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November 18, 1998

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 Twelfth Street, SW, Room TWB-204
Washington, D.C. 20554

Re: Ex Parte
In the Matter of Applications for Transfer of Control to AT&T Corp. ("AT&T") of Licenses and Authorizations Held by Tele-Communications, Inc. ("TCI")
CS Docket No. 98-178

Dear Ms. Roman Salas:

On Tuesday, November 17, 1998, Ralph Andreotta and I, of AT&T, Milo Medin, Senior Vice President, Engineering and Chief Technical Officer of @Home, David Krone of TCI, and Howard Symons of Mintz, Levin, Cohn, Ferris, Glovksy & Popeo, P.C., on behalf of TCI, presented the attached materials to Susan Fox, Senior Legal Advisor to Chairman William Kennard.

Two copies of this Notice are being submitted to the Secretary of the FCC in accordance with Section 1.1206(a)(2) of the Commission's rules.

Sincerely,

Betsy J. Brady

Attachments

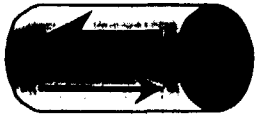
cc: Susan Fox

AT&T

Broadband Access and AT&T/TCI Rollout

Residential Access Technology Comparison

AT&T

Medium		Characteristics & Functions	Availability
HFC Cable Modem		Up to 27 Mbps down, Up to 2 Mbps up (both shared) Cable plant needs fiber build-out, digitization and 2-way upgrade	300 K data users now (@Home 200K, RoadRunner 100K), 500 K data users by EOY1998
ADSL		1.5 to 9 Mbps down, 16 Kbps to 640 Kbps up DSL capable copper loops up to 18,000 ft.	150K users by EOY1998 Many ILECS and CLECS, including Bell Atlantic, BellSouth, US West, SBC, GTE, Covad, Northpoint
ADSL-Lite (G. Lite)		1.5 Mbps down, 512 Kbps up DSL capable copper loops up to 18,000 ft.	Intel and GTE Field trials in Oregon
Fixed Wireless MMDS		Same up/down rates as HFC cable modem 30 Miles radius downlink only to be upgraded to 2-5 miles radius 2-way cellular-like infrastructure	2-way trials ongoing e.g. CAI Wireless 2-way authority granted Sep 1998
Satellite-Present		400 Kbps down, Telco POTS return path	Small number of Hughes DirectPC users
Satellite-Future		Up to 64 Mbps down, Up to 2 Mbps up (both shared)	Teledesic example 2003 or later
POTS		Up to 56 Kbps, Bi-directional	Ubiquitous Over 170m lines

