I. What is BYOD?

II. What’s the Big Advantage?

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Part I: What Is BYOD?

BYOD sounds like something you might see written on an invitation for a boozy frat party in the 80s, but the BYOD revolution in satellite is as future-driven as it gets.

“Bring Your Own Device” means you connect to satellite internet or phone with the devices you already own: iPhones, iPads, Android phones and tablets, computers, laptops. The other term you will hear is “Satellite WiFi Terminal” - a satellite phone or data terminal that creates a WiFi hotspot so you can connect with your own device and use apps.

This is an immense benefit for work teams, crews, family cruisers, and other multi-person uses, and it’s great for individuals too: now you can easily connect from the comfort of the devices you own and use everyday. There’s no complicated finagling with equipment to make a basic phone call, no slowly typing words into an antiquated keypad. It’s your device, your contacts, your way.
For individuals, BYOD devices are plug-and-play, easy to use, and work with what you already have: your phones, tablets and computers. Simply connect your device to the BYOD terminal via WiFi, just like at an Internet Cafe, then use specialized apps to access voice and data services.

For multi-user environments, BYOD devices are a huge advantage over single satellite phones because many people can connect to a single BYOD terminal with their own devices (up to 8 for some models), they don’t need to be each equipped with a satellite phone.
Multi-User Pros

Having multiple users access a BYOD terminal at once can be great:

- With many of the BYOD devices you can run a PBX through the unit allowing users to speak to each other with assigned phone extensions - just like in an office.

- Multiple people can access email and web-browsing (assuming the unit has enough bandwidth) at once.

- No need to purchase individual satellite phones for each user.

Data speeds vary dramatically between these devices. This makes a huge difference in the services you can use - from email and weather files only all the way up to reasonable web-browsing speeds. No matter what, when compared to cellular data services, satellite data is slower, more expensive, or both. But don’t worry: with the right software and hardware, you can do what you need to do over satellite.

Multi-User Cons

- On any of the BYOD devices, only one satellite voice or data connection can be made at a time.

- Bandwidth speeds for most of the devices will not permit any more than 1 person at a time accessing the web. Many people can do email, but web-browsing is too bandwidth-heavy to permit more than one at a time.

- You are limited to using your cellphone for satellite phone calls within the WiFi range of the device. IE: if a BYOD unit is located on a truck, you can’t stray too far away from the truck and still be able to make satellite calls.
How Does BYOD Work?

- BYOD device connects to satellites
- Users connect to BYOD device via WiFi
- Users can make calls, do email, post to social media sites, and web-browse (depending on unit)
- Depending on model, up to 8 users can connect at one time
1. RedPort Optimizer

The Optimizer was the first independent BYOD device to enter the market (way back in 2012!), and remains an excellent choice for people who already have satellite equipment and don’t want to buy new satellite equipment, or people who have large broadband installations and need some compression and access control.

Optimizer is a small WiFi hotspot that allows you to WiFi connect to your satellite phone or terminal with smartphones, tablets, laptops, or computers. Optimizer creates an impenetrable firewall to block unwanted data usage and create an optimized environment for data transfer. Optimizer works hand-in-hand with XGate satellite email service and XWeb compression web-browsing to speed up your satellite connection and save you money on airtime at the same time.

Optimizer works with any IP-based satellite equipment. (That’s all modern satellite equipment). XGate runs on Apple iOS and Mac,
Who Is Optimizer Good For?

If you already have a satellite phone and it’s in good working order, you may want to simply purchase Optimizer and an XGate satellite email subscription for the length of time you’ll be out. It’ll cost far less than purchasing a new unit and hey, if it’s not broke, don’t fix it, right?

Optimizer is also the only BYOD option for high-speed satellite broadband. All you need is an Optimizer and something like a VSAT, Iridium Pilot, or Fleetbroadband terminals to get email, web-browsing, and the potential for VoIP over satellite.

Optimizer Pros

- Optimizer works with practically any satellite system on the planet.
- No need to buy another satellite phone if you already own one.
- Can still use your satellite phone for voice as a standalone handset.
- Less expensive to purchase Optimizer than other BYOD devices.

Optimizer Cons

- Not self-contained - requires wires and sometimes extra cables for serial-based phones.

