Vaisala Observation Network Manager NM10

/ EFFICIENTLY MANAGE YOUR WEATHER OBSERVATIONS
Cost-Effective, Configurable Off-the-Shelf Platform

Implementing a scalable, flexible management solution with autonomous systems and intelligent field devices of different brands and types which provide interfaces for efficient integration with other products and systems will allow you to optimize your network operations, improve safety and facilitate operation in remote locations.

Vaisala Observation Network Manager NM10 enables remote monitoring and control of your weather observation networks on one central, secure and automated platform. An off-the-shelf solution with extensive support and proven performance and functionality significantly reduces the implementation time and total lifetime costs, helping you stretch your budget further. Continuous modernization and efficient upgrades helps you utilize the most advanced technologies available to improve performance now and in the future.

Real-Time Monitoring with Alerts and Remote Diagnostics

The NM10 provides the ability to monitor individual site status via secure web technologies and collect data 24/7 from one central network in real time. It allows your team to remotely access and control individual sites to fix the problems faster and optimize your network operation. With centralized event, alert and notification information quicker reaction to network and sensor failures, and faster problem identification and solution deployment can be achieved for improved network uptime and data availability. In addition, configure the layout and displayed data to clearly visualize and understand precisely real-time weather conditions throughout your country or region affecting your operations and observation site performance.

High Data Security, Availability and Validity

Perform automatic real-time data quality control and analytics services to feel confident that you will get the high-quality observation data you need, which is crucial when your data is used further in decision making for critical operations and public safety. Redundant hot-standby multi-server or virtual environments can be used with long-term data archiving capabilities to ensure further continuous, uninterrupted operation. Advanced data security and user management capabilities are utilized avoid network vulnerability and helping to mitigate the risks of intrusion and cyber threats.

Benefit
- Continuous reliable observations to improve performance of weather services and operations
- Shorter site visits and correct actions to save time and money
- Optimized lifetime support to achieve lower operational costs and investments
Surface Weather Display Views

- Precisely understand current and past surface weather and environmental conditions affecting your operations on a single or a group of sites.
- Default desktop view customizable by system administrator to include new pages and layouts for different users.
- Surface weather alarm information optionally also visualized on GIS map and list views.
- Text view to list observations in numeric and string format.
- Chart view to inform about current and past surface weather and environmental conditions.
- Wind rose view with optional road or runway direction indication to inform about current wind conditions.

Observation Network Management Views

- Remotely monitor, access and control the sites connected to avoid unnecessary site visits.
- Monitoring overall status of the observation network using GIS map, list and detailed site views.
- Verify the quality of observation data.
- Access to administrator view for user management and system settings.
- Context sensitive help to use the application.
- Remotely control observation sites directly from the application desktop.
- Receive notifications when problems occur.
- Remotely access observation sites to further diagnose issues.
## Technical Data

