

Minimum Server and Client (workstation) requirement (we recommend having dedicated server hardware)

A. HW requirements:

- Absolute minimum = you could upgrade an existing PC of this spec to VisiOnline if there really was no alternative PC. Performance would be slow.
- Recommended minimum = Do not go below this specification for new installations – or performance might suffer.

Absolute Minimum Offline System	Recommended Minimum Offline System	Recommended Minimum - ZigBee Online System
2.5 GHz 2 Core Processor	3.5GHz 2 Core Processor	3.5 GHz 4 Core Processor
4 GB RAM	8 GB RAM	16 GB RAM
10GB Hard Disk	20 GB Hard Disk	40 GB Hard Disk (SSD for better performance)
At least 800 x 600 VGA Resolution	At least 800 x 600 VGA Resolution	At least 800 x 600 VGA Resolution
1 x USB Port - Optional for file transfer and Backups. If server is on a VM than we will require access to a shared folder on the network to perform the above.	1 x USB Port - Optional for file transfer and Backups. If server is on a VM than we will require access to a shared folder on the network to perform the above.	1 x USB Port - Optional for file transfer and Backups. If server is on a VM than we will require access to a shared folder on the network to perform the above.
Ethernet – with Static IP	Ethernet – with Static IP	Ethernet – with Static IP
A means of communicating with a printer (USB, parallel, serial, Ethernet, Bluetooth etc)	A means of communicating with a printer (USB, parallel, serial, Ethernet, Bluetooth etc)	A means of communicating with a printer (USB, parallel, serial, Ethernet, Bluetooth etc)
Windows Server OS – Refer Below	Windows Server OS – Refer Below	Windows Server OS – Refer Below

B. Operating systems: Server and client

Server OS	Client OS
Windows 2008 Server (32 Bit, 64 bit)	Windows Vista (32 Bit)
Windows 2008 Server (Which is 64 bit Only)	Windows 7 (32 Bit, 64 bit)
Windows 2012 Server	Windows 8 (32 bit, 64 bit)
Windows 2012 Server R2	Windows 8.1 (32bit, 64 bit)
Windows 2016 Server	Windows 10 (32bit, 64 bit)
Windows 2016 Server R2	VM Compatible
Windows Vista (32 bit)	
Windows 7 (32 Bit, 64 bit)	
Windows 8 (32 bit, 64 bit)	
Windows 8.1 (32bit, 64 bit)	
Windows 10 (32bit, 64 bit)	
VM Compatible	

C. What we need from IT:

- A user account on the domain that will be used as a “component” Account, this is the account the system uses to communicate together – authentication account between the VisiOnline application on the server and client PC’s. This account will become interactive once used “locked” so no one will be able to login with it, only our software has access.
- Windows firewall exceptions in all client and server, (refer firewall exceptions list below)
- Admin account we can use to login to the server and clients to install our software (an account that has the rights to install software and add exceptions in the firewall if needed on the computers)
- Antivirus needs to have our folder and software as exceptions. (Client and server)
- Static IP addresses to any network encoders.
- Network between clients/server and online ZigBee gateways have to be connected and (VLAN/Firewall) Ports needed to be open as in below firewall exceptions.
- Able to turn firewall on and off on the server
- Able to change the size of Windows application log on our server
- A SMTP/POP3 mail server access account to send and receive email from the system (alarms)

D. Firewalls / Anti-Virus Exceptions

See below an explanation of the VisiOnline exe files for which firewall exceptions are automatically made.

Server Machine	Client Machine
All Files in the VisiOnline Program Files and ProgramData folders. Default Program Files folder is: C:\Program Files (x86)\ASSA ABLOY\VisiOnline Default ProgramData folder is: C:\ProgramData\ASSA ABLOY\VisiOnline	All Files in the VisiOnline Program Files and ProgramData folders. Default Program Files folder is: C:\Program Files (x86)\ASSA ABLOY\VisiOnline Default ProgramData folder is: C:\ProgramData\ASSA ABLOY\VisiOnline
Firewall Ports: *135 (TCP) – DCOM Ports – refer below for detailed information and how to set fixed port in windows register. 443 (TCP) 3001 (TCP) 7799 (TCP) 7788 (UDP) Lock Service Port (27015 default (TCP) PMS port (4000 default (TCP)	Firewall Ports: *135 (TCP) – DCOM Ports – refer below for detailed information and how to set fixed port in windows register. 3001 (TCP) 7799 (TCP)

