



FmPro Migrator - PHP Conversion

Intro

David Simpson
.com Solutions Inc.

- Developer of FmPro Migrator, SQLite Diff, FmPro Script Diff & other apps using LiveCode.
- LiveCode developer since 2001
- FileMaker developer for 25 years.



- MySQL, Sybase, SQL Server & Oracle dba
- Perl, PHP, .NET developer
- UNIX System Administrator (Solaris)



FmPro Migrator - PHP Conversion

DevCon2012 Session Overview

Scalability Options [PHP & SQL Database Servers]

Web Development is hard to do.

Typical Use Cases

Demo - Assets db - FM12

Demo - Core² CRM - FM12

Financial Savings

Q & A



- Why Use PHP & SQL Database Servers?
 - Corporate Mandate
 - All corporate data must be stored in Oracle, SQL Server etc.
 - Thousands of Users
 - Compared to 100 simultaneous users (IWP), or 200 (CWP FM12)
 - Example: A contracting management app having 5000 users who pay \$100 monthly for a hosted solution.
 - Performance
 - Example: FileMaker Inc. website searches are 100x faster using PHP/MySQL solution with FileMaker Server Advanced.
 - Customizability
 - Exert full control over every aspect of the web application.



- PHP Scalability Options

- PHP Accelerators

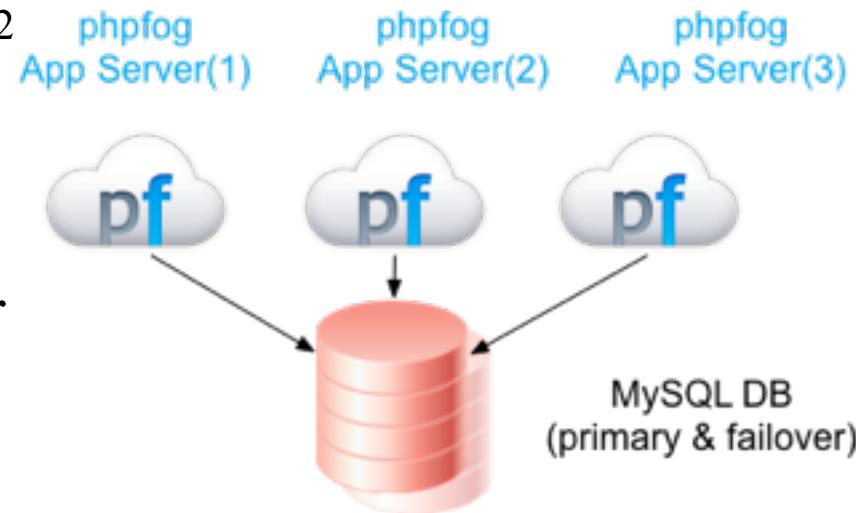
- APC, eAccelerator, XCache, Zend Server

- PHPFog - Hosted on Amazon EC²

- Multiple PHP App & Database Server Configuration
 - \$30 Per Month Per PHP App Server

- CakePHP Caching

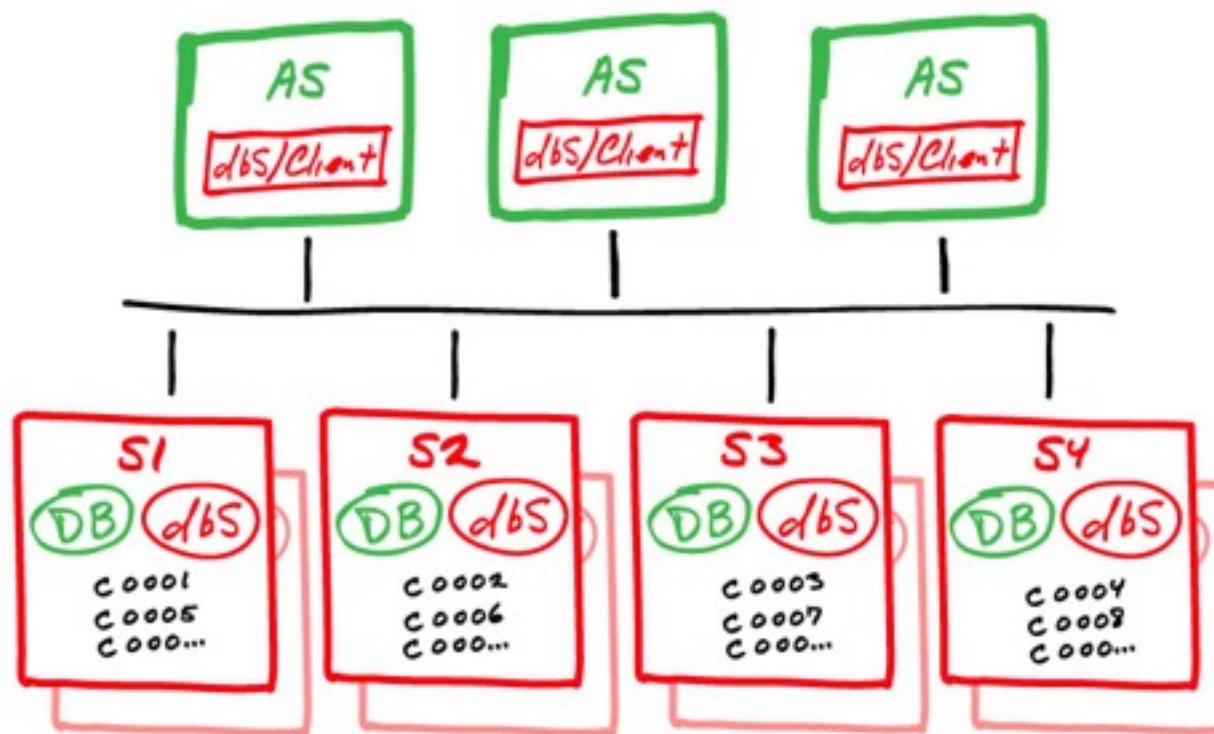
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- dbShards

