

# VIAVI LAW

## Leakage Analysis Workshop A Trilithic Series Leakage Solution

### Overview

In today's competitive broadband industry, maintaining network performance for return path services is critical for success. Minimizing labor costs to mitigate ingress and ensure system integrity can be a formidable challenge.

By automating the leakage management process, the VIAVI Seeker GPS™ leakage management system and integrated LAW™ provide a unique way to minimize maintenance costs and maximize efficiency.

The integrated solution enables system operators to find and fix leaks quickly, minimize technicians' time, quickly assess network leakage integrity, and gauge the effectiveness of leakage maintenance efforts.

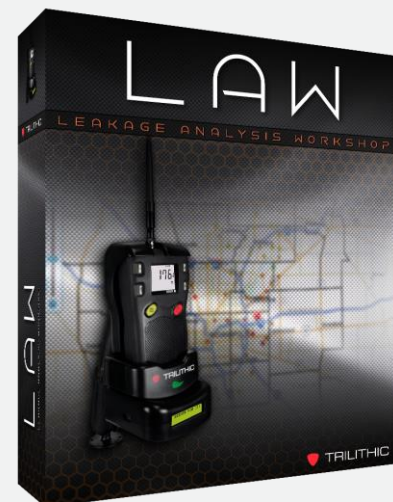
### Automated Leakage Management

The system consists of LAW, vehicle-mounted Seeker leakage meters, GPS receivers, and mobile communications adapters (MCAs), which collect leakage location and level information without interrupting the driver's routine.

When technicians are done for the day, they can manually upload the data via USB connection or connect to a designated WiFi hotspot and the leakage location data is automatically uploaded to LAW. The server plots the data and marks the leakage source locations as push pins on a map—all automatically.

### Key Features

- Automated data collection, leak mapping, and work order management for improved productivity and efficiency
- Continuously updated database and map for analysis and decision making
- Automated leak location and amplitude notation to find and prioritize leaks faster
- Process automation for easier FCC compliance and improved network integrity



Then LAW automatically assigns and e-mails the repair work orders to the responsible technicians, they upload the pre- and post-repair snapshots, the server closes out the work orders, and the push pins disappear from the map (a patented algorithm automatically corrects logged leaks to reflect the FCC-prescribed equivalent 10-foot measurement).

The system is also scalable which enables operators to increase the level of automation as the deployment of field equipment reaches an appropriate coverage of the system geography.

## Web-Based Program Interface

A familiar, intuitive interface allows users to mouse-over leaks (displayed as push-pins) to display additional data. Clicking on the push-pin will display complete details for the selected leak.

Efficient data management is accomplished through the leak list, which is displayed in a sortable table format.

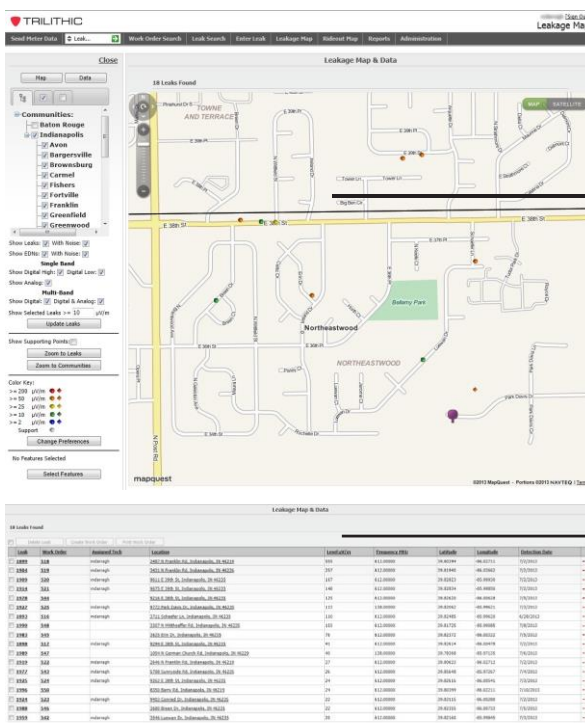
From this displayed leak list, a leakage containment supervisor can select specific leaks and create work orders, while the plant manager can sort leaks by field strength and logistically assign work orders to repair technicians.

The hybrid aerial/map option simplifies the correlation of leak information to the physical address and GPS latitude/longitude, all through a familiar user interface. This helps technicians efficiently and quickly repair leaks.

In addition to automatically creating and assigning work orders by severity and location, the system can email the work orders to the assigned technicians with a Garmin™ POI (point of interest) file that the technician can use with a mobile Garmin navigator for turn-by-turn directions to the leak location. After the technician indicates that the leak has been repaired, LAW closes out the work orders and removes the push-pins from the map. This automated process reduces the time to repair leaks and ultimately saves you money.

