Technical Information

OptiVision R540

Objectives

This document outlines Honeywell's hardware recommendation for OptiVision R540 systems. The recommendations largely follow those for current OptiVision systems, and the new OptiVision R540 systems should be sized with similar or higher characteristics.

Recommended Hardware Configuration Summary

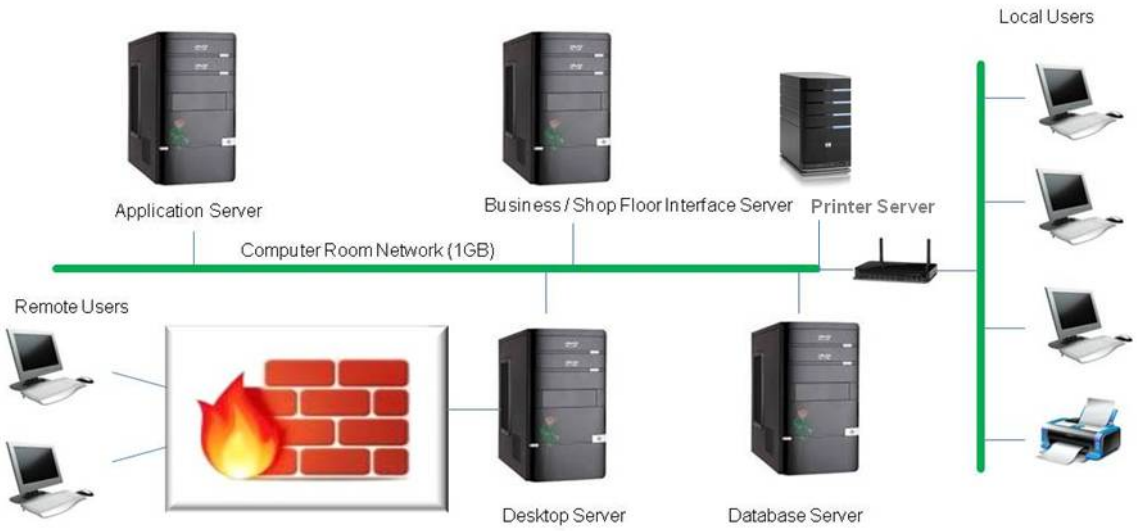
Each OptiVision installation should consist of the following servers:

- 1 Database Server
- 1 Business / Shop Floor Interface Server
- 1 Application Server
- 1 Desktop Server (optional, subject to WAN performance network configuration).

The illustration below shows the recommended configuration:

At least 1GB network is recommended between the OptiVision Database Server, Business Server, and Application Servers. The user's desktop is connected to the OptiVision Servers via a 100Mbit or 1 GB network.

Where remote users need to access the OptiVision system via a wide area network (a low bandwidth network, under 512 KB), one or more additional Desktop Servers are highly recommended to ensure adequate desktop performance. A Desktop Server is also required for users to connect to the OptiVision system through a firewall or VPN connection. Desktop Servers must be installed at the same location as the OptiVision Business and Application servers and connected to the other OptiVision servers via at least 1 GB local area network.



OptiVision Hardware and Software Specifications (Recommended*)

Specifications	Business / Shop Floor Interface Server	Database Server**	Application Server	Desktop Server	User Desktop Client
Hardware	Processor – Quad 2 GHz 64-bit Intel processor	Processor – Quad 2 GHz 64-bit Intel processor	Processor – Quad 2 GHz 64-bit Intel processor	Processor – Quad 2 GHz 64-bit Intel processor	Processor – 1100 MHz (or faster) 32-bit or 64-bit Intel processor
	Memory – 8 GB	Memory – 16GB	Memory – 16 GB	Memory – 8 GB	Memory – 2 GB for Shop Floor Users / 4 GB for Office Users (Order, Plan, Ship)
	Network – 1 GB	Network – 1 GB	Network – 1 GB	Network – 1 GB	Network –100 Mbit or greater
	Storage – 20 - 30 GB in a RAID 5 or RAID 6 configuration for the OptiVision data files	Storage – 30 GB or greater in a RAID 5 or RAID 6 configuration for the OptiVision database	Storage – 5 GB for OptiVision data files		Storage – 50 MB for OptiVision Desktop Add-in
Software	Microsoft Windows Server 2012 x64 Standard Edition	Microsoft Windows Server 2012 x64 Standard Edition	Microsoft Windows Server 2012 x64 Standard Edition	Microsoft Windows Server 2012 x64 Standard Edition	Microsoft Windows XP with SP 4 or Windows 7 or Windows 8
	Microsoft Windows Sys Internals Suite	Microsoft Windows Sys Internals Suite	Microsoft Windows Sys Internals Suite	Microsoft Windows Sys Internals Suite	
	Microsoft .NET V3.5, Service Pack 1 and/or V4.0 plus all Microsoft recommended updates		Microsoft .NET V3.5, Service Pack 1 and/or V4.0 plus all Microsoft recommended updates	Microsoft .NET V3.5, Service Pack 1 and/or V4.0 plus all Microsoft recommended updates	Microsoft .NET V3.5, Service Pack 1 and/or V4.0 plus all Microsoft recommended updates
	Microsoft IIS (Internet Information Services)				
	Internet Explorer 9 or 10		Internet Explorer 9 or 10	Internet Explorer 9 or 10	Internet Explorer 9 or 10
				Citrix MetaFrame (or Windows Terminal Services)	For Remote Users - Citrix MetaFrame (or Windows Terminal Services) Client
	ActivePerl v5.14 or newer		ActivePerl v5.14 or newer		

