EMC CONTENT MANAGEMENT USER CONFERENCE

Integrating Webtop Components With Thin-Client Web Applications Using WDK Tickets

Presented by:

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Goal

> Share content with non-Documentum users

> Deliver content via thin-client

> Integrate with websites

Agenda

- > Sharing content: Why a custom application?
- > Server deployment environment
- > Core competencies required for development
- > Lessons learned

Speaker's Credentials

> B.S. Mechanical Engineering SJSU

> M.S. Client/Server Computing SJSU

> 7+ years application development experience
- IBM, Sun Microsystems, NASA Ames Research Center
- Current Focus J2EE, Semantic Web, KM

> Documentum educational courses

Challenges of sharing content

- Content Management not centralized
- Workgroup and Center level Doc Mgmt systems in use (e.g.: PostDoc, DocuShare, Documentum)
- Limited Documentum client licenses
- NASA teams need to share docbase content with non-Documentum users
- Mac & Win clients

Sharing content: Why a custom application?

> Survey of existing add-on modules

- Not practical or lacked key functionality
- WebDAV Services
- FTP Services
- Web Publisher
- Need web delivery

Solution

> Thin-client WDK-based application deployed on NASA Intranet

- Webtop Streamlineview and Search components
- Embed into existing NASA web pages
- Silent-login, secure
- Users publish with Desktop Client or Webtop

