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Balance: Connecting Signals Notebook To Drive Digital Transformation

Summary

During a typical experiment, multiple instrument types are often utilized. Benchtop instruments such as balances, pH meters, and other non-pc-based devices are quite common and are often an integral part of the lab workflow. The need to integrate with these instruments is critical but is hampered by the fact that they are typically stand-alone devices.

This use case illustrates how Revvity Signals platform can seamlessly integrate with Signals Digital Lab Exchange (DLX) ™ powered by Scitara® to provide an interactive experience with benchtop devices using a balance as an example.

The Signals Notebook connector within Signals DLX lets you integrate any lab instrument, application, or system with Signals Notebook. Signals DLX improves workflows by bridging Signals Notebook with other systems. The integration capabilities of Signals DLX allow you to enhance interoperability across your lab environment.
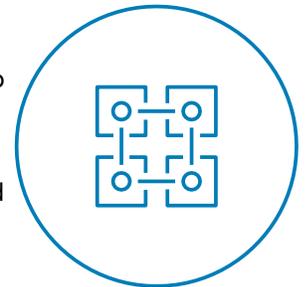
Challenge

Benchtop devices pose integration challenges due to the lack of a controlling software- based system that can connect the balance to a network and facilitate data exchange. Even when available, many solutions are unidirectional and provide a "listen-only" capability that only partially solves the problem. This problem becomes even more acute due to the wide diversity of instrument types and manufacturers.

This challenge often results in researchers writing down notes and recording measurements on paper, and then logging the results into Signals Notebook manually. Even if the unidirectional approach is taken, a very precise choreographed process must be followed that is fragile at best and prone to error .

So, how does the integration between Signals Notebook and Signals DLX provide support for benchtop devices in a manner that supports a seamless interactive workflow and can also support a validated environment?

Solution

Signals DLX powered by Scitara incorporates current lab technology combined with an innovative Scitara software agent to bring benchtop devices into the connected Signals Notebook and Scitara infrastructure. Network protocol converters allow multiple benchtop devices to be individually configured through a single DLX provisioned PC connected to the cloud. Once provisioned, benchtop instruments configured in this way may be directly accessed through Signals Notebook. Communication may be fully bi-directional if supported by the benchtop device, providing a rich user interactive experience.

Using Signals DLX, companies can incorporate the wide diversity of benchtop equipment in a single Integration strategy within Signals Notebook, resulting in a common user experience regardless of Instrument type or manufacturer.
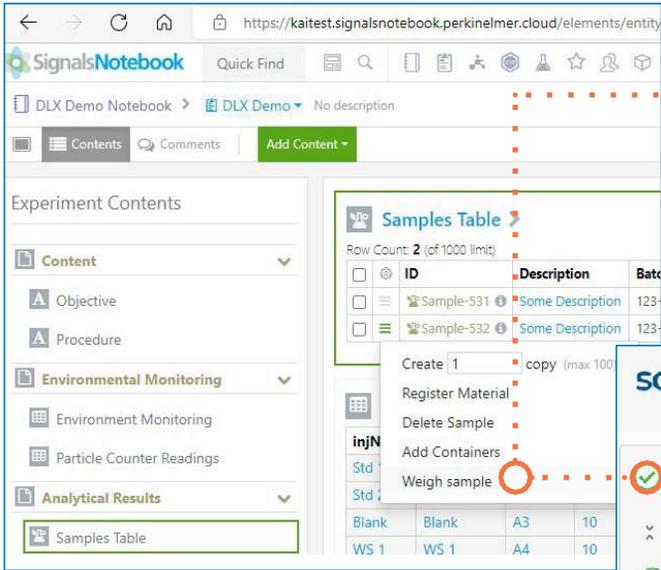
In the case of Signals integration with benchtop Instruments, users may either interact directly with the instrument from within the Signals Notebook or use a tablet after sending a weight request from Signals. In this example, from within Signals Notebook, the user selects the external action "Weigh sample". The request may be associated with one ormore balances.

With Signals DLX companies can incorporate a wide diversity of benchtop equipment in a single integration strategy through Signals Notebook.

