Frameworks

What is a framework?

Frameworks consist on a group of functionalities that provide facilities to:

1) Develop objects that later will be run and integrated in the framework.
2) Run the developed objects.

The main objective is focused in reusing pieces of Software. A framework can offer several methods for common operations as file manipulation, user interaction, etc. A good example can be found in Java where any programmer has several extra frameworks apart from the basic Java framework:

- Java Applet Framework: Basic needs for Java Applets (small applications executed within a web browser).

- Java Commerce Framework: Provides secure monetary transactions.

- Java Enterprise Framework: Provides objects and database-access services for distributed systems (Java-to-CORBA, Java-to-Java, Java-to-Java-Database-Connectivity).

- Java Server Framework: Simplifies the development of Internet services (servlets).

- Java Media Framework: Support 2D graphics, animation and audio.

- Java Security Framework: Encryption.

- Java Beans Framework: Extends application model by allowing flexible events, discovery of methods, persistent objects...

Obviously Java is not just a programming language, it is surrounded by a complete set of functionalities that empowers reusability and easy develop of applications.

When it is talked about frameworks for distributed objects it can be applied a similiar definition. A framework for a distributed object system will allow us to make communications easily between those objects, providing mechanisms to access remote objects transparently via standardized messaging protocols. Communications are normally done using middleware which gives access to non-local services and resources distributed across a network as they were in our local machine.

Examples of distributed objects frameworks:

- CORBA: Object Management Group's proposal for a distributed object framework.

- DCOM: Microsoft's system for creating and using objects in remote machines while maintaining the common interaction between libraries, applications and system software provided by COM. ActiveX, components built from COM based technologies, are treated as important examples of DCOM.

- Java Beans: Language dependent, only for Java.

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Bibliography:

Frameworks for Component-Based Client/Server Computing
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