INFOR ERP SYTELINE

Guide to Technology
Version 8.02.10
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USE OF THIS DOCUMENT

This document is intended for readers who understand basic network and infrastructure design models. The document leaves out some detail in order to provide a generalized technical document. Please read this document in its entirety.

This document is intended to provide information on the infrastructure deployment of Infor solutions. This document does not take into account all scenarios, infrastructure challenges, and solution options. It is recommended that if the reader’s intent is to purchase hardware or infrastructure to support or modify an Infor Solution, they should contact their sales representative. The Infor sales representative can then get the appropriate resource involved to review the technical and infrastructure recommendation and possibly provide a specific configuration recommendation. This document is confidential and property of Infor Global Solutions, Inc. Unauthorized use of this document is strictly prohibited.
Executive Overview

Every hybrid discrete manufacturer has a critical need to keep IT operations as lean as possible without sacrificing the ability to easily adapt business applications to keep pace with changing requirements.

The starting point, of course, is the implementation of an enterprise resource planning (ERP) solution that delivers core capabilities to help improve productivity, shorten time to market, and reduce operational costs. But since business is never static, manufacturers need to frequently extend and adapt their enterprise applications without wasting a lot of time and incurring a lot of cost.

The problem with most ERP solutions is that truly tailoring them to your business, beyond making cosmetic changes and adding user-defined fields, involves expensive and non-upgradeable programming. As a result, you are forced to choose between incurring a significant cost or running your business with software that is ill-equipped to effectively support your business.

By contrast, Infor™ ERP SyteLine features a unique software architecture that provides a cost-effective and efficient way to extend and adapt the solution to fit your changing business requirements. With Infor ERP SyteLine, your IT resource needs are minimized because the framework is based on the standard Microsoft® .NET platform. At the same time, the business value of your IT infrastructure is maximized because of SyteLine’s adaptability. If your responsibilities lie on the business side of your company, this means the framework can help your efforts to lower costs and increase revenue.

This white paper explains the goals and business benefits of this unique framework, including the following:

- Microsoft .NET and Native Microsoft server technologies throughout
- The ability to extend and adapt the Infor ERP SyteLine application to a virtually unlimited extent with no or minimal programming and with automatic upgrades of your changes
- Easy and powerful integration to your other software
- A rich user experience that maximizes employee productivity and extends to key customers and suppliers
- The ability to access any screen as a web page, including on mobile devices
- Simple and flexible installation and configuration
- Outstanding diagnostics and monitoring capabilities
- Agile Cloud deployments

With the Infor ERP SyteLine Smart Framework, your ERP solution allows you to keep your focus on your business and its growth, not on keeping your enterprise software up-to-date.
Infor ERP SyteLine Smart Framework Overview
The central defining goal of the Infor ERP SyteLine Smart Framework is to minimize the amount of program coding required by Infor developers, partners, and customers, in order to maximize your ability to adapt quickly and cost-effectively to emerging business requirements.

By minimizing the need for program coding in adapting the Infor ERP SyteLine solution, changes to your solution are automatically upgradeable, development is accelerated, quality is increased through extreme code re-use, and your implementation is insulated from underlying technology changes. Since creating some new code is inevitable, the framework streamlines the process by enabling your team to use familiar and standard Microsoft .NET technologies and tools.

To meet these objectives, the Infor ERP SyteLine Smart Framework uses a model defined by metadata (data defining the application behavior, stored in rows and columns in databases); the user interface (forms); the Smart Business Layer, which consists of the mid-tier business objects (IDO, or Intelligent Data Objects); and business processes (Application Event Handlers). In the metadata approach, changes can be kept separate from the base application and your changes automatically upgrade using framework tools like FormSync.

Major Business Benefits of the Infor ERP SyteLine Smart Framework
The Infor ERP SyteLine Smart Framework provides major benefits that contribute directly to your bottom line by keeping the cost of ownership low, improving overall business performance, and allowing you to remain competitive by quickly responding to business change.

