NIXA

➢ A National Internet Exchange Point is a physical infrastructure through which internet service providers (ISPs) or mobile network operators (MNOs) exchange internet traffic between their networks

➢ NIXA has currently 27 networks connected out of a total of sixty-three licensed internet service providers

➢ Ministry of Communications and IT, Government of the Afghanistan, procured the necessary equipment and systems for the setting up and establishment of the country's first Internet Exchange point, in Kabul.

➢ In order to execute and operationalize the NIXA systems and to build the capacity of the NIXA staff and the potential service provider members, so as to train and equip them to establish the requisite connections to NIXA and operate the internet exchange, necessary applications and tools were provided by Netlink Consulting team.

➢ The final onsite systems configuration and operational testing were conducted and NIXA went live on 21st July 2018 with the joint efforts of MCIT, NIXA, and Netlink, along with active participation from a large section of the ISP community of Afghanistan.
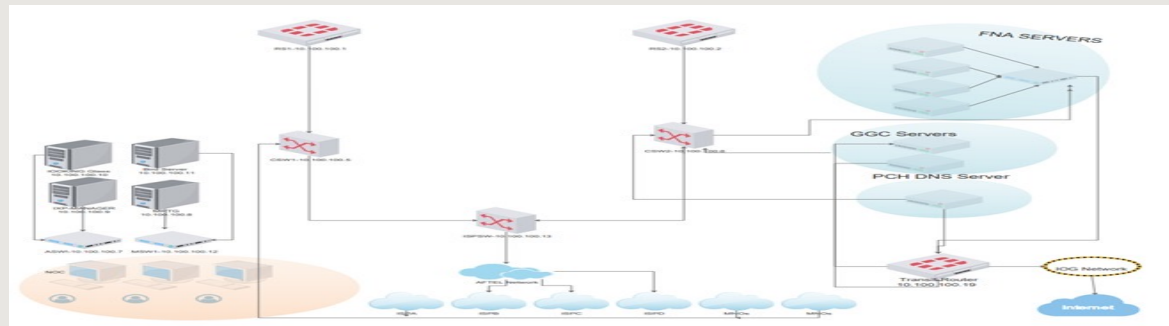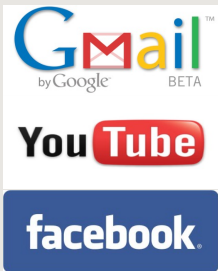
Current State

67%

KEEP LOCAL TRAFFIC LOCAL

Connected MNOs
HELMS - Ministry

Cache servers (FNA,GGC,PCH ROOT Severs)

- **ISPs within a region peer with each other at the local exchange**
- **No need to have traffic go overseas only to come back**
- **Much reduced latency and increased performance**

IX Services

Services:

- Route server (https://bird.network.cz/)

- Looking glass (https://www.pch.net/tools/looking_glass)

- IXP Manager (https://www.ixpmanager.org/)

- DNS servers (https://pch.net), Open recursive resolver (https://www.quad9.net)

Traffic Exchange Graph

- In Afghanistan approximately, 80 % of internet traffic which was exchanging through NIXA includes FNA, GGC. Previously there was 1GB of dedicated internet bandwidth for NIXA to fill the cache contents, so the traffic were exchanged via the NIXA fabric at a reasonable rate.

- In 2022, after Internet bandwidth that was funded by the World Bank decreased to 200MB due to lack of financial support, the cache contents decreased significantly and as a result the total traffic as well.
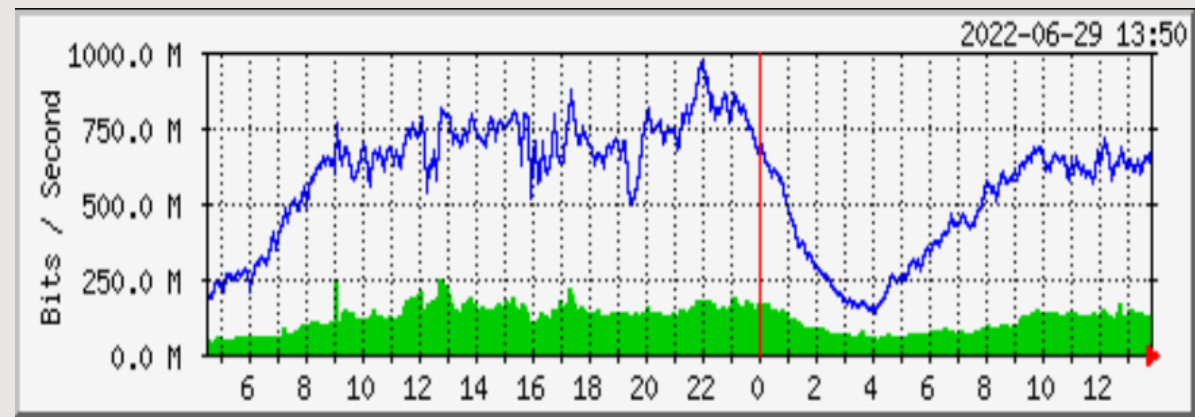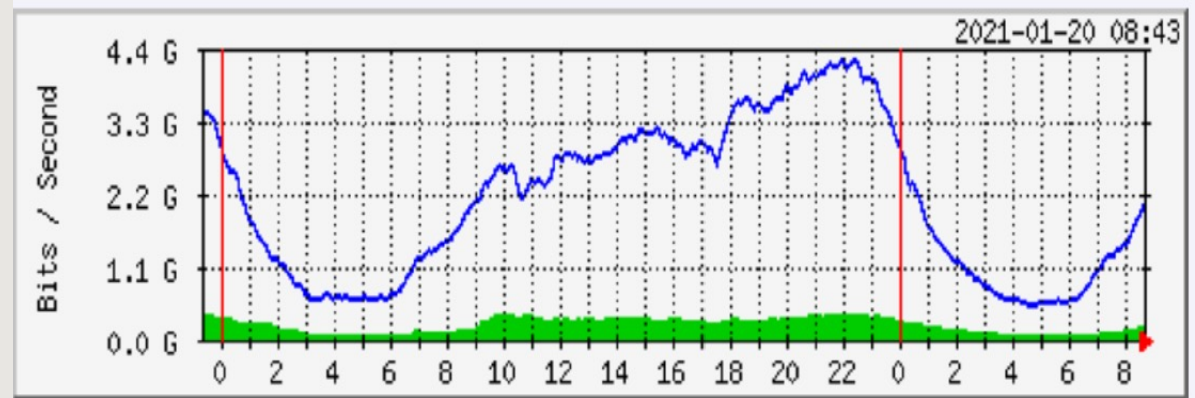
Reasons for the decreased traffic

