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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Via Hand Delivery

Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th St., S.W., Room TW-B204
Washington, D.C. 20554

Re: Ex Parte File Nos.ET Docket No. 98-206, 48-SAT-P/LA-97, 89-SAT-AMEND-97, 130-SAT-AMEND-98

Dear Ms. Salas:

On March 24, 2000, Mark MacGann, Vice President of SkyBridge, L.P., and the undersigned, of Paul, Weiss, Rifkind, Wharton & Garrison, met in person with Ari Fitzgerald, Legal Advisor to Chairman Kennard, for the purpose of discussing issues relating to the above-referenced matters. At this meeting, the attached materials were discussed.

If there are any questions regarding this matter, please contact the undersigned.

Respectfully submitted,

Jeffrey H. Olson
Attorney for SkyBridge L.P.

Attachment

cc: Ari Fitzgerald, Esq.

No. of Copies rec'd 0+9
List A B C D E

Doc#: DC1: 102576.1

SkyBridge

SkyBridge-FCC Meeting on Operation in the band 12.2-12.7 GHz

March 23rd 2000

SkyBridge

SkyBridge System Overview

SkyBridge

- An Access System to Broadband, High Speed Services
- A Constellation of 80 Low Earth Orbit Satellites Providing Worldwide Coverage
  - At least one satellite spot-beam to any place between ± 72° latitude
  - Multiple spot-beams coverage for high traffic areas (hot spots)
- 100% Availability
  - With GEO arc avoidance
  - With access constraints (seamless hand-over between satellites)
- Service Introduction : 2003

SkyBridge

Design Drivers

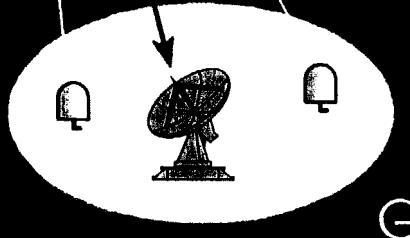
- High-performance
- Low latency
- Low-risk
- Simple design
- Proven technologies
- No by-pass networking
- Reduced rain fade

System Characteristics

- LEOs at 1469 km
- 30 ms round-trip delay
- Ku Band frequency sharing
- No inter-satellite links
- No on-board switching
- "bent-pipe" satellites

Space

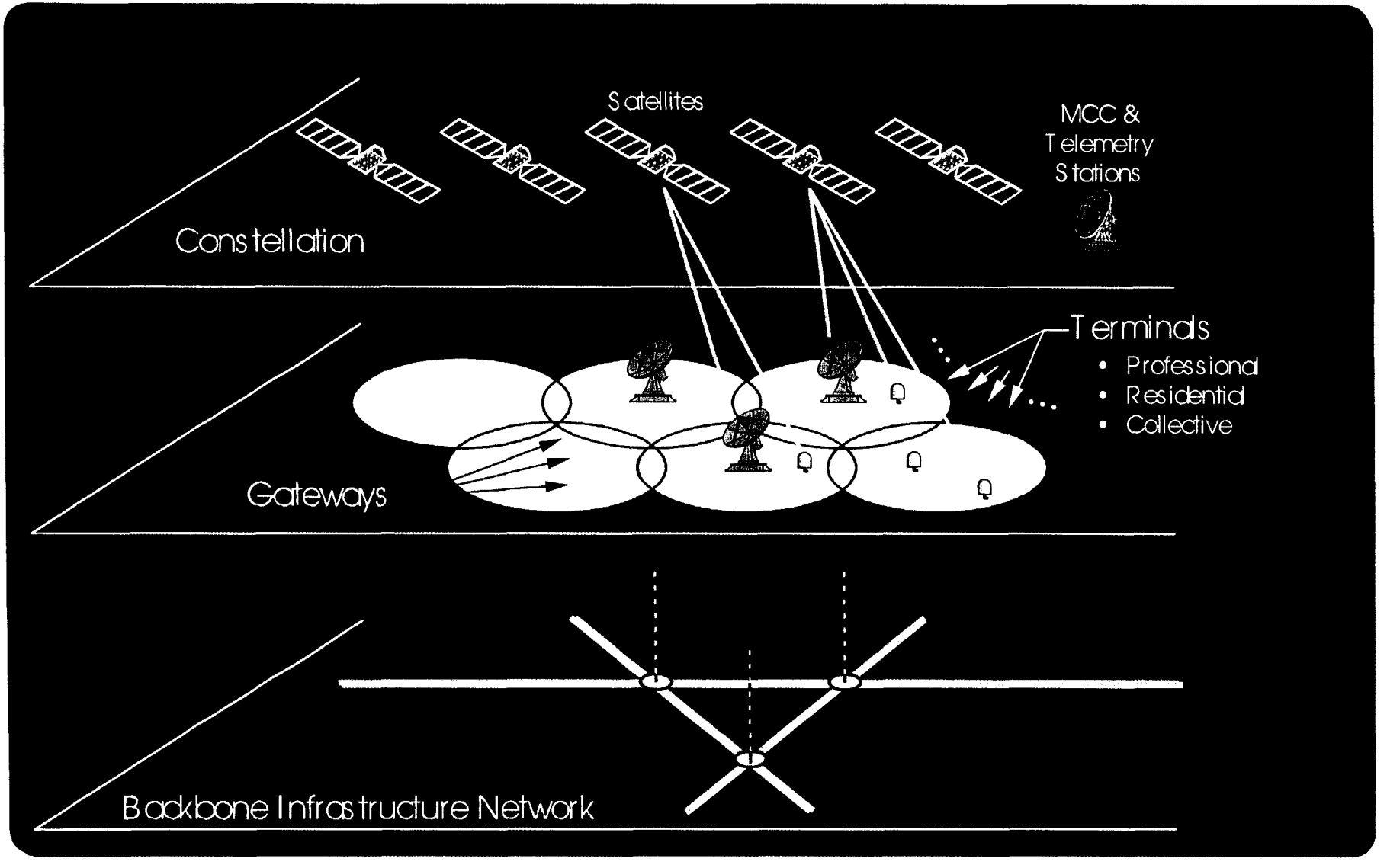
- Standard interfaces
- Low-cost terminals
- Switching on the ground
- Local access only



