Unbundling for FTTH and FTTC networks

Mark Cannata
February 18, 2004

© 2002. The Copyright in this document belongs to Marconi Corporation plc and
no part of this document should be used or copied without their prior written permission.
Filename: PLM update-March 2003

Unbundling for FTTH and FTTC

Key Issues

- **Proposed rule, section 51.219(a)(3)**
  - (3) Fiber~~-to-the-Home~~ loops. A fiber~~-to-the-home~~ loop is a local loop consisting entirely of fiber optic cable, whether dark or lit, and serving a **terminal, at, or within 500 feet of, an** end user's customer premises.
- **"Bright Line"**
  - "Bright Line" is preserved in FTTC and/or FTTH
  - Same demarc location for both architectures
  - Same CPE interfaces for both architectures
  - Only difference is how much distance, up to 500 feet, exists between O/E conversion and demarc
  - Loop administration and inventory tools can readily identify loop types
- **Service Parity**
  - Capacity of the fiber medium is essentially limitless
  - Some amount of metallic medium used in both FTTH and FTTC
  - Bandwidth delivery is practically the same for both architectures; FTTC can support >5Gb/s (Coax) and 150Mb/s (Twisted Pair) over 500 feet, as even the Association for Local Telecommunications Services (ALTS) acknowledges in its FCC ex-parte submission, Jan 23, 2004

© 2003. The Copyright in this document belongs to Marconi Corporation plc and no part of this document should be used or copied without their prior written permission.

Marconi

Unbundling for FTTH and FTTC

Key Issues

- **Competitive Impairment**
  - Standard is met with both architectures
- **FTTPremise definition**
  - Includes Fiber-to-the-Home (FTTH) and Fiber-to-the-Curb (FTTC)
- **Multi-Dwelling Unit (MDU) / Multi-Tenant Unit (MTU) solution**
  - Represent significant percentage of customers
  - FTTC and FTTH MDU applications are identical; ONT location is same as ONU location; service provider frequently doesn't own intra-building wiring

© 2003. The Copyright in this document belongs to Marconi Corporation plc and no part of this document should be used or copied without their prior written permission.