Firewall and Anti-Virus Exceptions for VisiOnline .Exe files

Name	Description
AppAlarm.exe	Manages alarm triggering and revoking
AppAuth.exe	Manages authority for operators
AppCamera.exe	Manages communication with IP cameras
AppCard.exe	Manages encoding and encryption of cards
AppCath.exe	Manages housekeeping and storing of events in the database
AppDB.exe	Queues database requests
AppEv.exe	Receives events from all components and passes them on to the Event Log
AppMail.exe	Manages sending and receiving of e-mails (plain or SSL)
AppMessage.exe	Formats e-mails and text messages
AppOnline.exe	Handles online communication including ZigBee network management
AppPMS.exe	Handles Handles PMS interface
AppTLCode.exe	Generates commands to Lock Service/Lock Service 3G/Orion Service
AppUpdate.exe	Manages auto-update of cards
AppWebService.ex	Manages the web service
AppXml.exe	Handles non-volatile storage of XML data
Cards.exe	Buffers requests for cards issued from the client
CardUpdate.exe	Service that keeps AppUpdate running
CEMag.exe	Communicates with MCE and CE as well as with ACE emulating MCE/Omron
DBServer.exe	Buffers database calls
DeviceMUX.exe	Manages start and stop of devices as well as queuing
HCU.exe	Communicates with Lock Service/Lock Service 3G/Orion Service
NGStarter.exe	Service that runs on XP/Vista/W7/W8/W10/2008/2012
TLCom.exe	Communicates with ACE/DCE/RFID using D-032
TLConcentrator.ex	Used when Visionline is installed on a ZigBee server
TLMifare.exe	Manages encoding of Mifare cards
TLPCSC.exe	Communicates with PCSC (Gemplus and Omnikey) encoders
TLRFID.exe	Manages USB connection to the RFID encoder
TLSRT32.exe	Manages encoding using KDE encoder

E. DCOM (*Distributed Component Object Model*)

Note: All calls between machines are made through DCOM (*Distributed Component Object Model*). In many ways, DCOM works like the FTP protocol. The DCOM command port is TCP 135 (for FTP, it is normally 21). Once a command arrives at port 135, a temporary port (ephemeral port) is randomized within a specific port range; this range depends on the Windows version. The DCOM call is then processed on the ephemeral port so that the command port is free for other incoming DCOM requests; this is the same procedure as when FTP randomizes a data port to transfer the files on.

In Windows Server 2008 and later versions, and in Windows Vista and later versions, the default dynamic port range changed to the following range: *Start port: 49152 End port: 65535*. If your computer network environment uses only Windows Server 2012, Windows Server 2008 R2, Windows Server 2008, Windows 8, Windows 7, or Windows Vista, you must enable connectivity over the *high port range of 49152 through 65535*.

Customers using firewalls may want to control which ports RPC is using so that their firewall router can be configured to forward only these Transmission Control Protocol (UDP and TCP) ports. With Registry Editor, you can modify the following parameters for RPC. The RPC Port key values discussed below are all located in the following key in the registry:

HKEY_LOCAL_MACHINE\Software\Microsoft\Rpc

Note The minimum number of ports required may differ from computer to computer. Computers with higher traffic may run into a port exhaustion situation if the RPC dynamic ports are restricted. Take this into consideration when restricting the port range.

The values (and Internet key) discussed below do not appear in the registry; they must be added manually using the Registry Editor.

The values ("**Internet**") discussed below do not appear in the registry; they must be added manually using the Registry Editor.

1. Add new Key "**Internet**" Under **HKEY_LOCAL_MACHINE\Software\Microsoft\Rpc**
2. Under the **Internet** key, add the **values**
 - "**Ports**" (MULTI_SZ) = 57000-60000
 - "**PortsInternetAvailable**" (REG_SZ) ="Y"
 - "**UseInternetPorts**" (REG_SZ) ="Y"

For example, the new registry key will appears as -

