IBM Tivoli Workload Scheduler LoadLeveler for AIX offers functional enhancements

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At a glance

IBM® Tivoli® Workload Scheduler (TWS) LoadLeveler® for AIX® is a distributed network-wide job management facility designed to dynamically schedule work on IBM UNIX® servers, such as the IBM Power Systems and IBM BladeCenter® servers. It allows users to run more jobs in less time by matching the jobs' processing needs with the available resources. Version 3.5 enhancements include:

- Recurring reservations
- Data-aware scheduling for improved cluster utilization
- Multicluster scale-across scheduling
- AIX Work Load Management (WLM) integration
- Adapter striping
- Task affinity

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: RE001).

Overview

TWS LoadLeveler for AIX is a job management system that allows users to run more jobs in less time by matching the jobs' processing needs with the available resources. TWS LoadLeveler schedules jobs and provides functions for building, submitting, and processing jobs quickly and efficiently in a dynamic environment. Batch jobs can be submitted, either serial or parallel, to run in the background and require no input from the user.

Version 3.5 enhancements include:

- The TWS LoadLeveler commands and APIs have been enhanced to support recurring reservations. Accounting records have been enhanced to have recurring reservation entries. A new "recurring" job command keyword will allow a user to specify that the job can run in every occurrence of the recurring reservation to which it is bound.
- Data-aware scheduling support is designed to improve cluster utilization and performance in data-intensive applications. With the new support, data staging can be scheduled to occur at submit time, just-in-time, or ahead of a reservation.
- Scale-across scheduling is a way to schedule jobs in the multicluster environment to span resources across more than one cluster. This feature allows jobs that request more resources than any single cluster can provide to combine the resources of multiple clusters to run...
that job, effectively spanning resources across more than one cluster. Additionally, it allows utilization of fragmented resources from more than one cluster. Fragmented resources occur when the resources available on a single cluster cannot satisfy any single job on that cluster. This feature allows any size job to take advantage of these resources by combining them from multiple clusters.

- Enhancements to AIX WLM integration for virtual memory and large page usage of a job includes reporting statistics for limits and dynamically changing and enforcing limits.

- Enhanced adapter striping (sn_all) support allows scheduling of jobs to nodes that have a few networks in the failed (NOTREADY) state provided that all of the nodes assigned to the job have more than half of the networks in the READY state. A new "striping_with_minimum_networks" configuration keyword has been added to the class stanza to support striping on failed networks.

- Task affinity support has been enhanced on nodes that are booted in single threaded mode and on nodes that do not support simultaneous multithreading (SMT).

**Key prerequisites**

- AIX 6.1
- AIX 5.3
- Any of these systems:
  - IBM Power System servers
  - IBM BladeCenter Power Architecture® servers
  - IBM Cluster 1600

**Planned availability date**

November 14, 2008

**Description**

**Accessibility by people with disabilities**

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at


**Product identification number**

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**Offering Information**

Product information is available via the Offering Information Web site
Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld® ID and password are required (use IBM ID).


Publications

No publications are shipped with this program.

The following publications are available from the Web:

• IBM TWS LoadLeveler: Using and Administering
• IBM TWS LoadLeveler: Diagnosis and Messages Guide
• IBM TWS LoadLeveler: Installation Guide

To access all TWS LoadLeveler documentation, refer to the IBM Cluster Information Center Web site, which contains the most recent TWS LoadLeveler documentation in PDF and HTML formats

http://publib.boulder.ibm.com/infocenter/clresctr/vxrx/index.jsp

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Technical information

Specified operating environment

Hardware requirements

• IBM Power Systems
• IBM System p®
• IBM BladeCenter Power Architecture servers
• IBM Cluster 1600

Software requirements

• AIX 6.1, TL 6100-02 or AIX 5.3, TL 5300-09.
• TWS LoadLeveler APAR IZ31336.
• To run parallel operating environment jobs, Parallel Environment for AIX, 5.1 is required.
• If using the GUI, AIXwindows Environment and Java™ Runtime Environment are required.
• If using the Config Tasks Wizard, TaskGuide Runtime Environment is required.
• For support with the InfiniBand switch, the following service updates are required:
  Running AIX 6.1: APAR IZ35508 and IZ35525
  Running AIX 5.3: APAR IZ35508 and IZ35524

The program’s specifications and specified operating environment information may be found in documentation accompanying the program, if available, such as a readme file, or other
information published by IBM, such as an announcement letter. Documentation and other program content may be supplied only in the English language.

**Companion products**

IBM Parallel Environment for AIX provides a high-function parallel application development environment that can reduce the time and effort required to develop parallel applications. These parallel applications could then be run with LoadLeveler.

**Planning information**

Version 3.5 is the last release that will support:

- The IBM High Performance Switch
- The Motif-based graphical user interface xloadl
- The IBM BladeCenter JS21 with a BladeCenter H chassis interconnected with the InfiniBand Host Channel Adapters connected to a Cisco InfiniBand SDR switch
- The Power System 575 (Model 9118-575) and Power System 550 (Model 9133-55A) interconnected with the InfiniBand Host Channel Adapter and Cisco switch

**Packaging**

This program is distributed as a single package available via CD-ROM media (LCD8-0563). A product readme file and License Information is shipped with the product in softcopy (L-RHAN-7B6QRJ or LC23-4999-02). Publications are available online.

**Security, auditability, and control**

IBM TWS LoadLeveler uses the security and auditability features of the AIX operating system.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

**Software Services**

IBM Software Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Also, we extend our IBM Software Services reach through IBM Business Partners to provide an extensive portfolio of capabilities. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support a wide range of critical business needs.

To learn more about IBM Software Services or to contact a Software Services sales specialist, visit

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**Ordering information**

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Current licensees of TWS LoadLeveler can order the new distribution medium via MES by specifying the desired distribution medium feature number.

**Electronic Software Delivery (ESD)**

Electronic delivery is now available for select licensed programs upgrades. Customers with a current Software Maintenance Agreement can download software upgrades online without having to wait for an order to be processed or physical media to arrive. Electronic delivery is available only for upgrades or product refreshes. For details on Electronic Software Delivery registration, refer to Software Announcement 206-174, dated July 25, 2006.

**System Program Order (SPO):** An order for SPO 5692-A5L or 5692-A6P is mandatory for shipments of program distribution. The individual licensed program orders are for registration and billing purposes only. No shipment occurs under these orders.

Specify feature number 3410.

Machine-readable materials are only available on CD-ROM. To receive shipment of machine-readable materials, the order needs to include SPO 5692-A5L (AIX 5) or 5692-A6P (AIX 6). The individual licensed program order (for example, 5765-E69) must still be ordered but will be for registration and billing purposes only and will not result in shipment of materials.

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**Withdrawal of feature numbers:**

The following feature numbers are withdrawn effective immediately:

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