



PROFESSIONAL SERVICES TECH NOTE #027

Systematic method for resolving IT problems

The Concept

Many IT problems can easily be resolved by applying solutions learned from experience. When a new or critical problem arises many people try random fixes hoping they will be lucky and fix the problem quickly. An IT professional follows a logical plan for troubleshooting and resolving the problem. This ensures the cause of the problem is discovered and the solution is identified and documented.

Steps

1. **Build a Crisis Action Team (CAT).** The quickest way to make a problem worse is for everyone to run around in circles with their hair on fire. Split your group into the following teams:
 - Task managers: This is generally someone in management. They are responsible for reducing wasted time and effort by delegating and tracking status of tasks.
 - Communications: This team is the focal point for communication to and from users. Their responsibility is to reduce confusion by ensuring information flows into and out of the CAT.
 - Technical: This is the group tasked with collecting information, diagnosing the symptoms, and implementing the proposed solutions.
2. **Categorize the symptoms.** Collect all the reported symptoms being reported by users and members of the IT department and group them by affected systems or users. It only takes one report of water in the server room to make sense of all the reports of offline applications and failing servers. Also find out what changes in hardware and software have been implemented recently. For example, a typo in the configuration of a core network switch can create a domino effect of symptoms.
3. **Verify the symptoms.** Obtain more details on the nature of the symptom and when they started. System and application log files are the most reliable sources of information. Discard previously known symptoms and unresolved issues. If your team cannot distinguish between new and old symptoms they may waste effort on troubleshooting symptoms unrelated to the current crisis.
4. **Define the desired end state.** Not all problems will be immediately resolvable and there may be many problems to resolve. By establishing an immediate goal you can prioritize efforts. For example, if the company generates income from website then fixing those issues are more important than solving printer issues. Fixing payroll processing is ALWAYS a high priority.
5. **Propose solutions.** Encourage your team to brainstorm and propose any ideas for resolving the problem, no matter how ridiculous it may seem at first. Reach outside the team for help from consultants and vendors. Prioritize the solutions by time to implement, costs, and benefits versus risks. Choose the best solution(s) and create a plan to implement them.
6. **Test the solutions.** Think and then act. Do not make the situation worse by implementing a knee-jerk solution without testing it on a small scale first.

7. **Implement the solution.** With a plan in hand and positive test results, begin systematically resolving problems and verifying symptoms disappear.
8. **Document the problems and solutions for fixing them.** This may not be the end of the problems. Your solutions may turn out to be temporary band-aids. Sometimes, the environmental conditions which created the problems go away and are the real cause of the problem disappearing and not your actions. For instance, a problem may suddenly go away at the end of the day and then return the next morning. What changed? The users all went home last night and relieved the workload on the affected system(s).
9. **Update your performance review and resume.** If you just solved a serious business issue then you should turn that experience into a career enhancement. What you learned and how you handled the crisis make you a more valuable commodity to your current and future employer.

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