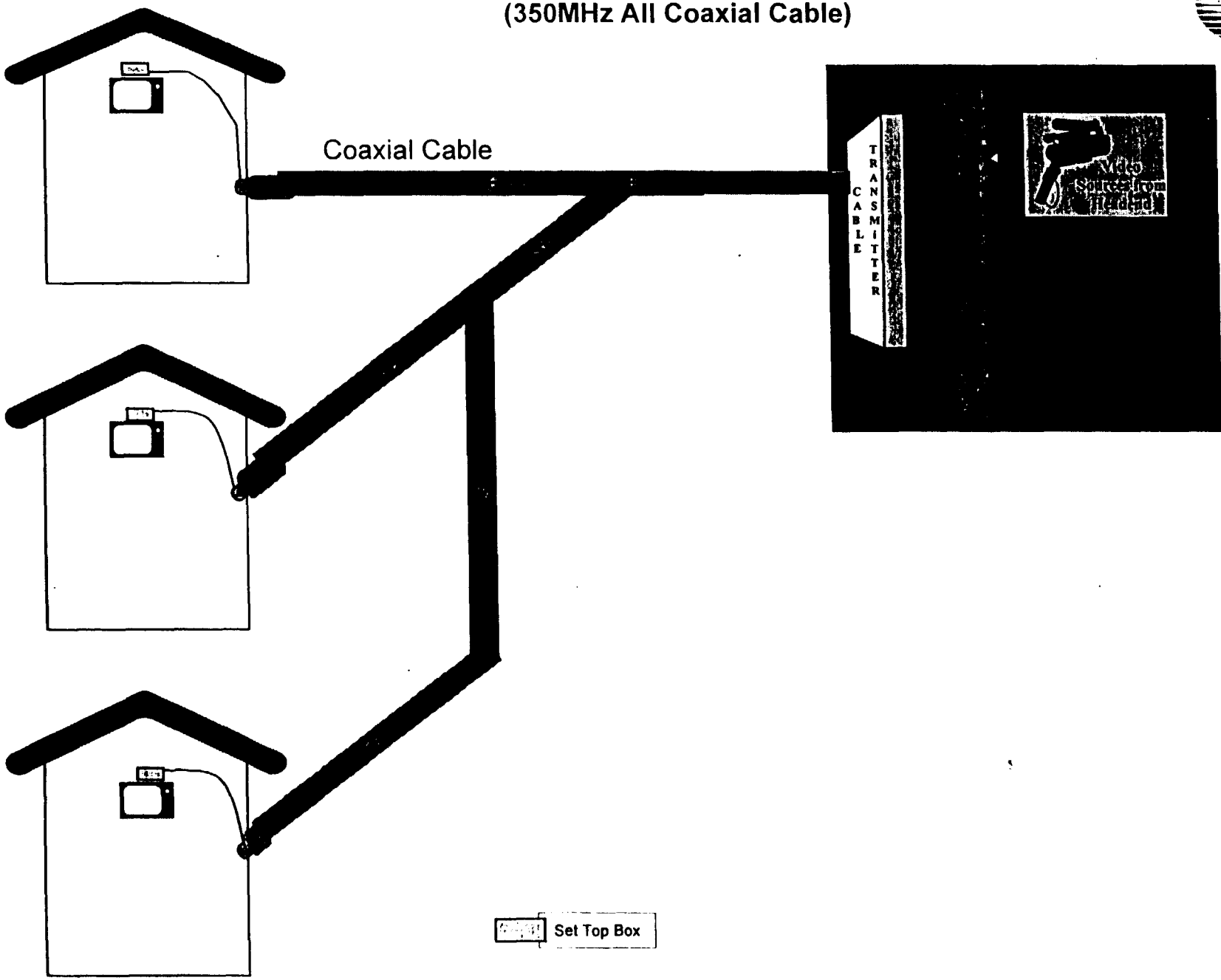
AT&T's Value Proposition

AT&T, with TCI, will create an exciting new alternative that integrates voice, high speed data and video services using the broadband medium of cable, offering millions of customers a choice in telecommunications for the first time.

Architectures of Traditional Cable Services

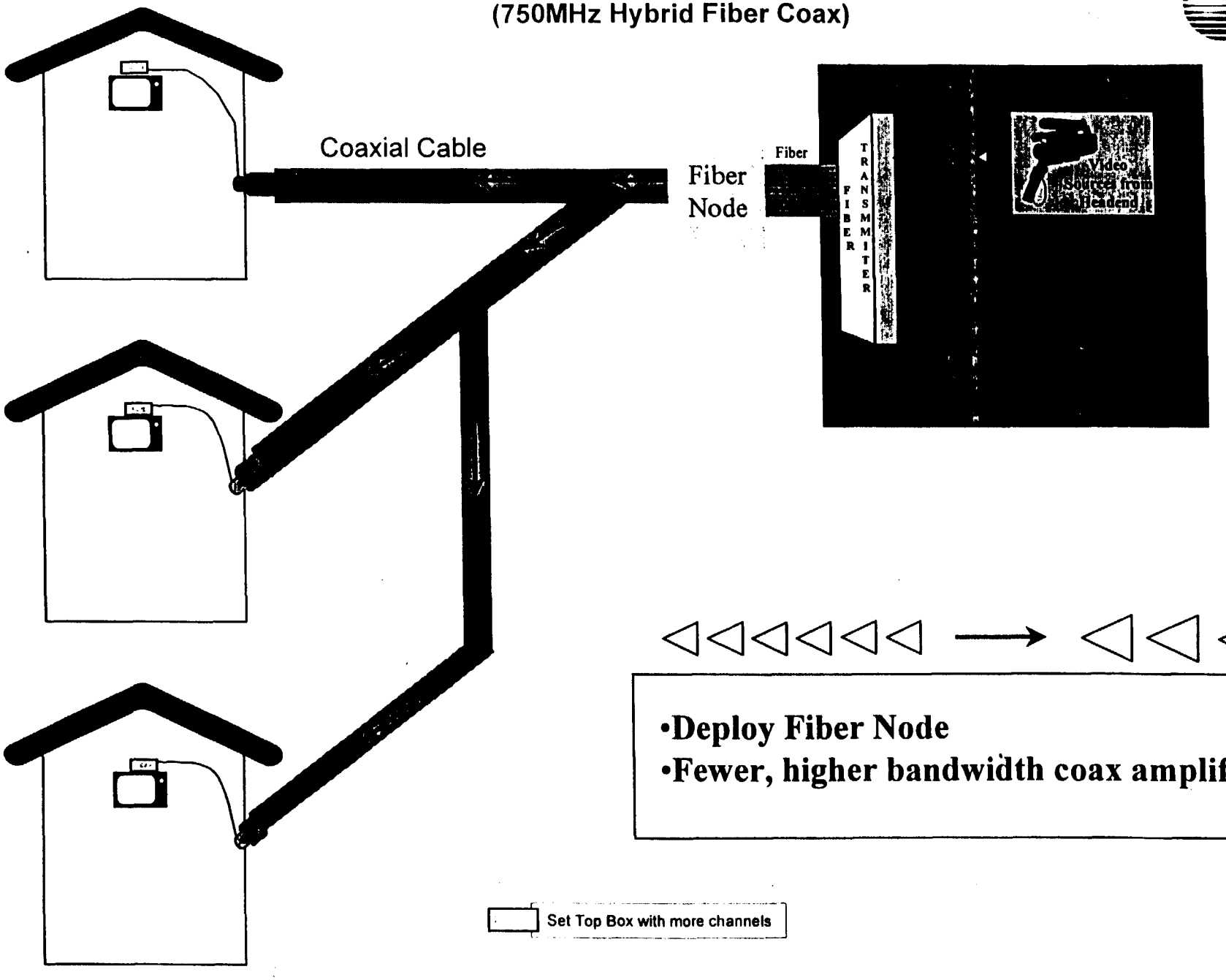
(350MHz All Coaxial Cable)

