

Everything a Developer Needs to Know About IIS 7 & 7.5

Andre Magni, ME

MCT, MCITP, MCPD, MSF Practitioner

Training Manager

Agenda

- IIS Architecture
- Application Pools
- Integrated Pipeline & Creating Modules
- Hosting Applications & WCF Services

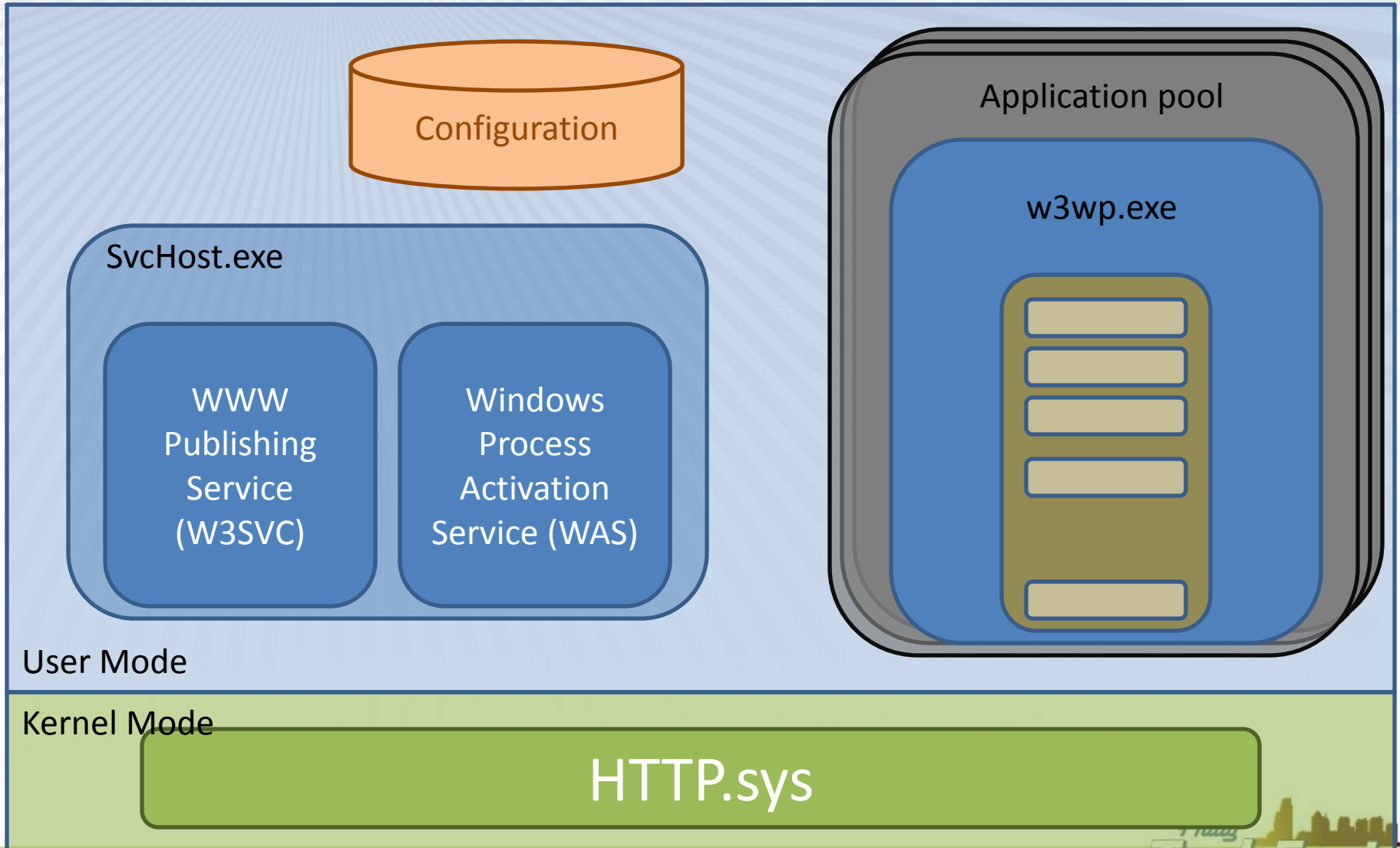
What's new for developers

- New architecture with an Integrated pipeline which provides great extensibility
- Configuration Files
- WAS with non-HTTP based application support
- Choose between ASP.NET, Classic ASP, PHP, PERL, ColdFusion, Ruby, ...

