

# Hardware and Software Specifications

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# **Table of Contents**

On Site Server - Retail Stores	3
On Site Server - LTC Stores	
On Site Server - Combo Stores	
Host Based System – Retail Stores	13
Host Based System – LTC Stores	
Host Based System – Combo Stores	



#### On Site Server - Retail Stores

	Database Server				
Component/ Number of Users	1-10 Users	11-25 Users	26-50 Users	51-99 Users	100+ Users
Processor - Recommended	Intel® Xeon® Processor E5-1650 v4 (15MB Cache, 3.60 GHz, 6 cores)	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)	Intel® Xeon® Processor E5-2698 v4 (50MB Cache, 2.2 GHz, 20 Cores)	Intel® Xeon® Processor E5-4669 v4 (55MB Cache, 2.2 GHz, 22 Cores)
Processor - Minimum	Intel® Xeon® Processor E5-1620 v4 (10MB Cache, 3.50 GHz, 4 cores)	Intel® Xeon® Processor E5-1650 v4 (15MB Cache, 3.60 GHz, 6 cores)	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)	Intel® Xeon® Processor E5-2698 v4 (50MB Cache, 2.2 GHz, 20 Cores)
Memory / RAM - Recommended	16 GB	32 GB	64 GB	64 - 128 GB	128 - 160 GB
Memory / RAM - Minimum	8 GB	16 GB	32 GB	64 GB	128 GB
Disk Configuration			RAID 1 or RAID 5		
Hard Drive - Total Storage	-500 GB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 500 GB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)	- 1 TB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 500 GB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)	- 2 TB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 1 TB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)	- 3 TB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 1 TB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)	- 4 TB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 2 TB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)



Operating System	Windows® Server 2012 and 2016				
Network Card / Ports (1000Mbps)	2 NIC, 1 port each	2 NIC, 1 port each	2 NIC, 2 ports each	2 NIC, 2 ports each	2 NIC, 2 ports each
Backup Solution - Onsite	At least 1TB NAS (Network-attached Storage) or External Hard Drive				
Backup Solution - Offsite	Pharmacy Safeguard or any HIPAA Compliant Offsite Backup Solution				
Internet Connectivity	Broadband or Fiber Internet connection required for online services.				
Notes	What should not be run on the database server?  DNS server, Domain Controller, Router, File and/or print server, Terminal Services/Citrix Services.  The Database Server cannot function as a Web Server. All clients using the Web Portal, mRx Mobile Patient Application, or Mobile Delivery Application must purchase a separate Web Server.				

#### **Web Server**

(For mRx and Mobile Delivery Apps only)

- A separate server is recommended. If the Database Server is above the minimum specifications, a VM (virtual machine) can be added as the webserver. Both Database Server and Web Server should have above minimum server specifications after virtualization.

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Component	Minimum Specifications				
Processor	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)				
Memory / RAM - Minimum	16 GB				
Hard Drive - Total Storage	250 GB				
Operating System	Windows® Server 2012 and 2016				
Internet Connectivity	Broadband or Fiber Internet connection with static IP address required for online services.				
Router (Ports)	Ports Forwarding is required for ports 443 (Web Portal), 4430 (Mobile Delivery), 4431 (mRx)				
Network Card / Ports (1000Mbps)	2 NIC, 1 port each				
Notes	<ul> <li>- IIS 7/8 or 10 should be added to server role.</li> <li>- Static External IP Address is required and will be binded to domain name for the Web Portal.</li> <li>- Domain name for the Web Portal is required. A subdomain can be used from an</li> </ul>				



#### existing domain.

- SSL Wildcard Certificate for the domain/subdomain will also be required.

Workstations	Workstations Desktop / Laptop / Tablet PC	High-Usage Workstations (Scanning and Front Desk, Triage)
Component	Minimum Specifications	Recommended Specifications
Processor	7th Generation Intel® Core™ i5-7500T Processor (6MB Cache, 2.70 GHz, 4 cores)	7th Generation Intel® Core™ i5-7600K Processor (6MB Cache, 3.80 GHz, 4 cores)
Memory / RAM - Minimum	4 GB	8 GB
Hard Drive - Total Storage	120 GB	250 GB
Operating System	Windows 10 Professional	Windows 10 Professional
Network Card	100 Mbps	100 Mbps

	Network Infrastructure				
Component	ent Minimum Specifications		Recommended Specifications		
Wired Network	100 Mbps Ethernet or higher		) Mbps Ethernet or higher 1000 Mbps Ethernet or higher		
	1-10 Remote Users	11-25 Remote Users	26-50 Remote Users	51-99 Remote Users	100+ Remote Users
Internet Connectivity	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 100 Mbps Download / 40 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 250 Mbps Download / 100 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 1 GBPS Download / 250 Mbps Upload Speed

	Peripherals Peripherals
Router	HL7 Interfaces may require a VPN Capable router to setup site to site VPN Tunnel.
Document Printer	PCL5 or higher compatible network printer (All-in-one devices can only be used for printing)
	Zebra ZT41042-T010000Z - NO CUTTER (for perforated labels), Zebra ZT41042-T210000Z - WITH CUTTER (for continuous label), or Zebra GX430 Series