Leverage Microsoft .NET and Native Microsoft Server Technologies
Before going deeper into the framework’s capabilities, it is worth emphasizing that the framework is an Infor layer built with, and directly onto, native Microsoft standard technologies. The framework itself is written entirely in .NET “managed code”. And the database and application server/web server layers of the framework are implemented natively in core Microsoft server technologies such as SQL Server and IIS.

Because these technologies are industry standards, the clear implication for your business is that you are maximizing your IT investment in terms of software, hardware, and personnel.

Extend and Adapt the Infor ERP SyteLine Application: Beyond User-Defined Fields
The Infor ERP SyteLine Smart Framework makes it possible to adapt the Infor ERP SyteLine application to new business requirements without incurring the high cost and delays involved in modifying or writing new code. This, in turn, makes it feasible to rapidly adapt the system to your business, while continuing to receive new features and fixes.
In most ERP applications, adaptability is provided as a separate layer over the base application, so your ability to extend and build new functionality is limited. The changes you need to make will inevitably involve modifying the base application logic, and that means modifying code. But the base Infor ERP SyteLine application is built with the same metadata-driven approach provided to customers, so your capabilities to extend and adapt the application are virtually unlimited.
The Infor ERP Smart Framework allows you to access key locations in the base application and add extensions that are marked so that when an upgrade occurs the changes are automatically migrated forward. For example, if you want additional processing to occur when a user pushes a button on a screen or modifies data on a screen, you can insert your own event handlers, which can execute a wide variety of tasks without requiring coding and which automatically upgrade.
The Infor ERP SyteLine Smart Framework makes it possible to perform the following changes without programming:

- Extend any portion of any screen: By using the same tools as those used to build the base application, you can extend any portion of any screen, including new tabs, new fields, validation logic, and enabling logic. You can even embed controls you write in technologies like Silverlight in any SyteLine form.

- Extend any business process: Using the Application Event System (AES), you can define rules that execute whenever an insert or update occurs to any business object (order, item, etc.) in the application or when trigger conditions you define become true. These event actions include updating any data in the application, automating any process provided by the application, prompting a user or group of users to approve the change, integrating to an external application, or simply notifying users of the change. Defining these types of actions is all done without writing code.

- Extend any business object: You can extend any of the Intelligent Data Objects (IDO) to create new relationships to other IDOs in the base application, add new calculated fields, add new tables and publish their properties on the IDO. You also can create your own IDOs over your tables. All of these are done without writing code, although if you want you can write your own .NET classes and have that logic incorporated in the IDO processing as well.

- Add completely new functionality: You can build new functionality, such as new tables, IDOs, and forms as required by processes unique to your business. These are automatically deployed with the base application and automatically take advantage of other framework functions, such as translations, Web Service access, and the Application Event System.

- Extend and add to the application without being locked into a version or a difficult upgrade path. The framework is designed to encourage these activities and allow for a fast and simple upgrade to new releases.

This ability to extend and tailor the application helps you to lower the cost of your IT ownership and increase productivity for your business.

Easily Integrate with Other Business Applications

The framework makes it possible to integrate the solution with external applications without expensive re-coding. There is a wide-range of integration capabilities, including the following:

- Allow external applications to query or update data, and to automate processing. Because the framework provides a simple, consistent interface to all IDOs and makes that interface available in a wide range of technologies (WebService, XML, .NET, COM), you can easily give your other applications full access to the data and processes in Infor ERP SyteLine.

- Initiate integration from within the Infor ERP SyteLine application. The framework provides several mechanisms by which you can set policy inside the Infor ERP SyteLine application to initiate interactions with other systems. For example, the framework’s replication system provides a simple subscription mechanism so that when certain changes occur or processes execute, SyteLine will dispatch an XML message to the external system. There are additional capabilities, like the AES, which allow you to add interactions with your other applications.
Integrate other software directly into the Infor ERP SyteLine screens. Because the forms provided by the Infor ERP SyteLine Framework can be easily tailored to embed other applications inside them, you can tightly integrate external applications at the user interface layer to maximize end-user productivity. For example, you can easily embed your customers’ web sites into the SyteLine customer screen.

