

Most modern computer applications should run on heterogeneous platforms and, moreover, objects and respective code should be easily interchangeable at runtime. This paper describes a runtime platform based on distributed and cooperating virtual machines named Virtuosi. A unified object model permits easy interoperation between applications written on different languages. All applications must be compiled to a standard runtime code format so they all can run on any platform where an implementation of the virtual machine exists. A novel code format which is entirely based on instances of the classes that define the object model itself is employed. A proper programming language has been defined, a corresponding compiler implemented, a virtual machine that includes a class loader, a code interpreter, a multithreaded execution control and a distributed object store implemented and tested through example applications.