The Business Imperative to Gain Data Center Insight

To manage costs, capacity and operations, today's dynamic data centers require new tools to understand assets and how they're used in order to deliver consistent, reliable and fast service to the business.

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Executive Summary

The image of a data center as a glass house calls to mind a pristine environment — something to gaze at but never actually live in. Today's data center is far more dynamic. The days of mapping assets via flat files and handwriting in notebooks are over; they can't be used to plan capacity, power and cooling, or even maintenance in these active environments.

Data center operators require a new way to understand what's in the environment, where assets are, how they are being used and to whom they belong. Centralized and real-time, up-to-date documentation gives them the knowledge to make decisions that impact the business, including the ability to reduce power costs, decrease support expenses, quickly implement changes and make additions where necessary.

Considering today's budget constraints, finding areas where cost savings can be made is equally important as gaining insight into how to manage and adapt the infrastructure to meet the demand for new services — all without sacrificing reliability, performance or compliance requirements. Clearly, accurate asset knowledge, accountability and control are crucial to enhanced business value, but until now it's been nearly impossible to gain this insight in any comprehensive way.

Avocent is changing that with its portfolio of asset management solutions — this includes a new foundation that unifies a set of collaborative tools which enable data center and facilities managers to automatically track, assess, control and efficiently use data center assets. Avocent's asset management solutions offer an understanding of how assets are being used at every point in their lifecycle — from inception to disposal. This insight provides organizations the ability to model, plan and design cost-effective, power-efficient and highly accountable data center infrastructures.

The Avocent Management Platform provides the framework for a single, integrated source of information for the management of IT assets. This framework is further leveraged by:

- Avocent's LANDesk Asset Lifecycle Manager to efficiently discover, account for and audit the ecosystem of assets within a structured repository.

- Avocent's MergePoint® Infrastructure Explorer, which provides up-to-date visual representation of data center assets and utilization.

- Avocent DSView® 3 software, providing remote management of both physical and virtual servers.

These Avocent solutions can function independently of each other. Avocent is continuously developing even tighter integration points, making this portfolio of collaborative technologies a unified solution that will make the process of understanding and managing data center assets increasingly seamless.

STATE OF THE DATA CENTER

The results of a recent independent survey conducted by Actionable Research for Avocent provide some insight into why organizations need a better way to visualize data center assets and their utilization. These findings indicate why modeling should be high on data center managers' agendas:

- 34 percent of existing data centers are being redesigned or refitted.

- 1/3 have implemented server virtualization for energy-saving goals.

- Just 55 percent can monitor power usage today, and then mostly only at the UPS system level.

Introduction

To reduce costs, improve flexibility and increase business agility, enterprises for a long time have tried to bring best practices to their application infrastructures by integrating data silos and optimizing processes end to end. Now it's time to turn similar efforts to the data center. The old approach of using disconnected and sporadically updated flat files such as spreadsheets or diagrams can't support environments where:

- Business changes require a dynamic infrastructure to meet the needs of customers.

- Virtualization enables loads to shift dramatically.

- Power consumption spirals upward as new systems come online and unused legacy servers remain plugged in.

- Fuzziness in the relationships and dependencies of system components, applications and business lines create difficulties in meeting requests for change.

Data center scale and complexity grow as a company expands, challenging even seasoned data center professionals to make the right decisions to improve day-to-day operations. There may be defined policies and procedures to support regulatory compliance, but what about a similar approach to calculating assets, measuring constraints and modeling change?

Increasing rack density makes it critical to understand environmental characteristics around weight, heating, cooling and power. The costs of powering a data center are outpacing square footage costs, and managers need power consumption numbers for each device and rack to control these costs. Aging and less energy-efficient servers process loads at maximum capacity, and the combination of assets on a rack regularly exceeds the power facility's availability. Unless all these assets are understood, there's no way to properly redistribute equipment for data center optimization, and neither is there a way to carefully plan the addition of new assets for successful operations. Flat-file data center planning and management tools can't keep up with the need to dynamically discover and allocate data center devices for their most efficient use.

When there is no standard way to visualize assets and the information about them — including their relationships to other components and to financial and contractual details — an organization is exposed to unnecessary risks. For example, lacking insight into

