

IAD

G.SHDSL Integrated Access Devices Features

- Universal User Interface: G.703 + N64 (V.35/V.36/X.21) + ETH + FXS/FXO/VF E&M
- Up to 2Mbit/s Data and 4 or 8 Voice channels over copper lines
- Digital Pair Gain Application
- Removable add-on Voice modules
- E1 (Digital) or FXO (Analogue) connection to the CO Switch
- CAS signaling analyzing
- TC-PAM (G.SHDSL) single or dual pairs
- Add/drop repeater available



The **AccessDSL** Integrated Access Devices for Cost-effective Voice and Data Connections

Both network operators and subscribers are willing to use "full package" approach. In terms of DSL access it means being able to connect telephones (fax machines, modems) and LANs over single existing copper pair. **AccessDSL** IAD is an easy-to-implement and investor-friendly solution to satisfy these needs.

Unlike Voice-over-IP and Voice-over-ATM ideas, **AccessDSL** IAD uses field proven and cost effective TDM transmission mechanism. Building of "fully packetized" access network requires Voice Gateways, DSLAMs, ATM or IP backbones and a number of other expensive network elements. **AccessDSL** IAD allows voice and data subscribers to be connected to **existing** telco infrastructure i.e. to the Public Switch and ISP router. On the CO side **AccessDSL** is connected to the Voice switch using standard E1 trunk (with any type of CAS signaling) or via analogue 2-wire a/b (FXO) interface. Data connection to the Internet node (router) is made via universal digital interface (V.35/V.36 or X.21) or Ethernet. On the CPE side the customer has an option of one or two Voice Cards (4 analogue FXS interfaces each) to be installed on a main DSL board. The main DSL board provides universal digital interface (V.35/V.36 or X.21) or Ethernet for connection of LAN over an inexpensive SOHO router. There is an option of an additional G.703/704 interface on the CPE side for digital PBX.

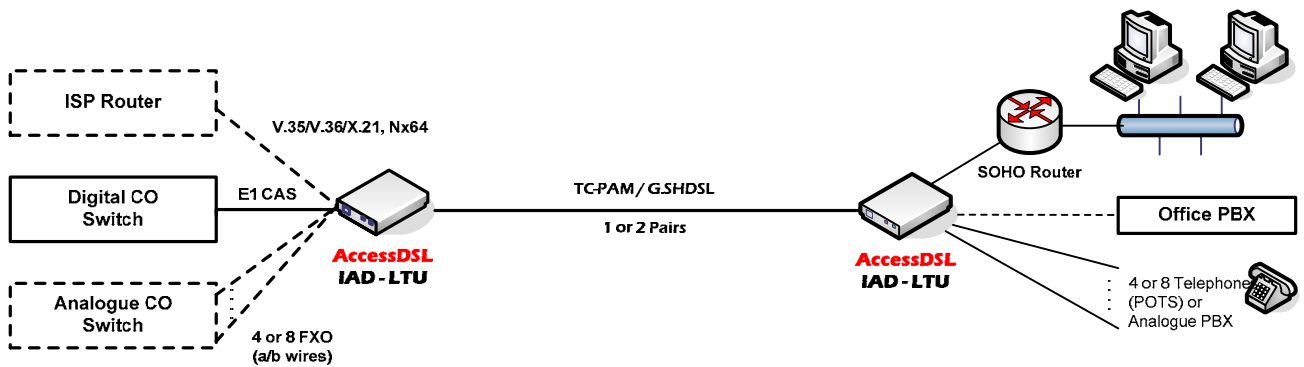
In many cases **AccessDSL** IAD can also be implemented as cost-effective and better-quality alternative to traditional Digital Pair Gain Systems. IAD (same functionality as Pair Gain System) can provide multiplication of subscriber lines by factor of 4 or 8. In addition it offers to both operator and subscriber many new advantages:

- POTS and Internet over existing copper line
- Direct digital connection to the CO switch (no double Analogue-to-Digital conversion)
- TC-PAM (SHDSL) line coding providing much longer reach compared to conventional 2B1Q-based Pair Gain Systems
- Flexibility of step by step upgrade on CPE side (4 telephones, then 8 telephones, then G.703 for PBX)
- Linear add/drop and tree access network configurations when **AccessDSL** IAD is used in combination with **AccessDSL** add/drop repeater, cross-connect and TDM modules

