The IT Service & Technical Support Community

Toward a Mature Desktop Support Community: A Report from the HDI Desktop Support Advisory Board

by

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Note: Unless otherwise indicated, all sidebar data is derived from the 2011 HDI Desktop Support Practices & Salary Report.

Executive Summary

As customer expectations for service management quality within organizations have risen, it has become necessary to reconsider the part desktop support plays in delivering services to IT clientele. To that end, in early 2011, several subcommittees of the HDI Desktop Support Advisory Board undertook projects to identify the three factors required to maintain desktop support functions within an organization.

In an effort to ensure customer satisfaction, improve productivity, and maximize staff, processes originally developed for the service desk continue to expand to include desktop support. The continual improvement recommended by ITIL and other frameworks requires desktop support managers to gather metrics and select key performance indicators (KPIs) to measure personnel performance. These measurements can help align desktop support efforts with existing incident, change, and request management processes to achieve improved performance and higher customer satisfaction. To accomplish these goals, desktop support managers should evaluate their group's use of service-enabling technologies.

In order to ensure that desktop support—which, in many organizations, is the public face of IT—keeps pace with more mature service desk organizations, desktop support managers should evaluate the alignment of their operating procedures with their organizations' established process methodologies (e.g., ITIL, CMM, COBIT, etc.). These processes typically fall under one or more these headings:

- Incident management, including software/hardware incident remediation, hardware repair/replacement, virus remediation/file restoration, and hardware troubleshooting;
- Request management, including software install/reinstall, software configuration/patch request fulfillment, assignment/preparation, and termination/redeployment;
- Problem management, including system health check/tune up and root cause analysis;
- Change management;
- Configuration management;
- Asset management, including acquisition, disposal, compliance/licensing, and hardware/software/accessories; and
- Release management, including deployment of new hardware, redeployment of existing hardware, operating system upgrade/reinstall, and software/patch management.

In addition, in many industries IT staffing reductions have resulted in three possible desktop support scenarios:

- Level one and two service desk analysts are being given access to software tools that allow them to resolve common desktop support issues;
- Desktop support groups are being given software tools that improve efficiency, thus reducing the need for larger desktop support teams; and
- End users are being given access to technology that, in many cases, allows them to resolve their own desktop support issues.

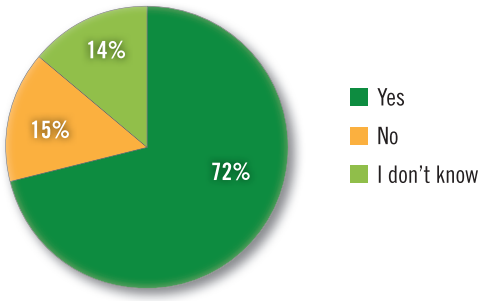
In all of these scenarios, the desktop support function needs to be armed with the right mix of technology to ensure that issues are resolved quickly and with a high degree of accuracy and customer satisfaction. After reviewing the processes outlined above, it becomes evident that any technology to be applied must support these processes:

- New or existing incident/request/change/knowledge management systems with end-user survey capabilities;
- New or existing alerting and monitoring systems;
- New or existing asset management systems with license and configuration management capabilities;
- Remote control tools;
- Operating system imaging tools;
- Application packaging and software deployment tools;
- Access to new or existing collaboration tools;
- USB flash drives; and
- Data encryption and decryption tools.

Ensuring seamless handoff from the service desk or, due to the expanding use of these tools by the level one analyst, capturing consistent metrics for reports is necessary to identify desktop support trends in:

- Cost per incident/request;
- Productivity based on the percentage of incidents resolved;
- Quality based on percentage of resolved incidents in line with agreed upon SLAs and customer satisfaction;
- Service levels based on mean time to respond and the longest time incidents remained unresolved;

Tickets Assignments



In 72 percent of respondent organizations, the service desk assigns more tickets to desktop support than to any other department.