Application Functionality

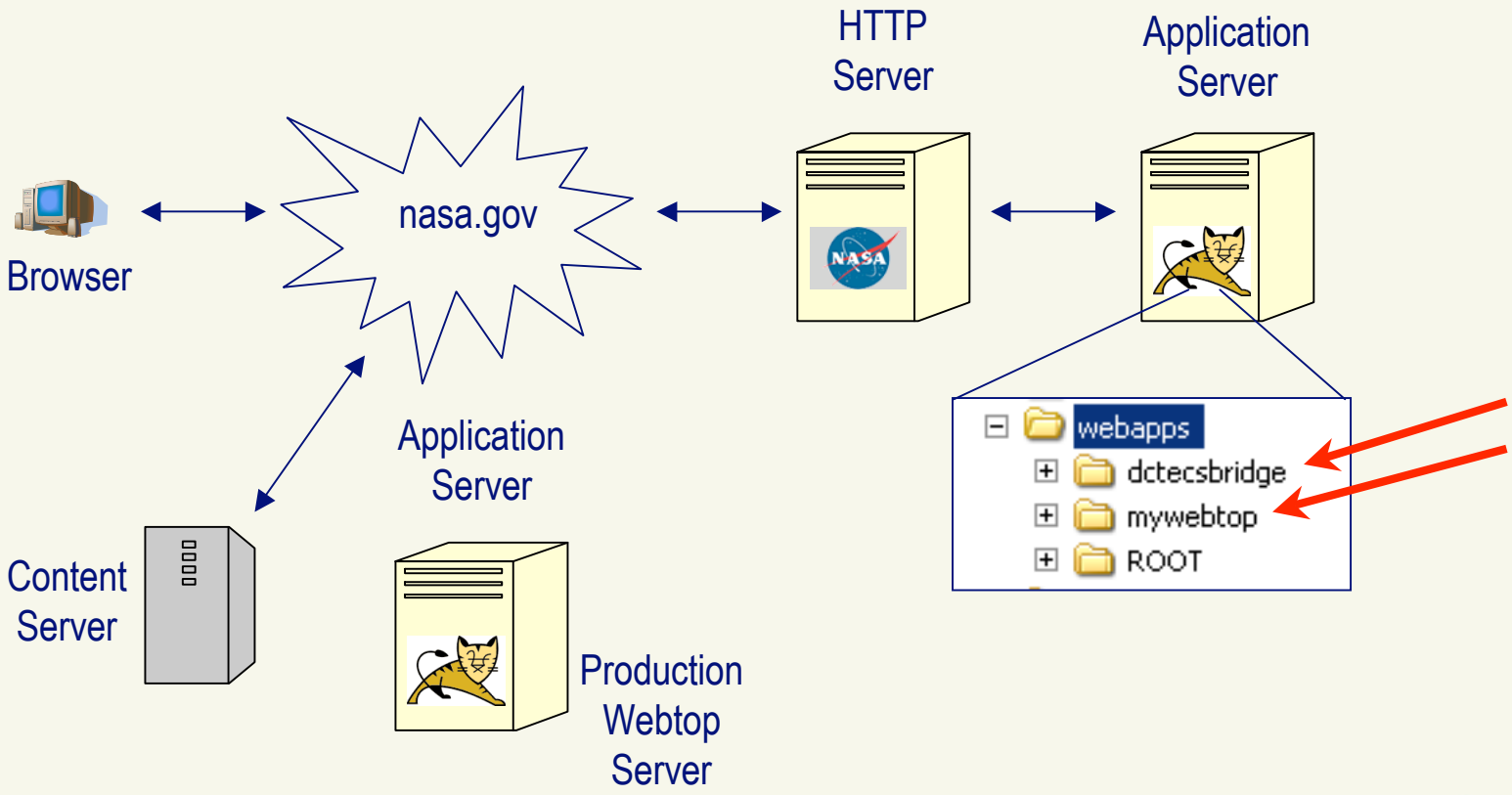
> How it works

- Web application content root is a Cabinet
- Users publish content to Intranet by:
  - Workflow
  - Import directly to Cabinet
- Webtop components operate on target cabinet

Server Deployment Environment

- Webtop 5.2.5
- Tomcat 4.0.x or 4.1.x
- JDK 1.4.2
- Content Server 5.1 or 5.2

Enterprise Architecture



Technologies/Skills required for development

- HTML, CSS, JavaScript
- WDK, DFC
  - Configuring and Customizing Webtop
  - Components, Actions and Tickets
  - DQL
- Java
  - Servlet
  - JSP

Webtop Actions

> Webtop Actions

- Atomic operation
- Have preconditions
- Defined in an action configuration file
- Launched by URL
- WDK framework searches for the action definition by action ID

Webtop Actions

> Invoking Actions via a URL

- Example:
  /mywebtop/action/view?objectId=0c3fcff38000338e

Customized Webtop Application

Action type

Target Docbase Object (i.e.: cabinet)

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Authentication Methods

- Manual Authentication
- Silent-login
  - External resource login
  - Anonymous login
- J2EE Principal Authentication
- Ticketed Login

Ticketed Login

> Any application that has a docbase session can use ticketed login
  - DM_TICKET=00000118296965a0.Docbase@HOST
> Login user without a login screen
> Can be combined with Webtop Actions

Components Utilized

> What is a Component
- Re-usable piece of UI
- Hides actual UI implementation from caller
- Provides a component contract specified in the component definition file (parameters)

> Component Definition contains pointers to
- Presentation
- Behavior Class
- NLS Bundle

> View and Search Component

Out-of-the-box View Component

Security Risk

Tweak Functionality

http://ecs4ws.arc.nasa.gov/webtop/webtop/streamline/streamlineview/streamlineview.jsp - Microsoft Internet Explorer

File Edit View Favorites Tools Help

ARCd1 : ECS Web User/Public/
Multimedia

Folder Actions: Properties New Document New Folder Delete Subscribe Import Add To Clipboard Move here Copy here Link here Email as web-link View clipboard Start Workflow

Folders Show items: 15

Ablan
CAIB Digital Wing Reconstructio...
for Yuri
Free video capture sw

Files Show items: 5 Show Files

Sort by: Name | Format | Size | Modified Checked Out By

APOLLO13
Format: MPEG Video File Size: 469 MB
Modified: 6/21/04 12:39 PM
Checkout Edit Checkin Cancel Checkout Add To Clipboard More...

President Bush Exploration Vision
Format: QuickTime Movie Size: 16 MB
Modified: 5/21/04 8:41 AM
Checkout Edit Checkin Cancel Checkout Add To Clipboard More...

Internet

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Out-of-the-box View Component

http://ecs4ws.arc.nasa.gov/webtop/webtop/streamline/streamlineview/streamlineview.jsp - Microsoft I...

File Edit View Favorites Tools Help

Properties: Permissions

APOLLO13
Type: dm_document
Format: mpeg

Info
Permissions
History

Your permissions :	READ
Active permissions set :	public-cabinet-ACL
Permissons set description :	ACL for the Public cabinet
Permissions set owner :	ARCd1

User/group permissions:

Show Items 5

User/Group	Permissions	Extended Permissions
dm_world	READ	
dm_owner	DELETE	Run procedure Change location
public-cabinet-group	DELETE	Change location

OK CANCEL HELP

Done Internet

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Out-of-the-box Search Component

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http://ecs4ws.arc.nasa.gov/webtop/component/actiondispatcher?querytype=dql&action=search&query...

