

Tribal Telecommunications: A Road Map (abridged)



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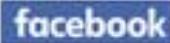
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Why?

It is well past time for Tribes to take control of their Telecommunications Destiny

- Large populations of underserved/unserved markets
- Concept of Leakage
 - Defined as capital leaving the local economy; consuming from outside sources more than producing
- Economic Development
- Tele-health, Education, Community Development
- Tribes falling behind the technological curve
- Creation of high tech, living wage jobs
- ***Continuously growing need for more bandwidth***

You know the Digital Disruption has already happened when....

- ▶ World's largest taxi company owns no taxis → 
- ▶ Largest accommodation provider owns no real state → 
- ▶ Largest phone messaging company owns no phones → 
- ▶ World's most valuable retailer has no inventory → 
- ▶ Most popular media owner creates no content → 
- ▶ World's largest movie house owns no cinemas → 

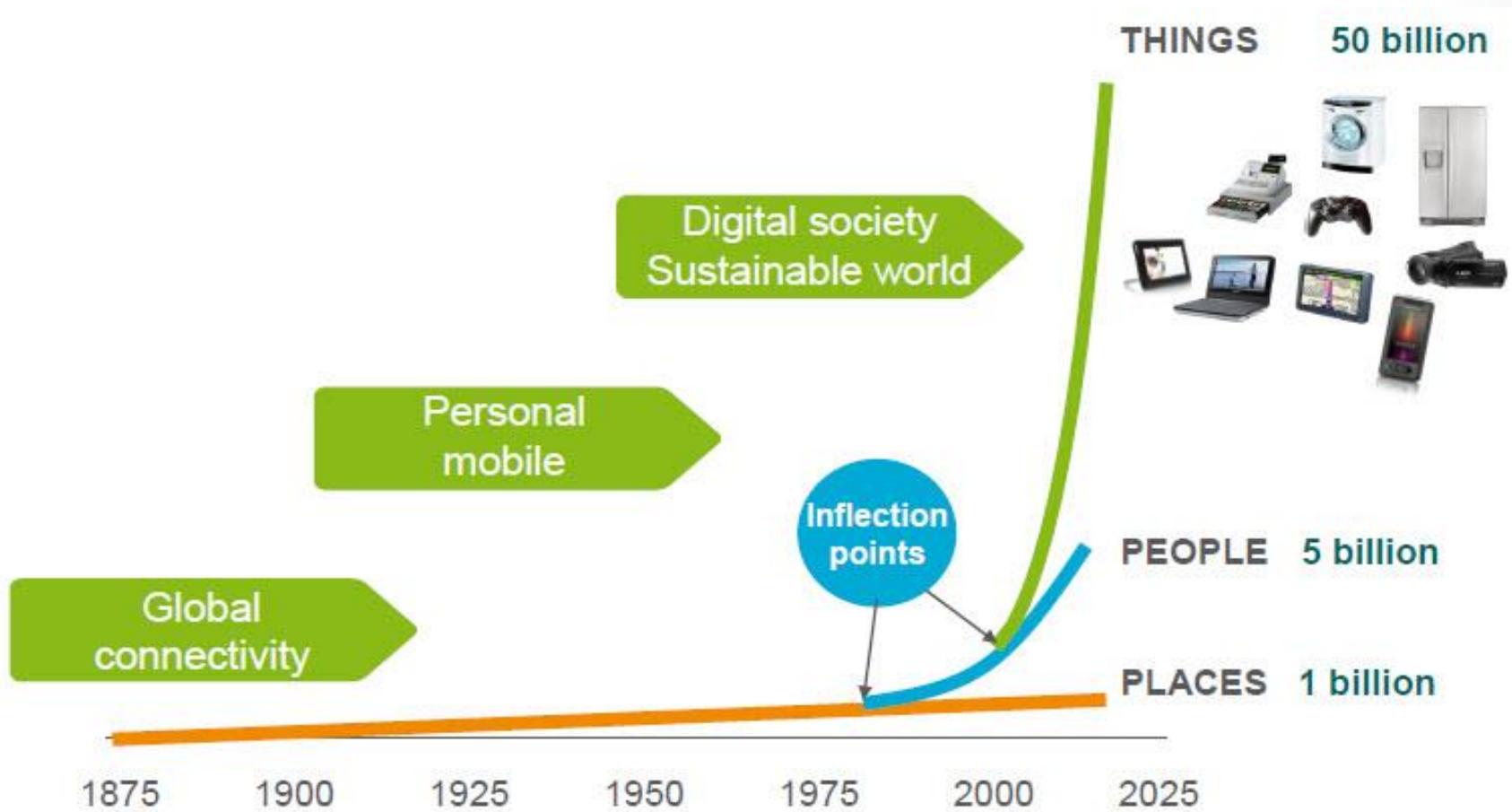


2/03/2016

DDR Consulting LLC
Converge Communications, Inc.



Identifying the Need for more Bandwidth



Source: Ericsson

Global IP Traffic & Service Adoption Drivers

By 2019:



IP Broadband
Growth
Projections

More Internet
Users



2014

2019

2.8 Billion

3.9 Billion

More Devices &
Connections



2014

2019

14.2 Billion

24.4 Billion

Faster Broadband
Speeds



2014

2019

20.3 Mbps

42.5 Mbps

More Video
Viewing



2014

2019

67% of
Traffic

80% of
Traffic


CISCO

Source: Cisco VNI Global IP Traffic Forecast 1, 2014-2019

Now more than ever it is time to get into the Telecommunications provider game.

The Rising Digital Divide: The *Bandwidth Gap* -- the difference between required and available bandwidth -- is large and growing.

The Changing Digital Divide

Has been

Access & Cost



Who's been held back:

- Developing countries/economies
- Organizations and individuals in rural/remote areas
- Smaller organizations
- Individuals with less (disposable) income and education

Is becoming

Knowledge & Use



Who's being held back now:

- Established organizations focused more on the past than the future
- Organizational leaders and senior professionals with limited technological awareness, interest, and/or savvy

So what does this mean for current IP infrastructure?

