GD6101
Hanwell EMS
IT
Pre-Requisites

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Document History

Document Number: GD6101

Issue No.	Issue Date	Change Detail	Made By	Approved By
1	15th February 2019	First issue.	IR	

Contents

1 Overview

The purpose of this document is to streamline the installation process, as far as possible, from the perspective of both the Customer and the Hanwell Installation Team.

Please ensure that all of the information requested in this Document is provided accurately and that all the necessary conditions are met prior to our commissioning visit. We will not be able to attend site without this information.

<p style="text-align:center"><strong style="color:red">PLEASE NOTE:</p>

<p style="text-align:center"><strong style="color:red">Without this level of preparation in advance the Site Engineer may be unable to complete (or possibly even start) the installation task, leading to extra incurred charges for a repeat visit.</p>

<p style="text-align:center"><strong style="color:red">THIS DOCUMENT IS A CONTRACT THEREFORE PLEASE MAKE SURE YOU CORRECTLY FILL OUT EACH QUESTION AND SIGN ON THE LAST PAGE</p>

2 Key Requirements

The key requirements are as follows; full technical details are expanded upon elsewhere.

2.1 EMS A or B Install

EMS can be provided as an **A** or a **B** install. Which one is appropriate needs to be decided before installing EMS as each requires different pre-requisites to be in place.

- An A install installs SQL Express on the EMS Application Server.

- A B install uses Microsoft SQL provided by the customer; this can be on the EMS Application Server or another machine within the domain.

  Note: W900B does NOT put an SQL instance anywhere.

- Please ensure that you have read the FAQ section at: http://help.emsprocloud.com/ which answers most common questions regarding the IT infrastructure settings and raised any issues that may hamper the process **prior** to install.

- Please also ensure that any particular requirements regarding desired password strength etc are documented prior to the install.

- We will require full **Administrator Access** to all computers/servers on which EMS components will be installed.

- Where EMS is going to be used with an existing Microsoft SQL Server, we will require **SysAdmin role** access to the SQL Server.

- Unrestricted access must be available to the internet and printers from these machines in cases where licence applications and/or validation documentation completion form part of the process.

- Full Administrator rights must be available on a PC **connected on your network**, allowing unrestricted software installation, internet access and full use of the USB Ports.
  This is for the Remote Management Tools, required to configure the hardware for EMS. See Section 6.

  Alternatively, the Technician's laptop needs to be permitted to connect to the corporate network.

- Hanwell would normally install the EMS System software remotely, which offers a cost saving to the Customer. In such a case, following liaison with Hanwell's IT Team, the Customer's IT Support Provider would be responsible for the provision of a suitable connection to allow such remote installation.

- If the EMS System software is to be installed on multiple sites, the Customer will need to make appropriate changes to their corporate firewalls. Such changes may also be necessary to allow access to any SR2 receivers from the PC/Server hosting the EMS installation.

- Please ensure that all requested/agreed power points and Ethernet connections are in place and functional **prior to the install**.

3 Computer Specifications

Hanwell recommends the computer specifications below as a **_minimum_** to run EMS.

3.1   All Operating Systems

Ensure that the host machine for EMS has all the latest Windows updates before installing the EMS software.

- Windows updates should be carried out prior to our commissioning visit as this can take some time depending on the age of the computer/server.

Failure to meet minimum computer specification may result in poor performance and incorrect operation.

The Host machine must NOT be configured as a Web Server (e.g. IIS).

- If the Web Server Role is enabled on the host machine, remove the Role before installation. Instructions on how to configure this setting can be found in the **Hanwell EMS Installation Manual, Doc. No. IM5995**.

When installing the A version, the install disk needs to install to the **C:** drive.

The Customer should provide a backup System, with Microsoft SQL integration, appropriate to their data protection requirements.

- Hanwell strongly recommends the use of an appropriately rated Uninterruptable Power Supply (UPS), with automatic shutdown technology.