File Edit View Favorites Tools Help

SAVE SEARCH

Search Results 1 of 4 Show items: 5

Sort by: Name | Ranking | Modified

ECS Program Introduction.pdf — Checkout Edit Checkin Cancel Checkout Add To Clipboard More...
Size: 3 MB Version: CURRENT,1.0
Modified: 2/20/04 10:02 AM
Path: /Public/NRA Background Information/Level 1

ECS Program Strategies Part I.pdf — Checkout Edit Checkin Cancel Checkout Add To Clipboard More...
Size: 697 KB Version: CURRENT,1.0
Modified: 2/20/04 10:03 AM
Path: /Public/NRA Background Information/Level 1

Program Strategies Part II.pdf — Checkout Edit Checkin Cancel Checkout Add To Clipboard More...
Size: 794 KB Version: CURRENT,1.0
Modified: 2/20/04 10:02 AM
Path: /Public/NRA Background Information/Level 1

KESS Level2.pdf — Checkout Edit Checkin Cancel Checkout Add To Clipboard More...
Size: 1 MB Version: CURRENT,1.0
Modified: 2/20/04 10:03 AM
Path: /Public/NRA Background Information/Level 2 KESS

SRRM Level2.pdf — Checkout Edit Checkin Cancel Checkout Add To Clipboard More...
Size: 1 MB Version: CURRENT,1.0
Modified: 2/20/04 10:04 AM
Path: /Public/NRA Background Information/Level 2 SRRM

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Out-of-the-box Search Component

http://ecs4ws.arc.nasa.gov/webtop/component/actiondispatcher?querytype=dql&...

File Edit View Favorites Tools Help

Properties: Info

ECS Program Introduction.pdf
Type: dm_document
Format: pdf

Info
Permissions
History

Name : ECS Program Introduction.pdf
Title :
Subject :
Keywords : Edit
Authors : Edit
r_full_content_size : 3367897
Owner Name : dmadmin
Version Label : 1.0, CURRENT
Lock Date :
Lock Owner :
[+] show more

OK CANCEL HELP

Done Internet

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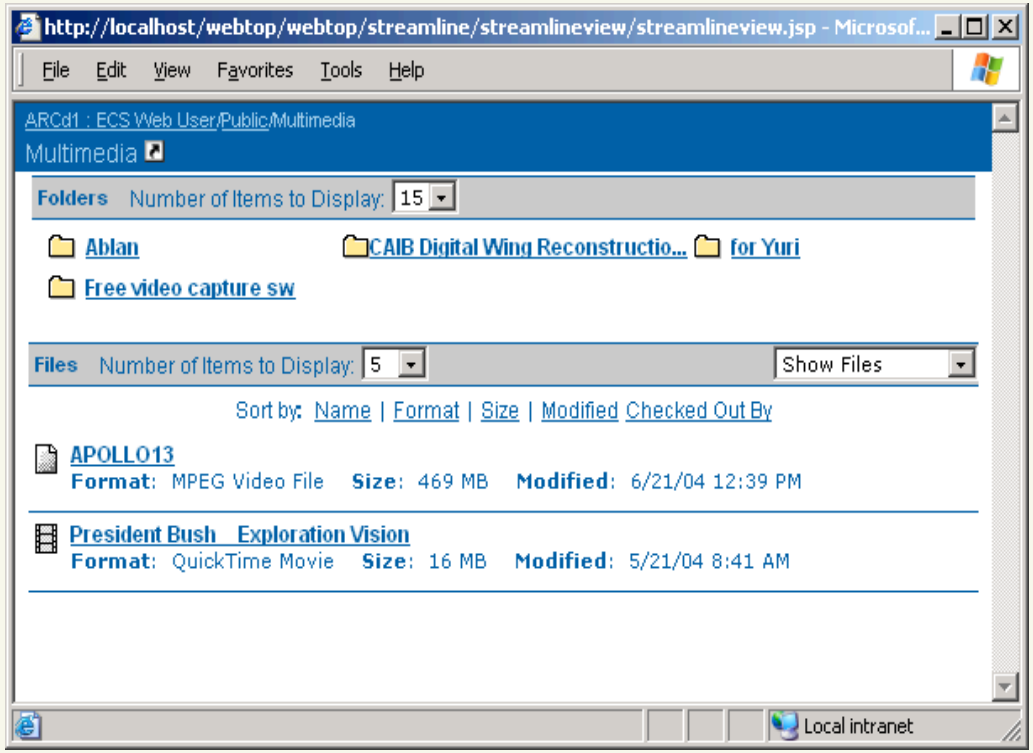
View Component Customization

