Application Deployment System

Installation and Deployment Guide

For Version 1.x

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Introduction

Application Deployment System, a Microsoft .NET Framework-based application, from KMSYS Worldwide, Inc. provides a mechanism for downloading and running legacy Win32 applications from a web browser without the use of ActiveX controls or requiring the end user to have elevated privileges. It is a small .NET Windows Forms application that runs within IEEXEC (IEEXEC is the .NET hosting portion of Internet Explorer).

The Application Deployment System offers several advantages over the traditional CAB file installation method.

1) Administrator privilege is not required.
2) The application is isolated to the currently logged on user.
3) The application files are not copied into a global directory such as Windows\System32.
4) ActiveX capability may be disabled in the browser without loss of functionality.
5) CAB file installations do not properly overwrite some managed code DLLs.
6) No version numbers to change on the launching web page.

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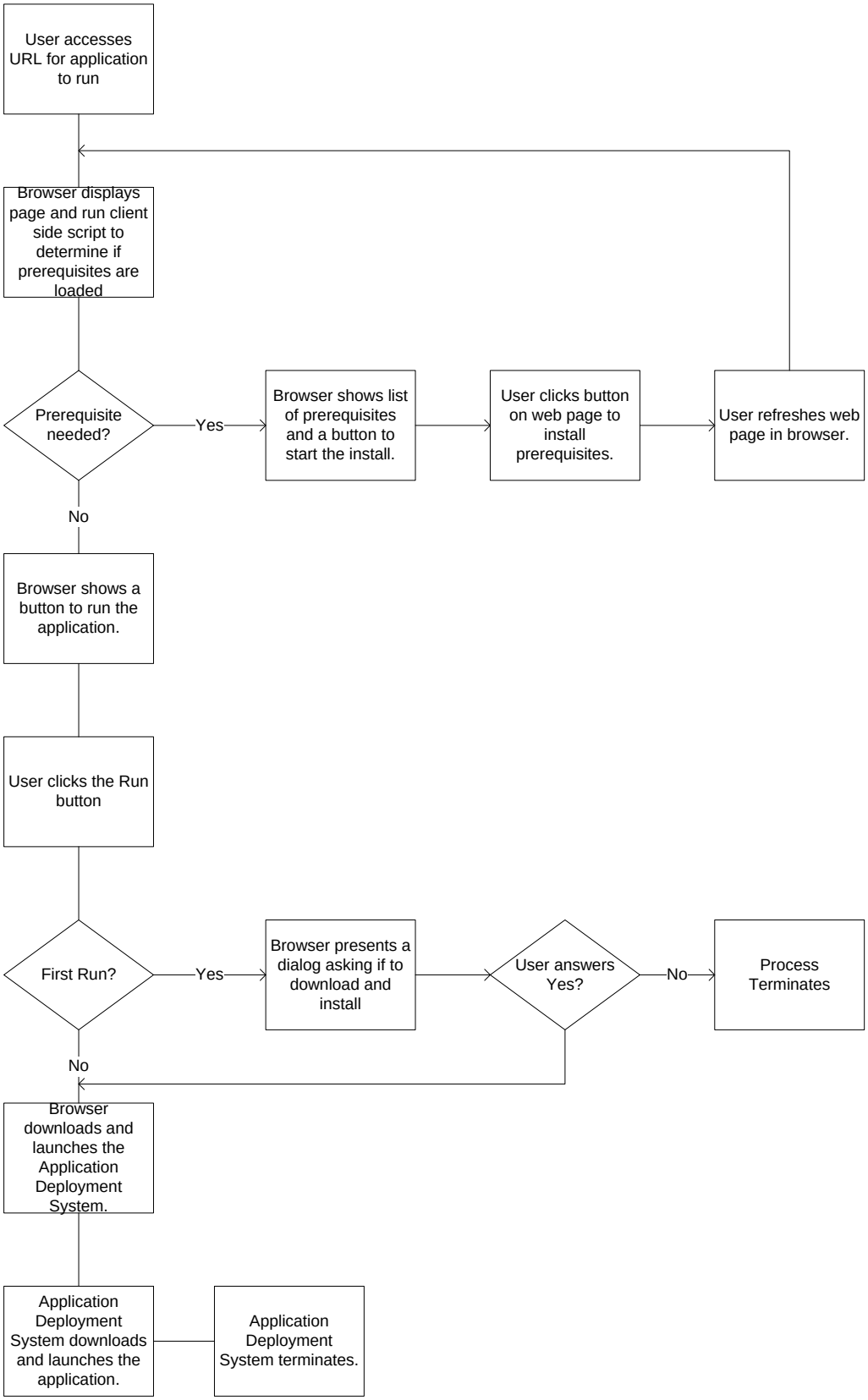

Figure 1 - The Application Activation Process

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System Overview

The Application Deployment System consists of a base deployment tool and application packages. The number of application packages will vary according to applications you have licensed.

