Leverage an enterprise-level workload automation backbone to drive heterogeneous workloads

IBM Tivoli Workload Scheduler

Highlights

- Use a highly scalable, fault-tolerant workload automation backbone to minimize idle time and improve throughput by automatically processing heterogeneous workloads according to business policies

- Proactively monitor and manage workloads by exception, and create production run-time reports via a single, Web-based operations console

- Move from a static, platform-based view of production workloads to a flexible, service-driven environment by employing both calendar and event-based workload automation

- Leverage the full Tivoli Workload Automation portfolio for a complete workload automation solution and extend capabilities with easy integration to third-party products

- Ease workload management with real-time alerts, self-monitoring, self-healing, automated recovery and user-defined, event-driven rules for batch jobs scheduling

- Support business initiatives including virtualization, green IT, SOA and service management

Time-consuming workload management tasks represent a significant hassle for today’s IT administrators. The complexity of performing the relevant tasks in a rapidly changing environment makes it difficult for IT organizations to act with flexibility. Because manual administration can be slow, it can frustrate efforts to maximize the availability of your infrastructure — as well as the services that rely on the infrastructure. Furthermore, inefficiently delivering workloads keeps organizations from making the most of resource capacity across the enterprise, adding to unnecessary costs and slowing your ability to react to changing business demands.

Improve workload coordination, velocity and operations control

From a single point of control, IBM Tivoli® Workload Scheduler helps you aggregate and centrally manage cross-enterprise, heterogeneous
workloads, and helps you support business goals and service levels by driving workloads according to business policies.

An enterprise-level workload automation backbone, Tivoli Workload Scheduler is capable of scaling beyond 300,000 multistep workloads a day in real production environments, helping to ensure your workload automation capabilities scale as your business scales to improve coordination, workload velocity and operations control, such as fault tolerance.

Built-in, policy-based event monitoring and filtering as well as workload and alert triggering allow you to automatically react to asynchronous events coming from your systems or applications, supporting more efficient and flexible service delivery.

Tivoli Workload Scheduler also helps resolve workload dependencies, by functioning as an “automatic driver” across your various applications and systems, so you are better positioned to optimize IT resource usage and quickly identify and resolve workload incidences and problems.

**Built-in features increase management flexibility**

*Monitor and manage heterogeneous workloads from a single console*

Bundled with Tivoli Workload Scheduler is IBM Tivoli Dynamic Workload Console, a user-friendly, Web-based interface that delivers a single point of control for your entire scheduling network. The console allows single sign-on and authentication for one or many schedulers and provides real-time workload monitoring, management and reporting. It enables you to conduct trials and forecast planning to fine-tune workloads and resource usage and manage workloads by exception, based on parameters that you set. You can define exceptions as one-of-a-kind events or statistical trends appearing sporadically, such as “all workloads with a failure rate greater than 12 percent.”

You can use the console to coordinate workload automation across mixed systems, including host and distributed environments, and significantly reduce the oversight needed by IT administrators. This consolidated view also provides up-to-the-minute information on

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**IBM chosen for Enterprise Management Associates (EMA) All-Star First Team**

“IBM has received … one of the highest ratings of all the job scheduling/workload automation vendors … IBM Tivoli Workload Scheduler also continues to innovate in this category, and is a key vendor driving the evolution from traditional job scheduling to workload automation … This exceptional rate of new product delivery builds on IBM’s innovation, popularity, customer satisfaction and capabilities to secure it a spot on the First Team for job scheduling/workload automation.”

**EMA All-Star 2008 Report**
workload status and statistics, greatly simplifying troubleshooting efforts and speeding time to resolution of scheduling issues. In addition, the console allows your operations to easily create production reports and generate alerts based on workload, application or system events.

By seeing the real distribution of your workloads, you are more quickly able to resolve complex service delivery problems.

Support auditing and compliance through advanced reporting capabilities
Advanced reporting capabilities in Tivoli Dynamic Workload Console deliver a graphical summary of historical production statistics and allow you to do custom queries of execution history, so you are better able to assess composite workloads and performance against service levels, report on service health, conduct investigations and pull audit reports.

Model workloads prior to production with robust planning engine
A powerful planning engine within Tivoli Workload Scheduler enables you to resolve cross-application and system dependencies and test performance prior to running the workloads in production. The planning engine also allows you to do forecasting, helping you perform impact analysis of how workloads will be managed in a future environment.

Other ease-of-use features and capabilities in Tivoli Workload Scheduler include the following:

- **Real-time alerts** help users take preventive measures, with notifications when unusual conditions, such as network failures, happen in the scheduling infrastructure or in the Tivoli Workload Scheduler batch scheduling activity.
- **Built-in redundancies and recovery processes** also help maintain workload execution during unplanned incidences.
- **Calendar and event-based automation**, ability to trigger batch jobs and job stream execution based on real-time events and orchestration of planned, calendar-based workloads to the unplanned environment, with user-defined, event-driven rules for batch jobs scheduling — increases flexibility by transforming batch processing from time- and calendar-driven schedules to dynamic, event-driven schedules, so you can execute workloads according to desired service levels.
- **Support for cross-day and cross-plan dependencies** and ability to run the same job streams multiple times to deliver planning flexibility and enable you to execute complicated schedules.
• **Authentication and encryption using single socket layer (SSL),** delivering advanced firewall support to protect workload schedules, plans and execution from unauthorized users.

• **Open, standards-based application programming interfaces (APIs),** extending workload automation control to custom and legacy applications to easily build composite batch services, integrate batch services with online services and fully automate all composite workloads, including both batch and online services.

