

Integration of Firebird with PalmOS Handhelds and Smartphones

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Agenda

- PalmOS Databases Overview
- What is a Conduit
- Build a Conduit in Delphi
- What is ASTA
- Build a communication server with ASTA
- Questions anytime!



About me

- From Brazil, maybe the largest FB market.
- Associate Member of the Firebird Foundation.
- Developer for more than 14 years.
- Delphi developer since its first version.
- Firebird user since its inception.
- Speaker at several conferences in Brazil like the Firebird Developers Day, Borland Conference, DUG meetings and others.
- Beer lover.



What is PalmOS?

- It's an operating system for handhelds and smartphones.
- The first equipment to ship with it was the Pilot 1000, in 1996.
- By 2001, PalmOS was running in more than 13 million units, and had 80% of the market.
- It's going to be replaced by the ALP (Access Linux Platform).



Why integrate Firebird with PalmOS?

- PIM (Calendar, Contacts)
- Sales Force Automation
- Field Services
- Healthcare
- Government
- And more!



PalmOS Databases

- No fields
- No indexing
- No SQL
- Should we call it a database?



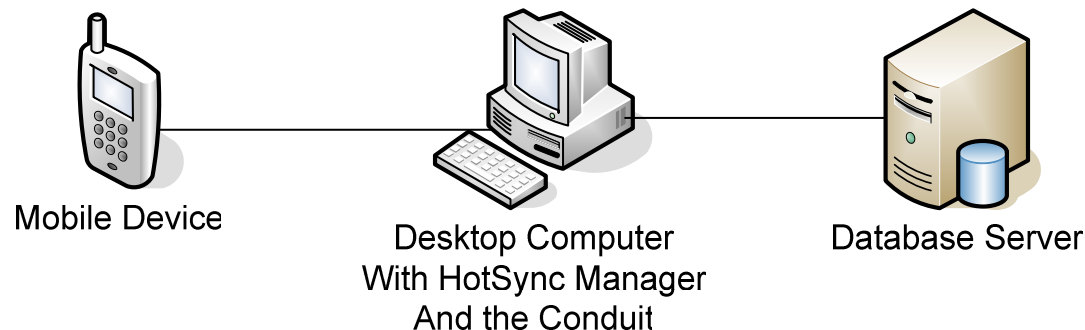
PalmOS Databases

- Are a collection of records
- Records are memory blocks
- Databases are arrays of record handles
- 1 PalmOS DB \approx 1 Table of a RDBMS
- PalmOS Database \approx Paradox, Dbase (one file per table)



Conduit

- Runs on the desktop computer.
- Is responsible for transferring data between your handheld and your desktop computer.
- It's a DLL hosted by HotSync Manager.
- Let's build a conduit!



Conduits in Delphi

- Delphi Palm Conduit Library
 - <http://delphi-conduits.sf.net/>
 - Free, open-source.
- TurboSync
 - <http://www.tabdee.ltd.uk/>
 - Commercial, \$60.
 - Still selling and supported but won't have new versions according to the developer.



