White Paper

# Improving Instrument Management and Increasing Workflow Efficiency

It used to be relatively easy to keep field technicians informed about the latest service offerings and make sure that they had the most recent testing features on their instruments. Services were being rolled out at a much slower rate, and most technicians came in each day to pick up their test equipment and supplies and learn about new updates to service offerings.

All of that has changed. Now, operators are rolling out new services at an ever-increasing pace in order to stay competitive. Technicians no longer have time to come in for training, but must learn in the field about the new services and how to properly test them. Then, they need to upsell customers on the new offerings.

Compounding the problem is that the testing units must be ready to meet the demands of the new services, but there is less opportunity to update the units since technicians only come in when they need to resupply their trucks—otherwise, they need to spend time on revenue-generating activities.

This creates two distinct obstacles for supervisors: managing and maintaining testing equipment has become labor-intensive; and, at the same time, providing adequate training and support for technicians has become time consuming and sometimes sporadic.

But with these obstacles comes the opportunity to completely revamp how testing instruments are managed. The end result can be an integrated, collaborative team of technicians that make the workflow of testing much more efficient. The first-generation solution to address these issues was based on client-server technology, and new solutions are available that take instrument management to the cloud for fully interactive testing, training, and collaboration.

What used to take weeks on a spreadsheet can now be accomplished in minutes via the cloud.

## Instrument Management

For most supervisors, instrument management is a manual process that takes up a large amount of their time. Between keeping track of serial numbers, firmware updates, testing feature updates, and service items such as scheduled unit calibrations, repairs, and warranty tracking, instrument management alone can be a full-time job due to the constant stream of new services that need to be tested.

Supervisors usually have some sort of spreadsheet to help keep them on track, but the sheer amount of units in the field and the new testing features that must be added can create an overwhelming situation. Up until now, supervisors were on their own for figuring out how to make it all happen.

New, cloud-based solutions greatly streamline the management of testing instruments. What used to take weeks on a spreadsheet can now be accomplished in minutes via the cloud.

Cloud-based solutions can keep track of each testing unit and automatically update the units in the field with the latest firmware and testing configurations. Each time a technician connects their unit to the Internet, the system can automatically check for and install any needed updates. Regular instrument upgrades can also be done from the field, ensuring each unit is equipped for service.

This saves supervisors a tremendous amount of time as they can now log into the cloud-based system and see the status of each testing unit: which ones are up-to-date, as well as which testing units are in for repairs. Such a solution also helps with budgeting since supervisors know what they currently have and can then better determine what they will need for the next year's budget.
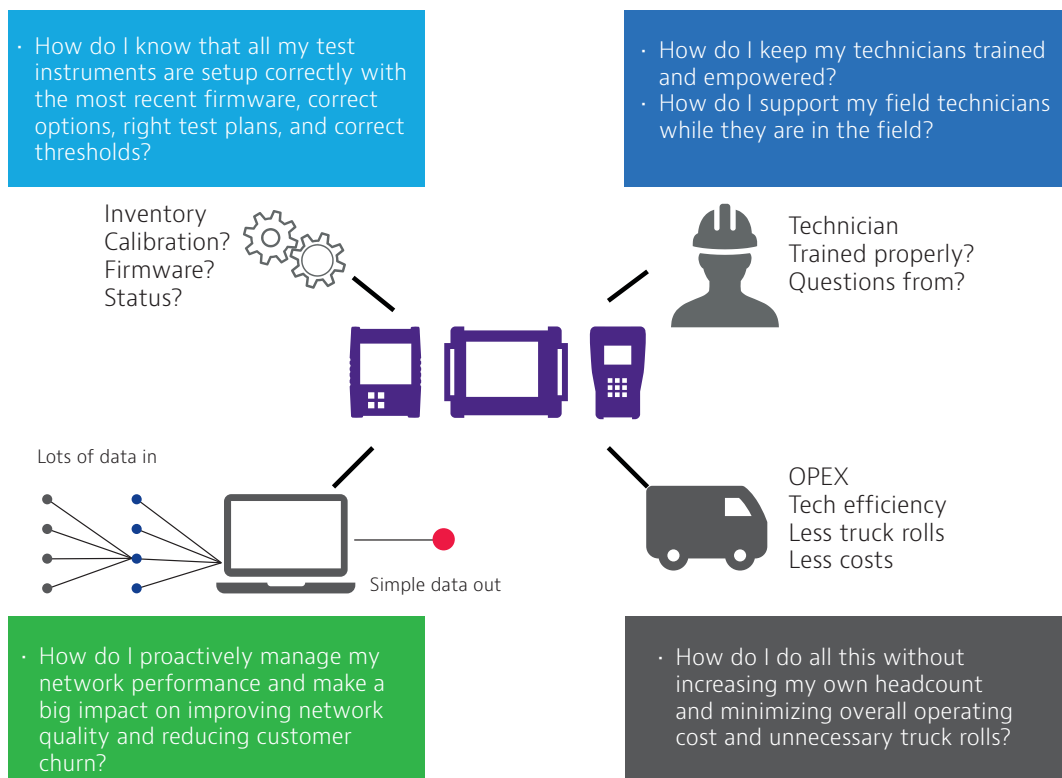


