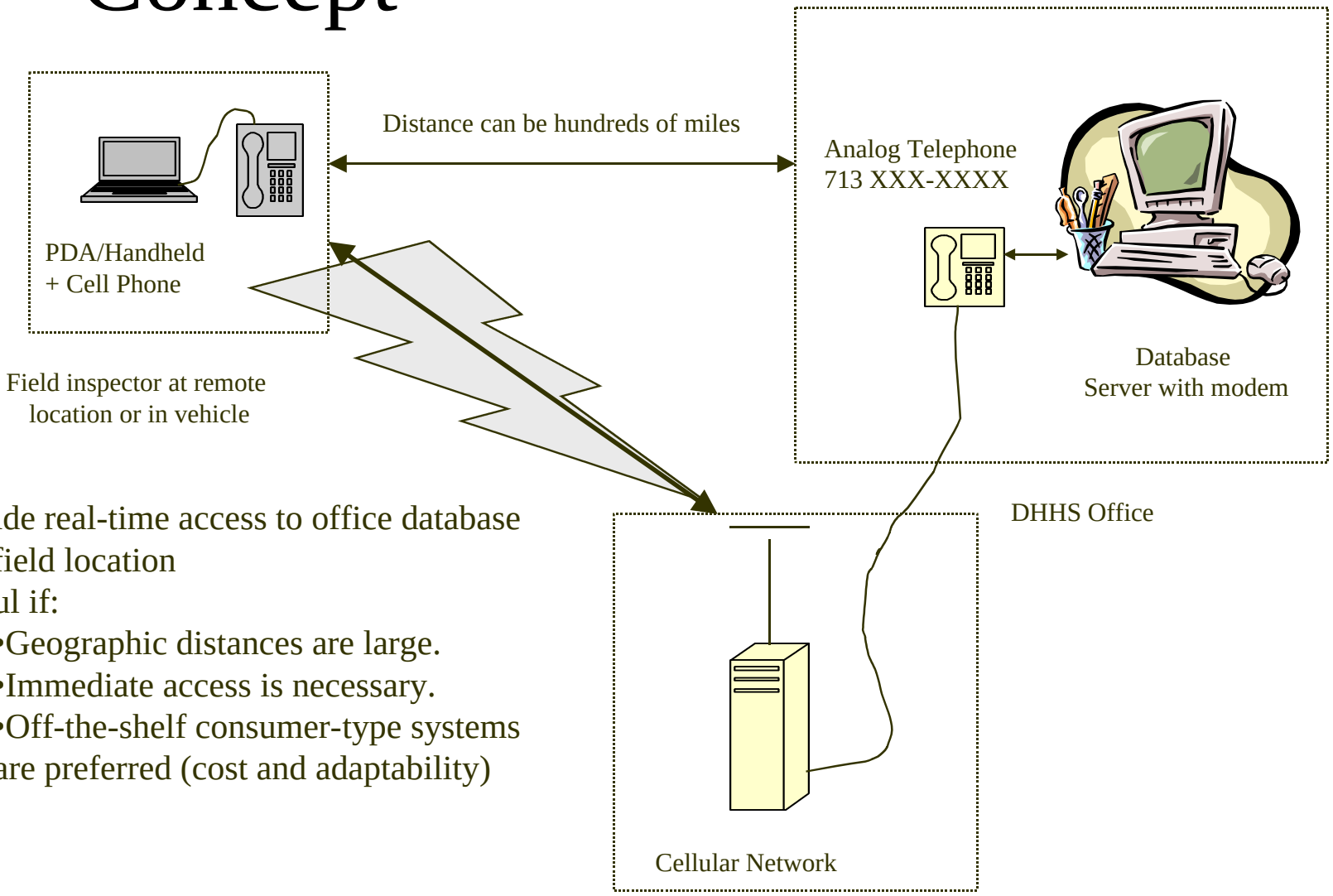
Demonstration of Remote Wireless Access to a Database for Communicating Water Quality Data

July 15, 2003

Status Summary

- **Project is on track for delivery as expected.**
- **Draft final report to be delivered August 15, 2003**

Concept



- Provide real-time access to office database from field location
- Useful if:
  - Geographic distances are large.
  - Immediate access is necessary.
  - Off-the-shelf consumer-type systems are preferred (cost and adaptability)

Original Scope of Work

- **Database development/modification**
- **Data Input/Output Interfaces**
- **Demonstrate Remote Wireless Access**
- **Demonstrate Handheld Access**
- **Final Report**

Database Development

- **A sample database was built to test communications technology.**
- **Authentic database should be used for future implementations.**
- **MS ACCESS was used as the DBMS as per agreement.**

Input/Output Interfaces

- **Used web-browser interface and Active Server Pages to provide I/O for the project.**
- **Future work should consider PERL and CGI-Bin approach to reduce dependence on Microsoft-only products.**

Remote Access with Laptop

- **Will demonstrate if time permits**

Remote Access with PDA/Handheld

- **Subject of today's meeting.**
- **Will demonstrate that one can use a PDA and cell phone to:**
  - **Query (to find data)**
  - **Update (to edit/modify data)**
  - **Add record (to add new database component)**

Final Report

- **Draft report August 15, 2003**
- **Incorporation of written comments and Final report August 30, 2003.**

Progress to Date

- **Sample ACCESS database (as proof of principle) April 2003**
- **Simple web-browser interface for accessing the database May 2003 (refinements are in-progress)**
- **PDA to internet wireless connection June 2003.**
- **PDA to database computer (direct-dial-connection) via wireless service June 2003.**
- **Schedule issues**
  - **Need authentic database content to guide any re-design of interface and test system.**
  - **Need several days at DHHS location to migrate software from University hardware to DHHS hardware.**

Attention Areas

- **Items that caused delays**
  - **Communications;**
    - **The communications set-up is poorly documented by equipment manufacturers.**
    - **This step took a lot of trial-and-error; it is the critical step in any remote access system.**
  - **Database populating;**
    - **Populating the database with authentic data will take some time.**
    - **Database must be populated to guide design of browser interface.**
  - **Interface design**
    - **Communications dictates how to handle interfaces**
    - **Web browser was simplest cross-platform approach.**

Schedule

- **July 2 – Demonstrate PDA access; get a small sample of authentic structured data.**
- **July 8 – Redesign interface components to access authentic structured data.**
- **July 14 – arrange to install and configure database, web interface, and modem onto DHHS computer. Test installation with UH PDA and cell phone.**
- **August 15 – Draft Final Report**

Deliverables

- **Critical deliverables**
  - **Database template(s)**
  - **Web browser interface**
  - **Final report**

Technology

- **Technical problems that have been solved:**
  - **Communications from PDA to database.**
- **Technical issues that will arise if the concept is adopted in the future.**
  - **Compatibility of existingDHHS equipment with existing cellular services:**
  - **NOT all PDAs and Handsets will work.**
  - **Dell and HP/Compaq recent models are well supported.**
  - **The server side is a non-issue – most recent computers can handle the required tasks.**