For increased multi-user access control to manage your satellite internet access, Optimizer Crew is the perfect choice. Administrators can issue PIN-codes to users to limit their Internet usage by either time or MB and run complex compression techniques like quality of service, URL filtering, and content-filtering.
2. RedPort Aurora

Building on the popularity of the RedPort Optimizer, the Aurora was introduced in 2013 as the very first entirely self-contained BYOD device. The Aurora is a satellite WiFi hotspot and phone unit that allows you to make satellite phone calls using your smartphone. The Aurora is built with an Iridium modem on the inside that provides data speeds of 2.4 kbps (the same as Iridium handheld satellite phones and the Iridium GO!). At this speed, compressed email works great and weather GRIB files are easily downloadable. Web browsing is limited to pages that don’t require a lot of data, like highly optimized mobile sites so don’t expect to download music or cat pictures. 2.4 kbps is 25 times slower than dial-up (or, for a real throw-back, is about the same data rate as modems had in 1989).

Aurora works with XGate satellite email service to provide compression email and filtering for up to 95% data airtime savings. Plus, it has some special tricks up its sleeve that let you download weather files, update Facebook and Twitter, even posting pictures and blog posts.
Aurora Pros

- All in one unit provides ease of installation with very low power draw.
- Once it’s installed you don’t have to worry about it again.
- Extremely marine-hardy.

Aurora Cons

- No SMS at this time.
- Can’t throw it in a ditch bag.

Who Is Aurora Good For?

Let’s say you need a satellite phone to circumnavigate globe on a sailboat. In this case, you’d want something that is marine-grade, hardy, and because it’s a permanent installation, won’t fall into the ocean while you’re in some remote corner of the planet. The RedPort Aurora is the perfect choice - it allows you to do voice, email, weather files, and other kinds of data all over WiFi. You can use mobile devices, laptops, and computers and failover to marina WiFi to save yourself on airtime dollars.

Aurora is also great for land-based usage like on utility trucks, for buildings (like hurricane preparedness), and for remote cabins and hunting lodges.
BYOD App Breakdown

Both the Optimizer and Aurora work with XGate satellite email service - the leading independent satellite email provider on the planet. XGate provides email compression up to 95% and comes with a variety of options, both paid and unpaid, to customize your satellite data connection to suit your exact needs. Examples include XWeb compressed web-browsing, SailBlogs blogging platform, Email Fetching, File Transfer, and more.

XGate Phone is a free app that gives you the ability to make satellite phone calls over your smartphone, using your own contacts from within your smartphone.

XGate is a subscription service with subscription lengths from as little as 7 days to up to 2 years. It works with any IP-based satellite phone (so most of them), almost every operating system, and, most importantly, allows you to failover to cell networks, free WiFi, or even home internet if you have it available.

By not locking you into only using satellite airtime to do data and web-browsing, XGate can save serious money in the long-run.
3. Thuraya SatSleeve

The Thuraya SatSleeve came out in 2013 to much acclaim and success in the Eastern hemisphere. This is because Thuraya is a regional satellite carrier with coverage in the middle-East, parts of Europe, and some of south-east Asia, but with no presence in North or South America.

The nice thing about Thuraya phones is that they run at 60 kbps (much faster than any other narrowband satellite device) and some (the XT Dual) come with the ability to automatically switch between satellite and GSM coverage - great if you’re in an area with spotty cell coverage.

The downside, of course, is that their phones simply won’t work outside of their coverage zone.

Thuraya’s addition to the BYOD revolution is a very unique product called the SatSleeve. This is literally a sleeve that your iPhone or Android phone slips into which turns your smartphone into a satellite phone. It’s nifty and it’s slick.
Currently, Thuraya sells SatSleeves that fit iPhone 4, 4S, 5, Samsung Galaxy S3, and S4.

The other thing to keep in mind with the SatSleeve is the possibility of bill shock. If you open up Skype and start trying to use it...well, it probably won’t work, but you’ll run up a huge airtime bill just trying. The data speeds of Thuraya are in that zone where large data connections are possible, and therefore dangerous for your airtime bill. You can shut down most of the data demands from your phone and use XGate to save on airtime and speed up your connection - with some work, you can avoid big airtime bills and still get a great user experience from your phone over satellite.
4. Globalstar Sat-Fi

The Globalstar Sat-Fi is an interesting little BYOD device - it’s a small box designed to be installed in your vessel or vehicle that allows you to make satellite phone calls with your smartphone and do email and web-browsing by WiFi connecting your mobile devices or computers.

