## Case Study: Dexter Overtime

Since the 1980s, Dexter Systems has been developing workflow systems that automate business processes. In the telecommunications vertical, automation enables telecom service providers to lower operational expenses (labor costs, productivity, and vehicle expenses), improve quality, and ultimately improve customer satisfaction.

This case study highlights a situation in which Dexter Systems was able to provide a completely automated system to replace a manual system that included a significant return on investment and immediate payback.

**Background**

Large business organizations employing hundreds or thousands of workers are often organized like the military. At the top are generals who develop strategy, set objectives, and pass directives down through the chain of command. At the bottom are the sergeants and foot soldiers that carry out the orders. In the telecom vertical, field technicians are the foot soldiers who are ultimately responsible for building and repairing the network. Their sergeant is a field foreman, an experienced technician who is responsible for managing a work crew and accountable for its performance and productivity.

The foreman's responsibilities include performance reviews, quality and safety reviews, handling job escalations, equipment and vehicle problems, managing discipline, coordinating activities with external departments, evaluating new tools and processes, and passing on directives from further up the chain of command. Additionally, the foreman is responsible for collecting field level information on the effectiveness of business processes, and passing their observations, judgments, and other valuable intelligence back up the chain of command.

**Challenge**

As the telecom landscape became more competitive over the last decade, network operators were forced to examine costs and productivity in every department. Our client found they could achieve some savings by increasing a field foreman's *span of control* from 8-12 to 15-25 technicians.

As their responsibility doubled, foremen spent an increasing amount of time on administrative functions. Technology (cell phones, laptops, and better software) made some of this easier, but there were still twice as many performance reviews, equipment issues etc. Pagers and cell phones also meant the foreman was more likely to be interrupted and increased their need to multitask.

A particular headache for our client's foremen was administering overtime. Every single day, a foreman and his crew had to be prepared for incidental overtime; there are days when workload unexpectedly exceeds the level that can be completed in a normal shift. Union rules, however, dictated that overtime had to be first filled by volunteers, and could only be forced when there weren't enough volunteers.

Thus, the daily overtime process would start with a morning meeting / roll call, wherein the foreman would ask for volunteers to do overtime that night. The names of the volunteers would be emailed or faxed to the Dispatch Support Center (DSC), which would then manually create an overtime call list. If overtime was needed, the DSC would notify the foreman, who would call the volunteering technicians based on an Order of Call (OOC) formula following the union rules. The OOC would have to be recalculated once a week based on the overtime that had been requested and assigned.

In addition to consuming 15-30 minutes of a foreman's day, overtime was one of the most common sources of union grievances. If there was an issue with the OOC, the foreman would need to provide documentation of their volunteer requests and assignments to resolve it, costing further time.

**Solution**

Our client, a regional operating group of a large carrier, asked Dexter if there were any opportunities to provide relief to heavily tasked foremen. By virtue of having worked closely with field foremen on several projects, we recalled a suggestion by a particularly progressive foreman who had an idea to replace the overtime roll call with a web application.

Within two weeks Dexter delivered a prototype application. Instead of a morning roll call, technicians were given access to an overtime website which could be accessed via any mobile device. Technicians that wanted to volunteer for overtime would simply log on and indicate which days they were willing to work overtime for, up to three weeks in advance. The volunteers were collected in a unified database, sorted by the OOC for easy prioritizing. In the event that overtime was needed, the DSC just needed to click on the technician's name, sending the technician a message to indicate he had been selected.

This system had a number of benefits:

- Because the system was automated, the foreman no longer had to be involved at all in the overtime process.
- Based on the data from its own use, the system would automatically update the OOC each week. This removed the burden on the foreman and DSC to handle keeping track of the OOC and helped prevent issues with the unions due to human error.
- The system kept a detailed time-stamped audit trail of every step in the process: which technicians volunteered and when, if and when their status changed, and who was selected to work when. The audit trail was viewable by foremen and the DSC at any time through the web site. In the event of a grievance, foremen could pull up a report showing all of the events surrounding the issue. This eliminated almost all remaining grievances related to overtime.
- The solution was deployed using a Software-as-a-Service (SaaS) model in which local garages could subscribe and pay monthly. There was no investment in hardware or software, just a one-time setup charge and a monthly recurring fee. Thus, the solution began paying for itself within the first week of a garage going online.

Within two years the system was deployed to over 100 garages and was adopted by multiple regional operating companies.