

PowerLogic ION Enterprise 6.0 SP1 System Requirements - FAQ

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Additional Information:

http://www.global.powerlogic.com/support/ION_Enterprise/service_packs

- ◆ Language Support in PowerLogic ION Enterprise 6.0
- ◆ What’s New in PowerLogic ION Enterprise 6.0 SP1
- ◆ PowerLogic ION Enterprise 6.0 SP1 Release Notes

Computer roles in ION Enterprise systems

PowerLogic ION Enterprise software is extremely scalable. Systems can vary considerably in size and complexity. They may be adapted to accommodate expansion and meet most requirements for interoperability.

This document provides fundamental information to help a technical person specify the hardware and software requirements for a specific ION Enterprise system installation.

A PowerLogic ION Enterprise system may have multiple computers in it, each playing different roles. The roles of computers in an ION Enterprise system include:

- **Primary Server**
- **Database Server**
- **Secondary Server**
- **Client computers**
- **Web Clients**

The ION Enterprise Primary Server

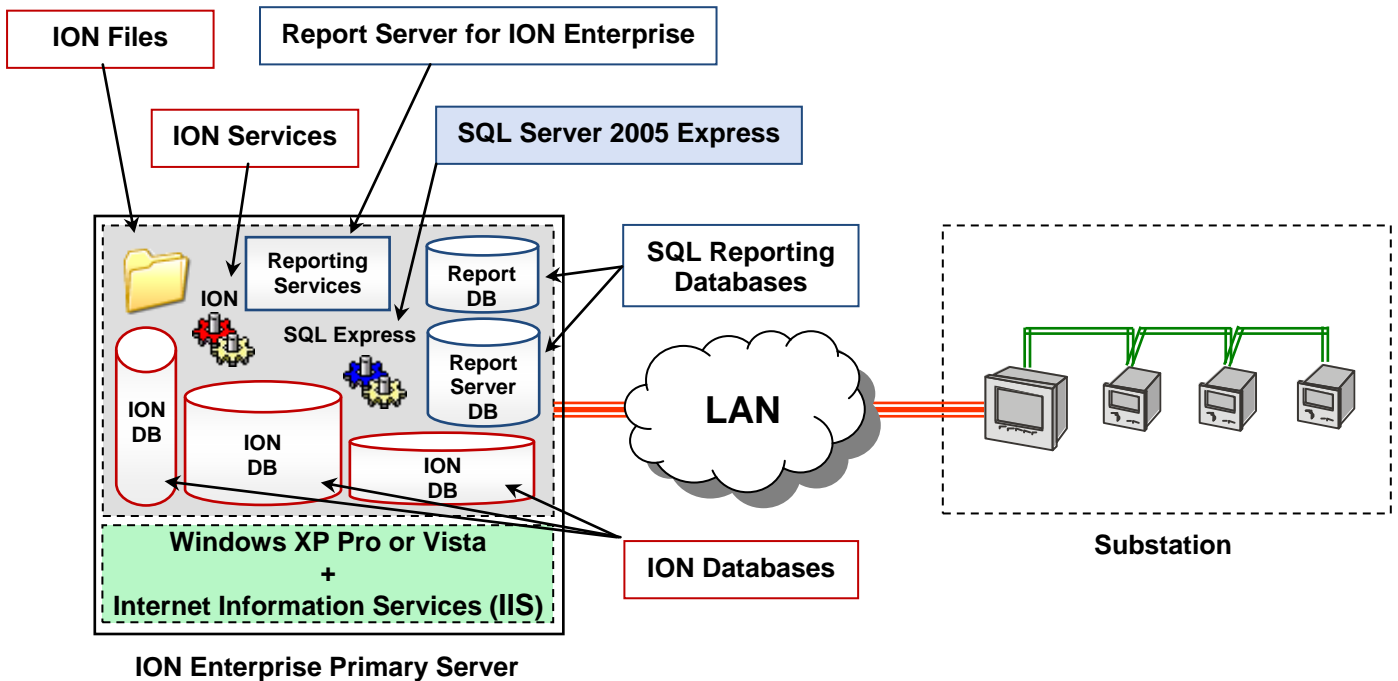
Also referred to as the “Application Server”, the Primary Server hosts a collection of ION Enterprise services that take care of the vital functions of the system. It also contains all of the configuration files that hold the information and settings that are specific to the system. Every ION Enterprise system, no matter how simple or complex, has one (and only one) Primary Server.

