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Technology Update

VSAT - a layman's guide to this two-way high speed data link via satellite.

WHAT IS VSAT?

VSAT (literally "Very Small Aperture Terminal") is what every yacht wants! It was first introduced two years ago and has become the "must have" technology of the year. VSAT is the equipment required to provide a two-way high speed data link to the yacht via satellite. Simply put, it provides the yacht with a wireless ADSL line that can be used anywhere at sea for a fixed monthly charge, as long as you are under the umbrella of the satellite.

WHAT CAN YOU DO WITH A VSAT?

High speed Internet.

As the system provides the yacht with a two-way high speed data connection the most obvious use is for Internet and email access in the same way that we all use our ADSL line at home and in the office. The VSAT connection is always connected and requires no dial-up, which makes it very easy to use and accessible.

Make telephone calls

Some of us are using our PCs, at home and in the office, with Internet connections to make free telephone calls to friends or colleagues using software such as Skype or the recently announced Google Direct. We can also make very cheap telephone calls from a PC that "break out" of the Internet and connect to the conventional telephone network in order to ring a land line or mobile. If the break out is in the country that you are calling, then you only pay for a local call in that country even if you are making the call via the Internet from another country. These facilities are often referred to as VoIP, or Voice over Internet Protocol.

Making a conventional telephone call on a yacht is often much more complicated than making a call at home or in the office, where we have an abundance of cabled phones and strong GSM signals. If you are making a call from a yacht which is out of range of a land-based GSM signal, the call has to go via satellite, which can be very expensive. With VSAT however, you can make a telephone call over the Internet via satellite for free and have it "break out" onto the telephone network in a specific country, such as the home base of the owner. This then means that all calls made from the yacht to the owner's office, home and friends are only charged as local calls. This would also mean that the yacht will have a telephone number of the country of the owner, wherever it is in the world, thus making most calls to the yacht local calls.

Therefore the yacht can use the VSAT to replace the conventional, expensive, satellite telephone charges by using the service that is being paid for anyway. Of course there is an additional charge for the land based portion. An added benefit is also the reduction in the cost for most regular callers to the yacht.

Use the VSAT as a gateway for GSM calls

One of the most interesting uses of a VSAT high speed satellite data link is to provide a bridge between the yacht and the land based GSM telephone network. This means that anyone on board the yacht can make and receive calls on their own mobile phones when the yacht is anywhere in the world. This is a brilliant system that allows any guest to come on board and continue to use their own mobile phone. Again, as the VSAT service is paid for as a fixed monthly fee, the usage costs do not increase by using the VSAT for GSM calls. Any charges for the GSM calls are billed to the owner of the mobile phone. On a charter yacht, this means that call billing is a thing of the past.

Print your daily newspaper

When you have a high speed satellite data link it makes it possible to download huge data files, such as full blown, actual, newspapers. This is probably one of the most visual and tactile applications of a VSAT. The newspapers supplied, downloaded and printed from NewspaperDirect are the real McCoy printed on A3 newsprint stock. Over 400 worldwide titles are available to print overnight to be ready for breakfast before that paper even hits the news-stand. You are already paying the monthly charge, so why not use it to download huge chunks of data?

WHAT WOULD THE ULTIMATE VSAT SOLUTION BE?

There have been many flavours of VSAT launched over the last two years and, as a result of the feedback from our eager client base, we have devised the ultimate VSAT solution. So, if any of the VSAT purveyors can match this, then they're onto a winner. The following list is not in any order of priority or preference.

A small dome

Even the new mini VSAT launched two years ago by Sea Tel with 1m plus dome is too big for the mass market out there who want it. The yacht has to be over 35m to suit a dome of this size. If a small dome was an option many more would be sold.

Inexpensive purchase cost

Initial purchase price is always key. No one wants to pay too much. If the price was lower, more would be sold. There are many well known economic theories on product pricing. However there are usually very important differences in products priced at vastly varying prices. Read the small print.

Cheap running costs

Following the purchase price, the running cost has to be considered and, just like trying to compare one mobile phone contract against another, this is a minefield of confusion. You need a contract consultant, who spends all their time studying different contracts, to advise you. The cheapest contract is not necessarily the one for you. There are numerous factors that vary such as data speed, contention ratio (how many other yachts you are sharing the supplied data with - see below), how many VoIP telephone lines are included, equipment rental, etc. What is required is a guaranteed fast data service with 1:1 contention ratio, 4 VoIP lines and protected bandwidth for selected applications.

Cover all the main cruising grounds

Ideally the service needs to be worldwide, but it should at least cover all the main cruising grounds of Europe, the Caribbean and the Gulf. Additional zones could be USA coasts, East Australia, and the Pacific to Galapagos.

No need to reconfigure the VSAT when moving to a new cruising ground

Most sat TV and new VSAT systems require LNB and IP address changes when moving from one cruising ground to another, for example, from the Med to the Caribbean. One is a hardware modification and the other a software change. Most clients don't want this, as they want to be able to move from A to B to D to A without having to reconfigure.

No need to pay full monthly cost when the yacht is not in use

Most yachts are not in service 12 months of the year and are either laid up, in the yard or resting for parts of the year. Most VSAT contracts are for all 12 months of the year. Some clients would prefer to pay only when the yacht is in commission.

Guaranteed data speeds for specific applications

Imagine the data speed is defined as water flow through a pipe. The larger the pipe, the more water flows through it. Certain applications are unusable if the flow is not large enough, for example a telephone line. If the flow is restricted and is slower than required speech will be cut, echo and be unclear. If, for example, you were downloading a newspaper and someone stole some of your flow, it would just take longer. Thus we need to protect and guarantee flow for certain applications.

No need to share the performance with other users

On the same subject of water flow through a pipe, we do not want to share the pipe with anyone else. If we are sharing it with one other yacht we will only get half the water or data speed. This is called contention ratio. 1:1 is good, but if the contention ratio is 10:1, this means you are sharing your pipe with ten other yachts, thus you could experience a severe reduction in performance. 10:1 is not good.

We have VSAT solutions that cover almost all these desirable features, so talk to us.

For further information, please go to our website www.e3s.com for fact sheets, brochures and links, or come and see us on Stand QS36 at the Monaco Show from 21st to 24th September.

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