In this example, once the request has been made, the researcher is prompted to select a sample to weigh, select a balance and take the weight. Signals DLX will presents an interactive screen that allows the user to directly interact with the balance from within Signals. Once the weight or weights are taken, the data is automatically routed back to Signals Notebook. Text memos and even pictures may be included as part of the transaction.
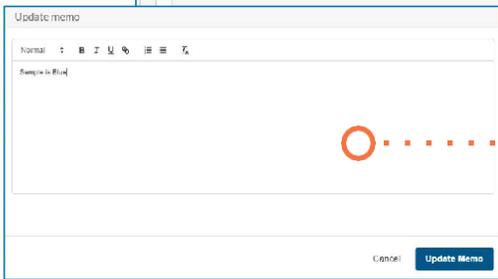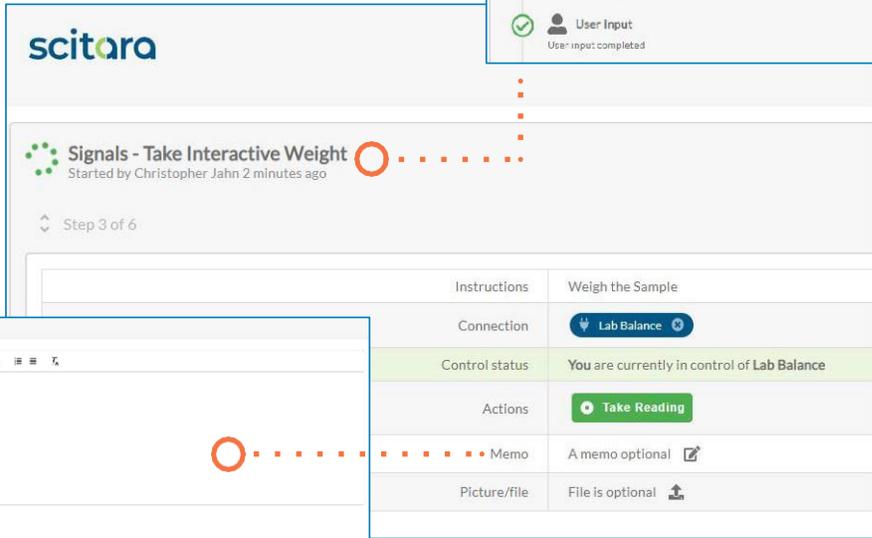
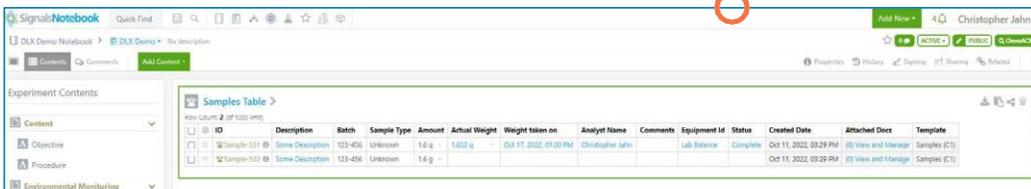*Simplify and enhance experimental procedures and data handling with a single click!*

Start by creating a Weigh sample request in Signals Notebook which triggers a Signals DLX Orchestration (running in the background) which...

...prompts the user to take the weight and add any notes or files that should accompany the weight operation and...

... update Signals Notebook with the requested weight and associated metadata.

Benefits

With the integration of the balance through Signals DLX to Signals Notebook, the manual process of collecting and entering data is mitigated and authentication provides a record of who took the readings. The likelihood of transcription error is eliminated by removing the manual part of the process data. In addition, it becomes possible to monitor the status of weight requests through Signals Notebook using Signals DLX.

- Configurable process through Signals DLX Orchestrations

- No manual transcription

- Automated data routing from the benchtop device to Signals Notebook User authentication provided for measurements

- Device request monitoring available

revvitysignals.com
940 Winter Street
Waltham, MA 02451 USA
P: (800) 762-4000 (+1) 203-925-4602

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