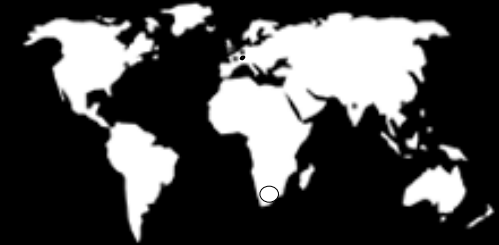


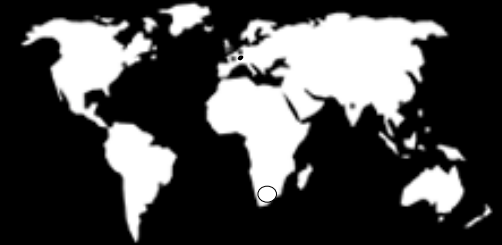
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Trends in Global Capacity Availability and Trading

Bruce Girdlestone
VP Network Trading Band-X

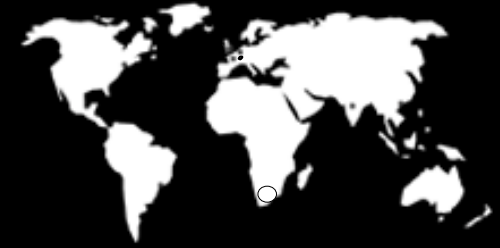


Topics

- The Trading of Bandwidth
- International Deployment of Capacity
- An imbalance in supply and demand
- A new model for Internet Trading

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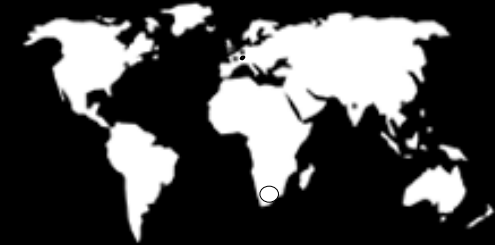


A quick History

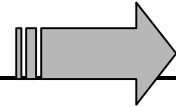
- Deregulation
- Technology lift off
- International build
- Broadband – fixed
- 3G

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Vertical Integration



Horizontal Specialisation

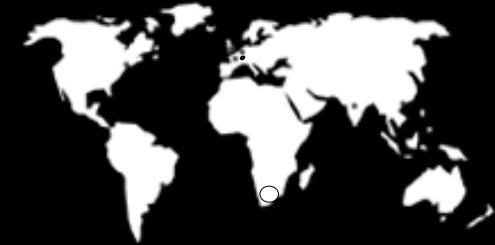
- Global Players



- Switching
- Wholesale transport
- Network management
- Hosting/Co-location
- **Mediation/Trading**

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Network

Owned and managed circuits and network infrastructure

Co-location

Specialist Telecom real estate services.

Recruitment

Human resources, skilled staff for the telecoms industry

Switched

Minutes Exchange, Traffic Management and facilities management

Routed

Trading of IP Transit based upon price and quality executed through the Band-X IP Trading Exchange Infrastructure.