> Drilldown Component Customizations

- Restrict Breadcrumb navigation
- Disable ActionLists
- Cabinet permissions
- Proxy user permissions



View Component Customization

> Problem – Default Breadcrumb implementation allows navigation to docbase root

> Solution - Override StreamlineView class in package com.documentum.webtop.webcomponent.streamline

Search Component Customization

ECS Docbase Search: - Microsoft Internet Explorer

Docbase Search

Document body contains: some text

File or Folder name: MyFilename

Search

Search Servlet

https://ecstracking.arc.nasa.gov/dctecsbridge/dctsearchservlet?fulltext=&fil...

File Edit View Favorites Tools Help

Search Results 1 of 2 Number of Items to Display: 5

Sort by: Name | Modified

Integrated Baseline Review May 2004
Size: 0 KB Version: CURRENT,1.0 Modified: 5/21/04 8:39 AM
Path: /Internal

Code T 2004 Success Stories
Size: 0 KB Version: CURRENT,1.0 Modified: 5/24/04 4:29 PM
Path: /Internal

NASA_FY2005_Budget_Estimates
Size: 11 MB Version: CURRENT,1.0 Modified: 2/24/04 1:54 PM
Path: /Internal

ECS Success-Story Rev7
Size: 9 MB Version: CURRENT,1.0 Modified: 5/28/04 3:59 PM
Path: /Internal/Code T 2004 Success Stories

ECS Success-Story Rev7
Size: 1 MB Version: CURRENT,1.0 Modified: 5/28/04 4:12 PM
Path: /Internal/Code T 2004 Success Stories

Done Internet

Search Component Features

> Search Component

- Performs search queries and displays the results
- Full text and meta search
- Limit search scope
- Modify search results
- Documentum Query Language (DQL)

Search Component – using DQL for Search

> DQL for search:

```
SELECT object_name FROM dm_sysobject
SEARCH FIRST DOCUMENT CONTAINS
   'text_to_search_for'
WHERE CABINET ('/MyCabinet', DESCEND)
AND object_name LIKE '%MyFileName%'
```

