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An Oracle White Paper
March 2010

# Mobile Workforce Management and the Aging Utility Workforce

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# Executive Overview

Today, utilities face the imminent retirement of many of their most dependable and experienced workers, hired from the large cohort of the population born between 1945 and 1960. Maintaining utility efficiency, reliability, and safety during this period of change is particularly challenging for those managing field service technicians, whose skills and depth of experience are difficult to duplicate among new hires.

To ease this transition, today's mobile workforce applications provide:

- Better and more accessible asset records that speed maintenance, repair, and complete documentation.
- Scheduling and assignment functions that dramatically increase field crew productivity.
- Thorough job documentation, monitoring, and "expert advice" functions that help new workers complete complex tasks quickly while maintaining safety.
- Oversight and reporting functions that permit field supervisors to handle more projects and more workers while also enhancing their role in fieldwork consulting and planning.
- Integrations to other utility applications that foster efficient cross-departmental business processes.
- Advanced functions that anticipate workforce requirements surrounding Smart Grid implementations and operations—configuration management; firmware version control; and compatibility, obsolescence, and security parameters.

This white paper explains how utilities can use mobile workforce management applications to maintain and improve efficiency, reliability, and safety as substantial numbers of experienced field technicians and supervisors transition to retirement.

## The Changing Utility Workforce

The past decade has not been easy for utility executives involved in strategic workforce planning.

The 21st Century brought with it the realization that a long-stable utility workforce was about to change. An entire generation of workers born after World War II, utilities realized, would begin to retire, taking with them years of knowledge and experience.

But just as plans to hire and train new workers were taking shape, the landscape changed. The global financial crisis and recession undermined years of savings and investments. Workers who had signaled a clear intent to retire in the foreseeable future suddenly found their own financial futures less secure. Especially in countries where retiree income depends to a large extent on personal savings, workers who once saw themselves relaxing next year on sunny shores suddenly announced that they planned to work for another five or ten years.

In many countries, the global recession has reset the workforce planning timeline. But it has not fundamentally changed it. Those aging workers are still headed for retirement in the foreseeable future. And the value of their experience cannot be easily replaced by hiring even the smartest workers in their twenties.

Most businesses in this situation turn simultaneously to training programs and technology to fill the gap. But utilities doubt that either of these typical business strategies will solve their unique issues.

### Training: A Help, but Not an Answer

Utilities have a long history of highly successful training programs. And for many utility positions, such as those in the contact center, training can provide a relatively seamless transition between experienced and new workers.

The same cannot be said for technical workers in the field. Utility fieldwork is far more complex than fieldwork for businesses like delivery or appliance repair. It can take years for employees to internalize completely the procedures for the many situations they will face that might endanger their own health and lives as well as those of the public. Not every new trainee will be able to meet a utility's exacting standards for work performed under pressure and in hostile weather conditions.

### Technology: A Troubled History

Utilities may also be skeptical about the ability of technology to help them compensate for retiring fieldworkers. That skepticism is based on experience. A decade or so ago, a number of utilities tried to implement “Field Service” applications, as they were then known. Few of those attempts succeeded.

Field service applications of the 1990s tended to be generic across all businesses, not designed for utilities. They worked well for technicians doing a single set of repetitive tasks, like copier repair. They did an acceptable job of supporting delivery drivers. But few if any utility field positions follow that limited scenario. And the typical field service application of the ‘90s could not, for instance:

- Accommodate work involving both customer-owned equipment and premises and utility assets on either utility or public property.
- Produce a schedule in less than several hours -- unacceptable in a utility, where emergencies make the 8:00 a.m. schedule useless by 8:30 a.m.
- Track the varied skills and certification levels of each worker and use that information to assign the closest and most appropriate worker to a scheduled job or to an emergency task.
- Handle both single-day and multi-day projects.

Utility employees reacted negatively to this inappropriate software. It slowed them down. It made errors in assignments that no utility worker of even brief experience would have made -- assigning a journeyman electrician to a job needing a higher level of expertise, scheduling jobs consecutively because they were in close proximity rather than in the order required for safety.

Unsuitable software was not, however, the only reason many field workers resisted field service software. Many workers felt the applications impinged on their autonomy and questioned their judgment. Additionally, some were uncomfortable with computers and feared being "outclassed" by younger workers who had learned to use them in school.

## Today’s Mobile Workforce Applications

Today's software is greatly improved. And time has largely ameliorated resistance to technology. Today's potential field worker is far more likely to resist taking a job that does not have a computer rather than one that does.

Still, careful application evaluation is essential for utilities that need to fill knowledge and experience gaps left by departing employees. Here are some of the features that utilities are finding of most help in reducing the negative impact of employee retirement:

### Real-time scheduling

Experienced field technicians know their territory and the likely duration of different tasks. As a result, even when they are interrupted by unscheduled tasks and emergencies, they can propose and maintain reasonably good schedules for their remaining available crew time.

