Increase ROI and Business Value by Empowering Your Assets with StrataSync™

For service providers today, business complexities have never been greater, while bandwidth demands have never been higher. Facing fierce competition, they are under great pressure to roll out new value-added services while, at the same time, reducing operational costs and customer churn. Service providers rely on their assets—both human assets and test equipment assets—to deliver these new services in a timely and efficient manner.

Delivering these new services is also challenging due to technician complexities. These include technician turnover of up to 30% and no visibility into the configuration of the test-equipment assets, assets that ensure the proper build-out, deployment, and turn-up of new, value-added services. StrataSync from Viavi Solutions™ is a cloud-enabled software solution that helps service providers empower their human and test-equipment assets to tackle the challenges of network testing in an efficient, effective manner. This ensures first-dispatch success and drives down overall operational costs. StrataSync provides asset management, configuration management, and test-data management of Viavi instruments as well as asset tracking of non-Viavi instruments. This gives service providers new levels of visibility into their assets and test data with new levels of control and compliance monitoring, increasing the efficiency of testing and maintaining the network.

This application note highlights the limitations of current asset, configuration, and test-data management techniques. It also examines the cost-saving benefits available from implementing StrataSync to automate these tasks and increase network-testing efficiency.

Asset and Configuration Management

In today's network-management environment, it is very difficult for supervisors and field managers to have visibility into their assets. It is even harder to track the asset-configuration details associated with those assets, and it is extremely hard to consistently and reliably update field instruments. These manual tasks are time-consuming to coordinate and implement. And, it is almost impossible to verify that desired configuration changes have actually been implemented across a fleet of instruments to ensure adherence to correct methods and procedures. Management-by-spreadsheet offers limited success with tracking inventory and provides limited to no visibility into asset-configuration details: details such as current firmware versions and instrument options. Compounding the problem is that a spreadsheet needs to be manually updated with configuration changes, a process that is prone to error and that lacks visibility to detect errors.

For example, the typical steps required to deploy a new firmware version include:

1. A supervisor or field-operations manager gathers information on instrument configuration, details such as the technician assigned the equipment and installed firmware or instrument options.
2. The manager locates a new firmware version.
3. The manager downloads the firmware and deploys it to a server accessible to technicians in the field, a process typically involving IT support.
4. The manager generates instructions for technicians to follow to install the firmware.
5. The manager notifies field technicians of the firmware update.
6. Field technicians follow the installation instructions which include:
   a. Download the firmware from the centralized server to a USB stick.
   b. Copy the firmware file from the USB stick to the instrument.
   c. Notify the manager that the update is complete.
7. The manager tracks which instruments have been updated.
8. The manager follows up with technicians that have yet to update their instruments.

Firmware Upgrade Cost Analysis

The process described above is clearly very manually intensive and time consuming. Valuable time is lost that the technician and supervisor could be using on other revenue-generating activities, and the process is very prone to error.

The following table shows the costs associated with this sort of manual process. The example features a service provider with 400 technicians, each carrying one instrument.

Number of test platforms to upgrade	400
Number of upgrades per year	1
Time per upgrade	1.5 hrs.
Total time for upgrades	600 hrs.
Opportunity cost of additional technician hours	$70 per hour
Firmware upgrade costs	$42,000 per year

Table 1. Instrument firmware upgrade cost analysis

Due to licensing requirements, the steps are similar but more complex when trying to deliver new instrument software options. A manager needs to determine which units need the software option, determine which technicians have the units, and then gather unit serial numbers and unique identifiers so that unit-specific license codes can be generated. All of this pre-work needs to be done prior to going through the deployment process steps previously described. The end result is, again, valuable time lost.

Every kind of upgrade, whether it's firmware or licensed or unlicensed software, includes some if not all of the costs shown in Table 1. Multiplied over years, these costs dictate quickly finding an alternative solution.

StrataSync Asset and Configuration Management

With StrataSync, manually-intensive, error-prone processes are automated, allowing centralized deployments of firmware, instrument software options, and configuration templates from StrataSync to technicians' instruments while they are out in the field. Moreover, StrataSync eliminates time-consuming pre-work such as determining which units need the software option, determining which technicians have specific units that need the software option, and then gathering serial numbers and unique identifiers for each unit that needs the software option. This information is already present in StrataSync and can be exported out of StrataSync for easy consumption and license-code generation.