3.1.1   Windows Server 2008 R2*, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019

- Server Edition must be Standard or above[3].

- Server Core Mode is not supported.

* Not recommended due to end of life status

Table 1

Processor		2.5GHz or faster
RAM		8GB
Hard Disk Drive:	**Physical Machine**	250GB
	Virtual Machine	70GB
Network		1GB Ethernet Network Port

Note: **EMS W900A** or **W906A** must NOT be installed on a Domain Controller. SQL Server Security Restrictions mean that the installation will usually fail.

3.1.2   Windows 7* Professional or Enterprise, Windows 10 Pro or Enterprise

Note: EMS will not run on Windows 7 Starter or Home Premium, or Windows 10 Home or Mobile due to the lack of Network access rights and components.

* Not recommended due to end of life status

Table 2

Processor	2.5GHz or faster
Ram	2GB (32-bit) 4GB (64-bit)
Hard-drive	250GB
Network	1GB Ethernet Network Port

3.2   .Net Pre-requisites

EMS install requires both .Net 3.5.1 and .Net 4.5 frameworks.

The installer includes bootstrappers for the .Net 3.5 4.5 Frameworks which will install automatically throughout the install process.

However, on machines running Windows Server operating systems, (e.g. Server 2008 onwards), the customer **must** enable .Net 3.5.1 manually on the Server prior to EMS installation.

See **Hanwell EMS Installation Manual, Doc. No. IM5995** for information on checking and enabling .Net 3.5.1 on server-based Systems.

3.3   Browser Compatibility

The EMS System is a scalable, browser based, SQL database which is used through a browser.

The Host machine and Client machines **MUST** have one of the browsers below installed:

- Internet Explorer 10 or 11.

- Microsoft Edge (Windows 10).

- Google Chrome Version 29 or later.

- Mozilla Firefox Version 23 or later.

Note: Other browsers generally work with EMS but are not guaranteed to be fully compatible; earlier versions of Internet Explorer do not support all EMS features.

3.4 Server Details

- Please complete Table 3 below.

- Where applicable, select the appropriate options.

- This section **MUST** be completed.

Table 3

Server Name:				
Server Location:				
Windows Operating System *(e.g. Server 2008 R2)* [1]				
W900A or W909A Server IS NOT a Domain Controller.	Yes	◎		
Server IS NOT hosting a Web Server such as IIS or Apache[2].	Yes	◎		
Server is NOT hosting a database server, other than Microsoft SQL[3]	Yes	◎		
Server is up to date with latest Windows updates	Yes	◎		
Will the Server have Antivirus software installed?	Yes	◎	No	◎
Name of Antivirus software (if installed)				
Can Antivirus software (if installed) be turned off for installation?	Yes	◎	No	◎

Notes:

[1]. Windows Server Essentials editions can be configured to run W900A or W906A; however, Hanwell recommends against this and will only provide support by arrangement **prior to installation** at **additional cost**.

[2]. Hanwell does **NOT** support EMS use in a mixed Webserver Environment and EMS should not be installed in such an environment.

[3]. Hanwell Recommends against running EMS in a mixed Database Server environment.

4 Existing Microsoft SQL Instances

- If the target server does NOT have an existing Microsoft SQL Server instance and you do not wish to use/have an appropriate Microsoft SQL Server available on the LAN, please select and order **EMS W900A / W906A**, and move onto Section 5.

- If there is an existing Microsoft SQL Server, on the target server or LAN, that you wish to use for EMS, then please select and order **EMS W900B / W906B** below and fill out the **EMS W900B / W906B** details in Table 4.

Select One Product Option: EMS W900A/W906A   ◎   **EMS W900B / W906B**   ◎

In any case, do **NOT** attempt to install **EMS W900A / W906A** on a machine with an existing Microsoft SQL Server instance, unless the SQL was installed as part of a previous W900A / W906A installation; SQL Express will be installed during W900A / W906A installation, do **NOT** install SQL prior to installation.

