



★ Interconnection & Interoperability of Grids between Europe & China ★

### **Generalities on java**

When a IPv6-compatible kernel is available and the IPv6 module is loaded, Linux system libraries provide a few IPv6 data structures, such as `sockaddr_in6`, `in6_addr` and `in6addr_loopback`, while IPv6 system functions, such as `inet_ntop( )` and `inet_pton( )`, are available. Nevertheless, this solution are not protocol-independent. Therefore, IP-independent data structures, such as `addrinfo` and `sockaddr_storage`, and functions, such as `getaddrinfo( )` and `getnameinfo( )` should be preferred on dual-stack servers and server applications.

IPv6 support is provided on Solaris and Linux since JDK 1.4 and JDK 1.5 on WindowsXP/2003.. Within Java SDK 1.4, the class `java.net.InetAddress` has two direct subclasses: `java.net.Inet4Address` and `java.net.Inet6Address`, providing support to IPv4 and IPv6 addresses. The `InetAddress` class uses the Host Name Resolution mechanisms to resolve host names to their appropriate host address type. Additionally there are various system preferences that can influence protocol preferences, such as `preferIPv6Addresses` and `preferIPv4Stack`.

The same notes are reported in the “IPv6 Migration guidelines for the EGEE middleware” of EUChinaGRID Project.