Staffing for ITIL

Effective Systems Management

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It is often said that people are the most important resource within any organization. This is certainly true as it applies to ITIL and effective systems management practices. Smooth running infrastructures are built with robust processes and reliable technologies. But before procedures and products are put in place, first must come the human element. Skilled professionals are needed at the outset to develop plans, design processes and evaluate technologies, and then to transform these ideas from paper into realities.

This article describes various methods to use in staffing an IT infrastructure with appropriately skilled individuals. We start out by first showing how to qualify and quantify the diversity of skill sets required. Next, we discuss ways to assess the skill levels of current onboard staff, and, if necessary, some not-always-obvious alternative sources for staffing.

Determining Required Skill Sets and Skill Levels

Most newly proposed IT projects begin with a requirements phase. Staffing for Systems Management also has a requirements phase in the sense that necessary skill sets and skill levels need to be identified and prioritized early on. A skill set is defined as technical familiarity with a particular software product, architecture or platform. For example, one enterprise may primarily use IBM mainframes with IMS databases while another may use mostly Sun Solaris platforms with Oracle databases. The skill sets needed to implement effective systems management functions in these two environments would be significantly different.

Within a skill set is another attribute known as the skill level. The skill level is simply the length of experience and depth of technical expertise an individual has acquired and can apply to a given technology. This process of determining and prioritizing the required skill sets and levels has several benefits. First, quantifying the skill sets that will be needed to implement selected functions forces you to more accurately reflect the diversity of technical experience your environment will require. Secondly, the estimating of necessary skill levels within each required skill set will reflect the amount of technical depth and expertise that will be needed.

Developing a skill set matrix that is customized for your particular environment can help simplify this process. For example, Table 1-1 below shows a skill set matrix for a relatively typical mainframe environment. The first column describes the major areas of focus for which systems management functions would apply and for which staffing would need to be considered. These major groupings would obviously change from company to company depending on their own particular area of focus. Similarly, the entries under the Platform column may change for different enterprises.

Next are listed five groupings of skill level starting with the least experienced Intern level and progressing up to the Senior and Lead levels. The value of a table such as this is that it

visually helps to qualify the skills that will be needed to implement selected systems management disciplines. The table can also be used to quantify how many individuals of each skill set and level will be needed. Occasionally a skill set and skill level requirement may amount to less than one full-time person. In this case a decimal portion of a Full-Time Equivalents (FTE) is commonly used to represent the staffing need.

Table 1-1 Mainframe Environment Skill Set Matrix

Area of Focus	Platform	Skill Level				
		Intern	Junior	Associate	Senior	Lead
Operating Systems	IBM					
	Support Products					
	Other					
Database Management Systems	IMS					
	CICS					
	Support Products					
	Other					
Network Systems	LAN					
	WAN					
	Support Products					
	Other					

Table 1-2 below applies to a network-computing environment. The two major platforms are UNIX and NT, and manufacturer delineates each. The manufacturer entry for NT is designated as various because the skill set for NT tends to be independent of the supplier.

Table 1-2 Network-Computing Environment Skill Set Matrix

Area of Focus	Platform	Manufacturer	Skill Level				
			Intern	Junior	Associate	Senior	Lead
Operating Systems	UNIX	IBM/AIS					
		SUN/SOLARIS					
		HP/HPUNIX					
		DEC/ALPHA					
		REDDOG/LINUX					
		Support Products					
		Other					
	NT	Various					
		Support Products					
Database Mgmt Systems	UNIX	Oracle					
		Sybase					
		Informix					
		Support Products					
		Other					
	NT	MS SQLServer					
		Support Products					
		Other					
Network Systems	LAN	Various					
	WAN						
	Support Products						
	Other						

Assessing the Skill Levels of Current Onboard Staff

Being able to predict which onboard candidates can successfully transition into a new infrastructure role can be invaluable for IT managers facing staffing needs. I developed a rather simple but effective method to help do this while filling staffing requirements. The method evolved from lengthy analyses that I conducted with our Human Resources department to identify attributes most desirable in a transitioning employee. After sorting through literally dozens of very specific characteristics we arrived at four basic but very pertinent qualities: attitude, aptitude, applicability and experience.

While the definition of these traits is no doubt obvious to most, it is worth clarifying a few points about each of them. Attitude in my opinion is the most important feature of all in today's environment. It implies that the outlook and demeanor of an individual closely matches the desired culture of the enterprise. Some of the most brilliant of programmers and analysts in IT have become hampered in their careers due to poor attitudes.

Exactly what constitutes an acceptable or proper attitude may vary slightly from firm to firm but there generally are a few traits common to most organizations. Among these are an

eagerness to learn new skills; a willingness to follow new procedures; and a dedication to being a team player. This trait contrasts with that of aptitude, which emphasizes the *ability* to learn new skills as opposed to simply the *desire* to do so.

Applicability refers to an individual's ability to put his or her skills and experience to effective use. A person may have years of experience with a certain skill set, but if lack of motivation or poor communication skills prevent them from effectively applying the knowledge it is of little value to an organization.

Experience is normally thought of as the sum total of years a person has in working with a particular technology. An old adage refers to distinguishing between someone who has ten years of actual experience in an area of expertise, versus someone who has one year of experience ten times over. Depth, variety and currency are three components of experience that should be factored into any assessment of a person's skill level.

Table 1-3 summarizes the four key characteristics assessing an individual's skill potential in transitioning from one *infrastructure* to another. Additional descriptions are shown for each characteristic to assist in clarifying differences between them.

A more analytical approach to this assessment may be taken by applying numerical weights to each of the four key characteristics. These weights may be assigned in terms of their relative importance to the organization in which they are being used. Any magnitude of number can be used and in general the greater the importance of the attribute the higher the weight. Naturally these weights will vary from company to company. The attribute of an individual is then assessed and given a numerical rating. For example, the rating could be on a one-to-five basis with five being the best. The weight and rating are then multiplied to compute a score for each attribute. The four computations are then summed for an overall score. This approach is certainly not fool-proof. Other factors such as personality, chemistry and communication skills may override mere numerical scores. But the technique can be useful to narrow now a field of candidates, or as additional assessment data.

Table 1-3 Skill Assessment Attributes and Characteristics

Attribute	Characteristics
Attitude	✓ Empathy; patience; team player; active listener ✓ Polite; friendly; courteous; professional ✓ Helpful; resourceful; persevering ✓ Eagerness to learn new skills; ✓ Willingness to follow new procedures
Aptitude	✓ Ability to learn new skills ✓ Ability to retain new skills ✓ Ability to integrate new skills with appropriate old ones
Applicability	✓ Ability to apply knowledge and skills to appropriate use ✓ Ability to share knowledge and skills with others ✓ Ability to foresee new areas where skills may apply
Experience	✓ Number of years of experience in a given skill ✓ How recent the experience has been ✓ Degree of variety of the experience