4.1 EMS W900B / W906B

If ordering **EMS W900B / W906B**, this section **MUST** be completed.

Table 4

SQL Type	Server Name	Instance Name or Port Number	SQL Version
Single Instance:			

SQL instances are connected by either name or Port Number; enter either the **Instance Name** or the Instance **Port Number**, but **not** both, under **Instance Name or Port No**.

Note: If the SQL server connects by name, and does not have an instance name, please write **'No Instance Name'** in the **Instance Name or Port Number** box in **Table 4** above.

4.2 Existing Microsoft SQL Server Requirements

- The installing User's Windows login must have a **System Admin** role on the SQL Instance.

- It is helpful if the **SQL Server Browser Service** is running during EMS install and EMS Config Utility operation.

- **SQL Server Management Studio** (**SSMS**) must be installed.

4.3 User Credentials

If **EMS W900B / W906B** is to operate a Microsoft SQL Server running on a separate machine, then EMS will require Windows domain login credentials to operate.

The Login used for EMS **MUST** have password set to **Never Expire**, otherwise, the **Service Account** that serves the data from the **Application Server** to the **Database** will stop working when the Password expires.

This login **MUST not** be the login used to install EMS; using the same login causes database creation to fail (and would in any case result in a worse security situation post install, as the EMS Services would be left running as Administrator on the local System and as an SQL Administrator on the SQL Server).

Customers should **not** add this EMS System login to their SQL Server. The login will be added automatically during EMS installation (allowing the installation to add the EMS Service logins to the SQL Server gives the best security situation, because the Service login will only be granted access to the databases created for EMS, with the minimum roles required to operate the System).

Hanwell recommends that customers create a Network User login specifically for the EMS System.

5 TCP/IP Ports and Addresses

- If the Customer wishes to connect to remote SR2, CR3 or CR2 USB units where no intranet is in place, then the Customer must ensure that all Firewalls are configured to allow connections between the remote networks over the requisite TCP/IP Ports. See Table 5.

- There are no IANA registered Port Numbers for EMS; instead, it uses unassigned Port Numbers.

    Ref: *http://www.iana.org/assignments/service-names-Port-numbers/service-names-Port-numbers.xml as of 17/12/2012.*

- If a conflict arises on the host machine, EMS TCP/IP Ports can be configured during installation.

    For the majority of Systems, the Default Ports will suffice.

- Where Port Numbers need to be changed, care should be taken to avoid well known and assigned Port Numbers; consult the IANA website and do not use Port Numbers below 1024.

    If Port Numbers are altered, make a note of any changes and then modify the matching service data during database configuration.

    Where Hardware Services are installed on distributed machines, Port Numbers can be shared amongst the distributed machines.

- The EMS IP Address / Hostname and Port Number can be set during installation of the Hardware Services.

    This must match the address of the EMS Server and the Data Service Port No. set for the Hardware Services during initial System Configuration.

- The Hardware Service Command Listening Ports will be automatically updated by the Data Service when each Hardware Service initially makes contact; therefore, these can be altered without manually updating the database.

- The Debug Ports are solely used by the Service Debug Viewer for Hanwell maintenance purposes; therefore, again, these can be altered without modifying the database.

    Debug Port Numbers are altered by editing the Hardware Services *setup.xml* file, found in the service's Common Application Data Folder

Table 5

Service	Data	Alternate	Protocol	Incoming or Outgoing	Debug	Alternate
EMSSR2Service	10992		TCP (Out)	Out	11002	
EMSDataService	10991 (DB set) (DB set)		n/a	n/a	11004	
EMS WCF Connection	8081		n/a	n/a	n/a	
EMSArchiveService	8080		n/a	n/a	11010	
iSense/CR3 GSM (CR2 GPRS) – Hanwell Remote Data Service	8081		TCP (Out)	Out	n/a	
W900A/B Installation – Remote Management Tool (SQL Connection)	80		TCP (In)	In	n/a	
SQL Browser Service	1433 1434		UDP (In)	In	n/a	
ARB Module, SMS Module, IceSpy Bases	10997		TCP (In)	In	n/a	

Notes:

- If one of the Ports included above is unavailable, please provide an alternative in the 'Alternate' column.

