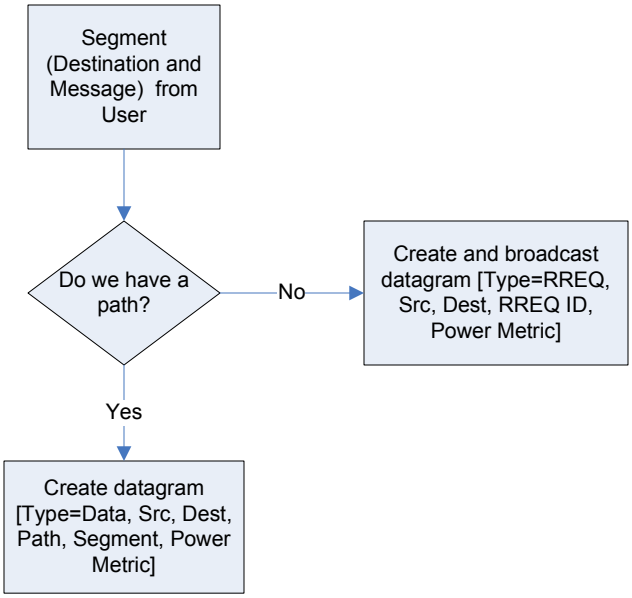
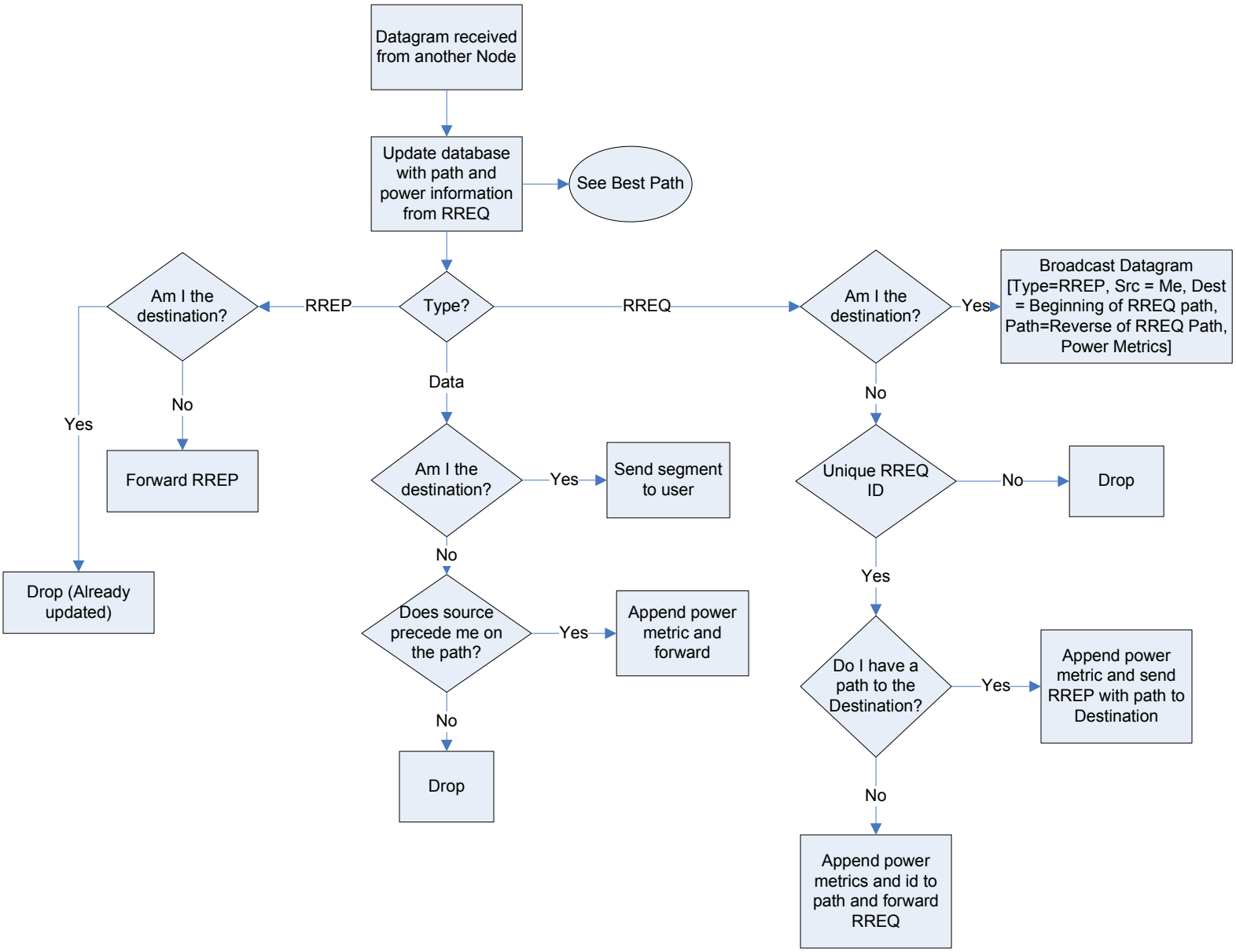
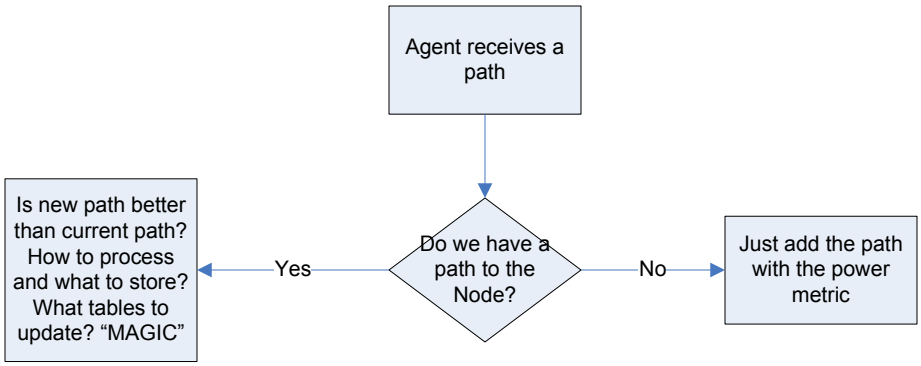