Automated StrataSync asset and configuration management drastically reduces the time that supervisors and technicians spend on laborious error-prone tasks, letting them spend more time on revenue-generating opportunities. Moreover, having the visibility and control to ensure correct instrument configuration increases first-dispatch test success, thus reducing repeat truck rolls and the associated cost and customer churn associated with repeat visits.

Test-Data Management

Service providers put a great deal of effort into generating standardized methods and procedures (M&Ps) for technicians to follow. The goal is passing test measurements that serve as artifacts of proof showing that the technician tested correctly and that services are ready for turn-up. This process of the supervisor or field operations manager generating M&Ps, technicians being trained on the established M&Ps and how to use test equipment appropriately, physical truck rolls to job locations, and technicians' time to test and turn-up services all gets tied to the end result: test data. The test data is the only artifact of proof that a service provider has that a technician performed tests as prescribed and that services are ready for turn-up and consumption by the customer.

Test-Data File Upload Cost Analysis

The process described above involves supervisors, technicians, and truck rolls to customer sites. This can represent a relatively expensive overall cost for service turn-up, with the only proof being the test data. Yet, in today's world, it is very difficult for supervisors and field managers to have visibility into the test data generated by technicians when establishing service to customers. This is because saving test-data files from an instrument to a centralized location—files that are also visible to supervisors, NOC personnel, and other technicians—is extremely difficult and labor intensive.

For example, typical steps required to gain access to instrument test results include:

1. The technician completing a test and saving test results to a field instrument.
2. The technician copying test results from the instrument to a USB stick.
3. The technician finding a laptop, plugging in the USB stick, and e-mailing results to a supervisor.
4. The supervisor receiving and saving the files.
5. The supervisor repeating these steps with multiple technicians for that day and backing-up data.
6. The supervisor repeating this process each day … every day … all year long.

The process provides absolutely no visibility into performance information such as pass/fail results and trends, summary information across regions, or individual technician performance.

The table below shows costs associated with this type of workflow. The example features a service provider with 400 technicians, each carrying one instrument, and the technician saving test results weekly. The costs are greater for companies with more technicians or test sets per technician and save test results more often—such as once per day or after each job is completed.

Number of test platforms	400
Number of testing weeks	48 per year
Time to upload test results via USB stick per week	10 minutes
Total time for uploading test results per year	3,200 hrs.
Opportunity cost of additional technician hours	$70 per hour
Test-results management costs	$224,000 per year

Table 2. Test-results management cost analysis

Repeat-Rate Decrease Cost Analysis

Service providers understand that reducing repeat rates is the biggest cost-saving improvement that can be made in terms of network testing. This leads to most service providers taking a great deal of time and effort to generate standardized M&Ps for their technicians to follow, and then training them to follow the M&Ps. Conventional thought is that if you have the right test set, with the right configuration, with the right M&Ps, then this will ensure high rates of first-time test success. However, most service providers have limited or no visibility in determining and verifying that their technicians are actually following the standardized M&Ps and are using their test instruments correctly. Moreover, even if a technician happens to test correctly, most service providers have no visibility in determining if the instrument was set up correctly with the right test configurations in the first place. This open-loop system leads to loose compliance to standardized testing and results in high repeat rates.

The table below shows costs associated with repeat rates and the cost savings that could be obtained by decreasing them. The example features a service provider with 400 technicians, each carrying one instrument and performing three tests per day. The magnitude of cost savings as a result of small decreases in repeat rates is the key takeaway.

xisting repeat rate %	15%
Number of test platforms	400
Number of tests per technician	3 per day
Time per repeat dispatch—technician and call center	2.5 hrs.
Opportunity cost of additional technician hours	$70 per hour
Reduction in repeat rate	1% (from 15% to 14%)
Repeat-rate cost savings	$1,260,000 per year

Table 3. Repeat-rate decrease cost savings analysis

StrataSync Test-Data Management

StrataSync automates collecting test-data results across a fleet of field instruments, reducing the time, effort, and frustration currently experienced by supervisors and technicians alike. With StrataSync, a technician can simply sync their instrument and all test results are uploaded automatically to a centralized repository. This gives easy access to supervisors, NOC personnel, or even other technicians to store, view, print, and export test-data files. With StrataSync, the time needed to upload results is drastically reduced, dashboards with result metrics are instantly available, and access to results goes from once-a-week to immediate.

StrataSync also closes the open loop in terms of technician-testing performance and the maintenance of proper test configurations on instruments. StrataSync provides service providers visibility and control to ensure that technicians have the right test set with the right configuration and are testing according to the right M&Ps. The result is significantly higher rates of first-time test success.

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