Allow Infor ION connections. The SyteLine framework automatically maps SyteLine IDOs to ION BODs (Business Object Documents).

Increase User Productivity and Access for Customers and Suppliers

The Infor ERP SyteLine Smart Framework’s SmartClient component is WinStudio. It uses Microsoft’s Click Once deployment technology, so that WinStudio functions as a self-installing, self-updating internet-enabled user interface that delivers a wide range of business benefits, including the ability to:

- Lower training costs and increase productivity. The WinStudio SmartClient provides a genuine, rich interface because it is a Windows® application that looks, feels, and operates like other Windows applications. Because it has a similar look and feel to Microsoft Office and other Windows applications, user training time is reduced and productivity is enhanced.

- Maximize productivity in the tailoring and designing of screens. No separate tool is needed to perform tailoring of screens, which ranges from simple data entry personal optimizations (personalization) to full development. You can grant your users permission to make only simple changes, or to do full development, and if they have such permissions, users simply toggle into design mode, make their changes, save, and toggle back to run mode.

- Facilitate customer and supplier coordination. Since WinStudio communicates to the server via XML over internet HTTP or HTTPS, no virtual private network (VPN) is required to give customers and suppliers access to their data. Instead, it is only necessary to give them log-in information and set appropriate security rules. And since any form is also available as a web page (see below), all your users, as well as your customers and suppliers, can access screens you want to authorize them for via the web, including from mobile devices.

- Reduce disk space usage. SmartClients read from the server at runtime and, as a result, consume minimal disk space and don’t need to be updated when the application changes.

- Reduce network bandwidth usage. SmartClients can make efficient use of network bandwidth by doing as much client-side processing as possible and giving form designers explicit control over when network round trips occur.
Access Any Screen as a Web Page, Including on Mobile Devices

The Infor ERP SyteLine Smart Framework provides unparalleled efficiency for users, providing the internet enabled SmartClient rich user experience both for running the SyteLine application, as well as for tailoring and designing forms.

Some users will want to access SyteLine from web browsers, perhaps from non-Windows machines, or from a hotel computer, or from mobile devices. They can do this because any SyteLine form, and any tailoring you make to standard forms or to forms that you create, is immediately available as a Web page.

This illustrates the power of the framework for quickly providing, for example, tailored screens for your mobile users.

Simplify Software Installation and Configuration

The Infor ERP SyteLine Smart Framework provides simple and straightforward installation and configuration that is typically found in much smaller, less robust software packages. In addition, the Framework provides an extremely flexible model for international enterprises, which allows you to respond rapidly and effectively to new business acquisitions or relocations.

The Framework architecture maximizes simplicity because of the extraordinary concentration of application elements in its databases, outstanding tooling provided over remaining configuration information, and its self-installing, self-updating client component.

The Framework’s configuration flexibility comes from the structure of sites and intranets, and the range of options built into the framework’s replication system. For example, if a business unit needs to be moved from a data center in Europe to one in Asia, the framework makes that a straightforward process that simply involves moving the database, updating some screens to alter the location of the business, and updating the replication policy as appropriate for your cross-data center connectivity.

By streamlining the installation and configuration process, you can keep costs low for events like the move of a business unit from one region to another, the creation of a new test system, the addition or removal of hardware resources from production, or the upgrade of the system to a new version.

These same factors enable unparalleled flexibility in cloud deployments (see below).