Schedules developed by less experienced workers, however, will likely result in productivity decrease.

Mobile workforce applications that include real-time scheduling prevent this productivity drop-off. As the crew finishes its emergency tasks, real-time schedulers immediately produce new schedules that start from the current location and follow utility-established rules for task priority and drive time.

### Job training and monitoring

Experienced workers carry in their heads the correct safety techniques and job structure. Mobile workforce software incorporates that knowledge and makes it accessible via tools like checklists and context sensitive help. It ensures that less experienced crews meet utilities' safety and compliance guidelines.

As a result, mobile workforce management software can substitute for expert supervision. It helps standardize tasks, and it guides employees through each step. It thus reinforces previous training; decreasing the time it takes newer employees to become productive. And job monitoring can alert remote supervisors when tasks exceed standard time requirements, permitting them to reach out to a technician struggling with an unfamiliar task.

### Outsourcing management

As workers retire, many utilities consider outsourcing some or all of their fieldwork needs. But questions quickly arise. Will outsourced crews make repairs quickly? Will they do quality work and meet customer expectations?

Utilities increase the chance of outsourcing success when they support outsourced crews with their own mobile workforce applications. The utility can, for instance, more closely monitor work quality and quantity when it makes customer appointments and also schedules and routes the outsourced crew.

## Integration Between Mobile Workforce and Asset Management Solutions

Experienced workers know the peculiarities of field assets. They can make workaround repairs even when someone forgot to put the "right" parts and equipment into the truck.

Successful innovation is one of the most valuable skills you lose when workers retire. Fortunately, integrating mobile workforce and asset management applications can fill the gap.

Application integration ensures that field crews arrive at a site with the right parts. It provides crews with maintenance and repair histories that help crews respond to specific repair challenges. Integration also speeds replacement of depleted parts inventories by notifying the asset

### Integration Between Mobile Workforce and Contact Center Solutions

When field workers retire, they take with them not just knowledge of how to do their jobs but also the relationships they have built up over the years.

Years of working with a field crew supervisor, for instance, a contact center representative a good understanding of what to expect when, for instance, a crew leaves one job and heads for another than involves a customer. A crew reporting a location five streets away from the next appointment might take anywhere from three minutes to twenty to arrive, depending rush-hour traffic, construction, detours, and street patterns. A knowledgeable customer representative can give a customer an accurate arrival time.

When the customer representative is less experienced, mobile workforce technology can fill the gap. It lets the representative know that the crew has finished the previous job, and its locational software provides information about delays. That information, passed from contact center to waiting customer, can forge a link of customer satisfaction.[1]

## Managing the Transition

Clearly, capturing knowledge from departing workers can make a major difference in the success of a move to mobile workforce technology. Their experience can ensure that checklists and procedures match the working conditions their successors are most likely to encounter. Their documentation, available to field workers electronically, can fill in details and help maintain safety standards in unusual situations.

Capturing knowledge is not the first major priority, however. Even more central to success is an enterprise information strategy that integrates mobile workforce functions and needs into all departments and business processes that need them.

To understand

When different work groups within the utility have different MWM solutions, it is virtually impossible to optimize resources and field visits across the enterprise. And the failure to enable enterprise-wide sharing leads to redundancy, higher crew and vehicle costs (including fuel and related carbon emissions), and poor overall performance.

Utilities must plan for corrections to this situation as part of a move to a new mobile workforce application with up-to-date functionality. Before selection committees convene, before any vendor is considered, utility executives must put in place guidelines and objectives that unite the entire utility in a single approach to fieldwork that maximizes efficiency and resource sharing. And executives must ensure that selection teams understand the importance of choosing software that encourages business process innovation and flexibility to meet emerging customer and utility needs.

An enterprise approach to mobile workforce applications is particularly important as utilities move toward the implementation of Smart Grids. Field workers will be key to the efficient installation and repair of Smart Grid devices. Thus, utilities will need to ensure that the mobile workforce applications that govern daily work are closely tied in strategically designed business process to such Smart Grid applications configuration management, firmware version control, upgrades, and compatibility, obsolescence, and security parameters.

## Conclusion

Transitioning through a period of change in the field workforce is particularly challenging to utilities because the nature of the work is so exacting. The health, welfare, and economic life of communities and regions depend on the infrastructure utilities build, maintain, and operate. There is little room for error.

Mobile workforce applications help utilities maintain safety and efficiency as new workers take the place of those who are leaving. And once in place, the applications can expand their value to utilities. In the future, we will see upgraded applications that trace the progress of a job from start to completion and compare costs across jobs to identify factors that reduce job cost or time. Interfaces will become increasingly intuitive, and more information about repair histories and procedures will be available online. Both of these factors should significantly increase the efficiency of loaned crews during emergencies.

The aging workforce, then, is not merely a challenge. It is also an opportunity to implement new technology that captures the best of the past while building value for the future.

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03/10