Figure 1. Workforce efficiency must address several questions—across several workgroups.

## Testing

Technicians may have state-of-the-art testing equipment at their disposal, but when updating the units is a manual process, not every technician has the same testing capabilities. To compound this problem, technicians are crunched for time and running each test can sometimes prove to be too time consuming. As a result, some tests get skipped.

Skipped tests can create a whole list of negative ramifications, but the largest problems are higher operating expenses and diminished customer satisfaction. If a technician only runs some of the needed tests, they may find one problem, fix it, and go on to the next work ticket. But what if that location had two or more issues? The supervisor then would have to send another tech back to the same location to conduct more tests—costing more time and money to fix a problem that should have been corrected on the first install.

Cloud-based solutions can reduce this by enabling testing units to do automated testing. Automated testing runs all of the necessary tests at the same time, testing the circuit the same way every time. The technician simply connects the unit to the network and presses the test button. Every test is then conducted, giving the technician a comprehensive view of potential network problems. The test is performed correctly the first time, every time.

For example, test results might show that one test passed but three were marginal and two failed. If the marginal and failed tests were all coming from a cross-box, it could indicate the cross-box has more than one problem that needs maintenance. The problems could then be resolved in one truck roll—keeping customers happy and operating expenses down.

Cloud-based solutions also give supervisors more access to the test results from each technician. Once the tests are completed, the testing unit can be connected to the Internet, wired or wireless, to automatically deliver detailed test results back to the cloud. Test results are then viewed at the office or in the field where they provide information that can be analyzed by other technicians in the future.

Supervisors can see a detailed analysis of test results, if the technician skipped any tests, or if any of the tests were performed incorrectly. Such systems can be matched up with work-ticket information so supervisors can also see what percentage of tickets have been completed without test records. This not only gives the supervisor great insight into each technician's performance, but also provides detailed information to prove compliance with company practices.

> Cloud-based solutions give supervisors more access to test results from each technician.

## Training

Technician turnover is as high as 30 percent in this industry. Part of this is due to the fact that technicians are increasingly rushed for time since they need to complete each job as quickly as possible to get to the next work ticket. It is also caused by frustration with the large amount of new information they must learn and keep up with on a daily basis. This can create a very stressful work environment for techs that may start out strong but then do less well or decide to quit altogether and leave the industry.

This problem is lessened with cloud-based instrument management because it empowers the technician with the latest testing methods and procedures, giving them simplified ways to conduct the testing, and makes it easy for them to get the information they need.

Since supervisors gain a concise visual of how each technician is completing the tests, they can see where each tech is struggling. This, in turn, enables more training opportunities. Supervisors can coach techs on a specific area that needs improving without pulling them out of the field for general training that they may not need.

In essence, technicians are no longer alone in the field, a lot more information is at their fingertips. This empowers technicians with the precise information they need—when they need it—without wasting valuable time struggling through a test.

