

I claim:

1. A method for verifying compatibility between modular components in a system having a processor, at least one client component and at least one provider component, the at least one provider component capable of providing services to the at least one client component, a provider component having one or more versions, the at least one client being linked to a version of a provider component during the creation of an executable file of the at least one client and the at least one client, during execution on the processor, using a version of the provider component which is available in the system at the time of execution, wherein the provider component used during execution may be a different version than the provider component to which the client was linked, said method comprising the steps of:

specifying a provider indicator for each provider component, said provider indicator identifying a provider component's type and uniquely identifying the provider component in a manner that distinguishes the provider component from other provider components;

specifying a current indicator for each version of each provider component, said current indicator having a value identifying a version of the provider component in a manner which distinguishes the version from other versions of the provider component;

specifying for each version of each provider component a compatibility range, the compatibility range for a version of a provider component identifying a range of versions of the provider component which are compatible with that version of the provider component such that during execution of a client that version of the provider can be used as long as the client was built using a version of the provider component identified in that version's compatibility range;

specifying for each client component a compatibility range for each provider component to which it is linked, each compatibility range identifying a range of versions of a provider component which can be used to execute the client component;

linking the at least one client to a provider component to construct an executable client component;

associating the at least one client with the current indicator of the linked provider component;

when a client component is executed, determining which of the at least one provider component and versions thereof are available on the system and connecting the client component and the available at least one provider component such that information such as the current indicator and compatibility range of the provider component, the current indicator of a provider component associated with the client component during linking, and the compatibility range of the client can be exchanged between the connected client component and the available at least one provider component;

determining compatibility between the client component and the connected at least one provider component, the determination being based on the current indicator of the at least one provider component, the current indicator of a provider component associated with the client component during linking, and the compatibility range of the newer of the at least one provider component and the client component such that compatibility is found to exist when the current indicator of the at least one provider component and the current indicator of the linked provider component indicate substantially the same version of the provider component or when

the current indicator of the older of the at least one provider component and the linked provider component is within the compatibility range of the newer of the at least one provider component and the client component; and

indicating whether compatibility exists.

2. A method defined in claim 1 wherein the steps of determining compatibility and indicating whether compatibility exists includes the steps of:

comparing the value of the current indicator of the connected provider component to the value of the current indicator associated with the client component during linking and if the two values indicate substantially the same versions, then indicating compatibility,

and if the two versions are not substantially the same, then if the value of the current indicator associated with the client component indicates a version which is newer than the version indicated by the value of the current indicator of the provider component, then if the version specified by the value of the current indicator of the provider component is within the compatibility range of the client component, then indicating compatibility, otherwise indicating incompatibility,

and if the value of the current indicator of the provider component indicates a version which is newer than the version indicated by the value of the current indicator stored in the client component, then if the version specified by the value of the current indicator associated with the client component is within the compatibility range of the connected provider component, indicating compatibility, otherwise indicating incompatibility.

3. A method as defined in claim 2 wherein the current indicator of a version of a provider component is defined such that its value is greater than or equal to the values of current indicators of prior versions of that provider component and a version indicated by a value of a first current indicator is newer than a version indicated by a value of a second current indicator when the value of the first current indicator is greater than the value of the second current indicator.

4. A method as defined in claim 1 wherein the compatibility range specified for a particular version of a provider component indicates an oldest version of the provider component capable of building a client component which which can be used to execute the particular version of the provider.

5. A method as defined in claim 1 wherein the compatibility range specified for a particular client component which is linked to a particular provider component indicates an oldest version of the particular provider component which can be used to execute the particular client component.

6. A method for verifying compatibility between modular components in a system having a processor, at least one client component and at least one provider component, a provider component having one or more versions, the at least one provider component capable of providing services to the at least one client component, the at least one client being linked to a version of a provider component during the creation of an executable file of the at least one client and the at least one client, during execution on the processor, using a version of the provider component which is available in the system at the time of execution, wherein the provider component used during execution may be a different version than the provider component to which the client was linked, the linked provider component supplying definitions of an