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Pre-Installation Environment Check

Windows Server Environment

The system should be fully patched and hardened according to Microsoft's best practices and your organization's guidelines. If it is to be a member of a domain, it should be joined to the domain. The following is a minimum configuration.

- Fully patched supported operating system (see Table 1 on page 6)
- Domain membership if desired
- A network connection
- IIS (see Table 1 on page 6) - Note specific configuration for IIS 7.0
- 1 GB of free disk space above what is required to run the rest of the system

IIS Environment

The configuration server can be hosted IIS 5.0, IIS 6.0 or IIS 7.0 as supplied by the hosting server operating system (see Table 1 on page 6). Note specific configuration for IIS 7.0.

Windows Client Environment

The client systems should be fully patched. The supported client systems are Windows 2000, Windows XP and Windows Vista.

- Fully patched Windows client system
- IE 6.0 SP1 as a minimum
- .NET Framework 2.0 or higher

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Installation Steps

Install the Base Deployment Tool Bits

Run the AppDep installation package (AppDep.exe or AppDep.msi). The install creates a directory at systemdrive%\InetPub\wwwroot\AppDep.

Install the Application Package(s)

Each application package will be in a separate zip file. The filename of the zip file will be the same as the short name of the application. This same name will be used to access the application.

Unzip each package file into a unique directory. It is recommended that the directory name match the filename portion of the zip filename. The directories may be anywhere within any web server that the client systems can access. They may be placed as a sub-directory of the AppDep directory, at the root of the web site or on a different web site.

Configure the Base Deployment Tool

There is one file, Configuration.xml, in the AppDep directory that must be configured. This file contains some strings that are displayed to the user during application deployment and the URL of the directories that contain the individual applications.

Actions to perform

- Customize the application launch page. The supplied page launch.asp will display one instance of a particular product or one instance of all products. (See Overview and Configuration of the Application Launch Page on page 8 for more information).
- Configure the information that is displayed to the user. If one of the sections is removed, that section will not be displayed on the user form. (See Configuration of the Application Loader Display on page 10 for more information.)
- Configure the URLs for the installed application package(s). The URL may be specified as absolute, relative to the current web site or relative to the AppDep directory. (See Configuration of the Base URLs on page 11.)

Configure the Application Packages

Each application package must have at least one *parameter page*. This page may be of any type that IIS can serve. Its output is never displayed by a web browser, but instead it is used to send the application configuration XML to the application for processing. Please reference the documents for each product for its configuration information. See "Application Configuration Schema" on page 12 for the format of the XML.

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Appendix 1 – Supported Servers

Operating System Level	IIS Level	Supported Editions
Windows 2000 with Service Pack 4	5	Standard
		Enterprise
		Data Center
		Small Business Server Standard or Premium
Windows Server 2003 – x86 (32 bit) editions – RTM or higher	6	Standard
		Enterprise
		Data Center
		Small Business Server Standard or Premium
Windows Server 2003 R2 – x86 (32 bit) editions – RTM or higher	6	Standard
		Enterprise
		Data Center
		Small Business Server Standard or Premium
Windows Server 2008* – x86 (32 bit) and x64 (64 bit) editions – RTM or higher	7	Standard
		Enterprise
		Data Center
		Web
		Essential Business Server Standard or Premium
		Small Business Server Standard or Premium

Table 1 – Supported Server Operating Systems

* - Currently the **IIS 6 Metabase Compatibility** role service must be installed

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Appendix 2 – Installation of a SSL Certificate into IIS

Overview

The creation and installation of a SSL certificate is a two step process that involves the invocation of the same wizard twice.

Creation

Start IIS Manager.

Right click the web site that is to contain the certificate.

Left click Properties

Select the Directory Security tab

Click Server Certificate (this starts the Web Server Certificate Wizard)

Click Next

Select Create a new certificate

If you are using a integrated Microsoft Certificate Server

    Select Send the request immediately to an only certification authority

Else

    Select Prepare the request now, but send later

Click Next

Enter the name that will help you remember for what this certificate is used

Click Next

Fill in Organization and Organization unit as required

Enter the name that will be used to reference this system

Fill in City and State

Click Next

Click Next

Select the certificate server

Installation

Start the same wizard again. This time it will only allow you to cancel a request or install the recently generated certificate.

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Appendix 3 – Overview and Configuration of the Application Launch Page

The application launch page is the user's gateway to launching an application. The supplied page *launch.asp*, installed in the Application Deployment System Directory, is designed to allow a quick onsite deployment. The ASP page makes use of a single parameter. This parameter will either be the word **all** or the name of a single deployable application such as HGST27Client or HGSUTSClient. If the word **all** is used, a run button will be displayed for all products configured on the page. If a valid product name is supplied a run button will be displayed for all valid configurations of that product.