AT&T



Architectures of Bandwidth Upgraded Cable Services

(750MHz Hybrid Fiber Coax)

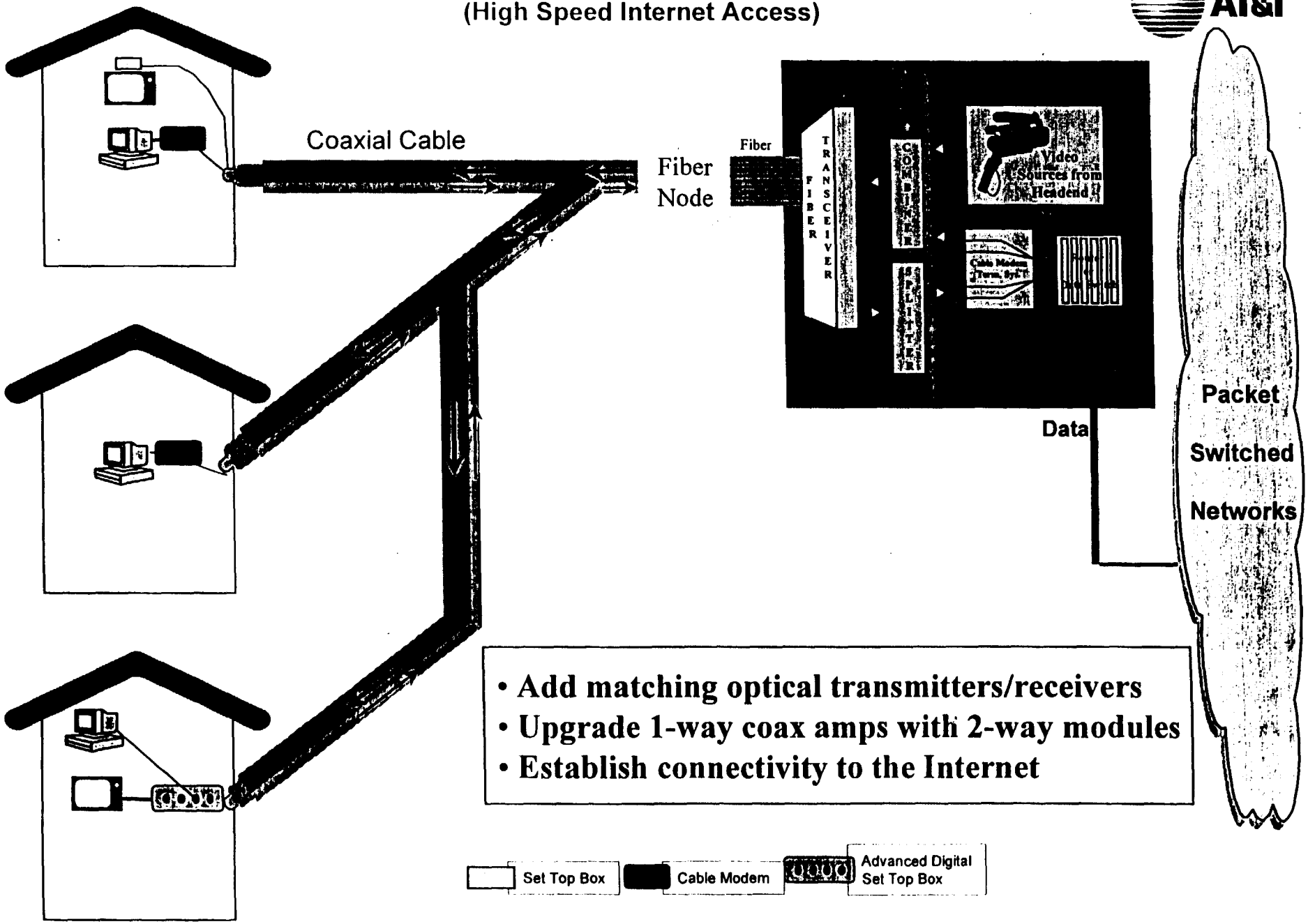


- **Deploy Fiber Node**
- **Fewer, higher bandwidth coax amplifiers**

Architectures of 2-Way Upgraded Cable Services

(High Speed Internet Access)