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Telegeography

Finance

Bandwidth

Recruitment

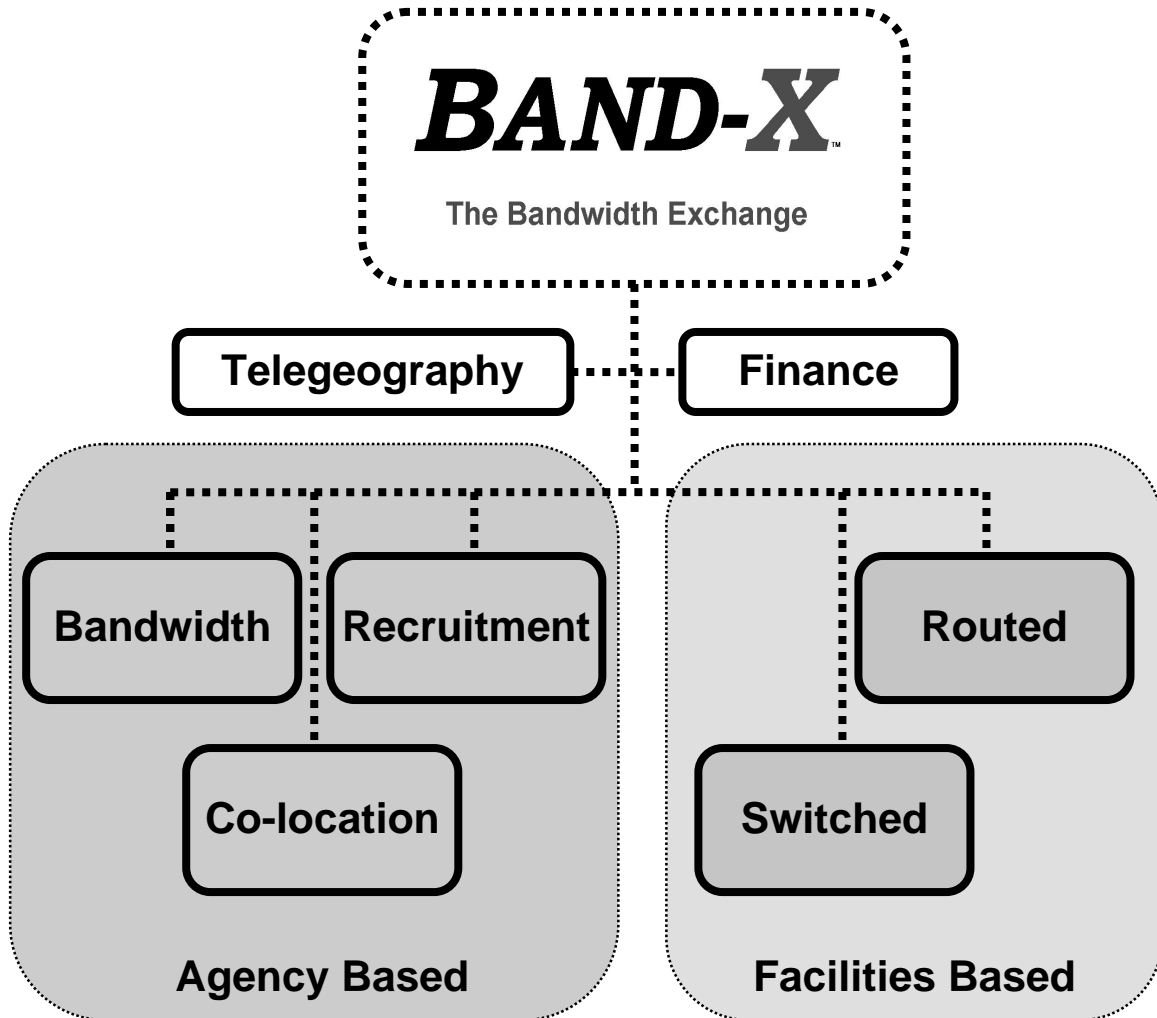
Routed

Co-location

Switched

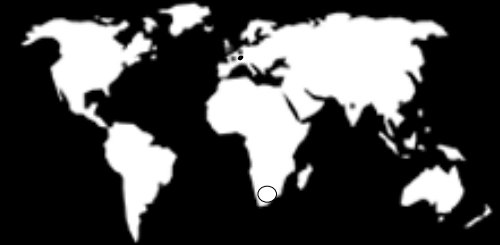
Agency Based

Facilities Based



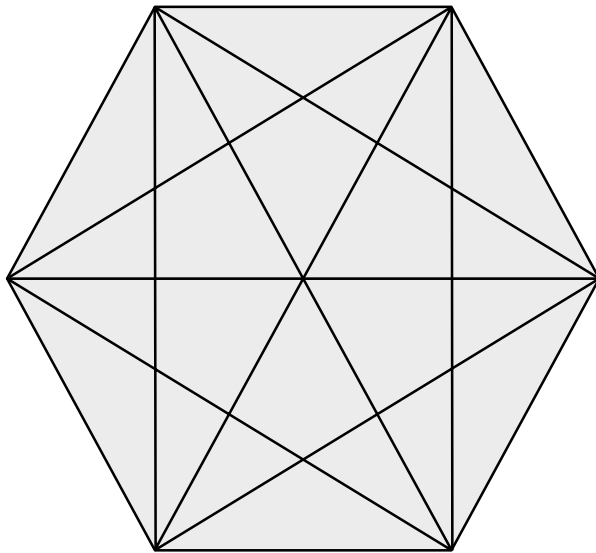
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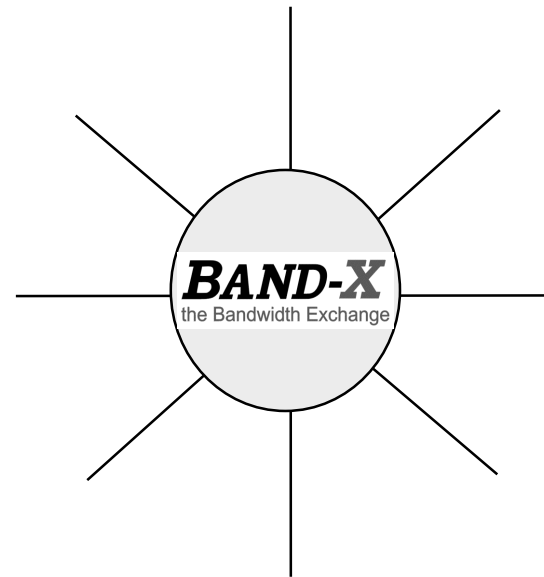
Improves efficiencies in the market

Traditional model



or

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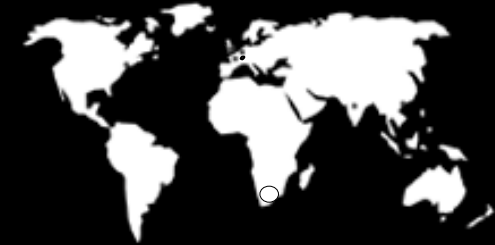


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- A neutral and confidential Marketplace with absolute integrity
- Brings buyers and sellers together in most efficient forum, providing benefits to all parties
- Brings clarity in the complex comparison of quality, availability, contractual terms and price

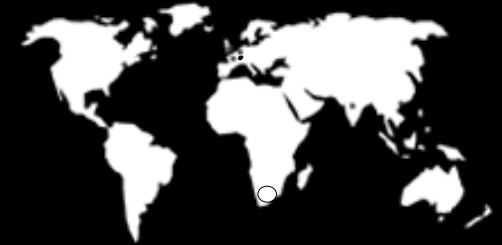


Market reports and Consultancy

- Telegeography – Information Products
- In depth reviews of market segments or bespoke research
- Procurement Service Agreements: review of all solutions and suppliers for a specific requirement (quality, availability, contractual terms, price)
- Market Briefing Service
 - Monthly updates and real time hot line for information

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More than 20,500 members from a broad range of
players

- Carriers of all types
- Cable system operators
- Backbone operators
- Dark fibre providers
- Internet Service Providers
- Video streaming solutions
- Carrier Hotels / tele-houses
- Data Network Providers

Band-X in the world



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Welcome **Robert Schult of Band-X**
 Your networks account manager is Elaine Chan. [Account details](#) [Log out](#)

Networks Show offers

Choose countries and/or cities below to limit displayed routes to those that pass through your selected locations. You may sort the table by clicking on column headings.