- Individual technician achievements based on average time to close individual tickets, FTEs per devices supported, and ratio of FTEs to supported systems; and
- Group achievements based on the ratio of total number of tickets noted as service requests (versus incidents) and percentage of unresolved tickets escalated.

Desktop support managers must both report these metrics in the context of the larger processes discussed and identify areas of improvement through operating procedure enhancement, the application of technology, or individual technician goal attainment. Cost, productivity, quality of service, service levels, ticket handling, and individual performance are also areas where reporting can contribute to the growth and maturity of desktop support. These areas are enumerated in a table at the end of this paper.

Since IT organization performance is often defined by customer service expectations and customer satisfaction, desktop support is front and center, the public face of IT. As a result it is essential that IT executives and their desktop support personnel strengthen desktop support's ties to the rest of the service management realm and ensure that the role is given the tools and attention necessary for success.

Desktop Support's Changing Role

Desktop support has never been the most glamorous part of IT operations. However, like it or not, desktop support has become more than just a break/fix function for most organizations. In addition to carrying out the expected tasks of resolving client computer problems or installing requested hardware or software, desktop support is often the public face of IT. The quality of service is no longer limited to getting the job done, but carries with it the same high expectations consumers expect and often take for granted when interacting with a service organization. With many service desks being outsourced, the only familiar face many clients may see is their local desktop support technician. As users rely more and more on electronic methods for doing their work, problems with applications, hardware, and other technology can directly impact productivity and profitability. And as organizations reduce their real estate in favor of more mobile or completely mobile workforces, this will continue to complicate repair and remediation efforts.

Since day-to-day desktop support activities are typically an extension of existing standardized processes like request, incident and change management, it's important that they not compete or conflict with organizational service management standards. Extending existing service management processes into the desktop support realm not only ensures continued compliance with organizational policies, but also contributes to positive customer experiences. It is not unusual for customers to judge an entire organization on a single interaction with one person, even though the process can only be completed through the efforts of many individuals.

In addition to developing and maintaining the usual technical skills, the desktop support technician must also have mature customer relationship and time management skills. To ensure that desktop support technicians keep on top of these many roles, organizations should provide them with structured and approved processes to follow. These processes may be specific to desktop support activities, but are easily an extension of existing service delivery processes developed by the service desk. Furthermore, to efficiently and successfully fulfill requests or remediate incidents, desktop support technicians should be armed with the right set of software and hardware tools. As with all tools, they should be applied to support the processes and improve the efficiency and productivity of the technicians.

Finally, reporting that focuses on the metrics relevant to desktop support functions will situate their work in the larger context of service delivery, and at the same time allow management to see where individual technicians might be falling short or excelling.

It All Starts with a Process

Many IT organizations have spent considerable time, money, and effort to employ service desk software solutions that enable accurate tracking of incidents, requests, and changes. Access to the same software should be extended to the desktop support group, giving them access to the complete issue history and all of the relevant customer information necessary for them to service the customer. This maintains the single point of contact for the customer and single record of remediation or fulfillment. Desktop support activities should also be included in the development and refinement of these repeatable processes. Management will then have the metrics necessary for future process improvement, and it will have reports and metrics to show trends in service KPIs, process changes, or data necessary for the institution of new processes or services to meet changing customer demand.

The DSAB would like to suggest that desktop support groups develop and integrate their current or future processes into existing service management practices. For example:

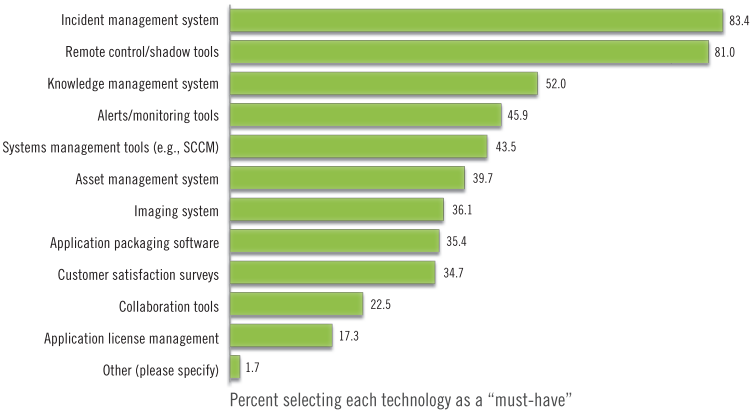
> A call comes to the service desk or an incident ticket is opened via a self-service interface; for instance, an employee's laptop is not performing properly. In this scenario, the service desk analysts cannot connect to it, ping it, etc., so the incident cannot be remediated remotely. The incident is escalated to desktop support and a technician is dispatched to affect the repair. The technician updates the status of the ticket with any relevant solution information and marks the ticket as resolved. The service desk validates the customer's satisfaction with the solution and closes out the ticket. A satisfaction survey is sent to elicit additional customer feedback and to determine the level of satisfaction with the handling of the incident.

Tracking the incident from initial identification to remediation through a common process offers significant value to the desktop support group, as well as to the rest of the organization.

Cost per issue is easily trackable with opportunities for process improvement and cost reduction; quality and customer satisfaction problems are easily traceable at the task and individual level, and high-level reporting is more meaningful.

Other processes and procedures that fall into the area of incident management might also include:

- Software/hardware incident remediation;
- Hardware repair/replacement;
- Virus remediation;
- File restoration; and/or
- Hardware troubleshooting.



"Must-Have" Desktop Support Technologies

Access to an incident management system was identified as a "must-have" technology for desktop support by 83.4 percent of respondents.

Tools Are the Enablers

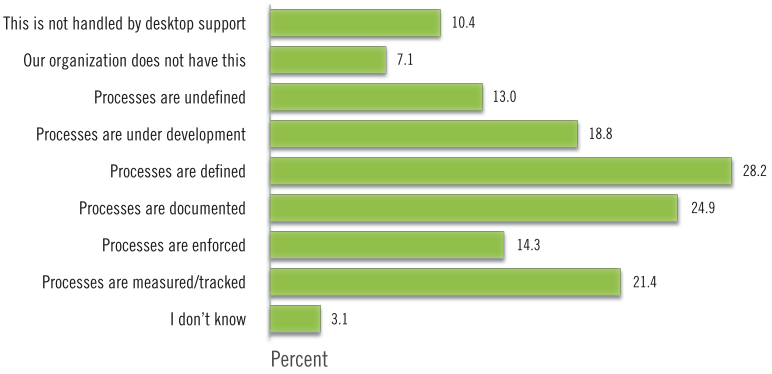
Anyone who has taken on a home improvement project or sewn on a button will tell you that having the right tools makes all the difference in terms of speed and quality. The same is true for desktop support professionals. As head counts are reduced and customer expectations increase, arming desktop support professionals with the proper tools will go a long way toward ensuring their ability to quickly remediate problems.

Seeing the Bigger Picture: Alerts and Enterprise Monitoring

As desktop support professionals take ownership of incidents, the first step in problem-solving is attempting to replicate the issue and eliminate known causes. Many incidents at the desktop level can be difficult to troubleshoot because of the growth of web-based applications and services. Troubleshooting the issue can point to underlying problems that may need to be escalated to problem management for further root cause analysis.

Providing desktop support technicians with access to enterprise monitoring tools and alerts offers visibility into system or enterprise-wide service outages that might impact their customers and appear to be desktop problems. In the *2011 HDI Desktop Support Practices & Salary Report*, 57 percent of survey respondents reported that they use alerts and monitoring tools, and that these tools are among the top five "must-have" desktop support technologies or tools. They enable desktop support teams to provide successful end-user support by giving them access to information that can reduce the time to identify root causes, speed mean time to resolution (MTTR), and increase first call resolution, even at the service desk. At a minimum, they provide insights into customer impact based on the time and/or frequency of the reported events. These applications and utilities should be able to report on the status of any or all of the following:

- Software and application configuration changes;
- Network status; and/or
- Hardware health checks.