- Splits Data Across Multiple Servers (MySQL, PostgreSQL, DB2)
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 - Scales Linearly, No application changes required
 - Example: 100 Million User Family Builder Website, FaceBook

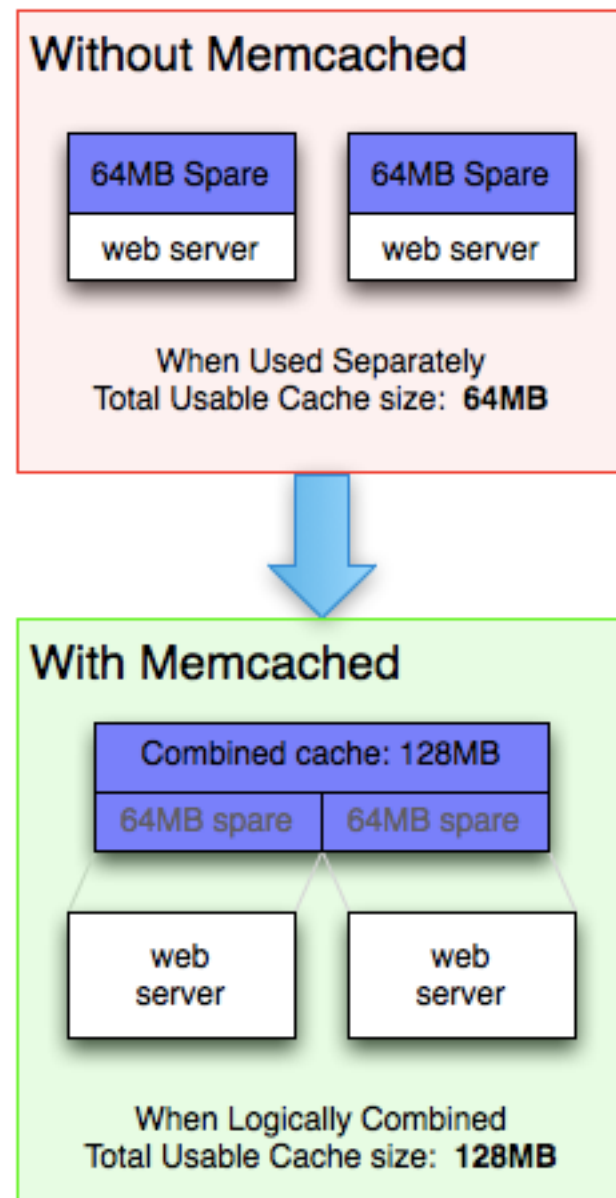




FmPro Migrator - PHP Conversion

Application Scalability - memcached

- Memcached
 - Key/Value Store
 - Similar to a Large Associative Array in Memory
 - NOT Suitable as a Drop in Replacement for MySQL, Oracle, etc. - Requires Application Redesign.
 - Commonly Used For SESSION Variables - Including for CakePHP
 - Can be Used as a CakePHP Cache Engine
 - Examples: FaceBook, Twitter, Wikipedia, YouTube, WordPress, Amazon Elastic Cache





- Web Development is Hard to Do
 - Build a GUI
 - How? (Dreamweaver, & other tools)
 - Write HTML Code
 - Write CSS Code
 - Write PHP, JavaScript Code
 - Test & Debug It
 - Iterate As Needed



- Use Case #1
 - You are a FileMaker and PHP developer who wants to prototype a new PHP web application using FileMaker Pro Advanced.
 - Build a working web application which is more sophisticated in functionality than you might build manually - because it is built automatically.
 - Utilize FileMaker layout tools to align, resize, distribute objects - easier than using DreamWeaver.
 - Convert FileMaker charts into server or client-side charts.
 - Utilize FileMaker vector graphic objects - for high quality graphic objects at any screen resolution - without writing raphael.js code manually.



