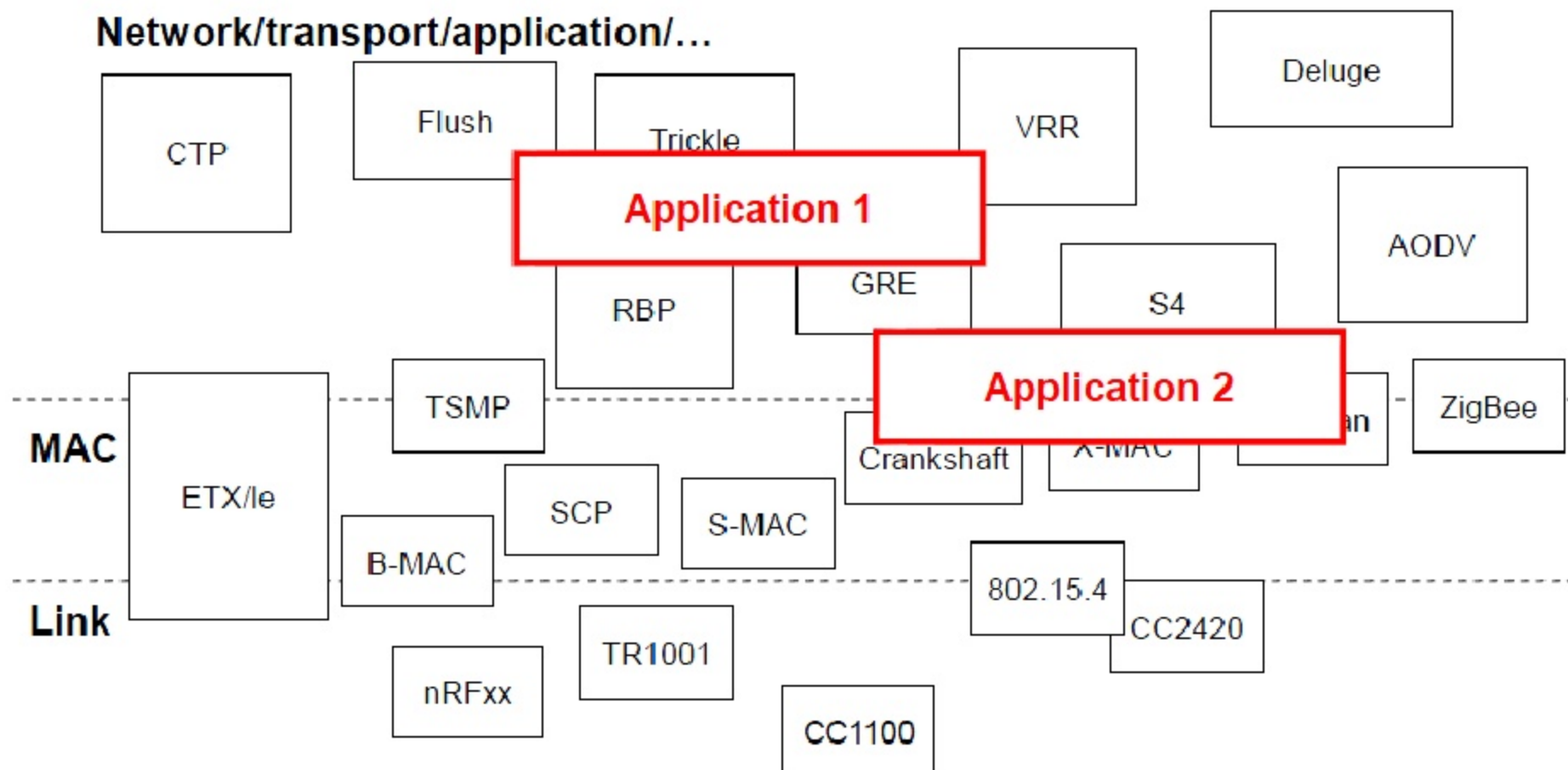# Communication programming: before Rime
