www.fte.com

frontline®

MeshDecoder™

IEEE 802.15.4/ZigBee® Packet Sniffer & Protocol Analyzer

ZigBee Challenges

- **Real-time 802.15.4 / ZigBee Debugging & Verification**

Frontline's real-time debugging, verification and network display analyzer, MeshDecoder, simplifies the understanding 802.15.4 / ZigBee networks by simultaneously capturing, decoding, displaying, filtering, and detecting errors-all live and in real-time. MeshDecoder air sniffs data using the finger-sized air sniffing ComProbe®. MeshDecoder displays each packet in a variety of formats, from raw binary and hex through detailed, fully decoded, field-by-field descriptions of the captured data. Decoding begins at the IEEE 802.15.4 MAC level and goes all way up the ZigBee stack, to the profile level. Packets that contain protocol violations are flagged in red for easy detection of bad messages. For Users who write their own decoders, MeshDecoder comes with the FrameDecoder Development Kit which uses Frontline's DecoderScript language for developing compatible decoders.

- **Interoperability:**

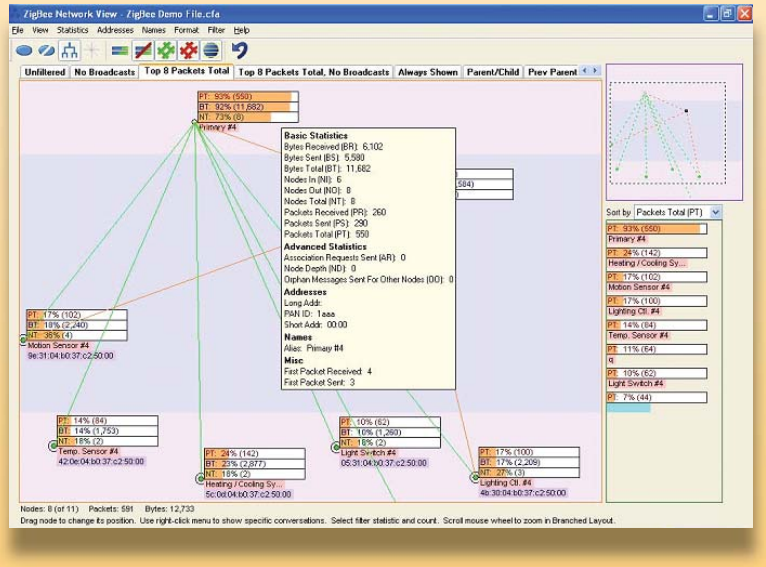
Interoperability between ZigBee implementations is also a key issue. If Vendor A's ZigBee device doesn't interoperate with Vendor B's ZigBee device, Vendor A will often have to analyze the behavior of Vendor B's device in order to help resolve interop problems.

MeshDecoder's: Network View

MeshDecoder's Network View enables you to see statistics on specific nodes including communications traffic details and node information including parent/child relationships.

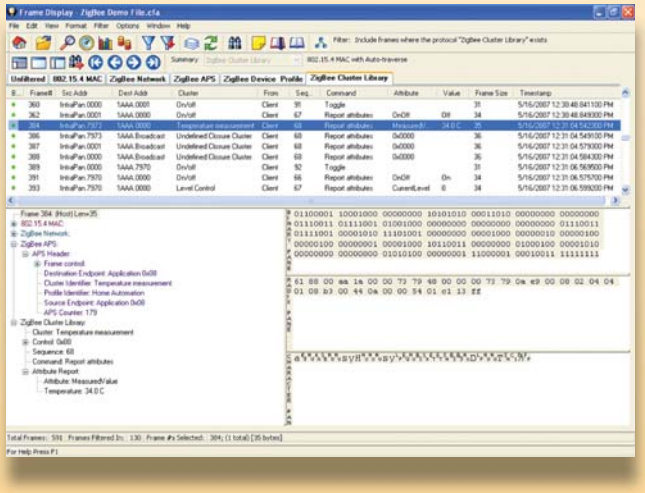
- Packets Transmitted and Received
- Bytes Transmitted and Received
- Association Requests Sent
- Number of Nodes that Data is Received from and Sent to
- Node Depth Information
- Order of Appearance
- Broadcast Infromation
- Addresses: PAN ID, Short Address and Long Address
- Orphan Messages Sent for this Node
- Assign User-Friendly names for each Node

MeshDecoder's Network View provides you with a view of node relationships and node statistics.



MeshDecoder's Frame Display - Comprehensive, Powerful Decoding

MeshDecoder's FrameDecoder™ engine has been built with complex protocol stacks, such as ZigBee, in mind. As each packet is decoded, MeshDecoder retains important system state information, which is used for future decoding. As subsequent packets are processed, decoding reflects the state of the entire system. And, this same powerful decoding engine, which is used by the built-in ZigBee decoders, is also available for user-defined decoding of any IEEE 802.15.4-based protocol.



Protocol Decoding – Frame Display

The detailed information in the Frame Display window is presented clearly and with as much, or as little, detail as you require.

- Summary Information for Messages Sent and Received
- Message Frame is Decoded into Text
- ZigBee Cluster Library Decode down to a Specific Value
- Protocol Errors Identified with Red Frame Numbers
- Message is Shown in Binary, Octal, Hex and ASCII
- Display filters include: Pre-Set Filters, Node Information Filters, User Defined Complex Filters
- Side-by-Side Comparisons with Multiple Display Windows
- For Custom Decodes use the included FrameDecoder® Development Kit

MeshDecoder™: Essentials

MeshDecoder decodes the entire ZigBee stack and includes Frontline's FrameDecoder for custom, user-made decodes. It comes with a unique hardware dongle with special firmware that plugs into any USB port. One year of Premium Maintenance is provided with an option to purchase extended support.

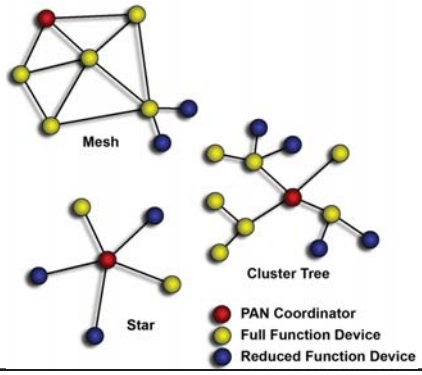
Minimum PC Requirements

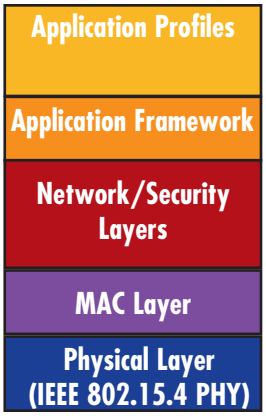
- 1GHz Penitum PC or equivalent
- Windows XP
- 512MB of RAM
- 50 MB of free disk space
- USB port

ZigBee© Networking

MeshDecoder air sniffs data at the physical layer and provides visibility into the entire ZigBee stack.

MeshDecoder works with all ZigBee network types.





MeshDS-080104

Contact Info

www.fte.com
frontline®
www.fte.com | sales@fte.com
1 (800) 359-8570 (U.S. & Canada)
+1 (434) 984-4500 | FAX +1 (434) 984-4505
PO Box 7507, Charlottesville, VA 22906-7507 USA