

HOW TO TAME THE SCHEDULING NIGHTMARE

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ENHANCEMENTS IN THE PERSONNEL SCHEDULING PROCESS CAN ALLEVIATE MANY OF THE CONDITIONS AND COSTS ASSOCIATED WITH CALL CENTER INEFFICIENCIES.

WHAT DO ALL THESE SITUATIONS HAVE IN COMMON?

- A major U.S. city's PSAP has greater than 30 percent of its dispatchers on disability leave.
- A state patrol dispatch organization spends in excess of \$2 million annually administering dispatchers' schedules.
- The *average* dispatcher turnover rate in a 9-1-1 PSAP lies between 25 and 35 percent annually—with costs in excess of \$25,000 to train a new dispatcher.
- Schedulers and supervisors across the country are calling the scheduling process "My worst nightmare!"

The common thread is that these can all be improved through enhancements in the personnel scheduling process. These conditions and costs are associated with the inefficiencies in manual scheduling and personnel processes.

Scheduling Today

It is obvious to anyone experienced in personnel administration that scheduling is a complex task, involving elaborate rules and processes, and too much time. However, few people have had the broad exposure (across many facilities, cities and states) to see how pandemic and costly this problem is.

Informer Systems conducted an extensive study to understand the root causes and solutions around the scheduling nightmare. Visits, calls, faxes and e-mails to emergency services and dispatch facilities throughout the United States—East Coast to West Coast—were used to interview dispatchers, supervisors, operators, directors, sergeants and captains. Their scheduling processes, concerns and issues were documented and the findings were both informative—and at times, alarming.

At a high level, all scheduling starts with the same concepts:

- The goal is to build a calendar *duty roster* that shows who works, when and where.
- There is a pool of personnel from which to draw, each with their skills and preferences defined.
- The calendar is created based on daily and hourly coverage requirements detailing how many people are needed, what roles or qualifications are required, etc. (see **Figure 1**).

What complicates this simple, high-level view are a number of factors, including:

- Staffing 24/7/365—this means two-thirds of the personnel are working non-traditional work hours. This can have substantial impact on quality of life.
- Many aspects of emergency services are stressful—personnel are constantly working in situations that are desperate with people that are in distress.
- Under-staffed conditions are not permissible, since lower service

levels can translate to loss of life—this creates a situation where overtime or *draft* work situations are commonplace. These are further complicated when one considers that each facility has:

- Different process requirements that vary depending on what has to be approved and by whom
- Local regulations and union negotiated practices that impact what is allowed, what isn't and what gets reported
- Seniority-related policies or processes that can vary by city, by facility and even within a facility between two adjacent rooms

A Manual Solution

There has been significant success in reducing these burdens by integrating employee flexibility into the scheduling processes. The concept is based on delivering work/life balance back to the employee—giving the employee the ability to modify his or her schedule based on needs that arise for family, social, and medical needs through trades and absence requests. There are both positive and negative issues associated with this flexibility, including what is listed in **Chart 1**.

The positive issues outweigh the negative issues in all but a few facilities, so the majority of organizations have instituted trade/swap/switch, absence request, and bidding processes for shifts, vacations and overtime. The result has been wholly positive to the scheduled personnel. The unfortunate side effect is the burden it places on administrative layers:

- Most create and administer calendars through paper-and-pencil methods, using manila folders or binders that store the mounds of paper sign-up sheets, forms and reports—many of which must be kept in *archive* for years in case of dispute.
- Almost universally, there is a master *grid* (see **Figure 2, page 36**)—

CONTINUED ON PAGE 36.

FIGURE 1: CALENDAR

Figures courtesy of Informer Systems.



CHART 1: EMPLOYEE FLEXIBILITY POSITIVES AND NEGATIVES

(+)	(-)
IMPROVED EMPLOYEE MORALE, JOB SATISFACTION	INCREASES IN ADMINISTRATIVE COSTS
REDUCTIONS IN PERSONNEL TURNOVER	“MISTAKES” THAT RESULT IN UNDER-STAFFED CONDITIONS
REDUCTIONS IN DISABILITY CLAIMS	SCHEDULES ARE LESS “OPTIMIZED” AND CAN RESULT IN INCREASED OVERTIME

Chart courtesy of Informer Systems.

WHILE THE PROCESSES SUPPORTING SCHEDULING ARE COMPLEX, THE GOOD NEWS IS THAT THEY CAN BE AUTOMATED WITH A SCHEDULE WORKFLOW AUTOMATION APPLICATION.

a large sheet of paper with employee names down one side, and days across the top—that shows *who works when*. This grid captures absences, vacations, training and trades between personnel.

- Coverage is *calculated* by adding the columns of the grid and generally written at the top or bottom in pencil. These calculations are rarely accurate and often have supervisors scrambling for personnel to fill schedule holes at the last minute (see Figure 3).
- Nearly every facility has stories of missing paperwork, stolen folders or unsavory behavior by disgruntled personnel.
- Paper has no *backup* or cannot always be presented as an accurate audit trail of who-changed-what.
- So much time is spent shuffling paper that experienced administrators have little time to optimize schedules to reduce overtime, improve coverage, or deal with other personnel issues and requirements.

Many facilities have tried computer software solutions, but tossed them aside due to their inability to configure to the facility's rules, processes and forms. For example, rules like shift trades must be complete five days prior, or no back-to-back double shifts, can be difficult to configure. Specifically, since the software would not conform to the facility's existing processes and rules, the only other choice would be to change the organization's processes and rules to meet the software! Not only was this an HR nightmare, but it could have potentially violated local, city or county rules as well, convincing most facilities to maintain their manual efforts.

