

# *Using ColdFusion, Flash, SAS, Excel, and Access with Oracle*

## Presenters:

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Johns Hopkins Oncology Center

Research Information Technology Systems

- <https://www.rig.onc.jhmi.edu>



# Research Information Technology Systems (RITS)

- Group, 6.5 years of team work
  - Michael Fox, DBA and project leader
  - Alla Guseynova, Database Architect/Project Leader
  - Allan Grimm, Sr. Programmer/Analyst
  - Nicholas Bollweg, Sr. Programmer/Analyst



# RITS Expertise

- Project management
  - requirements analysis, functional specifications
- Database management
  - Oracle, Sybase, SQL Server
- Web Development
  - ColdFusion, Flash, SAS, JavaScript, HTML
- Systems administration
  - Windows 2000, XP, NT, UNIX



# RITS Tools and Applications

- Intel platform
- NT 4.0, W2K, XP, Server 2003
- Oracle version 8i, 9i
- ColdFusion MX
- Flash MX
- MS IIS 5.0



# Cold Fusion

- From Macromedia
- Provides application services
- Works with IIS and other web server
- Rapid code development
- Tag based language
- Connects to Oracle natively or via ODBC



# Flash

- From Macromedia
- authoring environment for creating interactive websites
- Works alone or with ColdFusion
- Requires Flash player on client
- We use ColdFusion to connect it to Oracle



# SAS

- From SAS
- Procedural language
- Statistical and analytic tool
- Numerous, full-featured functions
- Well documented
- Well run classes by SAS
- Connects to Oracle via SAS/Access



# Excel

- From Microsoft
- Spread sheet application
- Connects to Oracle via ODBC
- Paste in tables from the web



# Access

- From Microsoft
- Database for non-programmers
- Connects to Oracle via ODBC
  - Import
  - Link
- Mix Oracle and Access tables for applications or reports



# ODBC

- Stands for Open DataBase Connectivity
- Developed by SQL Access Group
- Middle layer or driver between an application and a DataBase Management System (DBMS)
- Application and DBMS must be ODBC-compliant



# Oracle Networking

- Can identify and resolve Oracle servers various ways
- We use TNS Names
- Important Oracle files
  - Tnsnames.ora
  - Sqlnet.ora



# Sqlnet.ora

NAMES.DEFAULT\_DOMAIN = ONC.JHMI.EDU

SQLNET.AUTHENTICATION\_SERVICES= (NTS)

NAMES.DIRECTORY\_PATH= (TNSNAMES, ONAMES,  
HOSTNAME)



# TnsNames.ora

```
ONCRIS.ONC.JHMI.EDU =  
  (DESCRIPTION =  
    (ADDRESS_LIST =  
      (ADDRESS = (PROTOCOL = TCP)(HOST = goethe)(PORT = 1521))  
    )  
    (CONNECT_DATA =  
      (SERVICE_NAME = oncris)  
    )  
  )  
)
```

```
PBMT.ONC.JHMI.EDU =  
  (DESCRIPTION =  
    (ADDRESS_LIST =  
      (ADDRESS = (PROTOCOL = TCP)(HOST = bmt-nt)(PORT = 1526))  
    )  
    (CONNECT_DATA =  
      (SERVICE_NAME = pbmt)  
    )  
  )  
)
```