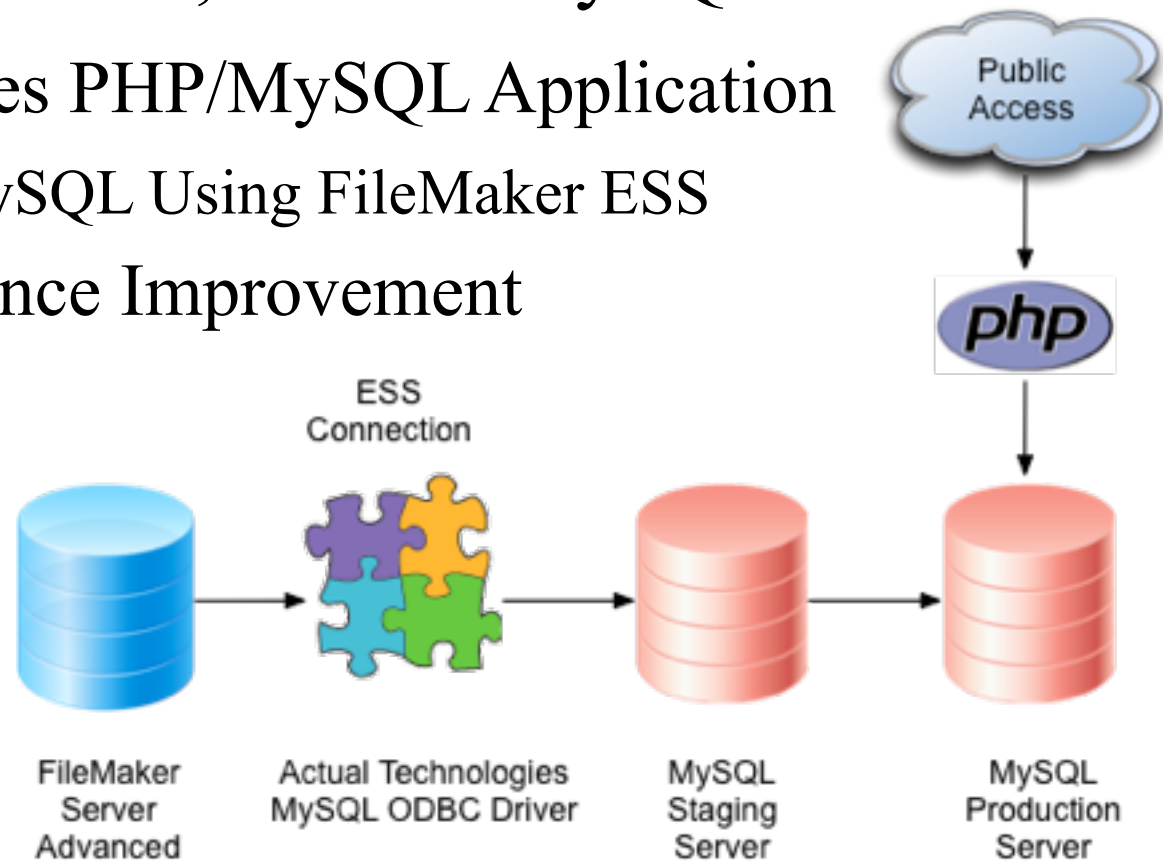
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 - Render FileMaker charts as PNG images - for performance.
 - Data entry, record searching - for high traffic web sites requiring more than 200 simultaneous users.
 - Keep most of your business logic running on FileMaker Server Advanced, store some of your data in MySQL, Oracle, SQL Server etc.
 - Replicate data: SyncDek, ESS, ODBC data import scripting.
 - Decouple FileMaker database from website - for maintenance.
 - Example: FileMaker developer.filemaker.com/search Website



FmPro Migrator - PHP Conversion

Use Cases - developer.filemaker.com Website

- developer.filemaker.com/search & developer.filemaker.com/solutions
- FileMaker Server Advanced, PHP & MySQL
 - Public Web Search Uses PHP/MySQL Application
 - Data is Pushed into MySQL Using FileMaker ESS
 - Result: 100x Performance Improvement

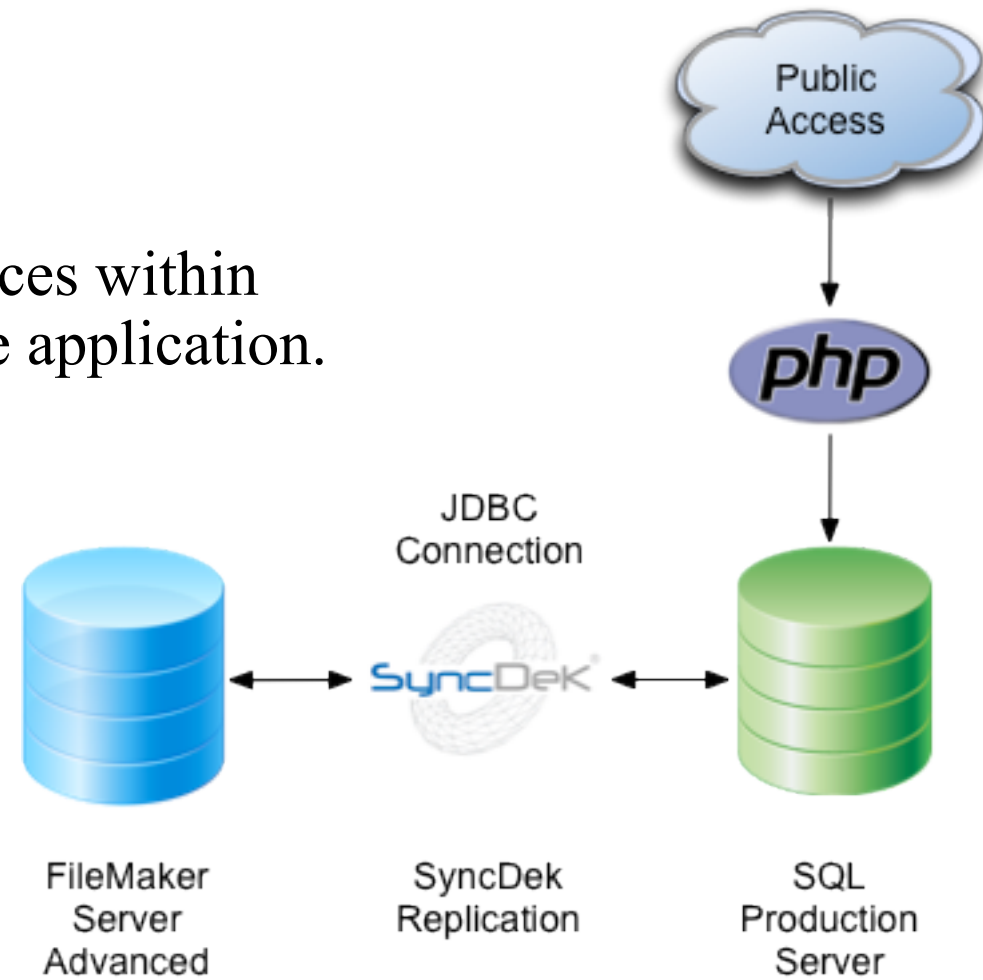




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Use Cases - FileMaker & SQL Replication Using SyncDek

- SyncDek Replication to FileMaker Server Advanced
 - Good Choice For:
 - 2 Way Replication
 - Data gets changed in many places within the FileMaker or SQL database application.





