

Application Note

StrataSync — Empowering Your Assets

Service providers 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—their workforce and test equipment—to deliver these new, value-added services in a timely and efficient manner. The challenge is how to deliver these new services with technician churn of up to 30% and no visibility into the configurations of test equipment used to build-out, deploy, and turn-up the services.

StrataSync™ Architecture

StrataSync is a cloud-enabled software solution that helps service providers tackle these operational challenges in an efficient and effective manner to ensure first-dispatch success and drive down overall operational costs. StrataSync provides asset, configuration, and test-data management of Viavi Solutions™ instruments as well as manual entry, tracking, and test-data upload for non-Viavi instruments. This gives service providers unprecedented levels of visibility into their assets and test data and delivers new levels of control and compliance auditability—increasing operational efficiency.

This white paper outlines the limitations of current asset, configuration, and test-data management techniques and shows how StrataSync empowers service providers in automating these tasks and increasing the efficiency of their network testing.

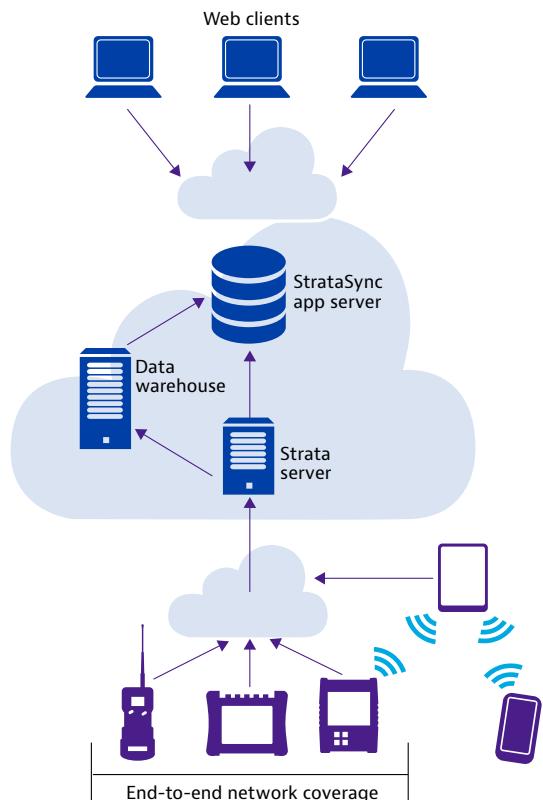


Figure 1. StrataSync architecture

Asset and Configuration Management

In today's world, it is very difficult for supervisors and field managers to have visibility into their assets. It is hard for them to track the configuration details associated with those assets, and harder still to actually update their field instruments. This is because all these tasks are essentially manual—they are extremely time consuming to coordinate and implement, and it is almost impossible to verify that the desired configuration changes have actually been implemented across a fleet of instruments to ensure consistent adherence to prescribed test methods and procedures.

Spreadsheets are typically used to track inventory. However, they usually provide limited to no visibility into the configuration details associated with the asset such as current firmware version and instrument options deployed to a specific instrument. Compounding the problem is that effecting changes in the configuration of the assets is done outside the purview of the spreadsheet. The changes involve manual steps and are prone to human error with no real visibility to detect errors.

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

- 1.A supervisor collects configuration details of each instrument such as the technician assigned to the device, current firmware, and instrument options.
- 2.A supervisor finds the location of the new firmware version.
- 3.A supervisor downloads a copy of the firmware and deploys it to a server that is accessible to field technicians. This can involve IT support in deploying to a centralized server that is accessible by technicians located at multiple locations or garages.
- 4.A supervisor generates a list of procedural steps technicians are required to follow to be able to load the new version of firmware to their respective instruments.
- 5.Field technicians perform the installations. They:
 - a. Download the firmware from the centralized server to a USB stick.
 - b. Copy the firmware file from a USB stick to the instrument.
 - c. Notify the supervisor or field operations manager that the firmware on the instrument has been updated.
- 6.A supervisor keeps a running tally of all the communications from the field technicians on which instruments have been updated.
- 7.A supervisor follows up with technicians that have not provided positive feedback that the firmware has been updated.

The process above is clearly very manually intensive and time consuming. It is also very prone to error, since it is open to human error in terms of updating the configuration. The steps are similar, but even more complex, when trying to update options on specific instruments.

