CLAIMS

1. A repeater endpoint in a network of repeater endpoints having metering functionality, the repeater endpoint comprising:

a processor;

a memory in communication with the processor;

a transceiver configured to send and receive messages between the processor and the network; and

a battery configured to supply power to the processor and the transceiver, wherein the processor is configured to:

evaluate a repeater availability of the repeater endpoint, wherein the repeater availability comprises communication reliability and battery capacity, wherein the communication reliability includes determining having a sufficient quality of service connection from the repeater endpoint to out-of-range endpoints or a central facility on the network, and wherein the battery capacity of the repeater endpoint includes determining having a capacity above a predetermined level;

transmit signals via the transceiver, the signals intended for the out-of-range endpoints and configured with preambles having a discovery bit to indicate to the out-of-range endpoints availability of repeater functionality at the repeater endpoint sufficient to support repeating messages from the out-of-range endpoints based on the evaluating of the repeater availability of the repeater endpoint;

receive one or more messages at the repeater endpoint from the out-of-range endpoints that require the repeater functionality to be heard at the central facility; and

relay the one or more received messages, wherein the relaying is performed by the repeater endpoint and at least one other repeater endpoint having the repeater availability in a shared manner, wherein the shared manner distributes workload over the repeater endpoint and the at least one other repeater endpoint having the repeater availability to prevent any single endpoint of the repeater endpoints from performing the entire relaying required by the out-of-range endpoints.

2. The repeater endpoint of claim 1, further comprising:

a measurement device in communication with the processor and with power supplied by the battery.

3. The repeater endpoint of claim 2, wherein the measurement device comprises a consumption measurement device.

4. The repeater endpoint of claim 3, wherein the consumption measurement device comprises a water, gas, or oil meter.

5. The repeater endpoint of claim 2, wherein the processor is further configured to: collect measurement data from the measurement device.

6. The repeater endpoint of claim 5, wherein the collected measurement data is consumption measurement data.

7. The repeater endpoint of claim 5, wherein the collected measurement data describes at least one of water, gas, or oil consumption.

8. The repeater endpoint of claim 5, wherein the processor is further configured to: transmit the collected measurement data to the central facility.

9. The repeater endpoint of claim 1, wherein the evaluating comprises evaluating links of the repeater endpoint in the network to other endpoints upstream in the network.

10. The repeater endpoint of claim 1, wherein the evaluating comprises evaluating upstream links of the repeater endpoint in the network and determining if the battery capacity of the repeater endpoint in the network is sufficient to share a repeater load.

11. A memory storing instructions that, when executed by one or more processors of a repeater endpoint in a network of repeater endpoints having metering functionality, perform acts comprising:

evaluating a repeater availability of the repeater endpoint, wherein the repeater availability comprises communication reliability and battery capacity, wherein the communication reliability includes determining having a sufficient quality of service connection from the repeater endpoint to out-of-range endpoints or a central facility on the network, and wherein the battery capacity of the repeater endpoint includes determining having a capacity above a predetermined level;

transmitting signals intended for the out-of-range endpoints and configured with preambles having a discovery bit to indicate to the out-of-range endpoints availability of repeater functionality at the repeater endpoint sufficient to support repeating messages from the out-of-range endpoints based on the evaluating of the repeater availability of the repeater endpoint;

receiving one or more messages at the repeater endpoint from the out-of-range endpoints that require the repeater functionality to be heard at the central facility; and

relaying the one or more received messages, wherein the relaying is performed by the repeater endpoint and at least one other repeater endpoint having the repeater availability in a shared manner, wherein the shared manner distributes workload over the repeater endpoint and the at least one other repeater endpoint having the repeater availability to prevent any single endpoint of the repeater endpoints from performing the entire relaying required by the out-of-range endpoints.

12. The memory of claim 11, wherein the acts further include:

collecting measurement data via a measurement device of the repeater endpoint.

13. The memory of claim 12, wherein the collected measurement data is consumption measurement data.

14. The memory of claim 12, wherein the collected measurement data describes at least one of water, gas, or oil consumption.

15. The memory of claim 12, wherein the acts further include:

transmitting the collected measurement data to the central facility.

16. The memory of claim 11, wherein the evaluating comprises evaluating links of the repeater endpoint in the network to other endpoints upstream in the network.

17. The memory of claim 11, wherein the evaluating comprises evaluating upstream links of the repeater endpoint in the network and determining if the battery capacity of the repeater endpoint in the network is sufficient to share a repeater load.