- Use Case #3
 - Convert Entire FileMaker Solution
 - Consider Relationship Complexity
 - More Relationships, Can Severely Impact Performance
 - Consider Using Anchor/Buoy
 - May Need to Bind/Unbind Models Within View Controllers
 - Consider FileMaker Menus
 - Scripts Menu/Custom Menus - Not Available
 - Add Scripted Buttons as Necessary
 - Consider Simplifying Scripting
 - Review whether the 16 commonly used script steps can replace some scripts. These will be automatically converted.



- Pre-Migration Preparation
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 - Uses FX.php & XML Connectivity
 - Reported Performance - 500ms vs 50ms/Query for ODBC, vs 1-2 ms/Query for MySQL



- CakePHP Babel API to FileMaker PHP by Andrew Ballard
 - Better Performance, Used in Production
 - Can Call FileMaker Scripts Directly, Use FM Find Operators
 - Does Not Use CakePHP Model, Use from Views/Controllers
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 - Not a Drop In Usable Driver with FmPro Migrator Generated CakePHP Code
 - Can this API Be Improved? Integrated into CakePHP MVC?
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Demo



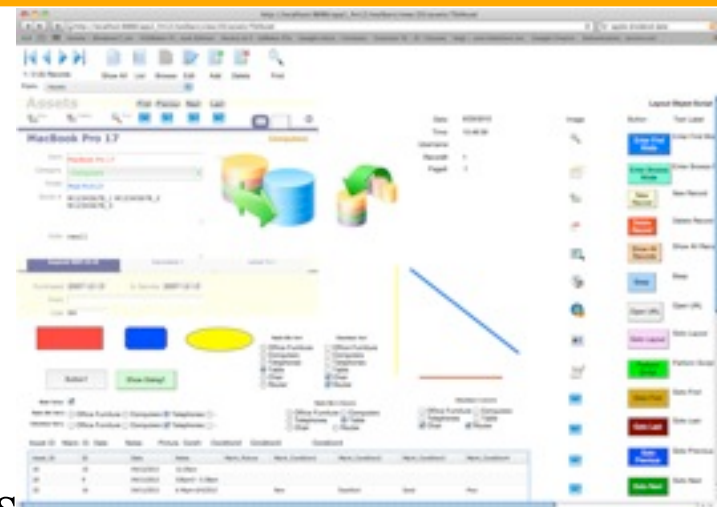
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 - Show MySQL config - Main Window
 - Show Tables, Relationships, Layouts, Scripts Tabs of Migration Process window.
 - Show GUI - PHP Window
 - Show PHP Prefs
 - pChart/FusionCharts menu
 - pChart library included at no cost.
 - Grid Type - ExtJS/jqGrid [cost extra]
 - Authorization Type - None/Basic - Select Basic
 - Data Access - All, Read Only, Edit Only
 - Navigation Toolbar [New]
 - Click Convert button [Discuss Preflight Process PK Required]



- Assets DB
 - Show Generated app
 - Show FM12 database side by side
 - localhost/app1 - link directly to:
 - http://localhost:8888/app1_fm12/default
 - Click on Log In Link - Log in as Admin
 - Click on [Admin - List/Edit/Delete/Query Users](#)
 - Show Editing ReadOnly User
 - Back to /default
 - Click on BaseTable Controllers - Member
 - Base Tables - Use scaffolding



- Assets DB
 - Assets layout - View mode
 - Compare to Original FileMaker layout
 - Show Assets Text Label, Fields, Menus
 - Show rectangle, circle, line, image objects
 - Show Radio Button, Checkbox
 - Show Radio Buttons/Checkboxes - 2 Columns
 - Show ExtJS Grid
 - Show Tab Control - 2 levels
 - Show Value Lists - Static & Dynamic
 - Show Next Record - data values change - CSS Tooltips
 - Checkbox/Radio Buttons - Updated With Record Change
 - Show 15 Script Steps/Buttons - Right Side