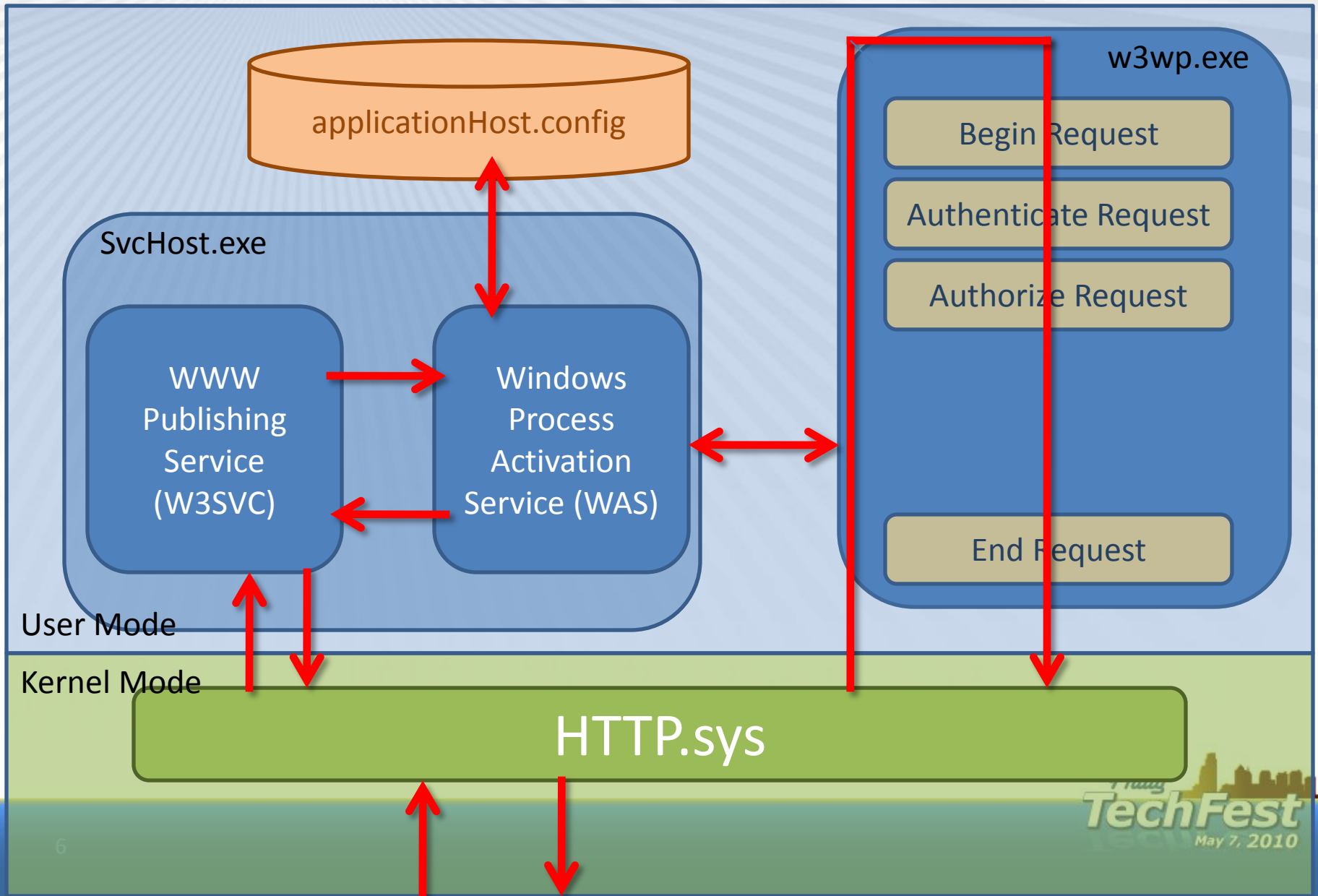
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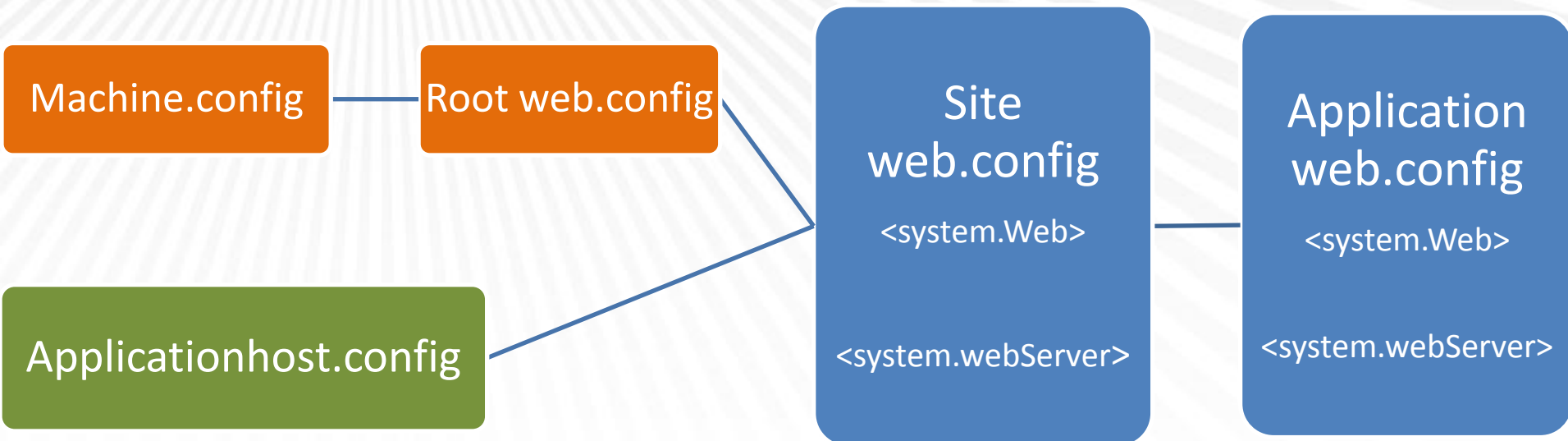
IIS Architecture



