Test Asset Optimization Services
PathWave Asset Advisor


Gain insights to improve efficiency by measuring true asset utilization and driving asset sharing through loan pools. Our portfolio of Test Asset Optimization Services spans any manufacturer and scales from one to a network of sites around the world. Make smarter, more strategic decisions about how you acquire, maintain and dispose of your test assets, by using our unique offerings such as measured utilization, monitored health, technology refresh and financial services.

It Begins with PathWave Asset Advisor

Few electronic companies have a comprehensive, corporate-wide program to effectively manage and maximize the utilization of their test and measurement equipment. Our research with key companies in Aerospace and Defense; wireless and cloud technology (research and development); wireless manufacturing and Internet of Things; and automotive and energy indicates that test and measurement equipment is often utilized as low as 10 percent.
For most companies, test and measurement equipment is one of the largest, if not the largest, capital expense on their balance sheets. With that said, few companies have a comprehensive, corporate wide program to effectively manage and maximize the utilization of test and measurement equipment over its projected lifetime.

An effective asset optimization program balances three fundamental aspects: having the ability to see and manage the full asset inventory, getting knowledge data of the true utilization and health of assets, and acting on the knowledge data or optimizing the use and disposition of pooled assets. Ultimately the asset optimization program focuses on how to implement strategies to lower the total cost of ownership for test.

PathWave Asset Advisor is at the core of a data-driven asset optimization program that significantly improves asset productivity. Through a set of three Keysight applications that operate together, customers maximize asset return on investment (ROI) by evolving the asset optimization program to initially take control of their assets to ultimately optimizing their procurement, utilization and disposition.

**See. Know. Optimize.**

**Improve ROI in Three Steps**

**Step 1**  
See  
Do you have business control over your asset base with fundamentals like accurate inventory?  
Track your assets

**Step 2**  
Know  
Do you have true utilization and health data to help reduce your CapEx and OpEx?  
Monitor true utilization and health

**Step 3**  
Optimize  
Can you balance your existing assets with the demands of your product schedules and new technologies?  
Share and loan assets across teams
PathWave Asset Advisor - Track and Control Application

PathWave Asset Advisor - Track and Control application enables an organization to know their “Real” situation of what assets they have, where they are, and who is using them. This is foundational information in asset optimization allowing more cost effective servicing, minimizing lost equipment and ensuring quality standards.

Benefit

- Find and manage assets faster via an open, task-based user interface
- Reduce costs through better optimization, tracking and asset maintenance
- Improve equipment service management

Features

- Create and save unlimited filters and tabs of asset data
  - Filter grid on any combination of asset attributes using smart, Boolean expression filtering
  - Match your needs with tailored grid-views of your data
- Sub-select assets with smart global search of any text field
- Drill down in graphs or tabular grid-views for more details
- Manage and track asset activities such as required service events, user notifications, location movements, and activity status
- Create, edit and view assets with details such as: user, asset ID, location service history and documentation
- Build dashboards to display items such as quarterly business results
- Set multiple permission levels for administrators and users
- Secure data storage and transfer
- Interface to barcode and RFID tracking systems
- Integrate PathWave Asset Advisor - Track and Control application data via industry standard APIs

Includes

- Access to PathWave Asset Advisor - Track and Control application for the duration of the license
- License keys based on the quantity of assets tracked in PathWave Asset Advisor - Track and Control application
- Access to PathWave Asset Advisor support team and expertise
  - Support available 24 hours a day, 5 days per week
  - Incident detection and escalation procedures for quick resolution of incidents identified as critical
Figure 2: PathWave Asset Advisor - Track and Control application

PathWave Asset Advisor - Utilization and Health Application

PathWave Asset Advisor - Utilization and Health application monitors asset utilization and health parameter trends in real time. Data-driven utilization charts highlight opportunities for test process optimization, standardization and increased asset sharing. Health parameter monitoring identifies assets with abnormal maintenance requirements or assets needing preventative maintenance, so you can avoid unscheduled downtime.

Benefit

- Measure true utilization and monitor instrument health
- Drive decisions to maximize asset efficiency based on utilization data
- Identify the appropriate assets for test process optimization, standardization, sharing and disposal
Features

• Utilization
  - Monitor based on asset type:
    » Front panel interaction, bus traffic and power variations in relation to time
    » Provides option-level logging and reporting
    » Data reporting via LAN or WiFi
  - View utilization trends over time with real-time charting
  - Set permission levels according to user roles

• Health
  - Monitor key health parameters such as temperature, humidity, shock, cycle counts and run time on key components and memory usage depending on asset type
  - Identify impending need for critical functional maintenance
  - Schedule maintenance needed to avoid downtime or a loss of productivity
  - Assign priorities to assets, including automated alerts and notifications
  - Assign actions to personnel to implement and gain required approvals from alerts and notifications
  - Set permission levels according to user roles

Includes

• Access to PathWave Asset Advisor - Utilization and Health application for the duration of the license (requires PathWave Asset Advisor - Track and Control application)
• Use of Agent\(^1\) or PLUM\(^2\) device dependent on electronic asset to monitor utilization or health data
• License keys that are based on the quantity of assets tracked in PathWave Asset Advisor - Utilization and Health application

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1. **Agent**: Windows or Linux software that runs in the background on either the instrument CPU or the host controller to track, store, and upload usage and health information about the instrument.