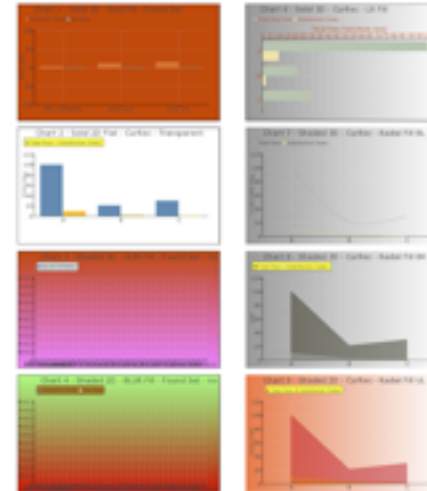




- Assets DB
 - Switch to Edit view
 - Change field value
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 - Show Validation - from Model
 - Switch to Query view
 - Click The Category Menu
 - Search: Office Furniture - 0 Records
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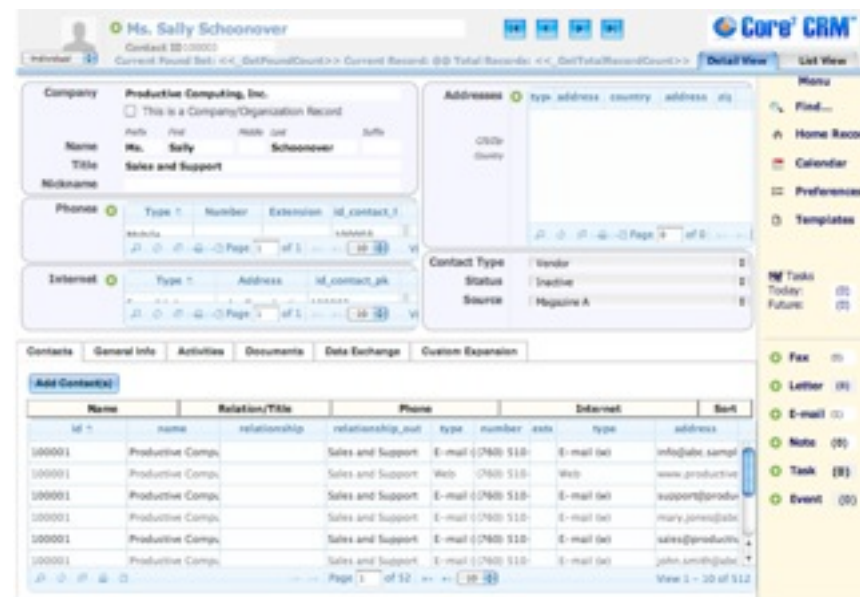


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Slides



- Automated Migration with FmPro Migrator:
 - Use a FileMaker Pro database as your software specification
 - Save time, immediately start developing your project
 - Generate forms, relationships, scripts, value lists
 - Estimated cost of \$1000 - \$5000 per layout for manual conversion
 - Quickly build web apps having sophisticated and difficult to develop features: charts, grids, tab controls, vector graphics
- Off-shoring to your desktop using FmPro Migrator Platinum Edition (\$600)



Q & A



- iPad2 Demo
 - Show Assets Form
 - Record Advance
 - Switch Layouts
 - Maint_Record
 - Bar Chart Gallery
 - Pie Chart Gallery





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Hello, my name is David Simpson.

During this session I will be showing how to use FmPro Migrator Platinum Edition to perform automated FileMaker Pro to PHP Web Application Conversions.

FmPro Migrator was originally developed only to perform FileMaker database data migration projects. Over the last 9 years it has been enhanced to convert Microsoft Access and Visual FoxPro applications into FileMaker Pro database files.

As well as adding the new PHP Conversion feature.

How many people attended this session last year?



