IBM

Licensed Program Specifications

IBM Parallel System Support Programs for AIX Version 2 Release 2 Program Number 5765-529

The IBM Parallel System Support Programs for AIX (PSSP) software provides the functions required to manage the IBM RS/6000 Scalable POWERparallel Systems (SP) computer as a full-function parallel system. The PSSP supports up to 128 nodes. It provides a single point of control for administrative tasks and helps increase productivity by letting administrators view, monitor, and control system operation. The IBM Virtual Shared Disk device driver, which makes disks globally accessible, is also available with the PSSP software.

Highlights

The PSSP software provides a comprehensive suite of applications for the installation, operation, management, and administration of the IBM RS/6000 Scalable POWERparallel Systems:

Installation: Installation of AIX on nodes is provided for by the Network Installation Manager (NIM).

Configuration Management: Node configuration data can be entered into the System Data Repository (SDR) using SMIT or line commands. The SDR provides storage and retrieval of system data across the control workstation, file servers, and nodes.

Operation

The Centralized Management Interface provides a SMIT-based interface for system management commands, as well as command line equivalents.

The SP Perspectives GUI provides for monitoring and controlling hardware, creating and monitoring system events, managing IBM Virtual Shared Disks, generating and saving system partition configurations, and setting up performance monitoring hierarchies and archiving.

The SP System Monitor and a command line interface provide for monitoring and controlling frame and node hardware.

Tools are provided for orderly shutdown and restart of the system.

File Management: Groups of files can be defined as a file collection and changes to any files in that collection will be propagated to the appropriate nodes.

User Management

Commands are supplied to add, change, and delete users and passwords.

Users have the same account, home directory, and environment across all nodes in the system.

The **user.admin** file collection is provided for propagating user administration files to the nodes on the system.

Job Management: The Resource Manager server runs on one of the nodes and manages the execution of parallel jobs.

Accounting: Accounting support provides accounting record consolidation and parallel job accounting.

Change Management

System partitions can be used to apply and test new levels of software.

Parallel management commands can be used to apply maintenance directly to nodes.

File collections can be used to propagate changed files to nodes that have the file collection installed.

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For extensive service a new **mksysb** can be defined and the nodes reinstalled.

Security: Authentication services, based on Kerberos IV, are provided for:

The Sysctl remote command execution facility
The SP System Monitor
Versions of the **rsh** and **rcp** commands

Communication Subsystem Support: The Communication Subsystem supports the reliability and performance of the SP Switch and the High Performance Switch.

Availability and Problem Management

High Availability Control Workstation (HACWS) function provides for a backup control workstation for your SP system. **Note:** HACWS is a separately priced feature.
A single point of control for configuring, archiving, and maintaining various system logs on individual nodes is provided.
Additional logs may be specified for use by applications.

Version 2 Release 2 Enhancements

Version 2 Release 2 of the IBM Parallel System Support Programs for AIX provides support for AIX 4.1.4 and improved availability, usability, performance, and serviceability on IBM RS/6000 Scalable POWERparallel Systems. Functional enhancements made in this release include:

Installation Support: Installation software has been enhanced to provide automated recovery for various error conditions that can occur during the installation process and to provide the ability to do AIX node migration installations.

604 High Node Support: The 604 High Node introduces Symmetric Multi-Processor and PowerPC technology to the SP system. System management and PSSP subsystem support is provided for the new node.

System Partitioning Aid: The System Partitioning Aid is a tool that creates customized system partition configurations based on a specified configuration, a set of built-in rules for partitioning the switch, and an evaluation of system partition performance.

System Partition-Sensitive Subsystem Management: The Syspar Controller is provided to manage the PSSP subsystems that operate within the domain of a system partition. The Syspar Controller operates through the **syspar_ctrl** command to add, start, stop and delete system partition-sensitive subsystems.

Support for Mixed Levels of PSSP in a System Partition: PSSP 2.2 supports coexistence in the same system partition with either PSSP 1.2 nodes or PSSP 2.1 nodes.