- For Firewall rules purposes, the SQL Ports require TCP and UDP, all other Ports are TCP.

- See EMS Install Manual for full details when installing EMS.

- The Customer MUST enable inbound connections for the above Ports on any server firewall prior to installation. If using iSense or CR3 GSM (CR2GPRS), the Customer MUST also enable outbound connections on Port 8081 on server and corporate firewall(s) prior to installation.

- EMS WCF and Debug Connections are local to the EMS Server.

Connections Open?   Yes ◎   No ◎

6 Remote Management Tools

IT will need to provide the rights to install the Remote Management Tools application on a PC connected to your network to configure the hardware for EMS.

Have Access Rights been Provided to a PC for installation of the Remote Management Tools Application?	**Yes**	◎	**No**	◎

7   Email Alerts

If the Customer requires Hanwell to commission Email Alerts, then please complete the following table:

Table 6

SMTP Server and **Port No**. if not default	
Sender Email Address *(e.g. EMS@yourmailserver.com)*	
SMTP over SSL? – Please select option	Yes ◎ No ◎
SMTP Username[1]	
SMTP Password[1]	
BCC Email Address *(e.g. UsersSupervisor@yourmailserver.com)*	

Note: If Your email setup does not require a User Name and Password, please enter 'dummy' information into the relevant fields.

7.1   Email Acknowledgments

If the customer requires Hanwell to commission Email acknowledgements, please complete the following table:

Table 7

Email Receiving Protocol – Please select option	IMAP ◎ POP3 ◎
IMAP/POP3 Mail Server and Port No. if NOT default Port	
Receive Email over SSL? – Please select option	Yes ◎ No ◎
IMAP/POP3 User Name[1]	
IMAP/POP3 User Password[1]	

[1]   It is acceptable to leave the Username and Password fields blank.
   If leaving these fields blank, then someone with this information must be available on the day of the installation. Failure to provide this information either prior to or during installation will result in failure to configure the Email alarms which could incur further charges should a return visit or remote session be required.

8 EMS System Details

Answering the next set of questions will provide us with details of the System you wish to create.

Table 8

1.	Full Administrator access provided on all machines to be installed with EMS software?	Yes ◎	No ◎		
2.	EMS W900B / W906B installs only: SysAdmin role on the target Microsoft SQL Server?	Yes ◎	No ◎	N/A ◎	
3.	If the data collection occurs from multiple sites, is there a network connection between sites?	Yes ◎	No ◎	N/A ◎	
4.	If Yes to 4, but there is no VPN connection, are you able to modify all associated firewalls?	Yes ◎	No ◎		

8.1 Main Site

LAN EMS Server IP address:	
LAN IP Address for Base Unit (SR2/CR3/Network Receiver):	
Live Network Point Allocated?	Yes ◎ No ◎

8.2 Site 1

LAN EMS Server IP address:	
LAN IP Address for Base Unit (SR2/CR3/ Network Receiver):	

8.3 Site 2

LAN EMS Server IP address:	
LAN IP Address for Base Unit (SR2/CR3/ Network Receiver):	

8.4 Site 3

LAN EMS Server IP address:	
LAN IP Address for Base Unit (SR2/CR3/Network Receiver):	

Document Completed By:

Company Name and Address

	Name
	Signature
Please sign here to confirm that you understand these requirements and accept that extra charges may be incurred if they are not in place prior to installation.	
	Date

9 Contact Information

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Please contact your local Hanwell Distributor.

A list of distributors is available at: www.hanwell.com/global-distributors