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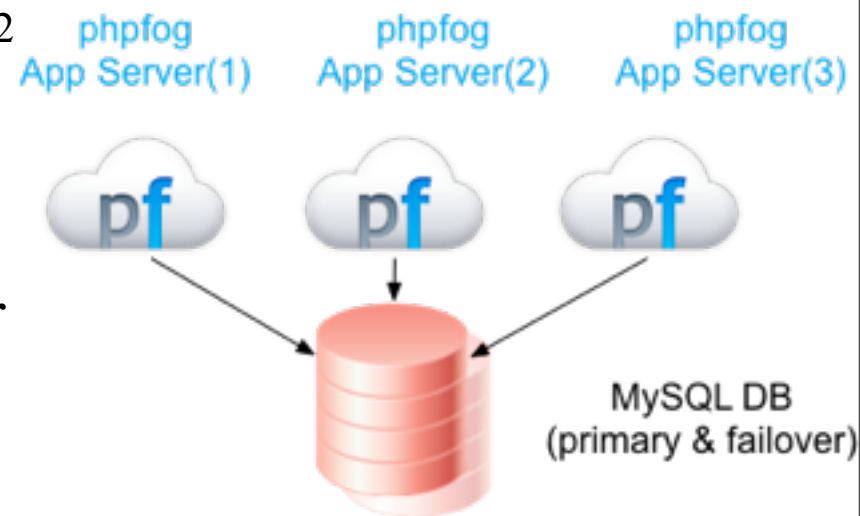
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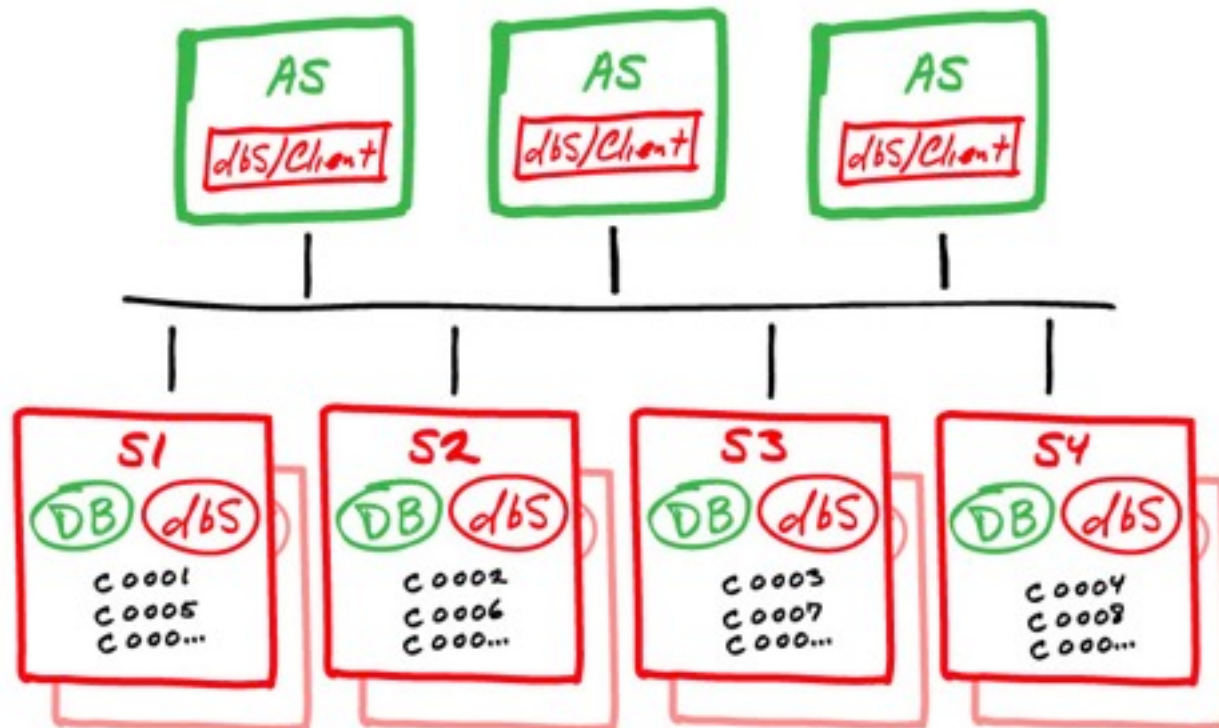
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