Full Text

Meta

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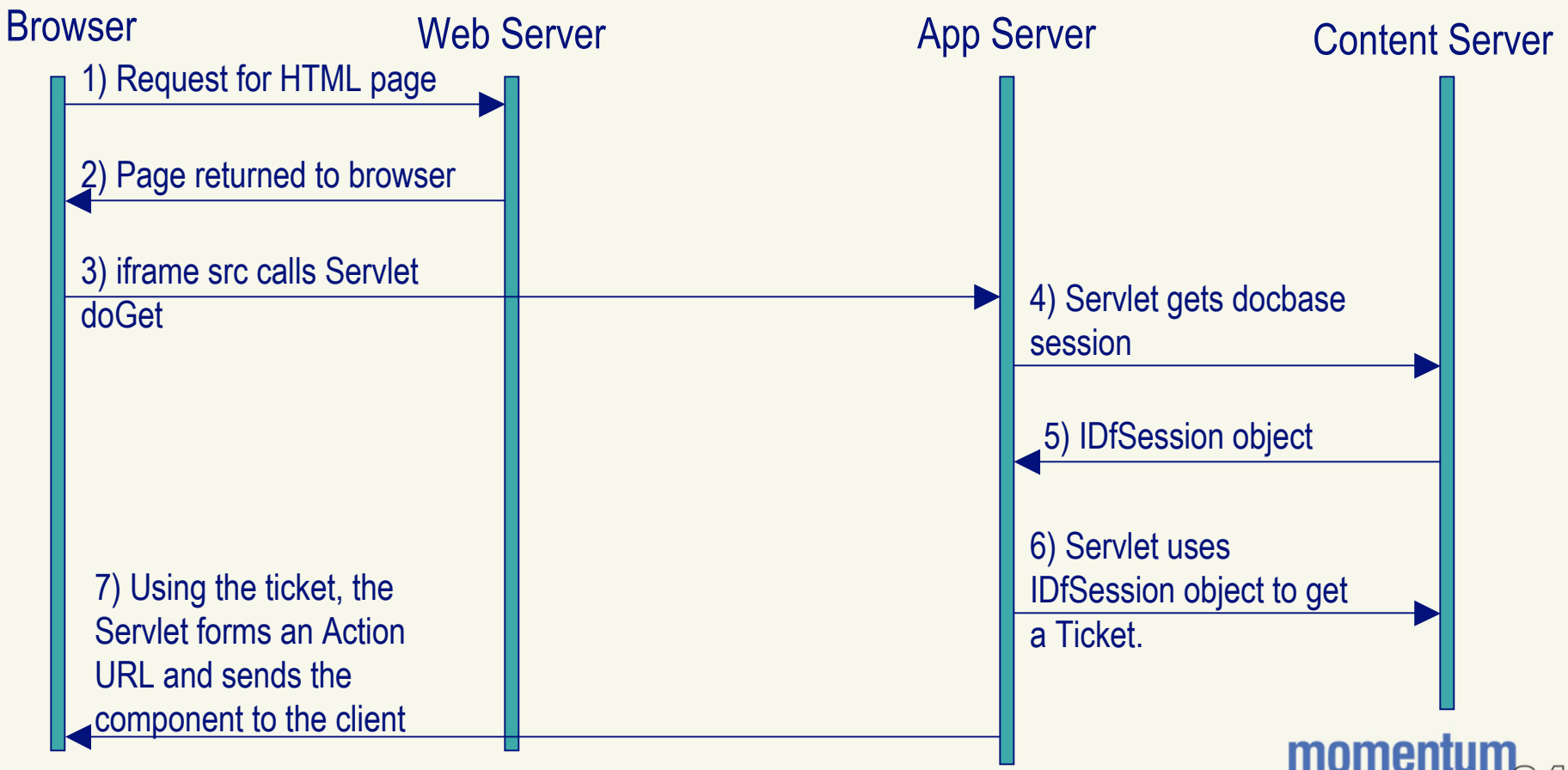
Code Example - View

1. Call Servlet, doGet method
2. Check HTTP Session for a docbase session (IDfSession), make one if needed
3. Get a ticket from the IDfSession object
4. Build the Action URL with Ticket
5. Redirect to Action URL

Interaction Diagram



Code Example - View

```
<!--  intranet web page -->
<html>
…
<IFRAME  id="dctwidget" src="http://myserver.com/somewebapp/dctglueservlet"
    height="650" width="700">
</IFRAME>
…
</html>
```

Code Example

```
public void doGet(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException
{
  try
  {
    HttpSession httpSession = request.getSession();
    String dctSessionEstablished =
        (String)httpSession.getAttribute("dctSessionEstablished");
    IDfSession dctSession = null;
```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Code Example

```
if("TRUE".equals(dctSessionEstablished))
{
  dctSession = (IDfSession)httpSession.getAttribute("dctGatewaySession");
}

else
{
```

Code Example

```
else
{
  IDfClient client = DfClient.getLocalClient();
  IDfLoginInfo suLoginInfo = new DfLoginInfo();
  suLoginInfo.setUser("SomeSuperUser");
```

Code Example

```
//get the encrypted password from the web.xml file
String encryptedPwd = getInitParameter("encryptedPwd");
String unlockKey = "BVKYJ-H3W9F-WVM9G-DYVW9";

String superPwd =
    DfClient.getLocalClient().decryptText(encryptedPwd, unlockKey);
suLoginInfo.setPassword(superPwd);
```

```
<init-param>
  <param-name>encryptedPwd</param-name>
  <param-value>DM_ENCR_TEXT=BrPeI4ebOdh28GGDcSgVLr3i221gwWozfaNm/Paii15T+RlwxWtQSxAeD79rKm9q</param-value>
</init-param>
```


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Code Example

```
  httpSession.setAttribute("dctSessionEstablished", "TRUE");
  dctSession = client.newSession("MyDocbase", suLoginInfo);
  httpSession.setAttribute("dctGatewaySession", dctSession);
} //end else
```


