

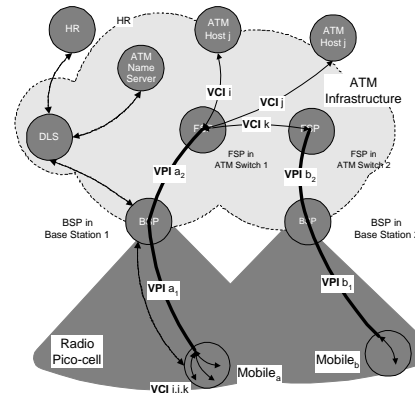
Radio ATM

Extending Multimedia Networking into the Wireless Domain

ORL Radio ATM Aims

- Support multimedia portables using ATM
 - Efficient support for both bursty and CBR sources
 - Complex mobiles with many active VCs
- Extend wired ATM
 - Access-point based rather than ad-hoc
- Use standard ATM protocols
 - ATM Forum signalling
 - Standard AALs in end-points
- Preserve wired ATM performance
 - QoS support, transparent handovers

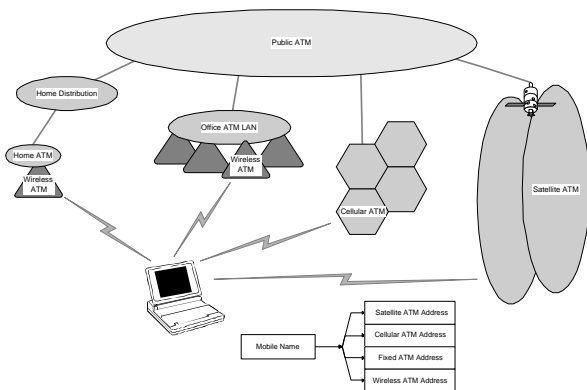
Radio ATM LAN Architecture



MAC Protocol

- Variable frame reservation protocol
 - MAC Frame minimises turn-round times
- Acknowledgements in subsequent frame
- Slotted ALOHA reservation requests for ABR
 - Multiple outstanding reservations per mobile
- CBR reservation frame for mobiles
 - CBR reservations allocated at signalling time
 - Reservation frame guarantees contention free access
- Priority Queues for each mobile
 - ABR, VBR, CBR

Ultimate Goal—ATM Everywhere



Architectural Points

- Wide-area mobility handled by ATM
- Small-scale mobility isolated from network
- Dynamic routing overhead minimised
 - VPs provide routing between FSP and base
- Control minimised by bundling VCs
 - FSP allows all VCs to mobile to be controlled together
- Non-optimal routing to mobile
 - Routing to FSP optimal
 - FSP location flexible and can be migrated

MAC Frame