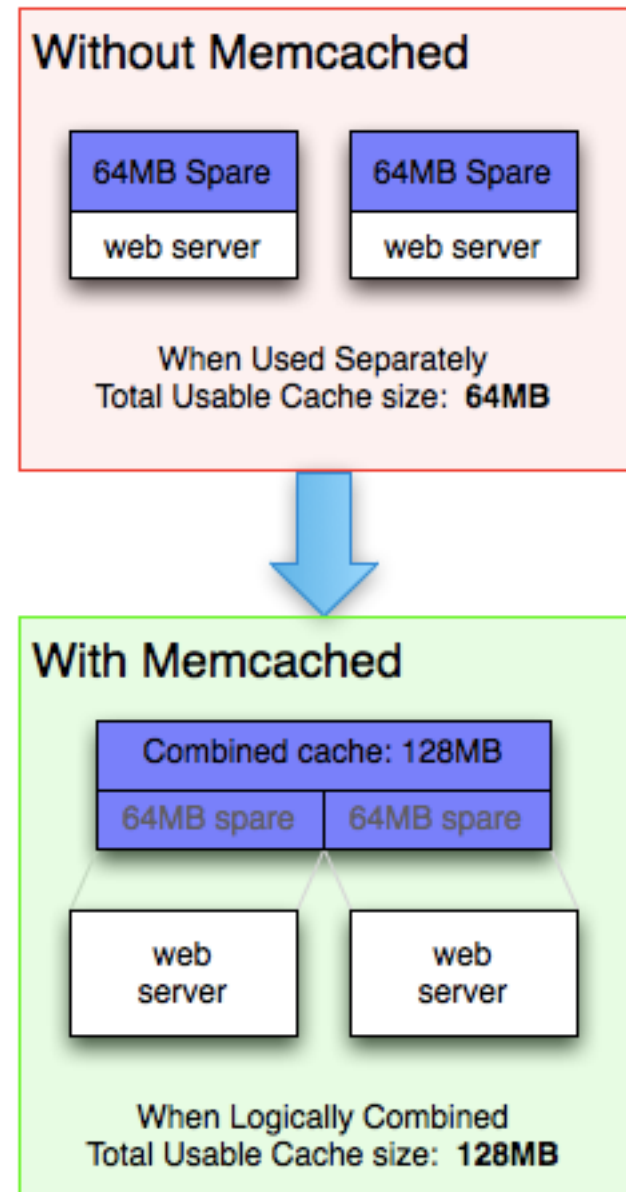
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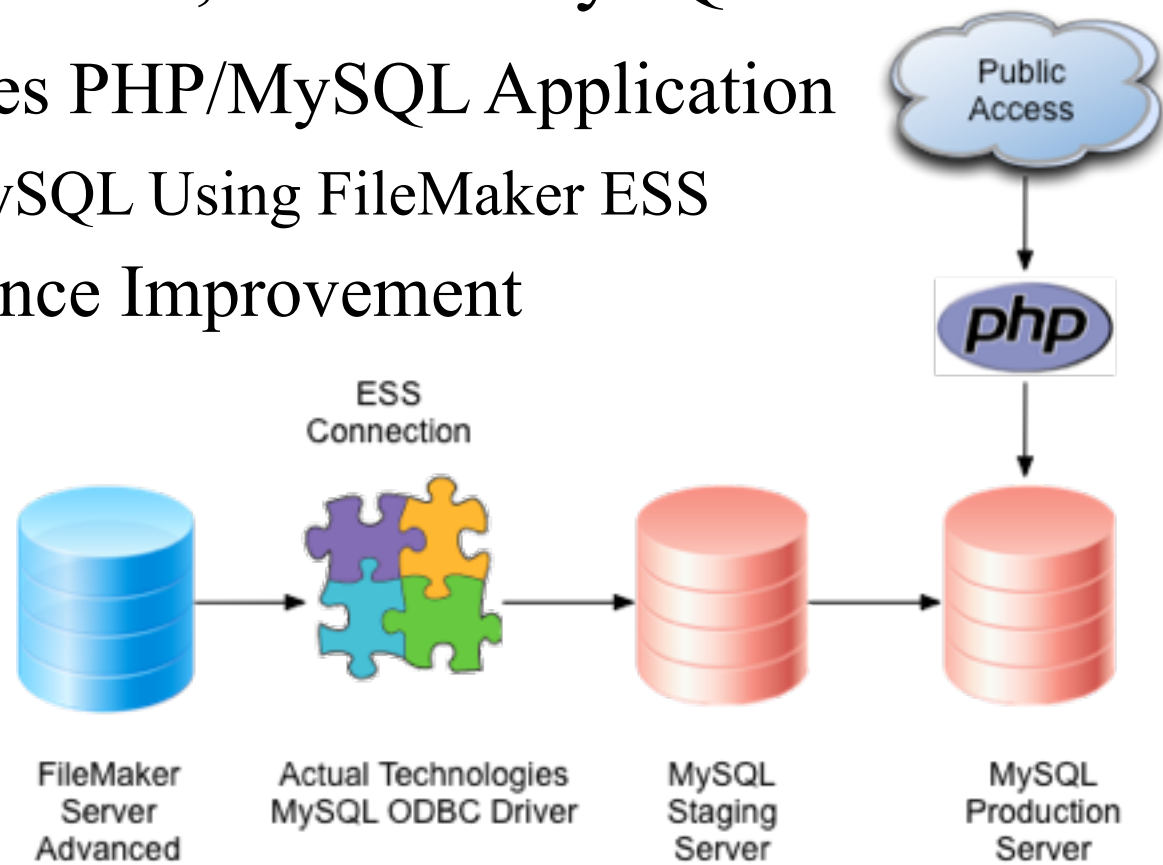
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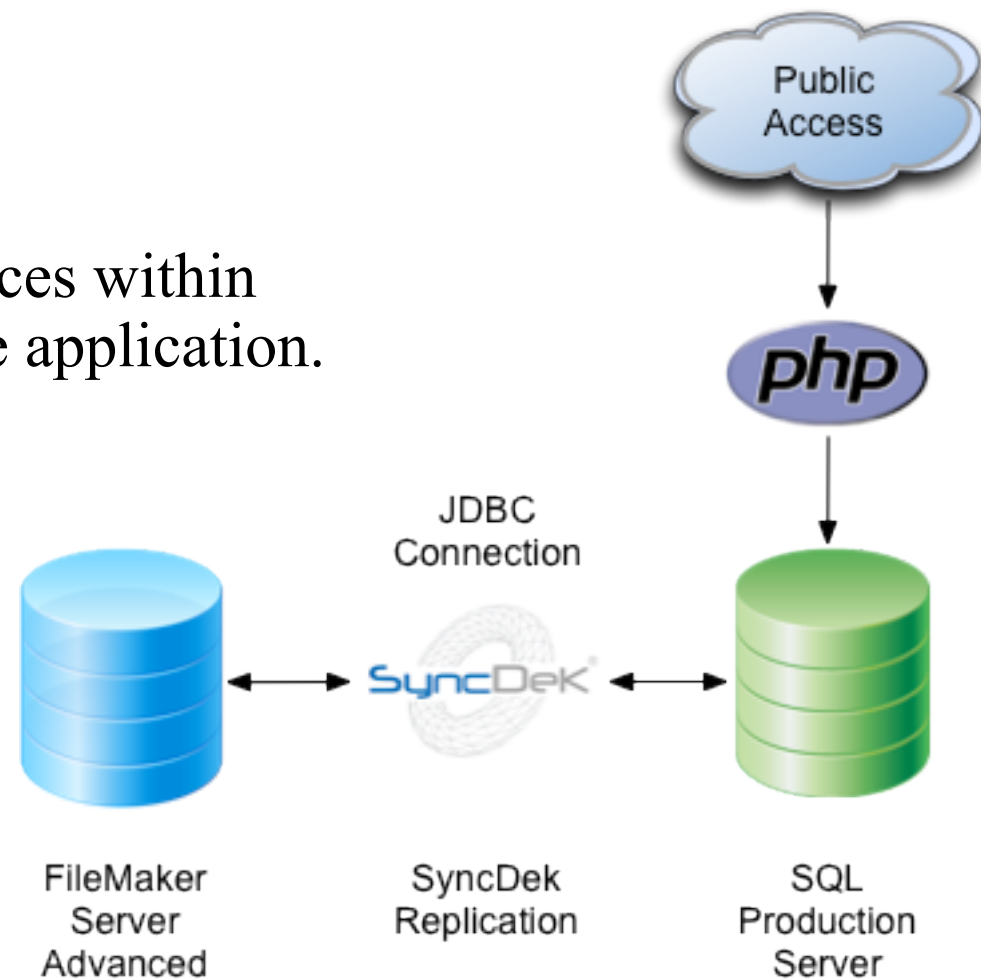


