

# BusinessCom | Internet via Satellite

PROFESSIONAL BROADBAND SOLUTIONS WORLDWIDE



**PROPOSAL** CONFIDENTIAL



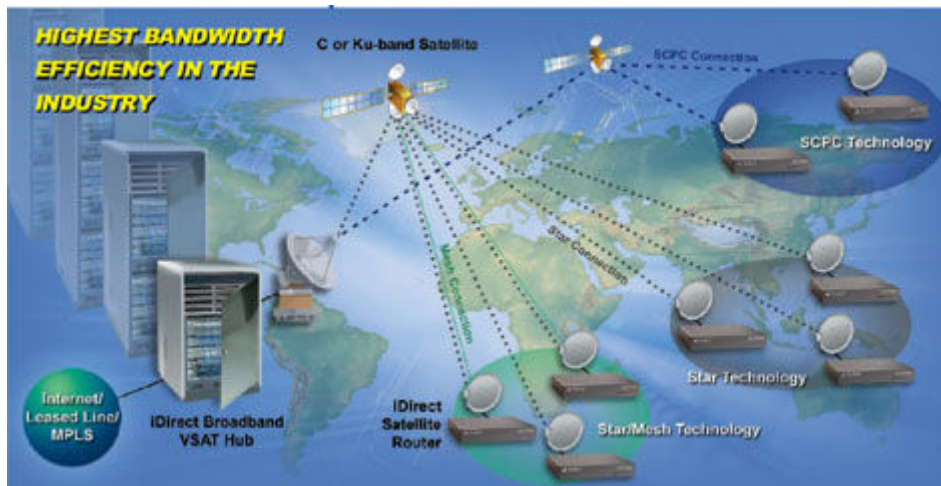
**Responsible:** Maxim Usatov  
BusinessCom Chief Technical Officer  
Rev: June 12, 2007

## How does it work?

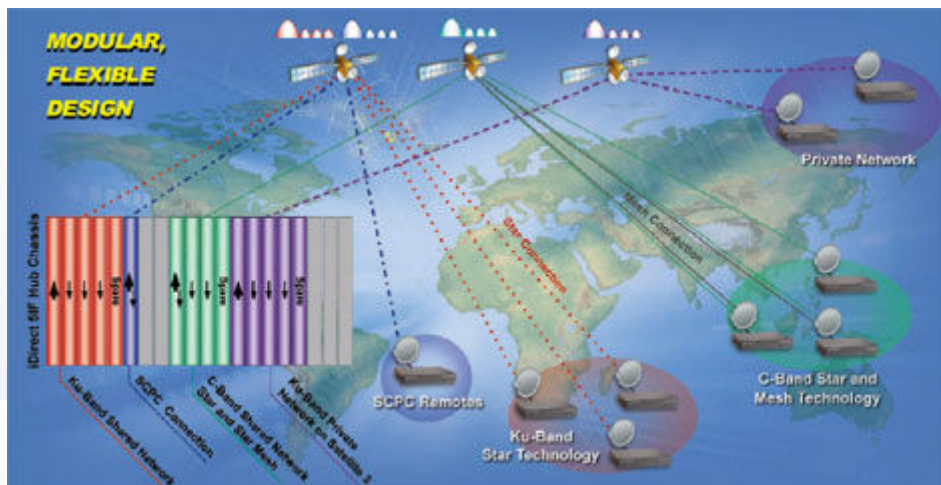
The iDirect platform offers satellite service providers unmatched functionality and scalability to meet the growing challenges placed on their networks. A single iDirect iNFINITI series hub chassis has the ability to support multiple networks with various requirements for satellite bands, topologies or bandwidth. This revolutionary design allows carriers to deliver any combination of network applications to thousands of remote sites supporting virtually any mix of customer profiles — all from a single platform. A single iNFINITI series chassis can support:

- Mesh, Star, SCPC or Hybrid Networks simultaneously
- C, Ku, extended-C and emerging Ka radio bands
- Interface with multiple satellites
- Bandwidth configurable from 64 Kbps to 18 Mbps in 1 Kbps increments
- Thousands of sites on a single network

iDirect powered networks can be grown one line card at a time to optimize network utilization, and provide scalability to meet any network or bandwidth requirements. Network operators can lower their equipment and operating costs while increasing revenues and profits— all while delivering the highest quality to your customers.



iDirect's Broadband VSAT Network System provides a highly reliable, secure, two-way TCP/IP transmission for high-speed, multimedia service applications on any topology (star, star/mesh, SCPC).