The nice thing about Globalstar equipment is that their data speeds are 9.6kbps. While this is still fairly slow (about 5 times slower than dial-up), it’s fast enough to allow for limited compression web-browsing. You can also connect up to 8 people at a time to the terminal, although because of the way Globalstar handles outgoing calls and data connections, only one person at a time can make a call or make the data connection to send batch emails.

Globalstar is also well regarded for its crystal-clear voice quality.
The downside is that Globalstar, while they have almost world-wide satellite coverage, operates in many ways like a regional carrier. I.e: coverage in the US, Canada, Europe, and Australia is great, but once you get outside that zone you’ll probably be charged with roaming and long-distance fees and possibly run into large gaps in coverage.

The Sat-Fi comes with one of three possible external antennas, which makes the unit sort of half-portable, half-fixed. You can throw a magnetic-mount antenna on the top of your car and travel around with the Sat-Fi, but you can’t do the same thing on a boat, where you will be required to install a marine-grade permanent antenna. (The nice thing, though, is that all Globalstar antennas are active, rather than passive - this is definitely the kind of antenna you want to have).

### Active Antennas vs Passive Antennas

Passive antennas capture the signal and, once captured, the signal travels passively down the cable line. While this can boost reception, especially into indoors or belowdecks area, the process is subject to signal loss as it travels down the cable. Active antennas capture the signal and then push it down the cable, resulting in very little signal loss by the time it arrives to your ear (or computer).

### Sat-Fi Pros

- Excellent voice quality.
- Great for vehicular and boat installations.
- Inexpensive airtime plans.
- Data speeds allow for

### Sat-Fi Cons

- Check the Globalstar coverage map to see if you’ll be covered.
- Not a portable product (i.e: you can’t throw in a ditch bag).
BYOD App Breakdown

The Globalstar Sat-Fi has two great little apps for it, both free. The Sat-Fi Voice app allows you to make satellite phone calls over the Globalstar network using your smartphone. The Sat-Fi app allows you to do compression email and web-browsing over your data connection while blocking all other apps from gobbling up airtime and bandwidth.

Sat-Fi also has desktop apps to connect your laptop or computer to the Sat-Fi via WiFi, providing compression as well as airtime protection by blocking unwanted access to your satellite

Sat-Fi apps, whether for smartphones, tablets, or computers, allow you to use cell networks and WiFi when available. This can be a serious money saver, since you can switch to less expensive airtime options when available. Even if you don’t have free WiFi, Globalstar airtime remains one of the least expensive in the market.

Who Is The Sat-Fi Good For?

Emergency Relief Team in United States
Let’s say you have a team of 6 people working in emergency response situations like firefighting or disaster-relief efforts. You want each team member to be able to make an outgoing call and be able to speak with one-another, but you don’t have it in your budget to equip each one of them with a satellite phone.

The Globalstar Sat-Fi is a great solution for this situation. As long as you’re in the Globalstar coverage map (and if you’re in the US anywhere and most of Canada, you definitely will be) you’ll have crystal-clear voice quality and affordable airtime.

Recreational RV Traveling in Remote Areas
You can pop a Sat-Fi antenna on the top of your RV and get satellite coverage in most of the remote areas of US and Canada.
5. Iridium GO!

The Iridium GO! is probably the most highly anticipated BYOD device to come to market. Iridium announced this new product early in 2014 and excitement for it has been high.

The Iridium GO! is the smallest satellite WiFi terminal with a rugged exterior and very nice design. While it probably wouldn’t fit in your pocket, it would certainly fit in a purse or briefcase, making it the smallest portable self-contained BYOD device.

The Iridium GO! allows you to make voice calls over your smartphone through the Iridium network simply by WiFi connecting to the device and using a free app. Iridium has also provided users with an email app for doing compression email, and an app for compression web-browsing (although at the speeds the Iridium GO! is capable of, this generally isn’t recommended unless you’re visiting highly compressed mobile sites).
Iridium has announced that it plans on creating a marketplace for satellite-optimized apps beyond the basic voice, email, and web-browsing apps available at this time.

The Iridium GO! was designed to be portable, although mounting it is possible on a standard camera mount. Iridium antennas also work with the Iridium GO!, but no antenna comes with the unit.

The downside to the GO! for a fixed installation is that it's a bit of a hassle to get it connected when compared with a self-contained unit like the RedPort Aurora. And, like any Iridium-based device, you’re definitely going to want an external antenna, especially if you’re on a boat.