**Manage workloads according to your organizational structure**

According to your individual business needs or organizational structure, you have the flexibility to use Tivoli Workload Scheduler with distributed and IBM z/OS® components in a mix of configurations for a completely distributed workload automation environment, a completely z/OS environment or a mixed, end-to-end z/OS and distributed environment.

**Support business-aligned initiatives**

Tivoli Workload Scheduler helps you align IT goals with business objectives by supporting initiatives like virtualization, energy efficiency, service management and more.

**Optimize resources via virtualization**

When you have clear views of your resources and their availability, you are also better positioned to support virtualization. When used in conjunction with IBM Tivoli Dynamic Workload Broker, Tivoli Workload Scheduler enables you to decouple resources from workloads, so when one resource fails or slows, you can automatically route workloads to better-performing resources, helping you maximize throughput of your existing resources. In short, you can increase the velocity of workloads and use fewer assets to handle the same workloads. Tivoli Workload Scheduler also supports a variety of virtualization technologies, such as VMware.

**Support “green IT” through increased energy efficiency across your enterprise**

Virtualizing your assets — and using fewer assets to handle the same workloads — also supports another critical goal in IT organizations today: energy efficiency. Tivoli Workload Scheduler helps you to distribute your workloads across nonpeak hours and, when used alongside Tivoli Dynamic Workload Broker, enables you to...
dynamically allocate workloads to the best available resource, helping you conserve energy — and free up costly IT resources.

**Increase business flexibility via SOA**
Many businesses today are turning to service oriented architecture (SOA) to increase business process flexibility. Yet the complex nature of SOA infrastructures makes it difficult to see — and effectively manage — workloads. Tivoli Workload Scheduler leverages SOA to align and integrate heterogeneous application and system workloads with enterprise-scale business services, priorities and policies. Easy integration with other IBM products and non-IBM products helps to extend the functionality of Tivoli Workload Scheduler. For instance, integration with IBM WebSphere® products extends your ability to manage Java™ Platform, Enterprise Edition workloads and Web services invocations, and helps manage dependencies between online and batch services.

**Support high-performance computing grids**
Tivoli Workload Scheduler also provides standards-based integration with grid computing technologies, enabling enterprises to leverage existing investments while dispatching and managing batch workloads across high-performance computing grids.

**Support service management and the IBM Tivoli Service Management Center for System z**
A key element in your ability to support service management is the automation of repeatable tasks to drive efficiencies in your environment. Tivoli Workload Scheduler allows IT organizations to build and automate a consistent, predictable and scalable service execution process across the enterprise. It facilitates this by enabling you to consolidate enterprise-wide batch and event-triggered workloads that span multiple applications and systems. This consolidation helps you efficiently control and manage cross-enterprise workloads and support business services. The open architecture of Tivoli Workload Scheduler enables you to publish workload plans to Web services registries for reuse throughout the enterprise, integrate batch and online processes, and consolidate workload automation across many legacy, custom or packaged business applications.

Tivoli Workload Scheduler also is a critical component of IBM Tivoli Service Management Center for System z™ — a new, integrated set of IBM software solutions designed to substantially improve management of mainframe environments. These solutions help organizations strategically use System z as an integrated, enterprise-wide hub for efficiently managing business and IT services.

**Expand workload management via the full workload automation portfolio**
As the core product within the IBM Tivoli Workload Automation portfolio, Tivoli Workload Scheduler provides high scalability, robust fault tolerance and efficient performance to help minimize idle time, improve throughput and ensure mission-critical workloads are processed efficiently and reliably.

By using Tivoli Workload Scheduler in conjunction with other products in the Tivoli Workload Automation portfolio, you can expand your workload management capabilities to manage workloads for enterprise resource planning (ERP) applications and System z environments.
Tivoli Workload Scheduler at a glance

Supported hardware platforms
Tivoli Workload Scheduler runs on hardware platforms that support the operating systems listed here.

Supported operating systems:
- IBM AIX® 5.2 and 5.3
- HP-UX 11.1 and 11.2 for PA-RISC, HP-UX 11.2 for Itanium®
- Microsoft® Windows Server® 2003 (Standard, Enterprise and Data Center), Windows® XP Professional and Windows Vista® (Client only)
- Red Hat Enterprise Linux® 3.0, 4.0 and 5.0
- Sun Solaris 9 and 10, Solaris 10 for AMD
- SUSE Linux Enterprise Server 9 and 10

Supported relational database management systems
- IBM DB2® Universal Database™ for Linux, UNIX® and Windows — Enterprise Server Edition 8.2
- DB2 Universal Database for Linux, UNIX and Windows — Enterprise Server Edition 9.1
- Oracle Database 10g Release 2 — Enterprise Edition
- Oracle 9i Database Release 2 — Enterprise Edition

About IBM Tivoli service management software
Tivoli software offers a service management platform for organizations to deliver quality service by providing visibility, control and automation—visibility to see and understand the workings of their business; control to effectively manage their business, minimize risk, and protect their brand; and automation to optimize their business, reduce the cost of operations and deliver new services more rapidly. Unlike IT-centric service management, Tivoli software delivers a common foundation for managing, integrating and aligning both business and technology requirements. Tivoli software is designed to quickly address an organization’s most pressing service management needs and help proactively respond to changing business demands. The Tivoli portfolio is backed by world-class IBM Services, IBM Support and an active ecosystem of IBM Business Partners. Tivoli clients and Business Partners can also leverage each other’s best practices by participating in independently run IBM Tivoli User Groups around the world — visit www.tivoli-ug.org

For more information
To learn more about the Tivoli Workload Automation portfolio, contact your IBM representative or IBM Business Partner, or visit ibm.com/software/tivoli/products/workloadautomation/
To learn more about Tivoli Workload Scheduler, visit ibm.com/software/tivoli/products/scheduler/