This can greatly reduce their frustration levels since information is now easy to find and implement. It also reduces the amount of time spent on each ticket, since they have all the information they need. This can give techs the time and confidence to conduct all of the necessary tests needed to find and solve a problem—providing more satisfaction in their work and thus reducing turnover.

Technicians can train themselves by accessing online training content and videos when they run into a problem… In essence, technicians are no longer alone in the field, a lot more information is at their fingertips.

## Collaboration

Further empowering the technician is a cloud-based solution's ability to provide peer-to-peer collaboration. Every time a technician conducts a series of tests, the information is sent to a central storage warehouse that is not only accessible by the company's staff or seen by the supervisor, but is also viewable by technicians in the field.

If a technician is having a problem that might not be covered by the training documents and videos, they could look up what other techs have experienced with the same test under the same set of circumstances. This alone can be a big time saver, but what is unique is that technicians can also see this information in near real-time as soon as results are loaded.

The ability to interactively share such information about a problem and communicate with other techs that have come across the same situation can be a huge timesaver. This can also help techs train each other at just the right time, when the information is needed and peer-supported information is more readily accepted.

Also, since supervisors can see where a technician is having a problem, they can pair a less-experienced technician up with someone with more experience in that particular area without leaving the field. This real-world collaboration can quickly get a technician up-to-speed on a certain topic, saving valuable training dollars.

## Conclusion

Instrument management does not need to be cumbersome or complex in today's constantly changing test environment. By leveraging cloud-based solutions, providers can drastically streamline instrument management and effectively manage today's technicians, test results, and training information.

Such solutions can turn what is now a burden into a competitive advantage, as they give supervisors much more insight into what is happening in the field, giving them a better handle on the health of the network and the capabilities of each technician. These solutions create cohesive, collaborative teams that can solve customer problems more efficiently than ever before.

In the end, this interactive environment can save providers time and money by reducing the logistics involved in instrument management, while creating a stronger team that is better equipped to test, quickly solve problems, and upsell customers on new offerings. This gives customers a higher quality of service and creates a happier, more efficient workforce.

VIAVI Solutions offers StrataSync™, a hosted, cloud-based software application that provides asset, configuration, and test-data management of VIAVI instruments. StrataSync manages inventory, test results, and performance data anywhere with browser-based ease and improves technician and instrument efficiency. For more information, visit www.viavisolutions.com/go/stratasync
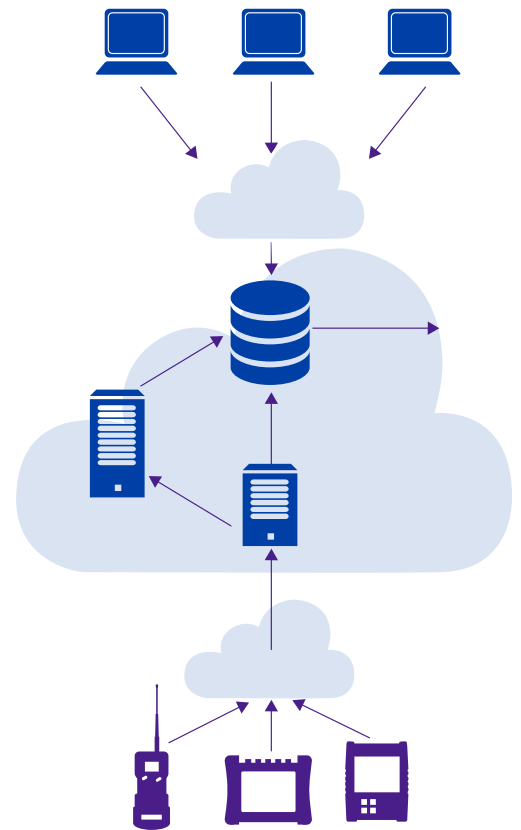


Figure 2. A centralized, cloud-based solution keeps the entire organization on the same page by maintaining best practices and M&Ps, stores results on a central database, and pushes updated firmware and customized testing scripts to all technicians simultaneously.

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