Physical Infrastructure

The VoyagerLab network is currently 2 separate server machines! With one acting as a primary node, and the other a backup in case the first should encounter issues. This ensures that, while not all services can be maintained in the event of the primary server going offline, critical services should continue to function, and the domain will continue to respond to requests.

Voyager

Voyager, an old HP Workstation laptop from 2011, is the network's primary node as well as where the network gets it's name! The majority of the network's services run from Voyager. With 16 GBs of ram (upgraded from 8), a dedicated GPU and 4 core Intel CPU, it's able to handle moderate services such as running Minecraft serves.

Network Storage (Subspace)

Connected to it via an eSATA port (there's something you don't see often!) is an "external" HDD. By external, I mean it's an old laptop drive that's seen almost no use, so I put it into an external enclosure. It acts as a network storage drive, both accessible on the local network over SMB and by authorised users from anywhere thanks to FileBrowser.

However, this come with the issue that should Voyager go down, the network storage drive is down as well. I hope to, one day, replace this with a separate NAS (Network Attached Storage), both greatly increasing the storage capacity and removing the dependency on Voyager to be working.

ONYX

ONYX, the network's backup node, is a much less powerful Intel NUC from 2012. It only has a dual-core CPU and no GPU, so its capabilities are very limited. As a result, should the network have to fall back to ONYX, many services will become unavailable, such as Minecraft servers.

While other services, such as Navidrome, can be run by ONYX; they still have to be taken offline in the event Voyager fails as the data needed to run them is stored on the network drive, which goes offline when Voyager does. This is the main issue that will be solved by a NAS one day.

Networking

Both Voyager and ONYX are connected to the gateway by Ethernet cables to ensure reliable connection and the best speeds possible. The gateway is a standard ISP router from EE, an EE Smart Hub specifically, however it's DNS and DHCP functions are disabled and instead handled by

AdGuard, so it only acts as the gateway.

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