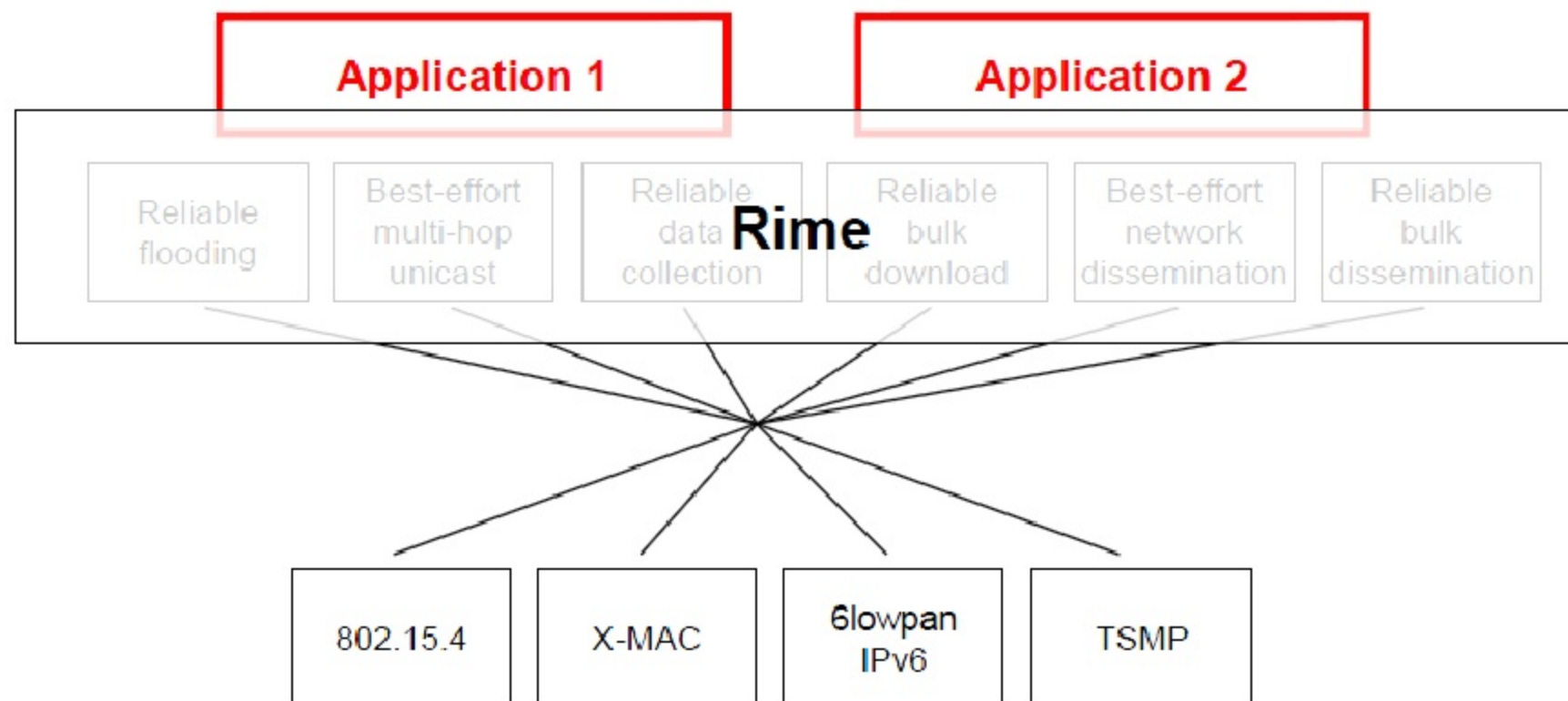
Rime: 'Sockets' for WSN

