



Challenging perceptions

By Richard Swardh, Senior Vice President, MNO for Comtech EF Data

Over the following months, I will be sharing a series of pieces that will address many of the myths that I find exist as satellite service providers look to best team telecom networks with satellite networking options to provide cost effective solutions with carrier grade service levels. First, I look at a large container shipping company that was searching for the best solution to deliver a business-critical communication service globally to 400 vessels that were to roam between 20+ satellite beams across the world.

Not surprisingly, the answer that jumps immediately to most people's minds when they hear these requirements is "must be a TDMA solution." However, after diving into the requirements of the applications that were to be supported, evaluating the cost effectiveness of the solution in terms of both CAPEX and OPEX, along with the flexibility and headroom for growth of the network, the solution that was best suited to this network turned out to be a dynamically allocated SCPC solution.

This example brings to the forefront a number of myths that we as an industry need to re-address as we move into a world proliferated with high throughput satellite (HTS) offerings, including:

- **Myth 1:** TDMA is the only technology that supports large networks;
- **Myth 2:** TDMA is the only technology for roaming networks
- **Myth 3:** SCPC is only applicable for high bandwidth solutions; and

- **Myth 4:** SCPC does not offer dynamic bandwidth sharing.

While in many cases, these assumptions will be true, we owe it to ourselves as an industry to dig deeper and find that best solution that fits a given need. Often, the answers to whether these statements are true or not are not easily answered. While it unfortunately takes an amount of analysis and effort to determine the answers to these questions, it is imperative that a service provider do this homework before making a network decision that they will have to live with for a long time.

First and foremost, what is key to understand in any network solution selection is whether the underlying transport technology has the ability to support the application mix of the end user. If the application calls for low latency and jitter and has a high degree of compressible data, there is a good chance that a high horsepower SCPC solution is the best fit.

If the business case calls for bandwidth to be shared to achieve acceptable service price points, this robust data handling and on-board processing can be teamed with intelligent dynamic SCPC (dSCPC) to automatically set up carriers on demand and maximize overall network efficiency.

In addition, if roaming between beams or satellites is needed to support vessels traversing the globe, field-proven intelligent roaming capabilities can be added. To maximize network efficiencies even further, dSCPC

provides the means to individually optimize links to each vessel to achieve the highest possible throughput as link budget conditions change from beam center to beam edge and vessels move into and out of adverse weather conditions. Lastly, and very importantly as HTS offerings are launched and become operational, a network solution that is rolled out today must have headroom for growth to allow service providers to unleash the potential of the new spacecraft designs and not be throttled. The results of the dynamic SCPC solution? This operational network is currently the world's largest maritime GSM/VSAT network, providing the underlying application support that is required while having the horsepower to easily incorporate additional services beyond the initial requirement. 🌟

For more details on this network, please refer to our case study:
<https://goo.gl/nQ1AFj>



Richard Swardh is Senior Vice President, Mobile Network Operators for Comtech EF Data. In this role, he leads the market development and direction for the 2G/3G/LTE mobile backhaul market, directing long-term strategic initiatives and defining solution suites and feature sets. A mobile network backhaul veteran, Swardh's background includes strategic and operational positions at Ericsson with business development, partnership management and strategy execution responsibilities. He holds both a Bachelor of Science degree in Mechanical Engineering and a Bachelor of Business degree in Administration and Logistics.