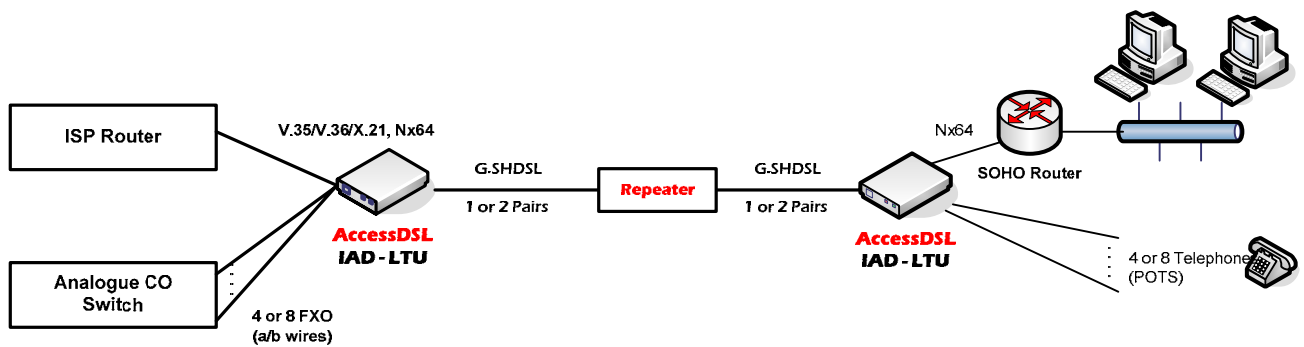
G.SHDSL
 Integrated Access Device
 2M Data + 4/8 Voice



Integrated access to voice and data services over copper pair for Small and Medium Size Enterprises (SME) and for Small Offices/Home Offices (SOHO)



Conventional and Advanced (without double analogue-to-digital conversion) Digital Pair Gain Applications with an option of High-Speed on-line Internet connection