Application 1

Application 2

Reliable flooding

Best-effort multi-hop unicast

Reliable data collection

Rime

Reliable bulk download

Best-effort network dissemination

Reliable bulk dissemination

802.15.4

X-MAC

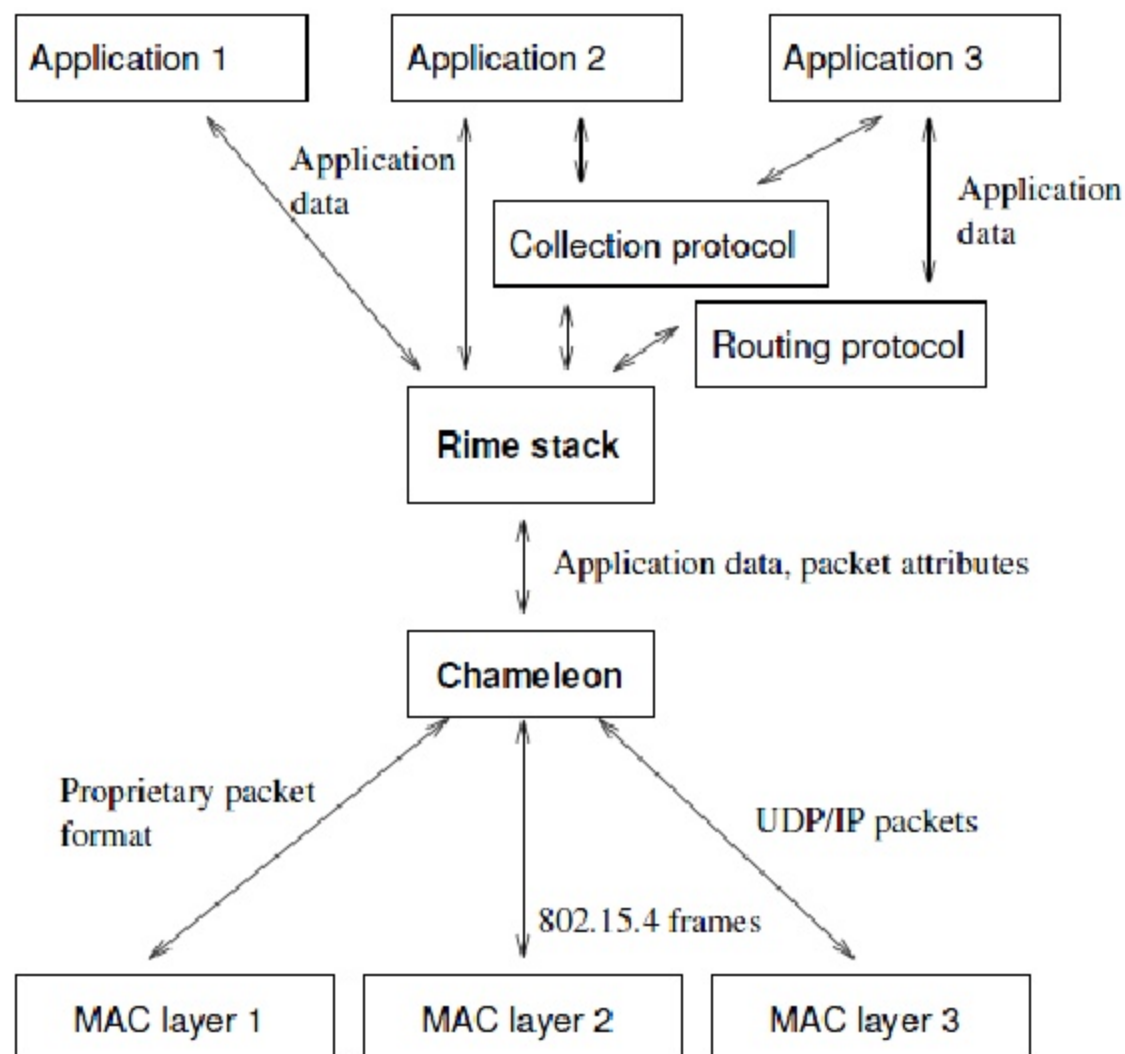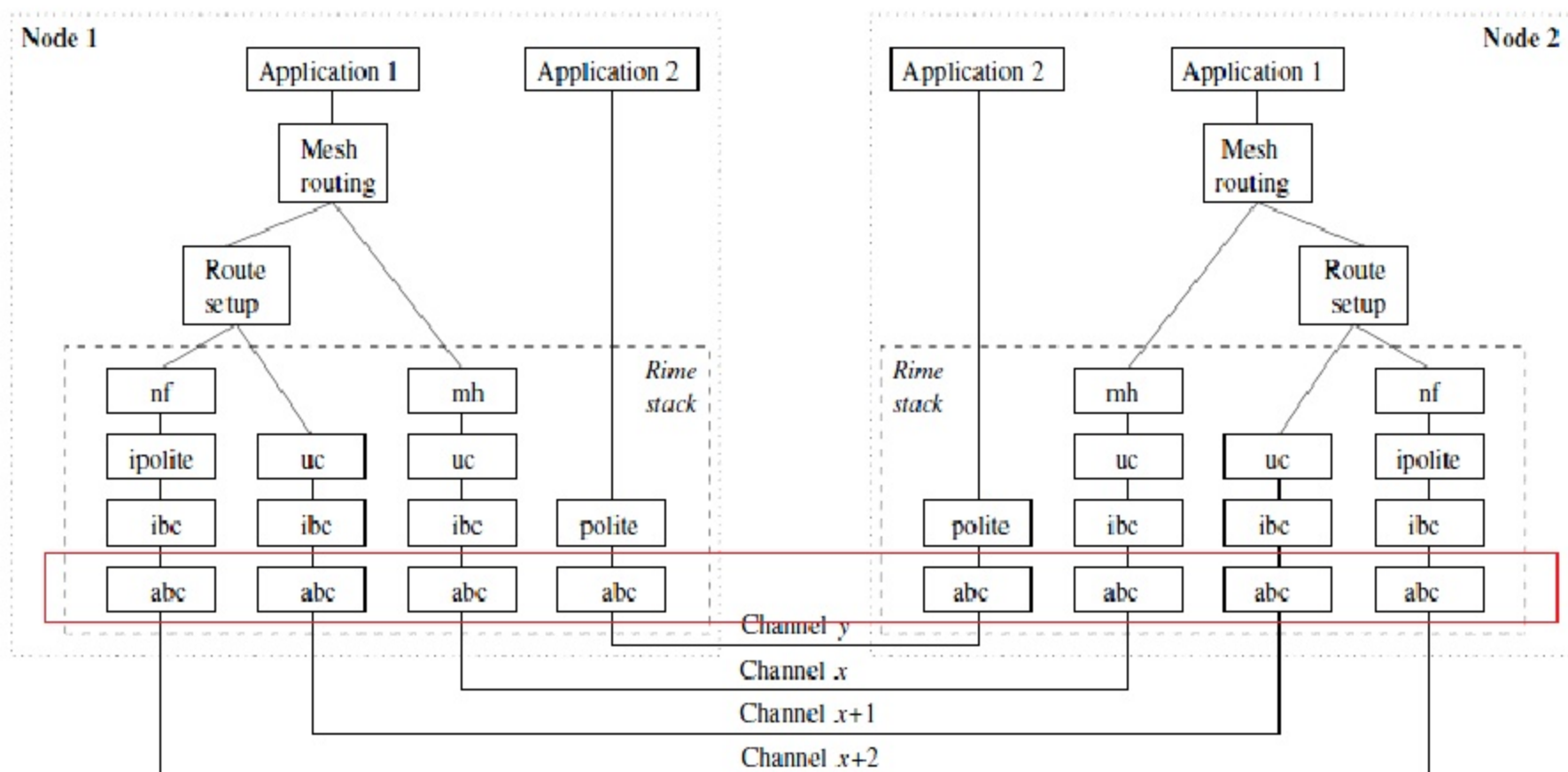6lowpan IPv6