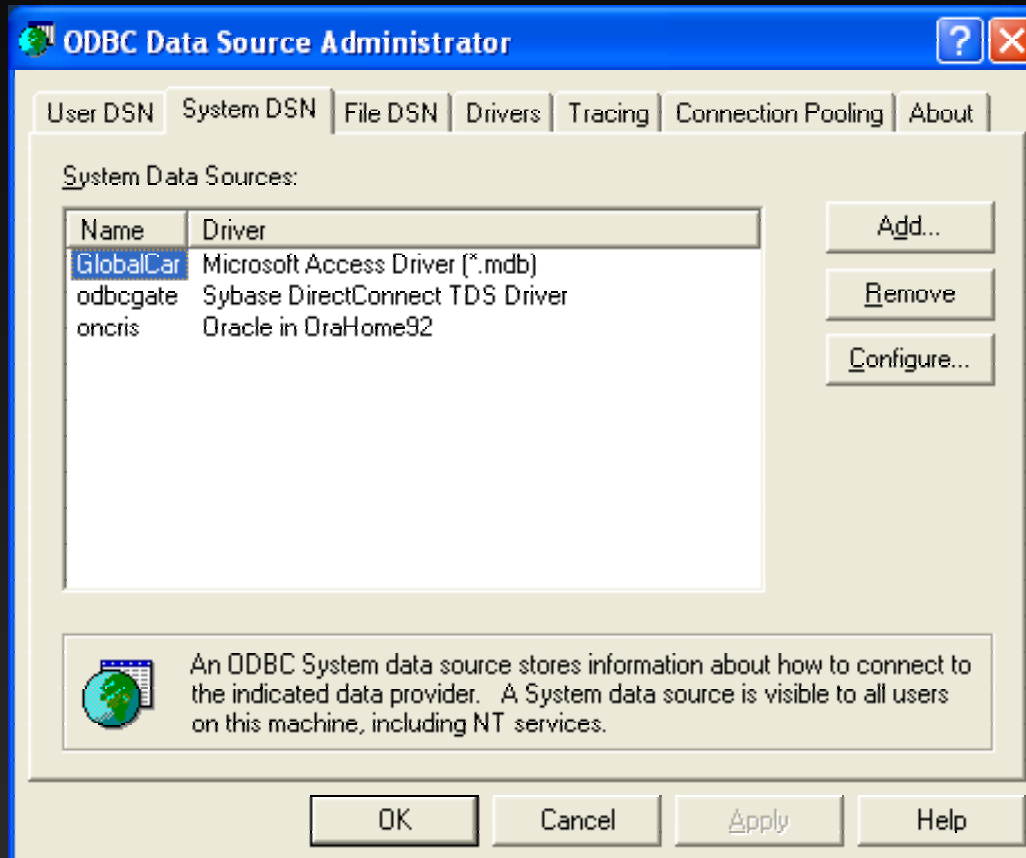


# Demo

- Tests for connectivity
  - Ping
  - Tnsping
  - SQL\*Plus
  - SQL Worksheet
- ODBC setup and test



# ODBC Setup



# ColdFusion

The screenshot shows the ColdFusion Administrator web interface in Microsoft Internet Explorer. The browser address bar shows `http://127.0.0.1/CFIDE/administrator/index.cfm`. The page title is "ColdFusion Administrator - Microsoft Internet Explorer". The navigation menu includes "Home", "Logout", "Documentation", "TechNotes", "Release Notes", "System Information", and "Help".

The left sidebar contains the following sections:

- SERVER SETTINGS**
  - Settings
  - Caching
  - Client Variables
  - Memory Variables
  - Mappings
  - Mail
  - Charting
  - Java and JVM
  - Archives and Deployment
  - Settings Summary
- DATA & SERVICES**
  - Data Sources
  - Verity Collections
  - Verity K2 Server
  - Web Services
- DEBUGGING & LOGGING**
  - Debugging Settings
  - Debugging IP Addresses
  - Logging Settings
  - Log Files
  - Scheduled Tasks
  - System Probes
  - Code Analyzer
- EXTENSIONS**
  - Java Applets
  - CFX Tags
  - Custom Tag Paths
  - CORBA Connectors
- SECURITY**
  - CF Admin Password
  - RDS Password
  - Sandbox Security

The main content area is titled "Data Sources" and contains the following text:

Add and manage your data source connections and Data Source Names (DSNs). You use a DSN to connect ColdFusion to a variety of data sources.

