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How can system administrators reduce stress and conflict in the workplace?

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System Administration Soft Skills

SYSTEM ADMINISTRATION CAN be both stressful and rewarding. Stress generally comes from outside factors such as conflict between system administrators (SAs) and their colleagues, a lack of resources, a high-interrupt environment, conflicting priorities, and SAs being held responsible for failures outside their control.

What can SAs and their managers do to alleviate the stress? There are some well-known interpersonal and time-management techniques that can help, but these can be forgotten in times of crisis or just through force of habit. The purpose of this article is to restate these maxims and remind readers of these important soft skills, particularly as they apply to SAs.

Conflicts with colleagues. SAs often feel their efforts are not appreciated and their department is the butt of jokes or a source of frustration for the rest of the company. The sources of these conflicts can be varied. The attitude that the SAs project and how they are perceived by their colleagues, how they prioritize their workloads, how they follow through, the first impressions they make on their colleagues, and poor communication skills are all pieces of the puzzle. The conflict is often exaggerated in an engineering environment where technology-savvy employees have different needs and expectations of their computing environment.

Attitude. One of the greatest causes of conflict is the attitude that SAs present to their colleagues. SAs are sometimes perceived as unfriendly, unhelpful, or slow to respond. How people perceive you is directly related to the attitude you project.

The number-one attitude problem among SAs is a blatant disrespect for the people they are hired to support. End users are not "lusers" or "pests with requests." Often a change of vocabulary helps. Refer to these end users as *colleagues*[5] or *customers*.[4] This terminology is a reminder that SAs and end users are on the same team and that SAs are in a service industry, supporting the needs of the end users.

Beware, however, of thinking "the customer is always right." Part of an SA's job is to (politely) say no when appropriate. Remember that just because you can do something doesn't mean you should. Teach your colleagues how to do things themselves, provide documentation, and make sure they do not need to ask time and time again how to do something. It is also the responsibility of an SA to politely reject requests that are against policy. As a general rule, if you are comfortable with colleagues performing certain tasks (for example, they can't break anything and it's not against policy), then you should enable those colleagues to do it themselves.

Another attitude problem that SAs can develop is avoiding colleagues who bring them nothing but complaints or problems. You need to think of each problem as a challenge to solve and a way to demonstrate your expertise. Be glad that someone found

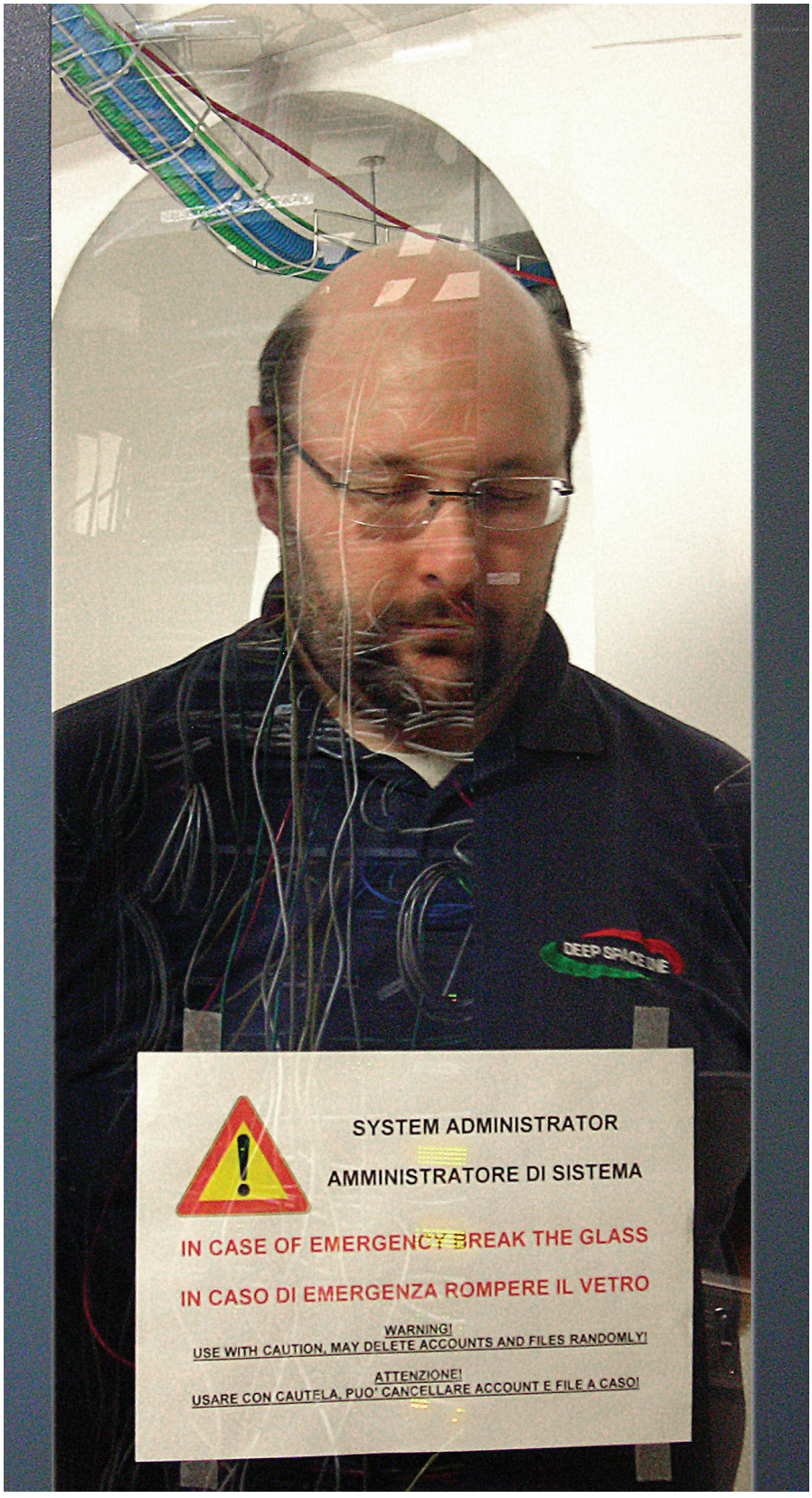
the problem and took the time to tell you about it. This gives you a chance to get the whole system working better.