Iridium, though, is a truly global satellite carrier and offers pole-to-pole coverage which means you can take and use the GO! everywhere from the North Pole to Patagonia without running into gaps in coverage.

BYOD App Breakdown

The Iridium GO! currently has two native apps available - Iridium Voice app for making satellite phone calls over your smartphone, sending SMS and SOS. The Iridium Mail & Web app is for doing compression email, updating FaceBook and Twitter, checking weather and doing limited web-browsing on some mobile sites.

Both of these apps are free to download in both the Apple App Store and the Google Play Store (for Android devices).

While the Iridium Mail & Web app is free, take care with it - you can only use your Iridium airtime to do any data.

XGate satellite email also works with the Iridium GO! and gives you the add-on capability to connect your laptop or computer to the Iridium GO! since Iridium's apps work with smartphones and tablets only. With XGate satellite email, you can also use landline WiFi (when available) since Iridium Mail & Web is only supported for use on Iridium's network.

This feature of XGate can be a major airtime saver!
Who Is Iridium GO! Good For?

Business Team Outside of the US
For voice-only connections, the Iridium GO! would work well to provide a single WiFi point to make outgoing satellite phone calls with.

Recreational Cruiser
When combined with an external antenna, the Iridium GO! makes a great little unit for recreational cruisers.

Anyone Over 70° Latitude
Only the Iridium GO! and the RedPort Aurora will work past 70° latitude. So if you’re going far North or far South…stick with Iridium.

Iridium GO! Pros

• Highly portable and rugged means that it works great for extreme environments.
• Battery-powered.
• Can be thrown in a ditch-bag, but make sure to bring your (fully-charged) smartphone as well, otherwise you won’t be able to make calls.

Iridium GO! Cons

• A bit complicated to mount and equip with an external antenna.
• Free Iridium apps only work with smartphones and tablets. (If you want to connect your laptop or computer to an Iridium GO! you will need XGate satellite email service).

Need Help?
Contact us. We’re standing by to assist.
Inmarsat IsatHub iSavi

The Inmarsat IsatHub is different from the other self-contained BYOD devices in that it is the only broadband unit of the bunch.

Let’s start with why it’s great: it runs at 384kbps. That’s 160 times faster than the Iridium-based BYOD devices, and 40 times faster than Globalstar and Thuraya. (For comparison, it’s about the same speed as 3G cellphone connections).

Because of these speeds, up to 4 people can comfortably connect at once to use data. Only one person can call out/in at a time because the calls go over Inmarsat’s circuit switch network, but the IsatHub has a built in SIP server configured to work with a voice app to allow you to make satellite phone calls with your cellphone.

This kind of fast connection is great because it means that you can web-browse, send and receive big files, and do a lot of what you normally do over regular internet - but do it practically anywhere on the planet.
The bad thing about this? You can do practically anything you normally do over the regular Internet. Except you’re using satellite airtime, which is much more expensive than anything on land. While the IsatHub has some functions built in to avoid bill shock, the risk of having exorbitantly huge airtime bills is extremely high.

The IsatHub has an app that serves as a counter for how much data each user is running up as they’re connected to the IsatHub network. There is also no way of selling airtime to individual users of IsatHub - only one SIM card per unit means only one bill per unit - so it’s up to the multiple users of IsatHub to divvy up the total themselves.

So in short: watch out.

The IsatHub, though, is a great little unit that will work well on land for users with their own smartphones, tablets, and computers, and provide fairly fast internet connection over the Inmarsat coverage map, which covers most of the planet.

For users who are aware of the risk of extremely high airtime bills, the IsatHub can be a great tool in their arsenal for connectivity outside of cellular coverage.
BYOD App Breakdown

The IsatHub has two apps available for it. The IsatHub Voice app is for making satellite phone calls over your smartphone, and the IsatHub control app is an app for keeping an eye on your data usage as well as configuring your WiFi and satellite connection. The IsatHub does have some firewalling in place, but unwanted data usage is a very real risk with this device, even using the control app.

Who Is The IsatHub Good For?

Anyone with a need for robust internet activities in land-based areas without internet or cell coverage. The Inmarsat IsatHub will be a good fit for business people, casual travelers, and more (although make sure you put good controls in place to protect your airtime).

IsatHub Pros

• Only self-contained BYOD broadband unit on the market.
• Small and easy to carry around.
• Large coverage area.