Document Scanner	Fujitsu FI-6130, Fujitsu FI-7160 or any of the Fujitsu FI-Series, Brother ADS 2000 or any scanner with TWAIN compatible drivers. Network scanner not supported.
Barcode Scanner	Symbol/Zebra LS2208 or LS9203 and Honeywell MS Series
Receipt Printer	Bixolon SRP 350II Series (USB Type with Drawer Kickout Connector) or Bixolon SRP 350III Series (USB Type with Drawer Kickout Connector)
Signature Pad	Topaz Systems TM-LBK755SE-HSB-R, TM-LBK755-HSB-R and TM-LBK766SE-HSB-R
Cash Drawer	MSCashDrawer CF-405 (must be receipt printer driven, check compatibility with Receipt Printer) or any Printer Driven Cash Drawer (check compatibility with Receipt Printer)
Magnetic Swipe Reader	Idtech IDRE-335133B
Weighting Scale	Ohaus Explorer EX1103N Balance Scale, Sartorius Quintix Series
Mobile Delivery Device	7" or 10.1" Tablets with Android OS 5 or higher (with 3G or 4G capability) or 10.1" Apple iPad with iOS10 or higher (with 3G or 4G capability)
mRx	Android or iOS Smartphones
Supplementary Backup	NAS or a Network Shared Drive with at least 500GB diskspace and capable of adding more as the need arises. Storage size differs to the number of users connecting to DB and is mentioned on the first page under "Hard Drive Storage."

### **On Site Server - LTC Stores**

	Database Server				
Component / Number Of Users	1-10 Users	11-25 Users	26-50 Users	51-99 Users	100+ Users
Processor - Recommended	Intel® Xeon® Processor E5-1650 v4 (15MB Cache, 3.60 GHz, 6 cores)	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Processor E5-2683 v4 (40MB Cache, 2.1	Processor E5-2698 v4 (50MB Cache, 2.2	Intel® Xeon® Processor E5-4669 v4 (55MB Cache, 2.2 GHz, 22 Cores)
Processor - Minimum	Intel® Xeon® Processor E5-1620 v4 (10MB Cache, 3.50 GHz, 4 cores)		Processor E5-2640 v4 (25MB Cache, 2.40	Processor E5-2683 v4 (40MB Cache, 2.1	Intel® Xeon® Processor E5-2698 v4 (50MB Cache, 2.2 GHz, 20 Cores)



Memory / RAM - Recommended	16 GB	32 GB	64 GB	64 - 128 GB	128 - 160 GB
Memory / RAM - Minimum	8 GB	16 GB	32 GB	64 GB	128 GB
Disk Configuration			RAID 1 or RAID 5		
Hard Drive - Total Storage	- 500 GB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 500 GB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)	- 1 TB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 500 GB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)	- 2 TB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 1 TB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)	- 3 TB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 1 TB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)	- 4 TB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 2 TB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)
Operating System		Wind	dows® Server 2012 and	2016	
Network Card / Ports (1000Mbps)	2 NIC, 1 port each	2 NIC, 1 port each	2 NIC, 2 ports each	2 NIC, 2 ports each	2 NIC, 2 ports each
Backup Solution - Onsite	At least 1TB NAS (Network-attached Storage) or External Hard Drive				
Backup Solution - Offsite	Pharmacy Safeguard or any HIPAA Compliant Offsite Backup Solution				
Internet Connectivity	Broadband or Fiber Internet connection required for online services.				
Notes	What should not be run on the database server? DNS server, Domain Controller, Router, File and/or print server, Terminal Services/Citrix Services. The Database Server cannot function as a Web Server. All clients using the Web Portal, mRx Mobile Patient Application, or Mobile Delivery Application must purchase a separate Web Server.				



All clients using the Web Portal must purchase a separate Web Server. The Database Server cannot function as a Web Server.
 For clients using mRx or Mobile Delivery (No Web Portal), a separate server is recommended. If the Database Server is above the minimum specifications, a VM (virtual machine) can be added as the webserver. Both Database Server and Web Server should have above minimum server specifications after virtualization.

Component	Minimum Specifications	Recommended Specifications	
Processor	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)	
Memory / RAM - Minimum	16 GB	32 GB	
Hard Drive - Total Storage	250 GB	500 GB	
Operating System	Windows® Server 2012 and 2016	Windows® Server 2012 and 2016	
Internet Connectivity	Broadband Internet connection with static IP address required for online services.	Broadband Internet connection with static IP address required for online services.	
Router (Ports)	Ports Forwarding is required for ports 443 (Web Po	ortal), 4430 (Mobile Delivery), 4431 (mRx)	
Network Card / Ports (1000Mbps)	2 NIC, 1 port each 2 NIC, 1 port each		
Notes	<ul> <li>- IIS 7/8 should be added to server role.</li> <li>- Static External IP Address is required and will be binded to domain name for the Web Portal.</li> <li>- Domain name for the Web Portal is required. A subdomain can be used from an existing domain.</li> <li>- SSL Wildcard Certificate for the domain/subdomain will also be required.</li> </ul>		