warranty expiration dates may inadvertently cause a service contract on critical equipment to lapse. And, given current economic conditions, it's important for data center managers to control their budgets by charging back equipment to the departments that use it, and equally important for them not to rely on the personal knowledge and experience of staff when there is a possibility the data center workforce may have to be downsized.
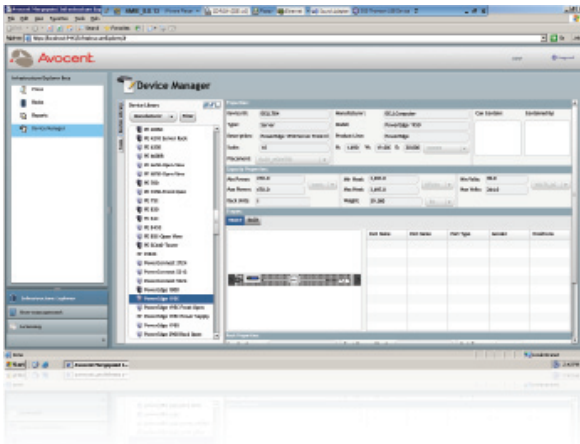
Avocent's asset management portfolio addresses these challenges. Business value results when data center managers can quickly understand the current cost, lifecycle and assignment status of assets — as provided by Avocent's LANDesk Asset Lifecycle Manager — as well as when they are empowered to accurately plan capacity and assess the impact of planned changes on the data center, as MergePoint Infrastructure Explorer enables.

The Intelligent Data Center

Two recent trends present prime opportunities to bring data centers into conformance with the best practices of IT operations management:

- **Physical consolidation initiatives.** Large companies often move data centers to a new facility as they bring together distributed assets to improve management and control. Virtualization often plays a key role in these efforts, creating additional planning requirements to ensure that dynamic load balancing and failover take into account rack capacity issues.

- **Expansion initiatives.** Growing businesses running up against data center limits may need to move to a new facility. If data center managers know the actual availability of resources versus what is *presumed* to be available, they'll be able to optimally exploit the new environments to support the business growth requirements.

MergePoint Infrastructure Explorer delivers the intelligence that data center managers need to model moves in a comprehensive and graphical display. With a built-in library of asset images and information of more than 250,000 devices, managers can feed visual simulations of rack and data center floor design to quickly test power, cooling and space scenarios. They also can map power and network connectivity from devices to power distribution units and network infrastructure.

Key Product Benefits: MergePoint Infrastructure Explorer

- Visual insight into data center, racks and individual IT elements within a rack

- Pre-defined asset image information library for 250,000 devices

- Replaces disparate tools and cumbersome methods for designing and planning infrastructure

Infrastructure Explorer is also the mechanism for continually maintaining policy compliance for thresholds for rack power, cooling, weight and connectivity, and to assess the impact of change requests so that business risk is minimized. Operations staff use Infrastructure Explorer to document physical changes to equipment and connectivity in real time, so that the actual data center and the virtual depiction of it are never out of sync.
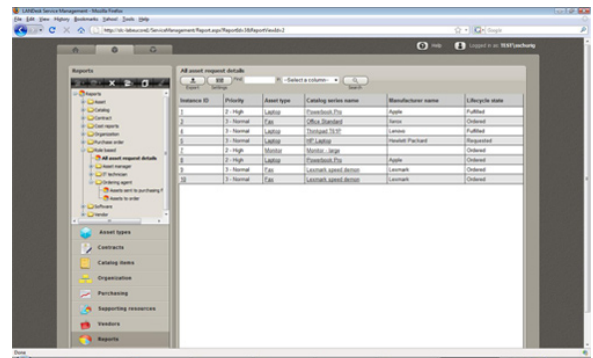
There's more value to be found: Facilities managers gain an informed and accurate view of asset usage to plan power, cooling and additional space requirements. Errors and incidents are reduced as data center managers translate their plans to work order tickets that data center operators execute.

To deliver this business intelligence, data center managers can draw on the structured and validated data that Avocent's LANDesk Asset Lifecycle Manager incorporates. This data stretches from a business needs assessment even before a purchase order is issued, to device reconciliation with that order, and then beyond — to the asset's preparation for deployment, its upgrades, maintenance and reassignments, all the way to its disposal. All these steps are themselves guided and automated by the software's intelligent workflow capabilities.

Consistent, predictable and automated workflows — such as events (the arrival of a server at a loading dock, for example) that trigger a response, and the steps taken next to move the asset along in the tracking cycle — are driven by Asset Lifecycle Manager's integrated process manager.

Further, Avocent's LANDesk Asset Lifecycle Manager enables up-to-date reporting of assets by status, version, manufacturer, department or other user-defined requirements, along with service and audit history. Data center managers can use this information to maximize business service delivery and minimize service expenses, including:

- Reducing costs by understanding license, acquisition, support, service and other expenses associated with each asset.

- Reducing risk by ensuring that planned data center changes don't violate regulatory or security compliance or service-level requirements.

- Speeding appropriate changes that contribute to business value by having a complete picture of where assets are at any time in their lifecycle.