The Primary Server uses Microsoft Internet Information Services (IIS) to make information available to ION Enterprise Web Clients. The Web Reporter component is based on Microsoft SQL Server Reporting Services, therefore both IIS components (optional components of Windows operating systems) and SQL Server Reporting Services components must be installed on the Primary Server for full ION Enterprise Web Client functionality.

The Primary Server can also host the Microsoft SQL Server database engine with the ION Enterprise and Reporting Services databases. When the SQL Server database engine is installed on the Primary Server, it is called a “Stand-alone” server. When a separate SQL Server Database Server is used in conjunction with the ION Enterprise Primary Server it is referred to as a “Distributed Database Server” installation.

Basic Standalone Primary Server

A Basic Standalone Primary Server is installed on a 32-bit workstation-grade Windows operating system (such as Windows XP or Vista) and **uses the SQL Server 2005 Express Edition with Advanced Services** that comes with the ION Enterprise 6.0 DVD. This is the simplest form of an ION Enterprise Primary Server but it is also the most limited. This configuration is only recommended for small installations (up to 16 logging devices in the system) that do not rely moderately/extensively on the reporting features of Web Reporter.



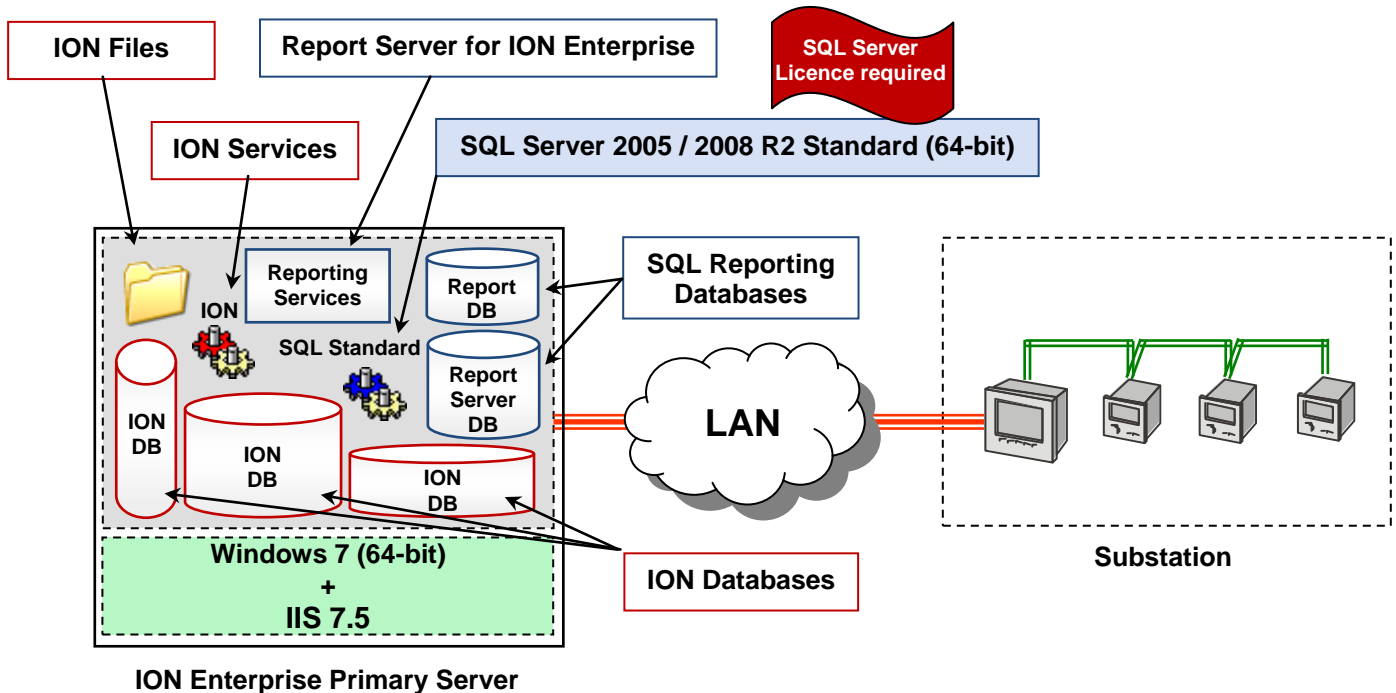
What are the limitations?