Workstations	Workstations Desktop / Laptop / Tablet PC	High-Usage Workstations (Scanning and Front Desk, Triage)
Component	Minimum Specifications	Recommended Specifications
Processor	7th Generation Intel® Core™ i5-7500T Processor (6MB Cache, 2.70 GHz, 4 cores)	7th Generation Intel® Core™ i5-7600K Processor (6MB Cache, 3.80 GHz, 4 cores)
Memory / RAM - Minimum	8 GB	16 GB



Hard Drive - Total Storage	120 GB	250 GB	
Operating System Windows 10 Professional		Windows 10 Professional	
Network Card	100 Mbps	100 Mbps	

	Network Infrastructure					
Component	Component Minimum Specifications			Recommended Specifications		
Wired Network	100 Mbps Ethernet or	higher	1000 Mbps Ethernet o	r higher		
	1-10 Remote Users	11-25 Remote Users	26-50 Remote Users	51-99 Remote Users	100+ Remote Users	
Connectivity	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 100 Mbps Download / 40 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 250 Mbps Download / 100 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 1 GBPS Download / 250 Mbps Upload Speed	

	Peripherals Peripherals
Router	HL7 Interfaces may require a VPN Capable router to setup site to site VPN Tunnel.
Document Printer	PCL5 or higher compatible network printer (All-in-one devices can only be used for printing)
Label Printer	Zebra ZT41042-T010000Z - NO CUTTER (for perforated labels), Zebra ZT41042-T210000Z - WITH CUTTER (for continuous label), or Zebra GX430 Series
Document Scanner	Fujitsu FI-6130, Fujitsu FI-7160 or any of the Fujitsu FI-Series, Brother ADS 2000 or any scanner with TWAIN compatible drivers. Network scanner not supported.
Barcode Scanner	Symbol/Zebra LS2208 or LS9203 and Honeywell MS Series
Weighting Scale	Ohaus Explorer EX1103N Balance Scale, Sartorius Quintix Series
Mobile Delivery Device	7" or 10.1" Tablets with Android OS 5 or higher (with 3G or 4G capability) or 10.1" Apple iPad with iOS10 or higher (with 3G or 4G capability)
mRx	Android or iOS Smartphones
Supplementary Backup	NAS or a Network Shared Drive with at least 500GB diskspace and capable of adding more as the need arises. Storage size differs to the number of users connecting to DB and is mentioned on the first page under "Hard Drive Storage."



#### **On Site Server - Combo Stores**

	Database Server				
Component / Number Of Users	1-10 Users	11-25 Users	26-50 Users	51-99 Users	100+ Users
Processor - Recommended	Intel® Xeon® Processor E5-1650 v4 (15MB Cache, 3.60 GHz, 6 cores)	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)		Intel® Xeon® Processor E5-4669 v4 (55MB Cache, 2.2 GHz, 22 Cores)
Processor - Minimum	Intel® Xeon® Processor E5-1620 v4 (10MB Cache, 3.50 GHz, 4 cores)	Intel® Xeon® Processor E5-1650 v4 (15MB Cache, 3.60 GHz, 6 cores)	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)	Intel® Xeon® Processor E5-2698 v4 (50MB Cache, 2.2 GHz, 20 Cores)
Memory / RAM - Recommended	16 GB	32 GB	64 GB	64 - 128 GB	128 - 160 GB
Memory / RAM - Minimum	8 GB	16 GB	32 GB	64 GB	128 GB
Disk Configuration			RAID 1 or RAID 5		
Hard Drive - Total Storage	- 500 GB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 500 GB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)	- 1 TB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 500 GB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)	(Should be capable of adding more storage and both drives should be	- 3 TB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 1 TB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)	- 4 TB SCSI 15K RPM or SSD (Dedicated IPS Drive) - 2 TB SCSI 15K RPM or SSD (Dedicated Backup Drive on NAS) (Should be capable of adding more storage and both drives should be separate aside from the Windows System Drive)
Operating System	Windows® Server 2012 and 2016				



Network Card / Ports (1000Mbps)	2 NIC, 1 port each	2 NIC, 1 port each	2 NIC, 2 ports each	2 NIC, 2 ports each	2 NIC, 2 ports each	
Backup Solution - Onsite	At least 1TB NAS (Net	At least 1TB NAS (Network-attached Storage) or External Hard Drive				
Backup Solution - Offsite	Pharmacy Safeguard or any HIPAA Compliant Offsite Backup Solution					
Internet Connectivity	Broadband or Fiber Internet connection required for online services.					
Notes	What should not be run on the database server? DNS server, Domain Controller, Router, File and/or print server, Terminal Services/Citrix Services. The Database Server cannot function as a Web Server. All clients using the Web Portal, mRx Mobile Patient Application, or Mobile Delivery Application must purchase a separate Web Server.					

All clients using the Web Portal must purchase a separate Web Server. The Database Server cannot function as a Web Server.
 For clients using mRx or Mobile Delivery (No Web Portal), a separate server is recommended. If the Database Server is above the minimum specifications, a VM (virtual machine) can be added as the webserver. Both Database Server and Web Server should have above minimum server specifications after virtualization.

