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# Licensed Program Specifications

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## IBM IPv6/VSE Version 1 Release 3 Product Number 5686-BS1

IPv6/VSE is a native implementation of Transmission Control Protocol/Internet Protocol (TCP/IP) for z/VSE®.

IPv6/VSE is a registered trademark of Barnard Software, Inc.

IPv6/VSE provides an IPv6 TCP/IP stack, IPv6 application programming interfaces (APIs), and IPv6-enabled applications.

The IPv6 TCP/IP stack of IPv6/VSE can be run concurrently with an IPv4 TCP/IP stack within one z/VSE system.

The IPv6/VSE product also includes a full-function IPv4 TCP/IP stack, IPv4 application programming interfaces and IPv4 applications. The IPv4 TCP/IP stack does not require the IPv6/VSE TCP/IP stack to be active.

IPv6/VSE is part of the z/VSE V6.2 base package and is installed by default. However, IPv6/VSE requires a unique product license key in order to be activated.

### IPv4 and IPv6 TCP/IP Stack

IPv6/VSE provides an IPv4 and IPv6 TCP/IP stack. The IPv6 stack of IPv6/VSE runs in a separate partition using its own stack ID. This allows both an IPv4 and IPv6 stack to run concurrently within one z/VSE system. Running separate IPv4 and IPv6 stacks concurrently within one z/VSE system addresses both performance and reliability aspects. Existing IPv4 applications continue to run unchanged using the IPv4 TCP/IP stack, thus protecting and leveraging existing client investments. New IPv6-enabled applications can gradually be introduced using the IPv6 stack of IPv6/VSE.

IPv6/VSE contains a basic firewall security facility. The firewall examines IPv4 and IPv6 Ethernet IP packets for basic types of information. The source IP address, packet protocol, TCP or

UDP port numbers and ICMP message type and code can be verified and processing accepted or denied.

### Dual Stack Support

IPv6/VSE provides dual stack support. Dual stack support allows an application to connect to both the IPv4 and IPv6 network simultaneously. With the implementation of dual stack support, a single IPv6-enabled CICS transaction or batch application can communicate with partners via either the IPv4 or IPv6 network. Enhanced socket APIs are provided that may be used to introduce IPv6-enabled applications.

### IPv6-Enabled Utility Applications

Utility applications like FTP, TN3270E, and so on, provided with the IPv6/VSE product run outside the IPv6/VSE stack partition. Running applications external to the IPv6/VSE stack partition may provide greater stability and better performance.

**FTP server:** The IPv6/VSE FTP server supports access to z/VSE resources (POWER queues, VSAM catalogs, SAM file, z/VSE libraries, and so on) by remote host FTP clients.

**Batch FTP client:** The IPv6/VSE batch FTP client runs as a z/VSE batch job providing access to remote host FTP servers. Data can be sent to or received from these remote FTP servers.

**TN3270E server:** The IPv6/VSE TN3270E server supports TN3270/TN3270E terminal sessions and TN3270E printer sessions. In addition, DIRECT, LPR, and FTP printer sessions are supported.

**NTP server:** The IPv6/VSE NTP server is a Network Time Protocol server that allows remote hosts to query the time of day (TOD) clock of z/VSE to synchronize their clocks with the z/VSE clock.

NTP client: The IPv6/VSE NTP client allows z/VSE to set its TOD clock to an external source.

System Logger client: This application is used to log selected z/VSE console messages to a remote Linux syslog-ng daemon. Once a message is sent to the syslog-ng daemon, Linux automation processing can be used to trigger events.

Batch Email client: The IPv6/VSE Batch Email Client is used to send an e-mail to an SMTP server. In turn, the SMTP server will send the e-mail to a destination user. Any number of recipients are permitted and files can be attached to an outgoing e-mail message.

Batch LPR: The IPv6/VSE Batch LPR application extracts data from the POWER queues and transfers it to a remote host LPD. The LPD can be in a printer or running as a server on a remote host.

Batch Remote Execution Client: The IPv6/VSE Remote EXEC Client allows a job running in a z/VSE partition to trigger a script to run on a remote host. Any output from the script is returned to the client and scanned for completion information.

Batch PING: The IPv6/VSE Batch PING application is used to ping a remote host.

GZIP data compression: IPv6/VSE provides a simple gzip data compression application. Data can be read, compressed, and written to a SAM file or library member. The compressed data can then be transferred to a remote host for processing. The reverse of this process can also be performed.

REXX automation: IPv6/VSE uses z/VSE REXX EXECs for automation. Automatic FTP of data is handled using a provided sample REXX EXEC. Automatic LPR or automatic e-mail of data is handled in the same way. Invoking IPv6/VSE applications from within a REXX EXEC allows dynamic creation of commands and parameters (for example file names and dates).

The IPv6/VSE utility applications FTP server, FTP client, LPR, Batch Email client, and GZIP support Double Byte Character Set (DBCS).

IPv6/VSE provides server utilities that provide SSL/TLS for VSE server and client applications based on OpenSSL. Both servers provide SSL/TLS

transparently to the application. They support batch and CICS applications that are written in any supported API, including applications that use the ASM SOCKET macro, EZASMI, EZASOKET, and LE/C APIs.

## **Specified Operating Environment**

### **Machine Requirements**

IPv6/VSE runs on any hardware configuration supported by z/VSE V6.2 or later.

### **Programming Requirements**

IPv6/VSE runs under the control of, or in conjunction with, the following IBM<sup>®</sup> licensed programs and their subsequent releases unless otherwise announced by IBM.

### **Required Licensed Programs**

The following licensed programs are required for IPv6/VSE:

z/VSE Version 6 Release 2 (5686-VS6).

For certain functions of IPv6/VSE, for example, Telnet, ACF/VTAM for VSE/ESA (5686-065) is required.

### **Licensed Program Materials Availability**

Restricted Materials - No.

This licensed program is available in object code without source licensed program materials.

## **Supplemental Terms**

### **Designated Machine Identification**

Designated Machine Identification Required : Yes

### **Installation/Location License**

Not applicable. A separate license is required for each designated machine on which the licensed program material will be used.

### **Usage Restriction**

IPv6/VSE is key enabled. A product license key must be used during the startup to use the product in production.

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## **Additional Supplemental Terms**

### **Variable Charges**

Apply: No

### **Distributed Features**

Apply: No

### **Entry End User/370 Attachment**

Apply: No

### **Type/Duration of Program Services**

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Comer, D. E. [2006], "Internetworking with TCP/IP Vol 2: Design, Implementation, and Internals," Prentice-Hall, Upper Saddle River, New Jersey.

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