

# JUSTINTIME SCHEDULER - LIGHTNING BOLT SOLUTIONS AUTOMATED PHYSICIAN SCHEDULING SOFTWARE



## Overview

When scheduling a group of physicians, the number of variables that a scheduler needs to consider to create an accurate schedule can quickly become unmanageable. The scheduler must simultaneously take into account individual preferences, absence requests, adequate spacing in time between difficult tasks, matching skill sets of individual physicians to tasks, and ensuring coverage of tasks across multiple, geographically distributed locations. The difficulty of meeting all these objectives often forces a manual scheduler to compromise on the quality or the accuracy of the schedule. When the resulting schedule does not meet the needs of the group or is inaccurate, individuals must exchange shifts with each other, leading to more changes, adding stress to the entire group. Like a ripple, each change causes many others, and without a central location for the schedule, the all too common question is "Where is the current schedule?" or "How do I communicate changes to a group that is geographically distributed?"

JustInTime Scheduler is a web-based scheduling product designed to address these problems. A summary of the benefits of using JustInTime Scheduler appears on the right.

## Summary of Key Benefits

- Reduce time to generate schedules by about 90% over manual scheduling
- Use *Request Manager*\* to automatically grant or deny vacation requests while enforcing pre-defined rules
- Enforce complex scheduling rules (see example in the following page)
- Export schedules to PDF, Palm, Excel, MS Word, MS Outlook, Pocket PCs
- View customized reports and statistics on work distribution.
- Automatically send e-mail notifications when schedule changes
- Balance the needs of the individual with those of the group or institution
- View warnings and alerts when rules are violated
- Customize and control access to different types of users.
- Collaboratively create and view schedules on the Web
- Reduce the need for Locums by optimizing schedule for regularly staffed physicians
- Remove bias or the perception of bias by automating the process of creating schedules

\* Optional feature

## Enforce Complex Rules

Not all staff scheduling systems are created alike. Automated Scheduling systems vary on the extent to which they can enforce complex scheduling rules. The inability of an automated system to implement even a small number of rules may leave you doing an entire schedule by hand. JustInTime Scheduler offers the most comprehensive and flexible solution available to automate complex rules. JustInTime even allows you to rank these complex rules by priorities that you define (please see examples on the right).

Most importantly, the automated process can reduce the time to create accurate schedules by about 90% over manual scheduling.

*“JustInTime Scheduler is the most powerful, flexible program I have seen, and I looked at just about all of its competitors.”*

**Kemin Tsung, M.D.,**  
Anesthesiology Consultants,  
Las Vegas, NV

*“This is, hands down, THE MOST service-oriented company I have ever dealt with.”*

**Noam Littman, M.D.,**  
Radiology Associates of Fox  
Valley, Neenah, WI

### Examples of Complex Rules

- Physician on early call Friday does late call on Saturday. Physician on late call Friday does early call Saturday.
- Do not schedule Dr. Jones for more than X times for 7p-11pm shifts during any period consisting of Y days.
- If no regular physician is available (because of days off, vacations, or previous weekends on call), schedule a contract provider or a locum.
- Schedule all physicians belonging to group X in blocks of approximately Y days. Vacations and other preferences may override this requirement.
- Dr. Jones and Dr. Smith alternate on Thursday call unless one of them is on vacation in which case, Dr. Johnson does the Thursday shift.
- No back-to-back calls on Monday thru Friday.
- Assignment to shifts must follow the circadian rhythm. Exceptions should be made to individual X or group Y who prefer an alternate rhythm.
- Dr. Smith is a part-time physician and only takes 40% of the calls.
- Prefer to have to have at least one physician in the office on Thursdays if NP has a day off.
- Dr. Jones prefers to work the second Monday of every month unless Dr. Jones was scheduled for the preceding weekend or unless Dr. Jones is on vacation or unless Dr. Jones had a late shift the previous day.

## Automate Management of Absence Requests with the Request Manger

### Problem

Managing absence requests is the first and most important step towards creating an accurate schedule. Individuals requesting time-off face the following problems:

- Request approval process is not transparent. “Why did my request get denied?”
- Long turnaround time in request approvals.