Align priorities with colleagues' expectations. As an SA, the way you prioritize your tasks influences how your colleagues perceive your effectiveness. You can make your colleagues a lot happier and avoid conflicts if your priorities match their expectations.

People expect small things to happen quickly and big things to take a reasonable amount of time. The definition of *big* and *small* is theirs and is based on their perception of your job. For example, resetting a password, which is perceived as taking a minute or two, should happen quickly. Installing a new computer is perceived as a bigger process, and it is reasonable to take a day or two. When a critical server is down, your colleagues expect you to be working on nothing but the emergency.

Prioritize requests so that emergencies are handled first, then quick requests, followed by longer requests. This will result in higher customer satisfaction than if the same tasks were done in a different order. Sometimes what your colleagues think is a big task is actually a small one. This is not a problem—if you perform the task more quickly than expected, then everyone is happy. But if they perceive a big task as small, this is a potential source of conflict. For larger jobs it is a good idea to ask your colleagues what their expectations are, explain what is involved in performing the tasks, and, where appropriate, reset their expectations to more realistic levels.

Follow through on commitments. Dropping customer requests and not following through on commitments are sure ways to create or exacerbate conflict with work colleagues. The first step toward following through on all commitments is to keep track of them all in one place, either on paper or electronically, not in your head. A trouble-ticket system is a useful tool for keeping track of requests and other tasks. From your master list of tasks



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and commitments you should create daily prioritized to-do lists. The section on time management later in this article discusses managing these daily to-do lists in more detail.

A daily to-do list is an effective reminder of your commitments. If you see that you are overloaded and will miss a deadline, try to negotiate a new deadline. Then you will know whether it is so critical to complete the task today that you must reprioritize, or work late, or whether it can wait a day or two. The sooner you communicate with your colleagues, the easier it is to reprioritize your work and the easier it is for them to adjust their work to the new schedule.

Make a good first impression. The first impression that you make with colleagues dominates all future interactions with them. If you get off on the wrong foot, it is difficult to recover, and you will experience more conflicts. On the other hand, if you make a good first impression, the occasional mistake will be forgiven and forgotten.

Be on time or early for appointments, polite, friendly, and willing to listen. Most people are visual beings, so appearance and facial expression are two things they notice first. Appropriate attire is different at different companies, so tailor your appearance to your environment. At one company an SA wore baggy overalls and dyed her hair bright pink. The group she supported was very respectful and enthusiastic about her. She gained quick acceptance from her customers because they figured that anyone who dressed that way and got away with it must be really good at what she does. She retained their respect by being good at her job. On the other hand, at another company an SA dressed provocatively because she felt that when her heterosexual male colleagues found her attractive, they were nicer to her. Being treated nicely and being respected, however, are two different things.