Enhance Diagnostics and Monitoring

The Infor ERP SyteLine Smart Framework provides users with the same set of tools used by Infor during development of the base application. For example, the SmartClient WinStudio provides a highly-configurable diagnostics display. On your application servers, the framework’s Log Monitor tool provides a consolidated view of all the framework elements running there. The SyteLine Smart Framework provides a basis for excellent diagnostics and monitoring tools.
Enable Agile Cloud Deployments

All functionality built in the Infor ERP SyteLine Smart Framework is fully cloud-enabled. This includes the base SyteLine application itself, additions from partners, and functionality you add yourself. This means:

- All integration points and client access are internet-enabled.
- The server-side configuration and components are multi-tenant and highly scalable.
- Because even new development is internet-enabled, all the tools you need to extend and tailor the SyteLine application are available to you in cloud scenarios, just as they would be with on-premise deployment.

The cloud support is extremely agile. Due to the SyteLine framework’s complete encapsulation in its databases, moving your SyteLine installations from the cloud to on-premise or vice versa is very simple.

Because the Infor ERP SyteLine Framework is fully cloud-enabled, you have many future deployment options as your business continues to grow and change.

Conclusion

Because of the Infor ERP SyteLine Smart Framework’s architecture, Infor ERP SyteLine can significantly enhance your competitive positioning in the manufacturing marketplace. The Framework adapts and extends the software to fit your business, with no or limited coding and automatic upgrades, and delivers a rich end-user experience, as well as the ability to tie into your other enterprise software, easy and flexible configuration, and outstanding monitoring capabilities.

Because the framework is based on the standard Microsoft .NET platform, your IT resource overhead requirements are minimized. At the same time, your IT resources deliverables are maximized because of the dynamic, flexible capabilities of the Infor ERP SyteLine Smart Framework.

In overview, the Infor ERP SyteLine framework allows/ provides:

- Zero-maintenance client
- Simple mid-tier deployment and configuration
- Extended current SyteLine customization capabilities
- Increased power of SyteLine in BOD-enabled scenarios
- Important UI look-and-feel improvements
- Reduced number of servers required
- Utility/Web Server pooling and load balance
- No painful/risky upgrade; no loss of existing functionality
- Significant productivity improvements for developers
Framework and Architecture Example
SUPPORTING TECHNOLOGY

Operating Systems - Servers
- Microsoft Windows 2003 Server
  - Standard or Enterprise Edition – 32 and x64 bit (* see note at bottom of page)
- Microsoft Windows 2008 Server
  - Standard or Enterprise Edition – 32 and x64 bit (* see note at bottom of page)
- Microsoft Windows 2008 R2 Server
  - Standard or Enterprise Edition – x64 bit

It is important to understand the differences in operating system versions: the impact of the components that run on those operating systems and the limitations of each version. For instance, there are limitations on 32 bit and standard versions of the operating system that are not present in x64 bit versions and Enterprise releases. Currently there is no official support for Itanium 64 bit operating systems.

Operating Systems – Clients
- Microsoft Windows 7 Professional
- Microsoft Windows Vista Business Edition
- Microsoft Windows XP Professional
- Microsoft Windows 2003 / 2008 Terminal Services
- Citrix Server add-on

Database Server
- Microsoft SQL Server 2005
  - Standard or Enterprise Edition – 32 and x64 bit (* see note at bottom of page)
- Microsoft SQL Server 2008 / 2008 R2
  - Standard or Enterprise Edition – 32 and x64 bit (* see note at bottom of page)

Infor is a reseller of Microsoft SQL Server. Contact your sales representative if you need to purchase SQL server for your deployment.
For additional information, see Microsoft's Web site at www.microsoft.com

Important Note Concerning Supported Technology
*Note: Using Windows 2003, SQL 2005 / 2008 / 2008 R2 32 bit or 32 bit versions of server operating systems will limit your ability to use SharePoint Foundation / Server features that are to be provided with SyteLine. SyteLine Web rendering as a user interface requires the Utility/Web server to be Windows 2008.
Virtualization

For Infor ERP SyteLine release 8.01.00 or higher, Infor supports customers running a production SyteLine solution suite in a VMware virtual environment. It is expected that the customer is running the guest virtual machines and components using the supported operating systems defined for the specific release of the SyteLine solution. The SyteLine solution functions in a VMware environment as if running on physical native hardware. If Infor SyteLine Support suspects that the virtualization layer is the root cause of an error or issue; the customer is required to contact a VMware support provider to resolve the VMware issue.

