

# Re: Encryption of application configuration block

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<http://www.tech-archive.net/Archive/DotNet/microsoft.public.dotnet.general/2006-08/msg00555.html>

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- *From:* [stcheng@xxxxxxxxxxxxxxxxxxxxxx](mailto:stcheng@xxxxxxxxxxxxxxxxxxxxxx) (Steven Cheng[MSFT])
  - *Date:* Thu, 20 Jul 2006 07:44:02 GMT
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Thanks for Dave's informative inputs.

Hi Steven,

Based on my understanding, your main concern is about applying encryption protection for your client application(winform, console...)'s app.config file and you found that the most resource on this topic is specific to ASP.NET application, correct?

I've performed some research on the new config protection feature in .net framework 2.0 and found that the Encryption Protection does work for both server-side application(ASP.NET) and client applications(winform, console...).

To protect our client application's app.config section, we can use the following approach:

1. Use the System.Configuration.SectionInformation class's "ProtectSection" method to protect our application's exe.config file's certain configuration sections. And the "ProtectSection" method require us to provide a EncryptionProvider name, we can create a custom RSA Provider(use the aspnet\_regiis.exe tool, this tool will be installed on any machine with net framework). use RSA key provider because it is easy for exporting/importing when we need to deploy our application to other machines.

For creating and exporting/importing RSA key and programmatically encrypt sections in app.config file, you can refer to the following msdn articles:

#Walkthrough: Creating and Exporting an RSA Key Container  
<http://msdn2.microsoft.com/en-us/library/2w117ede.aspx>

#RsaProtectedConfigurationProvider Class  
<http://msdn2.microsoft.com/en-us/library/system.configuration.rsaprotectedconfigurationprovider.aspx>

Also, at development time, we need to add the following key configuration info in machine.config so as to make our applications(which is used for

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encrypting configuration file or the application whose config file will be encrypted can find the key). for example:

```
=====custom key info=====
<configProtectedData>
<providers>
<add name="SampleProvider"
type="System.Configuration.RsaProtectedConfigurationProvider,
System.Configuration, Version=2.0.0.0,
Culture=neutral, PublicKeyToken=b03f5f7f11d50a3a
processorArchitecture=MSIL"
keyContainerName="SampleKeys"
useMachineContainer="true" />
</providers>
</configProtectedData>
=====
```

2. At deployment time, we need to export the custom RSA key we created earlier and import onto the target deployment machine(you can do this in the setup program). Also, you need to make sure your client application's app.config contains the above "custom key info" setting(so that it can find it at the deployment machine's machine store).

Below is a simple test program demonstrate programmatically encrypt the AppSettings section of another program's exe.config file.

```
=====
static void Main(string[] args)
{
string path =
@"D:\users\workspace\ProtectConfig\ProtectConfig\bin\Debug\ProtectConfig.exe";

Configuration config =
ConfigurationManager.OpenExeConfiguration(path);

ConfigurationSection section =config.GetSection("appSettings");

section.SectionInformation.ForceSave= true;

section.SectionInformation.ProtectSection("SmartClientProvider");

config.Save( ConfigurationSaveMode.Full);

}
=====
```

I use the aspnet\_regiis tool to create and manage the custom RSA key at developing and deploying time(mentioned in the above article). In

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addition, since the client application may be accessed by multiple users with different logon users. You need to also use aspnet\_regiis tool to grant them the permission to access the key(you can consider add them in a group and grant the group the access permission).

If you have anything unclear or any further questions, please feel free to post here.

Sincerely,

Steven Cheng

Microsoft MSDN Online Support Lead

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