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Strengths:

- Native SQL queries
- Can select which data fields to return
- Can access any part of the database from any query
- Cake Models used, but mainly only for data validation
- Reasonably fast (50ms per request), but also requiring lots of queries to perform one 'task'.
- Easy to set up on Filemaker side.
- Can use native Cake pagination.
- Native Cake SQL Debug log

Weaknesses:

- No limit/max records able to be specified
- Cake Models are used, but only Belongs To relationships work - no Has Many nor HABTM 'instant' relationships - easily achieved with multiple queries though
- No related data in one query (apart from Belongs To) - easily achieved with multiple queries though
- Need to modify the standard Cake ODBC Driver: change single quotes to multiple, etc etc etc
- Handling dates is not straightforward - ODBC has it's own date format expectations
- Max limit of 31 characters for *combined* table::field names. Makes for unexpected truncations in returned data.
- Can't call a Filemaker script.



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Cake-like find constructs. A few syntax changes due to Filemaker's requirements, but 100% knowledge-transferrable!

Able to set limit/max records returned; perform multi-field sorts

By setting a Filemaker layout, can limit the fieldset returned, as well as access all related portals/data on that layout.

Can use all Filemaker search syntax: can do all search operators (<, >, *, !, '...', etc), and can allow web users to do some pretty advanced searching/filtering if these are taught

Error reporting returned from Filemaker API - handy in initial setup/conversion phases

Can do a SaveAll, but only through smart Array preparations beforehand/looping a Save in Controller.

Can call Filemaker scripts

Pretty fast. Should say, more correctly, that it's pretty efficient: you can get a lot of good data from one query.

Of course, if unstored/reaching too far with portals, it may be slow - but with good discipline, it's fast enough for production (intelligent Cake element/page caching assists for heavy traffic).

Cake models not used whatsoever: in fact, no database is specified. So no pre-validation or relationship structure. Validation needs to be performed in-view or in database; related data is accessed via Filemaker layouts.

Native Cake Pagination is broken. We've coded in-controller replacement, but should be easily incorporated in future releases

Filemaker Tomcat data server doesn't release any of the HTML page before entire query is complete.

You lose your SQL debug log. Safari's Developer Network inspector is indispensable, so is Brian Dunning's "microtime" code snippet.



Demo



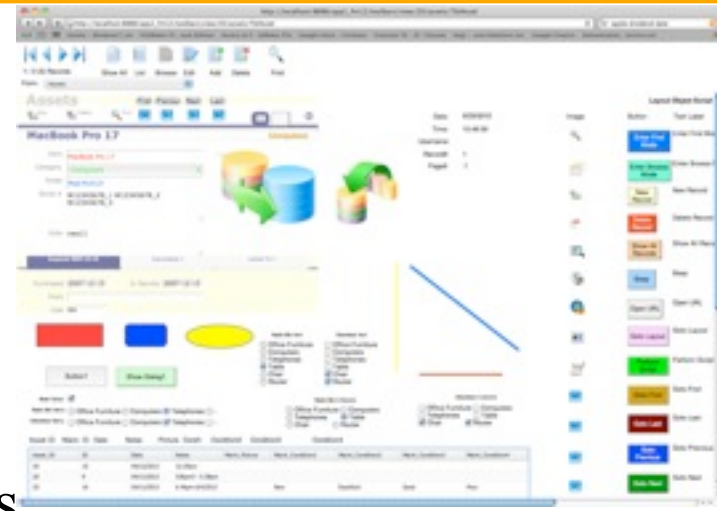
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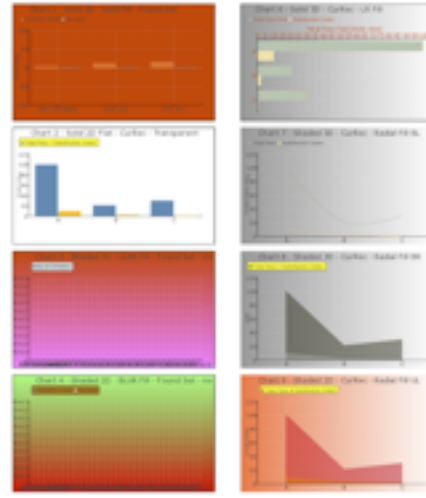




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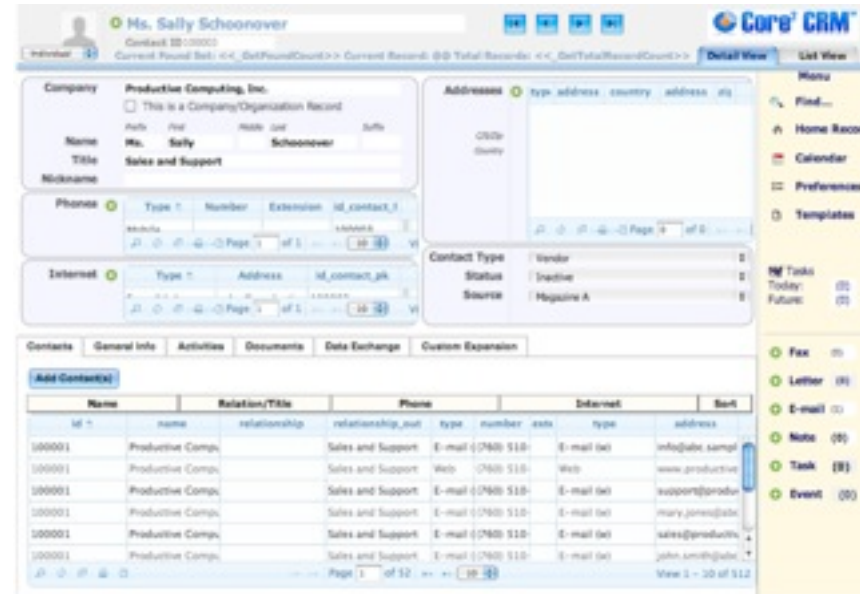


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