IIS Architecture – HTTP Request Processing



IIS Architecture – configuration files



Web.config has a **100Kb** file size limit.

On **HKLM\Software\Microsoft\InetStp\Configuration**
Create **MaxWebConfigFileSizeInKB** (DWORD) with your value

Architecture

- Demo: Configuration files
- Demo: UI

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Application Pools

- A set of w3wp.exe that share the same configuration
- Isolation
 - Better security, reliability, and availability
- To Consider:
 - Predefined Application Pools
 - Classic .NET AppPool vs. DefaultAppPool
 - Security
 - Web garden and other configurations

Application Pools

- Classic .NET AppPool – Classic Mode (pipeline)
 - Backward compatibility with IIS 6.0
 - Aspnet_isapi.dll is responsible for ASP.NET processing
 - Should be used only if the Integrated mode fails
- DefaultAppPool – Integrated Mode (pipeline)
 - IIS and ASP.NET runtime is integrated
 - Based on modules

Application Pools – Security

● Identity

- Determines the identity of the w3wp.exe

Identity Type	Used when...
Application pool identity	<ul style="list-style-type: none">▪ Accessing all files necessary for the execution of w3wp▪ Accessing web.config▪ Running FastCGI (by default)▪ Running ASP.NET applications (by default)
Authenticated user	<ul style="list-style-type: none">▪ Accessing static files▪ Running ISAPI extensions▪ Running CGI (default)▪ FastCGI (if impersonation is enabled)▪ Running ASP.NET (if impersonation is enabled)
VirDir fixed Credential	<ul style="list-style-type: none">▪ Accessing all application content

Application Pools

- Demo: Configuration

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Integrated Pipeline

- Allows services provided by both native and managed modules to apply to all requests
- Eliminates duplication of several features in IIS and ASP.NET
- Simplifies site and application management
- Allows easy IIS extensibility by managed modules

Integrated Pipeline

Stage	Description / Event
Begin Request	<ul style="list-style-type: none">▪ Starts request processing.▪ <i>BeginRequest</i> event.
Authenticate Request	<ul style="list-style-type: none">▪ Authentication.▪ <i>AuthenticateRequest</i> event.
Authorize Request	<ul style="list-style-type: none">▪ Authorization.▪ <i>AuthorizationRequest</i> event.
Resolve Cache	<ul style="list-style-type: none">▪ Is the response cached? If so, return it.▪ <i>ResolveCacheRequest</i> event.
Map Handler	<ul style="list-style-type: none">▪ Which handler should be used▪ <i>MapRequestHandler</i> event.
Acquire State	<ul style="list-style-type: none">▪ Retrieve the required state for the request.▪ <i>AcquireRequestState</i> event.
Pre-execute Handler	<ul style="list-style-type: none">▪ Preprocessing tasks if needed▪ <i>PreExecuteRequestHandler</i> event.

Integrated Pipeline (cont.)