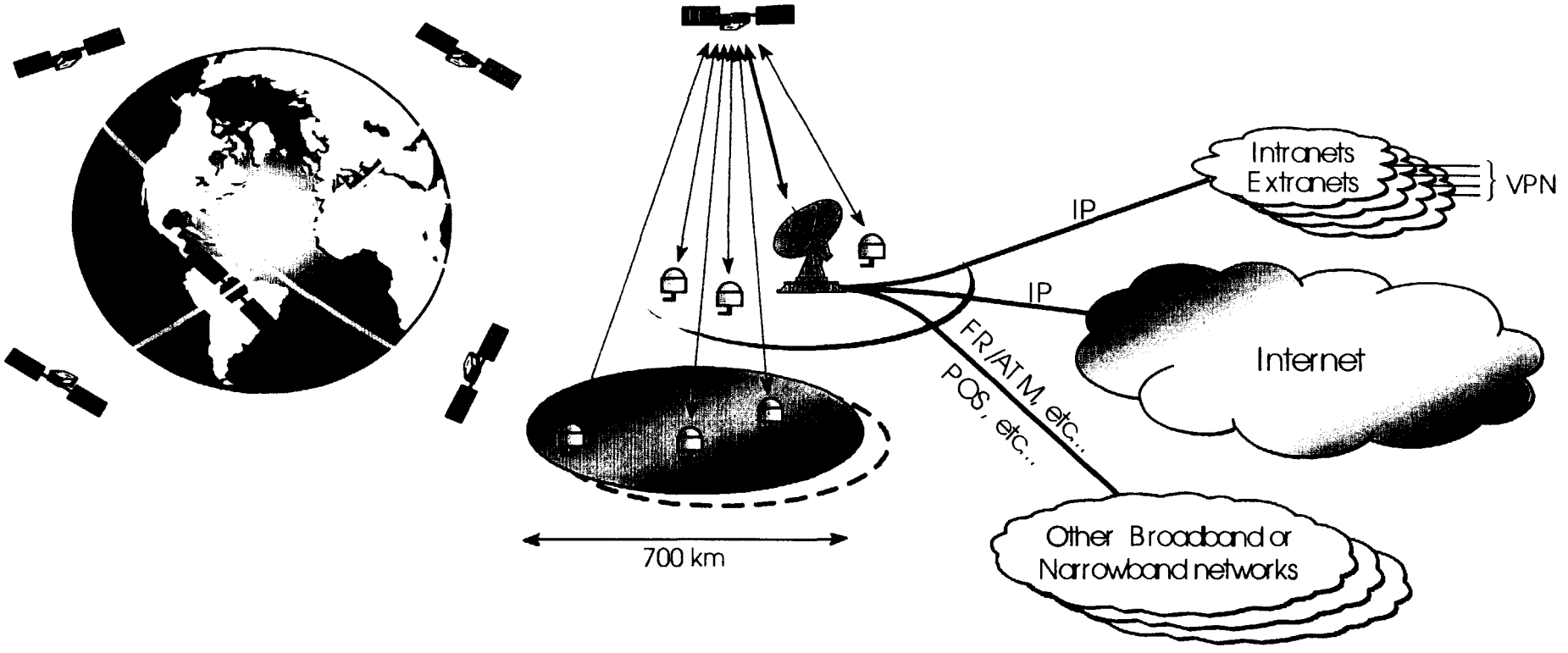
- High speed protocols
- User terminal : 50-100 cm size