TSMP

Chameleon: Adapting to underlying layers(link, MAC)
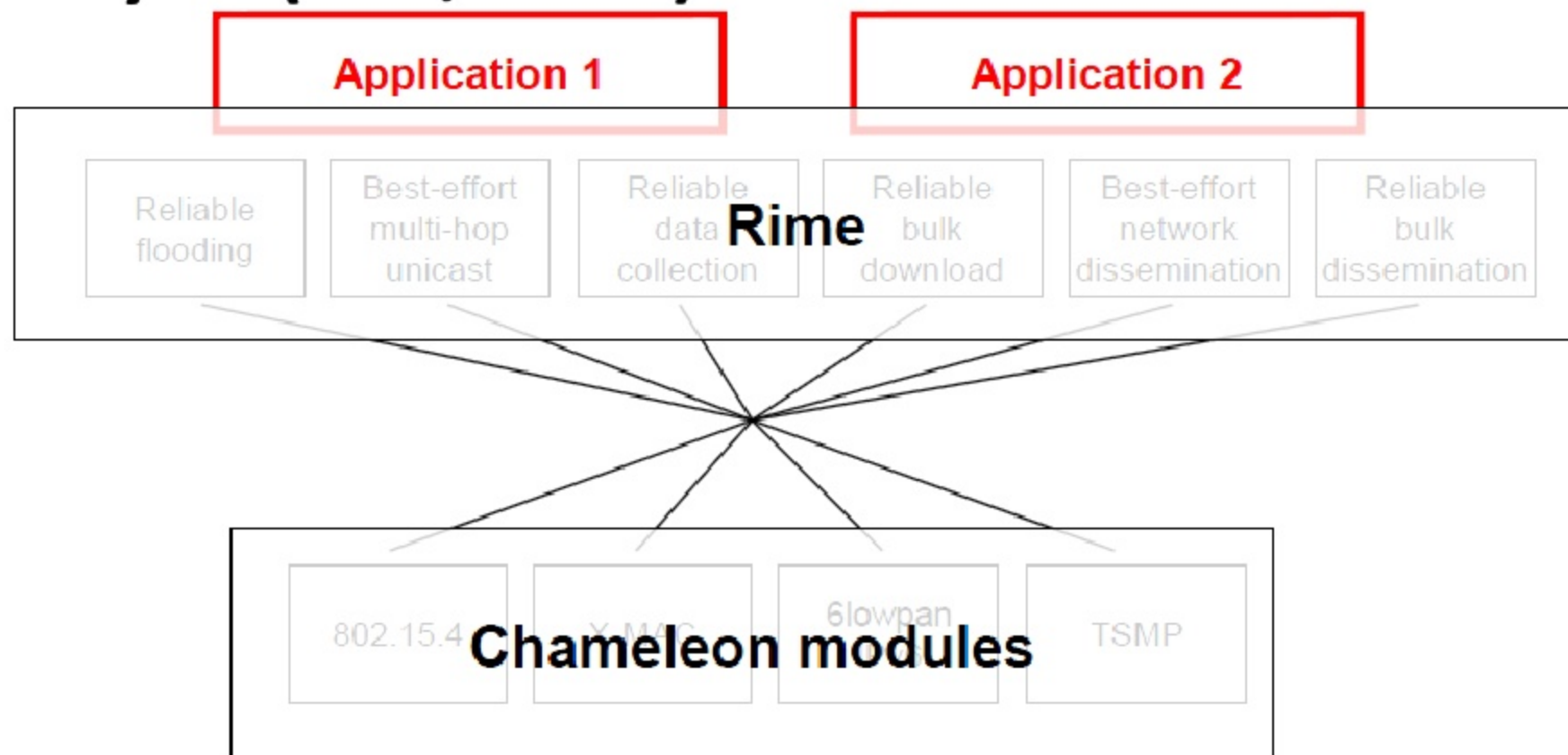
Rime/Chameleon:the whole picture

How to communicate with Rime

Programming with Rime: example

```
void recv(struct mesh_conn *c, rimeaddr_t *from) {
  printf("Message received\n");
}
```
Step1: Message Handler

```
struct mesh_callbacks cb = {recv, NULL, NULL};
struct mesh_conn c;
```
Step2: Connection definition

```
void setup_sending_a_message_to_node(void) {
  mesh_open(&c, 130, &cb);
}
```
Step3: open the connection

```
void send_message_to_node(rimeaddr_t *node, char *msg,
                          int len) {
  rimebuf_copyfrom(msg, len);
  mesh_send(&c, node);
}
```
Step4: send the message