Windows XP Professional uses Internet Information Services (IIS) 5.1 which has a limit of 10 concurrent connections. **This limitation is noticeable when a series of ION Enterprise web reports are run** and the connection limit is reached.

TABLE 1:	Number of CPUs	Max RAM	Max Database Size
SQL Server 2005 Express Edition	1	1 GB	4 GB

Intermediate Standalone Primary Server

An Intermediate Standalone Primary Server is based on a combination of Windows 7 (64-bit) and SQL Server 2005 / 2008 R2 (64-bit) Standard Edition (or higher). For this configuration, **SQL Server Standard Edition (64-bit) is installed separately before ION Enterprise software is installed.** This combination provides a more reliable and scalable desktop platform which will give you an ION Enterprise system that performs better than a Basic Stand-alone configuration.



What are the advantages?

Windows 7 comes equipped with Internet Information Services (IIS) 7.5 which does not have a hard limit of 10 concurrent connections.

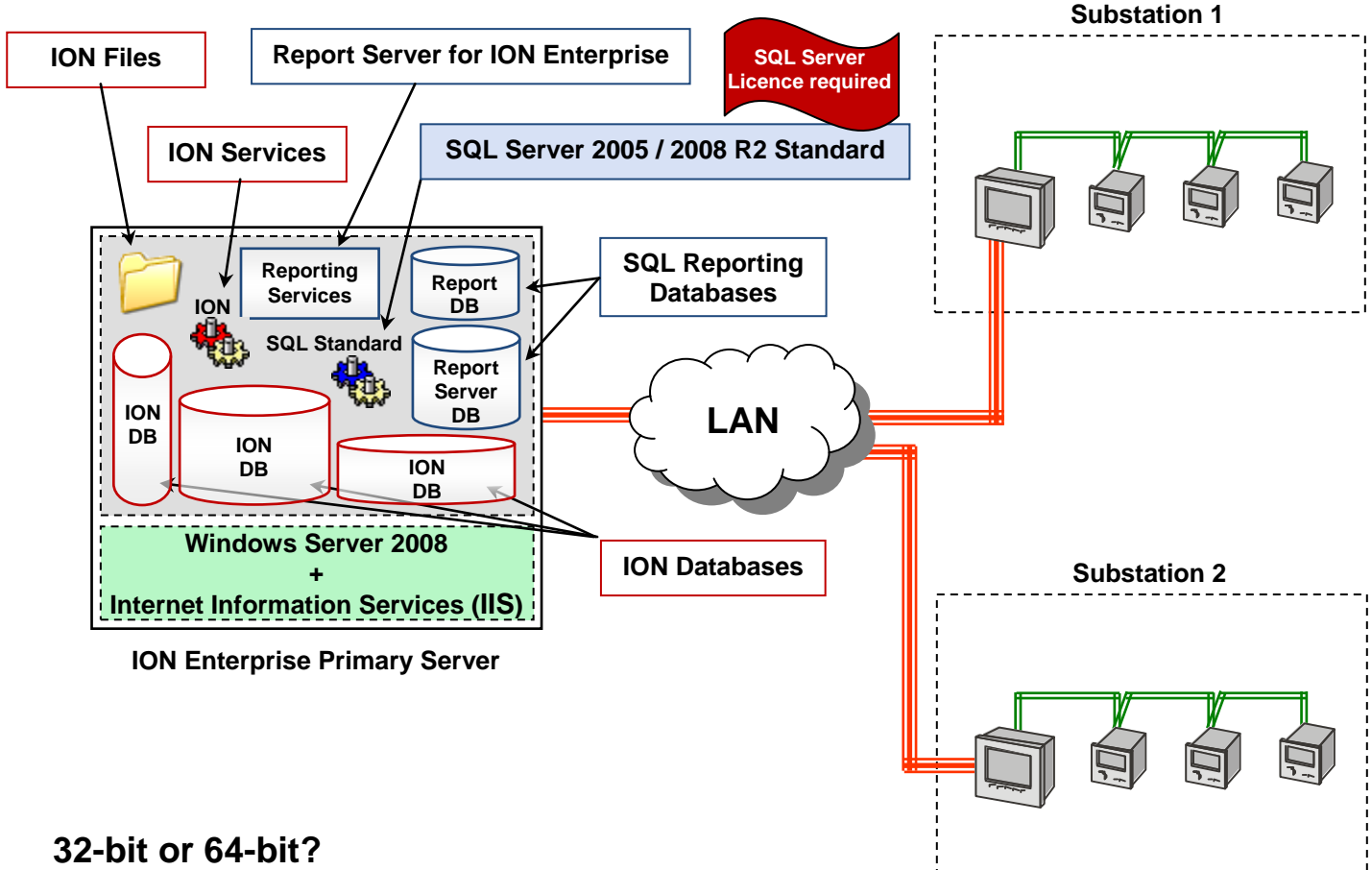
SQL Server Standard Edition (64-bit) can utilize more than 4 CPUs and it supports databases larger than 4 gigabytes (GB); there is no database size limit.