Ground

SkyBridge

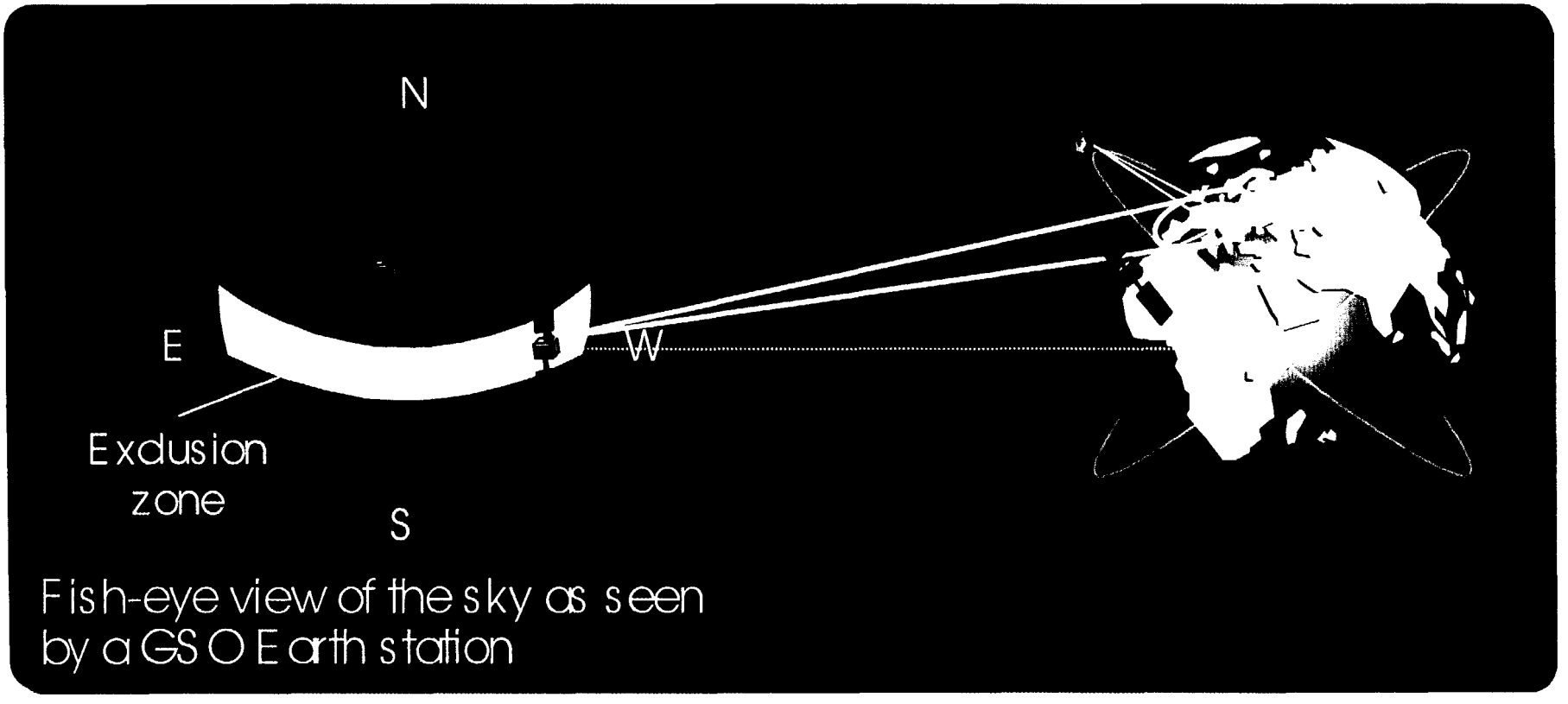

Satellites
MCC &
Telemetry
Stations
Constellation
Terminals
• Professional
• Residential
• Collective
Gateways
Backbone Infrastructure Network

SkyBridge



- Broadband IP services
- ATM based radio access to and from fixed cells
- Seamless interconnection with broadband and/or Narrowband terrestrial infrastructure
- Open to future applications : No OBP

