

For over a decade, successive governments in India have been working to address digital connectivity requirements to the remotest corners of the country. Given the challenge where in most places basic infrastructure for transport and electricity is still missing, it is a gigantic task which even when implemented will be faced with frequent disruptions due to lack of power and unpredictable digging activities. To add to this, private mobile operators and various MNCs are seeing the NOFN roll-out as a cash cow that they would like to milk.

Besides NOFN roll-out and upkeep challenges, its trials are currently faced with problems related to cost effective last mile access devices and availability of localized content.

In such circumstances, it is time to go back and have a look at the basics for an indigenous solution that could to be smartly deployed in defined time frames without any cost over-runs that NOFN is currently plagued with. Here it would be appropriate to site the following examples:

- Globally, in the '90s, individuals made investment in computers which gained connectivity through a random network that got built later into the Internet that we are now so dependent on. The user now only pays for data connectivity to access such WEB content which is largely made freely available by various users on this shared network.

- In India:

- o Doordarshan spread its reach with television services across India through phase-wise deployment of transponders on a regional basis which spread their connectivity and network across India.
- o Similarly, cable TV took its initial steps into Indian homes through large personal antennas which later were aggregated in an area with cables being deployed along roadside and across roofs on private enterprise.
- o Government rolled out PCO services across the country by developing its own RAX at C-DOT.

On the above basis, with smartphones now being widely available, the user already has a powerful device in his hands on which he can listen and view any content available wirelessly. But downloading such content is spectrum dependent and hence both - bandwidth intensive and costly. The challenge lies in developing local content and making such content available freely at no cost to the user.

The mobile phone is the window through which people now have access. With smartphones gathering wider user acceptance, it is the best device already in the market that can readily provide access of any type of content provided NOFN gets deployed and wireless access on 3G/4G becomes more widely available. But in rural areas, this is a challenge. In such circumstances, we necessarily need to look at optional solutions that can quickly help to overcome the connectivity handicap and yet take full benefit of the mobile phone's capabilities.

The need of the hour is to enable every user to use their smartphone to create local content (on lines of what is currently happening on Whatsapp) which can be shared without the need of Internet or telecom infrastructure. The solution lies in locally building:

- a cost effective hardware which functions as a router and WiFi access point which enables forming of local intranet for mobile users in the vicinity with no dependency on any Internet service provider. As and when Internet access becomes available, the device should enable access to worldwide web from it for its users. The device should have HTML5/JavaScript/PHP based server code resident in it which helps users to build local content.

- a locally developed mobile app that when loaded on any mobile phone, could work like Whatsapp in any Indian language of choice and enable creation of text and video content (with all features of cut, paste and forwarding) that can be shared with connected Intranet users. Creation of local content by connected mobile users should be totally hassle free. Unlike the cost of registering, creating and maintaining an Internet website with the consequent recurring costs of maintenance, a site created on such a device should incur no cost for its registration with the user not requiring to be computer savvy for creating and running it. It should work like a bulletin board put up by the user to share publicly. It will create a local social network which allows nearby roaming users with the device's range to discover what is available with each user on the device. Mobile browsable information sites of this nature created by users can come up in the remotest areas without any dependency on availability of Internet infrastructure.

While attempts at building a pipeline for broadband connectivity across the country is an important objective, let us attempt at first laying the bricks by creating local intranet zones on above lines that proliferate without any dependency on any service provider. India has the talent which can build such a solution locally. Given Government of India's focus on local manufacturing, such initiatives at creating local smart Intranet based networking solutions should be adopted quickly, patronized and promoted. It would become an example to the world of Indian talent's capabilities which will then be sought by other nations for replication.

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Best Regards,

Lalit Chandak,
President,
SPAN TECHNOLOGIES | SPAN TELECOM PVT.LTD.