



Next Generation Device Healthcare

- Automating Software Support Process

Next generation Device HealthCare

HandsFree Networks automates software support process of your core IT services and raises customer satisfaction. Our framework enables support automation by automated problem detection, diagnosis and remediation. It also pinpoints the root cause of a problem by providing visibility and control between IT services and their underlying configuration items.

Overview

Despite dealing with constant technological advances, ever-changing infrastructures and continuous business demands for IT availability, you're expected to manage a highly complex environment while constantly responding to user incident and problem reports. The results: lower first-call resolution rates and higher call wait times, decreasing employee productivity and satisfaction. With tight IT budgets, you have to do more with less, even though you need to support key business objectives and keep critical systems up and running 24x7.

Consider the current challenges posed by each IT

- Downtime
- IT Security
- Keeping pace
- Compliances and business regulation
- Shrinking budget

HandsFree Networks automates software support processes and assists your users by providing support automation. It uses our unique technology and knowledge tools, which drive down problem resolution to the lowest cost point (our six key principles). This features a powerful client based engine that uses best practices to automate incident, problem and change management processes.

HandsFree Networks helps your IT organization to automate support process and narrow down the change impact before it happens, build tighter IT alignment with business processes, eliminate excessive IT support costs and improve audit results. This solution enables you to enhance responsiveness, support business needs and optimize service support for IT excellence.

HandsFree Networks Advantage

Effective incident and problem management drives business success by keeping critical systems and applications up and running for all your employees, customers and partners. Using unique technology and repeatable processes, HandsFree Networks helps quickly detect and resolve IT incidents and problems. This framework helps minimize business disruptions caused by changes, align IT services with business priorities, increase service level commitments and control IT service costs.

This Support Automation framework is a key element in HandsFree Networks Enterprise IT support vision, enabling you to automate software and device support process from a variety of vendors and internal ones, unifying and simplifying the entire IT management, thus HandsFree Networks provides you with a unique technology that allows you to manage and simplifying your IT support environment.

Next Steps

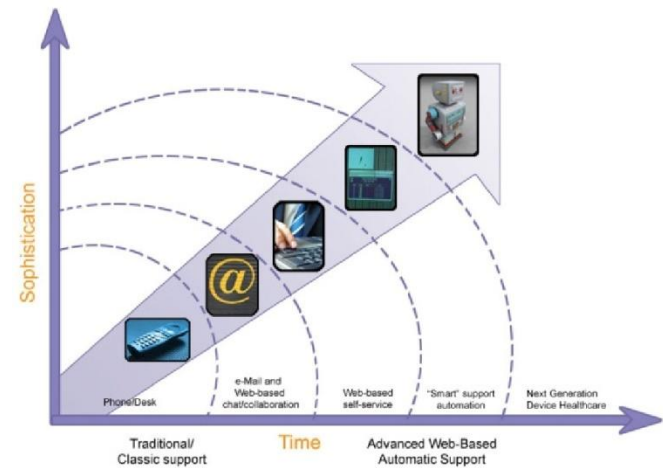
For a closer look at how HandsFree Networks can help improve, simplify and accelerate your ability to deal with incidents, problems and changes to your IT environment, please visit www.handsfreenetworks.com. Learn how HandsFree Networks can empower you with sophisticated support automation and knowledge tools to quickly resolve their own problems and resume productivity — helping you improve the overall quality of IT services that your business requires to keep its competitive edge.

A Brief History of Support

Language can define thinking.

- * Customer Support
- * Helpdesk
- * Monitoring
- * Remote Control
- * Managed Services

Time for a change!



This has happened through the history of our industry:

Customer Support - First we had customer support. This means that we are supporting the customer. In other words, it is up to the end user to call us up and tell us about an issue, and rather than fixing the issue, that person fixes the issue, and we support them.

Helpdesk - Next came the helpdesk, so now we provide a desk. At least the end user can get help, but notice that we're still only helping them to solve the issue.

Monitoring - The next step was monitoring. Finally, this is something that doesn't involve the end user: we monitor what is going on for them. But wait, once we find an issue, we're back to just supporting the person while they fix it. A better name for this process might be monitored support.

Remote control - the first big "revolution" was remote support. With this, we can remotely support the device itself, without the involvement of the end user. Of course, the user has to sit by idle while we do this. Remote support is exactly the same as onsite support without driving out to the site.

Managed Services - Now we have managed services. Here we define a short list of services, like software updates, that we are comfortable with and pretty sure we can manage. We even set up service level agreements, promising certain parameters about how we manage those services.

This is great: we get to define what the end user needs, and then sell it to them! Of course, end users don't always fall for that, so we have to augment the managed services with the old standbys: helpdesk and remote support. Also, in order to manage the services, we just use monitoring and remote support ourselves.

