

## Statement of Direction for IPv6 in TCP/IP FOR VSE

This document announces the direction CSI International is taking with its development of IPv6 capabilities in TCP/IP FOR VSE.

The changes will affect both the CSI and the IBM versions of the stack. (These versions are identical.)

Changes will affect three service levels: 1.5F (current GA release), 1.5G (current alpha), and 2.0 (in development). Here is a summary of the changes for each release:

- 1.5F—The Enhanced Socket Interface will be retrofitted into the current GA by a compatibility patch. This retrofit will allow updated, IPv6-capable applications to run under the current production stack but will remain limited to connections with IPv4 hosts.
- 1.5G— This version is an interim release to introduce the Enhanced Socket Interface and to allow applications to prepare for full IPv6 integration. Although support for IPv6 hosts will be limited in this interim release, all the new features and functions will be available. Applications written and compiled using the 1.5F (standard) interfaces will continue to run as is. The standard programming interfaces will continue to be supported, and applications using them will continue to function as before.

When the Enhanced Socket Interface is used, the SOCKET and related macros will produce new calling sequences. These sequences will fully support both IPv4 and IPv6 traffic. In addition, the Enhanced Socket Interface will offer many new and expanded capabilities and will provide more options, convenience, speed, and reliability.

Converting to the Enhanced Socket Interface is optional. It is required only if your application needs to be “IP address aware” (most servers don’t require this) or if you want to use the new features. Release 1.5G is intended to provide ample time to prepare applications for IPv6 if these changes are required.

- 2.0—This milestone release will complete the adding of full IPv6 support to the Enhanced Socket Interface introduced with 1.5G. Subject to licensing, this release will execute on all CPUs and under all versions of z/VSE that can run the current 1.5F release. All network adapters (OSA, OSA/2, OSA/Express, CTC, IPNET, CLAW) will fully support simultaneous use of mixed IPv4/IPv6 traffic. z/VM is not required.

## Summary of Enhanced Socket Features

Capabilities	Introduced in this release of TCP/IP FOR VSE
Named stack partitions (for example, TEST, PROD, DEFAULT)	1.5G
IP address parsing for both IPv4 and IPv6	
IP address de-parsing into the shortest valid form	
Direct use of domain names at OPEN	
Automatic data translation (including DBCS)	
Automatically encrypted connections using the SSL or TLS protocol	
Improved debugging and tracing information	
More control of stack processes by applications	
Access to flow-control information	
IPv6 support	2.0

All the Enhanced Socket features can also be used in higher-level languages by using the Preprocessor.

The BSD interface is being brought into conformity with “Basic Socket Interface Extensions for IPv6” specified in informational RFC 3493.

### Time Frame

1.5G is currently running in our test environment. The Enhanced Socket Interface is being used alongside the Standard Interface.

We expect to finalize API specifications by the end of October and to release a limited beta version by the end of 2009. The limited beta version will support all option specifications, but some options may NOP until the API is fully implemented. GA is anticipated early in 2010.

### Additional Information

Several draft documents, including the full Enhanced Socket Specification and the BSD Specification, are available. Advance copies of these documents can be obtained from your Technical Support Representative. Comments and suggestions are welcome. A ZIP file containing the interface macros is also available.