Most importantly, listen to what your colleagues are saying and take notes. There is nothing more frustrating than trying to explain something to someone who is not really listening and just assumes that he or she knows what you want. Specific techniques for improving your listening and communication skills are covered in more detail in the next section.

Making a good first impression on new hires begins before their first day at work. They are motivated and want to be productive right away, so you need to make sure that when they arrive, they will find their computers in their offices, already configured, accounts created, and everything working properly. SAs need to know who is starting, on what date, and what the computing needs are. On the employee's first day, the friendliest member of your SA team should visit the person to do some in-person orientation, answer questions, and personally deliver a printed "welcome to our network" guide.

Improve your communication skills. Conflicts often arise through simple miscommunication. There are a few well-known techniques for improving communication skills that SAs can apply successfully.

When you have a problem, you need to make sure you are being heard. Do this using "I statements." This is a tool to help you make your point and communicate your feelings. The general form is: "I feel [emotion] when you [action]." This makes people aware of the effect of their actions. Express soft emotions—sadness or fear—rather than hard emotions—anger. Anger makes people defensive, whereas soft emotions inspire people to help.

When someone brings a problem to you, you need to make sure that you are hearing that person properly. "Active listening" is a technique that ensures complete communication. You should seek to understand what was said before replying, and your next statement should mirror what you just heard with an accurate but shorter statement. It's like verifying a packet checksum before using the data. A mirror statement could begin with "I hear you saying that...." A summary statement is a form of mirroring but covers more material. It is often useful toward the end of a meeting or after a person has completed several long points and you want to make sure that you heard everything—and heard it correctly.

"Reflection" is a technique that assures people their emotions are being recognized. This is particularly important when the person you are dealing with is angry or upset, and it is more effective than becoming defensive. For example, if someone yells at you about something, try saying, "Wow! You are really upset about this!" Acknowledging the other person's emotion gives him or her a chance to calm down, at which point you can have a rational discussion using the active listening techniques.

Finally, pay attention to how much technical jargon you use, and tailor your style to suit your audience. Some of your colleagues will want to hear the jargon just to be reassured that you know what you're doing. Others are confused or intimidated by it and just want plain language. If you are not sure where to aim, start with a mix of jargon and plain language and watch for hints (facial expression, body language, or comments) about whether you should simplify further or just stick with the jargon. Asking "How much detail do you want?" is a good way of letting the other person set the level of the conversation, without sounding condescending.

Be a system advocate. Conflicts can also arise because of the perceived role of SAs at a given company. Your colleagues perceive SAs as being somewhere between clerks who reactively perform menial tasks and advocates who proactively solve their problems and lobby for their needs. For a lone SA, it is better to be seen as an advocate than a clerk. A large SA group needs the whole spectrum, with the advocates mentoring the more junior clerks, but the group as a whole must be seen as advocates.

To understand how being seen as an advocate can help prevent conflict, consider the following scenario: A non-SA colleague identifies a piece of software that he needs to do his job. If he views the SA as a clerk, he orders the software and says nothing until it arrives, at which point he expects it to be installed immediately. The SA then discovers that the colleague has licensed it to a random machine (perhaps his desktop) rather than the license server, that the machine it needs to run on doesn't have enough CPU capacity, memory, or disk space, that the operating-system version is

not supported by the software, that the machine has insufficient graphics capability, that he is one of several who independently ordered the software, or any number of other issues. All of these issues take time, and often money, to resolve. The colleague's expectations of a quick install are not met, and both he and the SA are frustrated, leading to conflict.

When the SA is seen as an advocate, on the other hand, he or she is involved from the beginning, compiles a set of requirements, finds out who else might need the software, and so on. Then the software licenses are linked to the license server, there are sufficient licenses for all who need it, all the hardware and related issues are resolved in advance, and everyone has a realistic expectation for when the new software will be available.

Advocates are proactive, identifying potential problems and solving them before they arise. They use extensive monitoring to track peak loads and usage trends. Using this data the advocate upgrades networks and services before they get overloaded and slow people down.

Advocates interact with customers on a regular basis and are aware of future requirements. Their colleagues know to involve them in the planning phases for new endeavors. One result of such a team effort is a seamless, smooth-running network that meets the end users' needs. Another is having colleagues who are more invested in the evolution of the network.

