

MESSENGER

WINTER 2022

Traveling To Virtual Worlds At The Speed Of Light



By Jens Laipenieks
CEO & General Manager

It sounds like science fiction, but we are living in that world today. In a vacuum, the speed of light is over 670 million miles per hour. That is 7½ trips around the equator in one second. Light reflected through a fiber optic strand the thickness of a human hair slows down to a mere 456 million miles per hour. Innovations in laser and light wave modulation sciences continue to improve data transmission rates. Now and into the future, its pulses of light moving through fiber optic cables that will power the modern internet backbones.

Latency, ping, lag, and delay are all common terms used to describe the time it takes for an information request (a packet) to get a response. These response times are measured in milliseconds (ms), or 1/1000th of a second. Many variables can affect the results, but the most critical factors to consider are the distance between the testing endpoints and the complexity and quality of the connecting networks. The more hops or individual network elements that packets must traverse, directly impact the latency.

The computing power and protocol of those unique elements correlate to the quality of the user experience.

Real-time applications require real-time connections. Video and music streaming services, video/voice calling, and gaming are the most commonly used services that need low-latency links to perform optimally. These services, as well as more recent developments like driverless cars, industrial automation, and IOT, are advancing at breakneck speeds. 4k or ultra-high-definition video streams are here today, and 8k is on the horizon.

Possibly the most significant change to come is the concept of the metaverse. The definition of a metaverse is also evolving, but generally speaking, it's a virtual social space where people can socialize, play, and collaborate across devices. Metaverses are immersive spaces, typically accessed using VR (virtual reality) headsets. The business ramifications of (Cont.)



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metaverses are almost endless and still being conceptualized. Most of the metaverse's virtual and augmented reality software runs in the cloud, making it accessible from anywhere. This means that for an optimal experience, users must have low-latency connections.

As all these Internet applications evolve and data demands on the networks increase, designing networks for low latency performance is a must. Here at ASTAC, we are continually investing in our network. We monitor all of the core network elements and how we are routing traffic to ensure the performance of the network is the best it can be. Recent testing results showed the round trip packet to the Microsoft Xbox servers in Seattle took around 67ms. That is 67/1000ths of a second to get back and forth to Seattle. That is not science fiction... that is the speed of light.

Customer Experience Positions Open

Have you heard about the great opportunities to join our wonderful Customer Experience Team? There are multiple positions open in both Utqiagvik and Anchorage. All positions are remote following training and offer great benefits packages, paid internet (UTQ), and a \$2,000 sign on bonus. If you or someone you know is interested in joining our team, please visit astac.net/careers today.



Swoosh Returns & We Have a Winner!

Through the last quarter of the year our team travelled to all our residential service communities to host our annual Swoosh free-throw competition once again. This was our thirteenth year and it did not disappoint! After pausing for a couple years due to the pandemic and limiting travel as a safety precaution, we were happy to be back with members and doing something that brings us together and meant having fun. We had a great turnout in all communities and enjoyed watching the little dribblers competition; kids really bring the energy!

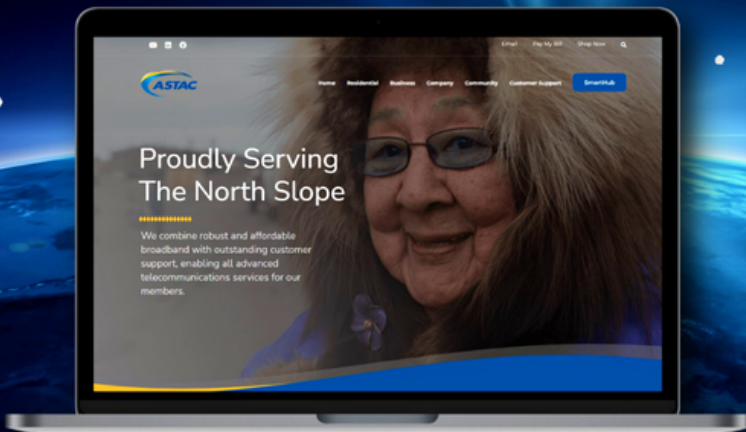
We had one of the most unique setups ever, this year, in the Kaktovik Senior Center. No school or gym was going to stop us from getting out and making our own fun! They also had the longest lasting competition with the highest percentage of shots made, and it felt like no one could miss. Down below is a list of all the first and second place winners for each community. Our Grand Prize Winner for 2022 is Jeremy Simmonds of Atqasuk! Quyanapuk to everyone who came out to join us for another great year! We can't wait to see what 2023 has in store.

First Place Winners: Lola Tukrook, Jay Aguvluk, Jeremy Simmonds, Kristen Morry, Mary Rexford, Bertrand Britt, Ben Lane, and Nellie Kaigelak

Second Place Winners: Michael Henry, Roxanne Nayakik, Jacqueline Ahkivgak, Hugo Kakinya, James Killbear, Chester Toovak, Joanna Lane, and Paul Kaigelak



NEW WEBSITE LIVE NOW



ASTAC.NET

90% Fiber Connected and We're Not Stopping There

Have you heard that our members are 90% connected by fiber? We have been working to bring fiber connection to all of our service communities and to every household and business on the North Slope. We are in the final stages of planning to complete this goal and anticipate completion with five years. Migrating our network off of satellite and onto fiber is crucial for reliable and solid connection that can't be matched. The process of building a fiber network is more extensive than a satellite network, but it is longer lasting with less latency. Fiber transmits data at 70% the speed of light. We believe in the power of fiber and what it will do for the future of all our communities.



FALL 2022

New Cellular Sites Launched



The team launched several sites in 2022, a few up the Dalton Highway and in Dillingham. We started build-out efforts in Dillingham back in 2018 and the second site was officially green-lit in March of 2021. We launched the first site on March 21st and the second site on November 17th. The first site covered the Airport and the Hospital while the second covers downtown and the docks. Together these sites bring 4G LTE service to the Dillingham community. Alaskan, national, and international workers will now find that their ASTAC or AT&T phone they use at home will now function in this community, too. In addition, first Responders who are accustomed to high priority FirstNet communication services elsewhere in the country will now enjoy those benefits should an emergency arise in Dillingham.

The next set of 4G LTE wireless site launches took place along the Dalton route at Slope Mountain, Chandalar, and Coldfoot. These were made possible through collaboration with Quintillion, Bureau of Land Management, and the Department of Natural Resources. ASTAC was the first to add this crucial infrastructure North of Toolik Lake to Prudhoe Bay, bringing the service total to over 250 miles on the Dalton. Many individuals count on reliable 4G LTE wireless connectivity. The ability to use and enjoy high-speed Internet and improving how users connect with the world.



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CURRENT JOB OPENINGS

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Customer Experience Specialist (FT) – Utqiaġvik

Customer Experience Specialist (FT) - Anchorage

Project Manager - Anchorage

Project Coordinator - Anchorage

Sr. Business Systems Analyst – Anchorage

Village Representative – Atqasuk



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