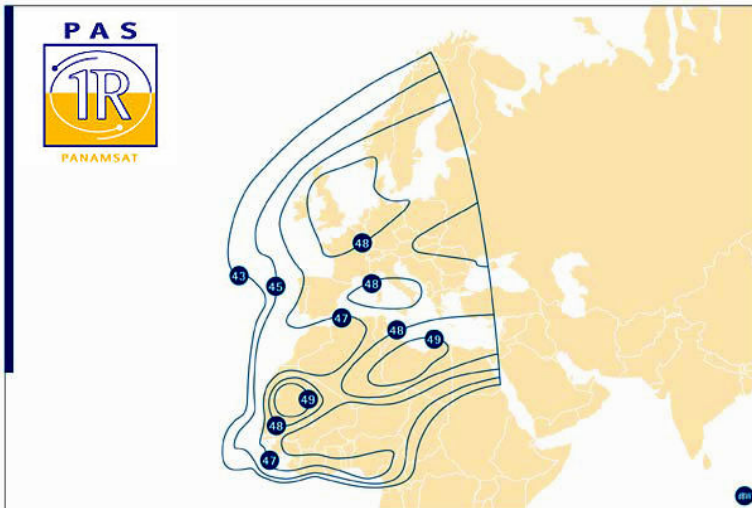


# PEP-iDirect for Africa Services, iDirect Infiniti D-TDMA Platform PanAmSat PAS-1R and PAS-10 Geostationary Satellites

**Date Introduced:** October 2005, **Mission Design Lifetime:** 2015-2016, **Platform:** Boeing 702 and Boeing 601 HP  
**Applications:** Home/SOHO, Small to Medium sized Internet Café, SME

PEP-iDirect on PanAmSat PAS-10 and PAS-1R Satellites, Western Africa and Sub-Sahara Africa Coverage Maps:

PanAmSat



EUROPE/NORTH AFRICA VERTICAL BEAM  
Ku-Band



AFRICA/EUROPE HORIZONTAL BEAM  
Ku-Band

Service Package Name	Downlink (Rx), kbit/s	Uplink (Tx), kbit/s	Rx+Tx CIR Bandwidth Allocation	Recommended Amount of PCs in LAN	G.723.1 VoIP Lines (via CIR)	Contention Ratio	Cost per month, Euro
SOHO	512	128	None	1	Best Effort	1:30	250
SOHO	1024	256	None	5	Best Effort	1:30	472
SOHO	1024	384	None	7	Best Effort	1:30	519
Enterprise	128	64	None	1	Best Effort	1:10	250
Enterprise	256	64	None	3	Best Effort	1:10	393
Enterprise	256	128	None	5	Best Effort	1:10	472
Enterprise	512	128	None	10	Best Effort	1:10	785
Enterprise	1024	256	None	20	Best Effort	1:10	1572
Enterprise	1024	384	None	25	Best Effort	1:10	1729

**Need more dedicated CIR bandwidth?** Additional CIR can be provided at 13 Euro/month cost per each 1 kbit/s of CIR.  
Normal CIR consumptions are: G.723.1 VoIP channel – 22 kbit/s, G.729 VoIP channel – 28 kbit/s, Skype – 32 kbit/s

## Service Characteristic, Quick Reference

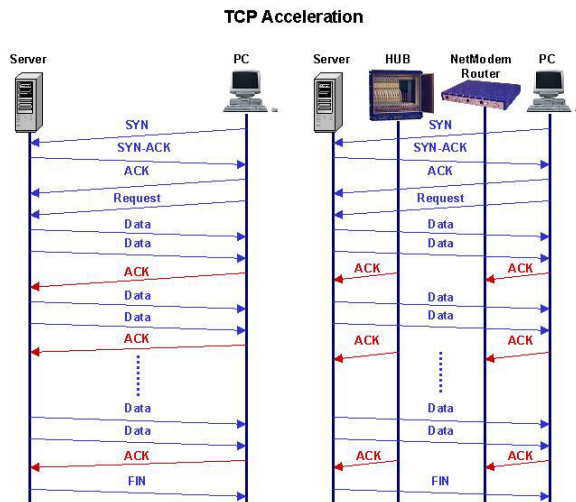
Minimal Contract Term	3 months
Payment Term	Quarterly
Teleport Location	MTI Milan, Italy
NOC Technical Support Availability	24 Hours, 7 days per week
SLA Guaranteed Network Availability	Best Effort Mode
Voice over IP Traffic	Yes, via guaranteed CIR bandwidth quota and Infiniti QoS
Public IPs	1x usable Public IP allocated by default per terminal Additional IPs available at 10 Euro per month with one-time 50 Euro activation fee
Quality of Service Protocols	Enabled