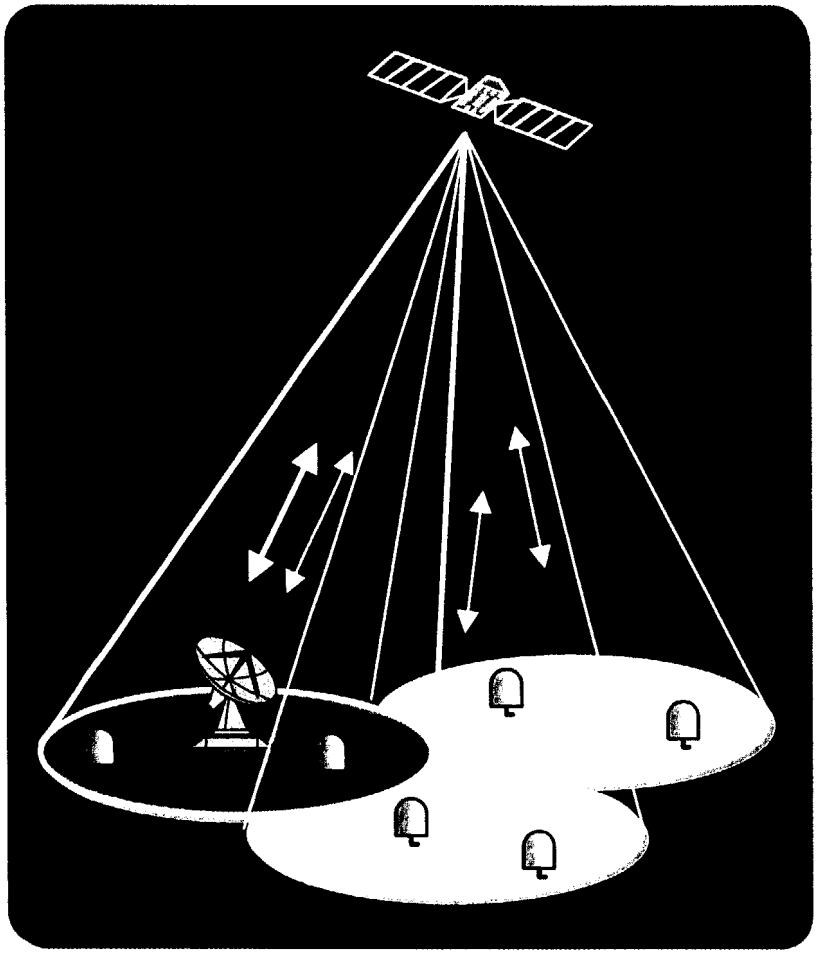
SkyBridge



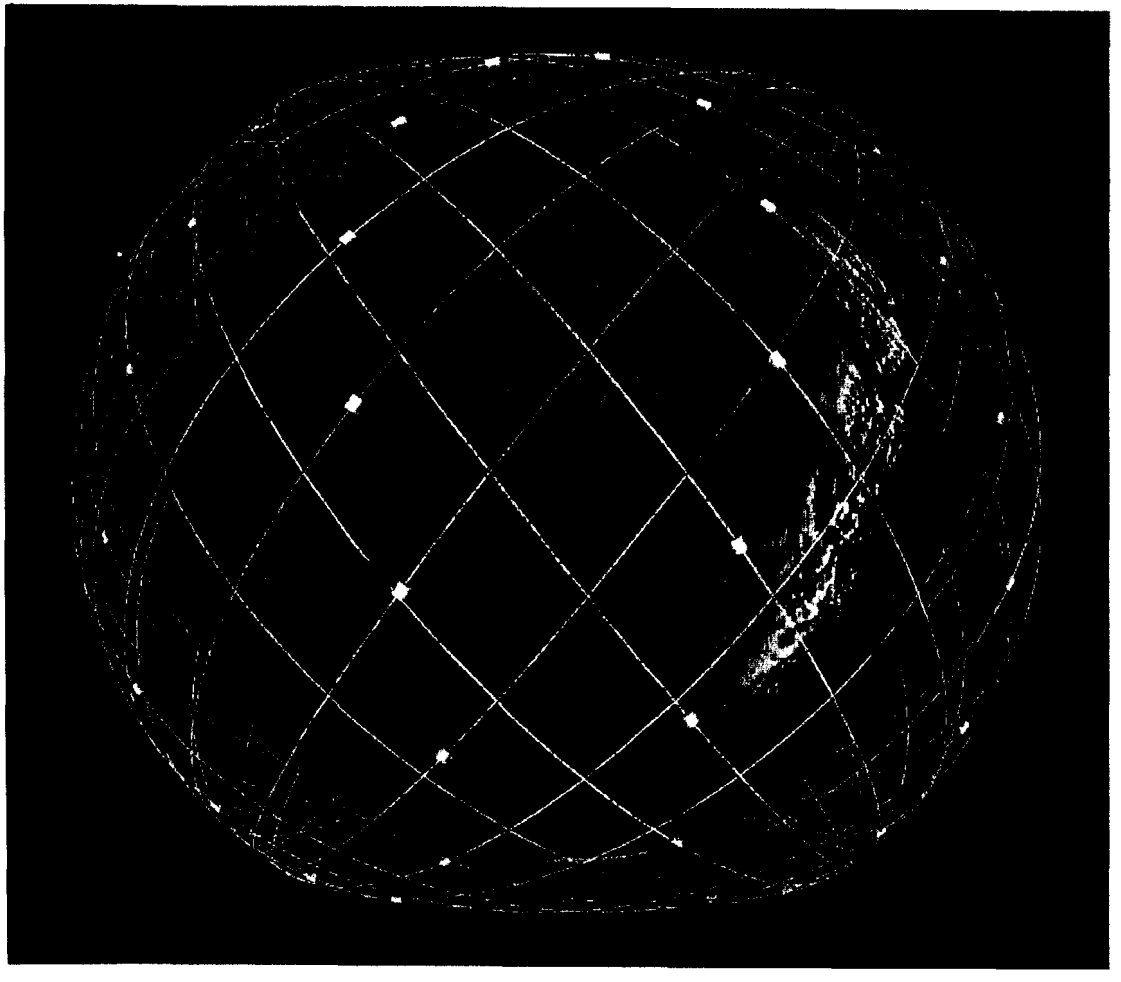
Fish-eye view of the sky as seen by a GSO Earth station

SkyBridge

- Relay links (cross-strapping) allow multi-cell operation from a gateway
- For low traffic areas, users can be attached to a remote gateway
- All the traffic of the attached cells is concentrated on one gateway
- Number of cells that can be attached to a single gateway depend on the number of visible satellites



SkyBridge

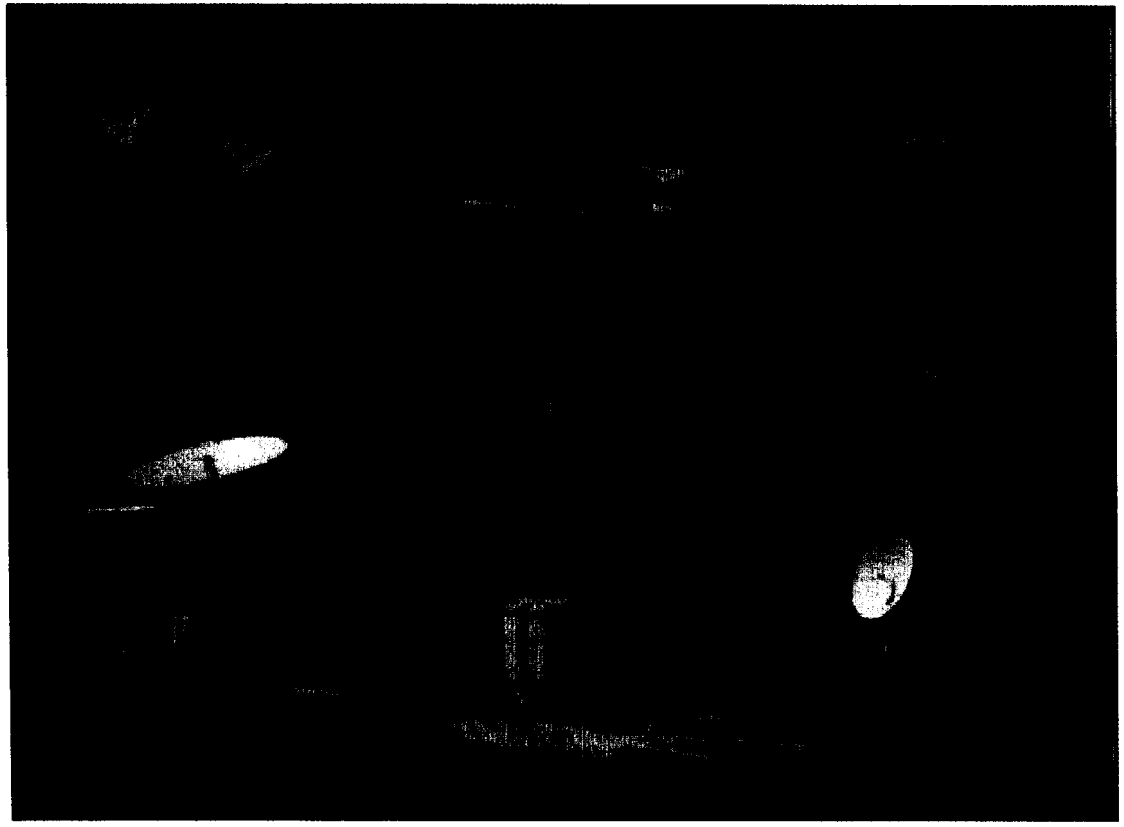


- Circular Orbits
- 20 planes
- 4 s/c per plane
- 1469 km altitude
- 53 deg. Inclination
- 67.5 deg. Phasing
- Revolution periods :
  - 115 mn
  - 10h 41 mn
  - 35.5 days