Engineering environment. The conflict between SAs and their colleagues is often worse in an engineering environment, where technology-savvy engineers want more control over their own machines in order to be able to work more efficiently. SAs know, however, that unfettered root access for people outside the SA group leads to randomly configured systems, more failures, and more support calls. This struggle for control and the importance of finding the right balance for each environment has been discussed elsewhere.[3] The key point to remember is that SAs need to foster trust and build good relationships with their colleagues. The end users really just want to be able to do their jobs efficiently and effectively. They need to trust that the SAs will be enablers and not roadblocks. The techniques already described in this article will also help to foster trust and reduce conflict in an engineering environment.

The number-one attitude problem among SAs is a blatant disrespect for the people they are hired to support. End users are not "lusers" or "pests with requests."

Another conflict that can arise in an engineering environment is between the SA's desire for high reliability and the engineer's desire for cutting-edge technologies that may not yet be ready for primetime. In some environments SAs need to sacrifice uptime in order to deliver the best overall service. This is particularly true where the engineers in question are the ones developing the new technologies.

Lack of Resources

Most SA groups are pressed for time and money. The first thing to do in this situation is to make the most of what you have using automation, time management, and organizational structures. Once that is done, the managers can lobby for more resources by improving the perception and visibility of the SA group.

Automation. A good way to address a lack of resources is to create additional time for the SAs by automating the most time-consuming tasks. Automation saves time both by getting tasks done more quickly and by ensuring consistency, thus reducing support calls.

Start with a script that outputs the commands that would do the task. The SA can review the commands for correctness, edit them for special cases, and then paste them to the command line. Writing such scripts is usually easier than automating the entire process and can be a stepping-stone to further automation of the process.

A simple script that assists with the common case may be more valuable than a large system that automates every possible aspect of a task. Automate the 80% that is easy and save the special cases for the next version. Document which cases require manual handling, and what needs to be done.

Look for vendor-supplied automation tools for tasks such as operating-system installs, and use them. Figure out how to automate customizations for your environment, too. Where possible, automate tasks that are common requests from customers and create a Web page to make these

requests self-service. This approach saves time for both the SAs and the customers, and it increases customer satisfaction.

Time management. Another way to make the most of available resources is through the application of various well-known time-management techniques. Time management means using time wisely—working smarter, not harder. The topic of how SAs can better manage their time is a book in itself.[1] Time management can be particularly difficult for SAs because their job is typically interrupt-driven. To be more productive, it is important to break this cycle. You can deflect an interruption by writing the request into your personal to-do list and telling the person that you will get to it later. If you are unable to write it down, then politely ask the person to send you an email message or trouble-ticket request. Make it easier for the person by suggesting the wording that would be most useful to you.

Often the most productive, least interrupted time of day is the first hour in the morning, so don't waste it reading email. Quickly check the monitoring system for problems, and your email for items tagged "Urgent." Then edit and prioritize your daily to-do list, rescheduling some items for another day if there is too much. Then schedule your day with a granularity that works for you (for example, in half-hour, one-hour, two-hour, or half-day increments). Daily prioritized to-do lists make the "what next?" decision easier and quicker. Spend the rest of that first hour working on your highest-priority item. At the end of the day copy the items that remain unfinished on your to-do list to the next day's list.

Handle each piece of paper or email once. Don't even look at something if you don't have time to deal with it. Process each item completely the first time, rather than sorting into piles and then having to reread it later. As you touch each item, examine it and decide whether you are going to throw it away without reading it, read it and throw it away, deal with it and then throw it away, respond to it and then throw it away, or file it. Sometimes, dealing with an item means recording it in your to-do list. Other times, you can quickly reply to an email or write your response in the margin of a paper document and send it back to the party who sent it. File as little as possible. When in doubt, throw it out.

The key point to remember is that SAs need to foster trust and build good relationships with their colleagues. The end users really just want to be able to do their jobs efficiently and effectively. They need to trust that the SAs will be enablers and not roadblocks.

Automate as much of your email processing as possible. For example, automate sorting of email into folders per email list or forum, notifications from social networking sites, blog posts, and non-spam coupons, updates, and special offers from vendors. Then decide how often you want to scan those folders for items of interest, and even set up automated deletions after a certain number of days. Have folders for storing information for set periods of time (for example, one week, one month, two months, six months, one year) and auto-delete items older than the specified time. Keep refining and updating your automation.