## MTI Milan, Italy Teleport



BusinessCom's PEP-iDirect Services are delivered through the 7.6m antenna located at a teleport in Milan, Italy which is connected to the major Tier-1 European backbones. The service is guaranteed 99.80% annual network availability (via the SLA) with low latency and redundant peering. By default, the iDirect setup prioritizes voice traffic which is a crucial requirement when a mixed voice and data networks are being built.

## PEP Accelerator Software Included with BusinessCom PEP-iDirect



Significantly reduces the affects of latency on a TCP Session – in BOTH directions. Note: Diagram illustrates TCP Acceleration in one direction only.

Our PEP server is hosted on the state-of-the-art data centre, including advanced features such as premium and value transit services, US military / NSA standards compliant "tempest room," Looking Glass Networks, AboveNet (MFN), MCI, Verizon, Cogent and others fibre POPs on site, multiple Gigabit transit & peering capacity, and numerous advanced geographically dispersed hosting options; located in prestigious Tyson's Corner, McLean, Virginia.

The northern Virginia / DC area is an ideal location for a network. A very large portion of the world's Internet traffic passes through here, and the area is not subject to earthquakes, tornadoes, floods or other natural disasters.

We are located at the true heart of the Internet, and in a very safe and secure area. This central location ensures optimal connectivity, speed, and routing, minimizing the number of hops - and thus the chance of any problems. We are located in between a great number of of private and public peering points, in one of the most densely and best connected areas in

world, including directly peering at the Equinix Exchanges (IBX'es) in Ashburn, Virginia, Chicago, Illinois, at the NYIIX in NYC, New York, and at PAIX in Palo Alto, CA. All providers have multiple, redundant routes into the DC/VA area. This is further built upon by our redundant connectivity to multiple Tier 1 providers via separate circuits, terminating at diverse locations in Virginia and the District of Columbia. We are redundantly set-up Internet connectivity wise (multiple backbone connectivity providers), as well as physically.

### Key Points and Advantages of a PEP-Accelerated Service

#### Faster

Up to 400% boost on the web browsing and file downloads both on uplink and downlink compared to a standard non-accelerated service. Interactivity increase may be seen by the naked eye. End users always love the performance of an accelerated service.

#### More Reliable

Due to unique acceleration PEP algorithm implemented an end user achieves more savings on the outbound circuit. A common day to day Internet work results in approximately 1 to 5 inbound/outbound traffic ratio, caused by TCP acknowledgments and requests sent to the Internet servers. PEP allows users to save up to 90% on the outbound circuit traffic which makes the work comfortable even in a highly congested uplink circuit – a 96 bits per second uplink is sufficient to fill in a smooth 1 megabit per second downlink rate. Provide a better service to your users.

#### More Bandwidth

BusinessCom PEP software provides on the fly traffic compression which allows to achieve up to 30% overall bandwidth savings, both on the inbound and outbound circuits. Of course this compression won't bring any effect to the end user while downloading already compressed data such as data archives, however it brings significant savings for Internet Service Providers and corporate customers to save on bandwidth in the moments when their end users download non-compressed content such as text files, web pages and binaries. Save money on total bandwidth costs.

#### Less Latency

Each packet from the server to remote client can deliver up to 16 simultaneous TCP sessions without any increase in the protocol overhead.

## BusinessCom Promotional Services Bundle

All BusinessCom Satellite Internet solutions are bundled with additional IP services such as e-mail, hosting, Voice over IP and more, free of charge to every BusinessCom customer as per the table below.

By ordering your Satellite Internet service, you also receive:

### E-mail Addresses

Up to 10 E-mail addresses with completely unlimited disk space usage, accessible via POP and SMTP protocols and SecureTLS encryption. Additional e-mail addresses are available upon request.

