

Low-bandwidth Registry Communications

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16th Annual CA SIIS Meeting
October 15, 2002

Definition

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

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, if it re-emerges (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

Alternatives *(continued)*

- For PDA's, some additional alternatives:
 - Palm.net
 - Cell modem

Low Bandwidth 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!*

Low Bandwidth 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