

# Plus Power Line Ultimate System

## PLUS TOTAL SOLUTION

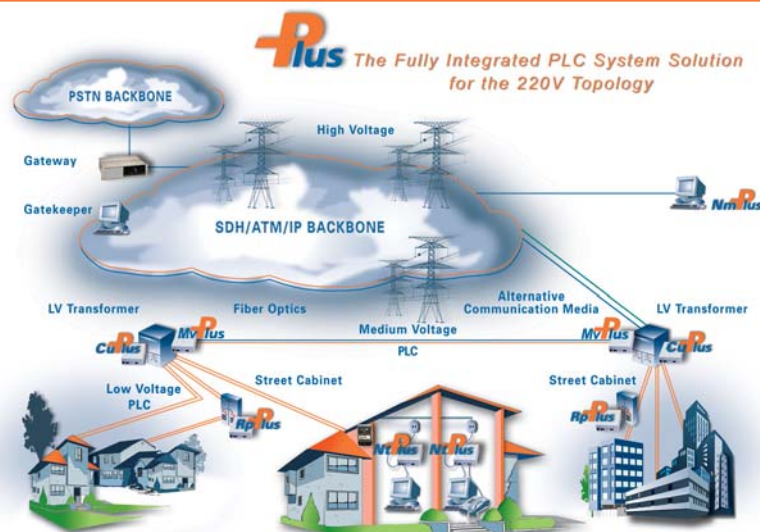
Main.net's Power Line Ultimate System (PLUS) is the world's leading commercial power line communications (PLC) Access solution. It enables Power Utilities, operators and city carriers worldwide to provide profitable Broadband communication services to their customer base. Another application of PLUS, for hotels and schools, provide operators and integrators with broadband communication services as well as VLAN in their building(s).

PLUS unique concept provides a cost-effective telecommunications solution for high speed communication over low and medium voltage power lines. PLUS multi-service platform enables Power Utilities to utilize their existing backbone and electricity grid infrastructure to offer their customers a wide range of always-on broadband services such as high speed Internet, telephony, home networking, AMR, as well as other services.

The extension of PLUS to medium voltage dramatically improves the business case of the Power Utility, and enables fast mass deployment. Power Utilities and operators deploying medium voltage PLUS in addition to the low voltage PLUS, benefit from a fully integrated system, since PLUS unique qualities and features are preserved on both grids.

The system also includes the PLUS Network Management (NmPLUS) which enables the Power Utility to remotely manage and control mass deployment and operations of all PLUS units in the network. It enables operators and integrators of PLUS in schools and hotels to remotely manage and control the installed PLC network.

### MAIN.NET POWER LINE ULTIMATE SYSTEM (PLUS)



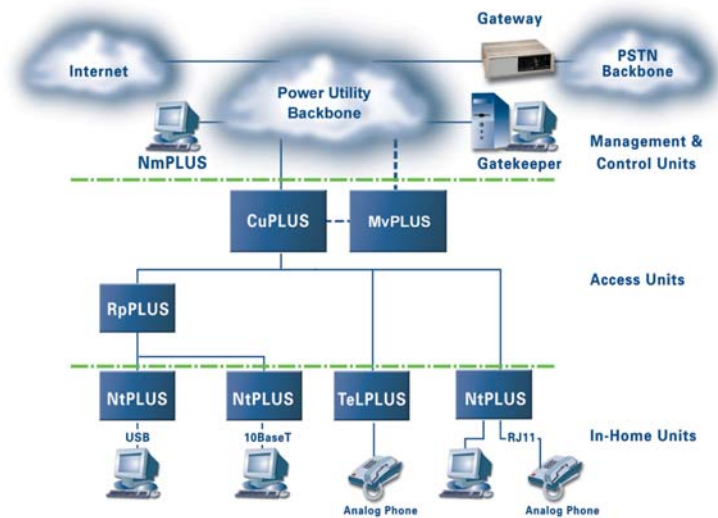
#### Features

- ▶ End-to-end fully integrated PLC solution
- ▶ Operates on LV (220V or 110V) and MV
- ▶ Advanced network management for mass deployment
- ▶ Scalable and flexible
- ▶ Auto-configuration & Auto-provisioning
- ▶ Smart repetition
- ▶ Dynamic routing
- ▶ Head end redundancy (CuPLUS hopping)
- ▶ Advanced SLA and security mechanisms
- ▶ QoS for data and voice

#### Benefits

- ▶ Competitive technological business solution
- ▶ Connection from every electric outlet
- ▶ Plug & Play
- ▶ Always-on service
- ▶ Also provides in-building solutions for schools and hotels
- ▶ Integrated VLAN (home networking)
- ▶ High quality secure connection
- ▶ Telephony using standard analog phones
- ▶ Low infrastructure costs
- ▶ Low maintenance and operational costs

# PLUS ARCHITECTURE



The PLUS system can easily be integrated into any communications infrastructure (e.g. SDH/ATM/IP). It consists of three categories:

1. Access units (PLUS backbone) - installed by the Power Utility on the LV/MV power lines and by integrators/operators in schools and hotels.
2. In-home units - installed by the end users at their home or office ('Plug & Play').
3. Network Management and Control - installed at the Power Utility/operator/integrator in the network operation center (NOC).

## Access Units

The PLUS backbone consists of several units that connect the communications backbone to the home:

- ▶ **CuPLUS** - Concentrating Unit  
Located in the vicinity of the low voltage transformer. It transforms the information from the backbone to the electricity grids (and vice versa). It communicates with the Network Management at one end, and with the In-home and other access units at the other.
- ▶ **MvPLUS** - Medium Voltage Unit  
Enables Power Utilities to communicate over medium voltage lines replacing traditional backhaul connections.
- ▶ **RpPLUS** - Repeater Unit  
Enables the PLUS system to cover vast distances even under noisy environments, using smart repetition.
- ▶ **AmrPLUS** - Broadband Automatic Meter Reading  
Enables efficient integration with AMR systems. It includes an additional interface to enable the connection to AMR concentrating units, or directly to electronic meters.

## In-home Units

There are several types of In-home units for the various markets:

- ▶ **NtPLUS** - (Network Termination Unit) provides Internet connection between the electrical outlet and the PC (or any other peripherals). The unit comes with a standard connector to the PC (USB/Ethernet) and optional telephony (POTS). It also enables parallel use of telephony (utilizing standard analog phone) and Internet. Several units can be plugged in simultaneously to create a home network.
- ▶ **TelPLUS** - The TelPLUS provides telephony applications, using RJ11 connectors for connecting standard analog phones.

## Network Management and Control

NmPLUS is Main.net's unique Network Management solution for network monitoring, management and diagnostic of PLC networks. It provides the ability to manage and monitor all PLUS units from a single location without having to send out Power Utilities' technicians, whenever a customer places a complaint. It also allows the Power Utility/operator/integrator to remotely enable, block and/or terminate end user services.

## Your power to communicate

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