Knowledge Management

Less than one-third of desktop support organizations have defined processes for knowledge management; less than one-quarter are measuring and tracking them.

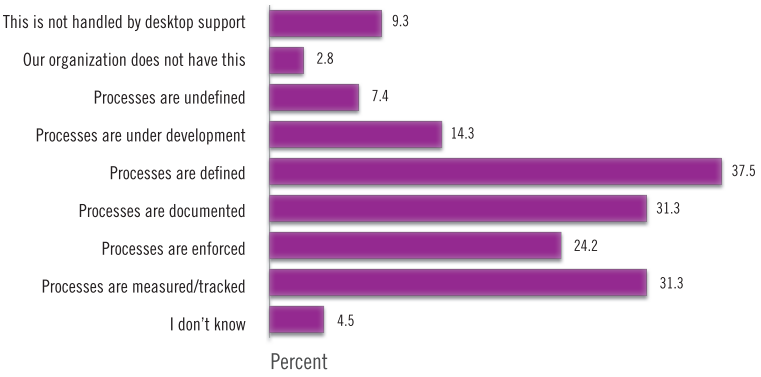
Information should be available locally and/or remotely depending upon the organization's size, complexity and the geographic coverage expected of the desktop support group.

Knowledge Is Power: Knowledge Management

To improve incident MTTR, give desktop support technicians access to approved solutions through a knowledge management system. Fifty-one percent of respondents to the 2011 HDI Desktop Support Practices & Salary Survey currently use a knowledge management system. These knowledge repositories can capture, manage, and systematize an organization's processes, procedures, and collected problem-solving experience. Knowledge tools are often associated with an incident management system and can provide known solutions to recurring incidents to facilitate more efficient troubleshooting. Technical support employees can use the knowledge tool to gain quick access to documented solutions and approved procedures. Knowledge management tools that make use of artificial intelligence to present or offer the best solution to a given problem can reduce knowledge search times. A good quality service desk solution will often allow for searches to be accomplished inside the service desk ticket, record searches for future analysis, and allow technicians or analysts to offer candidates for knowledge based on tested solutions. Combining this with a self-service support model where users can search a subset of the knowledge base can reduce help desk calls and end-user downtime, further freeing up desktop support resources for more complex issues.

Taking Stock of Assets: Asset Management

Understanding the difference between how a desktop or laptop is configured versus how it was delivered to the end user can often speed up the troubleshooting process. Is there more or less memory? Has new software been installed? This kind of information should be readily available to the desktop support group. And with the increased use of personal, mobile technology, like iPads and netbooks, which may not be organizationally issued, it is important for desktop support personnel to know early in the process whether



Hardware Asset Management

Thirty-eight percent of respondent organizations have defined hardware asset management processes.

a particular piece of hardware is company-owned or not. Policy may dictate that they should not spend time resolving an issue for a system that is not company property.

Asset Management Tools

IT asset management (ITAM) solutions can help manage and track assets based on business practices related to the financial, contractual, and inventory functions for all managed IT assets in the organization. The tool or tools can help with budgeting, reporting, and forecasting strategic IT investment, license compliance, and personal accountability for assigned corporate assets, including all elements of software and hardware maintained in the organization's environment. The overall process includes the development and maintenance of policies, standards, processes, systems, and measurements that enable the organization to manage the IT asset portfolio with respect to risk, cost, control, IT governance, compliance, and performance objectives, as established by the business. A proper ITAM program maximizes the company's return on investment (ROI), enables forecasting of capital expenditure, and tracks assets from request to retirement or disposal.

License Management

Since the virtual nature of software requires additional oversight, desktop support groups should leverage a license management system. A well-designed license management system offers a range of features that allow asset managers to continuously track to whom and on what systems various software was allocated and deployed. Some key features of license management software include chargeback pricing options, key contract terms and conditions, order history, product usage, and contract expirations. The information captured and maintained by the system can assist in planning and deploying upgrades, new contract negotiations, and renewals. Your organization can also realize significant cost savings by ensuring that licenses are deployed to correct users by technicians, that the value of the software is realized through maximum usage, and by not purchasing more than is required. Finally, the software licensing system should be able to reconcile purchases with deployment, avoiding costly noncompliance penalties and ensuring validation of desktop support installations.