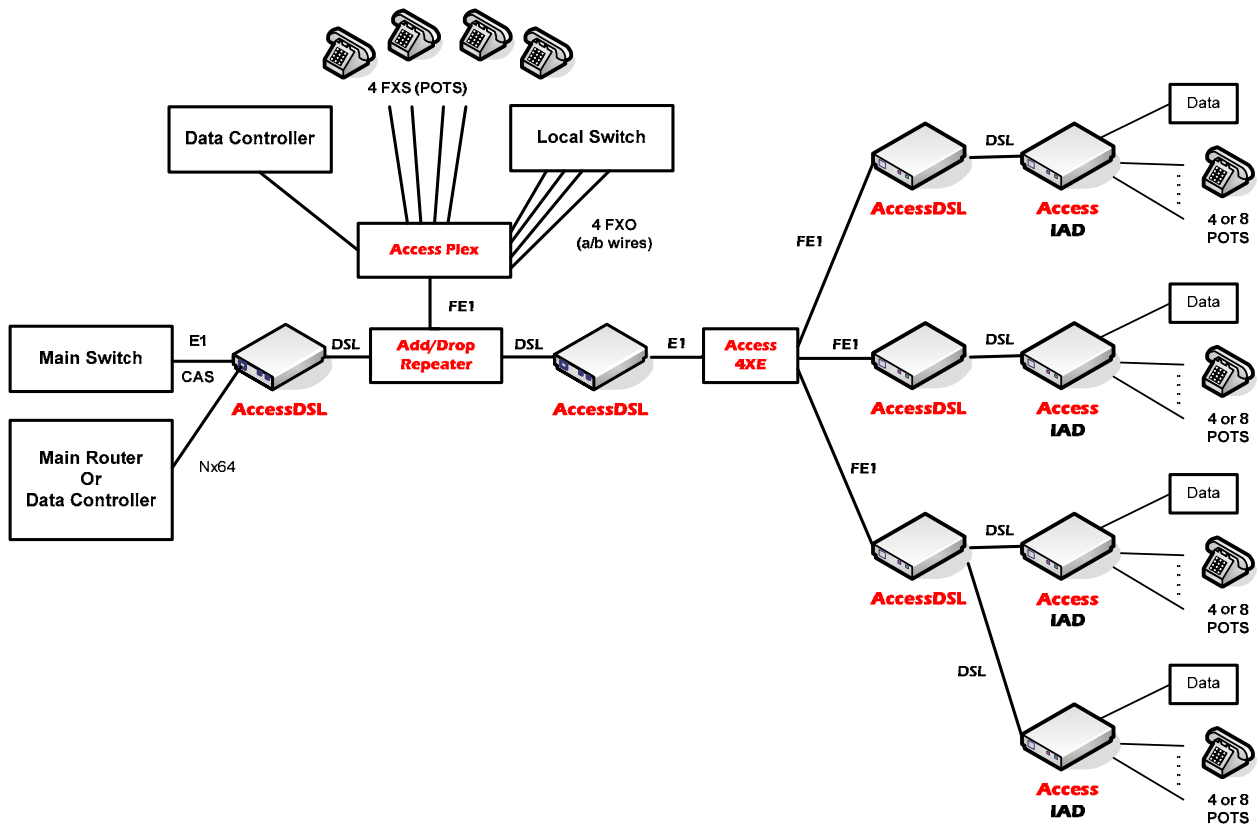
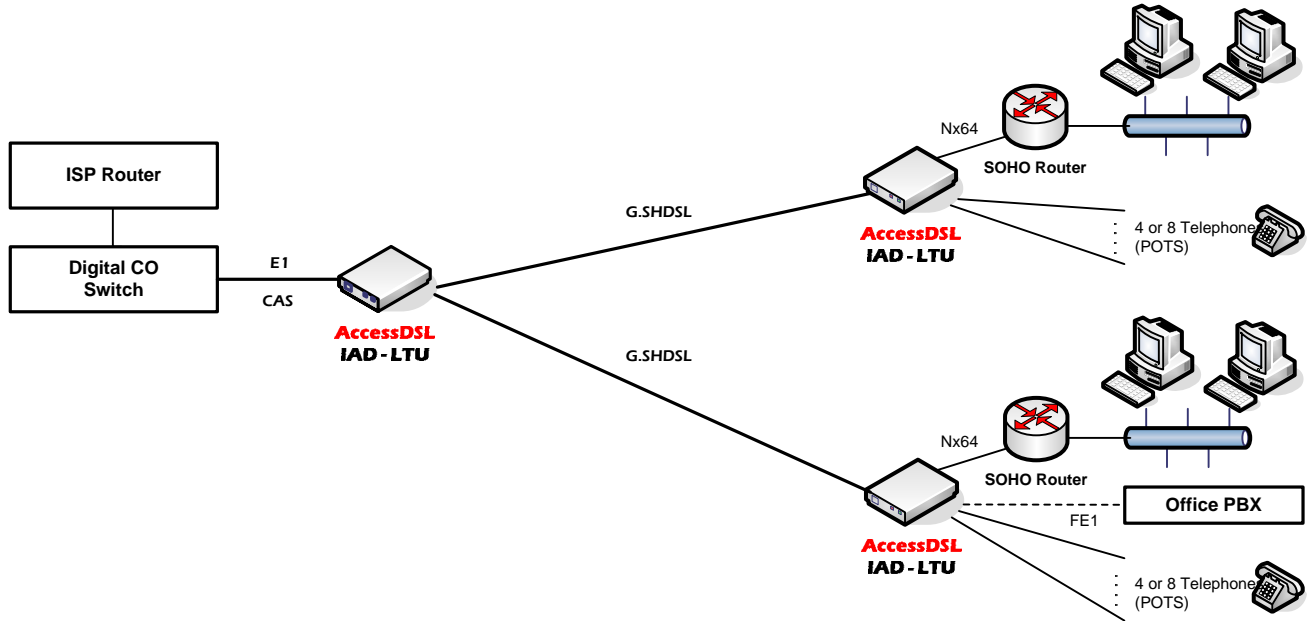
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G.SHDSL
 Integrated Access Device
 2M Data + 4/8 Voice



Linear add-drop and Tree access network configurations for utilities (railways, pipelines, waterways, highways), rural areas, campus applications



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