SkyBridge

- Two Steps Deployment
  - Initial service introduction with 40 satellites
  - Full deployment with 80 satellites
- Relay link
  - Allow a gateway to serve several cells
  - Used for initial deployments of the service, or lower traffic cells

SkyBridge

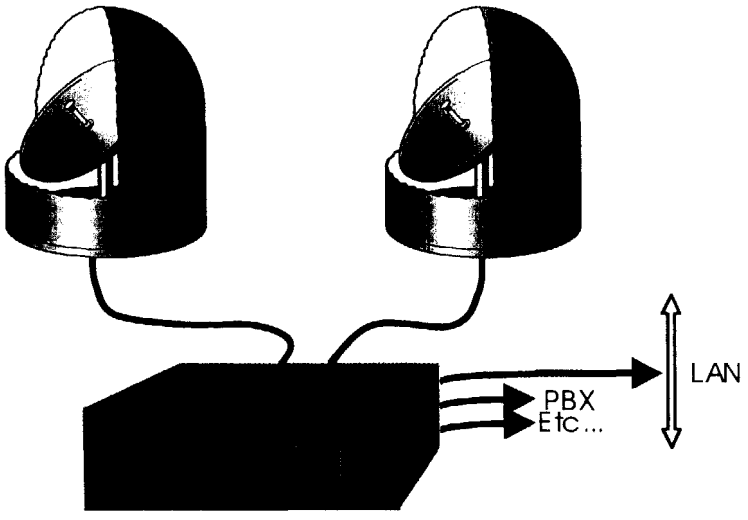


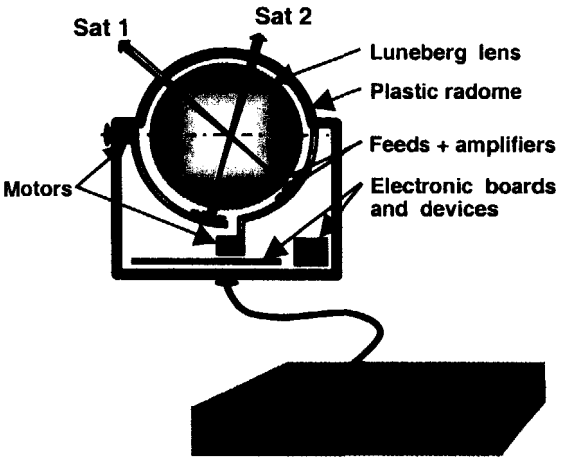
- Gateways use three to six antennas depending on the capacity and the number of visible satellites
- Antenna size may vary from 2.5m-4.5m

SkyBridge

- Professional
  - Target retail price : $2000
- Collective
  - Target retail price : $2000

- Residential
  - Single antenna system
  - Target retail price : $700





SkyBridge

SkyBridge

Impact of Business and Financial

SkyBridge

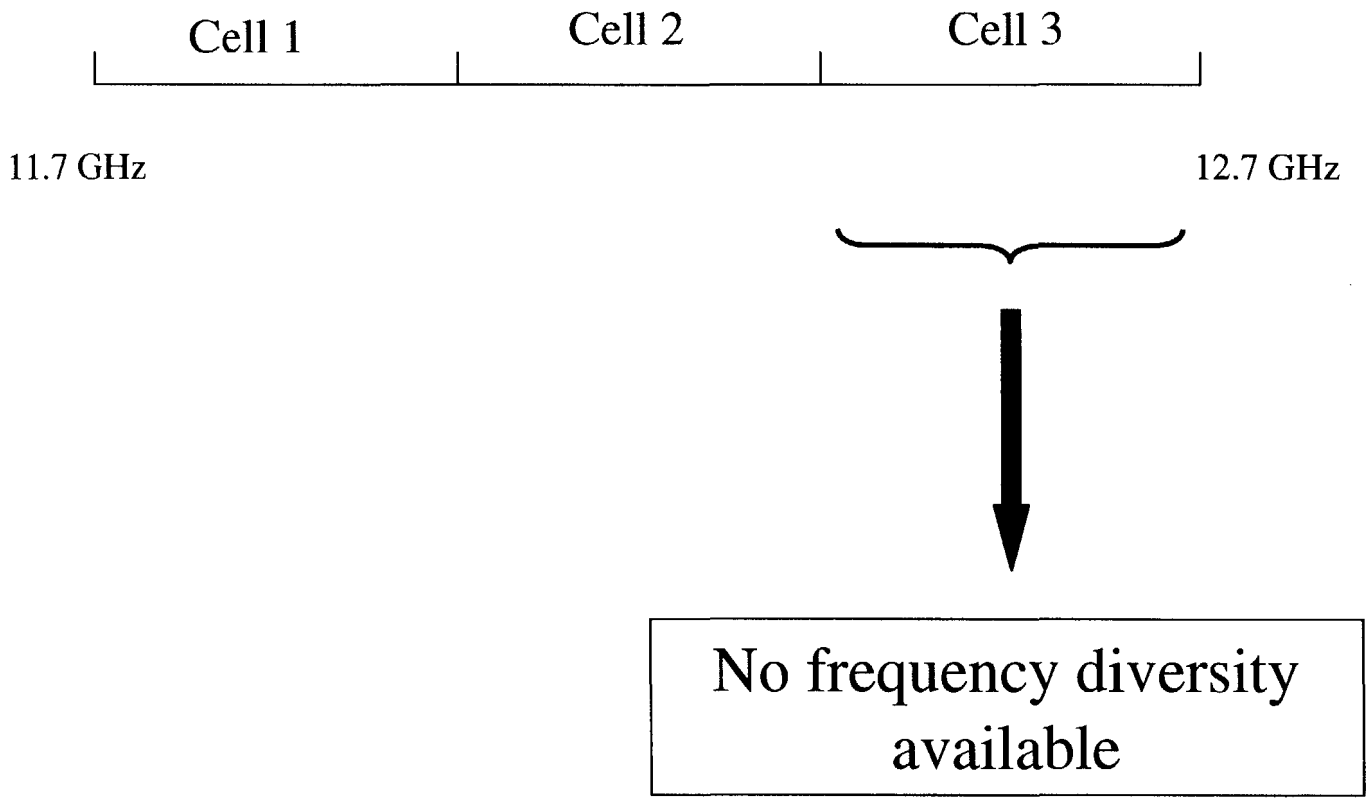
- Financial Attractiveness

- Scale Economies

- Market Dynamics

SkyBridge

Universal coverage offered with relay links



SkyBridge

- Scale Economies

  - Service Design and Definition
  - Advertising and Promotion
  - Distribution
  - Installation
  - Billing and Back Office Operations