Common Threads and Computer Challenges

The result of the study showed that most facilities shared many of the same scheduling components (see Figure 4, page 38). There always was a concept of schedule creation and one of schedule management. These could be broken down further:

1. Maintaining a daily *coverage plan* that outlined how many of what roles needed to be staffed on an hour-by-hour basis
2. Special needs scheduling that maintained extra staffing requirements for events such as parades, holidays, etc.
3. Fixed shift definitions (0800-1700, for example) and shift patterns (e.g., five days on, two days off) that could be assigned to any personnel

4. Vacation schedules made specific to each employee
5. Personal preferences and *rotation* schedules for shift, vacation and overtime selection
6. A daily *duty roster* that is generated weekly, monthly or quarterly
7. Processes that managed planned, unplanned and day-of personnel absences
8. Reports, forms and other paperwork required to manage the processes

The challenge for the software providers was that these components could differ slightly between installations. For example:

- In one city a shift trade would require a supervisor's approval regardless of its lack of impact on coverage.
- Another city might require only approval if the trade was less than five days notice.
- Yet another city would not require any approval if it did not affect coverage—even if the trade was made five minutes prior to the shift starting.

Multiply these differences by the number of processes and the number of process variations, and it becomes obvious that an *off-the-shelf* software solution that is not configurable would be challenged to meet the requirements of the majority of emergency services facilities. Likewise, if it were customized, it may be too costly to maintain.

Using e-Business Practices to Automate Scheduling

While the processes supporting scheduling are complex, the good news is that they can be automated with a schedule workflow automation application. Using the same technologies that have been integrated into business applications over the last decade, workflow automation can be deployed to reduce the burdens of the scheduling process.

Fortune 1000 businesses understand that every business shares general requirements (sales, manufacturing, marketing, etc.) that are unique in management, processes, rules and administration. They have adopted a different approach to purchasing software automation solutions that involves professional services and configuration.

A company will purchase a solution, which is based on a *building* CONTINUED ON PAGE 38.

FIGURE 2: MASTER GRID

S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	M	Y	W		
6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
-	12	12	12	-	-	-	-	12	12	12	8	12	12	-	-	-	-	-	12	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	12V	12V	-	-	-	12V	12V	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	8	12	12	12	-	-	-	-	-	-	-	-	-	-
-	12	12	12	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	8	-	-	-
-	12	12	12	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	8	-	-
-	12	12	12	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	12	-	-
-	12	12	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	8	12	12	12	-	-	-	-	-	-	-	-	-	-	-	-	8	12	-	-	-
-	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	8	12	12	-	-
-	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	8A	8A	8A	8A	8A	8A	8A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

FIGURE 3: SCHEDULES

The form includes sections for:

- Employee name and ID
- Supervisor name and ID
- Shift assignments for each day of the week
- Supervisor's signature and date
- Employee's signature and date
- Notes and remarks
- Approval checkboxes for various conditions

block approach. The general functions for their solution are embedded in the product, but those blocks will be configured to meet customer specific requirements and conditions. The software supplier will work with its customer to document the specific requirements, which will be used to configure a custom solution.

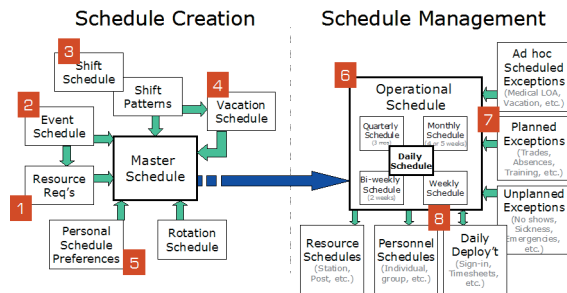
Much like e-business has found a customer-specific solution to customization, it is possible to apply the same principles to scheduling. By working with a solution provider that has a building block approach that allows configurability and customization to the processes, rules, and look-and-feel of the solution, it is possible to automate the specifics of the *individual* operation. By using the e-business solution model, the solution delivers capability and value including being able to:

- Configure to your specific facility's processes and rules
- Generate reports and forms that are required by external parties (such as payroll/timekeeping)
- Flag coverage exceptions in real-time, allowing administrative functions to be wholly *exception-based*
- Store a complete audit trail of all scheduling activities—so supervisors always know who did what and when
- Substantially reduce the paperwork required to create and administer the schedule
- Return scheduling and supervisor roles to optimizing schedules, reducing overtime and improving employee morale and satisfaction

The process generally followed by a solutions provider includes:

- Interviewing all roles to understand the concerns of the entire facility
- Documenting all facility rules and processes—including local practices, government regulations and negotiated elements
- Performing a cost analysis and delivering an impact report
- Designing and configuring an appropriate solution
- Training and supporting key personnel

FIGURE 4: SHARED SCHEDULING COMPONENTS



Summary

Maintaining staffing levels that satisfy regulations, levels of service and safety, while maintaining flexibility and high levels of staff satisfaction is a significant task. An optimal solution must automate the mundane and simplify the processes that require human intervention. However, off-the-shelf scheduling software is generally not the answer, as the uniqueness of each facility, organization and deployment requires customization and configuration.

By working with a vendor that offers a *building block* approach solution and uses professional services, it is possible to substantially improve your ability to create and administer workforce schedules, while improving employee morale and retention, and lowering overtime and disability. **ENPM**

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