Stay focused. A clean desk, a clean computer desktop with virtual screens for each task, and a clean email box reduce distractions and help you maintain focus. Disabling email alerts also helps. Schedule time for checking email rather than looking at each message as it arrives. Merlin Mann, author of *Inbox Zero* (http://inboxzero.com/) has several tips for emptying your inbox and keeping it that way.

Look for ways to reduce the time each task takes. Automation is one way to do that. Another way is to precompile decisions, such as deciding always to make a backup copy of a file before editing it, to bring your PDA, to write down requests, to do small tasks sooner rather than later, or when to restock printers with paper. Sometimes, the solution is as simple as keeping spare toner cartridges near the printer so that the time to install them is not dominated by the time to walk to a distant supply room.

Organizational structures. Making SAs more productive and less interrupt-driven yields the best use of the limited resources available. Switching from one job to another takes time. The more context switches an SA has to perform, the more time is wasted and the less effective the SA can be. Controlling the number of interrupts an SA experiences during the day is probably the most effective method of reducing stress and increasing productivity.

Controlling interrupts can be achieved through changing the structure of the SA group. Divide the SA team so that front-line support people perform requests that customers expect to see done quickly. Requests that will take more time can be passed on to second-tier personnel. Senior SAs can be in charge of larger projects, such as the creation of services. This division of labor ensures your priorities are aligned with your colleagues' expectations and shelters people who are working on long-term projects from continual interruptions. This may sound like something only a large SA team can afford to do, but even a team of two SAs can benefit from this technique. One SA can shield the other from interruptions in the morning and vice versa in the afternoon. This is called the mutual-interruption shield technique.[2]

Perception and visibility. Many of the stress factors that SAs face, including a lack of resources, can result from problems with perception and visibility.

- *Perception* is how people see you; it is a measure of quality.
- *Visibility* is how much people see of you; it is a measure of quantity.

The importance of being perceived well is clear. The importance of being visible, perhaps less so. When SAs are not visible, they may be assumed not to be contributing, not to be busy, to be overstaffed or overfunded, or to be otherwise unnecessary. This can result in underfunding and understaffing, leading to worse perceptions and poorer visibility.

Most of the techniques discussed here deal with improving how SAs are perceived. Be aware that if you are poorly perceived, it takes a lot of time and effort to turn things around. SAs can do a lot to improve the visibility of their work, but they should try to improve visibility only if they are actually doing a good job. In other words, don't publicize a bad product.

For example, to increase your visibility, create a system-status Web page that puts you in front of customers' eyes daily. Make it a page that also has other useful information and links so that it becomes a home page. Meet regularly with managers to help them understand what you do and help you maintain focus on their highest priorities.

Pay attention to your office locations. Customer-facing people should be in the more visible locations. Hold town hall and user group meetings where every idea, request, or criticism is written down without judgment or objections. Be clear that writing it down is a commitment to consider the issue, but not necessarily to implement something.

Newsletters are often produced by SA groups but rarely read by customers. They are a lot of work to produce and too easy to ignore. Having lunch and social functions with customers is a simple way of maintaining interaction and is usually more effective and less time consuming than a newsletter.

Take responsibility for your, and your team's, positive visibility by improving the perception and visibility of the group. SA managers can use their teams' positive visibility to argue for more resources.

Conflicting Priorities

SAs can end up with a number of conflicting high-priority requests, resulting in more stress. Try to resolve conflicting priorities by talking to your affected colleagues, or perhaps their manager, to persuade them to decide among themselves what the priorities are. If more than one group is involved, get the managers in a room together and let them figure it out. If one of the tasks is something that affects the SA group, get your manager in on the discussion. You may feel that you have enough information about business priorities to make the decision, but it is often better to involve your colleagues, so that they have a better idea of what you are working on and why their requests are being delayed. This approach can also aid you and your manager when you request more resources in the next budget.

End-to-End Responsibility

SAs are often held accountable for every failure, regardless of whether or not they have control over the component that failed. SAs are the central clearinghouse for all problems. Embrace that role rather than fight it. Don't expect your colleagues to know that the internal Web server has failed because of content that another group placed there rather than an operating-system, network, or hardware issue.

If it is not something you can fix (for example, by removing the offending content or rolling back a software release), then use your system-status page, trouble-ticket system, or phone messages to let people know that the problem is being worked on and whom they can talk to for more information.