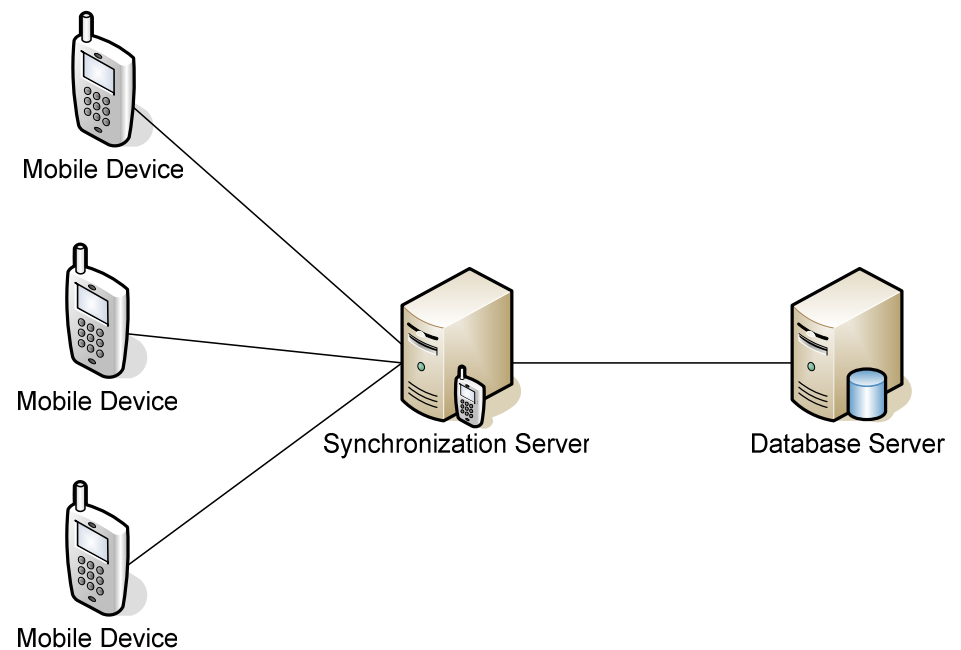
Conduits Drawbacks

- Single user at a time.
- Very slow with remote connections.
- Batch synchronization only.



Synchronization Server

- Synchronization over TCP/IP.
- Multiple users at the same time.
- Batch synchronization or always on connection.



What is ASTA?

- Is a communication framework that supports several platforms including VCL Win32, Java, Linux, PocketPC, .NET and PalmOS.
 - <http://www.astatech.com/>
- We are going to use its COM Server on the server side and the PalmOS client on the client side.



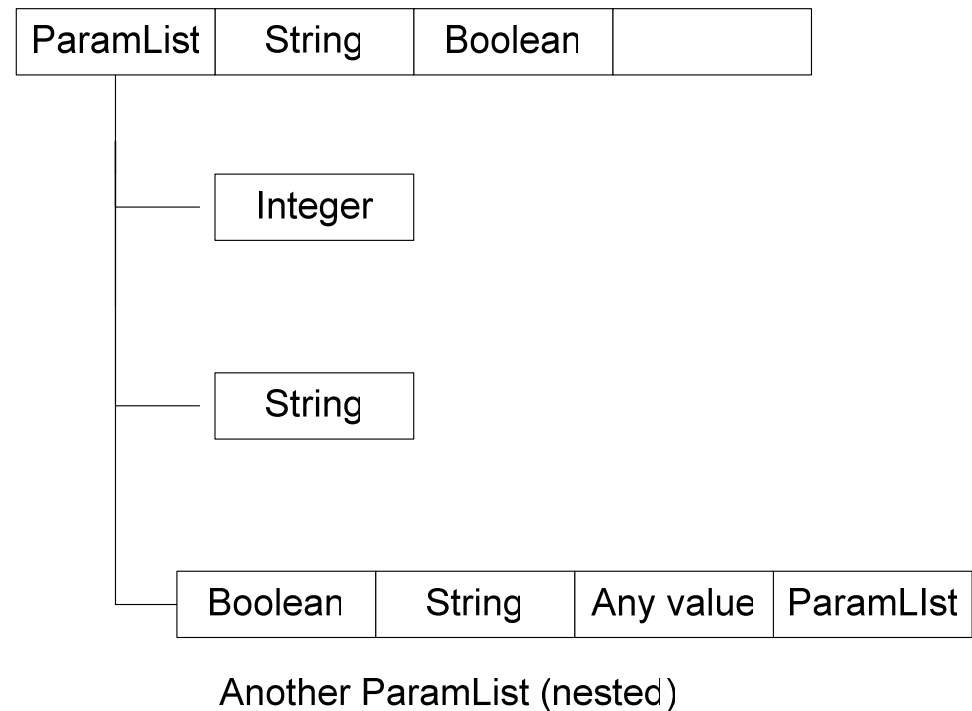
How ASTA Works

1. PalmOS device sends a message with a specific ID and its parameters if needed.
2. Server receives the message, do all the processing needed to the kind of message received.
3. Return any results.



ASTA ParamLists

- Are transferred from/to the server in one call.
- A ParamList is a list of values that can include a nested ParamList.
- The nested ParamList can have any number of values and other nested ParamLists.



Synchronization Server

- Let's see it in action!



What's the best solution?

- Depends on your problem.

Conduit	Synchronization Server
<ul style="list-style-type: none">• Runs on the desktop computer and requires a user to be logged on.• Is hosted by HotSync Manager and bond to the HotSync API.• Single user.• Remote connections are very slow.	<ul style="list-style-type: none">• Can run as a service.• Is a stand-alone application.• Handle a lot of connections at the same time.• You're not bond to HotSync API, so you can exchange data the way you want.



Thank you!

- Questions!

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