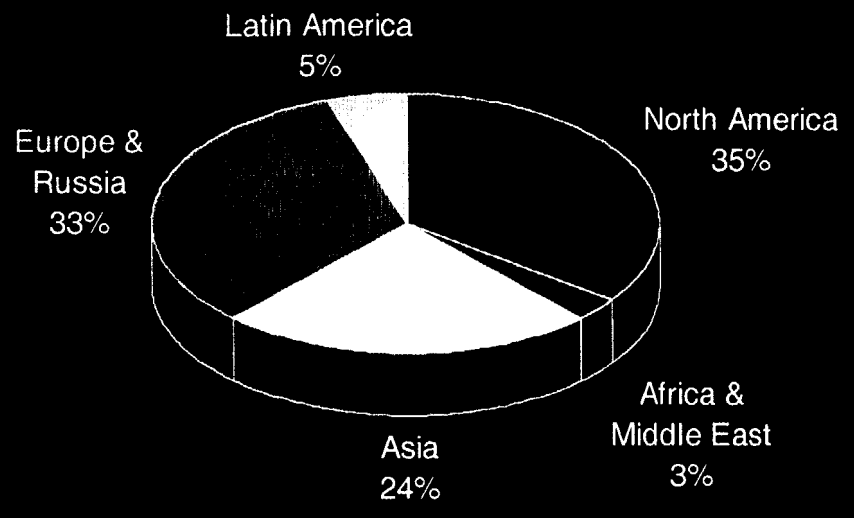
SkyBridge

Market Studies

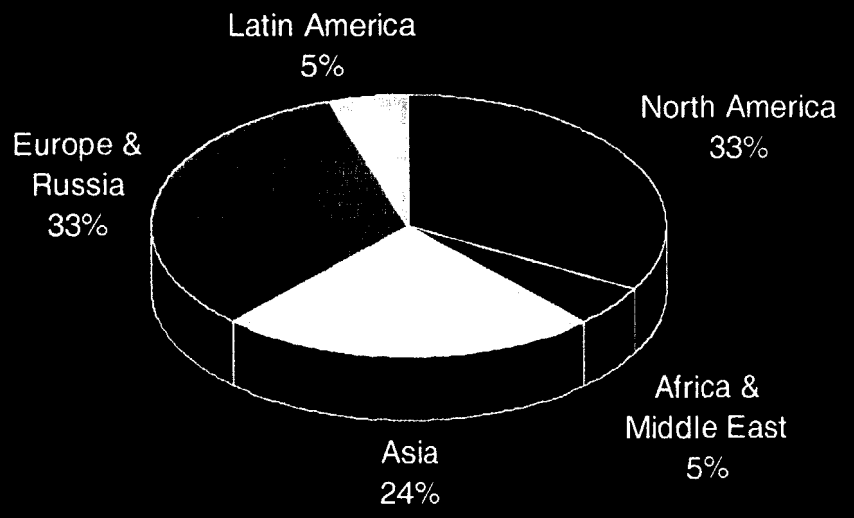
- In-depth independent market demand Studies have been separately conducted by two management consulting firms
  - Boston Consulting Group
  - Arthur D. Little, as a comparison to the BCG study and to refine the analysis on a country-by-country basis

SkyBridge

Overall Geographic Distribution of Revenues (2009)