AT&T



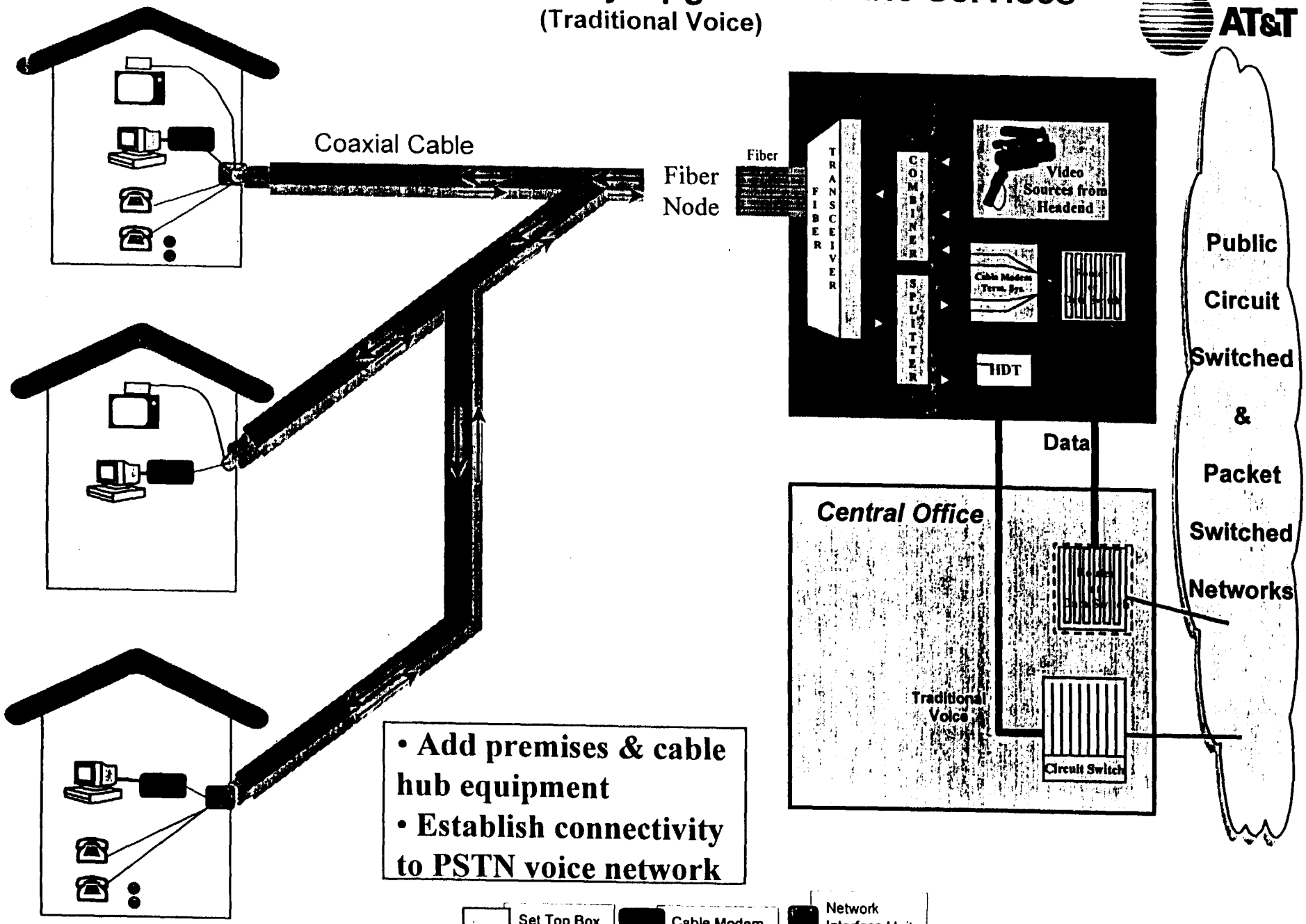
- Add matching optical transmitters/receivers
- Upgrade 1-way coax amps with 2-way modules
- Establish connectivity to the Internet