Country Selection **City Selection** **Network Type**

All
 Austria
 Belgium
 Brazil
 Canada

All
 Amsterdam (NL)
 Bombay (IN)
 Boston (US)
 Bratislava (SK)

All
 Clear Channel
 Dark Fibre
 Duct
 Wavelength

Records 1-20 of 83 [Next >>](#)

REF #	Route	Std. Con.	Network	Annualised Price (USD)
10609	U.K. London to U.S.A. New York	155 Mbps (C)	Duct	389,000
10608	Netherlands Ossendrecht to France Strasbourg	2.5 Gbps (W)	Negotiable	365,000
10591	U.S.A. New York to U.S.A. Washington D.C.	155 Mbps (C)		41,600
10590	U.S.A. New York to U.S.A. Washington D.C.	155 Mbps (C)		41,600
10580	U.S.A. Boston to U.S.A. New York	155 Mbps (C)		41,600

Networks

[Buyer Options](#) ?

[Show offers](#)

[Post bid](#)

[Seller Options](#) ?

[Show bids & tenders](#)

[Post offers](#)

Networks News

Band-X launch is "Excellent news for Ireland" says Enterprise minister
 Band-X's latest expansion into the Irish market has been welcomed by Mary O'Rourke, Irish Minister for Public Enterprise. She said Band-X's expansion into the Irish market will boost choice in the country's vibrant e-commerce

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Show offers

Post bid

Seller Options ?

Show bids & tenders

Post offers

Networks News

Band-X launch is "Excellent news for Ireland" says Enterprise minister

Band-X's latest expansion into the Irish market has been welcomed by Mary O'Rourke, Irish Minister for Public Enterprise. She said Band-X's expansion into the Irish market will boost choice in the country's vibrant e-commerce market.

Band-X acquires leading Hong Kong exchange, expands into Asia

Band-X has acquired the

Welcome **Robert Schult of Band-X**

Your networks account manager is Elaine Chan.

Account details

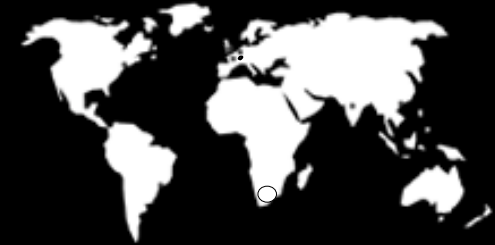
Log out

Networks Show offers

Re: 10609 - London, U.K. to New York, U.S.A.

Type of infrastructure:	Clear Channel
Contract type:	Lease
Network type:	Point to Point
Originates:	London, U.K.
Terminates:	New York, U.S.A.
Local loop:	NOT Included
Network speed:	155 Mbps (STM-1)
Network comments:	Gemini
Lead Time:	45 working days
Network availability:	99 %
Contract length:	1 years
Network pricing:	
Installation charge:	5000 USD
Capital payment:	12 monthly rental payments of 32000 USD
Total charge:	389000 USD
Uses standard contract:	Other

To respond to this Network Offer please use the following form below. This will notify Band-X of your interest and you will be contacted shortly. You can also contact Elaine Chan by