### Web Space

Up to 1 Gigabyte of disk space on one of BusinessCom Linux hosting servers in United States to host your web site or community pages with no advertisement. East Coast (Virginia) and West Coast (Seattle) options are available. PHP and MySQL facilities are included.

### Antivirus Software

Free Grisoft AVG Antivirus Software with 100% detection rate certified by ICSA, automatic updates, support of 64-bit Windows XP Edition, AVG Resident Shield and many more options.



### Support & Warranty

24x7 NOC and BusinessCom HQ Technical Support Included  
All equipment is covered by 12 months manufacturer's Platinum Warranty featuring Immediate Spare Parts Replacement.

### Voice over IP



Full-featured Voice over IP (VoIP) services with worldwide PSTN long distance call rates as only as 1.5 Eurocents per minute with Europe and United States. All calls inside BusinessCom Telephony Network are free of charge.

**Free of charge \$10.00 bonus on your VoIP account is already included.**



Voice over IP software included is award winning X-Ten Softphone supporting iLBC and G.729 codecs for crystal clear sound. Please note, any Voice over IP service requires dedicated CIR bandwidth in order to operate in the guaranteed quality mode. Cisco ATA-186 hardware VoIP router shown on the left is supplied at additional cost.

Please note, in order to request bundled services mentioned above, kindly contact your BusinessCom representative.

#### Optional BusinessCom Internet via Satellite services include (at additional charge):

Domain Registration (any ccTLD, including .com / .net / .org)

IT consultancy services, Network Engineering services, basing on BusinessCom Viper TES-1000 Traffic Engineering Server appliances

Voice over IP – Managed and Unmanaged Billing Systems and Carrier Solutions, Branch connectivity and more...

## PEP-iDirect MTI Customer's Equipment



# iDirect 1230MTI

## VSAT Earth Station, 1.2m/3W configuration

Standard configuration designed for up to 512 kbit/s uplinks within strong satellite coverage contours

**1899.00 Euro**

- \* 1.2m Patriot Ku-Band Dual Optic Rx/Tx Antenna, Linear Polarization
- \* 3 Watt SSPA Ku-Band NJRC BUC (Transmitter)
- \* Ku-Band Norsat 4100A DRO-stabilized LNB (Receiver)
- \* iDirect Infiniti 3100 Series Satellite Modem
- \* 30m w/ 4 Type F CNX Cabling Kit
- \* BusinessCom PEP Accelerator Software (Windows® and Linux versions available)
- \* Optional iLBC Voice over IP Software Phone with \$10.00 credit on the BusinessCom VoIP Service

## Service Contention Ratio Advisory

Environment	Contention Ratio
<ul style="list-style-type: none"> <li>• Occasional home or individual Internet usage;</li> <li>• Transactional data exchange;</li> <li>• Small and home office (SOHO);</li> </ul>	1:30 or better
<ul style="list-style-type: none"> <li>• Small to Medium Enterprise Environment (SME) with accented Internet usage;</li> <li>• Virtual Private Networking;</li> <li>• Internet Café business with VoIP phones;</li> <li>• Data transfer;</li> </ul>	1:15 or better
<ul style="list-style-type: none"> <li>• Voice over IP (VoIP) Calling Centre;</li> <li>• Videoconferencing;</li> <li>• Multimedia streaming and broadcasting;</li> <li>• Intensive, continuous 24h data transfer;</li> <li>• Mission-critical connectivity;</li> </ul>	1:1 100% CIR, dedicated bandwidth is necessary

## Installation Service

PEP-iDirect services are available throughout all of the territory of satellite coverage using a relatively small antenna to interact with the satellite spacecraft. The geostationary satellites utilized are currently orbiting our planet at the height of 30'000 km above the Earth surface.

BusinessCom representatives around the world are able to deliver all the required equipment, install and activate your VSAT system, leaving your premises with a broadband Internet access after a few hours of work just like what it takes to get connected to the Internet via a DSL line or similar terrestrial broadband solution. Currently BusinessCom has engineering force presence in the following countries:

- **Afghanistan**
- **Bahrain**
- **Cameroon**
- **Congo**
- **Egypt**
- **France**
- **Ghana**
- **Iraq**
- **Kenya**
- **Lebanon**
- **Libya**
- **Nigeria**
- **Rwanda**
- **UAE**
- **United Kingdom**

## Contacts

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