SQL Server Standard Edition (64-bit) supports up to 1024 GB of RAM (32-bit version is limited to 4 GB of RAM)

For desktops with more than 4 GB of RAM, SQL Server Standard Edition (64-bit) can provide a performance benefit to ION Enterprise systems that have many concurrent users who are accessing historical data from the databases at the same time (via *Web Reporter*, *WebReach* or *Vista*).

Advanced Standalone Primary Server

An Advanced Standalone Primary Server is installed on server-grade computer running a Windows Server-class operating system and SQL Server Standard Edition (or higher). This configuration is recommended when ION Enterprise scalability and performance are important and server-grade hardware is specified (for security, redundancy, networking, etc.) and there is not an appropriate SQL Server DB Server available or specified to use.



32-bit or 64-bit?

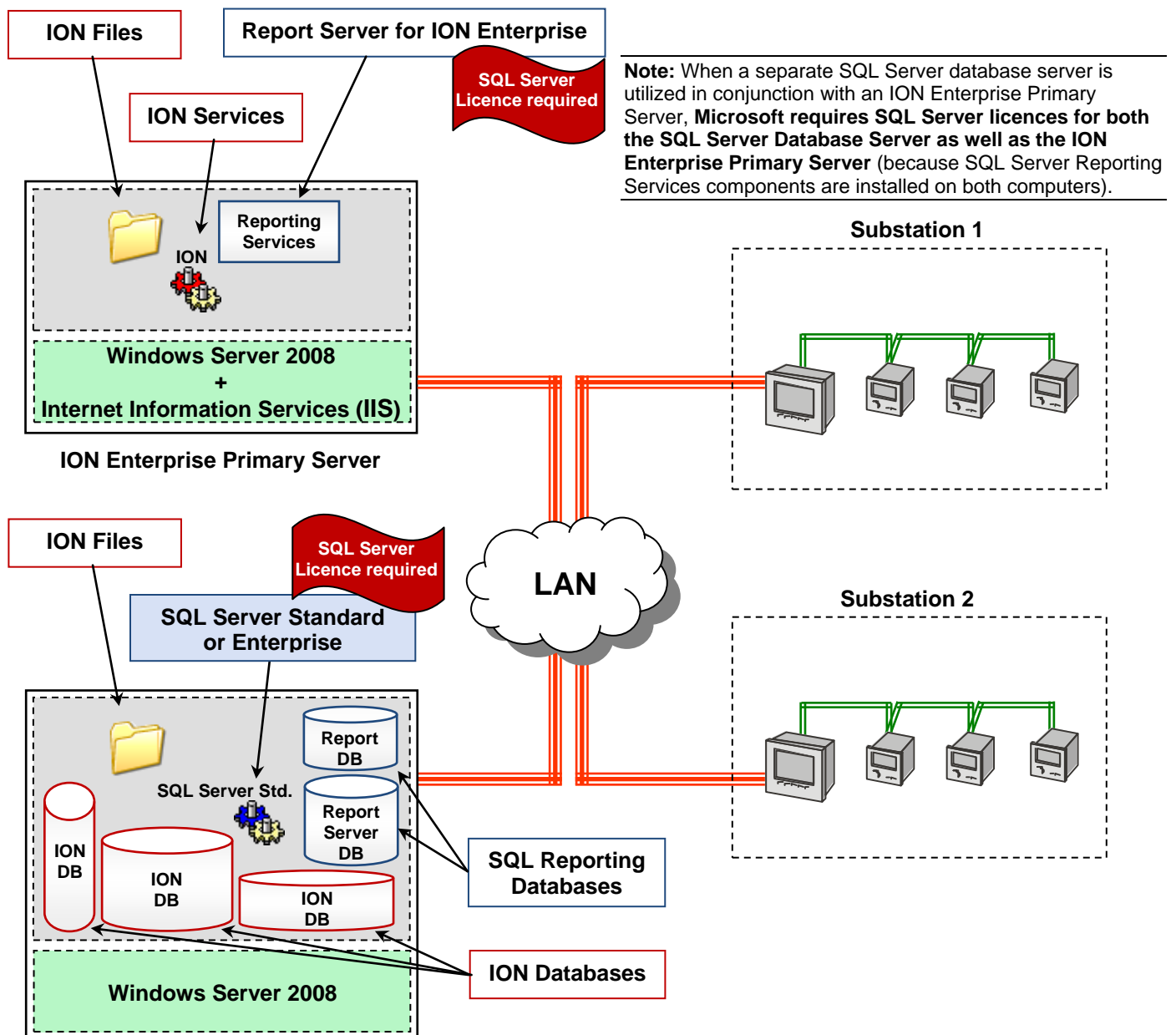
An Advanced Standalone Primary Server may be installed on a 32-bit or 64-bit Windows operating system, and the SQL Server version must match. If the operating system is 32-bit, then a 32-bit version of SQL Server must be used. Similarly, if the operating system is 64-bit, then a 64-bit version of SQL Server must be used.

