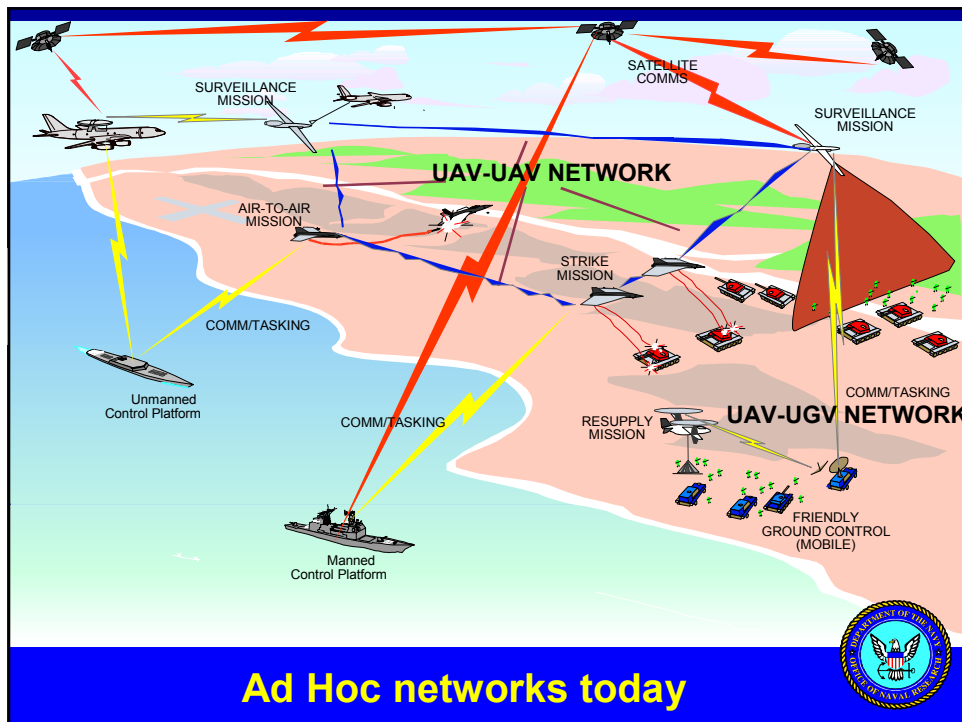


# Opportunistic Ad Hoc networks and Bus Rides

WONS 2004  
Madonna di Campiglio  
Jan 21-23, 2004

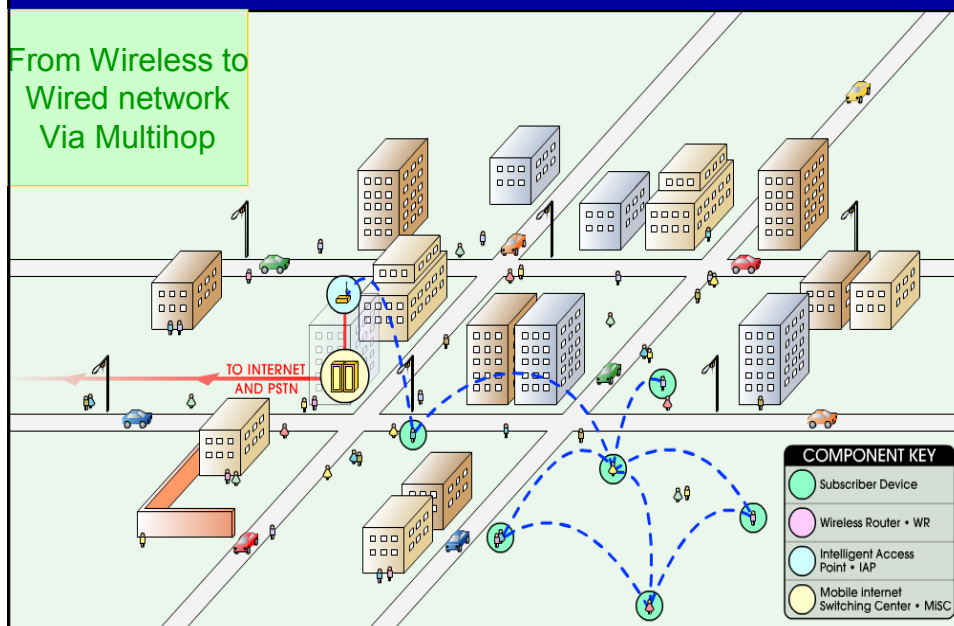
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## Future “commodity” ad hoc networks

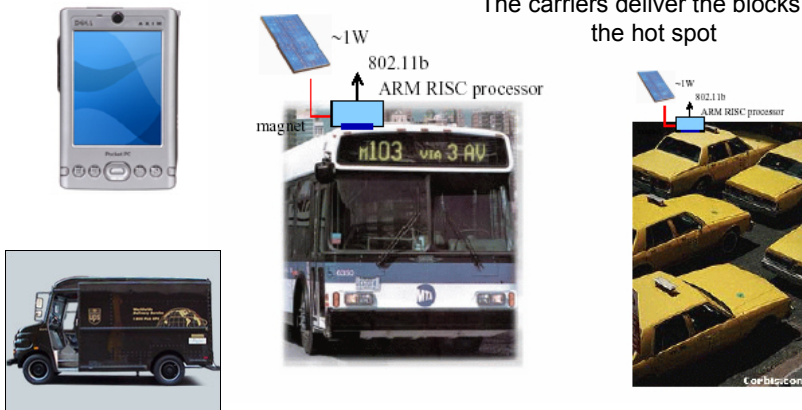
- **military and civilian (disaster recovery) and hoc networks are motivated by:**
  - Instant deployment
  - Lack of infrastructure
  - Very specialized mission/function
  - Cost not most critical issue
- **Future “commodity”, commercial ad hoc networks will not grow in the same way:**
  - Cost is an issue (eg, ad hoc vs W-LAN vs 2.5 G)
  - Connection to Internet is desirable (sometimes, a “must”)
  - Multipurpose networking
- **Enter “opportunistic ad hoc networking**

## Urban “opportunistic” ad hoc networking



## Opportunistic piggy rides in the urban mesh

Pedestrian transmits a large file in blocks to the passing cars, busses  
The carriers deliver the blocks to the hot spot



## Other opportunistic examples

- Extend the home Wireless LAN with an ad hoc net to reach the backyard
- Daisy-chain friends to a 2.5G connection
- Interconnect patients in a hospital with low power ad hoc LAN to avoid interference
- Connect cars in the city with an urban ad hoc grid (for driving safety, environment awareness, kid games, etc)
- **Note:** while primary goal may have been inexpensive access to Internet, eventually these ad hoc nets will take on a life of their own!

