This page is specific to

Microsoft Visual Studio 2010/.NET Framework 4

.NET Framework 4

**Strong-Named Assemblies**

A strong name consists of the assembly's identity—its simple text name, version number, and culture information (if provided)—plus a public key and a digital signature. It is generated from an assembly file (the file that contains the assembly manifest, which in turn contains the names and hashes of all the files that make up the assembly), using the corresponding private key. Microsoft® Visual Studio® .NET and other development tools provided in the Windows Software Development Kit (SDK) can assign strong names to an assembly. Assemblies with the same strong name are expected to be identical.

You can ensure that a name is globally unique by signing an assembly with a strong name. In particular, strong names satisfy the following requirements:

* Strong names guarantee name uniqueness by relying on unique key pairs. No one can generate the same assembly name that you can, because an assembly generated with one private key has a different name than an assembly generated with another private key.
* Strong names protect the version lineage of an assembly. A strong name can ensure that no one can produce a subsequent version of your assembly. Users can be sure that a version of the assembly they are loading comes from the same publisher that created the version the application was built with.
* Strong names provide a strong integrity check. Passing the .NET Framework security checks guarantees that the contents of the assembly have not been changed since it was built. Note, however, that strong names in and of themselves do not imply a level of trust like that provided, for example, by a digital signature and supporting certificate.

When you reference a strong-named assembly, you expect to get certain benefits, such as versioning and naming protection. If the strong-named assembly then references an assembly with a simple name, which does not have these benefits, you lose the benefits you would derive from using a strong-named assembly and revert to DLL conflicts. Therefore, strong-named assemblies can only reference other strong-named assemblies.