Component	Minimum Specifications	Recommended Specifications	
Processor	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40M Cache, 2.1 GHz, 16 Cores)	
Memory / RAM - Minimum	16 GB 32 GB		
Hard Drive - Total Storage	250 GB	500 GB	
Operating System	Windows® Server 2012 and 2016	Windows® Server 2012 and 2016	
Internet Connectivity  Broadband or Fiber Internet connection with static IP address required for online services.		Broadband or Fiber Internet connection with static IP address required for online services.	
Router (Ports)	Ports Forwarding is required for ports 443 (Web Portal), 4430 (Mobile Delivery), 4431 (mRx)		
Network Card / Ports (1000Mbps)	2 NIC, 1 port each	2 NIC, 1 port each	



		- IIS 7/8 should be added to server role.
	Notos	- Static External IP Address is required and will be binded to domain name for the Web Portal.
Notes	Notes	- Domain name for the Web Portal is required. A subdomain can be used from an existing domain.
		- SSL Wildcard Certificate for the domain/subdomain will also be required.

Workstations Desktop / Laptop / Tablet PC		High-Usage Workstations (Scanning and Front Desk, Triage)	
Component	Minimum Specifications	Recommended Specifications	
Processor	7th Generation Intel® Core™ i5-7500T Processor (6MB Cache, 2.70 GHz, 4 cores)	7th Generation Intel® Core™ i5-7600K Processor (6MB Cache, 3.80 GHz, 4 cores)	
Memory / RAM - Minimum	8 GB	16 GB	
Hard Drive - Total Storage	120 GB	250 GB	
Operating System	Windows 10 Professional	Windows 10 Professional	
Network Card	100 Mbps	100 Mbps	

	Network Infrastructure						
Component	Minimum Specifications		Recommended Specifications				
Wired Network	100 Mbps Ethernet or higher		1000 Mbps Ethernet or higher				
	1-10 Remote Users	11-25 Remote Users	26-50 Remote Users	51-99 Remote Users	100+ Remote Users		
Internet Connectivity	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 100 Mbps Download / 40 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 250 Mbps Download / 100 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 1 GBPS Download / 250 Mbps Upload Speed		

	Peripherals Peripherals
Router	HL7 Interfaces may require a VPN Capable router to setup site to site VPN Tunnel.
Document Printer	PCL5 or higher compatible network printer (All-in-one devices can only be used for printing)



Label Printer	Zebra ZT41042-T010000Z - NO CUTTER (for perforated labels), Zebra ZT41042-T210000Z - WITH CUTTER (for continuous label), or Zebra GX430 Series	
Document Scanner	Fujitsu FI-6130, Fujitsu FI-7160 or any of the Fujitsu FI-Series, Brother ADS 2000 or any scanner with TWAIN compatible drivers. Network scanner not supported.	
Barcode Scanner	Symbol/Zebra LS2208 or LS9203 and Honeywell MS Series	
Receipt Printer	Bixolon SRP 350II Series (USB Type with Drawer Kickout Connector) or Bixolon SRP 350III Series (USB Type with Drawer Kickout Connector)	
Signature Pad	Topaz Systems TM-LBK755SE-HSB-R, TM-LBK755-HSB-R and TM-LBK766SE-HSB-R	
Cash Drawer	MSCashDrawer CF-405 (must be receipt printer driven, check compatibility with Receipt Printer) or any Printer Driven Cash Drawer (check compatibility with Receipt Printer)	
Magnetic Swipe Reader	Idtech IDRE-335133B	
Weighting Scale	Ohaus Explorer EX1103N Balance Scale, Sartorius Quintix Series	
Mobile Delivery Device	7" or 10.1" Tablets with Android OS 5 or higher (with 3G or 4G capability) or 10.1" Apple iPad with iOS10 or higher (with 3G or 4G capability)	
mRx	Android or iOS Smartphones	
Supplementary Backup	NAS or a Network Shared Drive with at least 500GB diskspace and capable of adding more as the need arises. Storage size differs to the number of users connecting to DB and is mentioned on the first page under "Hard Drive Storage."	

# Host Based System – Retail Stores

	Database Server					
Component / Number Of Users	·    -					
Processor - Recommended	v4 (15MB Cache, 3.60	v4 (25MB Cache,	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)		Intel® Xeon® Processor E5-4669 v4 (55MB Cache, 2.2 GHz, 22 Cores)	
Processor - Minimum		Intel® Xeon® Processor E5-1650 v4	Intel® Xeon® Processor E5-2640	Intel® Xeon® Processor E5-2683	Intel® Xeon® Processor E5-2698	