Segment (Destination and Message) from User
Do we have a path?
No
Create and broadcast datagram [Type=RREQ, Src, Dest, RREQ ID, Power Metric]
Yes
Create datagram [Type=Data, Src, Dest, Path, Segment, Power Metric]


Datagram received from another Node
Update database with path and power information from RREQ
See Best Path
Type?
RREP
RREQ
Data
Am I the destination?
Yes
No
Drop (Already updated)
Forward RREP
Am I the destination?
Yes
Broadcast Datagram [Type=RREP, Src = Me, Dest = Beginning of RREQ path, Path=Reverse of RREQ Path, Power Metrics]
No
Unique RREQ ID
No
Drop
Yes
Do I have a path to the Destination?
Yes
Append power metric and send RREP with path to Destination
No
Append power metrics and id to path and forward RREQ
Am I the destination?
Yes
Send segment to user
No
Does source precede me on the path?
Yes
Append power metric and forward
No
Drop


Agent receives a path
Do we have a path to the Node?
Yes
No
Is new path better than current path? How to process and what to store? What tables to update? “MAGIC”
Just add the path with the power metric

=== Every time we receive a new path, we update the power, cost & path table ===

---- Path Listing Table ----
(Unlimited Paths to a Node)

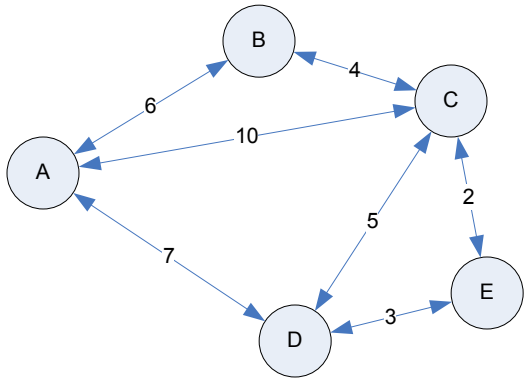
Dest	Path
A	Null (Us)
B	
C	
D	
E	A-D-E: (1*7+4*3=19)
E	A-B-C-E: (1*6+6*4+5*2=30)

