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# LonMark & ISO/IEC 14908

Barry Haaser  
Executive Director



# LonMark International

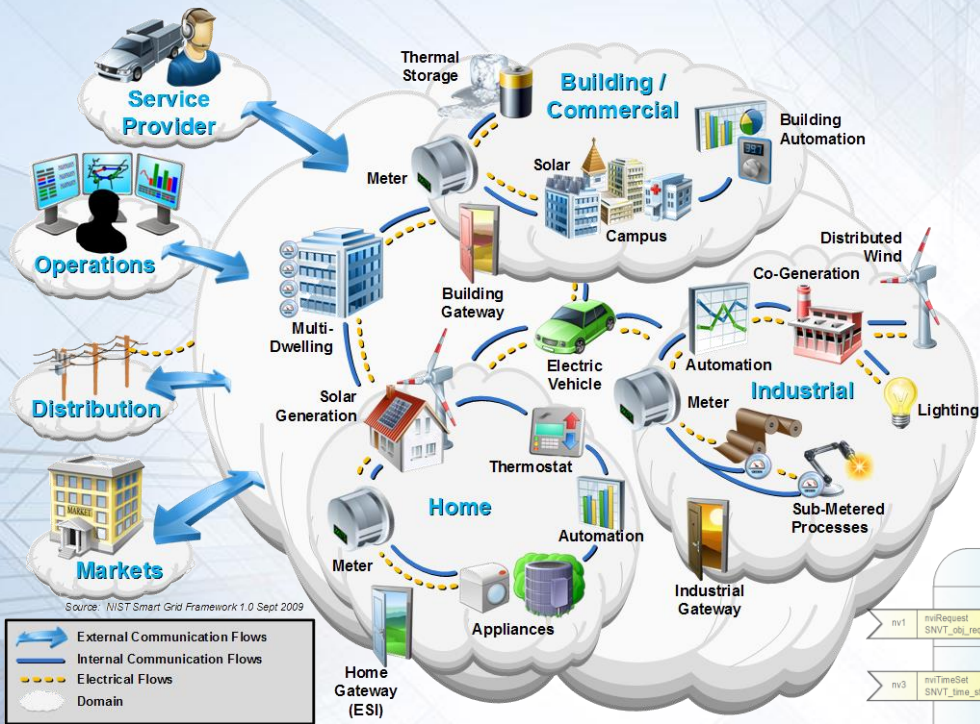
- LonMark International's mission is to enable the easy integration of multi-vendor systems based on ISO/IEC 14908-1 and related standards.
- Established in 1994
- Over 300 members worldwide
- Certified over 900 interoperable products since 1995
- Certified over 700 professionals



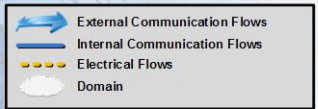
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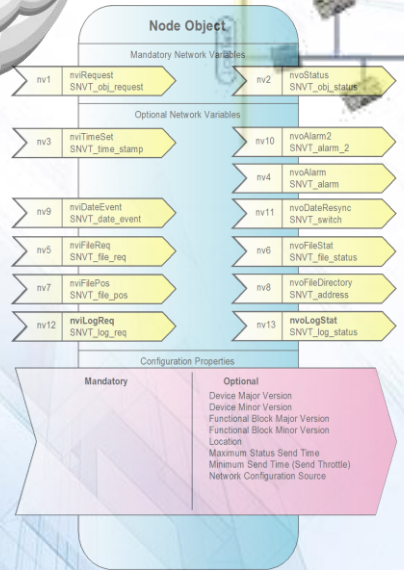
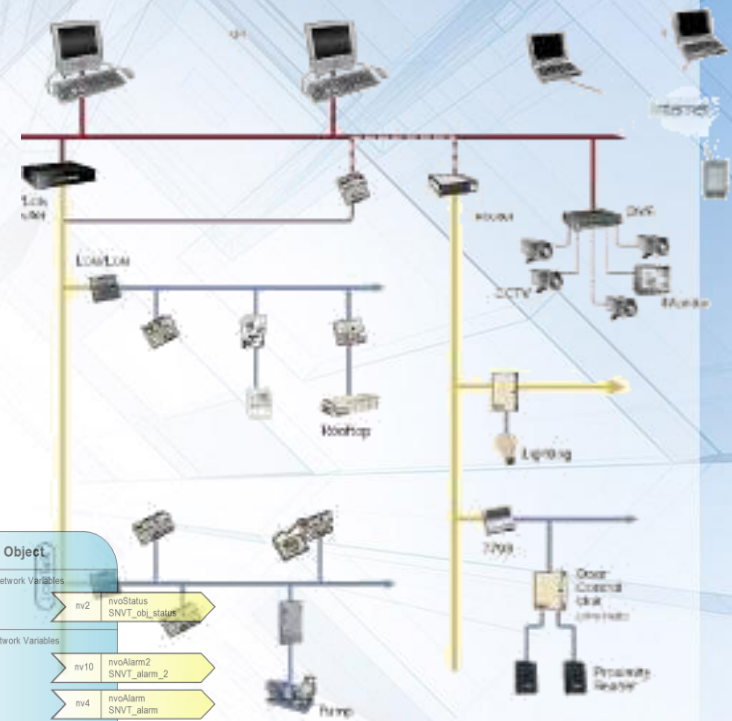
# Standards Deployment Architecture



Source: NIST Smart Grid Framework 1.0 Sept 2009



- Key markets served:
- Buildings
  - Quick Service Restaurants
  - Street Lighting
  - Oil & Gas
  - Smart Grid



# Standards Development



ANSI/CEA 709.1 Protocol  
ANSI/CEA 709.2 Power Line  
ANSI/CEA 709.3 Twisted  
Pair  
ANSI/CEA 709.4 Fiber Optic  
ANSI/CEA 852.1 IP-  
Tunneling