Application Packaging

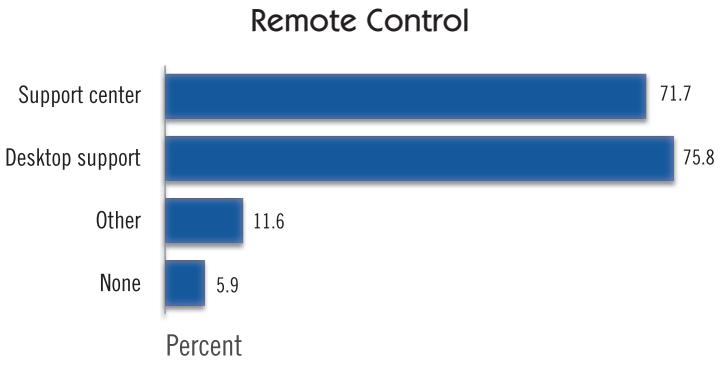
Compliance can be further assured and efficiency increased through the use of an application packaging solution. The packager automates the install, upgrade, configuration, and removal of software on a variety of systems across the enterprise. Unless the organization's systems run a single OS, the solution should be capable of packaging standard and nonstandard software across most popular platforms. All packages should be contained in a single enterprise library, making it convenient for desktop support to distribute remotely, with the option of modifying or customizing installation procedures as required by organizational policies, regulations, or user requests. Standardized methods for packaging and deploying software can reduce user errors for installs and uninstalls, minimize software conflicts, and limit the possibility that unlicensed or unauthorized software will find its way into the organization, creating usage issues and exposing the organization to undue legal and financial risk.

Software Packaging

Software packaging is directly related to other IT management solutions, including software distribution, remote control, and patch management. An overall system management or configuration toolset is a set of applications that allows desktop support to view, manage, and control information technology systems throughout an enterprise, typically remotely. This approach enables desktop support to effectively manage more desktops with less staff, reducing cost while improving service.

Saving a Trip: Remote Control

As organizations grow and embrace more mobile workforces, the time-honored desktop support method of getting hands on the user's system to troubleshoot problems is becoming costly and sometimes impossible. According to the *2011 HDI Desktop Support Practices & Salary Report*, remote control tools are the most widely adopted tools by desktop support organizations, with 73 percent currently using them and 16 percent planning to replace or upgrade their tools over the next twelve months. Remote control tools allow service desk analysts or technicians to connect to a system, view the problem, and work on the remote system with access to all of the tools necessary to troubleshoot the issue (unless it proves to be hardware-related). This approach reduces the overall cost of ownership by reducing travel time and expense. Additionally, the desktop support groups may find added flexibility by allowing issues to be resolved by the least costly or most available resource while reducing the MTTR for many issues.



In 75.8 percent of respondent organizations, remote support is provided by desktop support.

Image Is Everything: Desktop Imaging

Desktop support processes are always improved by creating repeatable procedures that embrace automation and reduce manual tasks. One common way of improving the process of refreshing or building new systems is by employing disk imaging software. Imaging assists desktop support technicians with the installation of operating systems and any associated organization-, department-, or role-specific applications, patches, network settings, computer names, and domain or user account information. The solution should allow for a library of images to be stored on a network, to be shared and deployed to new or existing systems from a central management console. Even less-experienced desktop support professionals can use the images to build a standard desktop, reducing the time to deliver a tested, fully functional system by requiring fewer manual tasks, enhancing productivity, and reducing total cost of ownership (TCO).

There Is No "I" in Team: Collaboration

One key to the development and adoption of reliable, repeatable processes and procedures is to capture and share knowledge about what has worked. Among the nice-to-haves, collaboration tools can be used to facilitate communication between individuals and groups in the organization, including desktop support.

