



**NIXI**

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Populate Internet Exchange in Small  
and Medium Cities

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# Purpose of IX and Internet as essential service

- 1) IX is the physical infrastructure where ISPs, content providers, content delivery networks, enterprises, BFSI companies etc. interconnect and exchange traffic directly.
- 2) Role of IX became prominent during the pandemic as most of the work-force worked from home. Wireline broadband became essential for seamless connectivity. Dependence of Internet service providers on IX has increased for ensuring broadband services for its customers.
- 3) Internet is an essential service, and this can be gauged with the example of India in which 650 million internet users are expected by 2023. Handling the Internet traffic volume of such a huge user base obviously requires a sophisticated infrastructure setup. Internet exchange plays a vital role and is an “added factor” in the ecosystem.

## Spread and distribution of Internet across geography

1) Internet expansion was primarily open and sustainable. Internet is a “network of networks” whose protocols are designed to allow networks to interoperate.

2) Today the Internet is decentralized in which it is commercialized, and vendors & operators joined the open protocol development process and helped unleash the unprecedented era of growth and innovation.

3) World order shows the penetration levels of Internet in 2012.

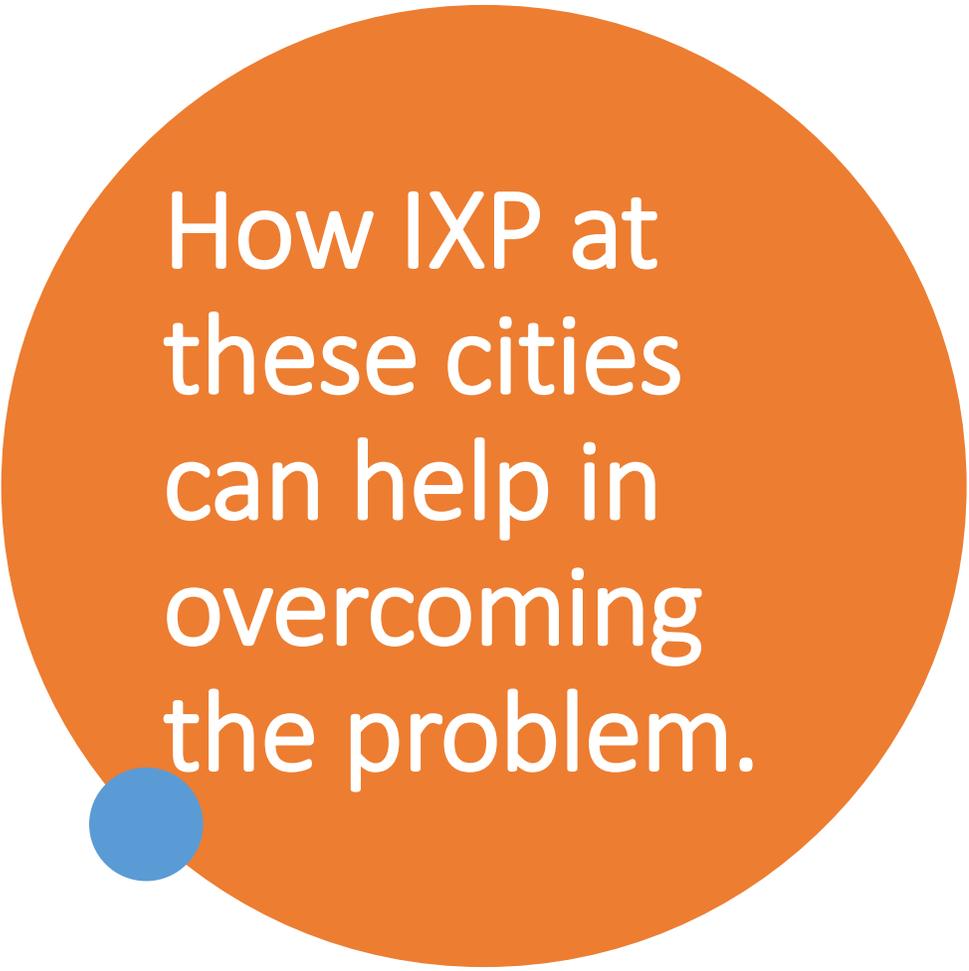


# Challenges faced by ISPs and their customers in small and medium cities.

**Network  
Congestion**

**Network Security**

**Lack of  
Infrastructure/ last  
mile connectivity  
for ISPs**



How IXP at these cities can help in overcoming the problem.

- **Reduce transit costs**
- **Availability of content**
- **Shared Infrastructure**



# Challenges for IXPs to expand in small and medium cities.

- 1) Finding peers** –The first step in establishing an IXP is to bring potential peers around a table to take the decision to start. There needs to be a minimum number of network operators interested and willing to interconnect their networks before it makes sense to invest in equipment and facilities for the purpose of setting up an IXP. If there is a lack of interest, the traffic at the IXP will remain low thereby leading to network operators still having to negotiate multiple private bilateral connections in order to effectively serve their clients.
- 2) Building a community** - Finding peers and agreeing on how to run the IXP are the first steps in launching the IXP. Meanwhile, the process to build a community around the IXP occurs in parallel. IXP community support is almost indispensable to establishing an IXP and is essential if one wants the IXP to become a success. Without an environment of cooperation between ISPs , an Internet exchange will not be successful.

# NIXI Initiatives in having IXPs in small and medium cities.

- 1) NIXI IX points in Small and Medium cities** – NIXI already has Exchange point in Tier II cities. Currently it is working on connecting the regional data centers at these exchange points. Connectivity of NIC (National Informatics Center) which is one of biggest technology partner of Govt. of India and carries large volume of govt. traffic content. Agreement between NIC and NIXI is already signed in which NIXI will bear the cost of last mile and cross connectivities.
- 2) NIXI IX points in more Tier II and III cities** - NIXI is planning to open more IX points in Tier II and III cities in collaboration with ISP having DC, NOC infra in these cities. The architecture design of IX and equipment will be taken care by NIXI and connectivities of peers will be taken care by the ISP.

Thank You