EN 14908-1 Protocol  
EN 14908-2 Twisted Pair  
EN 14908-3 Power Line  
EN 14908-4 IP Tunneling  
EN 14908-5 Implementation  
EN 14908-6 Application



ISO/IEC 14908-1 Protocol  
ISO/IEC 14908-2 Twisted Pair  
ISO/IEC 14908-3 Power Line  
ISO/IEC 14908-4 IP Tunneling

Proposed  
ISO/IEC 14908-5 Implementation  
ISO/IEC 14908-6 Application

Maintenance assigned to JTC-1/SC 6



- IEEE 1473-L (Transportation)
- SEMI E-56.6 (Industrial)
- International Forecourt Standards Forum (Gas Stations)
- CECED (European Appliances)
- GB/Z 20177.1-2006 (Home & Building Automation)
- GB/T 20299.4-2006 (Industrial Automation)



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# Implementations & Experience

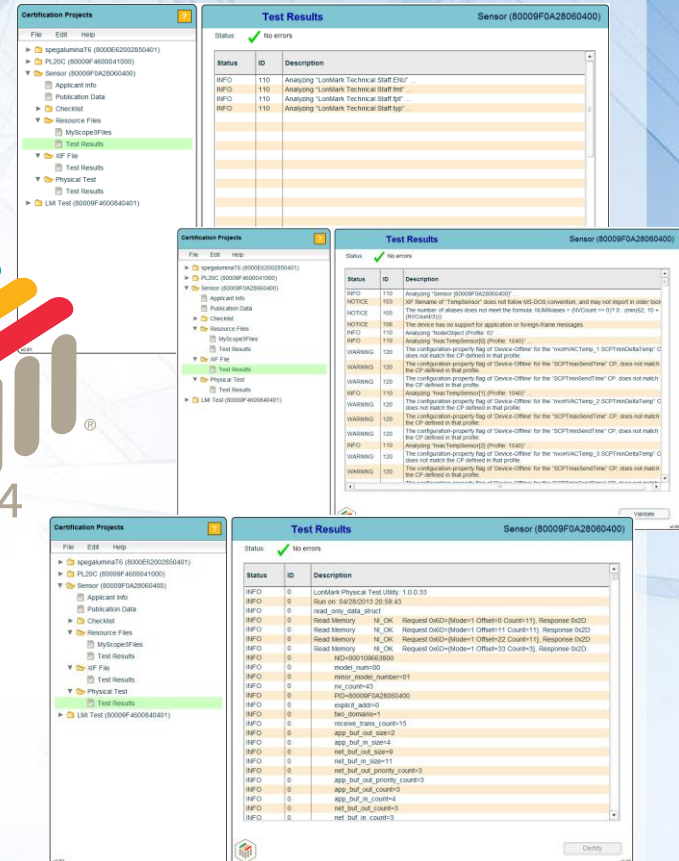
- Over 100 million devices
- Over 300,000 buildings
- 250,000 street lights
- Over 500 certified products
- Over 100 device profiles



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# Product Certification

- 20 year old program
- Certified over 900 products
- Web-based tool tests
  - Device Resource Files (DRF)
  - Device Interface File (XIF)
  - Communication test with the Physical Test Utility



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# Future Developments: LonMark 2.0

## Native Transports

### PML / TML Definitions

### LonMark Advanced Transport Services

IPv6

ISO/IEC  
14908:2012

Future...  
TBD

Wireless  
802.15.4

IEEE 1901.2

Ethernet wired  
& 802.11.xx

Next Gen  
wired/FT

IPv4  
(Ethernet/WiFi  
etc...)

FT-10, PL-20 all  
existing  
channels



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# Future Developments: LonMark 2.0

## Interoperability Platform Road Map

Profile Markup Language (PML)

Translation Markup Language (TML)

BACnet

KNX

EnOcean

Modbus

Dali, other

XML  
Enterprise  
Services

14908 Advanced  
Transport Services

Protocol Specific Transports

IPv6/RF/Other...

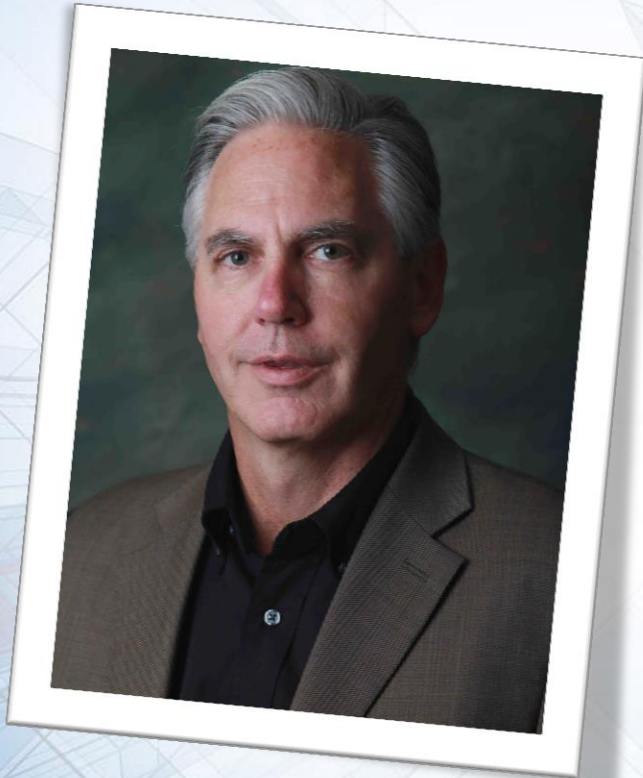
Classic 14908



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# Questions?



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