	v4 (10MB Cache, 3.50 GHz, 4 cores)	(15MB Cache, 3.60 GHz, 6 cores)	v4 (25MB Cache, 2.40 GHz, 10 Cores)	v4 (40MB Cache, 2.1 GHz, 16 Cores)	v4 (50MB Cache, 2.2 GHz, 20 Cores)
Memory / RAM - Recommended	16 GB	32 GB	64 GB	64 - 128 GB	128 - 160 GB
Memory / RAM - Minimum	8 GB	16 GB	32 GB	64 GB	128 GB
Disk Configuration	RAID 1 or RAID 5				
Hard Drive - Total Storage	500 GB SCSI 15K RPM or SSD (Dedicated IPS Drive)	1 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)	2 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)	3 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)	4 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)
Operating System	Windows® Server 20	12 and 2016			
Network Card / Ports (1000Mbps)	2 NIC, 1 port each	2 NIC, 1 port each	2 NIC, 2 ports each	2 NIC, 2 ports each	2 NIC, 2 ports each
Backup Solution - Onsite	At least 1TB NAS (Network-attached Storage) or External Hard Drive				
Backup Solution - Offsite	Pharmacy Safeguard or any HIPAA Compliant Offsite Backup Solution				
Internet Connectivity	Broadband or Fiber Internet connection required for online services.				
Notes		What should not be run on the database server? DNS server, Domain Controller, Router, File and/or print server, Terminal Services/Citrix Services.			

	Terminal Server				
Component	Minimum Specifications	Recommended Specifications			
Processor	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)			
Memory / RAM - Minimum	16 GB	32 GB			
Hard Drive - Total Storage	250 GB	500 GB			



Operating System	Windows® Server 2012		Windows® Server 2012		
Network Card / Ports (1000Mbps)	2 NIC, 1 port each				
	1-10 Remote Users	11-25 Remote Users	26-50 Remote Users	51-99 Remote Users	100+ Remote Users
Internet Connectivity	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 100 Mbps Download / 40 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 250 Mbps Download / 100 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 1 GBPS Download / 250 Mbps Upload Speed
Notes	8 RDP Users per Terminal Server				

#### **Web Server**

(For mRx and Mobile Delivery Apps only)

- A separate server is recommended. If the Database Server is above the minimum specifications, a VM (virtual machine) can be added as the webserver. Both Database Server and Web Server should have above minimum server specifications after virtualization.

Component	Minimum Specifications		
Processor	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)		
Memory / RAM - Minimum	16 GB		
Hard Drive - Total Storage	250 GB		
Operating System	Windows® Server 2012 and 2016		
Internet Connectivity	Broadband or Fiber Internet connection with static IP address required for online services.		
Router (Ports)	Ports Forwarding is required for ports 443 (Web Portal), 4430 (Mobile Delivery), 4431 (mRx)		
Network Card / Ports (1000Mbps)	2 NIC, 1 port each		
Notes	<ul> <li>- IIS 7/8 should be added to server role.</li> <li>- Static External IP Address is required and will be binded to domain name for the Web Portal.</li> <li>- Domain name for the Web Portal is required. A subdomain can be used from an existing</li> </ul>		



domain.

- SSL Wildcard Certificate for the domain/subdomain will also be required.

Workstations	Workstations Desktop / Laptop / Tablet PC	High-Usage Workstations (Scanning and Front Desk, Triage)
Component	Minimum Specifications	Recommended Specifications
Processor	7th Generation Intel® Core™ i5-7500T Processor (6MB Cache, 2.70 GHz, 4 cores)	7th Generation Intel® Core™ i5-7600K Processor (6MB Cache, 3.80 GHz, 4 cores)
Memory / RAM - Minimum	4 GB	8 GB
Hard Drive - Total Storage	120 GB	250 GB
Operating System	Windows 10 Professional	Windows 10 Professional
Network Card	100 Mbps	100 Mbps

Network Infrastructure					
Component	Minimum Specifications		Recommended Specifications		
Wired Network	100 Mbps Ethernet or higher		1000 Mbps Ethernet or higher		
	1-10 Remote Users	11-25 Remote Users	26-50 Remote Users	51-99 Remote Users	100+ Remote Users
C	Broadband or Fiber Internet connection with at least 50 Mbps Download /20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 50 Mbps Download /20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 100 Mbps Download /40 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 250 Mbps Download /100 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 1 GBPS Download /250 Mbps Upload Speed
Notes	8 RDP Users per Terminal Server				



	Peripherals Peripherals				
	VPN Enabled Router (e.g. Sonicwall TZ100I)				
Router	A VPN Tunnel Setup from the Hosting Provider to the Pharmacy is required. The Pharmacy IT Resource (who is experienced in Site to Site VPN Setup) will work with the Hosting Provider to set this up for the pharmacy.				
Document Printer	All printing will be tunneled through the VPN. A network printer is required with at least PCL5 compatibility. All-in-one devices should not be used for scanning but for printing only.				
	Host-based printers will not work for Citrix/Terminal Server Environment.				
Label Printer	All printing will be tunneled through the VPN. Zebra ZT41042-T010000Z - NO CUTTER (for perforated labels), Zebra ZT41042-T210000Z - WITH CUTTER (for continuous label), or Zebra GX430 Series				
	All labels printers must be networked.				
Document Scanner	Fujitsu FI-6130, Brother ADS 2000 or any scanner with TWAIN compatible drivers. Network scanners are not supported. Unlimited TSScan license is needed.				
Barcode Scanner	Symbol/Zebra LS2208 or LS9203 and Honeywell MS Series				
Receipt Printer	Bixolon SRP 350II Series (USB Type with Drawer Kickout Connector) or Bixolon SRP 350III Series (USB Type with Drawer Kickout Connector)				
Signature Pad	Topaz Systems T-LBK755SE-BBSB-R OR T-LBK755-BBSB-R				
Magnetic Swipe Reader	Idtech IDRE-335133B Credit Card Swiper				
Cash Drawer	MSCashDrawer CF-405 (must be receipt printer driven, check compatibility with Receipt Printer) or any Printer Driven Cash Drawer (check compatibility with Receipt Printer)				
Weighting Scale	Ohaus Explorer EX1103N Balance Scale, Sartorius Quintix Series				
Mobile Delivery Device	7" or 10.1" Tablets with Android OS 5 or higher (with 3G or 4G capability) or 10.1" Apple iPad with iOS10 or higher (with 3G or 4G capability)				
mRx	Android or iOS Smartphones				