2. **PLUM**: For instruments without a true CPU or host controller, PLUM (Powerline Utilization Module) is an external dongle sitting in-line with the AC power supply and running the Agent as described above. Because the PLUM is external to the instrument, health information is less specific than the Agent running inside the instrument.
PathWave Asset Advisor - Loan Pool Application

PathWave Asset Advisor - Loan Pool application drives increased sharing of low utilization assets across multiple organizations. Easy on-line reservation, check out and recall notification processes, all tied to cost allocations to end users, drives consistent change management for asset sharing.
Benefits

- Increase utilization of high-value, low-usage assets by increasing instrument accessibility to engineers across programs and teams
- Improve efficiency, reduce capital expenses and reduce operating expenses

Features

- Access asset availability and scheduling charts
- Easily check-in and check-out assets within the pool
- Track borrowed assets for timely return
- Apply internal chargeback rates to discourage hoarding
- Setup an approval-based permission process
- Quickly find assets that meet your criteria with advanced search capability

Includes

- Access to PathWave Asset Advisor - Loan Pool application for the duration of the license (requires PathWave Asset Advisor - Track and Control application)
- License keys that are based on the quantity of assets tracked in PathWave Asset Advisor - Loan Pool application

Figure 4: PathWave Asset Advisor - Loan Pool Application
Select the PathWave Asset Advisor Deployment that best Suits your Business

On-premises

The PathWave Asset Advisor software resides on the customer’s server, behind their firewall and does not require internet access. It operates in standalone mode, with all the essential features for importing and exporting information, such as calibration data and receive software updates.

Cloud-hosted

The PathWave Asset Advisor web application resides in the Amazon Web Service (AWS) cloud. The application allows Keysight to leverage its data resources to supply all participating customers with fast, reliable and secure access to manage their assets and receive functionality updates.

Select the deployment that best suits your business: on-premises or cloud-hosted.

PathWave Asset Advisor is offered as an on-premises, standalone software application and a cloud-based, hosted web application. With either choice you receive easy-to-use functionality to manage your assets, monitor utilization and improve asset usage, and share assets across your organization all designed to reduce the total cost of ownership of test assets.
Considerations for On-premises deployment

With an on-premises deployment the customer has control over their data security, integrity, and privacy. The software is installed on the customer’s servers and managed by them. The purchase of server hardware and software as well as installation and maintenance are managed by the customer. When deploying an on-premises solution, the customer’s IT resources need to be consulted for network security protocols, installation and on-going planning and support for system-wide upgrades.

Considerations for Cloud-hosted deployment

With a cloud-hosted deployment, Keysight manages the server infrastructure and the application, lowering costs and allowing the customer to focus on their core business. Regular application upgrades with new capabilities are performed seamlessly across the system. Since all users access the same version of the application, they experience equal functionality and support. The application and its data are centrally hosted by Amazon Web Services (AWS) and accessible by users anywhere in the world via the web.

- Available 24/7 via remote web access
- Large server capacity to handle peak usage
- High level of server and software reliability
- Automatic functionality updates
- Automatic system backup and disaster recovery

General Security Information

AWS Cloud-Hosted Information Security

Built on the secure foundation of AWS, PathWave Asset Advisor stores all customer data on AWS servers and takes appropriate measures to secure your data. Keysight employs security provisions to ensure that only your authorized users gain access to your data.

Application and infrastructure security

Strong application password management, including periodic forced reset and complex password as examples.
Application session time out settings

Role-based access allowing the customer to limit access with multiple permission levels that control read only vs. read and write over locations and assets—controlled by the customer super-user, not Keysight.

Hypertext Transfer Protocol Secure (HTTPS) for secure communication across the network.

Encryption of data in transit using Secure Sockets Layer (SSL). Multiple layers of defense to help protect the network perimeter from external attacks (e.g. network firewalls, anti-virus, vulnerability scanning, server hardening, client firewall and, security patching).

Physical Security of AWS Server Data Centers

Access to the AWS Cloud data centers is strictly controlled. Entry to facility requires badge access. Each data center has security guards and camera monitoring in compliance with the general principles of ISO9001, ISO14001 and ISO17025.

AWS Cloud-Hosted Reliability and Data Integrity

AWS runs periodic back-ups of PathWave Asset Advisor data in each regional server location. Customers can also back up their data to their own local servers at any time. In case of an emergency, PathWave Asset Advisor infrastructure and data are protected consistent with Amazon Web Services Disaster Recovery Program.

The PathWave Asset Advisor support team is available 24 hours, 5 days a week. The support team includes members of Keysight’s technical staff responsible for the smooth operation of PathWave Asset Advisor. Incident detection and escalation procedures ensure that the team quickly responds to client issues and resolves critical incidents.
Data Security

Keysight’s customers trust us to store their important information on PathWave Asset Advisor. We take that trust seriously. Therefore, only authorized support and development staff have access to customer data in order to provide customer support or to repair any problems or issues customers may have created via improper manipulation of their own data.

Customer data and system usage are only reviewed by application support and development staff to support customers or to identify feature or navigational improvements.

Customer data and system usage are not “mined” for sharing with Marketing or Sales staff, etc. Access to PathWave Asset Advisor is never provided to Keysight sales staff or any other organization within Keysight unless the customer has given permission.

Learn more

www.keysight.com/find/AssetOptimization

Learn more at: www.keysight.com

For more information on Keysight Technologies’ products, applications or services, please contact your local Keysight office. The complete list is available at:
www.keysight.com/find/contactus