



## ***IBM Director 5.10 Improves Management of Heterogeneous Systems***

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### **Management Summary**

Business computing has moved from a world of resource constraints, expensive assets, and relatively fixed functionality to a world of relatively cheap capacity, and an aggressive demand for functional extensions. Traditional IT management system software used by many enterprises was developed to protect the system and its elements from failure. **These days, a different approach to systems management is needed to optimize an environment, or series of environments, to support multiple business processes with different criteria for optimization.** Systems management is like cooking for twenty instead of for two. There aren't many corners that can be cut without sacrificing quality. **Instead, you must do things differently, and group operations for efficiency whenever possible.**

Virtualization's pooling of assets for deft assignment is somewhat like chopping all the ingredients at once, but IT assets are not as visible as piles of carrot and celery sticks, particularly if they coexist as virtual elements inside a collection of physical devices. **Today, you need IT element management that recognizes and tracks all the elements, physical and virtual.**

Some years ago, IBM introduced *IBM Director*, a next-generation systems management tool based on open standards, as an agent that could monitor both IBM and third party assets. Using this new local, intelligent point of manageability, together with an asset aggregator and management console, made managing complex environments easier. IBM Director now comes with every IBM server, and is the hardware management component of IBM's *Virtualization Engine*. It manages servers and NAS from other vendors, as well as the logical environments of partitions and virtual machines and the application workloads that run on them. By now, most data centers are faced with sudden needs to produce the IT equivalents of a dinner for twenty – or forty, or sixty – on demand. At the same time, enterprises using Director asked for more flexibility, more functionality, and more ease of use.

IBM Director 5.10, just released, meets these new needs and demands. A role-based, easily-customized console lets administrators focus on their particular responsibilities. A range of agents and an agentless deployment option let the management process be lighter on the network, yet extensively functional where that is desired. With this increased functionality, IBM redesigned the code base as modules, so customers could easily select the functionality they needed. In this latest release, it has added the ability to import custom tools into Director. These improvements turn Director from a tool into a management platform that can be comprehensive yet styled to different requirements and levels of management focus. IBM Director's evolution of manageability is critical to large enterprises, for which automated manageability of rapidly evolving environments is a prerequisite. It also matters to smaller businesses, who want their IT environment to support their business ambitions, but want its management to be as simple and low skilled, as possible. To learn more about this mode of IT management, read on.

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## The IT Management Dilemma

Computing, in an era of stringent budgets, - again, somewhat like cooking - is less about what you do where, and more about bringing resources (such as business logic, processing, memory and data) together, as needed, and managing what they do as a team.. **This makes management of a process by tools applicable to discrete elements (say, a brand of hardware) insufficient. This system-level optimization of IT assets requires a more comprehensive management scope, because you can't optimize use of an environment well if you don't know all the processes it supports.** Since this includes not just physical and logical level assets but the relationships between them, workload management that spans the hardware that in a multi-tiered environment must be a part of the offering.

If the monitoring of the management process is not granular, it is ineffective. If the agents to make the monitoring granular are intrusive or hard to deploy, management costs will be high. If the administration of IT management is not role-specific and easy to use, management will be inefficient. With IBM's new *Director 5.10*, IBM has set out to make improvements<sup>1</sup> in four significant areas to make it (1) easy to deploy, (2) easy to use, and (3) easy to tune to your environment's particular needs and (4) less demanding on your administrators. While some of these four areas may seem unimportant to your particular situation, all four are, in fact, important to everybody who wants to benefit from a well-managed system.

## Four Significant Enhancements

It is hard to say which of these four areas of improvement should come first, because they all feed on each other - but they are all part of a significant recasting of IBM Director.

### 1. *The Redesign of the Code Base*

IBM has redesigned the code base as a series of modules. Modularization is trendy for a reason. Breaking code into modules allows it to be deployed more abstemiously, evolved more granularly, and extended to new

<sup>1</sup> IBM has also upgraded and extended many existing functionalities.

## IBM Director at a Glance

IBM Director is system management software that ships with every IBM server, and is part of IBM's *Virtualizqtion Engine*. It can also manage servers, NAS, workstations, desktops, and laptops of other vendors. It can manage *Windows*, *AIX*, *IS/OS* and *Netware* environments, as well as *Linux* in the mainframe, *Power*, and Intel processors. It is based on standards of the Distributed Management task Force (DTMF) including IPMI, SMIS, XML, WBEM, CIM, and SNMP.

IBM Director works with the automatic functions of the assets it manages and, when implemented on uninterruptible power supplies of self-powered PCI cards, can troubleshoot and reboot assets that have failed or been turned off. An internal SQL database supports the management tasks, and contains system data for systems when they are unavailable.

Actions can be initiated and automated through the Director console, or the metrics and alerts can be fed to administrators or up to enterprise management frameworks like IBM's *Tivoli*, HP's *OpenView*, CA's *UniCenter*, and Microsoft's *SMS* and *Microsoft Operations Manager*. Since Director also lets administrators monitor utilization and performance of processors, disks and memory, it can be used to manage workloads, something that will be increasingly useful in environments that use Web Services and compose applications to meet ever-changing business requirements.

environments less painfully. Modular code reduces the cost of maintaining and updating functionality, and can keep licensing and maintenance costs from escalating with each new burst of functionality.

