



Minimum System Requirements V5



Workforce Management Solutions
Securing your time and resources

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1 Review Sequence

DATE	VERSION	AUTHOR	DETAILS
2015-09	1	Johan v Heerde	Initial version
2016-10	2	Johan v Heerde	Updates
2017-02	2.17.01.2	CL van der Walt	Formatting and updates
2017-11	5	CL van der Walt	Updates

2 Application and Database Server Recommendations

2.1 Rack Server or Tower Server

2.1.1 Processor

- Intel® Xeon® processor E5-2600 or E5-2600v2 product families
- **Processor Socket:** 4
- **Internal Interconnect:** 2 x Intel Quick Path Interconnect (QPI) links: 6.4 GT/s, 7.2 GT/s, 8.0 GT/s
- **Cache:** 2.5MB per core; core options: 4, 6, 8, 10, 12

2.1.2 Operating System

- Microsoft® Windows Server® 2012
- **Virtualization options:** Citrix® XenServer®, VMware® vSphere® ESXi™, Red Hat Enterprise Virtualization®

2.1.3 Chipset

- Intel C602

2.1.4 Memory

- Up to 768GB (24 DIMM slots) 2GB/4GB/8GB/16GB/32GB DDR3 up to 1866MT/s

2.1.5 Storage

- Maximum internal storage: Up to 10TB
- Hot-plug hard drive options: 2.5" PCIe SSD, SAS SSD, SATA SSD, SAS (15K, 10K), nearline SAS (7.2K), SATA (7.2K), SAS 512e (15K)
- Self-Encrypting Drives available

2.1.6 Drive Bays

- Up to ten 2.5" hot-plug SAS, SATA, or SSD or up to four hot-plug 2.5" SAS, SATA, or SSD + two PCIe SSD

2.1.7 Slots

- PCIe slots:
2 x16 slots with x16 bandwidth, half-height, half-length
1 x16 slot with x8 bandwidth, half-height, half-length (ten-drive-bay configuration is available only with 3 PCIe slot option)

Or

- PCIe slots:
1 x16 slot with x16 bandwidth, full-height, 3/4 length
1 x16 slot with x16 bandwidth (or x8 with one processor only), half-height, half-length

2.1.8 RAID Controllers

- Internal controllers:
 - PERC S110 (SW RAID)
 - PERC H310
 - PERC H710
 - PERC H710P
- External HBAs (RAID):
 - PERC H810
- External HBAs (non-RAID):
 - 6Gbps SAS HBA

2.1.9 Communications

- Broadcom® 5720 quad-port 1GbE Base-T (no TOE or iSCSI offload)
- Intel I350 quad-port 1GbE Base-T (no TOE or iSCSI offload)
- Intel X540 dual-port 10GbE Base-T with 2 x 1GbE (FCoE capability enabled on the 10GbE ports)
- Broadcom 57800S dual-port 10GbE Base-T with 2 x 1GbE (TOE and iSCSI offload available on 10GbE ports)
- Broadcom 57800S dual-port 10GbE SFP+ with 2 x 1GbE (TOE and iSCSI offload available on 10GbE ports)
- Broadcom 57840S quad-port 10GbE SFP+ Rack NDC (NPAR1.0, SRIOV, DCB, iSCSI and FCoE offloads and CEM)

2.1.10 Power

- Titanium efficiency, hot-plug redundant 750W power supply
- Platinum efficiency, hot-plug redundant 495W, 750W or 1100W power supplies
- Auto-ranging power supplies

2.1.11 Availability

- High-efficiency, hot-plug, redundant power supplies; DC power supplies; hot-plug hard drives; TPM; dual internal SD support; hot-plug redundant fans; optional bezel; luggage-tag; ECC memory; interactive LCD screen; extended thermal support; ENERGY STAR® compliant; extended power range; Switch Agnostic Partitioning (SWAP)

2.1.12 Management

- Remote Management
- iDRAC7 with Lifecycle Controller
- iDRAC7 Express (default), iDRAC7 Enterprise (upgrade option),
- 8GB vFlash media (upgrade option), 16GB vFlash media (upgrade option)

2.1.13 Systems Management

- IPMI 2.0 compliant
- Dell OpenManage™ Essentials
- Dell OpenManage Power Center
- Dell OpenManage Connections:
 - Dell OpenManage Integration Suite for Microsoft® System Center
 - Dell plug-in for VMware® vCenter™
 - HP Operations Manager, IBM Tivoli® Netcool®, and CA Network and Systems Management

3 Software Requirements for Server

- Terminal OS System, Windows 7 or higher
- Windows Server 2012 or later
- SQL Server 2012 or later
- Microsoft SQL Server Management Studio
- Dot Net Framework 4.7 and higher
- Remote access Software support tool
- SQL mixed mode Authentication for SQL setup
- SQL administrator user
- Local Windows administrator user
- Full admin rights to XTime Server
- UDP Broadcasting ports opened on Server in order for us to view our Hardware.
- Secugen drivers Installed
- XTime Full Suite
- XTime Configuration tool
- XTime IPB graphics install tool
- XTime Generic Sync Installed (Additional module)
- XTime IDOC manager Installed (Additional module)

4 Software requirements for a User Terminal

- Terminal OS System, Windows 7 or higher
- Microsoft Office Suite (Excel for reporting)
- Dot Net Framework 4.7 and higher (Signal R - Web)
- Local admin rights on XTime folder
- Secugen drivers Installed (IPB7 Reader technology)
- Sagem MSO300 take-on Reader (Sagem Sigma, Maxx, EABR technology)
- XTime Full Suite
- XTime Configuration tool
- XTime IPB graphics install tool
- Impro IXP220 Registration Reader (Tags)

5 Ports used by the Software

- 32123 – Server app port, UDP.Server.DefaultPort, UDP.Server.Binding.Port
- 32124 – Config port
- 32125 – Third Party port
- 32126 – Viewer port
- 32127 – Debug port
- 32128 – Upload port(used for full uploads on IPB7)
- 33000 – 33032 – Multiple Engines
- 11111 – XTRegister Service Port (Default)
- 10001 – Sigma Lite units11
- 11010 – MA100, 500, 550 Sagem units
- 10000 – Batch Service (Default)

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