



Grizzly Broadband

MY EXPERIENCE WITH PRESEEM

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My name is Jason Pond, Co-Owner and CEO of Grizzly Broadband. We purchased Cybernet1 in January 2018. Cybernet1 has been a WISP since 2001 in the Bitterroot Valley of Western Montana. I have been in the WISP industry since 2001, co-founding a WISP in Manhattan, MT and subsequently purchasing a WISP in West Yellowstone, MT in 2005 (Grizzly Internet, Inc). I turned Grizzly Internet, Inc. into a FISP in the summer of 2015, and sold it to Safelink Internet at the beginning of 2016.

I have used equipment from Motorola Canopy, MikroTik, Tranzeo, Trango, Cambium, Ubiquiti, Baicells, Sae, and Calix, to provide wireless services to residential, small business, and commercial/enterprise customers, along with fiber-to-the-home (FTTH) in both active Ethernet and GPON setups; including managed services and hospitality Wi-Fi deployments, both indoors and outdoors.

Right now, we are serving a 100 mile long valley corridor in Western Montana. We are using primarily Cambium PMP 450s, EPMP, with some Ubiquiti and two BaiCell's APs. We have a single FTTH subdivision that is hybrid at the moment, fed by licensed backhaul. I have extensively used these technologies since their inception. With Cambium, all the way back to the FSK Canopy days, and with Ubiquiti when they first released their AirMax platform in 2010. I am least familiar with Baicells as we only have two APs and only about 16 subscribers on them.

Today, we use Cacti for graphing and some monitoring, as well as The Dude, Intermapper, and Preseem combined with Sonar as our billing platform, and Calix Support Cloud for managed router support.

In this day and age, the ability to detect internal Wi-Fi problems is ever increasing. This is the overwhelming issue that we have seen that causes customers to dislike, and become disgruntled with, their ISPs.

The need to have QoE is there. In fact, at this stage in the game, if you are not doing something to handle Quality of the Customer Experience, you are failing your customers. One thing that I am big into is detailed data.

So here are some numbers for you. Prior to Preseem handling all of our shaping, we were averaging 384 support calls per week. Now that we have had Preseem running for the past 2.5 months, **our support call volume has gone down to an average of 288 calls per week** (which would be even lower but we had a couple of large-scale outages due to FreeRADIUS failures). This change was immediately seen the week after we started having Preseem do all of our shaping, and has been trending downwards since.

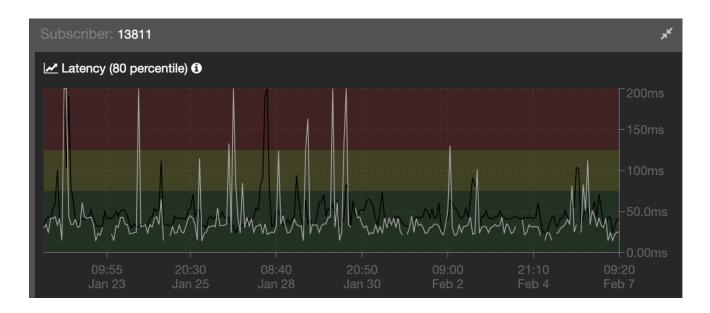
Now this is cool data and all, but a caveat: it was not just magic. You don't put the Preseem box in and all your problems go away. We have a network team that has worked diligently to resolve overloaded APs, balance towers, and create an overall exceptional experience for customers. We were not able to see detailed information prior. One of the big things that we noticed were customers that had called in to upgrade to a faster package, such as a 32Mb/s when they had only a 10Mb/s or 20Mb/s license on their Cambium radios. This created a bad experience for the customer. Moreover, it would have been very grueling process for us to find all of these customers, as with Cambium there is no easy way. Now, with Preseem, we can pretty easily see these customers in an AP and get their key upgraded.

We looked into other solutions such as Saisei, Procera, and Sandvine, but were not pleased with the integration, sales techniques, or prices.

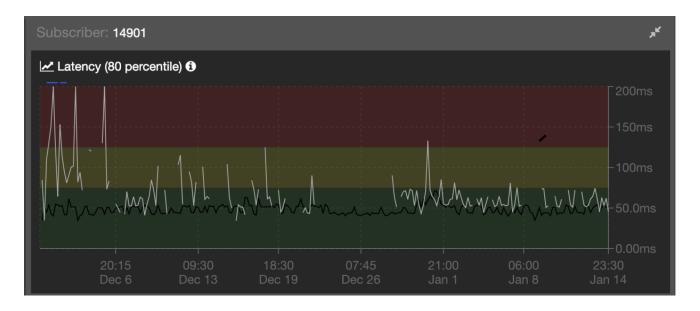
I met Gerrit Nagelhout a few years ago when he was pushing out a product to cache Netflix programs on a thumb drive hooked up to a MikroTik router. Pretty slick idea! One thing that I noticed was Gerrit was forward thinking. My very first interaction with Preseem was probably at the Sonar booth at WISPALOOZA a couple of years ago. When were deciding to move to Sonar as our billing platform with Preseem fully integrated, we knew it was the right choice. We had heard from other ISPs using both and things were working very well.