TABLE 2:	Number of CPUs	Max RAM	Max Database Size
32-bit SQL Server	4	4 GB	Unlimited
64-bit SQL Server	64	1024 GB	Unlimited

Primary Server plus separate Database Server

As an option, ION Enterprise systems can be commissioned in a distributed manner with a separate SQL Server Database Server. In this case, the Database Server must be installed and configured before the ION Enterprise Primary Server is installed. Distributing the database functions to a separate SQL DB Server is beneficial when:

- A SQL Server Database Server already exists and is available
- There is a requirement to have IIS and SQL Server on separate servers
- The ION Enterprise system will have many devices connected to it
- There may be several people using the ION Enterprise system at the same time and performance is important. (Dedicated server resources for SQL Server database functions is a powerful way to maximize ION Enterprise performance).



Supported ION Enterprise Primary Server Installations

The following table indicates which Microsoft Windows operating systems and SQL Server versions are supported for Standalone and Distributed DB Server configurations.

TABLE 3: Supported OS and SQL Server Combinations for ION Enterprise 6.0 SP1			
32-bit Windows Operating Systems	32-bit Microsoft SQL Server Versions	Standalone ION:E Server	Distributed DB Server
Windows XP (32-bit) Professional Edition, SP3	SQL Server 2005 (32-bit) Express Edition	✓	
Windows Vista (32-bit) Business/Ultimate/Enterprise Editions, SP1	SQL Server 2005 (32-bit) Express Edition	✓	
Windows Server 2003 (32-bit) Standard/Enterprise Editions, SP2	SQL Server 2005 (32-bit) Express Edition	✓	
	SQL Server 2005 (32-bit) Standard/Enterprise Editions	✓	✓
Windows Server 2003 R2 (32-bit) Standard/Enterprise Editions	SQL Server 2005 (32-bit) Express Edition	✓	
	SQL Server 2005 (32-bit) Standard/Enterprise Editions	✓	✓
Windows Server 2008 (32-bit) Standard/Enterprise Editions, SP1	SQL Server 2005 (32-bit) Express Edition	✓	
	SQL Server 2005 (32-bit) Standard/Enterprise Editions	✓	✓
64-bit Windows Operating Systems	64-bit Microsoft SQL Server Versions	Standalone ION:E Server	Distributed DB Server
Windows 7 (64-bit) Professional/Enterprise Editions	SQL Server 2005 (64-bit) Standard/Enterprise Editions	✓	
	SQL Server 2008 R2 (64-bit) Standard/Enterprise Editions	✓	
Windows Server 2008 (64-bit) Standard/Enterprise Editions, SP1	SQL Server 2005 (64-bit) Standard/Enterprise Editions	✓	✓
	SQL Server 2008 R2 (64-bit) Standard/Enterprise Editions	✓	✓
Windows Server 2008 R2 (64-bit) Standard/Enterprise Editions	SQL Server 2005 (64-bit) Standard/Enterprise Editions	✓	✓
	SQL Server 2008 R2 (64-bit) Standard/Enterprise Editions	✓	✓

Windows Server 2008 R2 & Windows 7 operating systems

Windows Server 2008 R2 (which is 64-bit only) Standard/Enterprise Editions and Windows 7 (64-bit) Professional/Enterprise Editions are now supported operating systems for ION Enterprise 6.0 SP1 Primary Servers (as per **Table 3** on page 7).