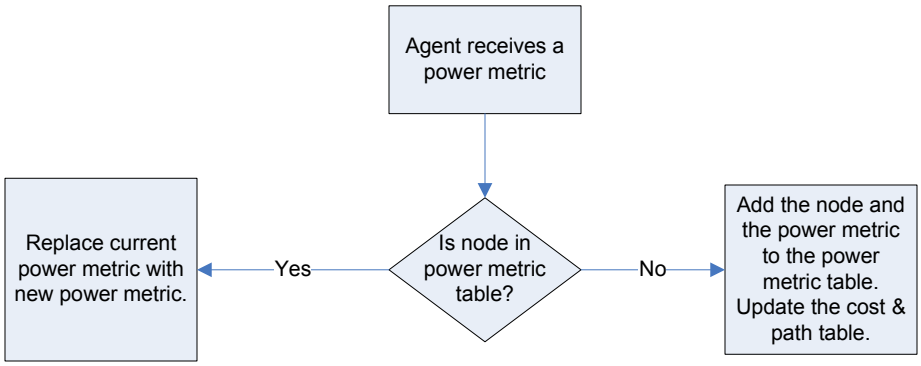
---- Power metric Table ---

Node	Battery Metric
A	1
B	6
C	5
D	4
E	1

---- Transmission Cost ----
(Based on distance between any two nodes)

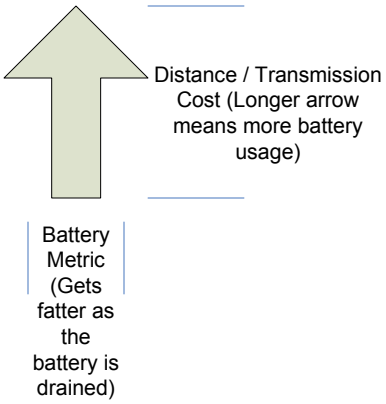
Hop	Cost				
	A	B	C	D	E
A	Ø	6	10	7	∞
B		Ø	4	∞	∞
C			Ø	5	2
D				Ø	3
E					Ø



