

**ANISP**



**Asociația Națională  
a Internet Service  
Providerilor**



**Ziua Internațională a Telecomunicațiilor**

și a

**Societății Informaționale**



# 01 Focus on 5G...

... but there is no 5G without fiber backhaul.

There is no point in aggregating 20 Gbps traffic on a 3-sector base station while having only 1 Gbps radio backhaul.

Bottleneck?





- ◆ **Fixed, fiber optics-based networks also need to be extended, improved;**
- ◆ **Access to support infrastructure.**
- ◆ **Cost controlling – Netcity project vs. Sibiu or TG. Mureş municipalities**
- ◆ **Highways and roads – changes in design standards. Must include ducts.**
- ◆ **Less bureaucracy, less paperwork.**
- ◆ **The new Electronic Communication Code.**



## 02 IP Peerings

### Yet another bottleneck?

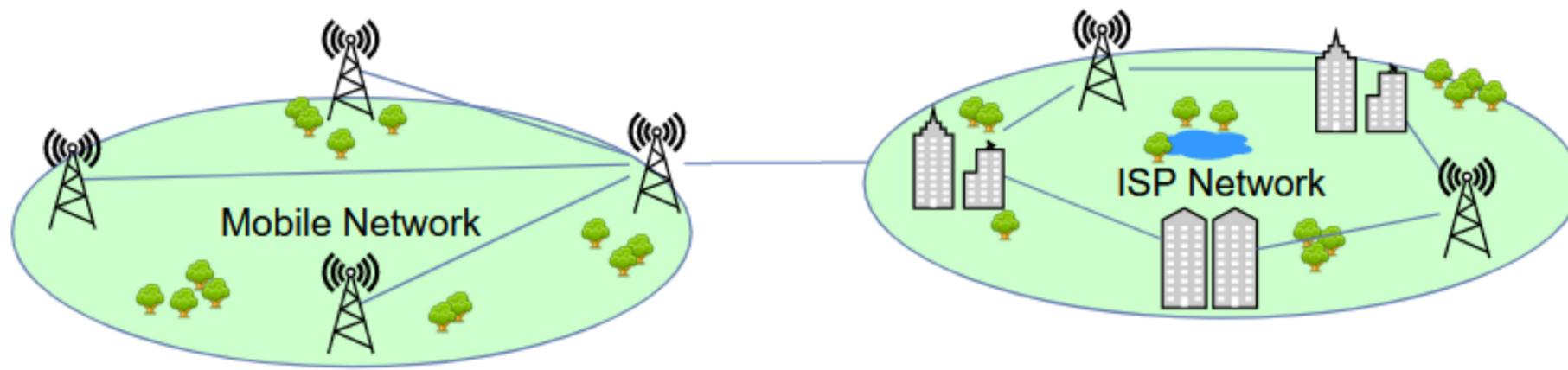
Normally, networks should be locally interconnected.

However, certain operators require exaggerated, unbalanced conditions to interconnect.

Peerings are not properly dimensioned, nor properly located.

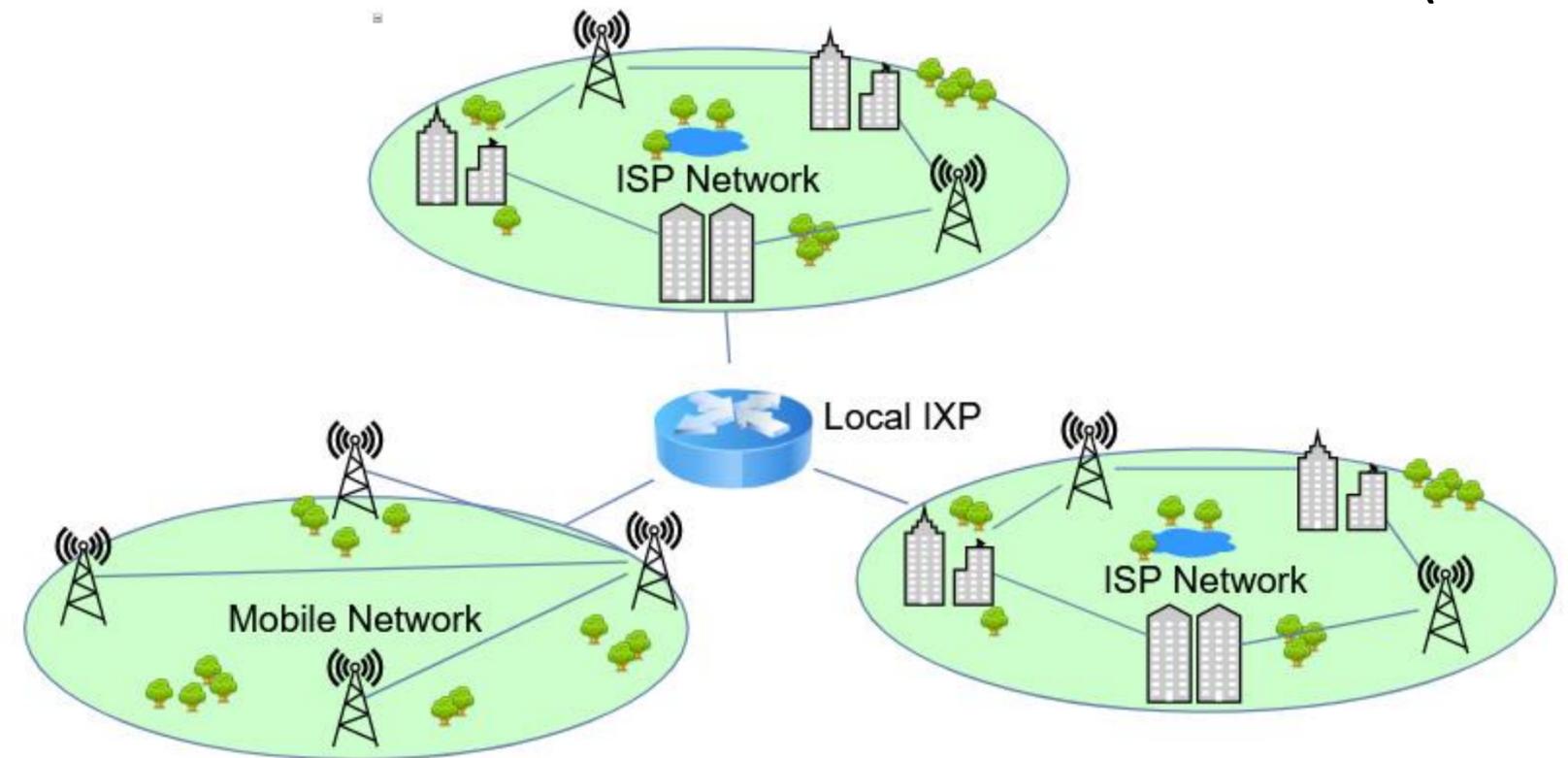
Interconnection through transit @ long distance: latency, security risks, extra costs.