The StrataSync Solution

StrataSync reduces the time, effort, and frustration currently experienced when tracking and updating field instruments by automating many manual tasks and reducing the complexity of the process. An administrator can quickly log in to StrataSync and see the current state of their instrument portfolio and the details associated with each specific instrument.

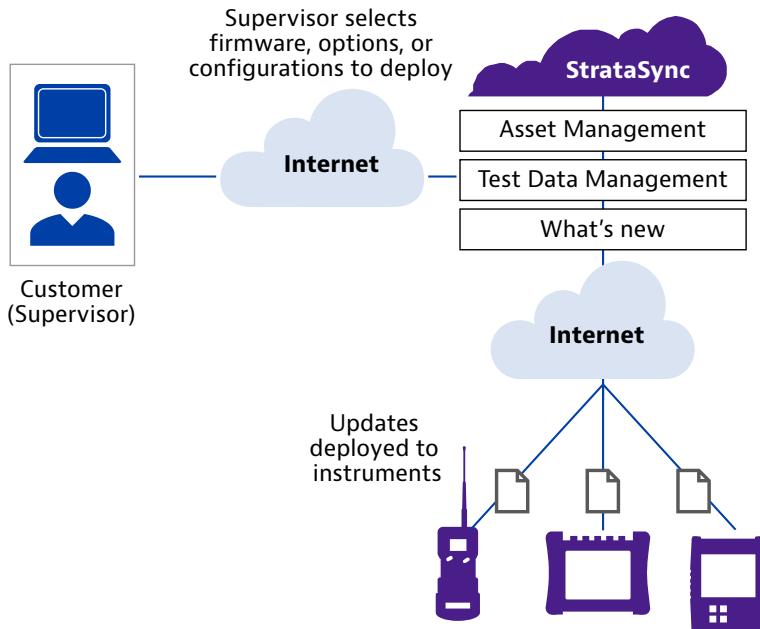


Figure 2. StrataSync update deployment

With StrataSync, administrators quickly identify and track specific details associated with each asset such as:

- Asset type and model
- Hardware version
- Calibration date
- Serial number
- Firmware version
- Technician ID and name
- Installed modules
- Installed options
- Manager name

A screenshot of the StrataSync web interface showing the 'ASSETS' view. The page title is 'Brian's View [unsaved changes]'. At the top, there are links for 'View Asset Group', 'Actions', and a search bar. Below this is a table with columns: Asset Type, Model, Serial No, HW Version, SW Version, Last Sync Date, Last Sync Status, Asset Status, Calibration Date, and Mfg Date. The table contains 6 records for HST assets, with the first record being selected. The table has a header row and 9 data rows. At the bottom of the table, it says 'Viewing 6 records' and 'Page Size 15'. There are also navigation links for 'Page 1 of 1'.

Figure 3. StrataSync asset list page

StrataSync enables centrally managing and deploying field upgrades automatically, dramatically reducing time spent in the work center determining fit-for-purpose status, identifying upgrade requirements, and then manually upgrading the test set via a time-consuming, error-prone process. And, StrataSync provides continued visibility into the configuration of the instrument to ensure it is set up correctly to enable first-dispatch test success.

With StrataSync, you can quickly update the configuration of each asset including:

- Firmware version
- Installed options
- Configuration files

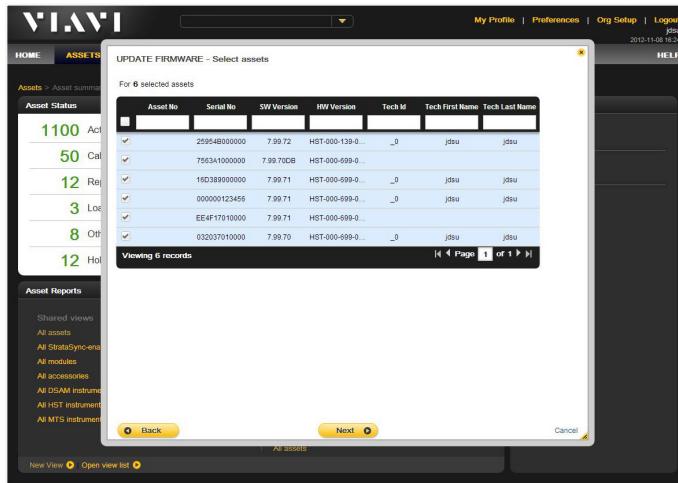


Figure 4. StrataSync update firmware page

Test-Data Management

For most service providers, test data is the only artifact of proof that a technician performed tests as prescribed and that service is ready for turn-up and consumption by the customer. Yet, in today's world, it is very difficult for supervisors and field managers to have visibility into test data collected by technicians. This is because the tasks associated with saving test-data files from the instrument to a centralized location that is visible to the supervisors or NOC personnel is extremely difficult and labor intensive.

