

Attn: IT Personnel

# Technical Specifications for MuniWare Momentum

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## Technical Specification for Production Environment

The MuniWare Momentum Suite of applications has been developed using the Microsoft .Net Framework with an SQL Server database

### Licensing Information

It is the responsibility of the municipality to ensure that all software used has the appropriate license. To use the MuniWare Suite of applications you will need to purchase / have licenses for the following products:

- Microsoft Windows Server 2008R2, **OR** Greater. (if a server is used)
- Windows 7 **OR** Greater
- Microsoft SQL Server Standard or Express
  - Refer to Microsoft for an explanation of the difference between Standard and Express
  - The versions supported for SQL Server are 2008R2 up to 2016 SP1
- Microsoft .Net Framework 3.5 – This windows feature must be installed on all computers that will have MuniWare installed

\*\*\* We strongly recommend using versions that are currently supported by Microsoft

For detailed information please visit [www.microsoft.com](http://www.microsoft.com)

### Database Server - Tools and Technologies (Data Tier)

The following tools and technologies are required at data tier (database server):

- Microsoft SQL Server (Standard or Express) 2008R2 – 2016 SP1
- Virtual and cloud-based servers are supported
- Microsoft .Net Framework 3.5
- Windows Server 2008R2 **OR** Greater
  - Can be run on a Windows 7 or greater workstation as well, but does not offer the resiliency of a server

\*\*\* Please note that MuniWare will perform the installation of the database server to ensure optimized performance for the application.

#### Minimum Hardware requirements:

<i>Machine</i>	<i>Processor</i>	<i>Operating System</i>	<i>Memory</i>	<i>Storage</i>	<i>Protocol</i>
Data Tier	3.0 GHz Core 2 Duo	Windows Server 2008R2 or greater	8 GB	500 GB	TCP/IP
<p>*Processing speed, memory and storage requirements may vary depending upon the database size</p> <p>*** We strongly recommend using versions that are currently supported by Microsoft</p> <p>*** The amount of memory may need to be adjusted based on the number of users</p>					

### Email – Required if installing Email modules

If you are installing any modules that send email from the MuniWare application, you will need to ensure that email can be reliably sent. There are two options for sending email:

- 1) Use Outlook – this will send email through the user’s installed Microsoft Outlook application
- 2) SMTP Server – email will be sent from MuniWare to the specified SMTP server

If you have more than 100 emails which will be sent at one time, it is suggested that you use an SMTP server that supports bulk email.

## Networking

The following must be in place unless the Data and Client Tiers are running on the same computer:

- Firewall on Data Tier must allow inbound ports 1433 (TCP) and 1434 (UDP)
- Ethernet connectivity with minimum Cat 5e cable (Cat 6 recommended)
- Gigabit network recommended
- WiFi connected clients may not perform as well as wired
- Reliable internet connection required to allow remote support

## Workstation - Tools and Technologies (Client Tier)

The following tools and technologies are required at client tier (desktop application):

- Windows 7 **OR** Greater
- Microsoft Office 2007 **OR** Greater
- .Net Framework 3.5
- Crystal Reports Redistributable – **SUPPLIED BY MUNIWARE**

### Minimum Hardware requirements:

<i>Machine</i>	<i>Processor</i>	<i>Operating System</i>	<i>Memory</i>	<i>Storage</i>	<i>Protocol</i>
Client Tier	2.0 GHz	Windows 7 or greater	4 GB	80 GB	TCP/IP
*Processing speed, memory and storage requirements may vary depending upon the database size *** We strongly recommend using versions that are currently supported by Microsoft					

## Monitors

Preferred 19-inch VGA OR higher resolution will be required

## Pointing Device(s)

Mouse OR compatible pointing device.

## Recommendations for Printer(s)

The following printer requirements are needed for the MuniWare suite of applications:

- Multifunction printer will suffice for forms and reports
- The printer must support printing letter (8.5" x 11") and legal size (8.5" x 14") paper
- **MICR** toner compatible laser printer for printing cheques \*\*\*

\*\*\* If your printer does not currently support MICR toner, there are low cost options available. We recommend having a dedicated cheque printer to minimize the use of the MICR toner where not required. One example of a printer that can be used is the HP Office Jet 3080, you can purchase this through Staples for under \$100 and you can purchase the MICR toner from Amazon. Please ensure you review the specifications of the printer to ensure it will meet your needs and handle the number of cheques you will be printing

## Logo Requirements

MuniWare forms are designed to work with the clients Logo, which takes away the requirement to have various preprinted forms. To ensure that the Logo prints properly on cheques, invoices, Utility Bills etc., the municipality will need to have their forms designed to the following specific requirements:

- **Width 125 (pixels)**
- **Height 66 (pixels)**
- **96 dots per inch (dpi)**

Ideally Logos should be created in in Portable Network Graphics (.PNG) format (preferred) and submitted to MuniWare, but can also be in .JPEG / .JPG, OR standard Graphics Interchange Format (.GIF) file formats. These should be sent to MuniWare early in the project for adjustment and testing.