Data Transfer Options for Remote Campbell Scientific Dataloggers

Approaches

1. Direct serial connection to LoggerNet

2. Connection via traditional (analog) modem

3. Connecting datalogger to LoggerNet via Iridium RUDICS

4. Connecting datalogger to LoggerNet via arbitrary TCP/IP Network / Ethernet
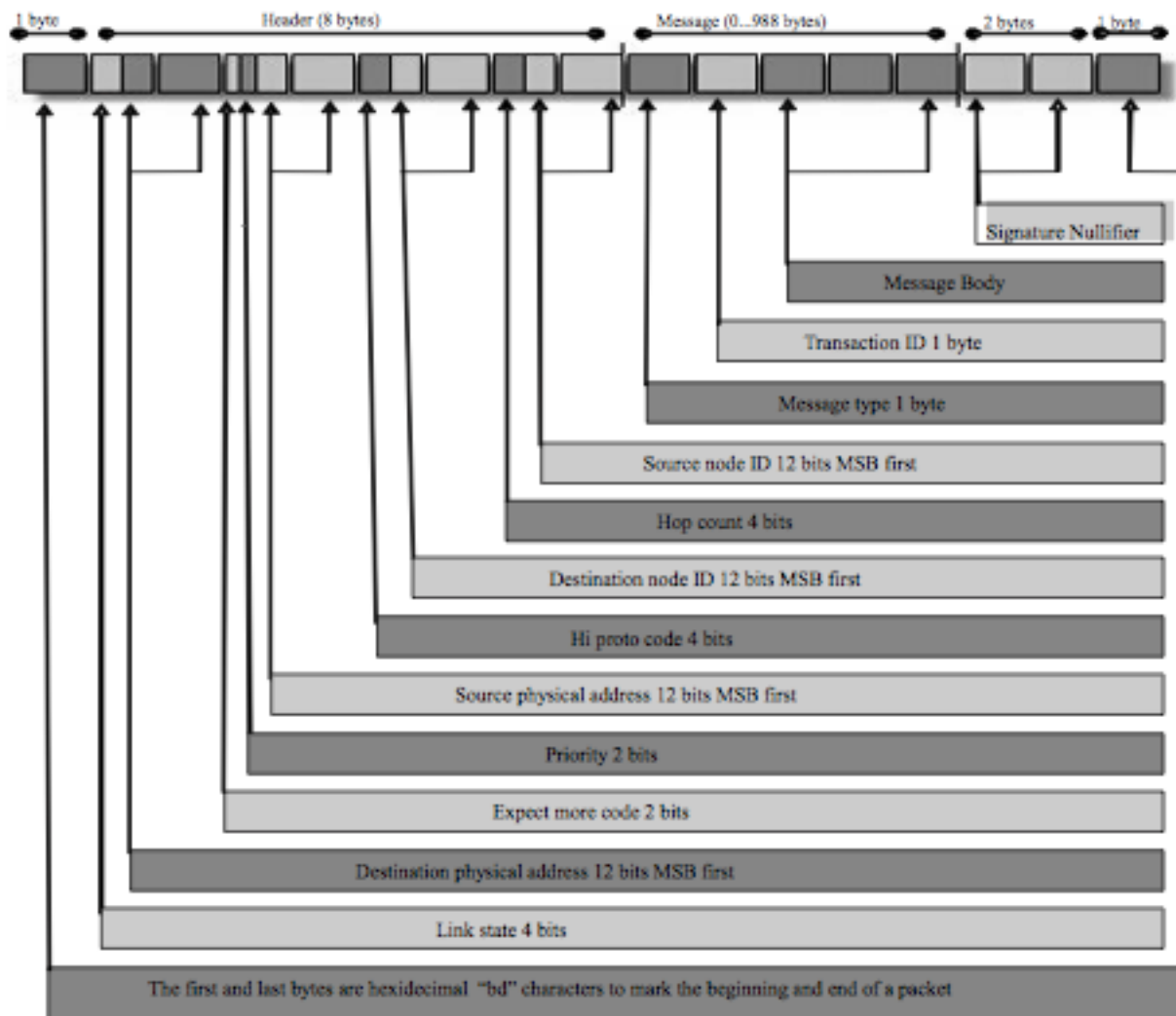
PakBus

FIGURE 3-1. Example PakBus Protocol Packet

1. Direct serial connection

- Trivial
- Required for initial configuration
- Not discussed further here

2. Traditional Modem to Modem

A) Polling by LoggerNet

B) Application-specific "Push"

C) LoggerNet "Push"

3. Datalogger to LoggerNet via Iridium RUDICS

A) Application-Specific data transfer via RUDICS

B) LoggerNet connection via RUDICS

C) Manual Dialup = "push" followed by SendVariables()

Dropouts are a potential risk for firmware updates in both 2. and 3.

4. Datalogger to LoggerNet via arbitrary Network

- Datalogger no longer directly connected to modem
- Intermediate (micro-)controller to
  - Buffer
  - Process
  - Summarize
  - Route
- Way to go for larger installations.