Example: http://yourserver/AppDep/Launch.asp?all

http://yourserver/AppDep/Launch.asp?HGSUTSClient

The supplied launch page may be modified to add and/or remove instances of products. The script, written in Jscript, in the *launch.asp* file maybe edited with Notepad or any web page editing tool.

Changing the Product List

Locate the *"// PRODUCT LIST ADDED TO ARRAY"*. Each line in the following section is a call to the *LaunchableProduct* constructor. Each call to the constructor results in one entry and run button group on the launch page. These entries may be modified or removed or a new entry may be added. Each constructor call requires four parameters in order *Product Key, Parameters Page*, *Product Name* and *Product Description*.

- *Product Key* - This is the internal name of the product and may not be changed.
- *Parameters Page* – This is name of a page (.htm, .asp or .aspx) that produces the XML configuration set for the user. This file is placed into the product's directory on the website. Multiple instances of a single product may be generated to allow for different configurations for different situations or users.
- *Product Name* – This name can be changed by the administrator to give it a more descriptive name to the users.
- *Product Description* – As with the product name, this can be changed to better suit the site needs.

The general HTML code on the page may be changed to provide of local site branding as required.

Code not to Change

A section of client side JScript is generated and sent to the browser to determine if the correct .NET Framework is installed on the client system. If the correct version

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(currently 2.0) is installed, the page continues to display the list of applications that may be launched. If the correct version is not detected, a button will be displayed that links to the Microsoft web site to install the correct version of the .NET Framework.

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Appendix 4 – Configuration of the Application Loader Display

The information displayed by the application loader program is configurable. Normally the application loader output will only be seen if an error is encountered in the application launch process.

Edit the Configuration

Open the **configuration.xml** file in the *AppDep* directory with a tool suitable for editing XML. (Notepad will do nicely if you have no other tool available.)

There are five lines that start with **<add key=**. Each of these configures a specific portion of the application loader display. If one of the five keys is removed, that section will not display in the application loader. Change the quoted string after **value=** to the string that you wish to have displayed.

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Appendix 5 – Configuration of the Base URLs

The application directories may be placed anywhere that is accessible by a web browser. The base portion of the URL that references the application's directory is configured in the **configuration.xml** file in the *AppDep* directory.

The URL may be specified as absolute, relative to the current web site or relative to the AppDep directory. There must be one and only one entry for each application (product) that will be launched. You may leave the entries for products that you do not have installed.

- Absolute URLs are configured as follows:

```
<ApplicationInformation Name="HGSUTSClient">
    <UrlType>
        <AbsoluteUrl>http://server/path_to_client_directory</AbsoluteUrl >
    </UrlType>
</ApplicationInformation>
```

URLs relative to the current web site are configured as follows:

```
<ApplicationInformation Name="HGSUTSClient">
    <UrlType>
        <RelativeUrl>/client_directory</RelativeUrl>
    </UrlType>
</ApplicationInformation>
```

- URLs relative to the current directory (AppDep) are configured as follows:

```
<ApplicationInformation Name="HGSUTSClient">
    <UrlType>
        <RelativeUrl>client_directory</RelativeUrl>
    </UrlType>
</ApplicationInformation>
```

Note: The only difference in the last two formats is the presence or absence of the leading slash.

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Appendix 6 – Application Configuration Schema

The application configuration schema defines the format (not the values) of the XML that downloaded to the application.

Each configuration must start with **<ConfigRoot** as shown in the sample parameter pages. This entry must begin a line. The two lines in the sample parameter pages should be left as are.

Each of the following lines contain a **<NameValuePair … />**. This tag is used to configure the settings used by the application. The **Name** attribute is a configuration tag name from a particular software product that utilizes the Application Deployment System (e.g., eQuate Web, eXpress Net, QPlex Client, etc.). The **Value** attribute is the configured value of the parameter given in the **Name** attribute. The values of the **Name** and **Value** attributes must be in double quotes (") as in the sample parameters page. The order of these tags is **not** important.

Please refer to the appropriate document for the NameValuePair parameters that apply to a specific product:

eQuate File Distribution and Start-up for Web Installation
eXpress Net Quick Start Guide
QPlex Client File Distribution and Start-up

The last two lines in the sample parameters page **</Section>** and **</ConfigRoot>** must be as shown and the **</ConfigRoot>** must begin a line.

There is one special tag (**<WebPageErrorMessage> … </WebPageErrorMessage>**). This tag is used to notify the application loader program that there is an error in configuration. The tag may appear anywhere between **<ConfigRoot>** and **</ConfigRoot>**. Once it is detected, its contents will be displayed and the application launch will be aborted.

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