For example, typical steps required to save test results include:

1. The technician completes a test and saves the test result to the field instrument.
2. The technician copies the result(s) from the instrument to a USB stick.
3. The technician plugs the USB stick into a laptop and sends results via email to the supervisor.
4. The supervisor saves the files to a hard drive.
5. The supervisor saves files for all technicians for that day (and hopefully backs up the data).
6. The supervisor repeats the save function every working day.

The process is manually intensive, time consuming, and error prone. Moreover, it provides absolutely no visibility into performance information such as pass/fail results and trends, summary information across regions, or individual technician performance.

The StrataSync Solution

StrataSync automates many of the current manual—or impossible—tasks associated with attempting to collect test data results across a fleet of field instruments. With StrataSync, all test results upload automatically to a centralized repository, allowing easy access by supervisors to store, view, print, and export test data files.

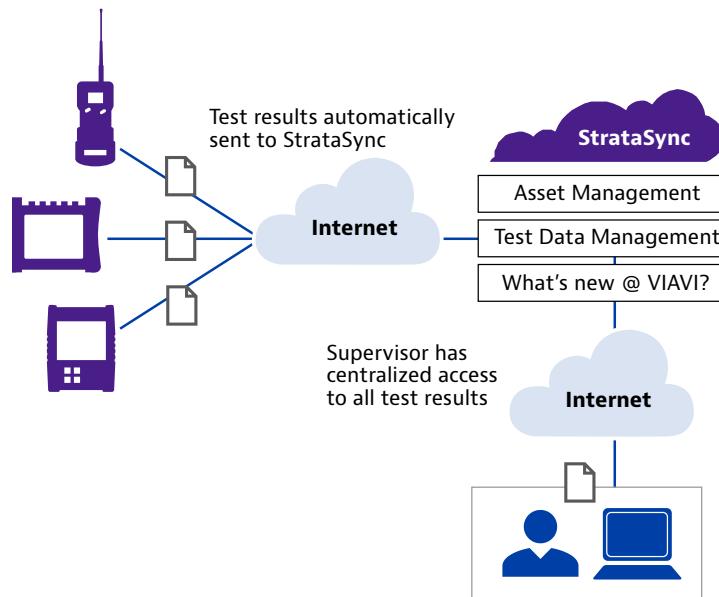


Figure 5. Test-data management using StrataSync

With StrataSync, administrators gain access to test results and associated details such as:

- Test data files for viewing/printing
- Pass/Fail results
- Serial numbers of source instruments
- Filenames and file locations on instruments
- Technician IDs and names
- Source instrument types
- Test timestamps
- Test data types