These operating systems come equipped with a newer version of Internet Information Services called IIS 7.5. Since IIS 7.5 is newer than the ION Enterprise 6.0 installer, it does not recognize IIS 7.5 and therefore does not configure it during the installation process.

As a result, some basic manual steps are required prior to the installation of ION Enterprise Primary Server software. The manual steps required to ensure IIS 7.5 is properly configured for use with Reporting Services for Web Reporter functionality is fully described in knowledgebase article **RESL204127**.

Using SQL Server 2008 R2 Standard Edition

SQL Server 2008 R2 (64-bit) Standard/Enterprise Editions are now supported SQL Server versions for ION Enterprise 6.0 SP1 Primary Servers (as per **Table 3** on page 7).

This new version of SQL Server has many new features and is considerably different in the area of Reporting Services. Since SQL Server 2008 R2 is newer than the ION Enterprise 6.0 installer, it does not configure Reporting Services and Web Reporter to work properly with SQL Server 2008 R2.

As a result, a special tool called the **RS 2008 Configuration Wizard** must be run after installing ION Enterprise 6.0 SP1 in order make it work properly with SQL Server 2008 R2. This procedure and the RS 2008 Configuration Wizard itself are fully documented and provided via knowledgebase article **RESL 203767**.

Software Requirements for ION Enterprise Primary Servers

TABLE 4: Software Requirements for ION Enterprise 6.0 SP1 Primary Servers	
Software Component	Notes
Internet Information Services (IIS)	Optional component of Windows – required for ION Enterprise Web Client functionality
.Net Framework 2.0	Installed by the ION Enterprise installer if it does not already exist on the computer
SQL Server Reporting Services – Report Server	Required on the Primary Server even when a separate SQL Server Database Server is used
Excel 2003, 2007, 2010	When saving reports locally as Excel files
Adobe Acrobat	Viewing PDF documents

Support for Virtual Environments

ION Enterprise 6.0 SP1 Primary Servers may be commissioned in virtual server environments and will be supported provided they are properly installed on supported Windows + SQL Server combinations (as per the Table 3 on page 7) and the virtual server environment running on **VMWare ESX Server 2.x** or **3.x**.

Support for Server Clusters and Failover Clustering

ION Enterprise 6.0 SP1 was not designed for server redundancy applications like failover clustering and **is not supported in a server cluster**.

Server cluster

A server cluster consists of two or more computers working together to provide a higher level of availability, reliability, and scalability than can be obtained by using a single computer. Microsoft cluster technologies guard against three specific types of failure:

- **Application and service failures**, which affect application software and essential services.
- **System and hardware failures**, which affect hardware components such as CPUs, drives, memory, network adapters, and power supplies.
- **Site failures in multisite organizations**, which can be caused by natural disasters, power outages, or connectivity outages.

Failover clustering

Failover clustering is a process in which the operating system and SQL Server work together to provide availability in the event of an application failure, hardware failure, or operating-system error.

Failover clustering provides hardware redundancy through a configuration in which mission critical resources are transferred from a failing machine to an equally configured server automatically.