Set Top Box | Cable Modem | Advanced Digital Set Top Box

Architectures of 2-Way Upgraded Cable Services

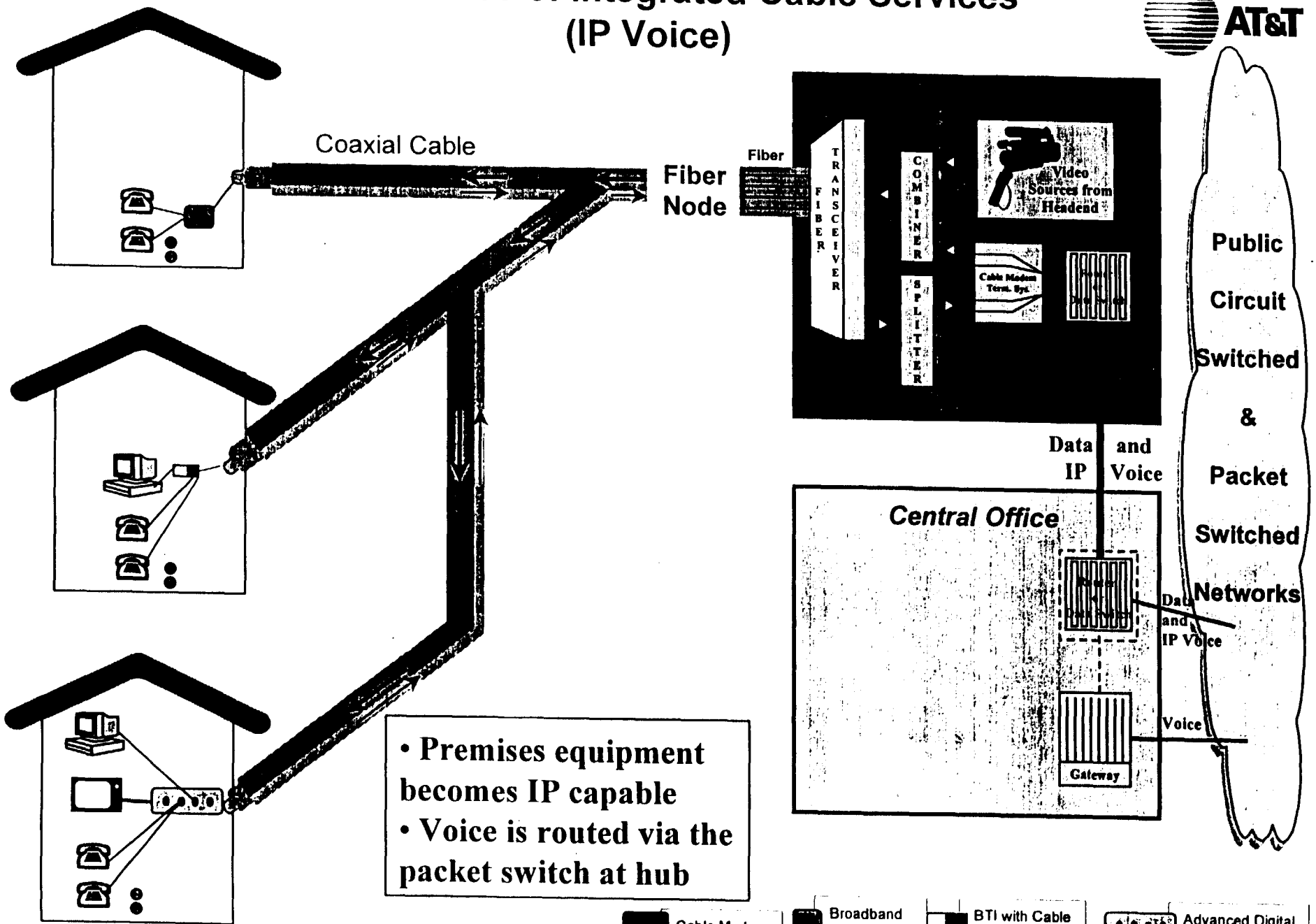
(Traditional Voice)

AT&T



Architectures of Integrated Cable Services (IP Voice)

