

Digitex Voyager

Advanced Data Acquisition and Processing

Key features:

- WEB interface access
- Collect and View real-time data from all sensors simultaneously
- User Management
- Remote device configuration: sampling rate, communication parameters, calibration data
- OTA Firmware Update of connected devices
- User log of system events
- Remote system configuration: channel configuration, synchronization type, rebroadcast, trigger, filter and ring buffer settings
- User configurable trigger with settings for channel, levels, Pre and Post event time
- Schedule data recording at specific time
- Manual on-demand data recording
- User configurable email alerts on trigger event
- User configurable SMS messages and Digital Outputs on trigger event
- Data transmission to designated server
- Store all data from all sensors into local Data Base
- Access historic data (Ring Buffer)
- Access triggered data
- Access scheduled data
- View current MESH network
- Automatic PDF report generation with graphical representation and key parameters (FFT, PA, PV, PD, P-P, MIN, MAX, AVG)

Digitex's Voyager - Advanced Data Acquisition and Processing Software

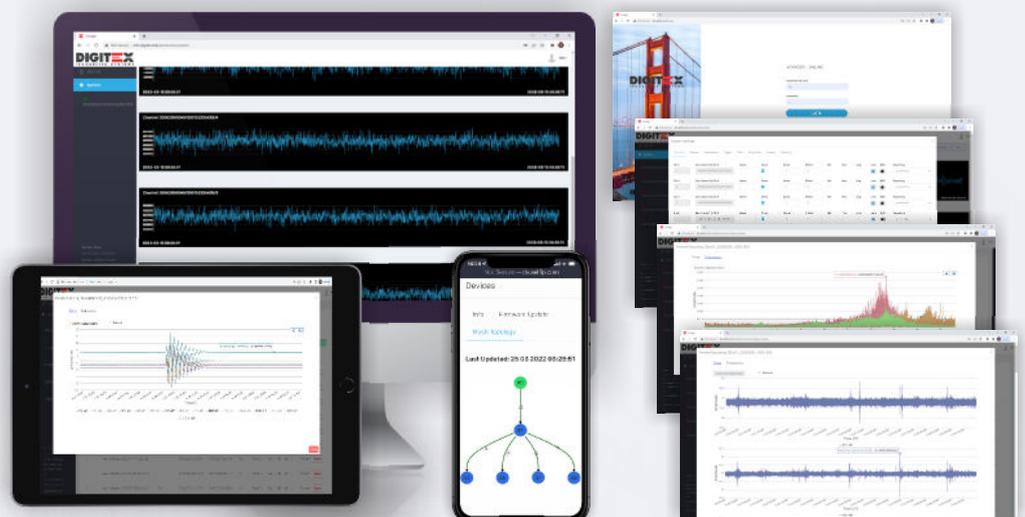
Voyager software is running on xPlover, central data acquisition unit, or installed at cloud. It is developed under cross-platform JavaScript run-time environment. This design choice aims to optimize throughput and scalability in web based real-time applications with many input/output operations.

The idea behind the Voyager central acquisition software is to offer the end users easy and platform independent web access to the features and settings of the Sentry System.

The Voyager central acquisition software provides Real-Time acquisition, management and analysis of data from all connected Sentry System units in a daisy chain SHM system. It offers a flexible solution for field/remote acquisition and structural data analysis. Voyager can accept stream with data from any Sentry System unit (xWave, xSense or xStrain). Collected data can be recorded simultaneously or can be rebroadcasted to the client software. Number of Sentry System units, channel scale factor and offset, pre- and post-event time, channel trigger level and weight and communications parameters are configurable for each Sentry System unit.

One of the main advantages of Voyager is that it's not necessary to be installed and to run locally where the Sentry System units are installed. If all Sentry System units can be connected directly to internet connection then Voyager can be installed and running on a cloud service, thus providing flexibility in terms of local maintenance and removing the need for xPlover as a hardware.

Voyager is capable for automatic creation of PDF reports for every event. This is a WEB based application which is accessible from any internet enabled computer. Access to this application is granted to specific group of people with appropriate Login Information. Users can view the stored event records or schedule On-Demand event.