### Features

<table>
<thead>
<tr>
<th>Data acquisition</th>
<th>Vaisala weather transmitters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vaisala air quality transmitters</td>
</tr>
<tr>
<td></td>
<td>Vaisala surface weather stations</td>
</tr>
<tr>
<td></td>
<td>Vaisala AviMet® airport systems</td>
</tr>
<tr>
<td></td>
<td>Vaisala AUTOSONDE® systems</td>
</tr>
<tr>
<td></td>
<td>Vaisala DigiCOR® sounding systems</td>
</tr>
<tr>
<td></td>
<td>Vaisala RWS200 road weather stations</td>
</tr>
<tr>
<td></td>
<td>ASCII string message parsing from third-party surface weather sensors and systems (when applicable)</td>
</tr>
<tr>
<td>Data post collection</td>
<td>Vaisala surface weather stations</td>
</tr>
<tr>
<td>Data processing</td>
<td>Range, step, and persistence checks for surface and road weather transmitter and station observations</td>
</tr>
<tr>
<td>Data storage</td>
<td>PostgreSQL database</td>
</tr>
<tr>
<td></td>
<td>Observation and event text files</td>
</tr>
<tr>
<td></td>
<td>Configurable database management system</td>
</tr>
<tr>
<td>Time services</td>
<td>Time synchronization for Vaisala surface weather stations</td>
</tr>
<tr>
<td></td>
<td>NTP system time synchronization</td>
</tr>
<tr>
<td>Notification services</td>
<td>Configurable SMTP email alerts</td>
</tr>
<tr>
<td>Remote site access</td>
<td>Terminal connection for weather transmitters and stations</td>
</tr>
<tr>
<td></td>
<td>RDP over HTTPS for airport, AUTOSONDE® and DigiCOR® sounding systems</td>
</tr>
<tr>
<td></td>
<td>Web browser connection via HTTPS to AUTOSONDE®️, DigiCOR®️️ sounding and RWS200 systems</td>
</tr>
<tr>
<td>Web user interface</td>
<td>Client connection via HTTPS</td>
</tr>
<tr>
<td></td>
<td>User authentication and administration</td>
</tr>
<tr>
<td></td>
<td>User configurable desktop and widgets</td>
</tr>
<tr>
<td></td>
<td>Map, list, graph, wind-rose, and text widgets</td>
</tr>
<tr>
<td></td>
<td>System settings</td>
</tr>
<tr>
<td></td>
<td>Sound alerts, events monitoring</td>
</tr>
<tr>
<td></td>
<td>Alarm acknowledgement</td>
</tr>
<tr>
<td></td>
<td>Grant or deny balloon release</td>
</tr>
<tr>
<td></td>
<td>Observation data reports</td>
</tr>
<tr>
<td></td>
<td>Data availability and validity reports</td>
</tr>
<tr>
<td></td>
<td>Translation for local language(s)</td>
</tr>
<tr>
<td></td>
<td>Context sensitive help</td>
</tr>
<tr>
<td>GIS map service</td>
<td>GeoServer with OpenStreetMap world map</td>
</tr>
<tr>
<td></td>
<td>Standard map</td>
</tr>
<tr>
<td></td>
<td>max zoom level: 1:433K</td>
</tr>
<tr>
<td></td>
<td>Enhanced map</td>
</tr>
<tr>
<td></td>
<td>max zoom level: 1:6759</td>
</tr>
<tr>
<td></td>
<td>WMS interface for third-party map data</td>
</tr>
<tr>
<td>Data export</td>
<td>FTP/SFTP, WFS via HTTPS</td>
</tr>
</tbody>
</table>

### Minimum System Requirements*

<table>
<thead>
<tr>
<th>Processor</th>
<th>2.0+ GHz, 4-core CPU or higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAM</td>
<td>8 GB or higher</td>
</tr>
<tr>
<td></td>
<td>(with standard GIS map)</td>
</tr>
<tr>
<td></td>
<td>16 GB or higher</td>
</tr>
<tr>
<td></td>
<td>(with enhanced GIS map)</td>
</tr>
<tr>
<td>Hard disk space</td>
<td>300 GB or higher</td>
</tr>
<tr>
<td></td>
<td>(with standard GIS map)</td>
</tr>
<tr>
<td></td>
<td>1 TB or higher</td>
</tr>
<tr>
<td></td>
<td>(with enhanced GIS map)</td>
</tr>
<tr>
<td>Operating system</td>
<td>Microsoft Windows Server 2008 R2</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows Server 2012 R2</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 7 Professional SP1 (64bit)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 10 Professional (64bit)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 10 Enterprise Embedded (64bit)</td>
</tr>
<tr>
<td></td>
<td>Linux CentOS 7.2</td>
</tr>
<tr>
<td></td>
<td>Linux CentOS 7.3</td>
</tr>
<tr>
<td>Ethernet</td>
<td>10/100/1000 MB</td>
</tr>
<tr>
<td>Other peripherals</td>
<td>USB drive, UPS</td>
</tr>
<tr>
<td>Web browsers</td>
<td>Microsoft Edge latest versions</td>
</tr>
<tr>
<td></td>
<td>Microsoft Internet Explorer 11</td>
</tr>
<tr>
<td></td>
<td>Mozilla Firefox latest versions</td>
</tr>
<tr>
<td></td>
<td>Google Chrome latest versions</td>
</tr>
<tr>
<td>Monitor resolution</td>
<td>1366 x 768 or higher</td>
</tr>
</tbody>
</table>

*Exact system requirements for computer hardware is dependent on the number and type of observation sites connected, amount of data collected, data acquisition interval(s), data storage time, maximum number of concurrent web clients connected, and features selected by the customer. For further information and more detailed specifications, please contact Vaisala.