Overall, we have had a very good experience with Preseem thus far. Their support has been very responsive. We did deal with a hardware issue and they were fantastic to work with. It is easy to reach out and get help when needed, and they trained and walked us through the whole process. The appliances are not inexpensive, but they are not horribly priced. And are worth EVERY SINGLE PENNY.

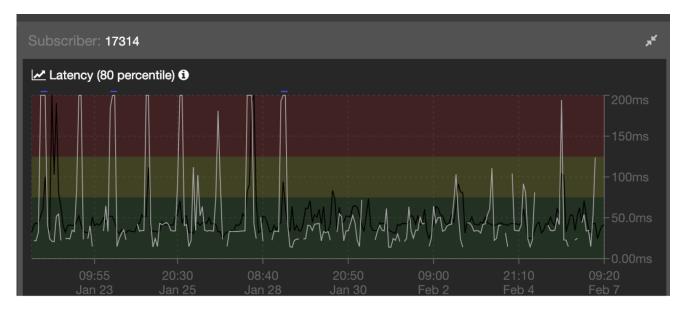
Some examples for you:



This customer was having problems with their service and complained of being disconnected all the time. They kept reporting that everything had not worked well in months. We offered a managed router (the Calix GigaCenter) and installed it. This shows where the Calix router made a self-heal adjustment. We had come to find out that they were being interfered with by their neighbors, causing high latency and for the customer's gamer son to get very frustrated.



These customers were complaining of continuous buffering issues and that the Internet was just not working right. At the beginning of the graph you can see the high latency. We did a service call and replaced the cable and installed a managed router and their problems were resolved. This problem had been ongoing for almost one year prior to this.



This customer was running on a radio that was a 10Mb/s license key on our 10Mb/s teammember Internet package. You can see where we made the key upgrade. Now, this team member—who works for me—has two sons and they had no problems streaming on multiple TVs while this was going on, which I attribute to Preseem doing its job.

The value is in the experience. The more information about the customer's place you have, the better you can serve your customer. We are in business to serve the customer; they do not understand our business at all. When you think about the business you are in on a scale from 1 to 10 (10 being that you understand it the best), you are understanding it at a 9 or a 10. Your customer understands it at a 1 to a 3. This is one of your options to see what is going on and to provide them with that extreme level of support.

We have noticed over the past few months of using this combination of services that **we are seeing less cancellations wherein the customer is changing providers.** We still get a few, but in the past seven weeks we have only had two. The rest of the cancellations are moves or fatalities.

One thing that Preseem has done is given a fantastic view on where upgrades need to happen, and we have set forth a plan to hit towers based on the need for things to be upgraded NOW, compared to what can wait until this summer, and what can wait until fall or next year. This has caused our priorities to shift in our proactive network management.

Turning on shaping with Preseem was a breeze—it was the easiest part of the process. Prior to Preseem, we were using PPPoE and MikroTik queues. The Preseem box handles things much better. In closing, Preseem is a great company to work with. They are providing a solution that is simple to implement and cost effective to use. It helps with the customer experience, which to me is the ultimate ability. If you have the tools to be able to serve your customers the best, wouldn't you want to use them? Wouldn't you want to make sure that your business was not just another pesky ISP that doesn't provide what it is paid for? Preseem is a step in the right direction.



Developed exclusively for WISPs, Preseem is a one-of-a-kind networking solution that helps to find & fix Quality of Experience (QoE) issues across towers, sectors, and subscribers.



Preseem extracts key performance metrics such as packet loss, TCP Round-trip-time latency, jitter and throughput directly from the subscriber traffic in real-time with 10 seconds samples. With cloud-based analytics, user-friendly graphical interface and features like the Wireless Summary, Preseem allows you to understand the real QoE delivered by your network and pinpoint problematic areas of the network.

Preseem's QoE-optimized plan enforcement, based on FQ-CoDel, provides per-flow fairness and prioritization. This allows interactive flows like VoIP, gaming & DNS to get through smoothly without being affected by bulk flows like streaming video and large Windows downloads. For WISPs, this ensures that customers never call to complain about slow Internet while someone else in the house is streaming Netflix or doing a heavy download.



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