Time for a Change

The whole support industry is built around this framework, even though it still generates a significant amount of inconvenience and hidden cost for end users. Obviously, it must be worth a lot to end users to have their device issues taken care of, regardless of the hardship but there is a paradigm shift around the corner. We are coming to the end of the line with traditional support processes and tools. . There are a number of reasons for

Rising Complexity, Shrinking Budgets, Higher Demand for IT Services

For the past several decades, your IT budgets have been under constant cost-cutting pressure, even though the demand for uninterrupted access to key IT services necessary to support the business has grown in inverse proportion to these financial constraints. In fact, according to industry experts, the exponential demand on IT will always outpace IT budgets. Add increased complexity, 24 x 7 global IT service support demands, an alphabet soup of IT protocols, hardware and software components from dozens of vendors and the typical information silos within organizations that persist despite best efforts to integrate them, and you're looking at a major IT management crisis.

It's no surprise that incident and problem management processes have become increasingly complex and difficult to administer. It's even more difficult if your support procedures are undefined or performed manually. The difficulty is compounded if your service desk analysts have no visibility into the components that make up the IT infrastructure, as well as its relationships and dependencies. Based on such limited knowledge, how can an analyst tell where the true problem lies?

These are some problems IT professionals face every day, wasting valuable time, resources and efforts that could be put to better use in solving more complex problems or in training. You must deliver on several key mandates, all of which determine the effectiveness of the analyst in place, as well as demonstrate that IT is living within the confines of its budget and without an intelligent management system providing a true picture of the underlying problem; you're forced to try to resolve the problem by trial and error. This is a time consuming and expensive process that may not result in a permanent problem resolution.

The fundamental problem is that computers are causing the problem, but human beings are in charge of the solution. If we continue down the path where Moore's Law is driving support issues up exponentially on one end, and incremental improvements that are fundamentally based on human labor are bringing costs down linearly on the other end, then support costs will increase without bound.

In short, your IT organization must improve quality of service, reduce the impact of service disruptions and align Service Level Agreements (SLAs) with business priorities. If incidents and problems are ubiquitous and service disruptions are the norm, users can't perform at their peak and basic business objectives suffer. Organizations need intelligent management system that can accelerate the adoption of automated first call resolution to ensure steady-state service operations, improve IT governance and reduce costs while improving IT service levels and increasing ROI.

On the other hand, if these issues are addressed and overcome, your IT organization can enhance end user productivity and support the key technology requirements of your business through adoption of proven industry accepted problem and change management.

That's exactly what the HandsFree Networks - Next generation Devices HealthCare framework delivers.

Next Generation Device Healthcare: Six Key Principles

Support Multiplication

Device HealthCare incorporates a comprehensive Support Multiplication process using key elements of the Boyd's loop incorporating a multi-stage feedback mechanism:

Observe - Rich and deep set of mechanisms for observing and recording device operation at system level rather than polling of the OS log file in other monitoring products

Orient - Diagnosis can be at two levels

- Uses the deep device operations information (without user assistance) to search knowledge base and locally filter the information to drilling down the issue
- Local higher-level diagnosis is done based on the detection step and a database of known patterns without human assistance or remote external connections

Decide - Decision can be at multiple levels

- Simple knowledge base search with deep device operations information
- Notification of known detections with automated complex diagnosis to alert the support technician
- Local processing of observed conditions against a database of known patterns provides an immediate diagnosis to alert a support technician or invoke direct action

Act - A much less invasive action closer to the operating system making configuration changes without using direct interface to OS (not GUI) invoked either by a support technician or locally on the device supported without any technician intervention. Device healthcare database of known patterns ensures the entire cycle is done using local processing without any support technician interventions or end-user assistance

Feedback - The feedback loop in Device HealthCare is an important part of Support Multiplication and happens in stages and it is unique and reflects the structure of a decision making process

- Configuring local observations to gather more specific information on the issue.
- Configuring the notification on the server, based on a sequence of conditions that define an issue.
- Describing the end user with steps needed to respond to the notification and resolve the issue or taking remote control, but the most powerful response is configuring the support engine on the device to address the issue.
- Configuring completely local processing of the detection and resolution set up to automated the entire support sequence based on the rich and extensive set of information available.

Distributed Support

Device support is inherently a local process, with a central database that can be loosely coupled. Distributed processing lends itself well to this, by using relatively powerful local processing. A key feature of the local processing architecture is to provide the depth needed to handle complex diagnosis that requires filtering and using multiple sources of data and the power to apply detailed resolutions that utilize multiple low-level functions of the operating system with capability to incorporate relatively sophisticated logic in driving this process. While keeping the complexity of the implementation at a reasonable level, the main modular of the client is divided into:

- **Engine:** this is the piece that provides the interface to the operating system, manages all communications to the server and other clients, and manages all scheduling and timing.
- **DARTs:** This is the collection of issue-specific solutions that represent the known detection, diagnosis, and resolution information of the universe of support issues.

DARTs do not directly interface to the system. Instead, they use a well-defined utility interface provided by the engine. Similarly, the engine has no issue-specific support knowledge. Instead, it just provides a framework for the DARTs to implement operations required for the support process. DARTs are triggered and scheduled by the engine and can have parameters that control their operation. Engine is highly multi-threaded and multiple DARTs can be running at the same time since every DART is completely independent of every other.