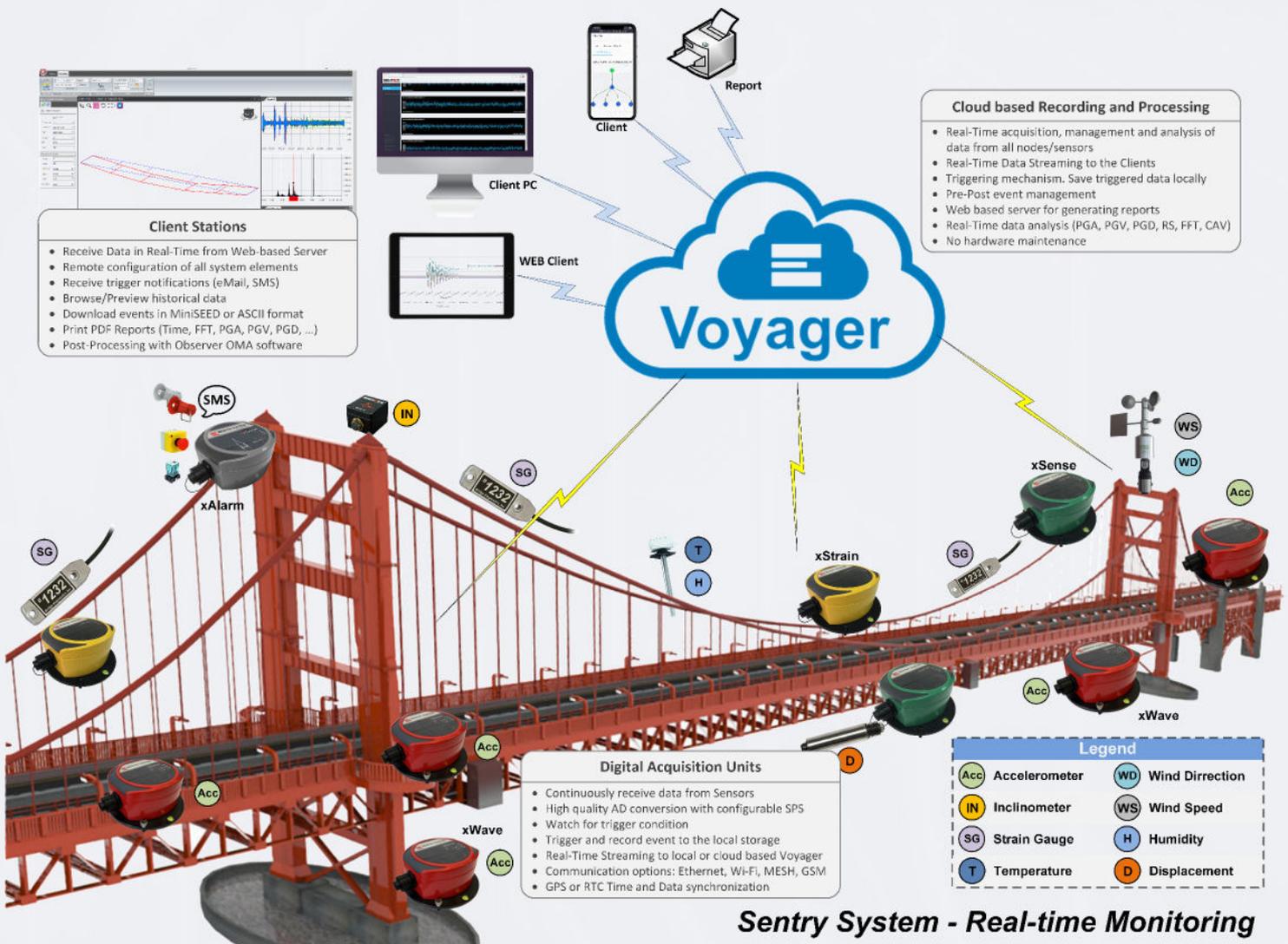


Real Time Monitoring System Architecture

The Digitex monitoring system is based on a highly efficient, multithreaded software design that allows the system to acquire data from a large number of xDAS units, monitor and condition this data, and distribute it, in real time, over the Internet to multiple remote locations.

Sensors on the structure continuously send out data to the system. If an event such as an earthquake occurs, pre-assigned thresholds of drift are exceeded in one or multiple locations, thus triggering the recording and analyzing of data (including pre-event memory). Once an event is recorded, the system notifies a list of users (via e-mail) and uploads the event via FTP to another site.

Using the "quick analysis" capability of the Digitex system, various measures of the monitored system's response can be distributed to multiple locations and displayed in real time. The system can cross correlate data, plotting useful information about the interaction between the dynamic loads on the structure and its modal characteristics. It can be used for a rapid (rough) estimation of the dominant structure mode being observed in the selected time window, as well as an estimator of the corresponding structure damping parameters.



Sentry System - Real-time Monitoring

About Digitex

Digitex is a company specialized in design and development of real time structural health monitoring systems for a variety of industries and applications including: bridges, tall buildings, campuses, windmills, oil rigs and more. Digitex's innovative solution for ambient vibration measurements and quick health assessment of structures is jointly developed and validated with our partners and advisors from the Universities. When properly configured, the Digitex system is capable of measuring and responding to both natural and man-made events such as: earthquakes, wind, explosions and accidental heavy impacts.

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