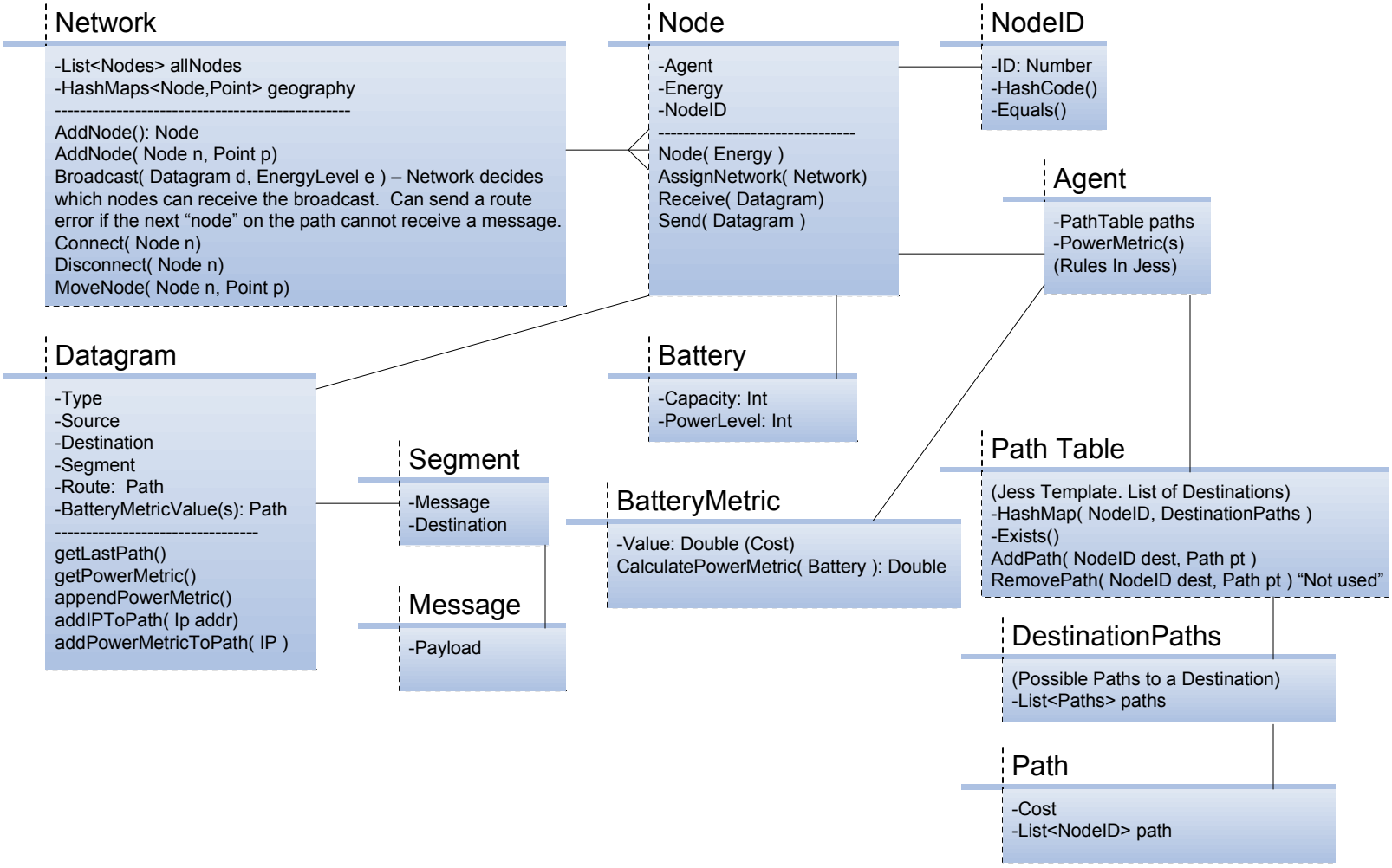


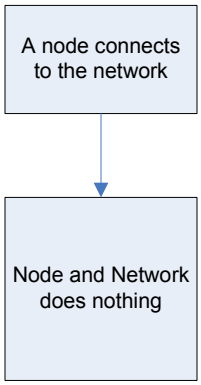
Evaluating Power Metric	
Battery	Power Metric
100 - 90%	1
89 – 70%	2
69 – 50%	3
49 – 25%	4
24 – 0%	5

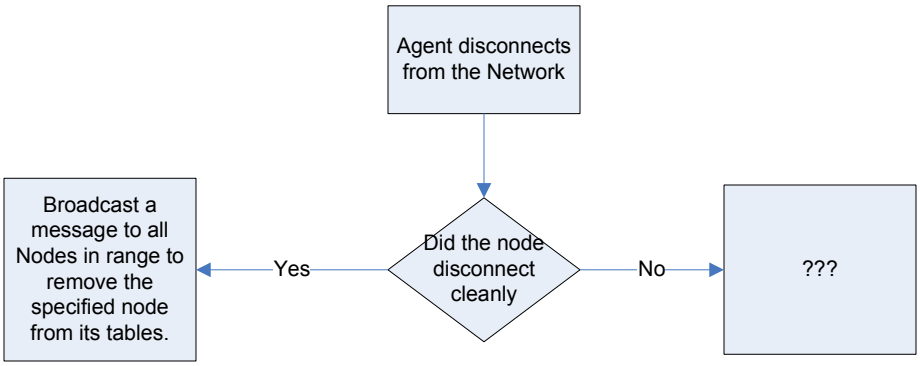
We want to use a system with a Lower Power Metric more often. As a battery on a system gets used up, we want to use it less.

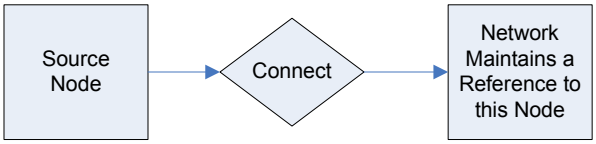


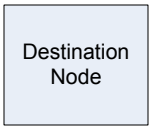
Energy Aware Routing Protocol UML




A node connects to the network
Node and Network does nothing


Agent disconnects from the Network
Did the node disconnect cleanly
Yes
No
Broadcast a message to all Nodes in range to remove the specified node from its tables.
???


Source Node
Connect
Network Maintains a Reference to this Node


Destination Node