Source: BCG



Source: ADL

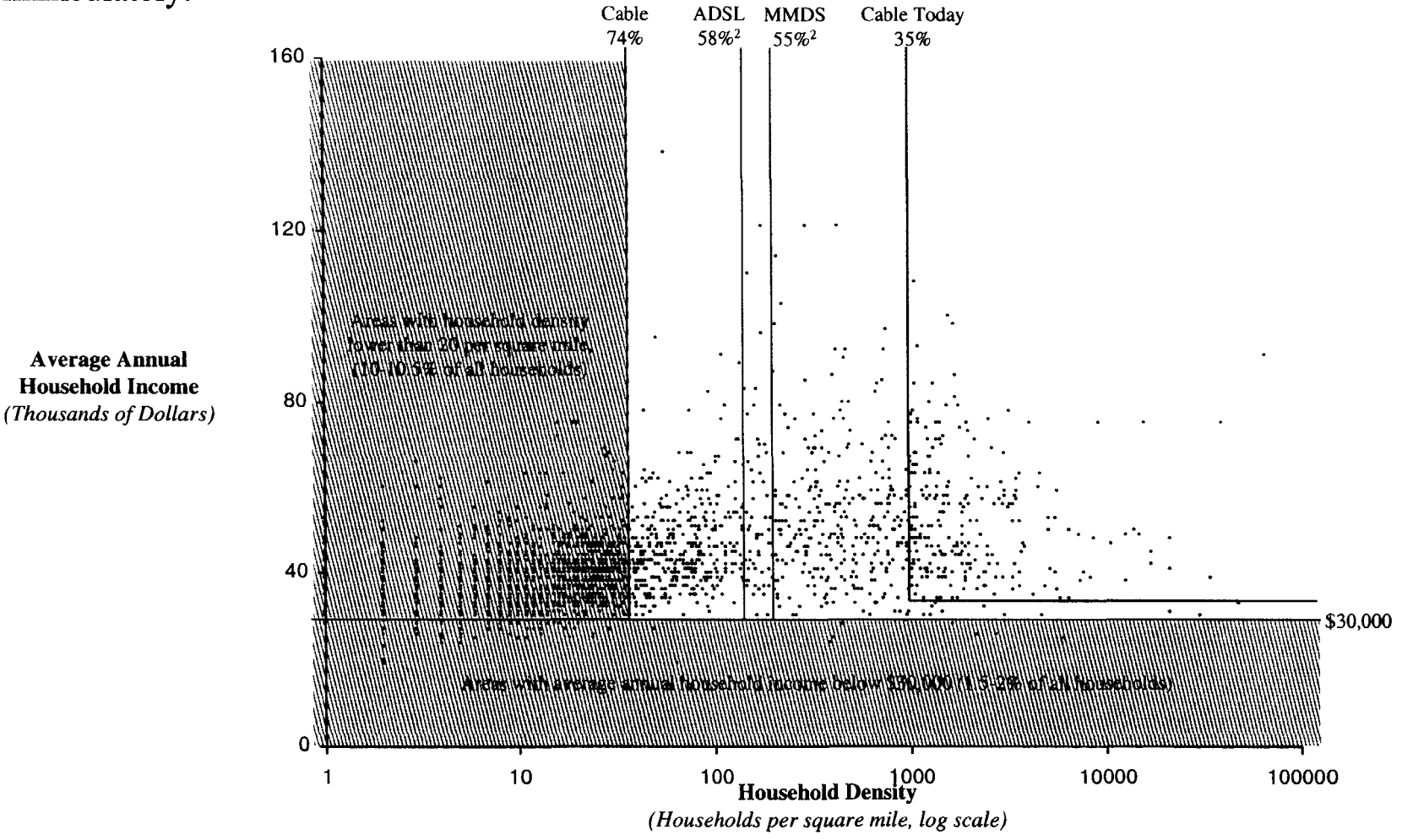
SkyBridge

Reference Pricing

- Usage was applied to ADL and SkyBridge Pricing
  - $25 per month for developing countries
  - $35 per month for developed countries
  - $30.6 per GByte for Business sites
- This average monthly pricing was applied to the count of entities and only a certain percentage, depending on the country and segment, was considered to be able to pay, leading to the **broadband addressable market**

SkyBridge could enable the service providers to gain the advantage of achieving nationwide coverage immediately.

2004 Terrestrial Deployment



Source: Paul Kagan, BT Alex Brown, Market Statistics, 1999, Census data, Mercer analysis.

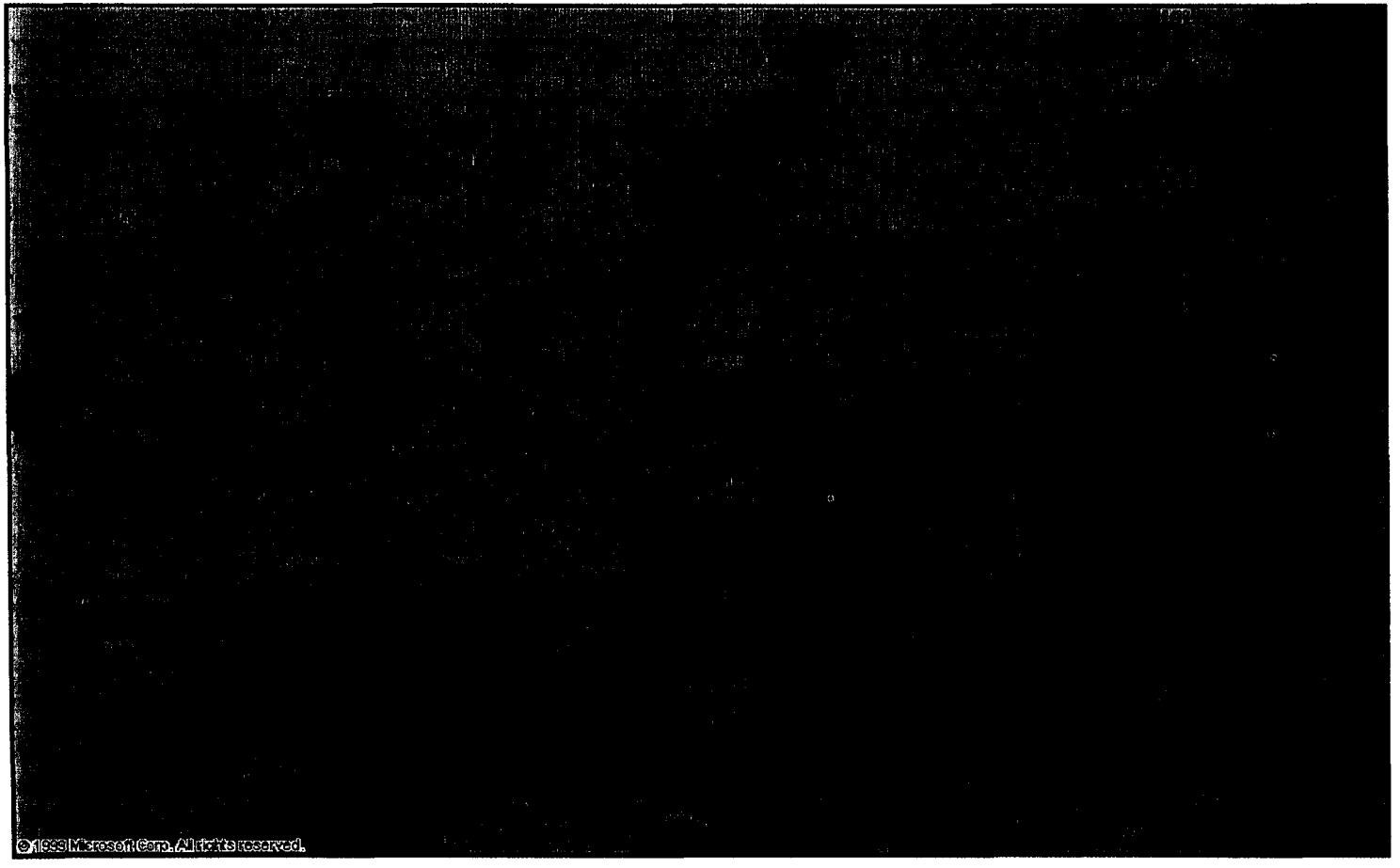
[1] Predicted ADSL rollout is to 72% of population, but technical limitations reduce availability to 58%.

