Personnal Data Carriers and Access Points

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Submission presented to the IEEE802.11 WPAN November 1998

Example Existing Products

Worldwide, HF-ISM band, 106 kbaud data rate
built-in mutual authentication and encryption
small non-volatile memory (a few k bits)
sub-dollar carrier silicon costs
low power - many have NO batteries!

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Multiple Carriers/Network

Terminal-Host architecture
Single Host network at any given time
1 to 2 meter Host network range

Multiple Networks/Carrier

Personnal Data Carrier
subject to interact with multiple networks
one network at a time
Multiple Carrier Formats

- Traditional ISO credit/debit card
- Employee Badge
- Key Tag
- Tire
- Watches
- Garments

Formats linked to application functions, existence is part & parcel of the environment, carriers are generally embedded automatons, use is generally ubiquitous, cost is a major driving force.

Multiple Access Point Formats

- Turnstile
- Building facilities
- Transit
- Road-Tire AP
- Counters
- Crowd flow control
- Access Control
- Garage
- Route scheduling
- Toll roads
- Parking
- Hotel check-in
- Transaction

Formats linked to application functions, existence is part & parcel of the environment, use is generally ubiquitous.
Access Point Users

formats linked to application functions
existence is part & parcel of the environment
carriers are generally embedded automatons
use is generally ubiquitous
cost is THE major driving force

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Typical Interaction

a transaction may involve multiple personal data carriers
each performs it's small dedicated background function
each access point also performs a simple function

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Typical Device Properties

- Currently have no display
- Currently have no keyboard
- Function defines form
- platform for distributed database records

Broad Market Potential

- Millions of data carriers in use today
- Corresponding quantity of access points
- Many manufacturers of PDCs and APs
- Requested functionality is increasing
Technical Feasibility

- Is an extension of existing devices
- Simple bridging function is possible
- Maverick implementation is happening

Economical Feasibility

- Millions in use today
- Cost is already accepted in niche markets
- Extension to LANs may be inexpensive