# VAISALA

# Vaisala Continuous Monitoring System (CMS)

## What components make up a typical Vaisala CMS?

A typical CMS comprises data loggers with network access devices (either vNet or Digi devices) or Wi-Fi equipped data loggers (HMT140 Series Wi-Fi Data Loggers) that connect with a viewLinc Server.

## What are the server requirements for the CMS?

The CMS Server must be available 24/7 and contain a minimum of 350 MB free application disc space. viewLinc supports all current Microsoft Operating Systems, including Server 2003 (32bit), 2008 R2 (64bit), 2012 R2 (64bit), Windows 7 Pro (64 bit). Ensure you have installed the latest USB drivers on your PC (**Start > Update > Windows Update**).

| System Specifications | | | |
|---|---|---|---|
| License | Small (up to 5 Devices) | Medium (up to 100 Devices) | Large (100+ Devices) |
| Channels | <20 | up to 400 | up to 5000 |
| Dedicated machine | No | No | Yes |
| Minimum CPU | 1.6 GHz Dual Core | 1.6 GHz Dual Core | 3.2 GHz Quad Core |
| Minimum RAM (Host or Server) | 4 GB | 8 GB | 12 GB |
| Average update period based on active users | 1 min / 10 users | 3 min / 20 users | 6 min / 50 users |

## How much hard drive space does the system need?

The historical database requires 200 KB per Channel or Location per day.

## What wireless security is compatible with Digi/MOXA Devices?

WEP (Wired Equivalent Privacy); 64/128-bit encryption (RC4); WPA/WPA2/802.11i; 128-bit TKIP/CCMP encryption; 802.1X EAP authentication; Dynamic WEP, LEAP (WEP only), PEAP, EAP-TLS, EAP-TTLS, PEAP/MSCHAPv2, PEAP/TLS, PEAP/GTC, PEAP/OTP, PEAP/MD5, EAPTTLS/EAP-MD5, EAP-TTLS/EAP-GTC, EAP-TTLS/ EAP-OTP, EAPTTLS/EAP-MSCHAPv2, EAP-TTLS/EAP-TLS, EAP-TTLS/MSCHAPv2, EAPTTLS/MSCHAP, EAP-TTLS/PAP, EAPTTLS/ CHAP; Enterprise and Pre-Shared Key (PSK) mode.

## What wireless security is used by HMT140 Wi-Fi Series Data Loggers?

HMT140 supports WEP128, WPA and WPA2 (PSK), but not enterprise security types.

## What are the network specifications of the CMS?

The CMS monitors data loggers attached (via vNet or Digi devices, or with internal Wi-Fi transmitters, as in the HMT140 data logger) to your LAN or WLAN. By default, the Server uses TCP port 771 for vNets and Digis to communicate with network devices and their attached data loggers.

Device configuration requires UDP messaging or, in the case of the HMT140, UDP 6767. The CMS requires that Digi devices be configured with Static or Reserved IPs, and if the devices are being installed on different subnets, they will need to be configured before being installed in their permanent locations.

If your vNet device has a minimum Firmware version 1.4 installed (s/n 1411xxxx or higher), use the viewLinc Aware service to automatically detect and configure your devices.

UDP port 12600 has to be open for the Device Host or viewLinc Server that is connected to the vNet.

The CMS supports wired (serial, USB, Ethernet and PoE) and wireless (Wi-Fi) network infrastructures, or any mix. Power requirements for 1-8 port Ethernet Adapters include a 110/240 VAC power supply.

## What are the client computer requirements?

viewLinc Administrator computers require 2.4 GHz CPU, 2 GB of RAM, and a supported Internet browser installed. viewLinc supports Internet Explorer versions 8, 10 and 11.

## What wireless devices does the CMS work with?

We currently offer two different types of wireless devices: the HMT140 series Wi-Fi data loggers and our other data logger models combined with Digi network devices. Both the HMT140 series data loggers and the Digi devices support 802.11 b/g with WPA and WPA2 PSK authentication.