## Host Based System – LTC Stores

	Database Server				
Component / Number Of Users	1-10 Users	11-25 Users	26-50 Users	51-99 Users	100+ Users
Processor - Recommended	Intel® Xeon® Processor E5-1650 v4 (15MB Cache, 3.60 GHz, 6 cores)	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40M Cache, 2.1 GHz, 16 Cores)	Intel® Xeon® Processor E5-2698 v4 (50MB Cache, 2.2 GHz, 20 Cores)	Intel® Xeon® Processor E5-4669 v4 (55MB Cache, 2.2 GHz, 22 Cores)
Processor - Minimum	Intel® Xeon® Processor E5-1620 v4 (10MB Cache, 3.50 GHz, 4 cores)	Intel® Xeon® Processor E5-1650 v4 (15MB Cache, 3.60 GHz, 6 cores)	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)	Intel® Xeon® Processor E5-2698 v4 (50MB Cache, 2.2 GHz, 20 Cores)
Memory / RAM - Recommended	16 GB	32 GB	64 GB	64 - 128 GB	128 - 160 GB
Memory / RAM - Minimum	8 GB	16 GB	32 GB	64 GB	128 GB
Disk Configuration			RAID 1 or RAID 5		
Hard Drive - Total Storage	500 GB SCSI 15K RPM or SSD (Dedicated IPS Drive)	1 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)	2 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)	3 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)	4 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)
Operating System	Windows® Server 20	12, and 2016			
Network Card / Ports (1000Mbps)	2 NIC, 1 port each	2 NIC, 1 port each	2 NIC, 2 ports each	2 NIC, 2 ports each	2 NIC, 2 ports each
Backup Solution - Onsite	At least 1TB NAS (Network-attached Storage) or External Hard Drive				
Backup Solution - Offsite	Pharmacy Safeguard or any HIPAA Compliant Offsite Backup Solution				
Internet Connectivity	Broadband or Fiber Internet connection required for online services.				
Notes	What should not be run on the database server? DNS server, Domain Controller, Router, File and/or print server, Terminal Services/Citrix Services.				



	Terminal Server				
Component	Minimum Sp	pecifications	Recommended Specifications		
Processor	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)		Intel® Xeon® Process	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)	
Memory / RAM - Minimum	16 GB		32 GB		
Hard Drive - Total Storage	250 GB		500 GB		
Operating System	Windows® Server 2012	2	Windows® Server 2012		
Network Card / Ports (1000Mbps)		2 NIC, 1 port each			
	1-10 Remote Users	11-25 Remote Users	26-50 Remote Users	51-99 Remote Users	100+ Remote Users
Internet Connectivity	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 100 Mbps Download / 40 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 250 Mbps Download / 100 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 1 GBPS Download / 250 Mbps Upload Speed
Notes	8 RDP Users per Terminal Server				

All clients using the Web Portal must purchase a separate Web Server. The Database Server cannot function as a Web Server.
 For clients using mRx or Mobile Delivery (No Web Portal), a separate server is recommended. If the Database Server is above the minimum specifications, a VM (virtual machine) can be added as the webserver. Both Database Server and Web Server should have above minimum server specifications after virtualization.

Component Minimum Specifications		Recommended Specifications
IDrocassor	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)
Memory / RAM - Minimum	16 GB	32 GB



Hard Drive - Total Storage	250 GB	500 GB		
Operating System	Windows® Server 2012 and 2016	Windows® Server 2012 and 2016		
Internet Connectivity	Broadband Internet connection with static IP address required for online services.	Broadband Internet connection with static IP address required for online services.		
Router (Ports)	Ports Forwarding is required for ports 443 (Web Portal), 4430 (Mobile Delivery), 4431 (mRx)			
Network Card / Ports (1000Mbps)	2 NIC, 1 port each	2 NIC, 1 port each		
Notes	<ul> <li>- IIS 7/8 should be added to server role.</li> <li>- Static External IP Address is required and will be binded to domain name for the Web Portal.</li> <li>- Domain name for the Web Portal is required. A subdomain can be used from an existing domain.</li> <li>- SSL Wildcard Certificate for the domain/subdomain will also be required.</li> </ul>			

