

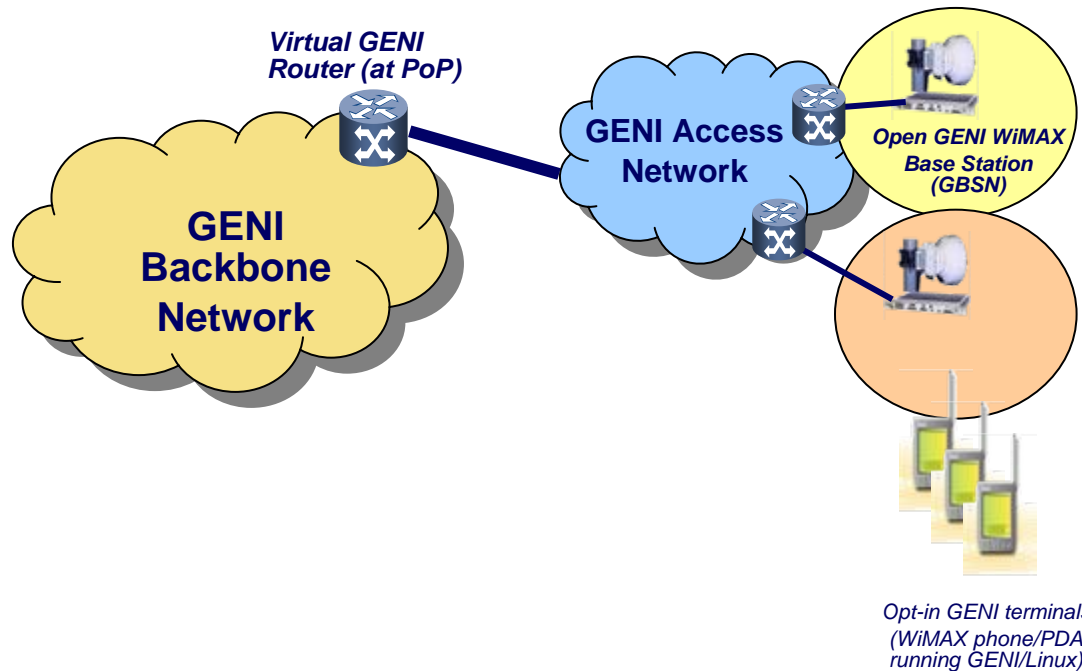
Open, Virtualizable Cellular Base Station

GENI Conference
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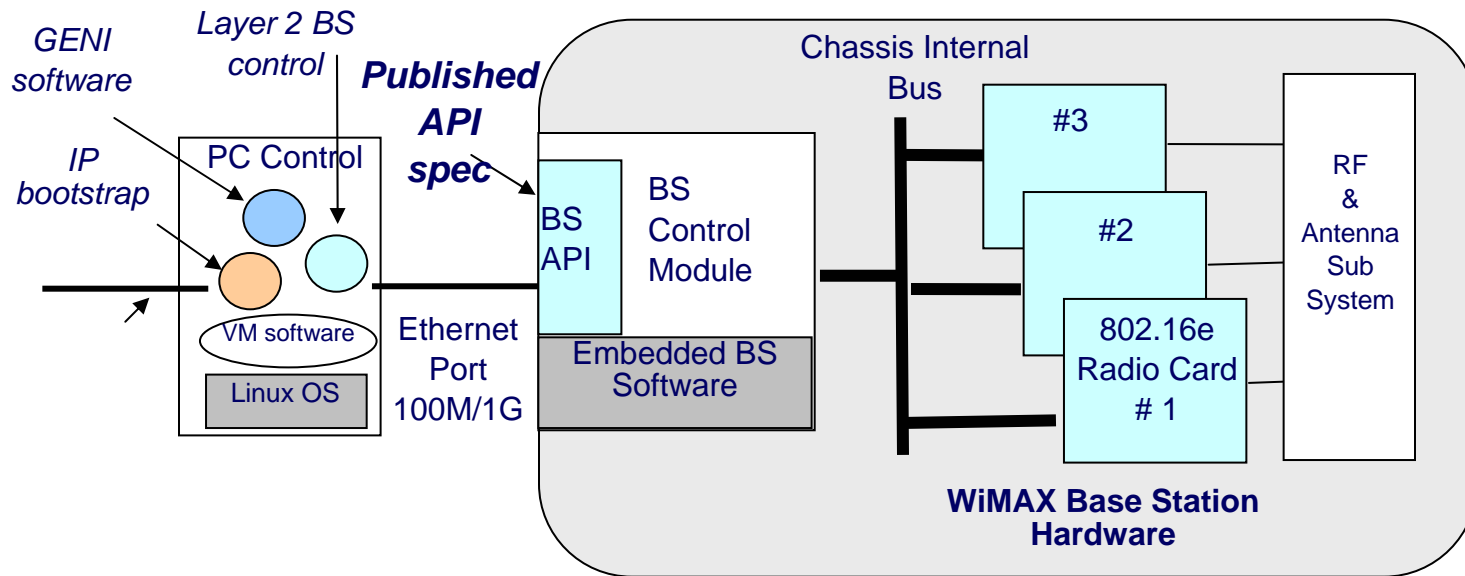
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Open BTS: Cellular GENI Deployment