## Software Server and Support Options

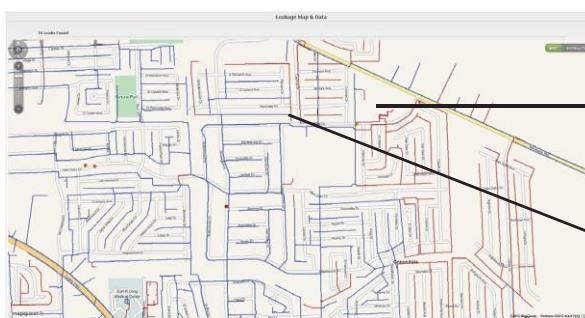
VIAVI offers a variety of options for implementing LAW. You can choose from a pre-configured server, integrating powerful software and hardware, or you can choose our LAW SaaS that provides a complete, managed, comprehensive solution that allows you to focus on building business—not network infrastructure—saving you time and money in up-front costs and ongoing hardware support.



Versatile Map Interface

Sortable Leak List

- Versatile map interface
- Sortable leak list
- Automatic or manual work order generation



Underground Plant Maps

Aerial Plant Maps

### Custom Mapping Overlay

Import strand maps, aerial plant, underground plant, amplifiers, and pedestals

## Software as a Service

Offered as an alternative to installing and maintaining expensive server equipment and relying on IT personnel focused on other tasks, SaaS from VIAVI hosts all of the required hardware, software, security, and hardware support. This turn-key solution allows you to build and operate a high-quality leakage control system at a lower total cost. See the SaaS sales sheet for more details.

| Available Configurations                                  | Part Number              |
|---|--------------------------|
| LAW Integrated Server Package                             | TRI-LKG-LAW-SERVER-W-SW  |
| LAW Stand-Alone Server Software                           | TRI-LKG-SW-LAW-SOFTWARE  |
| Related Items   | Part Number              |
| Map Subscription for LAW Server Software                  | TRI-LKG-SW-MAP-1YR-SUB   |
| LAW Seeker Expansion License for an Additional 25 Devices | TRI-LKG-LAW-25PC-LIC-KEY |

## WiFi Access Requirements for LAW

A wireless access point communicating with the WiFi option of the vehicle-mounted Seeker MCA module must meet these specifications:

|                 |   |
|-----------------|---|
| <b>Standard</b> | WiFi (802.11 a/b/g/n)                           |
| <b>Security</b> | WPA-PSK (TKIP), WEP (128-bit) or WPA2-PSK (AES) |

## Integrated Server Package Specifications

| Enterprise Edition                               |   |
|--|---|
| Hardware Manufacturer                            | Dell  |
| Model  | R520  |
| Server Rack Height                               | 2U - 3.50 in (8.89 cm)  |
| Microsoft Windows Server Software                | 2012 R2 Standard Edition  |
| Microsoft SQL Server Software                    | 2012 Standard Edition   |
| Microsoft SQL User Client Access Licenses (CALs) | Five (5)  |
| Processor  | Two (2) Intel Xeon E5-2420<br>(1.90 GHz, 15 MB Cache)   |
| Memory   | 32 GB (1600 MHz)  |
| Storage  | Four (4) 1 TB SATA (7200 RPM)   |
|  | Two (2) 500 MB (7200 RPM)   |
| Power Supply                                     | Dual Redundant (750 Watt x 2)   |
| 3 Year Warranty (Provided by Dell)               | Next business day, parts and labor, on-site response  |
| Maintenance and Support                          | Included for first year of ownership, after first year of ownership a yearly maintenance and support fee applies. |

A backup storage system is also recommended for prevention of data loss.

## Integrated Server Package Specifications

| Prerequisite Supporting Software |  |   |                   |
|----------------------------------|--|---|-------------------|
| P - Included<br>X - Not Included | Microsoft Windows Server Software (2012 R2 Standard) | Microsoft SQL Server Software (2012 Standard) | SQL User Licenses |
| Integrated Server Package        | P  | P   | Five (5)          |
| Stand-Alone Server Software      | X  | X   | X                 |
| Software as a Service (SaaS)     | P  | P   | Five (5)          |

LAW Stand-Alone Server Software does not include Windows Server and SQL Server Software. This software is required for proper operation of the LAW Server Software and must be provided by the end-user.

| Stand-Alone Server Software Requirements |  |
|--|--|
|  | Minimum Requirements   |
| Microsoft Windows Server Software        | 2008 Standard Edition (x86-64) or Higher                           |
| Microsoft SQL Server Software            | 2008 Workgroup Edition or Higher                                   |
| Processor                                | Dual Core (1.40 GHz)   |
| Storage                                  | 300 GB (RAID Level 5 or 10)  |
| Memory                                   | 4 GB   |
| Ethernet Adapter                         | 100 Mb or higher Ethernet Port with high speed Internet connection |
| Other Optional Components                | Optical Drive, Video Adapter, Monitor, Keyboard and Mouse          |

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**CONOSUR.**

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