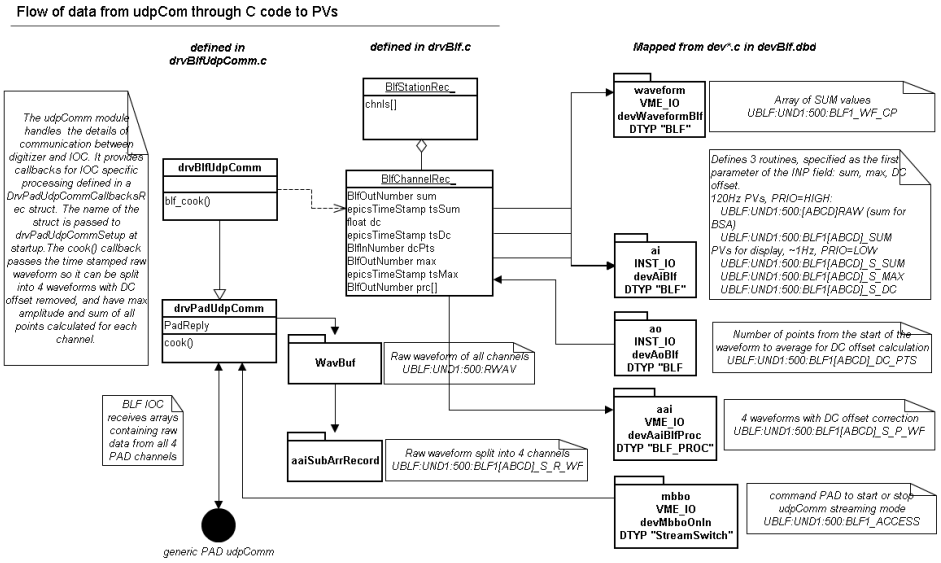
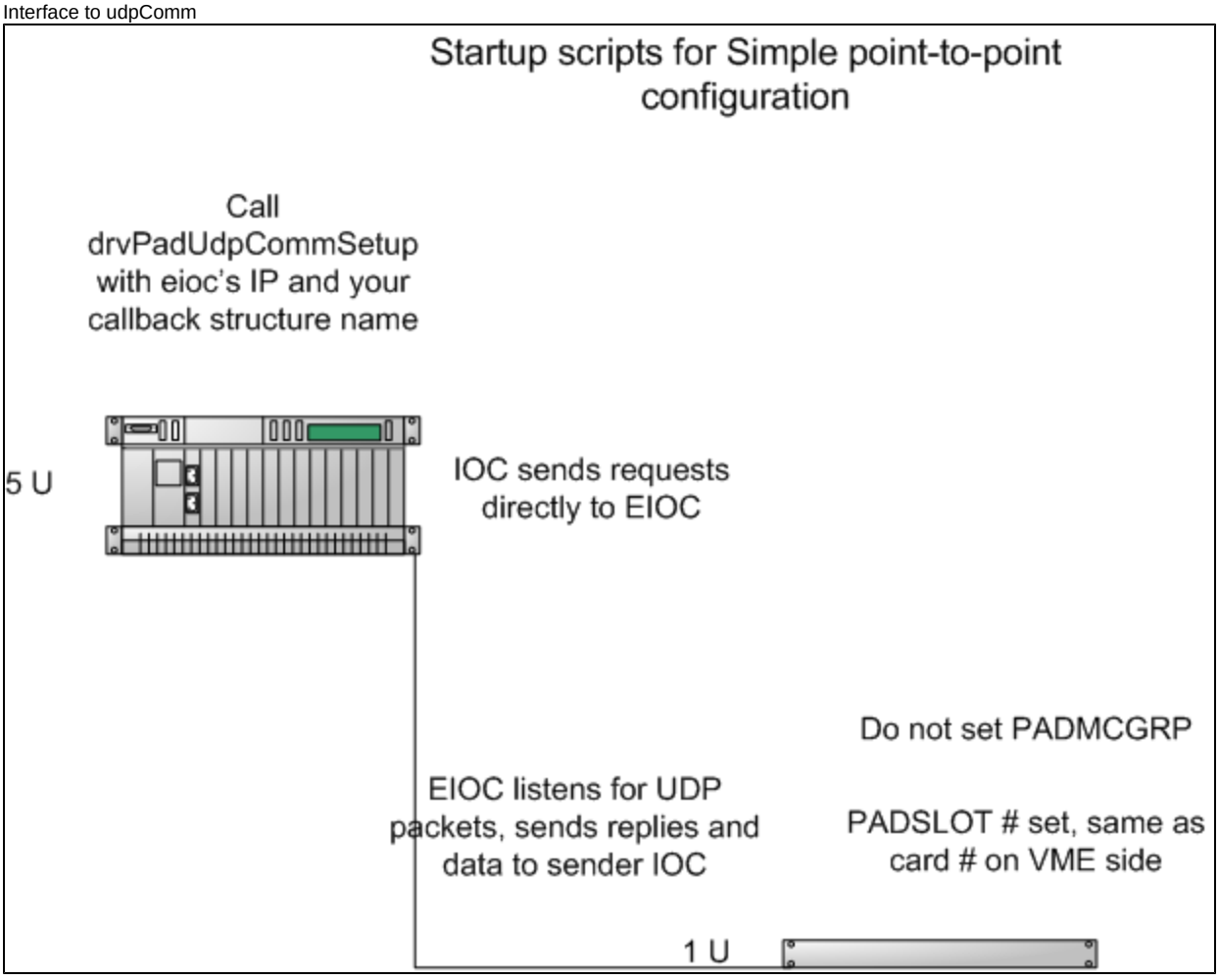
Beam Loss Fiber