AT&T

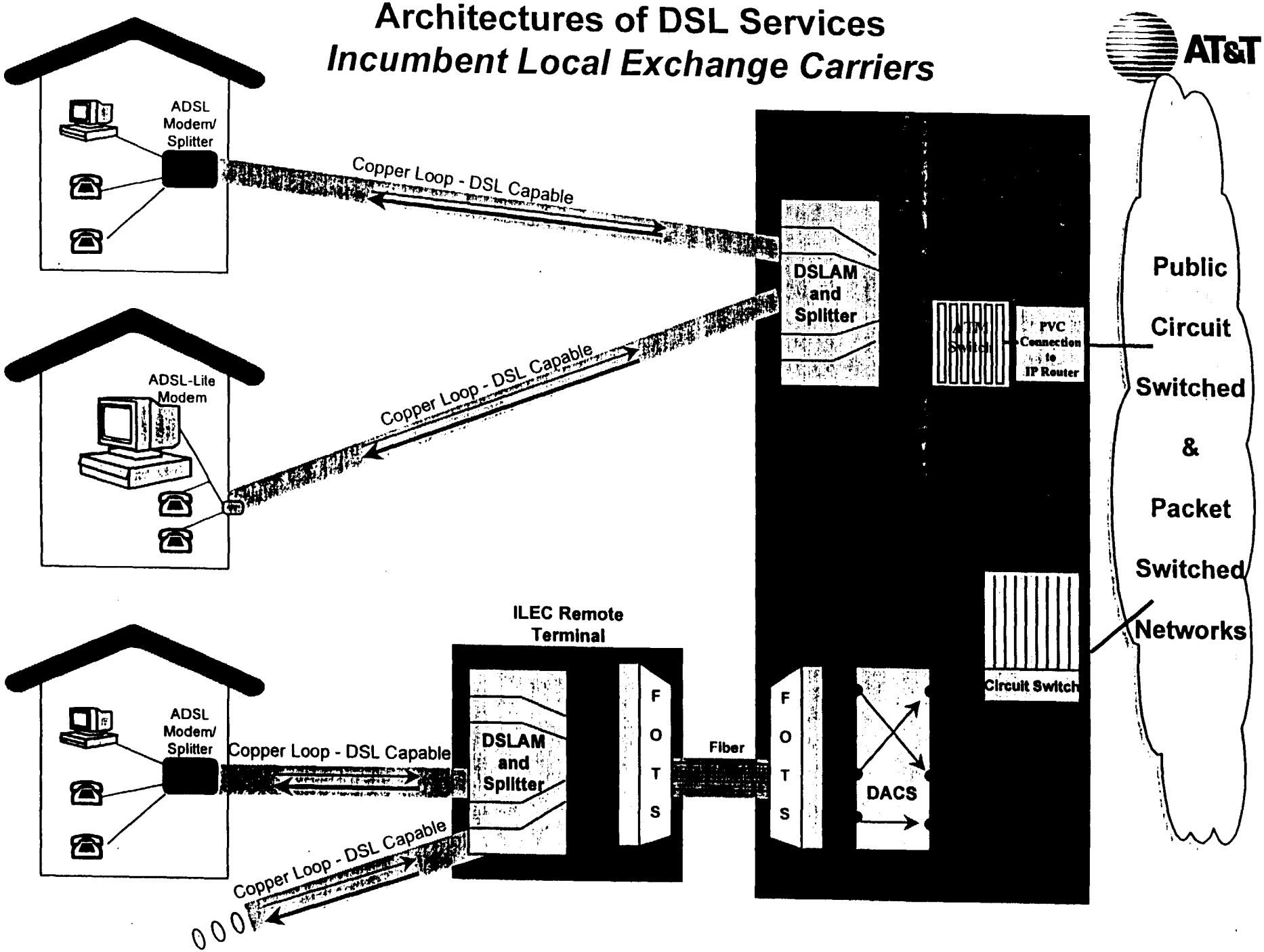


- Premises equipment becomes IP capable
- Voice is routed via the packet switch at hub

Cable Modem | Broadband Tel Interface | BTI with Cable Modem | Advanced Digital Set Top Box

ADSL Technologies

Architectures of DSL Services
Incumbent Local Exchange Carriers



@Home Architecture

Milo Medin
SVP, Engineering & CTO

@Home Network

November 16-17th, 1998

Our Vision

- Leverage the existing cable infrastructure to provide high-speed, fully integrated, multi-platform interactive services which will *revolutionize* the way people interact with information and each other at home and at work.