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Code Example

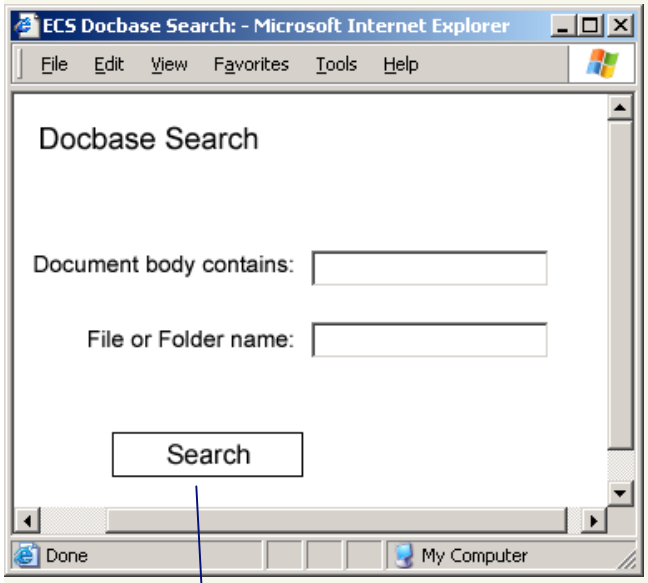
```
//get the ticket from the IDfSession object
String ticket = dctSession.getLoginTicketForUser("UserWithReadPermissions");

//URL Encode ticket string
int charLoc = ticket.indexOf('=');
ticket = "DM_TICKET%3d" + ticket.substring(charLoc + 1);

//make the Action URL string
String action =
    "http://myserver.com:80/mywebtop/action/view?objectId=0c3fcff38000338e" +
    "&ticket=" + ticket + "&docbase=MyDocbase&username=UserWithReadPermissions";

//invoke action
response.sendRedirect(action);
```

Code Example - Search




```
String fulltext = request.getParameter("fulltext");
String filename = request.getParameter("filename");

String query = "SELECT object_name FROM dm_sysobject ";
if(fulltext != null && !fulltext.equals(""))
  query += "SEARCH FIRST DOCUMENT CONTAINS '" + fulltext + "' ";

query += "WHERE CABINET ('/SomeCabinet', DESCEND) ";
if(filename != null && !filename.equals(""))
  query += "AND object_name LIKE '%" + filename + "%'";
```

```
<form name="searchForm" method="get" target="dctSearchWin"
    action="http://localhost/dctecsbridge/dctsearchservlet">
```

Code Example – Search Results

http://localhost/dctecsbridge/dctsearchservlet?fulltext=&filename= - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Search Results Number of Items to Display: 5

Sort by: Name | Ranking | Modified

NASA_FY2005_Budget_Estimates
Size: 11 MB **Version:** CURRENT,1.0
Modified: 2/24/04 1:54 PM
Path: /Internal

ECS Success-Story Rev7
Size: 9 MB **Version:** CURRENT,1.0
Modified: 5/28/04 3:59 PM
Path: /Internal/Code T 2004 Success Stories

ECS Success-Story Rev7
Size: 1 MB **Version:** CURRENT,1.0
Modified: 5/28/04 4:12 PM
Path: /Internal/Code T 2004 Success Stories

MSM_IBR_ECS_18May2004_Tecliv9.vg.ppt
Size: 23 MB **Version:** CURRENT,1.0
Modified: 5/21/04 8:40 AM
Path: /Internal/Integrated Baseline Review May 2004

ECS_IBR rev11May.vg.ppt
Size: 2 MB **Version:** CURRENT,1.0
Modified: 5/21/04 8:40 AM
Path: /Internal/Integrated Baseline Review May 2004

Done Local intranet

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Gotchas

> Browser compatibility issue
  - Content Transfer Applets
  - Use Sun Java when possible
  - Mac OS X, SSL and Certificates (keytool)

> Session Management
  - Cache

Success Story

- NASA is able to share docbase content with non-Documentum users via the Intranet
- NASA did not have to procure additional client licenses
- Users are able to publish documents to the Intranet without involving web administrators

Summary

- Sharing content with non-Documentum users is possible
- Components can be fine-tuned for your web users
- Tickets used with Actions can be powerful

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Wednesday	4:15 pm – 6:00 pm	Registration Area – 2nd Floor
Thursday	8:00 am – 9:00 am	General Session Theater – 5th Floor

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