## What are the Power-over-Ethernet specifications?

vNet PoE devices are 802.3af compliant and work with both end-point and mid-span systems. It is a Class 1 device, which is the lowest power class. The power budget for a vNet device is approximately 0.75 to 1W. For a Digi device power consumption is 4 to 6 W and it is a Class 2 device.

| Note | vNet devices maintain a low power rating by operating at a network speed of 10 Mbps. To ensure your network devices can operate at different speeds, set the network speed for the connected vNet port (see *vNet User's Guide*). |
|------|---|

## What is the CMS's load on the network?

Network traffic may increase depending on network configuration and type of communication devices used. Approximately 100 KB per minute per device.

## What is the database structure?

Database structure is embedded and completely managed by the application.

## Does the system require any client software to be installed?

No. Users access the Web application via Internet Explorer 8, 10 or 11.

## Can viewLinc be programmed to wake me up during the night?

Most smartphones can be programmed to reject (Black List) or accept (White List) specific phone numbers, during specific hours of the day. Simply enter the SMS modem number into the white list of the smartphone, and assign a wakeup ring-tone for this number. More filtering details can be found on your smartphone-specific website.

## How does the system handle security?

Users access the CMS with a standalone Windows username and password or their corporate domain credentials. Each user account can be assigned various levels of permission to the system.

## How does the CMS communicate alarms?

The CMS sends alarm notifications via SMTP/POP3 and SMS. These messages will be relayed through the corporate mail Server or any external SSL email service (for example, Gmail, Yahoo). A sending/receiving account with valid credentials is required. Alarming can be configured to notify different people for different reasons. Notifications can be sent by email or SMS.

## Which type of SMS modem can be used?

The customer is expected to provide a USB or DB9 COM port SMS modem and associated data contract for this option. The modem should be AT command compatible, and should provide an SMS data plan to allow unlimited messages. The customer should ensure that a local service provider supports use of the chosen modem on their network. For assistance choosing a cellular modem, please contact us, www.vaisala.com/requestinfo.

## Is there a preferred server archiving method?

The CMS server should be attached to a UPS and managed by corporate IT to ensure system uptime. Backup applications should support open file backup.

## How does the CMS archive data?

Each data logger records at the point-of-measurement and typically has on-board memory for a month or more of data. In case of network downtime, the system will automatically restore any missing information to the CMS server and trigger alarms as appropriate.

## Can viewLinc operate external alarms?

viewLinc includes alarm commands that allow for the attachment of a Vaisala web relay (CON-REL-4-P) to a network, and be configured to initiate when an alarm occurs. Commands can be applied to a self-powered siren, or to another external alarm product. The Vaisala relay and siren part number is CON-REL-ENUNC-P.

## Can I use the mobile application if my smartphone cannot access the company VPN?

Your IT department will need to set up port forwarding for the internal address of the CMS Server on the corporate firewall, and specify the TCP port that the CMS has been set up to use. This port may be changed in the viewLinc.cfg file if required.

```
[web]
# port for insecure (http) communications
port = 80
# port for secure (https) communications
https_port = 443
```

A viewLinc service restart is required following this change.

## Can I turn off the mobile application?

The viewLinc.cfg file contains the entry to enable/disable mobile applications. Add a # to the start of line that contains mobile_agent_ids (for example, #mobile_agent_ids).

## What display or panel should I use to have a permanent display for either external room or security office?

The viewLinc display service will work with any supported Microsoft operating system and browser such as Internet Explorer 8, 10, or 11. As long as the panel is connected to the same network as the viewLinc Server, any custom or standard product (either touch screen, or mouse operated) will correctly display viewLinc.

## What languages/input character types does the CMS support?

The viewLinc software is localized in English (EN), Chinese (ZH), Japanese (JA), German (DE), French (FR), Spanish (ES), Portuguese (PT), and Swedish (SV). viewLinc supports UTF-8 compliant multi-byte character sets.

## How is the CMS licensed?

A license is required for each viewLinc Enterprise installation, allowing you to support multiple devices (the number of devices is defined by the Security Key purchased). Any authenticated user may access the CMS application via a standard Web browser without limit to geographical location or organizational structure.

## Can I upgrade from an earlier version?

viewLinc 3.6.1 is the official (QA tested) lowest version which can upgrade to viewLinc4.3 directly. If you want to upgrade from an earlier version, you must first upgrade to 3.6.1.

## How long does it take to restart viewLinc in an upgrade installation?

Depending on the server/database size, it may take a few minutes or several hours (4 to 6) to complete an upgrade. To ensure data integrity, it is important not to interrupt the restart process.