➢ What did the political situation in Afghanistan change ?

  • No changes in the number of the members connected

  • No changes in the operational process or governance of NIXA

  • Just the support from the government and other sponsoring bodies is not there, as it used to be

➢ Budget : Decrease in financial support from world bank to provide sufficient Internet bandwidth for cache-fill at NIXA

➢ As a result there are lesser contents that can be served locally via NIXA

Current Traffic Usage

According to a local survey

- GGC

- FNA

- Netflix

- Akamai

- Amazon

Internet Usages
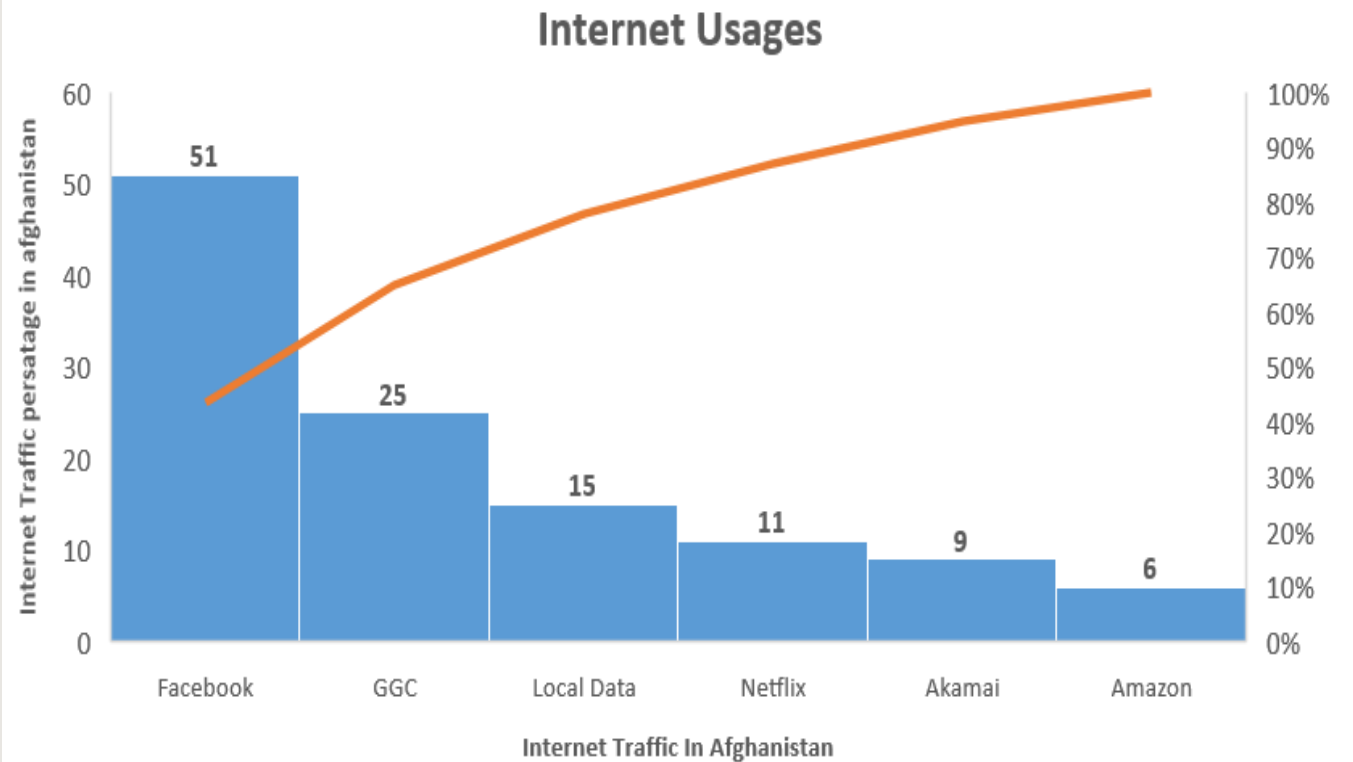
Current Challenges for NIXA's growth

- Not enough Internet bandwidth for cache servers

- Not approved payment policy from the government for purchasing BW.

- No international connectivity policy

- Most operators are in the remote and do not have connectivity to NIXA

- Large operators are not willing to join NIXA.

- Not enough support from the local government and the ministries.

NIXA Improvement Plans

➢ Formulation of a proper governing body for NIXA (the board) - *Immediate plan*

➢ Community engagement and technical manpower improvements - *Immediate plan*

➢ Obtain sponsorship (government and external parties) for procuring enough BW for the cache servers.

➢ Install more contents (Akamai, Amazon, Netflix)

➢ Upgrading the switching capacity to accommodate more traffic

Questions ?

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