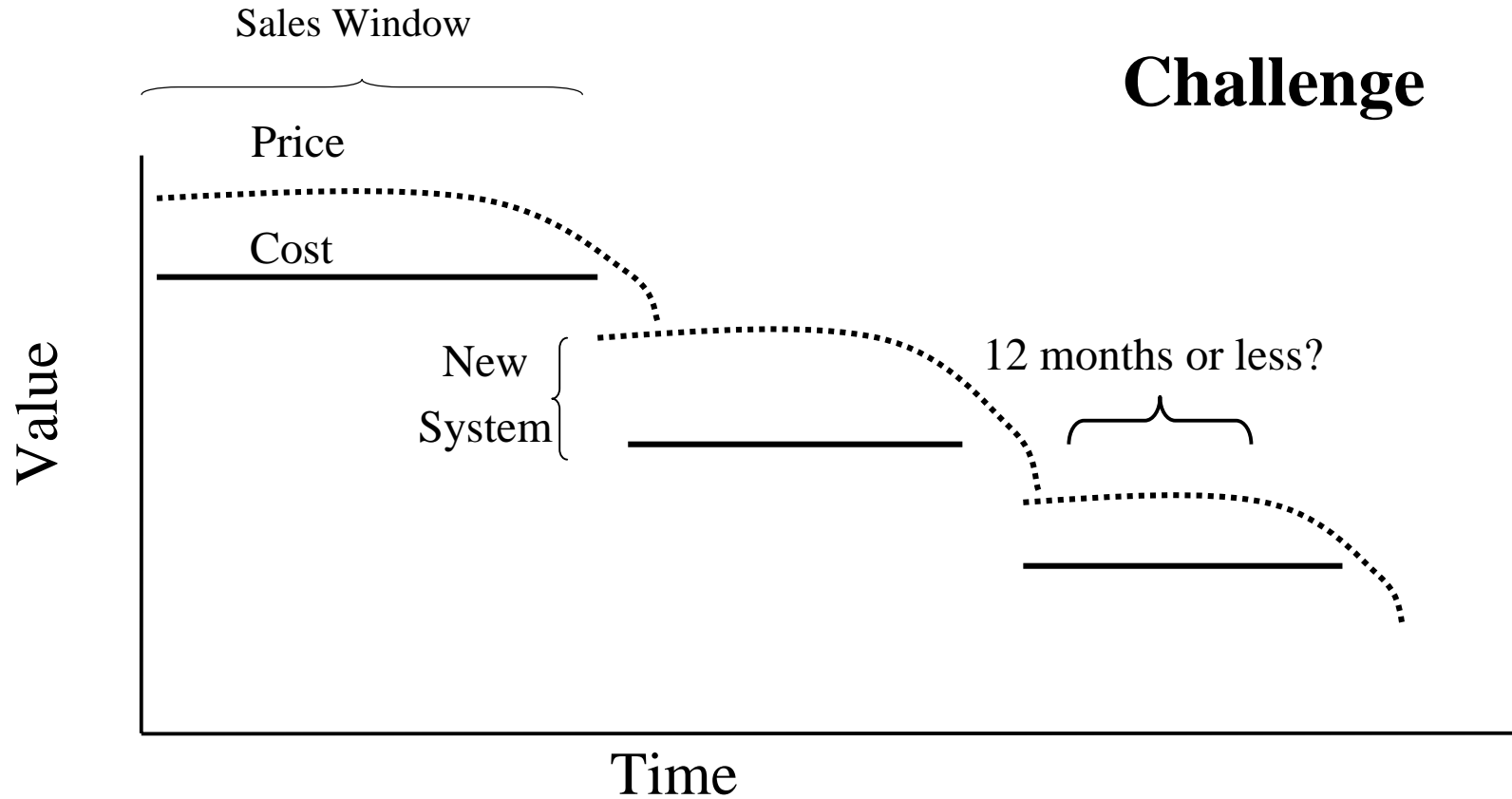


Price decline

- Transatlantic STM-1 IRU 25 year term
 - 1998 \$12m+
 - 2001 \$450k
- Northern European STM-1 Lease
 - 2000 \$50k per month
 - 2001 \$10k per month

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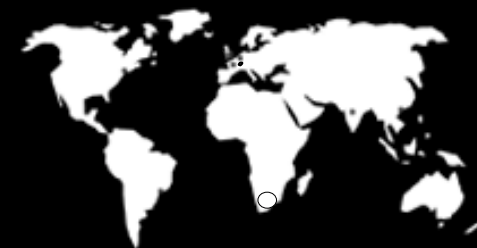
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Date	System	GB/S
1988	TAT 8	1
1991	TAT 9	2
1992	TAT 10	2
1993	TAT 11	2
1994	Cantat 3	5
1995	TAT 12/13	25
1995	Canus 1	5
1998	AC 1	160
1997	Gemini	60
2001	TAT 14	640
2001	FA1	2400
2001	Level(3)	1280
Total		4582

BAND-X

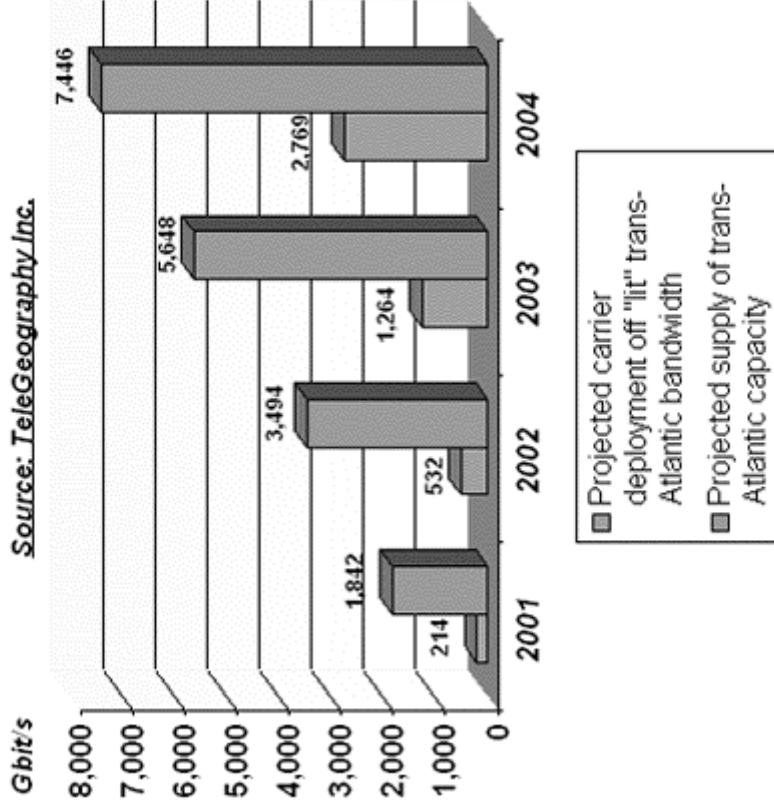
The Bandwidth Exchange

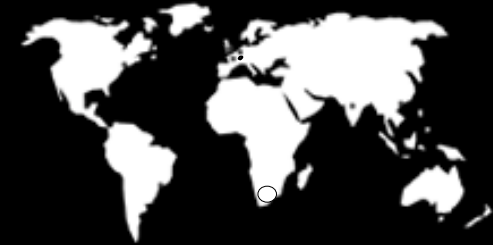
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Trans-Atlantic Bandwidth: Demand vs. Supply

Source: TeleGeography, Inc.