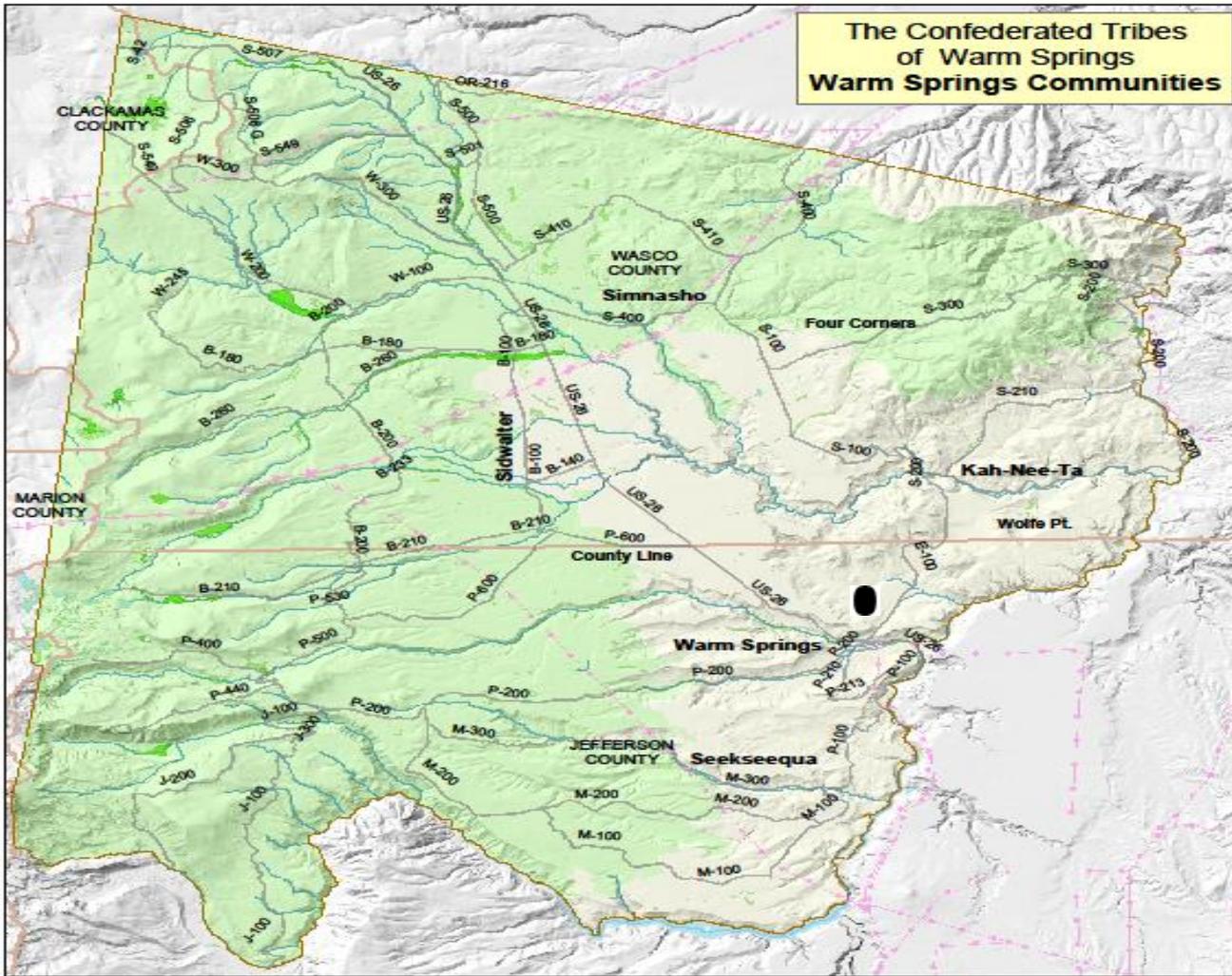


“We’re going to need a bigger boat!”

How?

The Path for Warm Springs

**The Confederated Tribes
of Warm Springs
Warm Springs Communities**



- 1,000 square miles
- 5,400 Tribal Members
- 5,000 on Res residents
- 98% of the reservation controlled by Tribes
- 895 residential units
- 100 critical facilities
- Greater than 40% unemployment rates



- | | |
|----------------------|--------------|
| Perennial Streams | Water |
| Major Roads | Wetlands |
| Transmission Lines | Forest Lands |
| Reservation Boundary | Range Lands |
| Counties | |



This map is for display purposes only. It is not intended for use as a legal or binding document. Data in this map may have been gathered from several different sources, vintages and with various degrees of accuracy.

1:310,000

Printing Date: March 11, 2008
CTWS-018

Needs Assessment

- 2002 OECDD planning grant administered by COIC (Lottery \$'s)
- 2003 Needs Assessment - State of Telecommunications on Reservation.
- Get going!



Community Connect Grant

- 2003 RUS Community Connect Grant \$695,000
 - Unlicensed 45 Mbit radio
 - Fiber network at Tribal Administration
 - Internet Café
- Give hands-on experience



Planning Process

- 2004 Creation of the Telecommunications Steering Group (TSG)
- 2006 Development of Strategic Plan
 - Prioritize objectives
 - Use plan for further funding
- Two Key Objectives
 1. Public Safety Radio
 2. Create a tribally owned Telco



Tribal Telecom Study (RUS funded)

