

## **Introduction**

The Payson regional area has experienced several internet and communication interruptions over the last year. With this in mind, a consortium of affected entities has come together to search for a solution to this problem.

The Town of Payson, Gila County, Central Arizona Governments, Rim Country Chamber of Commerce, Payson Unified School District, Payson Fire Department, Pine-Strawberry Fire District, Banner Health and Industrial Development Authority of Gila County are all working together to find and implement solutions to this pressing problem.

These various outages resulted in safety issues as residences of the affected area were unable to use cell phones to call for 911 or other support. They also resulted in loss of business as the area merchants were unable to process debit and credit transactions because of the loss of internet access. And finally, the loss of internet on the last outage resulted in emergency health issues as Banner's hospital was unable to properly treat a few people who had to be flown by helicopter to the Phoenix area at considerable expense.

To say the Rim Country is vulnerable is an understatement. There is an urgent need for a short-term redundancy system and a long-term broadband last mile connection.

## **Outage Background Information**

The Rim Country has experienced three major internet and cell service outages over the last year that has affected public safety, health services, merchant services and small businesses, as well as widespread inconvenience and frustration.

On December 16, 2014, there was an 8+-hour outage of internet and cell service due to the nibbling habits of squirrels in the Fossil Creek area.

On February 25, 2015, there was an 8+-hour outage of internet and cell service due to a cut line in New River. Fingers are pointing to a man in New River who thought it would be amusing to shoot the line and "see what happens."

On September 28, 2015, there was a 13-hour internet outage with a 21-hour cellular service outage, thanks to a contactor digging in the wrong spot.

### **Major entities that need to be involved in a regional solution:**

**Frontier** (ISP for Navajo and Apache Counties), currently has fiber that comes down from Holbrook and I-40 and ends at Forest Lakes, which is about 30 miles east of Payson.

**CenturyLink** (ISP for Gila County and down into Phoenix metro area) currently has fiber coming into Payson through I-17 up into Cottonwood and then east into Pine and down into Payson on HWY 87.

**SuddenLink** (ISP for Payson and other northern regions such as Coconino) runs along CenturyLink's fiber and does not offer any resiliency in the equation at this time.

**GOVNet** is bringing Microwave into the Payson area through Mt. Ord, but they are not finished yet and we do not have an estimate on when they might be active. Also, we are unsure if GOVNet intends to service residences at this time, as they are mostly a carrier for governments and emergency services. They do have the ability to provide resiliency to the Payson region by entering into agreements with the other ISPs for backhauling of data if the fiber goes down again from a central location also known as a Point of Presence (POP).

**APS** controls all of the power lines and poles in this region and we believe has the best infrastructure on which to build a fiber network.

**Red Rock Telecom** is a telecom out of the Phoenix metro area and one of about 50 non-traditional carriers listed with Arizona Corporation Commission that have the ability to secure usage rights into the larger fiber networks.

### **Timeline of Events:**

#### **Highlights of various meetings:**

*October 7<sup>th</sup>*

Morning meeting with Suddenlink and GOVnet to discuss what could be done with local ISPs.

Afternoon meeting with local businesses, government entities and concerned citizens.

*October 21<sup>st</sup>*

Jim Simms, an independent consultant, is brought in to help us explore options to find a resilient and redundant solution for our broadband needs.

Need to approach APS about joint pole use as a possible solution.

*November 18<sup>th</sup>*

Became aware of Navajo/Apache Counties experiencing similar situations with many meetings and no solutions.

Jim Simms spoke of non-traditional carriers and a Point of Presence (POP) in the local area to bring resiliency.

*December 9<sup>th</sup>*

Gathering cost breakdown information from each sector in the area about annualized costs for phone, internet and other fiber connections.

Provide contact information for the VIPs in Coconino, Navajo and Apache Counties to see if there is a shared interest in forming a regional committee to explore solutions for all of Northeastern Arizona.

*December 10<sup>th</sup>*

Spoke with Navajo and Apache County IT Directors and got their agreement to attend future meetings and cooperate.

*December 11<sup>th</sup>*

Toured Red Rock Telecom POP in Phoenix with Jim Simms. This is a non-traditional carrier that is very interested in working with rural Arizona on broadband and phone solutions. Red Rock believes the fiber from Payson to Forest Lakes would cost in the area of 1.5 million.

*January 11<sup>th</sup>*

Meeting in Payson with Red Rock Telecom to present their preliminary ideas for a possible solution.

Mayor Evans and Bobby Davis met with Centurylink to find out what they can provide. They estimate that they can run fiber down HWY 87 for 15 million and to Forest Lakes for 7 million.

*January 18<sup>th</sup>*

Mayor spoke with Frontier about the cost and ability to bring the fiber from Forest Lakes to Payson. Frontier estimates that it will cost about 30 million for the 30 mile fiber run.

*January 21<sup>st</sup>*

Attended meeting in Taylor with Mayors and Councilmen of Navajo and Apache Counties and presented what we have done so far in our attempt to bring resiliency to the area.

*February 4<sup>th</sup>*

Met with Atlantic Tele-Network (ATN) officials David Wittekind and John Champagne, who are potentially interested in helping to fund an infrastructure solution to the resiliency problems.

*February 11<sup>th</sup>*

Discussion with APS about joint use on poles both for forest lakes and rye to fountain hills fiber. Representatives from snowflake, taylor and SynkroMax (local to snowflake ISP)

**Evaluation:**

Currently, we believe our best solution to be the fiber run from Payson to Forest Lakes, with the assistance of APS and a joint use pole agreement along with a 3<sup>rd</sup> party who will manage the fiber and interconnections between Frontier's fiber, CenturyLink's Fiber and a Point of Presence (POP) where all of the major ISP providers will come together to form a self-healing fiber and microwave solution.

In addition, we believe that a longer term secondary solution is to work with APS on their towers that run along HWY 87 from Rye to Fountain Hills and establish a secondary trunk to the Phoenix metro area that will also be managed by one of the principles in a regional solution and come together in that same Point of Presence (POP).

Current APS cost analysis estimates that the Forest Lakes fiber can be run for approximately \$100,000 per mile, which will amount to about \$3 million, not counting the equipment that it takes to interconnect the multiple ISPs together on each end of that fiber.

We do not have estimates for the HWY 87 project, but we will be in discussions with APS hopefully within a week to discuss the feasibility of this project. It is believed that if it can

happen, most of the work will fall on APS to run and manage the fiber, as the towers are hard to access, with long distances between them.

**Conclusion:**

Working with all of the named entities, we believe that a long term resilient and redundant broadband network can be accomplished with the right persuasion and pressure on the appropriate entities.

Building the fiber link from Forest Lakes to Payson will actually help all 3 counties...Gila, Navajo and Apache. By extending the CenturyLink fiber east to Frontier's network, northern Gila County will have a new broadband avenue if the CenturyLink fiber going west is cut, and by Frontier extending west towards Payson and the CenturyLink network, southern Apache and Navajo Counties have a broadband path from the west if the Frontier fiber is cut to their east.

We believe this forms a critical loop for the northeastern part of Arizona, where we currently have an obvious gap in broadband resiliency.

Map of known fiber installations