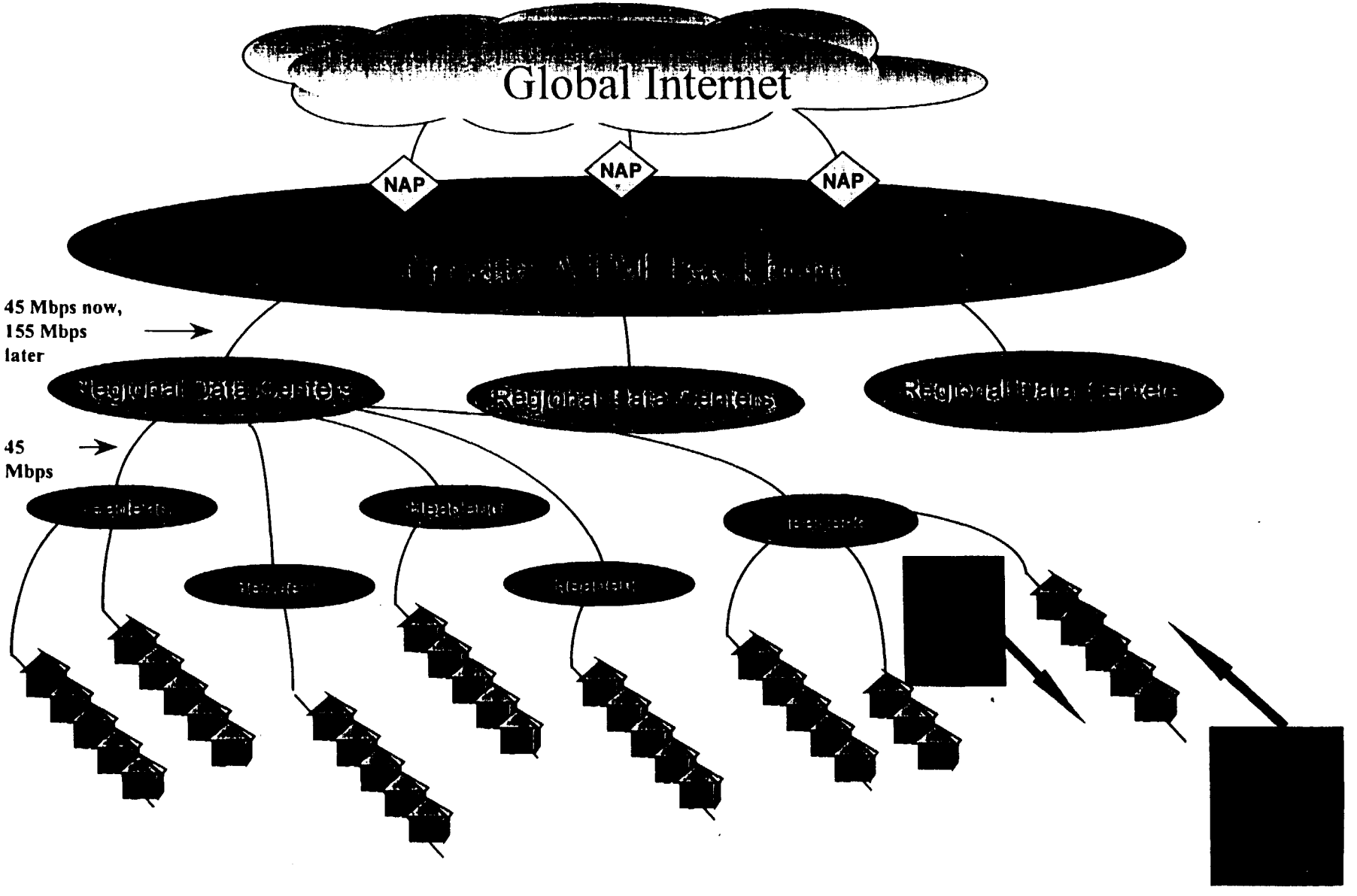
The Challenges

- How to provide high-performance Internet service without destroying the Internet?
- How to scale and evolve the system to millions of homes at an affordable price?
- How to proactively manage reliable network communications to the user?
- How to assure quality of service to the customers, even when the Internet is highly variable?

Key Design Principles

- Must design specifically for consumer price point - not retrofit business service model
- Cannot scale the system just by adding communications capacity - must work smarter
- Network must cache and replicate content to provide support "fanout" - trade off CPU power and storage for network transport
- Network must integrate content distribution with transport for maximum broadband performance
- Service aware QoS is required for service differentiation and scalability

The @Home network is managed from end to end



Backbone

- Need for production multicast and QoS capabilities forces construction of dedicated IP router backbone
- Initially ATM carrier service based - outsource core switching to IXC
  - More cost effective than point to point DS-3's
  - Allowed us to add regions quickly without constantly redesigning trunk topology
  - Can scale capacity in response to demand
- @Home managed routers peer with other ISP's with both public and private peering

Caching Servers

- Typically located in "primary" headends
- A minimum of 2 deployed for robustness
- Provides superior service to users since data is coming from a "local" server
- Greatly reduces network load "up" from the head end system (e.g. the broader Internet)
- Provides modem booting and diagnostic functionality
- Operated in "lights-out" mode, managed centrally from @Home NOC in California

Regional Data Centers

- Located in the core of large metropolitan networks
- Mirrors data from @Home and content providers in multiple regions transparently to subs
- Provides Email, News, Directory, Provisioning, NMS, etc… service on high availability platform
- Operated in "lights-out" mode, managed centrally from @Home NOC in California