International Cable Deployment

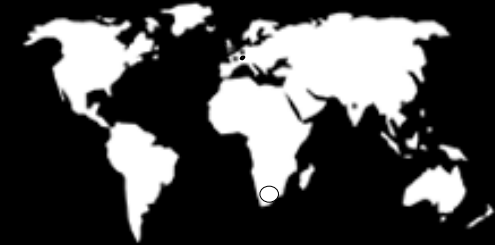
- Americas:
 - 360Americas
 - South American Crossing
 - Emergia
- Asia
 - East Asia Crossing
 - FLAG North Asia Loop/Tiger
- Trans Pacific
 - Japan US
 - Pacific Crossing 1

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- “Glut” on Long haul
- Local Connectivity via fibre is key
 - Telehouse interconnectivity
 - MEA Clusters
 - End User
- Everyone is bandwidth restricted – price v delivery



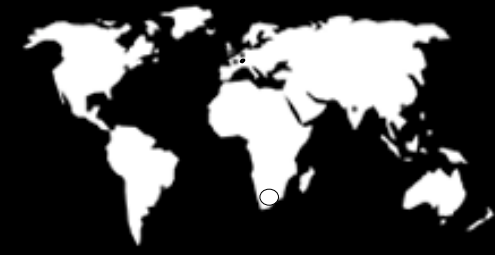
New Carrier Focus on Metropolitan Area

- Emphasis on fibre in city centres
- Capacity is scarce due to:
 - Practicalities of digging networks
 - Access
 - Local restrictions
 - Cost
 - High per customer cost
 - Restriction in capital
 - Falling price of bandwidth
 - Activity and Competition in the Long Haul

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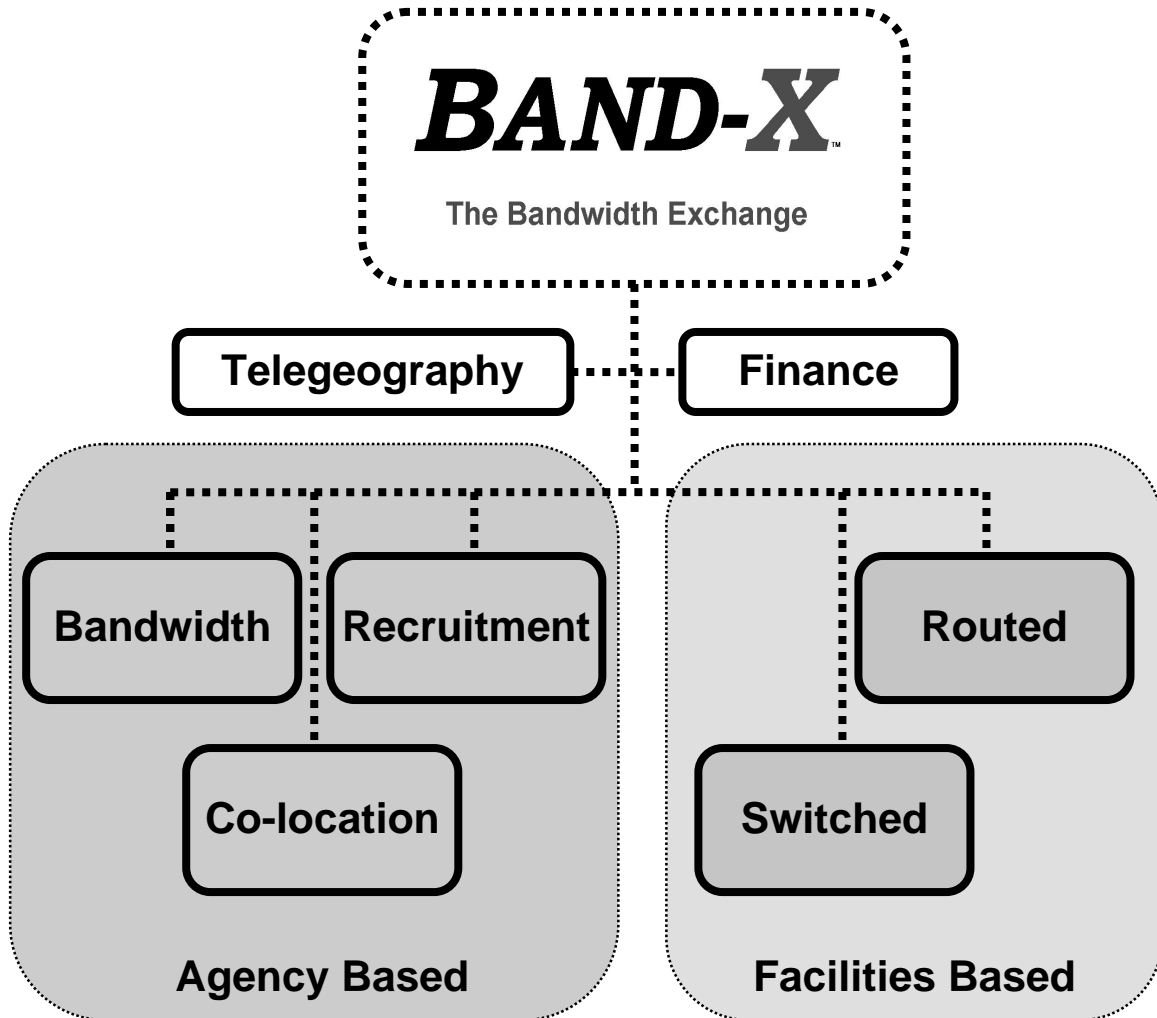
Routed