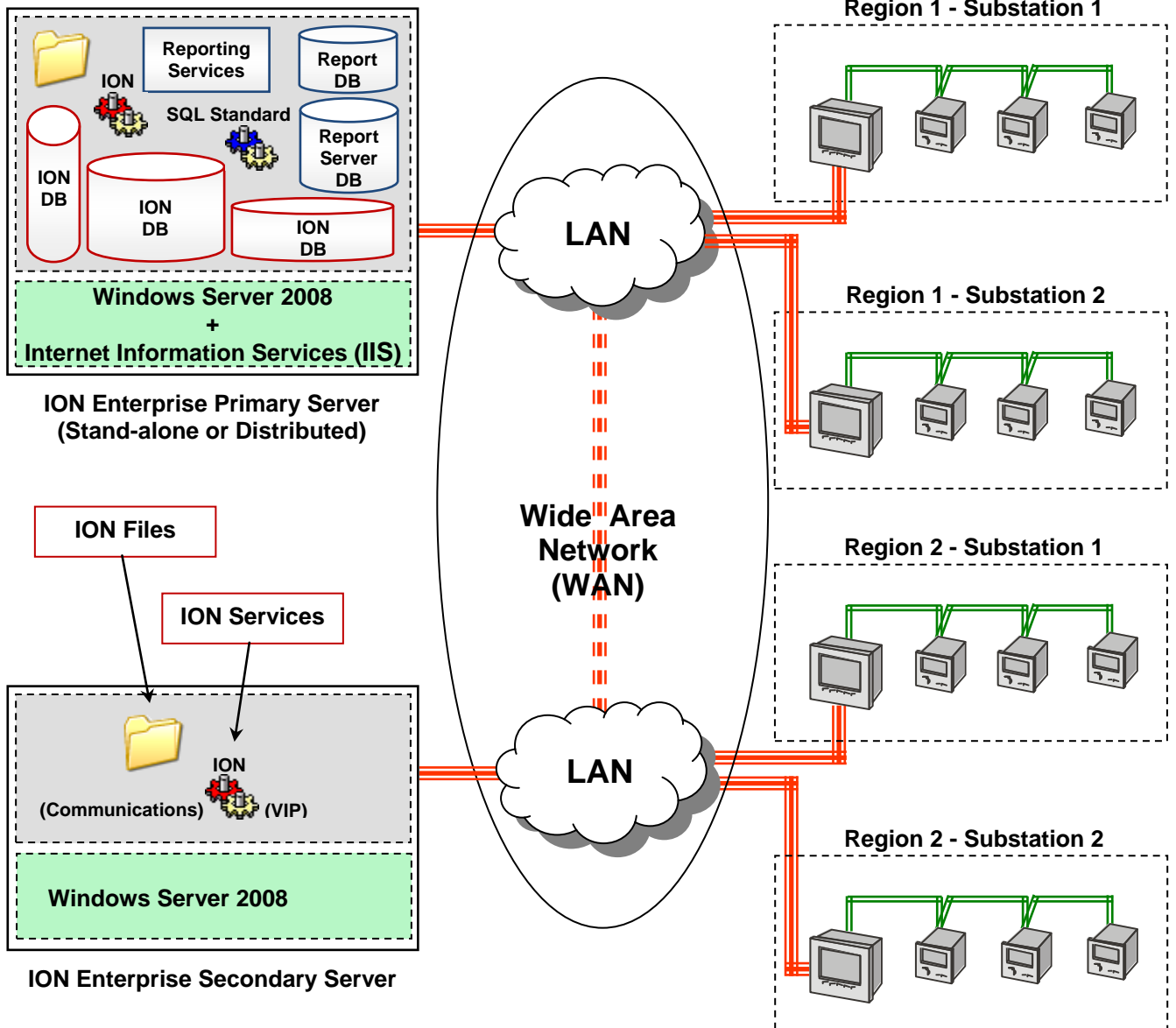
Failover clustering also allows system maintenance to be performed on a computer while another node does the work.

ION Enterprise Secondary Servers

ION Enterprise system architecture supports the ability to distribute additional communication servers when needed. These servers are known as Secondary Servers. In most cases, a single powerful Primary Server is all that is required; however, a Secondary Server may be beneficial when:

- The number of devices connected in the system exceeds 500
- A number of devices are installed a great distance (communication latency) from the Primary Server and real-time updates from those devices for local operators is important

It is recommended that an ION Enterprise commissioning expert is consulted for larger systems that may require a Secondary Server.



Supported ION Enterprise 6.0 SP1 Secondary Server Installations

TABLE 5: Supported Operating Systems for ION Enterprise 6.0 SP1 Secondary Servers

32-bit Windows Operating Systems		ION:E Secondary Server
Windows XP (32-bit) Professional Edition, SP3		
Windows Vista (32-bit) Business/Ultimate/Enterprise Editions, SP1		
Windows Server 2003 (32-bit) Standard/Enterprise Editions, SP2		✓
Windows Server 2003 R2 (32-bit) Standard/Enterprise Editions		✓
Windows Server 2008 (32-bit) Standard/Enterprise Editions, SP1		✓
64-bit Windows Operating Systems		ION:E Secondary Server
Windows 7 (64-bit) Professional/Enterprise Editions		
Windows Server 2008 (64-bit) Standard/Enterprise Editions, SP1		✓
Windows Server 2008 R2 (64-bit) Standard/Enterprise Editions		✓

ION Enterprise Client computers

In situations where access to the ION Enterprise Primary Server is limited or restricted, ION Enterprise Client installations are recommended. ION Enterprise Client installations are workstation access points for power users who need the ION graphical user interfaces (*Management Console, Vista and Designer*) to do a variety of tasks including run other ION utilities, add new devices to the system, configure devices, view and acknowledge system alarms, build power monitoring HMI screens in *Vista* and more... These client access points require an ION Enterprise Client License and they can only be installed after the ION Enterprise Primary Server is up and running.