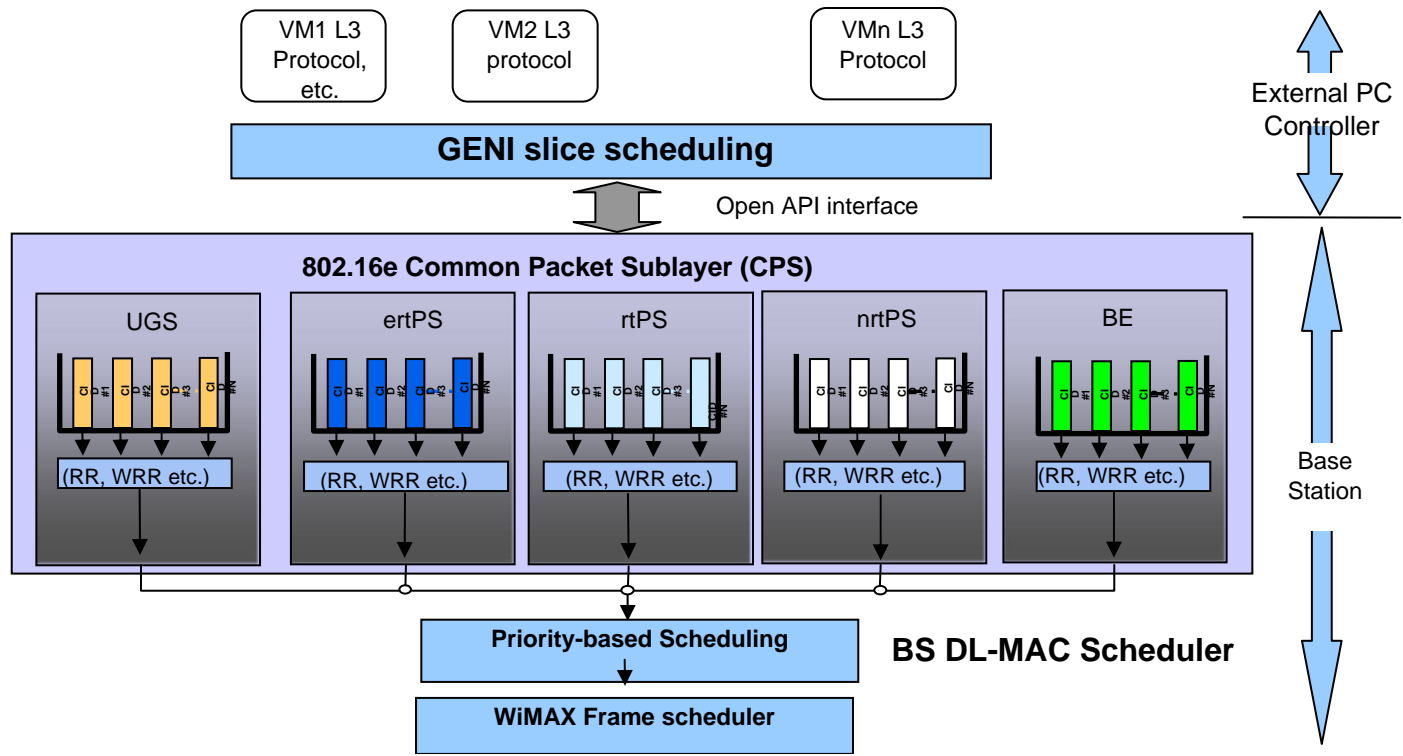
- Cellular GENI deployment desirable for opt-in with mobile end-user devices (..wide-area urban/suburban access)
 - Needs open BTS which supports programmability of layer 2 and 3 protocols
 - Virtualization via orthogonal assignment of radio resources (OFDMA time/freq)
 - Should work with off-the-shelf handheld mobile devices

Open BTS: WiMax 802.16e Implementation with Open API



- API for control of 802.16e BTS parameters
- External API with GENI specific modules: IP bootstrap, layer 2 BTS control, GMC software

Open BTS: Implementing Virtualization in 802.16e



- 802.16e scheduler with multiple service classes
 - Supports orthogonal assignment of OFDMA resources to GENI slices
 - Qualitatively similar to wired router with WFQ ...

Open BTS: Prototype Equipment Examples



**Lucent IP BSR at WINLAB
(Outdoor ORBIT Testbed)**



NEC Release 1 802.16e BTS