Co-location

Switched

Agency Based

Facilities Based

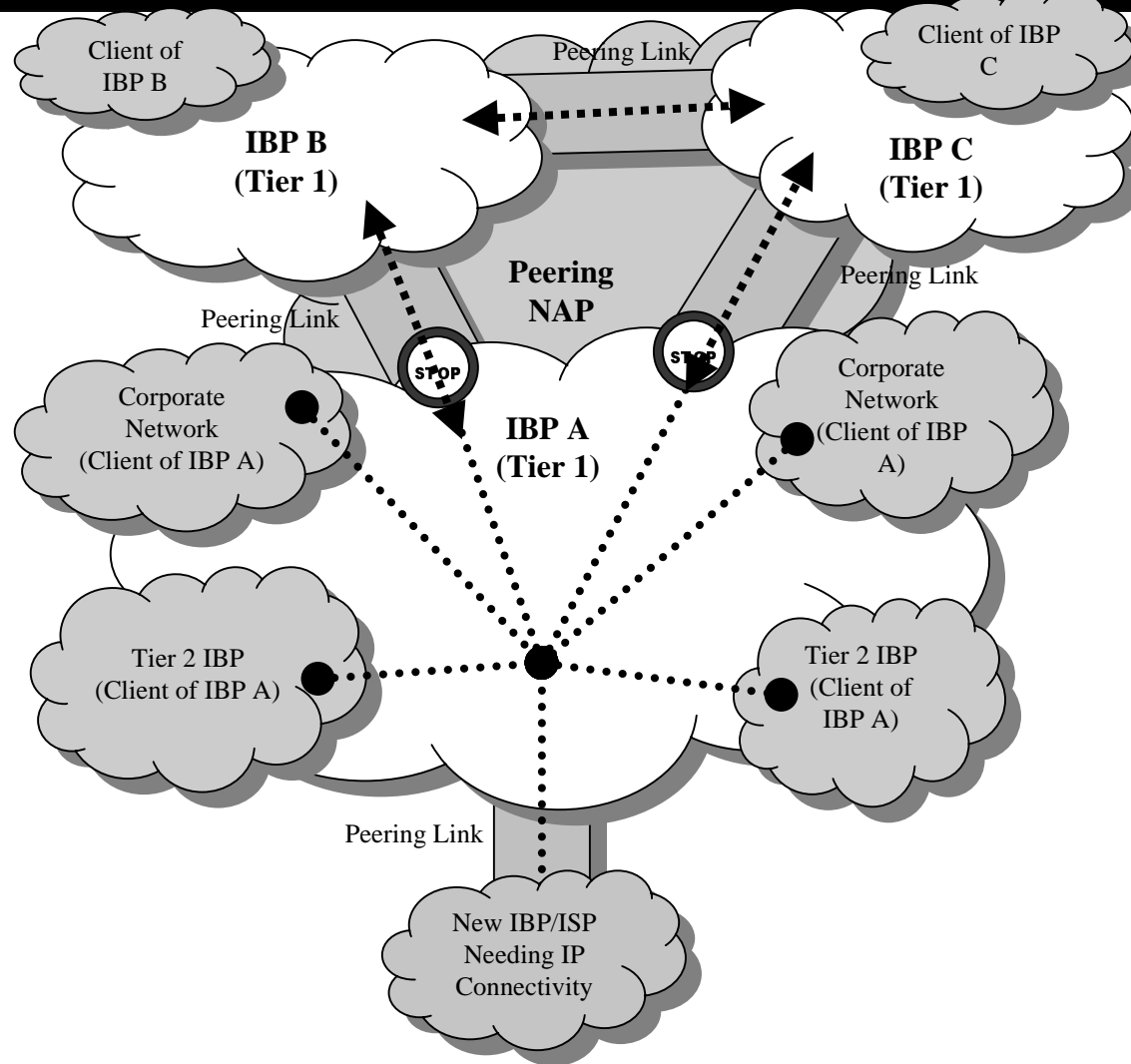


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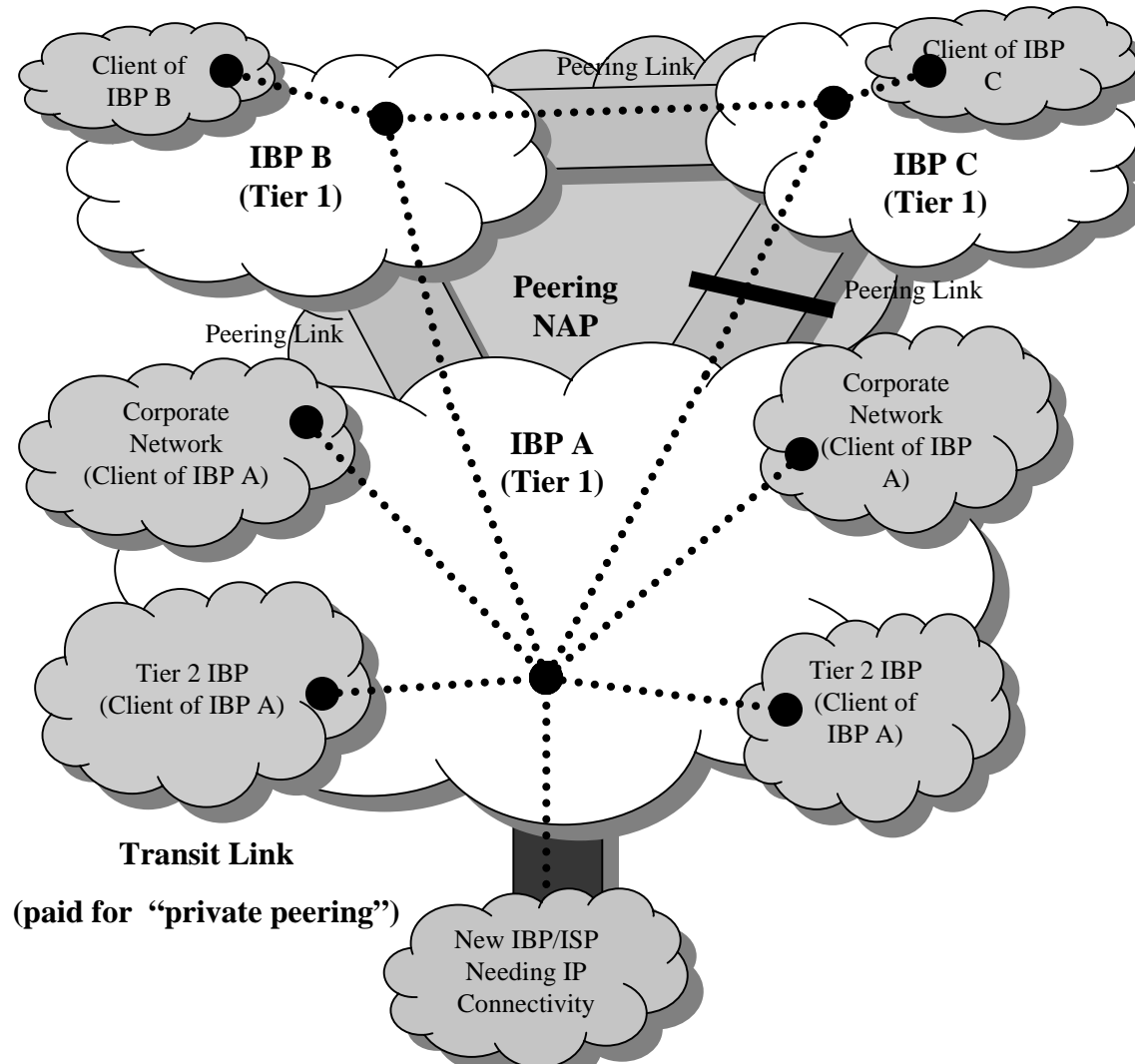
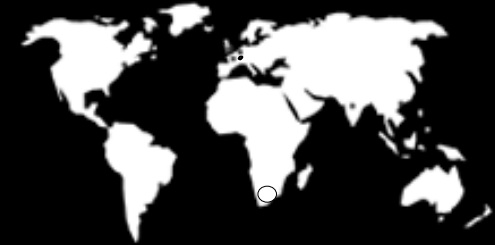
Peering will only
deliver Local
Routes