Key Product Benefits: Avocent LANDesk Asset Lifecycle Manager

- Automates lifecycle workflows

- Maintains asset service history to help collect cost and maintenance data over time

- Accesses full audit history: status changes, actions, times, people and dates

Value Delivered

The work of data center teams in recent years has been shaped in large part by virtualization, consolidation, system standardization and automation efforts. Moving forward, especially in the midst of a recession, professionals who maintain technology infrastructures "need to accelerate efforts [they] have under way that drive cost and inefficiency out of [their] environment," according to a recent Forrester Research report titled "Infrastructure and Operations Professionals: Must-Read Research In An Economic Downturn."

EFFECTIVE IT ASSET MANAGEMENT

An efficient asset repository is key to supporting an effective IT Asset Management (ITAM) project. IT service management disciplines are underpinned by the reconciliation of assets to purchase orders, and software installs to license assignments, as well as other requirements, such as attaching warranty information and associated data to assets and ensuring their proper distribution.

When creating your asset repository, you need to:

- Define business needs for future growth and user requests.

- Select and structure data including physical, technological, contractual and financial aspects by well-defined rules and conditions.

- Track asset lifecycle status: order placement; arrival; preparation; maintenance; reassignment; retirement; disposal.

- Relate associated assets to avoid change that leads to service disruptions.

- Implement process control for data creation and change.

- Make results actionable through query and report facilities.

To be most effective, data center managers need tools that speed asset analysis to guide deployment, reuse or de-commissioning. Staff can lower bottom-line costs simply by identifying offline ghost servers that often live on after the application they once ran was virtualized elsewhere, or moving heavy processing loads to more power-efficient systems.

Asset information becomes leveraged when data center managers can make business decisions based on what they now know about asset utilization, warranty status, power consumption or any other factor exposed by Infrastructure Explorer and Avocent's LANDesk Asset Lifecycle Manager. The ability to assess operations in this way — and then act on that insight — is fundamental to delivering IT as a reliable service.
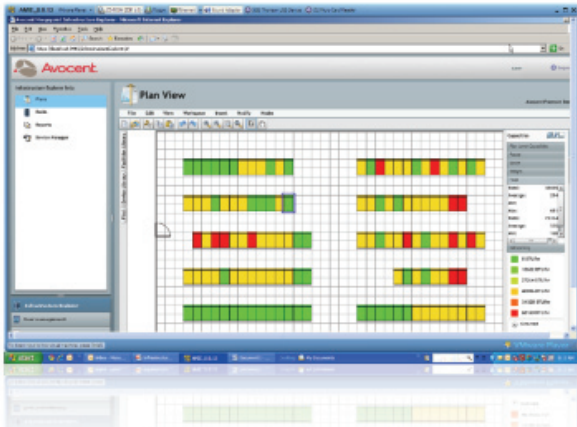
Competitive Landscape

The ability for Infrastructure Explorer to not only function independently but to also integrate with other widely deployed Avocent solutions, such as DSView 3 software, sets it apart in the emerging market of products that visually document data center assets and utilization.

Assessment and action is the power of using Infrastructure Explorer in collaboration with technology such as DSView 3 software, which is used by 94 percent of Fortune 100 companies to securely and remotely manage their infrastructures. One DSView 3 user reports that data center staff can now work anytime at the office or remotely, using a single managment interface to connect to any port. When organizations match granular insight into assets for capacity planning with the ability to easily manage them, the opportunities to realize even greater productivity returns are multiplied. DSView 3 integration means Infrastructure Explorer users can launch KVM or serial sessions to assets connected with Avocent hardware, transforming the tool from a visual planning and recording system to a functional interaction with the environment.

Furthermore, Infrastructure Explorer delivers additional capabilities for organizations that have more mature IT operations and planning practices, and that want to refine their control over service delivery. It will integrate with existing change management processes and asset management solutions, including Avocent's LANDesk Asset Lifecycle Manager — making plain the business function of assets and the relationships among them.

Key Product Benefits: MergePoint Infrastructure Explorer

• Presents available capacity and potential issues for space, power, weight, heat/cooling and network

• Ability to run multiple what-if scenarios around data center adds and changes

• Execution enabled via integration with widely used DSView 3 management software

While organizations can use any system to manage their assets' lifecycle in conjunction with Infrastructure Explorer, they will expedite processes using Avocent's LANDesk Asset Lifecycle Manager, which delivers:

• A top-tier discovery engine with context and relationship awareness.

• The ability to build automated management processes on top of the repository.

• The capability to analyze repository data to lower costs and improve business value of assets.