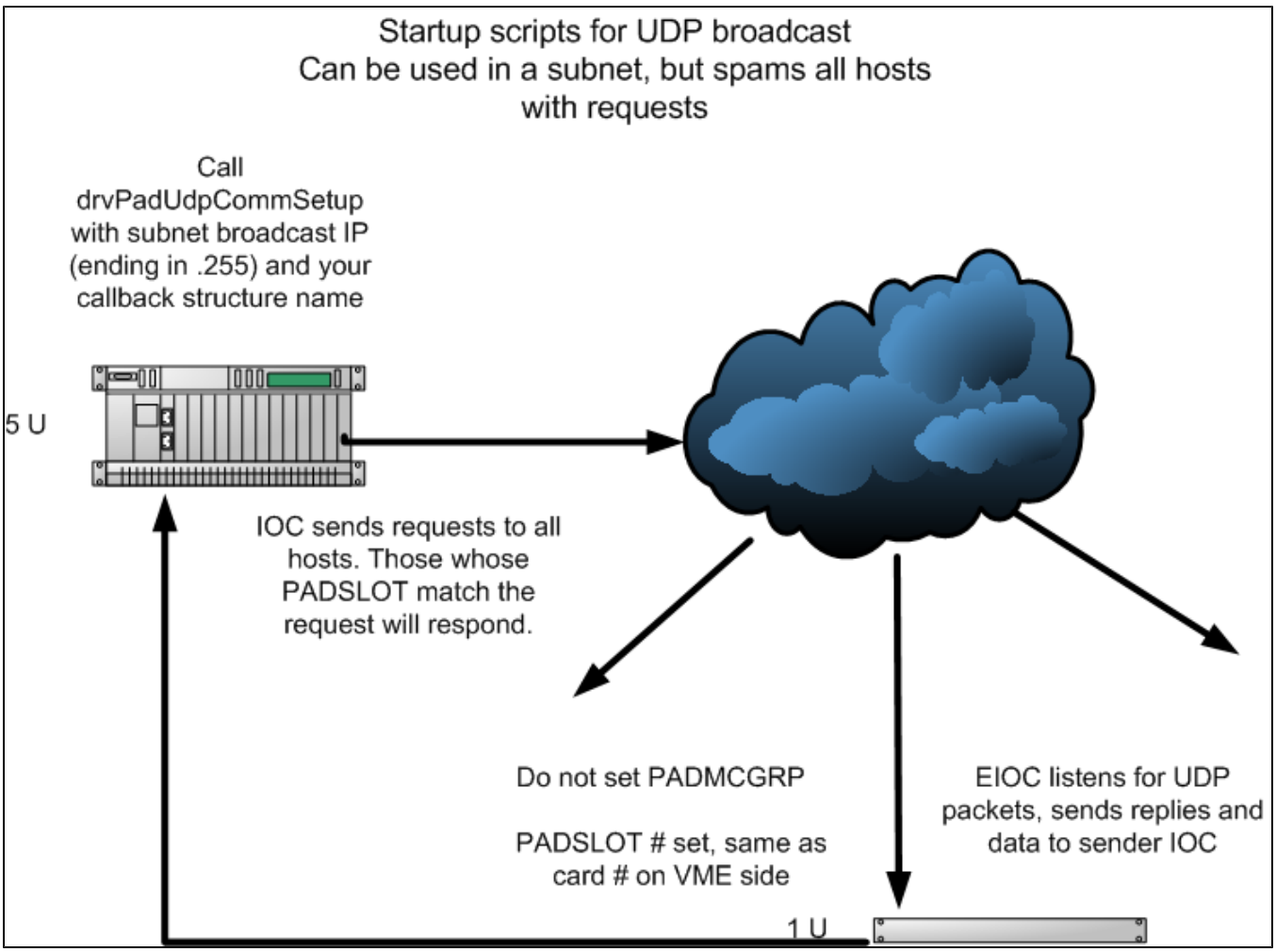
The Beam Loss Fiber is used to identify the location of beam losses. The sensor is similar to the bunch length system, but the Cherenkov sensor is an optical fiber extending the length of the undulator rather than a lucite block. Whereas the bunch length system uses the intensity of the signal from the sensor, the beam loss fiber uses arrival time to deduce the location along the fiber where there is beam loss.