Below the text is an "Add New Data Source" form with the following fields:

- Data Source Name:
- Driver:
- Buttons: Add

Below the form is a table titled "Connected Data Sources":

Actions	Data Source Name	Driver	Status
	aml1	Oracle	
	biostat1	Oracle	
	biostat2	Oracle	
	coregrant1	Oracle	
	coregrant2	Oracle	
	cro1	Oracle	
	cro2	Oracle	
	cro3	Oracle	
	cro4	Oracle	
	cro5	Oracle	
	hand1	Oracle	



# ColdFusion Data Sources

The screenshot shows the ColdFusion Administrator interface in Microsoft Internet Explorer. The browser window title is "ColdFusion Administrator - Microsoft Internet Explorer". The address bar shows "http://localhost/CFIDE/administrator/index.cfm". The page has a navigation menu with "Home", "Logout", "Documentation", "TechNotes", "Release Notes", "System Information", and "Help".

The main content area is titled "Oracle" and contains a configuration form for an Oracle data source. The form is titled "Oracle : pbmt - Oracle native driver" and has the following fields:

- CF Data Source Name:
- SID Name:
- Server:  Port:
- Username:
- Password:  (16-character limit)
- Description:

At the bottom of the form are three buttons: "Show Advanced Settings", "Submit", and "Cancel".

The left sidebar contains the following categories and items:

- SERVER SETTINGS**
  - Settings
  - Caching
  - Client Variables
  - Memory Variables
  - Mappings
  - Mail
  - Charting
  - Java and JVM
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  - Custom Tag Paths
  - CORBA Connectors
- SECURITY**
  - CF Admin Password
  - RDS Password
  - Sandbox Security

The status bar at the bottom shows "Done" and "Local intranet".



# Excel

Microsoft Excel - Book1

File Edit View Insert Format Tools Data Window Help

Type a question for help

### Data Connection Wizard

Welcome to the Data Connection Wizard

This wizard will help you connect to a remote data source.

What kind of data source do you want to connect to?

- Microsoft SQL Server
- Microsoft SQL Server OLAP Services
- ODBC DSN
- Oracle**
- Other/Advanced

Cancel < Back Next > Finish

# Access

Oracle ODBC Driver Connect

Service Name

User Name

Password

OK

Cancel

About...

db1 : Database (Access 2000 file format)

Open Design New

Objects

- Tables
- Queries
- Forms
- Reports
- Pages
- Macros
- Modules

Groups

- Favorites

Create table in Design view

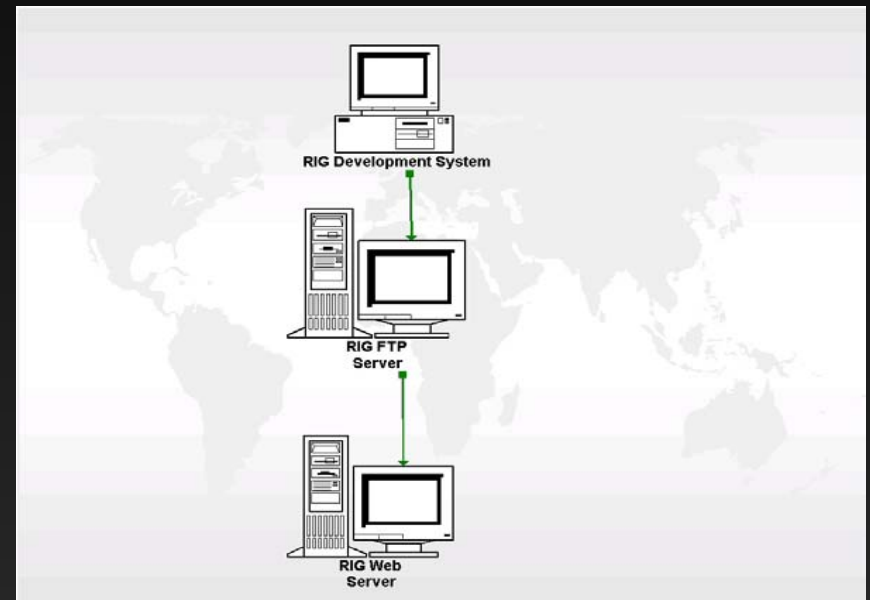
Create table by using wizard

Create table by entering data



# SKCCC Clinical Research Reports: Automated Generation

- Scheduled tasks
- Development System
  - Read data from remote Oracle database
  - Run SAS programs
  - Sends reports to FTP server
- Web server
  - Retrieves reports from FTP server