Workstations	Workstations Desktop / Laptop / Tablet PC	High-Usage Workstations (Scanning and Front Desk, Triage)
Component	Minimum Specifications	Recommended Specifications
Processor	7th Generation Intel® Core™ i5-7500T Processor (6MB Cache, 2.70 GHz, 4 cores)	7th Generation Intel® Core™ i5-7600K Processor (6MB Cache, 3.80 GHz, 4 cores)
Memory / RAM - Minimum	8 GB	16 GB
Hard Drive - Total Storage	120 GB	250 GB
Operating System	Windows 10 Professional	Windows 10 Professional
Network Card	100 Mbps	100 Mbps



	Network Infrastructure				
Component	Minimum Specifications		Recommended Specifications		
Wired Network	100 Mbps Ethernet or higher		1000 Mbps Ethernet or higher		
	1-10 Remote Users	11-25 Remote Users	26-50 Remote Users	51-99 Remote Users	100+ Remote Users
Internet Connectivity	Broadband or Fiber Internet connection with at least 50 Mbps Download /20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 50 Mbps Download /20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 100 Mbps Download /40 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 250 Mbps Download /100 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 1 GBPS Download /250 Mbps Upload Speed
Notes	8 RDP Users per Terminal Server				

	Peripherals Periph
	VPN Enabled Router (e.g. Sonicwall TZ100I)
Router	A VPN Tunnel Setup from the Hosting Provider to the Pharmacy is required. The Pharmacy IT Resource (who is experienced in Site to Site VPN Setup) will work with the Hosting Provider to set this up for the pharmacy.
Document Printer	All printing will be tunneled through the VPN. A network printer is required with at least PCL5 compatibility. All-in-one devices should not be used for scanning but for printing only.
T THICE!	Host-based printers will not work for Citrix/Terminal Server Environment.
Label Printer	All printing will be tunneled through the VPN. Zebra ZT41042-T010000Z - NO CUTTER (for perforated labels), Zebra ZT41042-T210000Z - WITH CUTTER (for continuous label), or Zebra GX430 Series
	All labels printers must be networked.
Document Scanner	Fujitsu FI-6130, Brother ADS 2000 or any scanner with TWAIN compatible drivers. Network scanners are not supported.
Scarnier	Unlimited TSScan license is needed.
Barcode Scanner	Symbol/Zebra LS2208 or LS9203 and Honeywell MS Series
Weighting Scale	Ohaus Explorer EX1103N Balance Scale, Sartorius Quintix Series



Mobile Delivery	7" or 10.1" Tablets with Android OS 5 or higher (with 3G or 4G capability) or 10.1" Apple iPad with iOS10 or higher
Device	(with 3G or 4G capability)
mRx	Android or iOS Smartphones

## Host Based System – Combo Stores

		Databa	se Server		
Component / Number Of Users	1-10 Users	11-25 Users	26-50 Users	51-99 Users	100+ Users
Processor - Recommended	Intel® Xeon® Processor E5-1650 v4 (15MB Cache, 3.60 GHz, 6 cores)	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40M Cache, 2.1 GHz, 16 Cores)	Intel® Xeon® Processor E5-2698 v4 (50MB Cache, 2.2 GHz, 20 Cores)	Intel® Xeon® Processor E5-4669 v4 (55MB Cache, 2.2 GHz, 22 Cores)
Processor - Minimum	Intel® Xeon® Processor E5-1620 v4 (10MB Cache, 3.50 GHz, 4 cores)	Intel® Xeon® Processor E5-1650 v4 (15MB Cache, 3.60 GHz, 6 cores)	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)	Intel® Xeon® Processor E5-2698 v4 (50MB Cache, 2.2 GHz, 20 Cores)
Memory / RAM - Recommended	16 GB	32 GB	64 GB	64 - 128 GB	128 - 160 GB
Memory / RAM - Minimum	8 GB	16 GB	32 GB	64 GB	128 GB
Disk Configuration	RAID 1 or RAID 5				
Hard Drive - Total Storage	500 GB SCSI 15K RPM or SSD (Dedicated IPS Drive)	1 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)	2 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)	3 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)	4 TB SCSI 15K RPM or SSD (Dedicated IPS Drive)
Operating System	Windows® Server 2012, and 2016				
Network Card / Ports (1000Mbps)	2 NIC, 1 port each	2 NIC, 1 port each	2 NIC, 2 ports each	2 NIC, 2 ports each	2 NIC, 2 ports each
Backup Solution - Onsite	At least 1TB NAS (Network-attached Storage) or External Hard Drive				



Backup Solution - Offsite	Pharmacy Safeguard or any HIPAA Compliant Offsite Backup Solution
Internet Connectivity	Broadband or Fiber Internet connection required for online services.
Notes	What should not be run on the database server? DNS server, Domain Controller, Router, File and/or print server, Terminal Services/Citrix Services.