Node Grouping: Function is provided to group nodes together so that the group can be acted on as a single entity or object.

Event Management and Group Services: Event Management services allow one set of programs, called resource monitors, to report the status or changes in status of system resources, and another set of programs, called Event Management clients, to receive notification when system resources meet certain conditions. Working together through the Event Management subsystem, resource monitors and Event Management clients can detect failures, report them, and initiate recovery actions automatically.

Group services can be used to coordinate the actions of an application that consists of multiple processes running on multiple nodes.

Problem Management: Problem Management provides an infrastructure for recognizing and reporting problem events in the SP system. This infrastructure is based on an Event Management application that provides configurable access to Event Management client and resource monitor function without the necessity of writing C programs that use the Event Management APIs.

Scalable POWERparallel Perspectives for AIX: Scalable POWERparallel Perspectives for AIX (SP Perspectives) is a graphical user interface (GUI) that enables performing system management tasks for the SP system through direct manipulation of system objects represented by icons.

IBM Virtual Shared Disk Usability Enhancements: Usability enhancements have been made to the command line interface, configuration capability, and error messages for the IBM Virtual Shared Disk.

Performance Toolbox Parallel Extensions for AIX: Performance Toolbox Parallel Extensions for AIX (PTPE) is a performance monitor that provides easy access to performance information about SP system hardware and software. This information is available in both run-time (current) and archived (historical) data that you can analyze, manipulate, print, and import to a database.

PTPE is a separately priced feature.

PTPE must have Performance Toolbox for AIX (5765-654) installed. This product comes in two parts: the Manager, which needs to be on the control workstation or one node or workstation in the network, and the Performance Agent or Aide (PAIDE), which must be on each node of the SP that will be monitored. The PAIDE comes with a new order of the SP hardware and with an upgrade to PSSP 2.2. Any additional nodes must be ordered separately. To summarize the prerequisites for PTPE:

Performance Toolbox for AIX (5765-654) Version 2.2 Manager code, one copy in the network
Performance Toolbox for AIX (5765-654) Version 2.2 Agent code, one copy on each node of the SP to be monitored
IBM Parallel System Support Programs for AIX (5765-529) Version 2.2
AIX 4.1.4 or later (5765-393)

Specified Operating Environment

Machine Requirements

IBM RS/6000 Scalable POWERparallel Systems computer
RS/6000 control workstation

See *IBM RS/6000 Scalable POWERparallel Systems: Site Planning* (available from your IBM representative), for more information about hardware requirements.

Programming Requirements

The AIX PSSP software runs on the IBM AIX operating system, version 4.1.4. The PSSP software is licensed to run on the POWERparallel systems. The system software includes both proprietary and publicly available code. The publicly available software included is:

Amd**	Berkeley Software Distribution automount daemon
expect	Programmed Dialogue with Interactive Programs
Kerberos IV**	Authentication Service for Open Network Systems
NTP**	Network Time Protocol
Perl**	Practical Extraction and Report Language
SUP**	Software Update Protocol
Tcl**	Tool Command Language
TclX**	Extended Tool Command Language
Tk	Tcl-based Toolkit

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Licensed Program Materials Availability

Restricted Materials – None. This licensed program is available without source licensed program materials. It is available in object code.

Supplemental Terms

Testing period

Basic License: None.
Satisfaction Guarantee: Yes.
DSLO License: Not applicable.

Installation/Location License

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

Note: The code is licensed to the SP only, and may not be installed on workstations (or other nodes) outside of the SP complex, with the following exceptions:
- The ssp.public module
- The ssp.docs module
- The ssp.clients module
- The ssp.authent module
- The ssp.top module

- The ssp.top.gui module
- The ssp.gui module
- The ssp.sysctl module, client executable only (**sysctl**)
- The ssp.perlpkg module
- The ptpe.docs module

Usage License

Not applicable.

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AIX Support Line applies. For more information, refer to Service Announcement 694-018.

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