Pantographic Support

The same issues tend to happen on a lot of devices, but not in exactly the same way, and not on all the same devices. DARTs implements solutions for support issues. The true power of Pantographic Support comes from the flexible and powerful method the configuration information of the DARTs is applied to multiple devices. Groups of related devices are defined in such a way that a single group contains multiple devices, and a single device can be in multiple groups. Pantographic Support provides a convenient and efficient way to adjust support solutions to match their environment.

- **Scalability** - The distribution mechanism used for grouping and configuration takes advantage of local connectivity and local processing to spread the load over the supported devices. Adding more devices does not dramatically increase the power needed at a single central resource.
- **Flexibility** - The general solution to a support issue can be customized and configured in any way the DART designer needs for handling a wide range of environments and devices can be grouped and managed in flexible ways that adapt to the situation at hand.
- **Distribution** - The distribution mechanism used for grouping and configuration provides multiple paths and sources for the data, reducing the reliance on a central resource and works well in situations where devices are connected intermittently or unreliably.

Cooperative Support

Device HealthCare takes the whole process to the next level by using direct communication between the local support engines. We call this Cooperative Support. As described in Distributed Support, DARTs (Diagnosis, Analysis, and Resolution Tools) are the implementation of solutions for support issues. With Cooperative Support, DARTs have a convenient facility for accessing the engine on other devices to help diagnose and resolve issues.

Support Intelligence

The key to effective support is gathering current and relevant information from multiple sources, processing it to determine what is needed to detect and diagnose support issues that are happening, and using it to address those issues. In the Device HealthCare paradigm, this process is called Support Intelligence. For Support Intelligence, the key point is the existence of a large amount of independent information from multiple sources. The analysis of the information is done by DARTs as described in Distributed Support. The feedback loop for focusing information gathering is described in Support Multiplication.

Decoupled Support

The world is moving onto mobile computing devices and mobile computing is a relatively new and rapidly evolving area, there is not much historical precedent for supporting systems that are intermittently connected to the support resource. As described in Distributed Support, DARTs (Diagnosis, Analysis, and Resolution Tools) locally implement solutions for support issues. This is a fundamental basis for non-connected Support, because it means that the DARTs can manage support on a device for an arbitrarily long time without any external connection.

Better Service, Lower Costs, Improved Response Times

As an IT professional, you have the onerous responsibility to meet or exceed the IT service demands of the business while balancing the effects of severe cost constraints. You must minimize the impact and business risks stemming from changes in the IT environment while managing services in the context of the business to enable growth and support ongoing business priorities.

HandsFree Networks Next generation Healthcare solution enables you to automate software support process based on business importance, greatly reducing the risks of negative impact on vital business processes.

Key Benefits

The Device Healthcare framework offers you significant benefits by addressing the most pressing needs IT organizations face in supporting business objectives:

- **Faster response time:** response time is based on automated detection rather than an end user noticing a problem.
- **Reduced call volume:** end users don't need to call, and you don't need to answer those calls, when problems that is automatically detected.
- **Reduced incident volume:** if a resolution involves making a configuration change based on certain conditions, this can be applied everywhere, avoiding the issue on other machines.
- **Lower end user costs:** end users benefit from large cost savings, both in reduced direct costs and in reduced downtime.
- **Proactive support:** detection and incident creation can happen without the end user being aware of any issue.
- **Adaptive support:** DART database are extended based on the most frequently occurring issues.
- **Non-invasive support:** end users can continue to use their system while issues are being resolved.
- **Automated diagnosis:** problem diagnosis is done using a pre-defined algorithm, rather than counting on a support agent recognizing the problem in a database.
- **Accurate diagnosis:** problem diagnosis is based on what is actually happening on the device, rather than relying on end user reports.
- **Automated problem resolution:** problem resolution can happen right on the local machine, with no outside interaction.
- **Uniform problem solutions:** solutions are standardized algorithms applied with software, rather than being based on a support agent reading a solution to an end user.
- **Custom resolutions:** more complicated custom problem resolutions can be configured using our DART development team.
- **More information available:** if manual intervention is required, there is much more information available about the issue.
- **Portable devices:** the architecture works well with devices that are connected intermittently.
- **Scalability of problem resolutions:** the event driven architecture allows the problem resolution database to grow without corresponding growth in the load on end user devices.

These key features and benefits add up to a total incident and problem management solution from HandsFree Networks that's capable of finding, isolating and resolving the most complex and time consuming IT support challenges quickly, efficiently and accurately.

HandsFree Networks, one of the largest Support Automation companies, customizes and unifies complex IT management across the organization for greater business results. With our Enterprise IT vision, solutions and expertise, we help customers effectively automate software or device support processes for effective govern, manage and secure IT.

To learn more about HandsFree Networks and our solution, visit www.handsfreenetworks.com



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Find out how Next Generation Device Healthcare can automate your software support process.

To learn know more about our six key principles, visit www.handsfreenetworks.com