[2] Predicted MMDS rollout is to 74% of population, but line of sight limitations reduce availability to 55%.

= Areas not likely to be deployed

SkyBridge could enable fill-gap and path-finder technology solutions.

Sample of Predicted 2004 Cable, ADSL, and MMDS Deployment



- Deployment of cable, ADSL, and MMDS will likely be spotty; especially in early years
- SkyBridge can be used as a fill-gap technology enabling in-region players to offer ubiquitous services
- SkyBridge is also well positioned to offer a path-finder solution for service providers entering new territories

= Areas not likely to be deployed

Source: Mercer Analysis.

SkyBridge

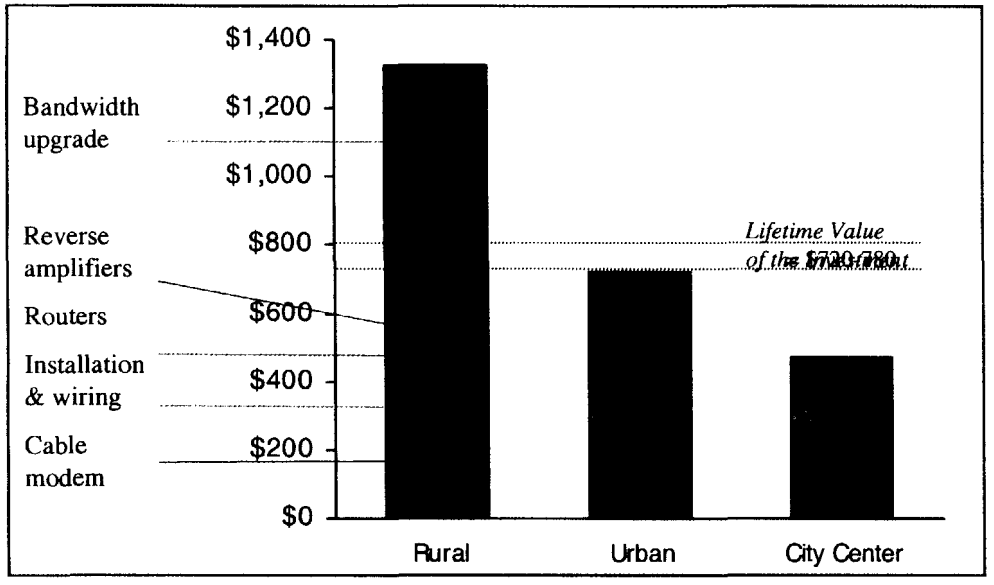
Additional Coverage May Be Limited by Technology

- Distance from Central Office: Limited to lines within 18,000 feet of the central office
- Digital Loop Carrier (DLC): Not feasible for lines served by traditional DLCs
- Bad lines: Older lines with bridge taps and load coils increase provisioning time and costs
- Regulatory: Regulatory rulings on open access impact timing

Projected DSL Coverage in 2004 Leaves >40% Uncovered

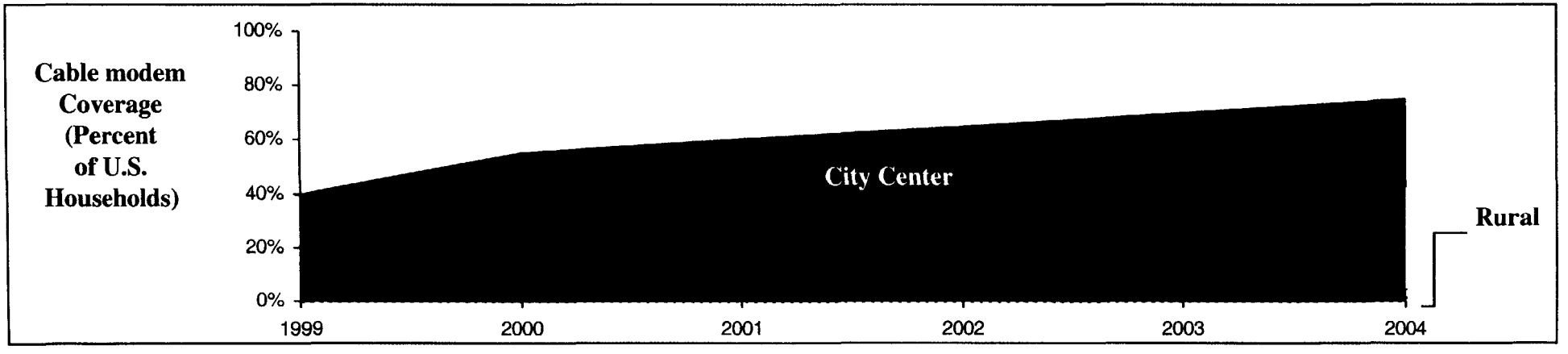
SkyBridge

Economics Will Impact Coverage[1]



Source: FCC, Allied Business Intelligence, Network, vendor interviews, Mercer analysis.
[1]Estimated cost 2002

Additional Coverage May Be Limited by Small MSOs

- Small MSOs number over 10,000, and serve approximately 7% of cable subscribers
- Many of these small operators do not have a sufficient customer base to recoup 2-way upgrade investments with Internet access fees
- Some operators are instead choosing provide 1-way Internet access over cable, using a telco return path

Projected Cable Modem Coverage in 2004 Leaves ~26% Uncovered