**Why Should You Stay?**

In this session you'll learn:
- What dynamic content is, and why it's useful
- What ColdFusion (CF) is, and why it's powerful
- How to build dynamic WAP applications with CF

**Audience:**
- WAP developers new to CF
- Experienced CF developers looking at WAP

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**What Will We Cover, Specifically?**

**Preaching the good news:**
- What is a dynamically generated WAP application?
- What makes them so great?
- Introduction to ColdFusion, a stellar tool for building them

**Preaching to the choir:**
- Serving WAP content via ColdFusion
- Studio features for creating WAP applications
- Tricks and traps
What is a Dynamically Generated WAP Application?

- Content generated on the fly
  - Perhaps generated from database
  - Or based on user input
    - Creating 2-way WAP applications

- Requires web application server
  - Such as ColdFusion, ASP, Perl, Java, etc.

Examples

- Contrasting static and dynamic sites:
  - Sample web sites
  - Sample WAP sites

What Makes Them So Great?

- Signs of a mature site:
  - Content customized to visitor
  - Securing site sections and features
  - Query as well as update of server databases
  - Generating e-mail on result pages
  - Integrating content from other applications or even other sites
  - Scheduled content (notifications)
**Dynamic Site Possibilities**

- Intranet application possibilities
- Business to business possibilities
- Business to consumer possibilities

**Introduction to ColdFusion**

Leading cross-platform web application server

- Runs on Windows, UNIX (including Linux)
- Runs with nearly all web servers (including Apache)

Recognized for:

- Security, scalability, integration, ease of use

Inexpensive:

- Ranging from just $2,000-5,000 US

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**CF's Ease of Use**

```html
<cfquery name='GetDepts' datasource='Test'>
    Select DeptName from Depts
</cfquery>
<p>Depts Found:<br/>
<cfoutput query='GetDepts'>
    #DeptName#
</cfoutput>
</p>
</cfcard>
```
**CF’s Flexibility**

Many operating systems and web servers supported

Databases supported:
- Any ODBC (Access, FoxPro, etc.)
- SQL Server, Sybase, Oracle, Informix, DB2

Integration:
- COM/DCOM, CORBA, EJB, etc.

**CF’s Scalability**

Can handle substantial loads:
- Integrated load balancing
- Clustering
- Failover

High performance architecture
- Multi-threaded service, template caching, etc.
- State management

**Serving WAP Content via ColdFusion**

- CF-generated pages are .cfm files rather than .wml files
- Must set MIME type for the page:
  `<CFCONTENT TYPE="text/vnd.wap.wml"/>
- This tells the WML browser to expect WML – tag not normally needed in HTML pages
- This is where things get different for experienced CF developers
Complete Skeletal CF/WML File

```xml
<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//PHONE.COM//DTD WML 1.1//EN" "http://www.phone.com/DTD/wml1.1.dtd">
<wml>
    <card>
    </card>
</wml>
```

- Note `<xml>` tag on first line
- Is placed next to `CFCONTENT` tag
  - Prevents extra carriage return before `<xml>`
- Note Phone.com DTD: could use WAPForum's

Where to Go From Here?

Learn CF and learn WML:
- Place any valid WML on page
  - WML is different from HTML, do need to learn it
- Use any ColdFusion tags to create WML code
  - Can generate WML from database, or based on data gathered from other objects, applications, or sites
- Perform actions in support of WML processing
  - Can search/store data in databases, generate e-mail, pass data to other objects, applications, or sites

Cookin' Up Some CF Examples

- Form processing
- Query processing
- Form-driven query processing
- Table formatting
- Database updates
- Dynamic select list
- Site-stripping agents
Other Useful CF Features

- CFMAIL
- CFSC SCHEDULE
- CFSEARCH
- Session, Client, Application, and Server variables
- Query caching

Studio/HomeSite Features for Creating WAP Applications

CF Studio is the IDE for CF developers
- HomeSite HTML editor shares most features

Both are advanced Text Editors
- Many useful features

As of 4.5, both support WML
- Creating new WAP templates
- Creating/editing WML tags
- Documentation of WML tags

A Quick Tour of Studio/HomeSite

- Creating a WML page
- Adding WML tags
  - Tag insight, validation
  - Tag chooser
- Editing WML tags
  - Tag editors
- Getting help
  - F1, help within tag editors
Some CF/WML Traps

- CFCONTENT problems
  - Can be turned off by administrator
  - Not supported in CF Express
- Studio/HomeSite support
  - Based on Phone.com WML
  - Option may enter tags in upper case
- CF's HTML heritage
  - CF error messages and debugging output are both in HTML format
  - Can alleviate problems with properly configured application.cfm file

An Ounce of Prevention

- Application.cfm is a special file run before any other
  - It can turn on features to solve some "HTML heritage" problems
- Place it in the same directory as WML code
  - Preferably a WML-only directory

Sample Application.cfm

```cfml
<CFSETTING ENABLECFOUTPUTONLY="Yes">
<CFSET version=listgetat(Server.ColdFusion.ProductVersion,1,"., ")
  & "." & listgetat(Server.ColdFusion.ProductVersion,2,"., ")>
<CFIF version ge 4.5>
  <CFSET type="exception">
  <CFERROR type="#type#" template="wml_error.cfm">
  <CFIF></CFIF>
</CFSETTING SHOWNDEBUGOUTPUT="y">
<CFSETTING ENABLECFOUTPUTONLY="no">
```
Some CF Tricks

- Circumventing CFCONTENT restriction
- Browser detection
- Other items:
  - Converting semicolon-delimited "multiple SELECT" values
  - Escaping # and $

Classic WML Traps

- Use well-formed WML
  - `<p></p>` surrounding text
  - `<br>` rather than `<br>`
- Lowercase WML elements
  - `<wml>`, not `<WML>`
- Do redirection with root-relative paths
  - Not simply relative to current file
  - Applies to CFLOCATION as well

Testing/Debugging

- Great site to view output being generated:
- Using Phone.com simulator
- Simulator's two modes:
  - HTTP direct versus UP.Link
- Finding error messages
  - In real phone; simulator
Building Dynamic WAP Applications with ColdFusion

CF/WML Resources

- CF chapter in Professional WAP Programming
- Some sites:
  - http://www.wapuseek.co.uk/wap_cf.cfm
  - http://www.systemanage.com/wml/
  - http://forums.allaire.com
- CF-WAP mailing list:
  - Sign up at http://www.houseoffusion.com

Crossing the Finish Line

- Dynamically generated WML is a powerful tool
- ColdFusion is especially well-suited
- Taking your sites to this next step will add tremendous value

Building Dynamic WAP Applications with ColdFusion

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