# Demos

Live demos of connections,  
applications and reports



# Head and Neck Cancer Database

## Head and Neck Database

The Department of Otolaryngology - Head and Neck Surgery  
Johns Hopkins University School of Medicine



Head and Neck Cancer Center Homepage

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- Data Entry
- Specimen Request
- LookUp Tables
- Reports
- Archive
- HPV Specimen Request

Process

- Specimen Request Form
- Specimen Request View

By Protocol or/and by Tumor Histology:

Unknown


Unknown

Process



# Clinical Research Office

<b>Protocol Number</b>	<input type="text"/>	<b>Therapeutic/Nontherapeutic</b>	<input type="text" value=""/>
<b>Sponsor Protocol Number</b>	<input type="text"/>	<b>Investigational/Administrative</b>	<input type="text" value=""/>
<b>Title</b>	<input type="text"/>	<b>Category</b>	<input type="text" value="Undefined"/>
<b>Short Title</b>	<input type="text"/>	<b>Ancillary Protocol Number</b>	<input type="text" value="N/A"/>
<b>Phase</b>	<input type="text" value=""/>	<b>Program</b>	<input type="text" value=""/>
<b>Protocol Status</b>	<input type="text" value="New"/>	<b>Program 2005</b>	<input type="text" value="Unknown"/>
<b>PI</b>	<input type="text" value="Abrams, Ross&lt;br/&gt;Aksentijevich, Ivan&lt;br/&gt;Alberg, Anthony"/>	<b>Disease Category</b>	<input type="text" value="Undefined"/>
<b>Affiliation</b>	<input type="text" value="Primary Faculty"/>	<b>Population</b>	<input type="text" value="Adult"/>
<b>Co-PI</b>	<input type="text" value="Abrams, Ross&lt;br/&gt;Aksentijevich, Ivan&lt;br/&gt;Alberg, Anthony"/>	<b>Multi-institutional</b>	<input type="text" value=""/>
<b>Data Manager</b>	<input type="text" value="Unknown, Unknown"/>	<b>Coordinating Center</b>	<input type="text" value=""/>
<b>Research</b>	<input type="text" value=""/>	<b>...</b>	<input type="text" value=""/>

Done  Internet

# SAS reports

## Clinical Research Reports

THE SIDNEY KIMMEL COMPREHENSIVE CANCER CENTER AT JOHNS HOPKINS



Home

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### Summary of clinical research accrual: No High Dose Cytosxan Trials

Grant funding year Calendar year	1 2000	2 2001	3 2002	4 2003	5 2004	6 2005	Total
<b>Patients accrued onto Intervention protocols by sponsor type</b>							
National	105	127	104	107	116	59	618
Extern. Peer Reviewed	269	202	206	259	405	306	1647
Inst.	138	109	113	236	172	162	930
Ind.	393	190	123	150	182	115	1153
Total Hopkins patients	905	628	646	752	875	642	4348
% Investigator initiated	17.6	27.5	42.1	58.9	57.5	53	51.3
% institutional	15.2	17.4	20.7	31.4	19.7	25.2	25.9
<b>Patients accrued onto Non-intervention protocols by sponsor type</b>							
National	52	40	29	1409	293	89	1912
Extern. Peer Reviewed	912	1541	1840	2280	1526	807	8906
Inst.	368	223	281	156	729	247	2004
Ind.	49	13	35	77	87	31	292

Done

Internet



# Microarray Database

## MICROARRAYS DATABASE

THE SIDNEY KIMMEL COMPREHENSIVE CANCER CENTER AT JOHNS HOPKINS



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Please type GB accession number:

Or

If you don't know GB accession Number you can select Gene Symbol  
and/or type Gene Name, UniGene ID, LocusLink ID:

Gene Symbol:

Gene Name

UniGene ID

LocusLink ID

Search

Clear