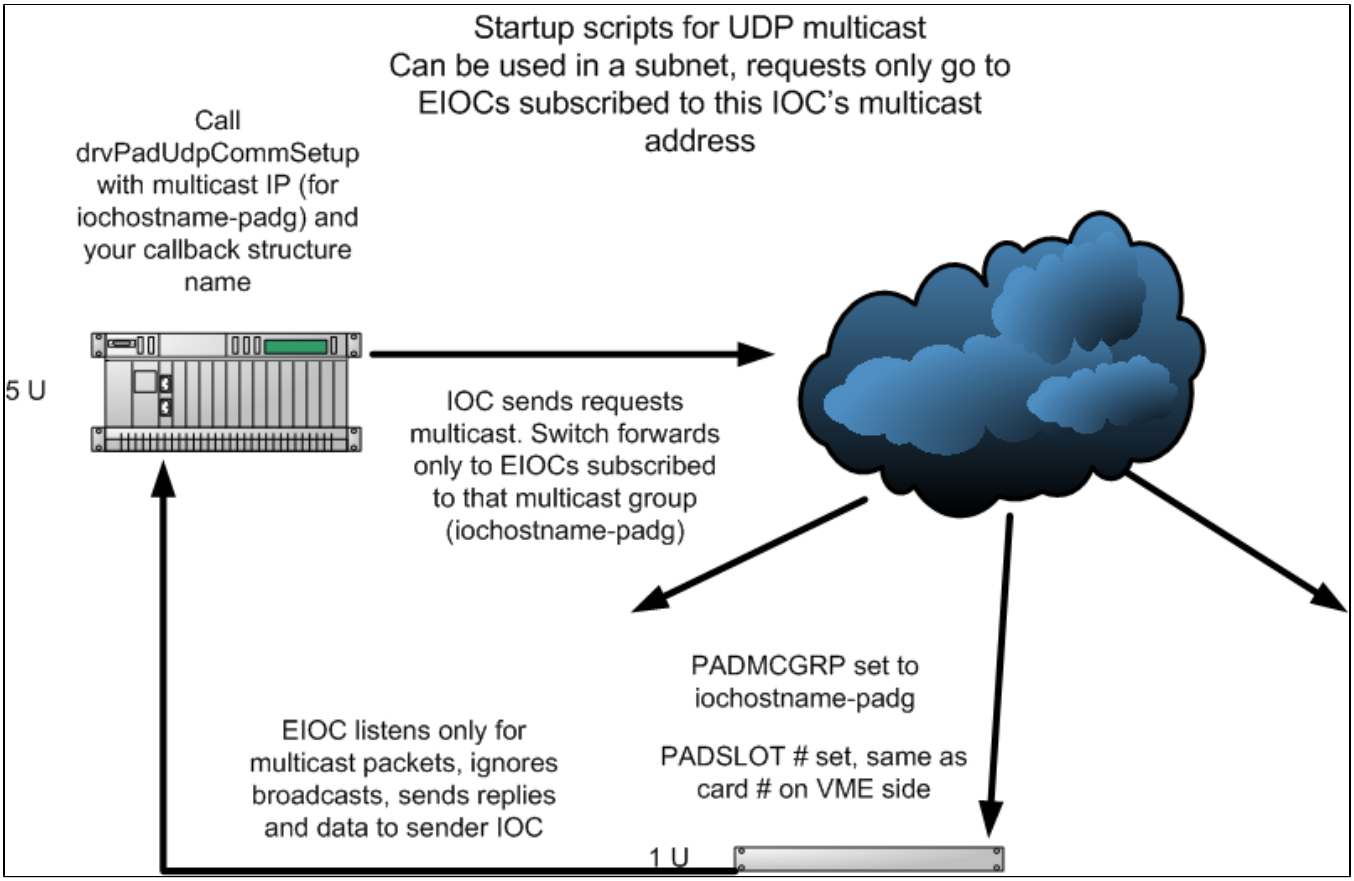
The electronics and software are nearly the same as a bunch length system, as shown in the diagrams below.



Interface to udpComm




Startup scripts for UDP broadcast
Can be used in a subnet, but spams all hosts with requests
Call drvPadUdpCommSetup with subnet broadcast IP (ending in .255) and your callback structure name
5 U
IOC sends requests to all hosts. Those whose PADSLOT match the request will respond.
Do not set PADMCGRP
PADSLOT # set, same as card # on VME side
EIOC listens for UDP packets, sends replies and data to sender IOC
1 U


Startup scripts for UDP multicast
Can be used in a subnet, requests only go to EIOCs subscribed to this IOC's multicast address
Call drvPadUdpCommSetup with multicast IP (for iochostname-padg) and your callback structure name
5 U
IOC sends requests multicast. Switch forwards only to EIOCs subscribed to that multicast group (iochostname-padg)
PADMCGRP set to iochostname-padg
PADSLOT # set, same as card # on VME side
EIOC listens only for multicast packets, ignores broadcasts, sends replies and data to sender IOC
1 U