TABLE 6: Supported Operating Systems for ION Enterprise 6.0 SP1 Client computers

32-bit Windows Operating Systems		ION:E Client computer
Windows XP (32-bit) Professional Edition, SP3		✓
Windows Vista (32-bit) Business/Ultimate/Enterprise Editions, SP1		✓
Windows Server 2003 (32-bit) Standard/Enterprise Editions, SP2		✓
Windows Server 2003 R2 (32-bit) Standard/Enterprise Editions		✓
Windows Server 2008 (32-bit) Standard/Enterprise Editions, SP1		✓
64-bit Windows Operating Systems		ION:E Client computer
Windows 7 (64-bit) Professional/Enterprise Editions		✓
Windows 7 (32-bit) Professional/Enterprise Editions		✓
Windows Server 2008 (64-bit) Standard/Enterprise Editions, SP1		✓
Windows Server 2008 R2 (64-bit) Standard/Enterprise Editions		✓

ION Enterprise Web Clients

ION Enterprise Web Clients provide convenient access to the WebReach and Web Reporter interfaces via Microsoft Internet Explorer. Any computer running **Microsoft Internet Explorer 7 or 8** that has network connectivity to the ION Enterprise Primary Server may function as an ION Enterprise Web Client.

ION Enterprise 6.0 SP1 supports only Microsoft Internet Explorer 7 or 8 for its Web Clients.

IIS components and SQL Server Reporting Services components must be installed and properly configured on the ION Enterprise Primary Server for full ION Enterprise Web Client functionality.

ION Enterprise Web Clients do not require an ION Enterprise Client Licence.

Appendix 1: Support for ION Enterprise 6.0 SP1 Servers

<i>Updated support for ION Enterprise 6.0 SP1 Servers</i>	
Windows Workstation OS	ION Enterprise 6.0 SP1
Windows 2000 Professional SP4	
Windows XP (32-bit) Professional Edition, SP3	✓
Windows Vista (32-bit) Business/Ultimate/Enterprise Editions, SP1	✓
Windows 7 (64-bit) Professional/Enterprise Editions	Limited support *
Windows Server OS	
Windows 2000 Server Standard/Enterprise Editions	
Windows Server 2003 (32-bit) Standard/Enterprise Editions, SP2	✓
Windows Server 2003 R2 (32-bit) Standard/Enterprise Editions	✓
Windows Server 2008 (32-bit) Standard/Enterprise Editions, SP1	✓
Windows Server 2008 (64-bit) Standard/Enterprise Editions, SP1	✓
Windows Server 2008 R2 Standard Edition	Limited support *
Windows Server 2008 R2 Enterprise Edition	Limited support *
Virtual Machine Environments	
VMWare ESX Server 2.x/3.x	✓
Microsoft SQL Server	
SQL Server 2000 MSDE SP3	
SQL Server 2000 (32-bit) Standard Edition	
SQL Server 2005 (32-bit) Express/Standard/Enterprise Editions	✓
SQL Server 2005 (64 bit) Standard/Enterprise Editions	✓
SQL Server 2008 (32-bit or 64-bit) Express Edition	
SQL Server 2008 (32-bit) Standard/Enterprise Editions	
SQL Server 2008 (64-bit) Standard/Enterprise Editions	
SQL Server 2008 R2 (32-bit or 64-bit) Express Edition	
SQL Server 2008 R2 (32-bit) Standard/Enterprise Editions	
SQL Server 2008 R2 (64-bit) Standard/Enterprise Editions	Limited support **
Internet Explorer	
Internet Explorer 6	
Internet Explorer 7	✓
Internet Explorer 8	✓
Microsoft Excel	
Excel 2000, XP	
Excel 2003, 2007	✓

* **Limited Support for Windows Server 2008 R2 / Windows** – Prior to running the ION Enterprise 6.0 installer, some manual steps are required. See knowledgebase article **RESL204127**

** **Limited Support for SQL Server 2008 R2** – To use ION Enterprise 6.0 SP1 with SQL Server 2008 R2, the ION:E Reporting Services 2008 Configuration Wizard must be run after the Primary Server is installed. See knowledgebase article **RESL 203767**.