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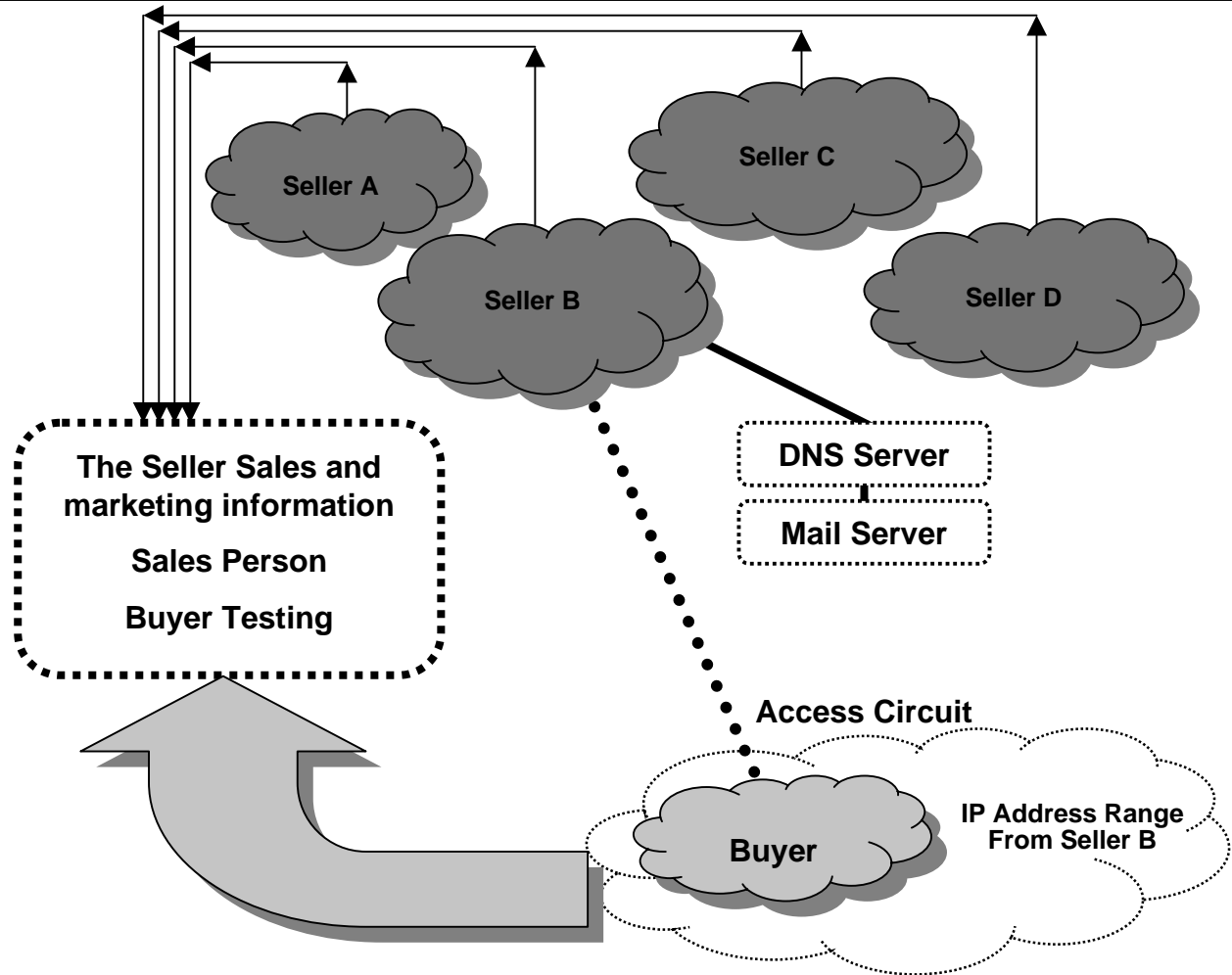