The scheduling administrators face these related challenges:

- Approval of a request depends not only on one individual’s request but the collective requests of the entire group. It may be difficult to explain or too time consuming to justify all the intricate interdependencies.
- How to ensure that enough providers are available to cover all specialized tasks? How do you make sure that the sum of requests does not result in certain activities being unassigned?
- How does one guarantee that requesting individuals have not exceeded balance on number of days they are on vacation/sick-leave. What is the projected balance on a request for a future date?
- How to ensure that the distribution of absences are equitable, taking special care that requests during holidays are fairly distributed?
- Managing absence requests can take several weeks per year, even in a small group.

### Solution

The Request Manager is a value-added plug-in that enables users of JustInTime Scheduler to automate the management of requests. With Request Manager, you define the rules or policies and the system enforces those rules by automatically approving admissible requests. Absence or preference requests that violate any pre-configured set of rules become pending until the administrator reviews the request.

Here are some examples of rules:

- No more than 5 physicians can be off on Fridays.
- No more than 3 neurologists can be gone on the same day.
- Dr. Jones and Dr. Smith cannot be on vacation on the same day.
- No request can exceed a vacation balance which accrues at rates specific to individuals.
- No more than 2 weeks of vacation per month for CRNAs.

The software system enforces these rules at the time a provider enters a request on our web site. The problems described on the left are solved:

- The process is transparent. When a request cannot be approved, the *system* describes the rule or policy that prevented its approval in plain English. This frees the administrator from having to justify why a request was denied.
- The turnaround is immediate because the system responds at the time of the request
- The whole group can interact or collaborate online on a single calendar interface that shows the collective requests.

## Control/Measure the Distribution of Work.

Since medical staff typically work unstructured hours that include weekends, late nights and holidays; a scheduling process that does not measure and manage the distribution of work can result in poor balance between the needs of the individual and those of the group or institution. Even schedules intended to be as balanced as possible can be perceived to be biased if there are no metrics that clearly report the distribution of work.

Designed to adapt to each group's definition of balance, JustInTime Scheduler allows users to define "metered regions", such as weekends, nights, user-defined holidays or any work/shifts known to be particularly difficult or long in duration. Based on these metered work-regions defined by the user, JustInTime Scheduler achieves fair and equitable distribution of staff to work.

With JustInTime Scheduler, users have the option of customizing equality ratios for senior staff, regular staff or any other user-defined group. Once the system produces the schedule, users can view reports for these metered regions over any desired period, whether that period is one day or one decade.

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*Sample Report Showing Distribution of Work Across Seven User-Defined Metered Regions.*

### Distribution of Calls Across Day Types

	Backup Fri	Backup Mon	Backup Tue-Thu	MV Primary Fri/Sun	MV Primary Sat/Mon	MV Primary Tue-Thu	SV Primary Fri-Mon
<b>A. Gilman</b>	0.00	1.00	4.00	0.00	4.00	3.00	4.00
<b>Brouwers</b>	2.00	1.00	2.00	2.00	2.00	3.00	4.00
<b>Chen</b>	1.00	0.00	3.00	2.00	2.00	2.00	3.00
<b>D. Bovet</b>	1.00	1.00	3.00	0.00	0.00	0.00	4.00
<b>E. Fischer</b>	0.00	1.00	3.00	2.00	2.00	2.00	3.00
<b>E. Krebs</b>	0.00	1.00	4.00	3.00	2.00	3.00	5.00
<b>E. Lewis</b>	1.00	1.00	3.00	3.00	2.00	2.00	4.00
<b>E. Neher</b>	1.00	1.00	3.00	3.00	2.00	3.00	5.00
<b>G. Blobel</b>	1.00	1.00	3.00	2.00	3.00	3.00	4.00
<b>L. Stoll</b>	2.00	1.00	2.00	2.00	2.00	3.00	4.00
<b>M. Brown</b>	1.00	1.00	3.00	2.00	0.00	4.00	4.00
<b>P. Sharp</b>	1.00	1.00	3.00	3.00	2.00	3.00	4.00
<b>R.Roberts</b>	1.00	1.00	3.00	0.00	0.00	0.00	4.00
<b>S. Brenner</b>	1.00	1.00	3.00	0.00	5.00	4.00	4.00
<b>S. Cohen</b>	1.00	1.00	3.00	3.00	2.00	3.00	4.00