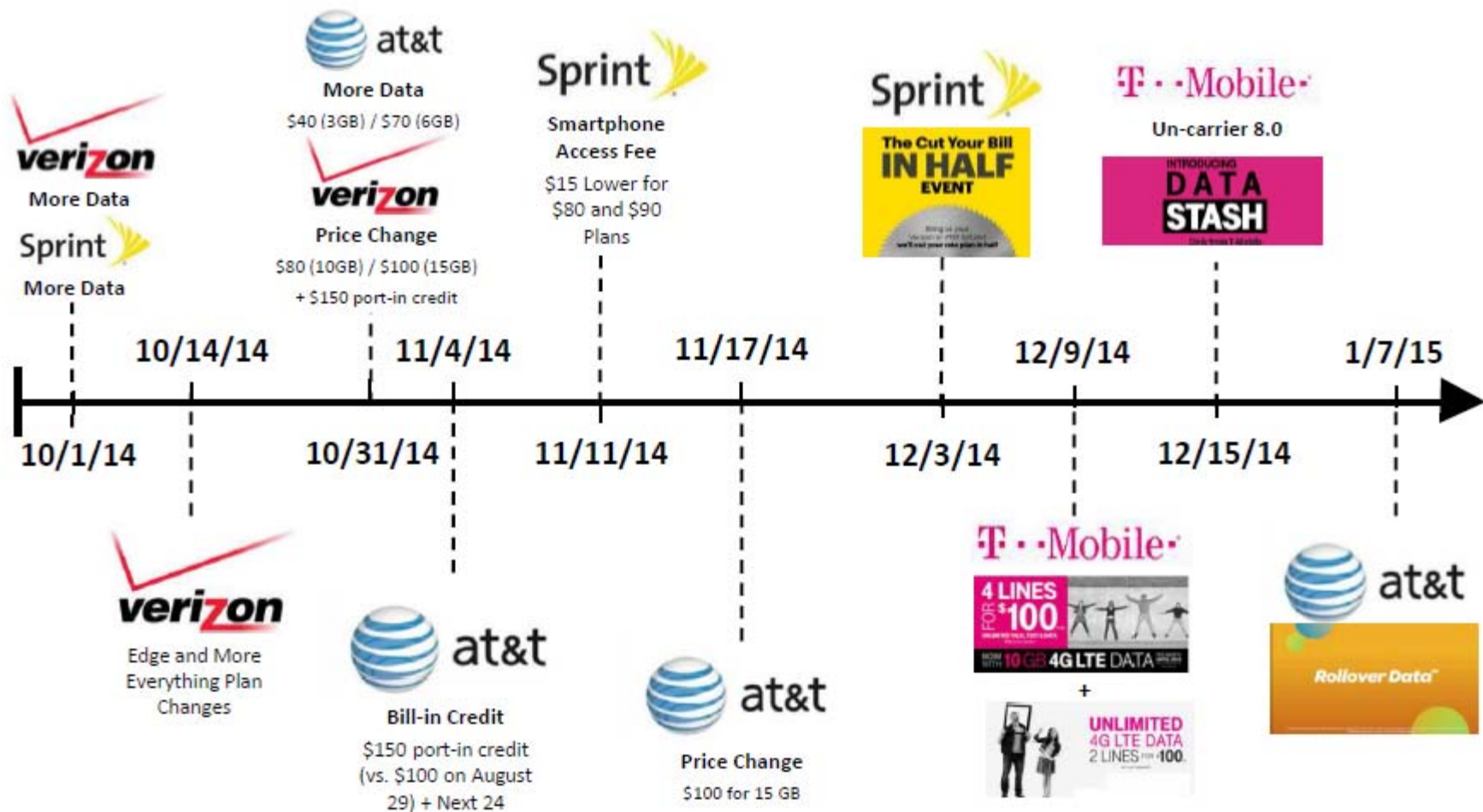
Note: PB equates to Petabytes

Competition – Jan 2014



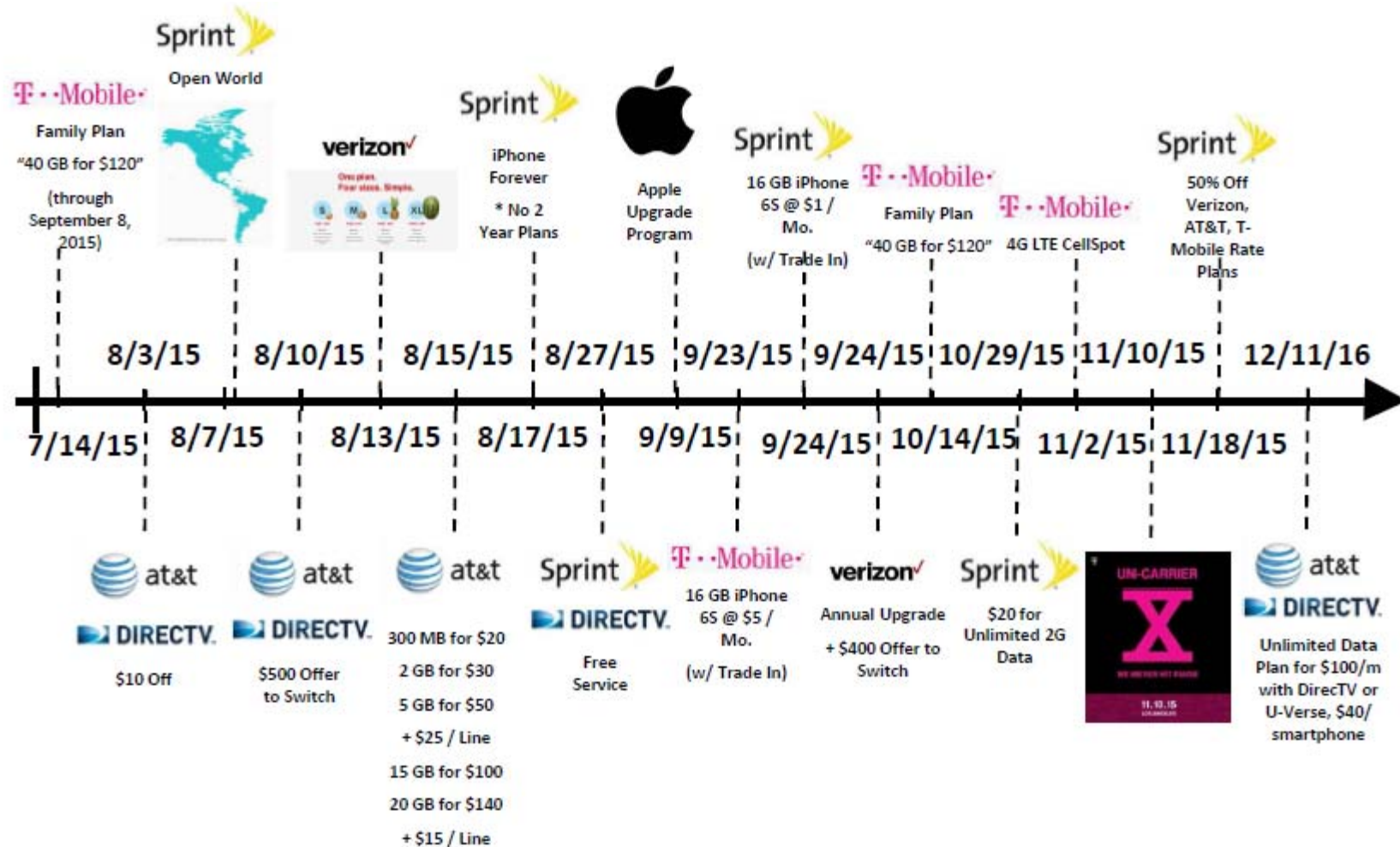
Source: Company data, Morgan Stanley Research

Competition – Jan 2015



Source: Company data, Morgan Stanley Research

Wireless Industry Remains Competitive – Jan 2016



Source: Company Data, Morgan Stanley Research.

Competition slowing in 2017?