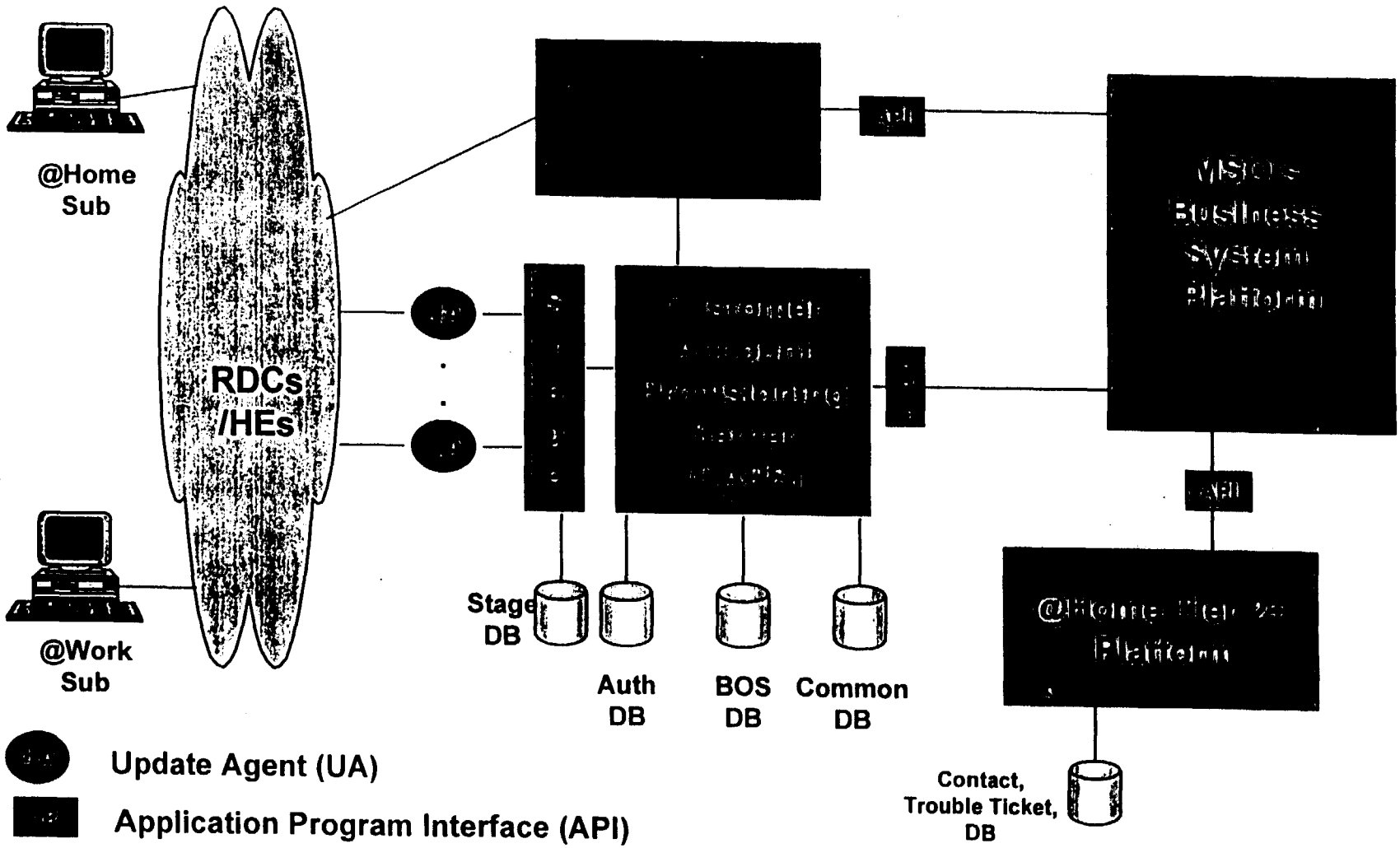
Technology Partners

- Cisco - switching and routing equipment
- Sun - High availability RDC Servers
- SGI - High performance caching servers
- Netscape - Server and client software
- Microsoft - Client Software
- Oracle - Core of advanced provisioning system
- Inktomi - advanced caching server software
- Software.com - scalable messaging server software

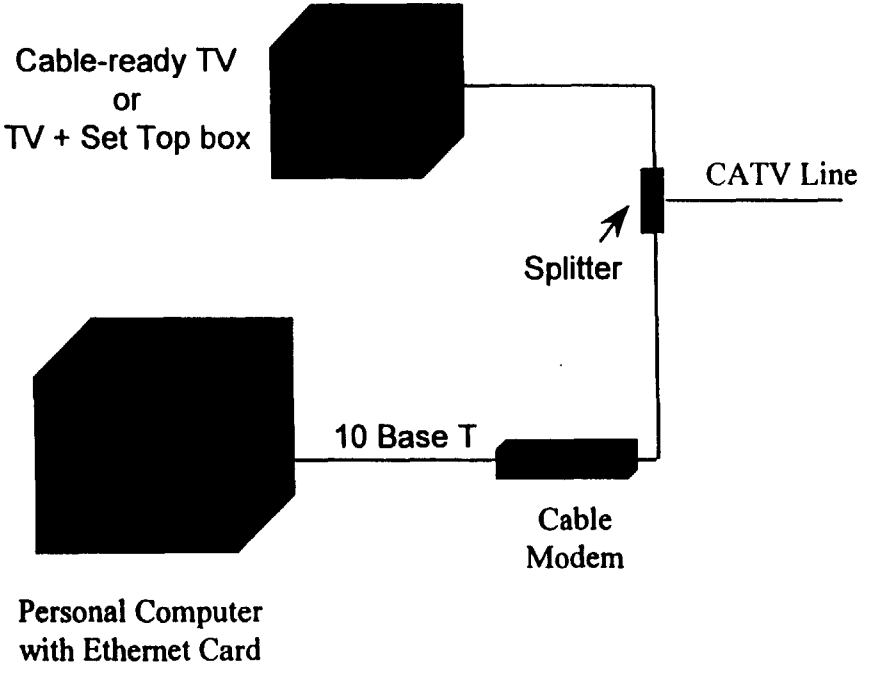
Provisioning Systems

- Provides network and application service activation, deactivation and management
- Complete "flow-through provisioning" - no local technician support needed
- Standard interfaces to MSO IT systems, with distributed elements throughout the @Home network (RDC's, Headends, CMTS's, and subscriber software)
- Supports user provision of additional services
- Tied into NMS and customer care systems for diagnostics and support

@Home Service Provisioning



Subscriber Installation



- Simultaneous data and video use
- Full IP dial-tone
- Modem always on
- Multiple hosts supported
- Proactively managed