Everyone has experienced the finger-pointing phenomenon at some point, where for every problem someone is pointing a finger at someone else. With a complex system, the easiest way to "get rid of someone" is to tell that person to talk to someone else, that it's not your problem. Don't fall into that trap. Rather than trying to duck the problem, act as the clearinghouse. Get everyone together to figure out what the problem is and get the right people working on the solution. If your trouble-ticket system is used to track statistics for how long calls take to resolve, make sure there is a way to mark the ticket as waiting for input from another source. Don't just punt the problem and forget about it. Keep checking for solutions. Set up automated reminders that you need to check for a solution.

Physical Well-Being

An important part of managing stress, often neglected by SAs, is taking care of one's body. Physical exercise is an excellent form of stress relief and has the added benefit of improving mental alertness and stamina. It should be scheduled as part of your weekly routine, so that you don't have to decide when to "make time"; you just go when it is time. For example, decide to exercise every Monday, Wednesday, and Friday before work, or at lunchtime, or at 6 P.M., but not vaguely "after work" or "after I get home." If the time is nebulous, it is not part of a routine and it will get skipped.

Getting enough sleep and eating properly are also important components of physical well-being. Someone who has not had enough sleep makes poor decisions, cannot concentrate, makes mistakes, and works more slowly. Be at your best at work by

taking care of yourself outside work and by having enough personal time. Vacations are important. Use them to give your mind a break so that you come back refreshed. Disconnect. Be out of touch. Trust your colleagues to survive without you.

The Future

An SA's job is constantly changing because of new technologies and the growing sophistication of the customer base. How do those changes alter which soft skills are required, or do they?

When my mother started out as an SA (actually an "operator"), only SAs had access to the machines, and they fed their colleagues' programs into the card reader and handed back the results when the program was finished. Her colleagues' expectations of how quickly tasks got done were vastly different from what we are accustomed to today. Her customer base was much smaller and universally tech savvy but was not as reliant on computers for everything. Her work was not as interrupt-driven as today, she had no email to handle, and her day consisted predominantly of project work rather than many small tasks for many different people. The soft skills required were inherently different from those discussed in this article.

Over the past four decades the soft skills that SAs need have changed substantially, and I expect that in the next four decades there will be more significant changes, many of which will be driven by changes in technology that are impossible to predict so far in advance. We can anticipate, however, that in the coming decades the soft skills discussed in this article are going to become increasingly important for SAs.

The connected population continues to grow, as do the ways to be connected and to (re)connect with others, yielding ever increasing electronic communications. There is an increasing "always-on" expectation that if you are online (and why would you not be?), you can respond to any message immediately. Electronic communications cannot always create interrupts. Time management and taking control of electronic communications, rather than letting them control us, are going to become increasingly important for everyone, but especially for interrupt-prone SAs.

Given the inevitable continued increases in the quantity of electronic communications that we all receive, we need to look at the quality and quantity of what we send. SAs need to learn to be brief and to the point, without being rude. It saves you time while writing and saves your colleagues time while reading.

The SA's customer base is going to become increasingly remote and mobile. Telecommuting will become feasible for more people, as will working while commuting. Outsourcing and international offices are going to continue to be factors, placing SAs in locations that are remote from their customers. When SAs are not physically close to their colleagues, they need to be sure to address the issues of perception and visibility mentioned here. It is also worth noting that it is often better to pick up the phone rather than deal with remote colleagues by email or instant messaging. It is more personal, issues can be resolved more quickly, and there is less chance for misunderstanding. It also gives you an opportunity to use the communication skills described earlier.

Mobile computing devices are only going to become more common—integral to everyone's productivity—with all their attendant technological challenges. Don't fight it, but recognize it, embrace the challenge, and manage your colleagues' support expectations. The same goes for future technologies. Be the early adopter. Look for how the latest thing can become useful to everyone and what changes are needed to make it so.

As computing continues to become more ubiquitous, previously independent systems become integrated into the computers and networks that SAs support. The expectation that things will "just work" grows, as does the stress when something stops working.

Some of your colleagues will become more sophisticated in their requirements, and some of your less sophisticated colleagues will become reliant on systems you support. You need to develop the ability to communicate effectively with and support customers at every level of technological sophistication.

Conclusion

The role of SA can be stressful, but once you recognize what some of the stress factors are, you can alleviate much of that stress and turn the job into the rewarding position that it should be. There are various methods for reducing conflicts with colleagues, methods for coping with a lack of resources and an interrupt-driven environment, resolving conflicting priorities, and embracing the fact that SAs are held responsible for every failure. The discussion in this article was necessarily brief, but for those who would like more detail, all of these topics are described in greater depth in *The Practice of System and Network Administration* (Addison-Wesley, 2007).[2] C

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