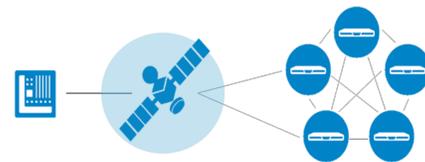


# Evolution® Multi-Carrier Mesh Solution

Mesh topology VSAT networks are ideal for a group of terminals supporting low latency, site-to-site applications. In remote locations where installing terrestrial infrastructure is cost prohibitive, satellite mesh proves to be a reliable and viable solution. This is ideal for many real-time or critical communication applications in markets including defence & government, oil & gas, telco extension and utilities.



## Evolution® Multi-Carrier Mesh Solution

The Evolution® Multi-Carrier Mesh solution is iDirect's high performance product with an industry-leading aggregate receive throughput of up to 29 Msps. Based on a new appliance called the Mesh Receiver and the popular X7 satellite router, the DVB-S2 mesh offering is implemented as a mesh overlay superimposed on an Evolution star topology network. The mesh overlay provides direct connectivity between remote terminals with a single uplink over the satellite, thereby halving the latency and reducing satellite bandwidth requirements.

The Mesh Receiver is able to receive up to 16 TDMA carriers simultaneously enabling the use of smaller carriers while permitting much higher network-wide throughput. This results in significant RF equipment and installation cost savings through the use of smaller BUCs and antenna. The Mesh Receiver adds mesh capabilities to an X7 and allows mesh and star traffic to share the same inbound bandwidth group to maximize efficiency gain from bandwidth sharing. Individual carriers can reach rates up to 7.5 Msps at each remote site. Non-mesh X7 remotes can transmit to any mesh terminal in one hop through the Mesh Transmit Only mode. This provides additional flexibility to realize savings in latency and bandwidth without a full deployment of mesh hardware.

*\* Future software release*

Key highlights of the iDirect Evolution® Multi-Carrier Mesh solution include:

- ◆ Feature rich Evolution platform with latest waveform efficiencies
- ◆ 2 rack unit (RU) terminal solution comprised of a Mesh Receiver and the popular X7 remote
- ◆ Receives up to 16 TDMA channels simultaneously
- ◆ Up to 7.5 Msps per channel and 29 Msps aggregate
- ◆ Frequency hopping on mesh transmit
- ◆ Bandwidth sharing between star and mesh remote sites
- ◆ TCP acceleration over mesh\*
- ◆ Ideal for star-in-star topology
- ◆ Network scalability up to 5,000 for remote sites in star/mesh combination per DVB-S2 outbound



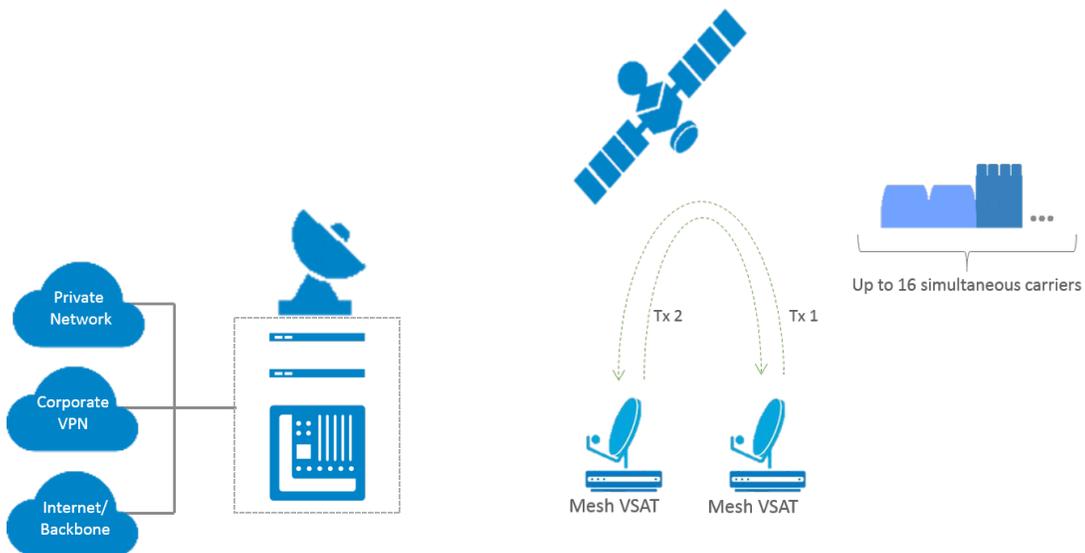
*The Mesh Receiver allows the X7 remote to participate as a node in a mesh topology network and supports simultaneous multi-carrier reception allowing the device to easily function as a regional gateway.*

## Proven Evolution Platform

iDirect has over 10 years of experience providing satellite mesh solutions and now it is available on the award-winning Evolution platform. Engineered to deliver the highest quality connectivity wherever and whenever it's needed, Evolution is a platform that is open, efficient and easily scalable from small networks with just a few terminals to networks with up to 5,000 terminals. Evolution also has the best-in-class Group Quality of Service, a full featured iVantage network management system, and the latest waveform advancements such as higher MODCODs, reduced roll-off, and pre-distortion.

Evolution Multi-Carrier Mesh is a truly flexible solution that supports a broad array of mesh implementations depending on business requirements. Whether it's a dedicated mesh network, star and mesh bandwidth sharing, or star-in-star topology, iDirect provides the tools to manage a mesh network optimized for specific customer needs. The Mesh Transmit Only mode for non-mesh X7 remotes is another cost-effective way to realize mesh benefits. Additionally, the Mesh Receiver allows for much higher receive and network capacity without using massive carriers by receiving up to 16 TDMA carriers simultaneously. This reduces both the size and cost of the terminal BUC and antenna to further lower the overall total cost of ownership (TOC).

Whether the goal is to add a small number of mesh sites to an existing Evolution network or to build a new mesh network from the ground up, network operators can count on the Evolution platform to deliver the robustness and up-to-date features critical to their growing business.



iDirect's highly flexible Multi-Carrier Mesh solution is ideal for any type of mesh implementation while leveraging all of the performance and efficiencies of the Evolution platform.