Stage	Description / Event
Execute Handler	<ul style="list-style-type: none">▪ Handler executes the request▪ <i>ExecuteRequestHandler</i> event.
Release State	<ul style="list-style-type: none">▪ Releases the request state.▪ <i>ReleaseRequestState</i> event.
Update Cache	<ul style="list-style-type: none">▪ Updates the cache.▪ <i>UpdateRequestCache</i> event.
Log Request	<ul style="list-style-type: none">▪ Request is logged.▪ <i>LogRequest</i> event.
End Request	<ul style="list-style-type: none">▪ Request is about to complete.▪ <i>EndRequest</i> event.

Integrated Pipeline

● Modules

- Participate in the request processing of every request
- Managed modules: implement **System.Web.IHttpModule**

● Handlers

- Responsible for the request and producing the response for specific content types
- Managed handler: implement **System.Web.IHttpHandler** or **System.Web.IAsyncHttpHandler**

Integrated Pipeline

- Demo: Configuring Modules

Creating Modules

- Use Class Library template
- Add reference to **System.Web.dll**
- Implement the interface **System.Web.IHttpModule**
- On **Init(HttpContext context)** subscribe for the appropriate event
- Write the code for your event
- Deploy:
 - Option 1: bin folder of your site (if site specific)
 - Option 2: GAC
- Add to pipeline

Creating Modules

- Demo: Creating a custom module

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Hosting Applications

- Applications can have their own Application Pool, Virtual Directories cannot
- Different applications running on the same site can have different configurations

Hosting Applications

- Demo: Configuring Applications

Hosting WCF Services

- WAS: Windows Process Activation Service
- Non-HTTP protocols:
 - TCP Listener Adapter
 - Named Pipes Listener Adapter
 - MSMQ Listener Adapter
- No hosting code required, but requires a `.svc` file

```
<%@ServiceHost language="c#"
Service="namespace.class">
```

Hosting WCF Services

- Enable WCF Non-Http Activation Components
Windows components
- Bind desired Web site (usually default) to a non-HTTP port to support non-HTTP-based activation

```
appcmd set site "Default Web Site" -  
+bindings.[protocol='net.tcp',bindingInformation='808:*']
```

```
appcmd set app "Default Web Site/MyWCFService"  
/enabledProtocols:http,net.tcp,net.pipe
```

Hosting WCF Services

- Demo: Hosting WCF Services

Q&A

Thank you!

Andre Magni

amagni@springhouse.com

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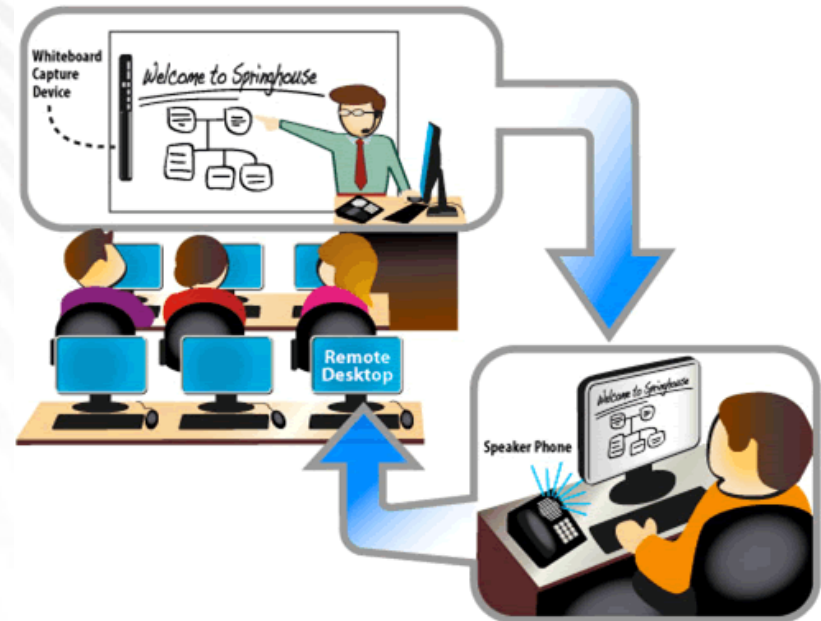
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The Windows 7 logo, featuring the four-pane window icon in blue, green, yellow, and red, followed by the text "Windows 7" in white.

Upcoming Windows 7 Migration Clinics

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Malvern, PA – June 29th

Reston, VA - May 14th

Richmond, VA – June 2nd & 11th

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