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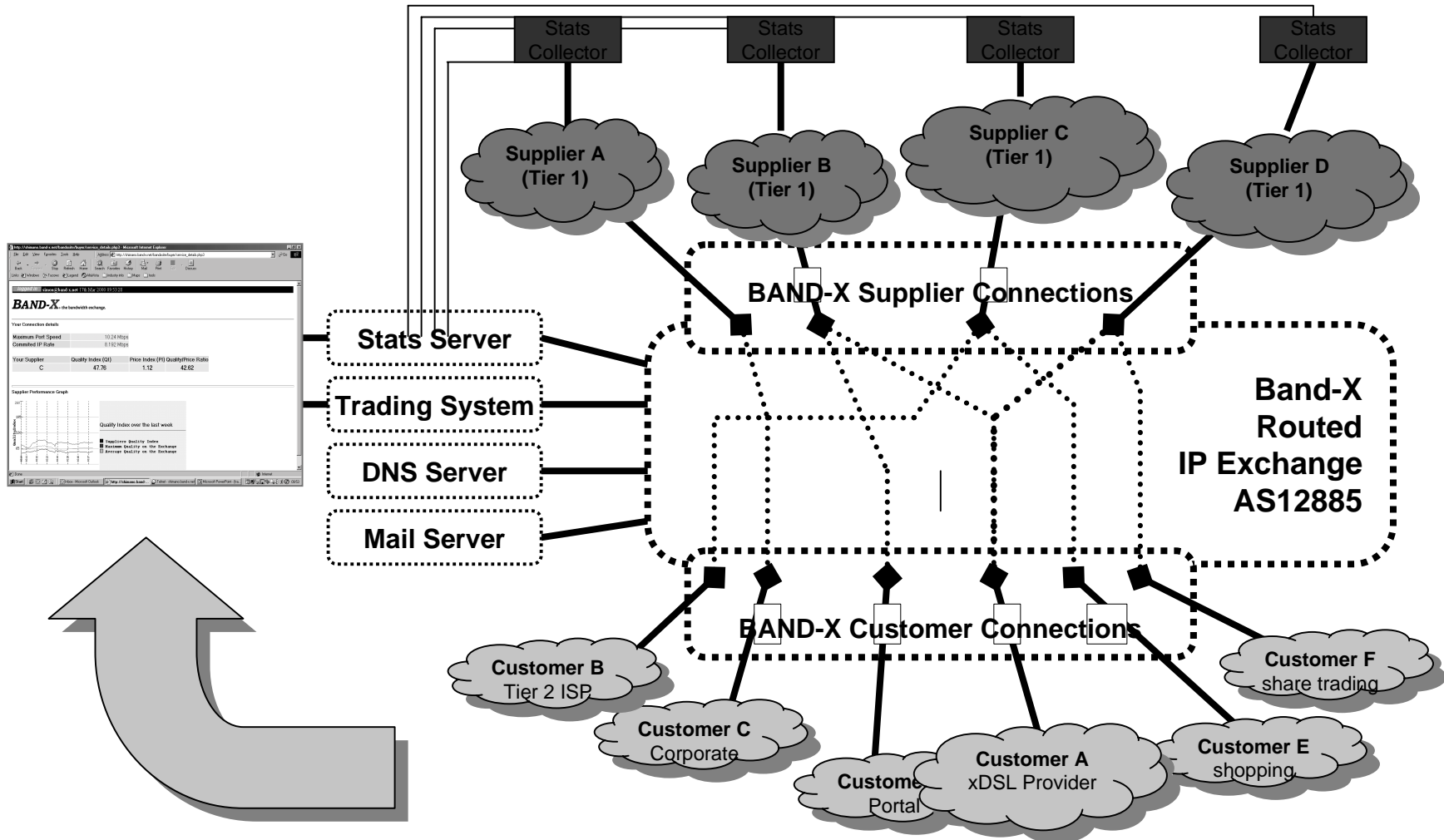
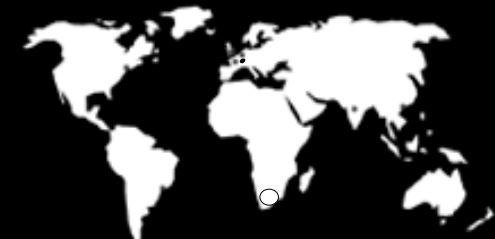
Traditional Transit



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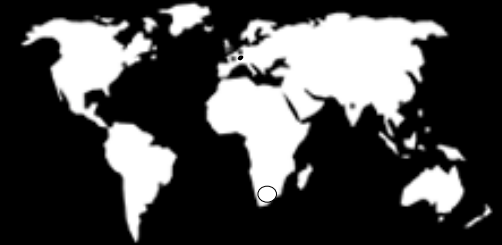
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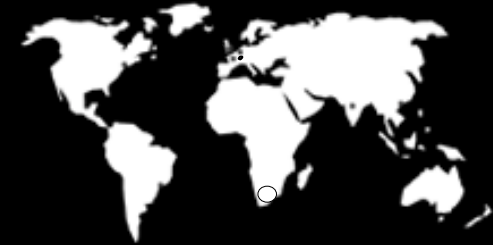
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Fragmentation and Standardisation

- Half right
- Increasing commoditisation of bandwidth
- If bandwidth were a commodity it would have been a financial market by now
- Can it be traded – Interconnection of networks is key
- Continuing lack of homogeneity validates the role of mediator



Summary

- The increase in International Bandwidth availability –
 - Quality and reduced cost of Internet Transit
- Internet backbones connected at Telehouses
 - Getting on / off is the challenge
- Broadband access to end user is key
- Commoditisation of Bandwidth increasing but still not homogenous
- Where deregulated supply is high
- More Dynamic Trading of Internet traffic
 - A visible and efficient market



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