Future Technology
Fiber to the Neighborhood (Hybrid Fiber Coax)
Implementing the Network, Step by Step

- **All-Digital Network**
  - Effectively triples capacity
  - Scalable

- **Channel Bonding**
  - Utilizes “dormant” bandwidth across multiple channels
  - Exponential increase in data rates

- **Transition to IP**
  - Facilitates unified management, messaging and content sharing among devices in the home

- **HFC Node Architecture**
  - Designed for future splits
  - Reduces number of homes sharing bandwidth resources

- **Switched Digital Video**
  - Increases bandwidth efficiency with intelligence at the edge of the network

Scalable architecture provides greatest flexibility
Video Evolution: Migration to All-Digital

• Comcast moves to an all-digital platform

• A controllable and scalable transition
  - All analog products simulcast in digital
  - Greater digital compression with 1024 QAM
  - Launched IP based telephone service
  - To ensure a smooth transition, Comcast will:
    - Eventually convert analog channels to digital
    - Continue to add nodes to reduce the homes per node
    - Maximize bandwidth capacity through channel bonding
    - Employ switched video for more efficient bandwidth utilization

Controllable product migrations ensure smooth transitions
The Impact of Digital Migration in the All-Digital World

### Analog Channels

<table>
<thead>
<tr>
<th>Today</th>
<th>Future</th>
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<tbody>
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<td>4</td>
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<tr>
<td>5</td>
<td>100Mbps or 100 homes VOD</td>
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<td>6</td>
<td>400 phone lines or 25 HDTV</td>
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<td>7</td>
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- 80 Analog Channels become available for Channel Bonding
Integration of IP Platform will add enhanced features across all product groups.

All the Same IP Platform!
Flexibility – Intelligence at the Edge

• Comcast will add intelligent services at the edge of the network to facilitate:
  – More efficient bandwidth utilization
  – Video only delivered to the homes requesting that program
  – Remaining bandwidth can be utilized for other purposes within that node
Comcast’s Strategy for Delivering Services for Tomorrow

- Deliver “Everything” ON DEMAND
- Video will drive capacity in both video services and broadband data delivery
- Support “Instantaneous” Data Transfer:
  - Increasing data rates
  - Improving bandwidth efficiency
  - Handling the most challenging user requirements
All Devices, All Services, One Network

New integrated devices & services - we are driving that convergence