The modular code gives an opportunity for tighter integration with enterprise management frameworks. For example, a free *MOM* integration module feeds Director hardware management integration up to *Microsoft Operations Manager*.

These control capabilities are augmented by tools from Altiris, Aurema, and PlateSpin,

which extend Director control to environments such as the Citrix *MetaFrame*. As systems evolve, IBM Director will be able to augment its toolset as needed.

The base code supports discovery, presence checking, security and authentication, manager's task support for physical and logical assets, and a SQL database for persistent asset inventory, event tracking, analysis, and trending. IBM Director 5.10's *The Event Action Plan Wizard* is the automation engine that turns IBM Director into a full control point.

New in IBM Director 5.10 is a *Software Health Check* feature that allows an administrator to identify all systems elements in need of a patch or update, and then invoke those updates immediately or on a schedule. Additionally, the following are separately-priced extensions to the base offering, which can be deployed on the IT elements that require this management functionality.

- **Capacity Manager** monitors processor, memory and disk utilization and network traffic. It identifies bottlenecks, including latent bottlenecks by historical and predictive analysis, and recommends or implements actions to prevent the situation.
- **Remote Deployment Manager** enables remote, unattended installation of new and existing systems and helps automate deployment tasks, such as initial operating system installation, BIOS updates, and disposal of retired systems.
- **Application Workload Manager** is a well-understood element of mainframe environments and high end, partitionable open systems. With server consolidation and the introduction of virtual machines, a workload management capability has become a critical part of management for server environments – in fact, for proper management of any asset that has a processor that can be shared, which is why workload management is a part of operating systems and virtual machine environments. IBM Director was designed from its inception with workload manager as part of its functionality.

## 2. *A Software Development Kit to Extend the Management Domain*

Many customers asked that their home-grown tools for monitoring and alerting key points in their business process be somehow integrated into the IBM Director Console, to avoid the need to fumble between two consoles to get a job done. IBM responded by implementing, not one, but two software development kits. One is implemented into the code of IBM Director. With this kit customers can implement an out-bound data feed from their custom-built tool. If customers require data collection, or interactive management, there is a separate, modular Software Development Kit that can enable that fuller functionality. Between the two, an enterprise can integrate tools to make the Director platform management truly comprehensive. IT staff don't have the equivalent of grandchildren, who can set the table.

## 3. *Tiered Agent Options to Minimize the Heavy Hand of Management*

The agent for IBM Director had been one size (80 MBs) fits all. Now, IBM Director offers three options, including an agentless option, so that the richness of management can be matched to the functionality, importance, and vulnerability of the element being managed.

- **Level 0, the agentless option**, supports discovery, login, attributes, power control, base inventory, and remote session control. This may be all you need for some client devices.
- **The core hardware services provided by the Level 1 agent** add an event log, event action plans, hardware status, a platform specific inventory, Director update assistant, and upward integration. Both Levels 0 and 1 are upgradable via IBM Director.
- **The full IBM Director Agent of Level 2**, (now less than 40 MB, with plans to shrink further in future releases) includes Virtual Machine Manager, RAID Manager, Process Manager, Remote Server on Windows, File Transfer, Software Distribution, and CIM and SNMP browsers.

Administrators can decide what strength of agent they need where, and where an agent-less mode is sufficient. They can upgrade agents dynamically as conditions warrant.

#### 4. *A Console That Aids Proficiency*

The above features deliver a lot of more to be managed. The IBM Director console lets IT management style the presentation to suit its role and preferences, and rationalizes the presentation of all that has to be done.

Part of this is a matter of presentation. Presentation is role-based. Toolbars can be customized, and columns can be sorted and reordered. Panes can be hidden with one-touch access. There is a “classic”, somewhat-busy, view for those who want it. The ability to reconfigure ones user experience will do a lot to accelerate user comfort.

The improvements to the console are also functional. The console now allows for the organization of logical associations of assets for management as a group. An asset can have more than one group affiliation. Again, combined with role-based administrative views, this can make tasks go faster.

IBM has also extended and upgraded existing functionality. As an example, Director has enhanced the sophistication of how it manages virtual environments, managing more of them, including Open Source *Xen* (when it is released at a future date), and managing the physical-to-virtual transition as well.

The IBM Director Web Portal has been redesigned to be easier to find and easier to use for both systems administrators and systems management developers.

The migration of once operating-system-specific capabilities to IBM Director was one of the differentiators of the original IBM Director product, and this advantage has been continued by many enhancements in the current release. This will make it easier to port applications across platforms. The emergence of Director as an extensible platform for management of heterogeneous hardware assets lets IT operations staff and IT developers evolve hardware management to meet the new business support challenges IT will be confronted with over time.

## Conclusion

**Proper management of the environment, in IT as elsewhere, is key to survival.** The value of a management product is its ability to integrate with whatever an enterprise wants to have in its environment, and its ability to support a full and evolving range of management capabilities with an easy-to-learn, easy-to-use livery paradigm. **IBM Director’s substantial redesign delivers increased value to enterprises of all sizes.** Depending on the density and complexity of your IT topography, it may make other approaches seem – inadequate.



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