Fifty-three percent of the 2011 HDI Desktop Support Practices & Salary Survey respondents are using collaboration tools today. Such tools offer the ability to interact remotely, collaborate, discuss, create, design, and manage data and knowledge exchange. Desktop support organizations, subject matter experts, and service desk knowledge managers are enabled, through the use of collaboration tools, to use existing data, capture new data, and even enhance what has already been created.

While external knowledge stores can be useful, sharing known issues and the application of workarounds and fixes in the context of the organization's applications, services, policies and procedures is usually more successful. Avoiding past mistakes and being able to remediate incidents quickly can reduce MTTR and limit users' loss of productivity. Organizational knowledge and collaboration can also reduce training requirements for new desktop support technicians, elevate the proficiency of less skilled team members, and allow more experienced desktop support professionals to focus on more complex issues.

You Can't Be Too Safe: Encryption and Security

It's not unusual for desktop support technicians to be in situations where they have to do work on systems that are used by senior executives, HR, or finance. Troubleshooting and updating these systems may also entail temporary access to sensitive or confidential data, either through testing or to move data. In the past, desktop support technicians spent a good deal of their time in direct contact with their users. Most users, especially senior employees, depend heavily on technical support to remain productive, especially as they have become more mobile in the last decade. The hands-on relationship engendered trust between the desktop support group and their customers. Increased focus on data security and the previously discussed increase in the remote nature of desktop support has required most organizations to reduce risk whenever possible when it comes to organizational information.

One way organizations are responding is through the use of encryption tools. This software's main task is encryption and decryption of data, usually in the form of files on (or sectors of) hard drives and removable media, e-mail messages, or in the form of packets sent over computer networks. Whether used temporarily to protect data in motion or as an enterprise policy to protect data at rest, encryption software helps the desktop support group keep data secure. Ethics codes and signed statements of confidentiality may also be required, because federal, state, and municipal regulations often require auditability and reporting to maintain privacy compliance, as is the case with HIPAA and PCI. Encryption allows technicians to safely perform their required tasks with less concern that their actions may create risk for the organization.

Not Just a Flash in the Pan: Data Storage

The increased complexity of hardware, operating systems, and applications requires that desktop support technicians who do end up making house calls or site visits should be armed with enough tools to resolve issues quickly. In addition to the other tools mentioned, no technician should be without one or more USB flash drives (also called thumb drives, jump drives, or pen drives). Flash memory data storage devices are smaller, faster, and much larger in capacity, and have replaced the once-ubiquitous floppy drives and CDs for carrying a plethora of software tools to diagnose, troubleshoot, and repair desktops. USB drives can be used to boot a PC and connect to a network to reinstall or reimage machines as necessary.

I Want a Full Report

According to the *2011 HDI Desktop Support Practices & Salary Report*:

> Many of the metrics included in the survey, all of which were deemed by the HDI Desktop Support Advisory Board to be the most important metrics to track, are not being formally measured by more than half of the desktop support industry, which supports the need for the standardization of desktop support as an industry. The most commonly measured metrics are percent of tickets assigned by the support center to desktop support (formally measured by 61 percent), average number of tickets resolved per technician and time to resolve a ticket (both formally measured by 60 percent), and percent of SLA/OLA targets met (measured by 68 percent of those who maintain SLA and/or OLA contracts). (p. 43)

Even the efforts of the best desktop support professionals will go unnoticed unless the organization can effectively report on their work. Reporting not only allows managers to keep tabs on their direct reports, but enables analysis of the group's overall effectiveness and task, procedure, and process improvement.

On the following page is a list of the HDI Desktop Support Advisory Board's recommended reports.