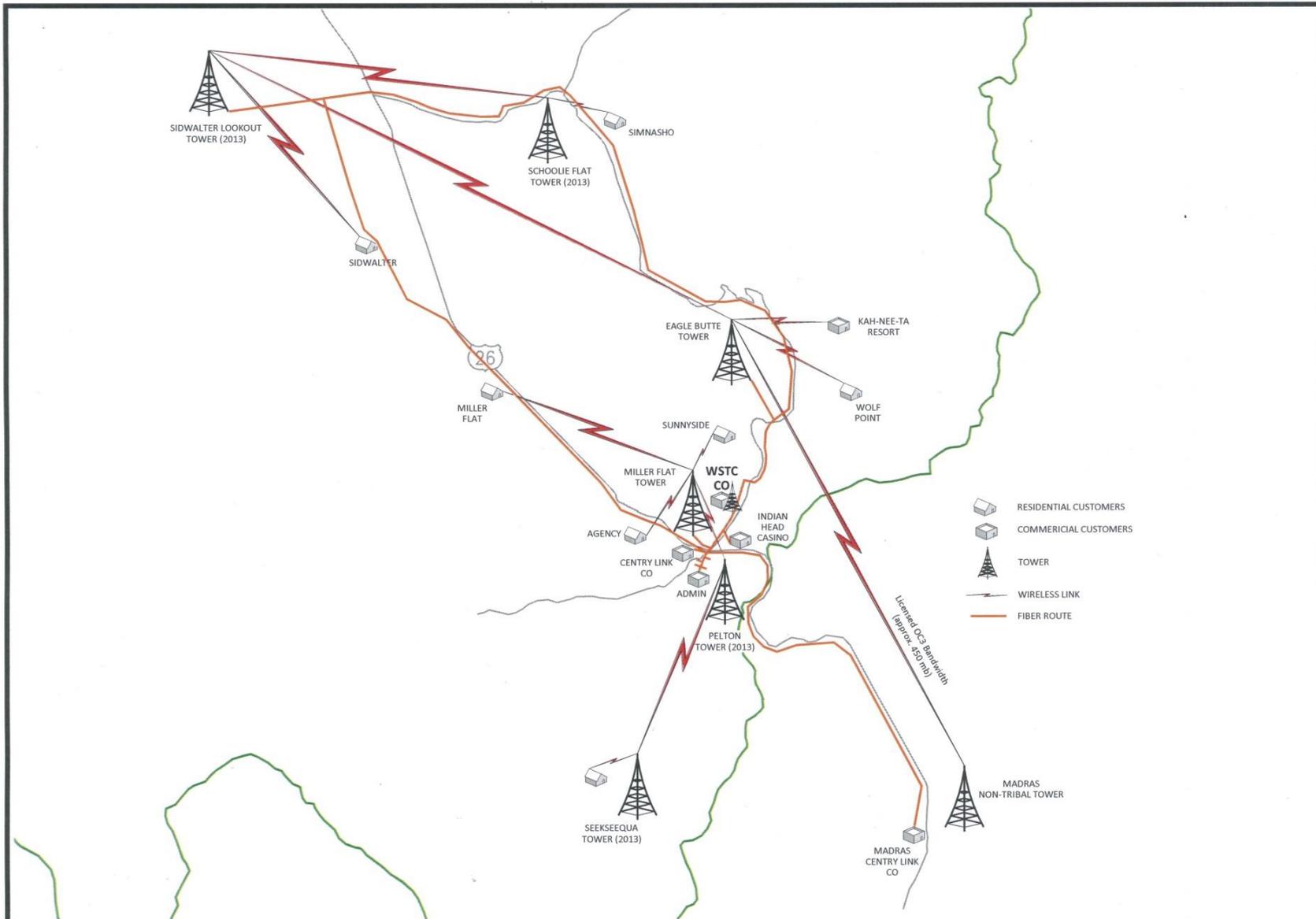
- Toured 5 Tribally Owned Telecoms



Tribal Council Involvement



This is what we wanted



Network Diagram
2015

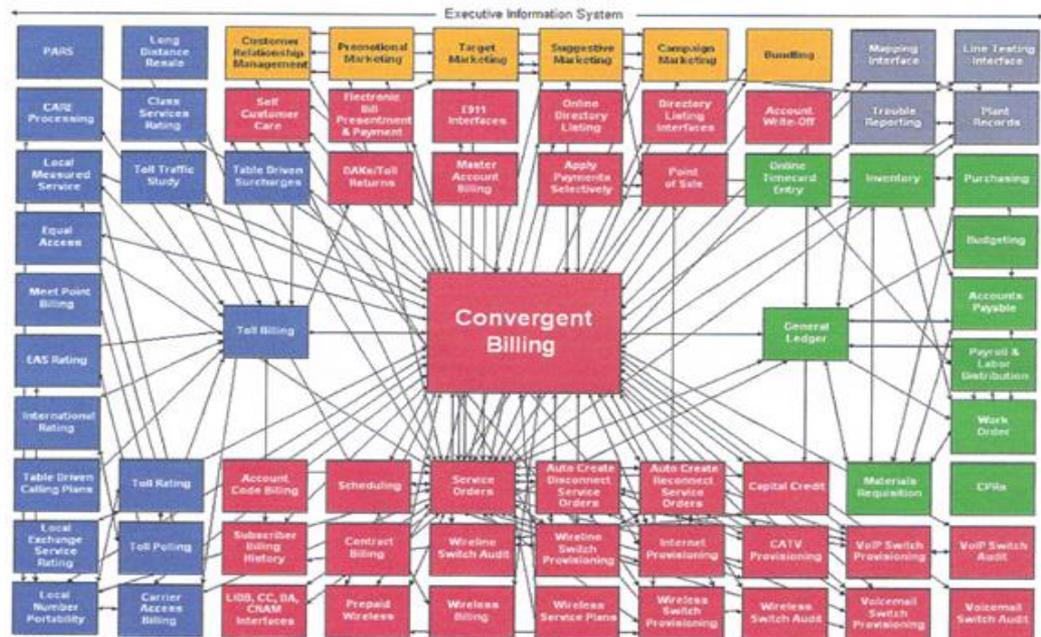
WS Ventures
 Drawn By: BBisland
 Updated: 10/17/12



2008 Feasibility Study & Business Plan (RUS funded)

- Business/Market Assessment
- Financial Projections and Capital Requirements
- Economics of Running a Phone Company
- Partnership Opportunities
- Regulatory Issues
- Competition
- Organization
- Back Office Systems

“Not a business for the faint of heart”



Leverage Assets

- Towers developed for Public Safety Used by Telco
- Fiber installed by Telco used by Public Safety
- MOU between Public Safety and Telco
- Sharing of revenue from Co-location
- Telco manages all outside plant



Leverage Funding

Total grant & loan funding generated for CTWS: \$ 10.7 million				
Homeland Security Grants		Broadband Grants/Loan		
2007 State Homeland Security Grant	\$ 140,000	2003 Community Connect Grant		\$ 696,000
2007 PSIC Grant	\$ 116,000	2008 RBOG Grant through RUS		\$ 100,000
2008 State Homeland Security Grant	\$ 123,600	2009 RBEG Grant through RUS		\$ 199,000
2009 State Homeland Security Grant	\$ 200,000	2009 EDA Grant		\$ 200,000
2010 State Homeland Security Grant	\$ 613,772	2010 Technical Assistance Grant through RUS		\$ 200,000
2011 Tribal Homeland Security Grant	\$ 899,275	2010 BIP Grant/Loan through RUS		\$ 5,400,000
2011 Homeland Security Grant	\$ 20,000			
2013 Tribal Homeland Security Grant	\$ 465,280			
2013 State Homeland Security Grant	\$ 140,000			
2014 Tribal Homeland Security Grant	\$ 1,069,200			
2014 State Homeland Security Grant	\$ 80,000			
	\$ 3,867,127			\$ 6,795,000.00

What?