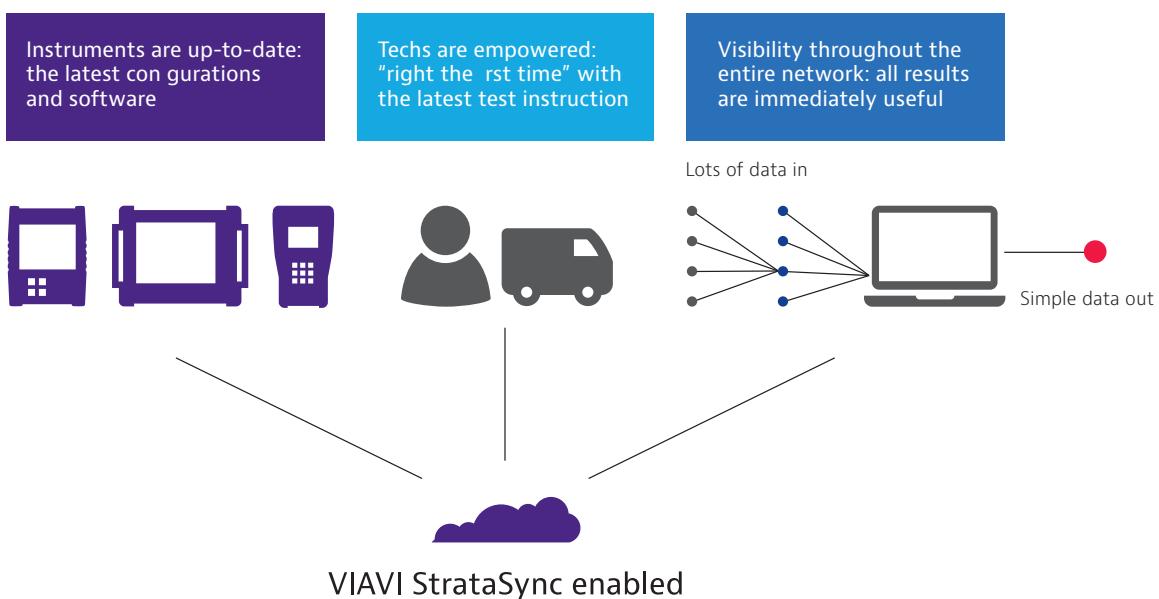
Asset Type	Asset Serial No.	Asset Usage ID	Date Type	Data Format	Status	Work Folder	Last Edit	Creation Time	File Name	Full path and name	Organization Unit
DS48	9220008	9220008	DOC88-Throughput	Latency	Pass	TestMeasurements_3_X	Castel Western	8/31/13 1:41 PM	Doc-Throughput-Pass	measuredResults	East Region
DS48	9220008	9220008	DOC88-PacketLoss	Latency	Pass	TestMeasurements_3_X	Castel Western	8/31/13 4:47 PM	Doc-PacketLoss-Pass	measuredResults	East Region
DS48	9220008	9220008	DOC88-Ping	Latency	Pass	TestMeasurements_3_X	Castel Western	8/31/13 4:47 PM	Doc-Ping-Pass	measuredResults	East Region
DS48	9220008	9220008	DOC88-Range	Latency	Pass	TestMeasurements_3_X	Castel Western	8/31/13 4:47 PM	Doc-Range-Pass	measuredResults	East Region
DS48	9220008	9220008	DOC88-RxLatency	Latency	Fail	TestMeasurements_3_X	Castel Western	7/21/13 12:16 PM	Doc-RxLatency-Fail	measuredResults	East Region
DS48	9220008	9220008	DOC88-Throughput	Latency	Fail	TestMeasurements_3_X	Castel Western	7/21/13 9:28 AM	Doc-Throughput-Fail	measuredResults	East Region
DS48	9220008	9220008	DOC88-PacketLoss	Latency	Fail	TestMeasurements_3_X	Castel Western	7/21/13 9:28 AM	Doc-PacketLoss-Fail	measuredResults	East Region
DS48	9220008	9220008	DOC88-Ping	Latency	Fail	TestMeasurements_3_X	Castel Western	7/21/13 9:28 AM	Doc-Ping-Fail	measuredResults	East Region
DS48	9220008	9220008	DOC88-Range	Latency	None	TestMeasurements_3_X	OK	8/31/13 2:47 PM	Doc-Range-LimitOK	measuredResults	East Region
DS48	9220008	9220008	DOC88-Throughput	Latency	None	TestMeasurements_3_X	OK	8/31/13 2:47 PM	Doc-Throughput-LimitOK	measuredResults	East Region
DS48	9220008	9220008	DOC88-PacketLoss	Latency	None	TestMeasurements_3_X	OK	8/31/13 2:47 PM	Doc-PacketLoss-LimitOK	measuredResults	East Region
DS48	9220008	9220008	Min-Scan	Latency	Pass	TestMeasurements_3_X	Castel Western	7/21/13 2:47 PM	MinScan-Pass	measuredResults	East Region

Figure 6. StrataSync test-data list page

Conclusion

StrataSync helps service providers increase operational efficiency by empowering their assets to tackle the major operational challenges of network testing in an efficient and effective manner. StrataSync provides automated asset management, configuration management, and test-data management of Viavi instruments as well as asset tracking of non-Viavi instruments. This gives service providers unprecedented levels of visibility into their assets and test data and delivers new levels of automation, control, and compliance auditability—increasing the operational efficiency of network testing and driving down associated operational costs.

StrataSync provides these valuable benefits while protecting the confidentiality, integrity, and availability of our customers' information. An architecture based on a multi-layered security approach protects key information and makes sure it is highly available. A secure physical infrastructure, strong network and application security, and redundancy within and across geographic regions ensures best-in-class service.



All without increasing headcount while also minimizing overall operating cost and unnecessary truck rolls.