		Tern	ninal Server		
Component	Minimum Specifications		Recommended Specifications		
Processor	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)		Intel® Xeon® Process	or E5-2683 v4 (40MB Ca	ache, 2.1 GHz, 16 Cores)
Memory / RAM - Minimum	16 GB		32 GB		
Hard Drive - Total Storage	250 GB		500 GB		
Operating System	Windows® Server 2012	2	Windows® Server 2012		
Network Card / Ports (1000Mbps)	2 NIC, 1 port each				
	1-10 Remote Users	11-25 Remote Users	26-50 Remote Users	51-99 Remote Users	100+ Remote Users
Internet Connectivity	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 50 Mbps Download / 20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 100 Mbps Download / 40 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 250 Mbps Download / 100 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 1 GBPS Download / 250 Mbps Upload Speed
Notes	8 RDP Users per Terminal Server				



- All clients using the Web Portal must purchase a separate Web Server. The Database Server cannot function as a Web Server.
 - For clients using mRx or Mobile Delivery (No Web Portal), a separate server is recommended. If the Database Server is above the minimum specifications, a VM (virtual machine) can be added as the webserver. Both Database Server and Web Server should have above minimum server specifications after virtualization.

Component	Minimum Specifications	Recommended Specifications
Processor	Intel® Xeon® Processor E5-2640 v4 (25MB Cache, 2.40 GHz, 10 Cores)	Intel® Xeon® Processor E5-2683 v4 (40MB Cache, 2.1 GHz, 16 Cores)
Memory / RAM - Minimum	16 GB	32 GB
Hard Drive - Total Storage	250 GB	500 GB
Operating System	Windows® Server 2012 and 2016	Windows® Server 2012 and 2016
Internet Connectivity	Broadband Internet connection with static IP address required for online services.	Broadband Internet connection with static IP address required for online services.
Router (Ports)	Ports Forwarding is required for ports 443 (Web Po	ortal), 4430 (Mobile Delivery), 4431 (mRx)
Network Card / Ports (1000Mbps)	2 NIC, 1 port each	2 NIC, 1 port each
Notes	<ul> <li>IIS 7/8 should be added to server role.</li> <li>Static External IP Address is required and will be a common to the Web Portal is required. A domain.</li> <li>SSL Wildcard Certificate for the domain/subdomain.</li> </ul>	subdomain can be used from an existing

Workstations	Workstations Desktop / Laptop / Tablet PC	High-Usage Workstations (Scanning and Front Desk, Triage)
Component	Minimum Specifications	Recommended Specifications
Processor	7th Generation Intel® Core™ i5-7500T Processor (6MB Cache, 2.70 GHz, 4 cores)	7th Generation Intel® Core™ i5-7600K Processor (6MB Cache, 3.80 GHz, 4 cores)
Memory / RAM - Minimum	8 GB	16 GB



Hard Drive - Total Storage	120 GB	250 GB
Operating System	Windows 10 Professional	Windows 10 Professional
Network Card	100 Mbps	100 Mbps

	Network Infrastructure				
Component	Minimum Specifications		Recommended Specifications		
Wired Network	100 Mbps Ethernet or higher 1000 Mbps Ethernet or higher			gher	
	1-10 Remote Users	11-25 Remote Users	26-50 Remote Users	51-99 Remote Users	100+ Remote Users
Internet Connectivity	Broadband or Fiber Internet connection with at least 50 Mbps Download /20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 50 Mbps Download /20 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 100 Mbps Download /40 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 250 Mbps Download /100 Mbps Upload Speed	Broadband or Fiber Internet connection with at least 1 GBPS Download /250 Mbps Upload Speed
Notes	8 RDP Users per Terminal Server				

	Peripherals Periph
	VPN Enabled Router (e.g. Sonicwall TZ100I)
Router	A VPN Tunnel Setup from the Hosting Provider to the Pharmacy is required. The Pharmacy IT Resource (who is experienced in Site to Site VPN Setup) will work with the Hosting Provider to set this up for the pharmacy.
Document Printer	All printing will be tunneled through the VPN. A network printer is required with at least PCL5 compatibility. All-in-one devices should not be used for scnning but for printing only.
	Host-based printers will not work for Citrix/Terminal Server Environment.
Label Printer	All printing will be tunneled through the VPN. Zebra ZT41042-T010000Z - NO CUTTER (for perforated labels), Zebra ZT41042-T210000Z - WITH CUTTER (for continuous label), or Zebra GX430 Series
	All labels printers must be networked.
	Fujitsu FI-6130, Brother ADS 2000 or any scanner with TWAIN compatible drivers. Network scanners are not
Document	supported.
Scanner	Unlimited TSScan license is needed.



Barcode	
Scanner	Symbol/Zebra LS2208 or LS9203 and Honeywell MS Series
Receipt Printer	Bixolon SRP 350II Series (USB Type with Drawer Kickout Connector) or Bixolon SRP 350III Series (USB Type with Drawer Kickout Connector)
Signature Pad	Topaz Systems T-LBK755SE-BBSB-R OR T-LBK755-BBSB-R
Magnetic Swipe Reader	Idtech IDRE-335133B Credit Card Swiper
Cash Drawer	MSCashDrawer CF-405 (must be receipt printer driven, check compatibility with Receipt Printer) or any Printer Driven Cash Drawer (check compatibility with Receipt Printer)
Weighting Scale	Ohaus Explorer EX1103N Balance Scale, Sartorius Quintix Series
Mobile Delivery Device	7" or 10.1" Tablets with Android OS 5 or higher (with 3G or 4G capability) or 10.1" Apple iPad with iOS10 or higher (with 3G or 4G capability)
mRx	Android or iOS Smartphones