IsatHub Cons

• Not good for marine use
• Very real risk of high airtime bills.
Part IV: Comparison Charts
# Hardware

Equipment prices are current as of writing this. We try to keep the prices as up-to-date as possible, but always double-check on the retail site to see if there has been a recent price change.

<table>
<thead>
<tr>
<th></th>
<th>Optimizer</th>
<th>Aurora</th>
<th>SatSleeve</th>
<th>Sat-Fi</th>
<th>GO!</th>
<th>IsatHub</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price</strong></td>
<td>$149</td>
<td>$1,599</td>
<td>$799</td>
<td>$999</td>
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<td>$1,400</td>
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<tr>
<td><strong>External Antenna Included?</strong></td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>Sold Separately</td>
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<td><strong>Antenna Cost</strong></td>
<td>Depends on Satellite Equipment</td>
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<td>N/A</td>
<td>Included</td>
<td>$250</td>
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<td><strong>Data Speed</strong></td>
<td>Depends on Satellite Equipment</td>
<td>2.4kbps</td>
<td>60kbps</td>
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<td>2.4kbps</td>
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<td><strong>Portable</strong></td>
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<td>No</td>
<td>Yes</td>
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<td><strong>Fixed</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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Services & Apps

Services are up to date as of writing this, but they can change at any time. Please check the retail site for the most up-to-date information regarding services and compatibility.

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<th>IsatHub</th>
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<tr>
<td>Free Voice App?</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Free Email App?</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
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<tr>
<td>iOS + Android</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Computers and Laptops</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes if using XGate, and select apps</td>
<td>Yes</td>
</tr>
<tr>
<td>Can Use Relevant Apps with Cheaper WiFi or other Networks</td>
<td>Yes</td>
<td>Yes</td>
<td>N/A (No associated apps)</td>
<td>Yes</td>
<td>Yes if using XGate, no with GO! apps</td>
<td>TBD</td>
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</tbody>
</table>
### Airtime

Airtime prices are up to date as of writing this, but they can change at any time. Please [check the retail site](#) for the most up-to-date information regarding airtime prices and compatibility.

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<th>IsatHub</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Postpaid</strong></td>
<td>Depends on Satellite Phone</td>
<td>$50.50 per Month</td>
<td>From $45 per Month</td>
<td>From $39.99 per Month</td>
<td>From $50.50 per Month</td>
<td>From $29.99 per Month</td>
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<td><strong>Prepaid Voice</strong></td>
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<td>From $1.44 per Minute</td>
<td>From $1.10 per Minute</td>
<td>N/A</td>
<td>From $1.44 per Minute</td>
<td>N/A</td>
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<td><strong>Prepaid Data Per Minute or MB</strong></td>
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<td>From $1.10 per Minute</td>
<td>N/A</td>
<td>From $0.72 per Minute</td>
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<td><strong>Coverage</strong></td>
<td>Depends on Satellite Carrier</td>
<td>Worldwide</td>
<td>Middle East, Europe, North Africa, and Southeast Asia</td>
<td>Regional with strong coverage in US, CA, AU, and Europe</td>
<td>Worldwide</td>
<td>Coverage up to 70° latitude</td>
</tr>
<tr>
<td><strong>Unlimited Plan Available?</strong></td>
<td>Yes when used with Globalstar</td>
<td>No</td>
<td>No</td>
<td>Yes for both voice and data. $149.99 per month</td>
<td>Yes for data and SMS (not voice). $135 per month</td>
<td>No</td>
</tr>
</tbody>
</table>
But wait! What can you do next?

**I’m Ready to Buy!**

Feel free to visit our online store to purchase the different devices.

- RedPort Optimizer
- RedPort Aurora
- Iridium GO!
- Globalstar Sat-Fi
- Inmarsat IsatHub iSavi

*Note: We do not sell Thuraya phones or airtime.*

**I’d Like to Learn More**

Want to learn more about different satellite options? Not sure if BYOD is right for you? Here are some other useful information sources:

- Affordable Satellite Broadband
- Blue Water Cruising Guide to Satellite Communications
- GMN Blog
- GMN Videos

**I’d Like Some Help**

Need some individual guidance? Get in contact with us and we can help.

- Free Satellite Consultation
- Contact Us By Email
- Contact Us By Phone:
  - +1.877.379.8723 (US)
  - +1.865.379.8723 (Intl)