Marconi

Unbundling for FTTH and FTTC

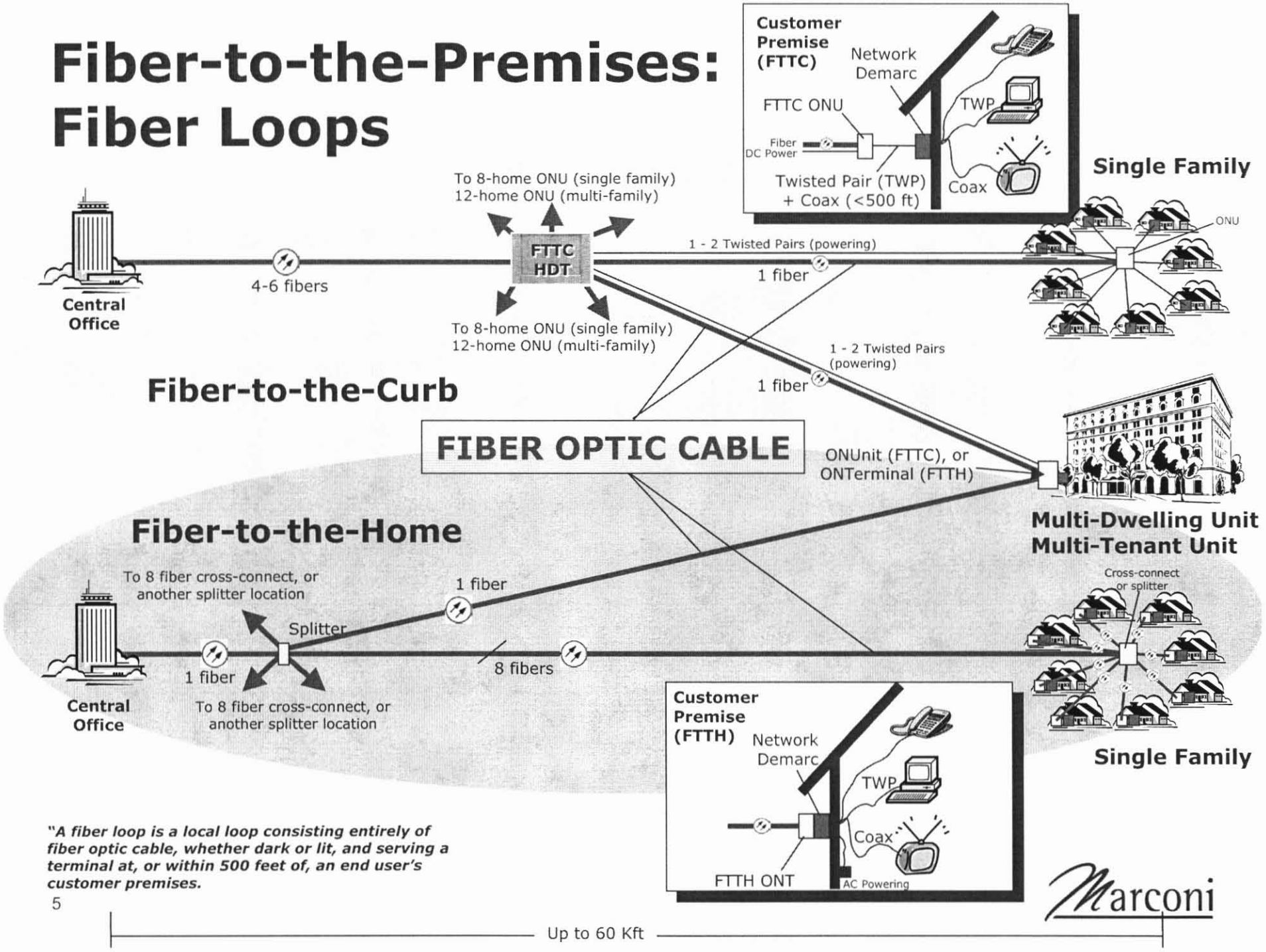
Key Issues

- **Network Engineering Differences (FTTC vs. FTTH)**
  - **Powering**
    - Network powering vs. home powering
    - Centralized battery backup vs. distributed batteries
    - Service provider ownership and management vs. customer owned and managed
  - **Bandwidth Sharing**
    - One fiber shared by 8 - 12 homes vs. one fiber shared by 32 homes
  - **Electronic Points of Failure**
    - O/E and powering conversion shared by 8-12 users vs. O/E, powering dedicated, and replicated, for every user

© 2003. The Copyright in this document belongs to Marconi Corporation plc and no part of this document should be used or copied without their prior written permission.

Marconi

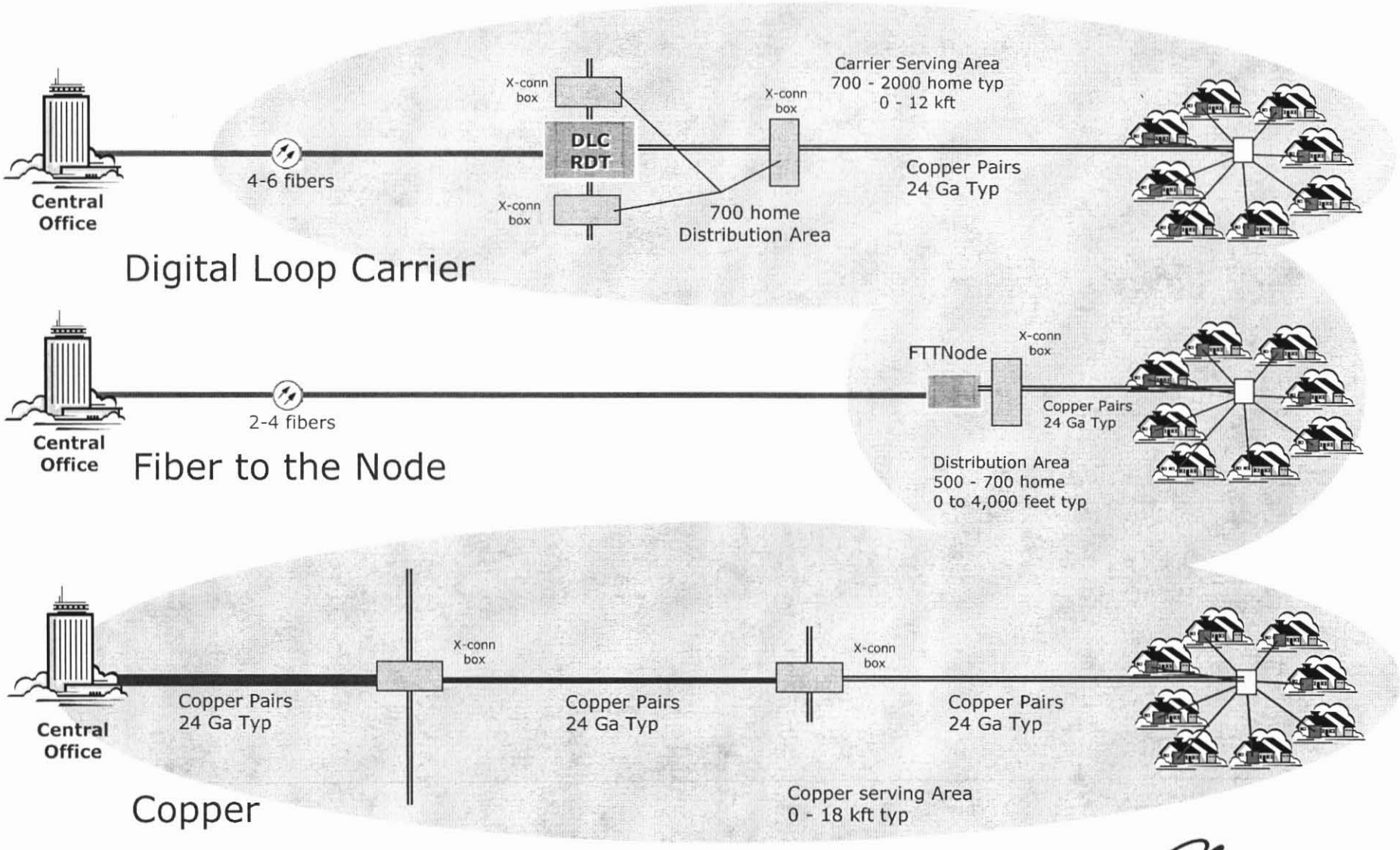
Fiber-to-the-Premises: Fiber Loops



"A fiber loop is a local loop consisting entirely of fiber optic cable, whether dark or lit, and serving a terminal at, or within 500 feet of, an end user's customer premises.

Marconi

Other Hybrid Loops



© 2003. The Copyright in this document belongs to Marconi Corporation plc and
no part of this document should be used or copied without their prior written permission.

Marconi