

Role of Alternative Networks in Registry Telecommunications

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Definitions

Alternative networks provide connectivity between end-users and registry applications through means other than traditional, land-based, wired infrastructure.

Low-bandwidth connectivity involves communications between an end-user computing device and a registry application server or database at speeds less than 56Kbps.



Three Scenarios

- Fixed or mobile desktop/laptop, slow analog modem Internet connection
- Mobile laptop, wireless Internet connection
- PDA, wireless Internet connection



Issues

- If a client/server application, communications may “time out”
- If a web application, may take too long to download graphics or applets/controls
- Intermittent connectivity can severely interfere with normal operations

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Alternatives

- Upgrade fixed-location connections to broadband (DSL, cable modems) if available and affordable. Use ISDN as a last resort.
- For wireless Internet, an array of bad choices:
 - CDPD (up to 19.2Kbps)
 - Ricochet, re-emerging in limited markets (up to 128Kbps)
 - Satellite (StarBand, Direcway – speeds vary)
 - “Public” Wi-Fi (802.11b; up to LAN speeds)
 - Next generation GPRS (T-mobile; up to 56Kbps), if it succeeds

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Alternatives *(continued)*

- For PDA's, some additional alternatives:
 - Palm.net
 - GSM™/GPRS on hybrid PDA-phone devices
 - Blue tooth or WiFi in local area
 - Cell modem

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Application Strategies

- Download data necessary for the “session” and work offline until connection can be re-establish
 - May not be able to predict what data is necessary*
- Reduce data transfer requirements of the application (*e.g.*, eliminate graphics and frequent re-paints)
 - Note the impact of encryption!*

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Application Strategies *(continued)*

- Cache additional data
May not be able to predict what data is necessary; additional security implications
- Develop a distributed database application
Difficult to synchronize and consolidate; data becomes fragmented