

HFN, INC.

MINUTES OF A MEETING OF THE BOARD OF DIRECTORS

November 21st, 2022

A meeting of the Board of Directors (the “Board”) of HFN, INC., a Washington corporation, was held on November 21st, 2022, at 4:00pm (Pacific Time) via online Zoom.us conference call.

Directors Present:

Eric Wolak, Tim Underwood, Howard Kapustein, Allen Enebo, Charlie Herb, David Ngai

Also Present Were:

Jeremy Fallt, HFN General Manager

Directors Absent:

Frank Pineau

Call to Order

Jeremy Fallt called the meeting to order at 4:06pm (Pacific Time) and Eric Wolak recorded the minutes. A quorum of directors was present, and the meeting, having been duly convened, was ready to proceed with business.

Approval of Minutes

Minutes for September and October are pending approval via email.

Manager’s Report

Jeremy sent out reports for October via email.

The board now has access to dedicated network performance dashboards.

Board Positions

As some board members were absent at the last meeting, officer positions were reviewed and confirmed.

Officer positions will be reviewed annually.

Branding MOU

Jeremy reports that the memorandum of understanding between Highlands Council, IHCA and HFN is still pending legal review for a final signable draft.

Higher Speed Offerings

Several HFN customers have reached out about >1Gbps speeds. Comcast (Xfinity) is starting to advertise 1.2Gbps service in the Highlands.

Neighborhoods and homes not upgraded to single-mode fiber would not be eligible for multi-Gbps speeds, so they would need to be upgraded from multimode fiber. Single-mode fiber is currently being placed in multimode neighborhoods to enable higher speeds in the future.

Action Item: The board directed Jeremy to explore the existing market of >1Gbps services, both local competitors and national peers, and report his findings at the next meeting. Findings to include speeds, prices, and regional availability.

Board Meeting Adjournment

There being no further business to come before the meeting, the meeting was adjourned at 5:08 (Pacific Time)

HFN Advisory Group Meeting (started at 5:09pm)

Steve Milton and Dan Sivils from Gigabit Now joined the meeting.

Monitoring dashboards

Action item: The board requested the Smokeping configuration be adjusted to test every 1 minute (vs. currently every 5 minutes).

Action item: The board requested IsoFusion confirm that the high-speed ports on the highgate routers are mapped in Cacti.

Broadband Network Gateway (BNG) – VLAN Per Customer

No progress has been made on HFN since the last meeting. The IsoFusion team is gaining experience with Bison Router that will be applied to HFN and their other networks.

An alternative to sophisticated BNG would be to migrate customers to only receiving a single port of service, requiring them to only connect a single device (identified by a single MAC address) to their HFN uplink. This was the plan of record in late 2019 but was derailed by focusing on bandwidth improvements to support COVID-19 work-from-home demands, concerns over disruptions to service with work from home, and challenges with entering homes to implement the change during the pandemic.

Newer CPE (Calix and Allied Telesis) can be re-configured by IsoFusion to operate as a router (vs. a switch), obviating the need for subscribers to make any network configuration changes.

Action item: The board asked IsoFusion to investigate how many subscribers are currently connecting more than one device directly to HFN (switched vs. routed connection) and report numbers at our next meeting.

Higher Speed Offerings

The Lake Washington ring is currently 30Gbps, but the existing CGNAT gear (“highgates”) can’t go that fast, so it’s the CGNAT that is our bottleneck today. The CGNAT could be upgraded to Bison Router *without* BNG upgrades to expedite performance improvements.

Hardware options (especially on the CPE side) are much broader for XGS-PON than for active Ethernet. We could potentially use XGS-PON splitters *in the datacenter* to leverage XGS-PON hardware with active Ethernet physical plant, as long as it’s single-mode fiber.

Action item: IsoFusion offered to investigate 10G hardware options and present their findings at a future meeting.

HFN Advisory Group Meeting Adjournment

There being no further business to come before the meeting, the meeting was adjourned at 6:10pm (Pacific Time)

Respectfully submitted,

Eric Wolak, Recording Secretary