Report	Definition	Formula
Cost Reports		
Cost per Issue	The average cost of an issue.	Total cost ÷ Total issues *Note: Best practice indicates use of a fully-burdened cost.*
Productivity		
Percent of Total Issues Received	The percentage of issues received by the desktop support team.	Number of issues received by desktop support ÷ Total issues
Quality of Service		
Percent of Issues that Meet the SLA	The percentage of issues which meet the specific targets/goals of the service level agreement.	Number of issues that meet the SLA ÷ Number of issues covered by the SLA
Customer Satisfaction	A measure of how services supplied by an IT team/unit meet or surpass customer expectations.	Multiple survey options.
Service Levels		
Longest Time Issue in Queue	The longest/oldest issue residing the issue queue.	Current date/time – Issue date/time
Mean Time to Respond	The average time to respond to the customer on an issue.	Sum of all time to respond ÷ Number of issues
Individual Technician		
Average Time per Issue	The average amount of time a desktop technician spends on an issue.	Sum of all time spent working on issues ÷ Number of desktop technicians
FTEs per Device Supported	The full-time equivalents (FTEs) needed to support the devices of an organization.	Number of devices ÷ Number of FTEs *Note: FTEs are the number of working hours that represents one full-time employee during a fixed period.*
Ratio of FTEs to Supported Systems	The FTEs needed to support the agreed upon devices of an organization.	Number of supported systems ÷ Number of FTEs
Ticket Handling		
Ratio of Total Issues Noted as Service Requests versus Incidents	The ratio of issues marked as service requests in relation to total issues.	Number of service requests for a period ÷ Total issues : Number of incidents for a period ÷ Total issues
Percent Escalated, Level One Resolvable	The ratio of escalated issues which could have been solved at level one.	Number of issues resolvable by level one ÷ Total number of desktop support issues for a given period

Conclusions

Most IT organizations would never question the important role desktop support plays in delivering services to their user communities. What may be surprising to some is that based on the HDI Desktop Support Advisory Board's varied experiences across many different organizations and support standards, there is still opportunity to address some fundamental best practices that will enable desktop support to be viewed as a highly performing service delivery apparatus.

The extremely active discussion and subsequent subcommittee reports focused on three primary areas: processes, tools, and metrics. The goal was to provide the same guidance for desktop support that HDI has offered for many years to the service desk. The widened focus on service delivery practices has the advantage of building off of many years of service desk maturity while continuing to build ties between two organizations that are being asked to work more closely together to provide seamless, high-quality services to their mutual customers. Based on the high bar set by the service desk, desktop support can find some immediate benefit from the following:

- Take advantage of existing service delivery processes that can include desktop support by extending appropriate support activities where applicable. No need to reinvent the wheel, especially if customers are already comfortable with an organization's request/incident processes. Adopting reliable, repeatable processes ensures efficiency, productivity, and consistency.
- Standardize support and troubleshooting tools designed to reduce errors and improve MTTR. They can be leveraged to accommodate the increased demand for remote fulfillment and remediation. The pressure to reduce costs is moving employees out of traditional work spaces into mobile working arrangements, making face-to-face work, the gold standard for desktop support, difficult or even impossible. Armed with the right tools, desktop support technicians can be just as effective and make it seem as if they are "there."
- Measure the work of both the desktop support group and individual technicians using KPIs that highlight the best work and identify opportunities for improvement. Leveraging service delivery standard processes will ensure the accurate collection of metrics for analysis and action.
- Leverage the goodwill and relationships that have been built up over many years through positive service experiences. As the desktop support approach changes to meet the demands of a new service delivery approach, loudly and proudly announce the increases in efficiency and productivity without the loss of customer satisfaction. At the same time, make it clear how new changes have improved areas that were seen as underperforming.

The end result of adopting these recommendations will undoubtedly be improved customer satisfaction, increased group morale, and a newfound respect from the IT organization.

About the Author

Brad Kramer is a senior customer solution architect for CA Technologies, responsible for designing management, security, and governance solutions for government agencies in New York. Brad collaborates with agency CIOs and key decision makers to design CA solutions that meet business and technical goals. Prior to joining CA, Brad spent over fifteen years in various management positions for global financial services, retail, and marketing companies, in network and systems management, project management, systems implementation, help desk management, desktop support, and business assessment consulting.

About HDI

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