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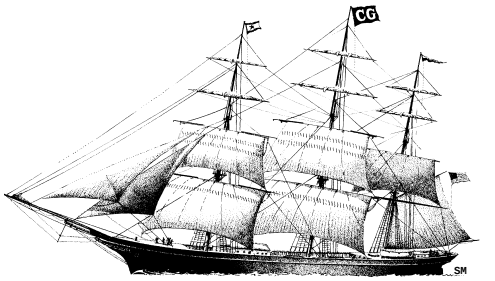

Navigating Information Technology Horizons℠

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Symbium's ISAC Reduces the Risks of Service Management

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Management Summary

The delivery of computing to satisfy a fluctuating demand has produced scale-out and service-oriented architectures – and has also turned the haute-cuisine practices of traditional system management into the frenzy of short-order cooks. Add in IT infrastructure consolidation of servers and storage and you produce a variety of *management risks* waiting to happen. The old habits of over-provisioning, even if they were economically feasible, don't help the management problem and may make it worse. Virtualization, like pre-packaged sauces and pre-made hamburger patties helps, but it doesn't get you out of a reactive, griddle-side mode that promotes sloppy mistakes and discourages thorough analysis of persistent problems. ***Managability*** **may become the gating factor to scalability, just as businesses want to do more and more with their IT systems.**

You may be yearning for a hero or heroine to save you from the unpleasant combination of drudgery and risk. Well, an *Intelligent Secure Autonomic Controller*, named *ISAC*, has appeared out of stealth, promising not only to whisk away your drudgery, but to solve some of the knottier problems that plague you as well. ISAC has the *x-ray vision* to monitor processes and detect state change, the acumen to scan an environment and mitigate security exposures, the strength and dexterity to document and kill a runaway process – while keeping other sessions on the server intact, and the multitasking ability to institute changes and start processes – with perfect timing or, as events warrant, while keeping an inviolate audit trail of all that has occurred.

From where does this come? It comes from Symbium, a company based in Ottawa, Canada, with deep telecommunications roots. By separating the *data plane*, where application services like data access and processing are done, from the *control plane*, where those services are managed, **Symbium isolates the management from events in the environment being managed, providing a separate, scalable service management infrastructure.** Service processors have been used on mainframes and some larger open systems for decades. Basically, ISAC provides this function for the Wintel space. ISAC resides on a PCI-X card, equipped with non-volatile memory for logging, root cause forensics, and isolation of core policies inviolate from malware and corruption. Reporting to a common console or to a management framework, ISAC monitors events at all levels on a server, and extends the sense-and-respond of autonomics above the physical layer, and to a data-center scale. This lets you scale your environment as you need to without worrying about the risks of inadequate manageability. For more details, read on.

IN THIS ISSUE

The Need for a New IT Management Paradigm

The attractiveness of a low-cost e-commerce revenue stream, and the demands of distributors on companies who once saw themselves as mere suppliers, have turned many business IT environments into *de facto* 24x7 operations. Even if some perpetual functions, like Web site hosting, are outsourced, the demands of partners and customers that those Web sites support continue to rattle on your in-house, back-end systems. For an organization of any size, **the traditional IT management juggle of tools and consoles seems to pit, inevitably, flexibility against risk reduction in a very unpleasant way. Policy-based automation, rather than response to command, is urgently needed, but this is only useful if the management system is independent.**

In a consolidated environment with a high rate of change and occasional failure, the management must be independent of the environment it is managing. This independence is basic risk avoidance, like the standard corporate policy of having the person who writes the checks not be the person who signs the checks. A reasonable mean time to recovery depends on this, as does the ability to upgrade – transparently - a production environment running at high utilization. The check and balance of a separate independent management system, or control plane, makes as much sense in a data center as it does on an aircraft.

Presenting ISAC

ISAC is a real-time, out-of-band autonomic manager, a combination of software and hardware that manages a server, its operating system, and the applications it hosts to policies set by the systems administrators. It sits on a half-length PCI-X card inserted in a standard PCI or PCI-X slot in the host server.[1]. It includes:

- The autonomic control engine.
- Non-volatile, tamper-proof storage to assure integrity of the rules, control processes, root cause forensics and audit logs.
- A module to harden host server security by blocking unauthorized software from executing.
- A module for print services management, something that has no reason to be done in an operational environment.
- Plug-ins for additional routines utility functions in certain application environments (as, for instance, management of temp files in Windows environments).

Basically, **ISAC is an embedded sense-and-respond engine, armed with the security and independence to remember all that has happened.** A rogue systems administrator cannot erase its documentation. Should something go wrong with an ISAC, it can heal itself transparently, because it is out-of-band. All of an enterprise's ISACs can be managed through a Web portal. The portal structure allows assignation of role-based policies, and preserves the integrity of some inviolate policies.

Symbium's ISAC is used by *Nerds-On-Site*, a franchise that provides technology services for small businesses. They call their ISACs the "nerd in the box," and deploy it so that their technicians can handle more clients, and make expensive service calls only when they are needed. This allows them to keep their costs competitive.

Today, ISAC is for a single server, and is focusing on traditional "pizza-box" *Windows* server environments. One ISAC can manage multiple applications on a single, non-virtual server. In early 2006, ISAC will add support for *Linux* and *Solaris*. In the second half of 2006, it will control multiple partitions or virtual machines (and hence, multiple applications and perhaps operating systems) on a server. Symbium says that ISAC also will be enhanced for use in grids and other architectures with a high rate of equipment repurposing.

Symbuim intends to sell through the channel. It offers subscription pricing layered on a service contract, starting at $62 per month per server, as well as enterprise purchase and licensing terms.

Conclusion

If you have many small Windows servers running discrete applications, you will recognize if this Telco-style distributed action paradigm is just what you are looking for. Whatever your platform, if your data center is aspiring to support a changing business, while running at a high rate of utilization, without undue risk, you will recognize the value of this architecture. In any case, a precipitated independent management system is something that anyone looking to the future should investigate.

[1] It is not dependent on this form factor – it could be instantiated in a smaller form factor to control embedded devices should the demand arise.

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