The Result



WARM SPRINGS TELECOM

While little went as planned: The Plan Worked

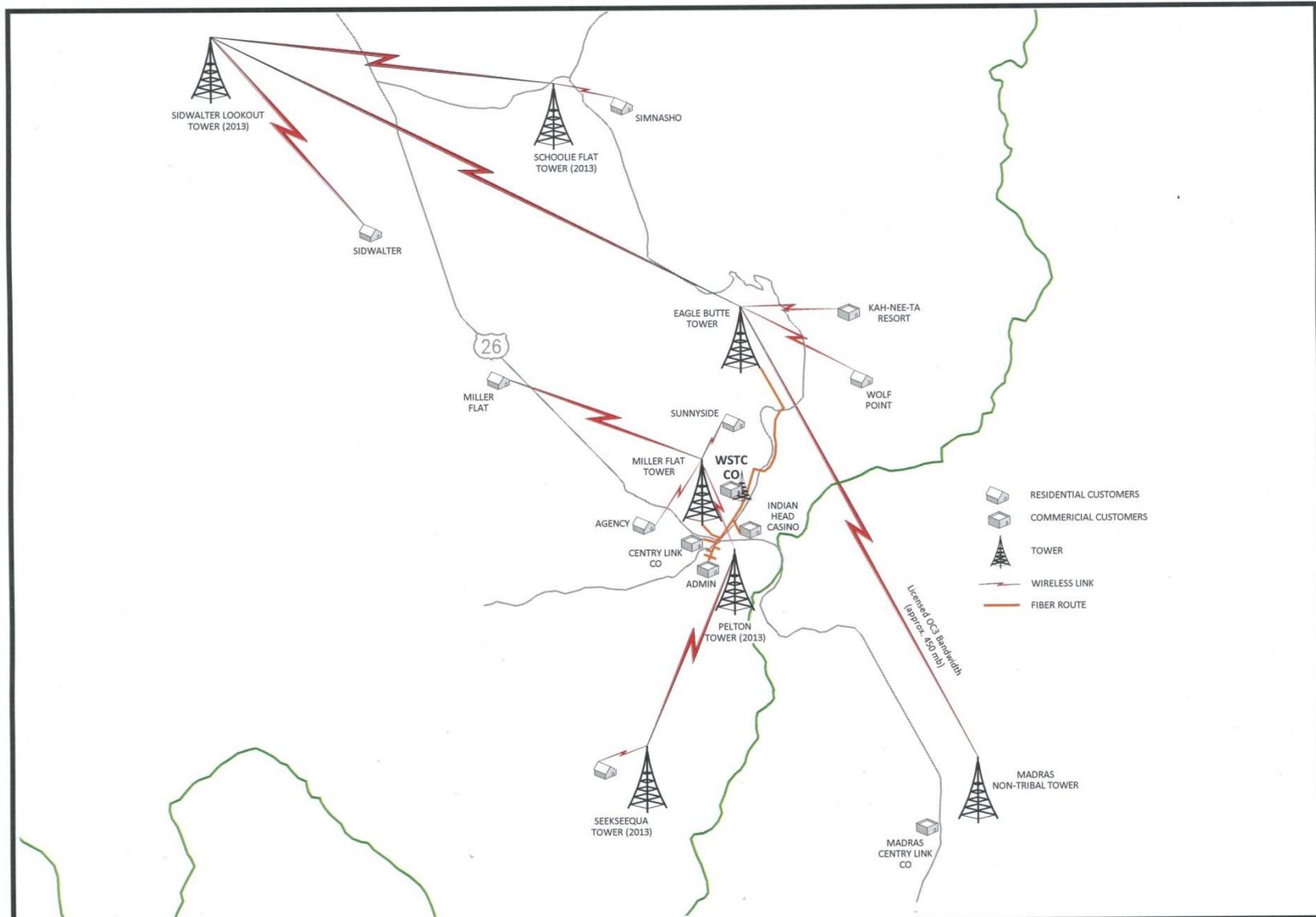


***Support of Tribal Leadership
and membership is
imperative because there
will be bumps along the
way***

Milestones

- Corporation Chartered: **January 2010**
- CLEC Status Granted: **January 2010**
- Received BIP ARRA Award: **July 2010**
- Ground Breaking Ceremony at Central Office site: **April 2011**
- Receipt of BIP ARRA funding: **August 2011**
- Certificate of Occupancy for Central Office: **October 2011**
- Increased broadband capacity on the Reservation from an unlicensed 45 Mbs to a licensed 450 Mbs: **November 2011**
- Ribbon Cutting Ceremony at Central Office: **January 2012**
- Received ETC designation: **March 2012**
- First residential customer: **April 2012**
- Received OUSF support: **August 2012**
- Achieved profitability: **September 2013**
- E-Rate - 100 mbs to new Tribal School: **August 2014**
- Completed ARRA Buildout: **December 2014**
- Achieved gigabit capacity via fiber: **March 2015**

This is what we started with...



Network Diagram
2013

WS Ventures
Drawn By: BBIsland
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Thank you!

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