# Normally Interconnected Networks



Direct Interconnection ...

... or via a local IPX (RoNIX)

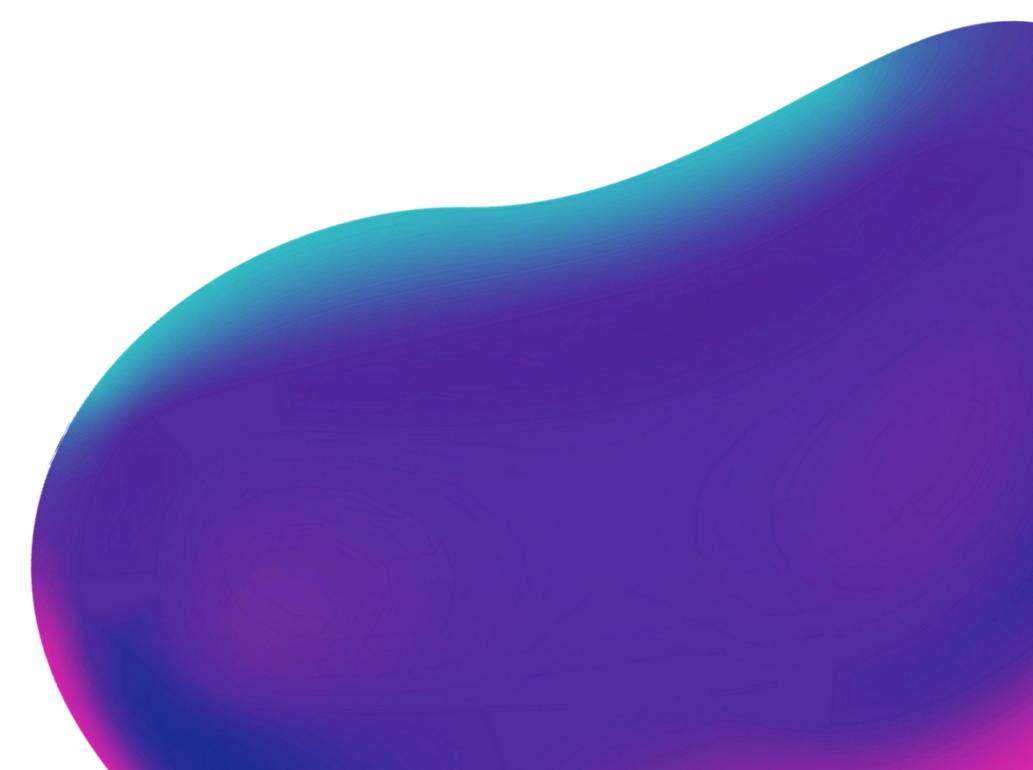
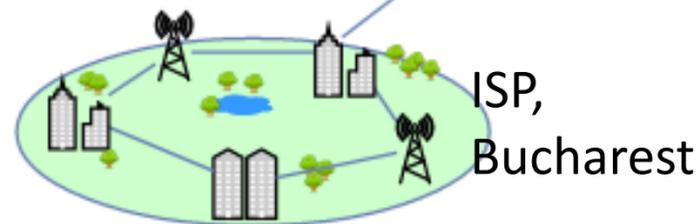
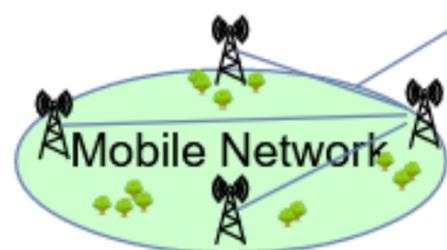


Interconnection at long distance.

**Problems:**

Transit through other networks (not shown) increase latency, security risks, costs; lower quality.

All comm. services moved over IP  
Time (latency) is of essence





All communication services moved over IP:

- ☑ Voice (VoIP, VoLTE);
- ☑ Remote Conferencing
- ☑ Remote Presence
- ☑ Telemedicine
- ☑ IoT – sensor based automated processes
- ☑ Etc.

IP transit is no longer a substitute for local peering.

NRAs should step in!



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# Spectrum Issues

Balanced approach needed. Not exaggerated tariffs.



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**Thank You!**