Specifications	Business / Shop Floor Interface Server	Database Server**	Application Server	Desktop Server	User Desktop Client
	Microsoft SQL Server 2012 R2 x64 with SP1	Microsoft SQL Server 2012 R2 x64 with SP1 OR Oracle 11g (11.2.0.4)/12c (Oracle Database 12c Release 1 (12.1.0.1.0)			
	Microsoft SQL Server Reporting Services – needed for COA only				
	Adobe Reader		Adobe Reader		Adobe Reader
	Crystal Reports 2008 Runtime 12.3.2 (Crystal Reports 2008 V1 + SP3 + SP3 Fix Pack 3.6)		Crystal Reports 2008 Runtime 12.3.2 (Crystal Reports 2008 V1 + SP3 + SP3 Fix Pack 3.6)		

Please Note: Users wishing to run OptiQUERY require Microsoft Excel 2007. Users with Microsoft Excel 2003 need to install Office Web Component (OWC9).

* These are the minimum recommended hardware specifications and users can opt for higher configuration.

** Internal testing infrastructure. Please refer to infrastructure & platform recommendations from respective Database vendors.

Points to remember:

- As no Honeywell software is installed directly on the Database Server, the hardware, operating system and versions do not directly impact OptiVision operation.
- Due to size of the installation, users are allowed to combine the Shop Floor Interface Server with the Business server.
- The OptiVision Business server is the file server for the OptiVision share. It runs services, scheduled jobs and acts as the central switchboard to balance the load of application processes among the OptiVision Application Servers. It is not intended to run OptiVision applications. If the Business Server is required to run applications, additional processors and more memory will be necessary.
- The OptiVision Shop Floor server (SFIS) processes all direct communications with the required floor devices, such as lineal footage counters, scales and PLCs. A dedicated machine ensures timely processing and exchange of real time communication with the floor devices, while communicating with the OptiVision applications as required.
- Where the shop floor device has only a serial connection, a Serial to Ethernet converter can be used to connect the device to the Ethernet. Devices from manufacturers such as Lantronx are typically used.
- Each Application Server will serve up to 30 OptiVision desktop clients (concurrent users).
- For remote users to access the OptiVision system via a wide area network (low bandwidth network, less than 512 KB), one or more additional servers are highly recommended to ensure adequate desktop performance. These Desktop Servers are also required if users need to connect to the OptiVision systems through a firewall. The servers must be installed at the same location as the OptiVision Business and Application servers, and connected to the other OptiVision servers via at least a 1 GB local area network.
- Each Desktop Server can serve up to 30 OptiVision desktop sessions (concurrent users). OptiVision Administrative User Requirements.
- OptiVision Administrative User Requirements - A domain user (normally named “msdmgr”) must exist as part of OptiVision Administrative User requirements. It must be part of the local Administrators Group on the

OptiVision Business Server. It need not have domain administrative privileges, but must have administrative and “log on as a service” privileges on the OptiVision Business Server.

Report Printers

All OptiVision reports, print to a printer mapped to the user’s desktop except for Crystal reports, which are printed from an Application server. As both types of reports use the Windows defined printers, printers configured for Windows work with OptiVision as well.

Core tag and Label Printers

Core tags are Label, typically have bar-codes on them and need to be purchased separately. OptiVision supports bar code from Azalea Software, Inc. These bar-code fonts must be installed on the Business and Application servers. Please note, that the Azalea code 39 barcodes are now embedded with Crystal 2008.

OptiVision uses Crystal’s .Net Runtime functions for printing Crystal Reports. Report print could be slowed down with Crystal Reports 2008 (version 12) and older models of thermal printers (such as Zebra). Intermec label printers use the printer’s native language and reduce speed issues. Hence, writing the label or core tag in the printer’s native language has provided better performance. For normal office printers like HP and Xerox, Crystal or Postscript lab files can be used.

High-Availability Considerations

System up time is important for manufacturing execution systems, but may or may not be critical depending on integration with the controls systems. The tighter the interface with the controls system, the continuous uptime is more critical. In case of outages, sites need to evaluate reducing production rates and /or stop the production all together.

The High-Availability solution is generally a trade-off between budget and the consequences of system outages. A range of options which might be worth considering can include:

- Redundant computers
- Redundant network connections, which include cabling, switches and network cards
- Redundant power supplies
- Redundant storage (SAN)
- Disk mirroring

High Availability Clusters

OptiVision is not cluster aware, but can be run in a clustered environment. Such as High Availability Clusters of the Database, Business, and Shop Floor Interface servers.

The Application Servers do not need to be clustered. By adding one or two additional Application Servers, the Business server will spread the OptiVision load across the active servers. If an Application server fails, users may lose their application. When the user re-launches the application, the Business server will assign it to an active Application server.

Please consult your vendor for configuration and performance monitoring, tuning information and support for your High Availability Cluster environment.

Virtual Servers

When using Virtual Servers, High Availability can take a different approach. A system back-up or template can be made and deployed in the event of a failure.

For More Information
Learn more about how Honeywell’s OptiVision can enhance businesses performance, visit our website www.honeywellprocess.com/software or contact your Honeywell account manager.

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