Data center managers can tap this value from a solution that works out of the box, with best practices content packs and straightforward access to features. In that respect, Avocent's LANDesk Asset Lifecycle Manager is a much needed alternative to managing assets in flat-list silos and to high-cost solutions that require extensive consulting engagements before users can realize results.
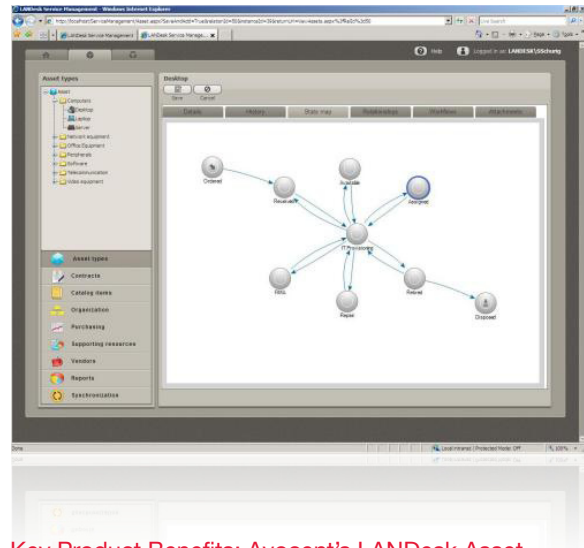
Realizing Returns on Investments

Managing growing hardware assets is a major challenge that data center operators face, and new technologies can pose an added challenge.

For instance, according to a recent IDG Research Services study, 26% of respondents said that "increased management complexity" was a factor that is limiting their organization's ability to achieve greater ROI on its server virtualization initiatives. ROI is a critical factor for every company, particularly in today's economy. Avocent's DSView 3, LANDesk® and PM Series power distribution units have shown their significant ROI to customers.

Consider, for example, that in the average data center today, industry studies show that many hardware assets can go unaccounted for. A recent IDG Research Services study brings this point home. According to the study, 59 percent of organizations consider "controlling device and application proliferation" an important part of building an effective information management strategy. However, only 39 percent rate themselves effective at that task.

These invisible assets add maintenance costs. Asset Lifecycle Manager offers a solution. It identifies all assets and helps correct the mismanagement of underused assets that rob the bottom line, or that make it impossible for IT to identify ownership and be accurately compensated for providing services to them.

Key Product Benefits: Avocent's LANDesk Asset Lifecycle Manager

• Aggregates data from multiple sources

• Relates assets to other resources and financial, contractual components

• Organizes data by department or cost center to use in research and planning

Infrastructure Explorer is set to continue the ROI story in a number of ways. Businesses need the ability to quickly react to the changing dynamics of the market or customer base, and Infrastructure Explorer can synchronize the data center, facilities and C-level executive staff to move the business forward. The fluid nature of business requires that managers have insight into what they have, where they have it and the power and space requirements and thresholds of assets. With Infrastructure Explorer, managers have quick access to information to model and optimize the environment to make way for incoming infrastructure changes.

Much of the ROI to be realized from the Avocent asset management portfolio comes from the contribution that Infrastructure Explorer and Avocent's LANDesk Asset Lifecycle Manager make to speeding business:

• Visual modeling of and detailed information about data center assets significantly reduces the time to respond to issues, plan changes and ensure assets are efficiently utilized at every point in their lifecycle across the environment.

• The ability to create multiple what-if scenarios for changes and additions means data center managers have ready insight into optimal configurations that take into account space, power, weight, heating/cooling and network requirements.

• Infrastructure Explorer's extensive equipment library makes it fast and easy to define infrastructure models and assess the impact of change. Being able to search for assets in multiple ways — including business line owners — also enables data center managers to efficiently support chargeback models.

The other side of the ROI story is lowering costs. Obviously, centralizing and standardizing data center asset documentation is more cost-effective than trying to merge information from disparate tools on a case-by-case basis.

But there's also ROI to be realized in labor costs. Conducting physical inventories two or three times a year isn't an efficient use of manpower. Then, that information winds up being outdated shortly after it's entered in a spreadsheet.

Not only that, but centralizing and standardizing this data will also enable data centers to scale without having to add additional staff — certainly a concern in a difficult economy. Equally important, intelligent workflow as enabled by the process manager within Asset Lifecycle Manager reduces the amount of user intervention required to perform routine lifecycle tasks, from procurement to backup to matching.

The combination of operating more dynamic data centers, cutting costs and maturing practices for service delivery all factor into reasons to learn more about Avocent's MergePoint Infrastructure Explorer and LANDesk Asset Lifecycle Manager. For more information, visit www.avocent.com.

About Avocent

Avocent is a global provider of IT infrastructure management solutions for enterprise data centers, small and medium businesses, and branch offices. With more than two decades of experience, product innovations and strategic acquisitions, Avocent is a leader in advancing digital, embedded, wireless and mobile technologies. Products include local and remote switching, serial console servers, digital extension, embedded IPMI, service processor managers, wireless, mobile and video display solutions. Combined, Avocent hardware, software and embedded technologies provide customers with the power of centralized management. IT administrators can sit at a single console and control local and remote servers; network data center devices; and mobile, power and environmental appliances.

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