VMware Virtualization Sizing

With the support of VMware virtual environments for the Infor ERP SyteLine solution, it is the responsibility of the customer to work directly with VMware to ensure that the sizing of the host server hardware, versions of VMware, configuration, setup and raw device mappings are correct. Hardware sizing for virtualization environments is not provided by Infor, due to the number of variables that can be introduced into such an environment. You should work closely with a VMware provider to ensure that the correct hardware sizes and configuration are selected to match your requirements.

Other Virtualization Solutions

Virtualization is a growing segment of the technology market. Infor has chosen VMware as the only virtualization solution that is officially supported for SyteLine. There are many other virtualization solutions in the market from providers like Microsoft and Citrix. Using other virtualization solutions still allows you to receive support for the SyteLine solution, but you need to read and understand the Non-Standard Software Deployment statement below concerning SyteLine.

Support Policy for Infor SyteLine ERP Software - Non Standard Software Deployments

SUMMARY

SyteLine is designed, developed, tested and documented to run in a multi-tier / multi-server deployment using various software components at specific versions and Service Pack levels. These components include such things as the operating system (OS), database and other components as listed in the technical documentation provided with each SyteLine release. This document addresses support provided by Infor for its software running in configurations that do not conform to the standard documented software deployment.

Infor does not test or maintain any support environments of SyteLine software running in Non Standard Software Deployments. Therefore, Infor will require any support issue reported to be reproduced in a Standard Software deployment system, before an APAR (software defect) will be logged. Where the issue is confirmed to be unrelated to the Non Standard Software Deployment, Infor will support its software in a manner that is consistent with support provided when that software is running on a standard software deployment.

Infor will provide code corrections, per the Infor ERP SyteLine On Demand Patch Policy, which are developed and tested in systems that are running on a standard software deployment. These code corrections will be made available via the normal code correction systems and procedures used by all customers running SyteLine.
Customers running Non Standard Software Deployments of SyteLine may also access and apply these code corrections using standard procedures. Infor makes no warranty, implied or otherwise, regarding the use of these fixes in Non Standard Software Deployments.

MORE INFORMATION
Customers most often request Non Standard Software Deployments when they order new hardware that ships with software components that are higher than the software on the approved deployment list, and they cannot “back level” the software to the standard versions. Another common occurrence is that a non-Infor software vendor has suggested applying one or more fixes to one of the non-Infor software components, and this requires installing a service pack level that is higher than the one on our Standard Software Deployment list. In most cases service packs or newer versions of these components will support all of the functions and commands found in the currently supported version. For this reason, the risk of installing the newer code is small. However, we have seen situations where new versions or service pack levels have caused issues that have impacted SyteLine and required the new software to be removed.

Specific information regarding normal software deployment requirements is available on www.infor365.com > Doc Link > Infor ERP SyteLine > Infor ERP SyteLine – Product Documentation. Look for the SyteLine 8 Supported Technology link under the General Information area. Infor Support may update or change the Standard Software Deployment list as new versions of software are available and can be tested internally.

Since the support teams only have access to standard documentation and systems running in standard software deployment configurations, we are unable to assist with specific Non Standard Software Deployment installation, setup or performance questions and recommendations. Any and all information related to setting up a Non Standard Software Deployment is the sole responsibility of the customer. This information may be obtained from various sources, which are not part of Infor Support, and may result in successful deployment of the software for a specific customer environment.

The customer assumes all risks associated with conflicts that arise between various system component software including, but not limited to, performance and system settings.

Infor software may not work as intended in Non Standard Software Deployments due to unknown conflicts between SyteLine and the new software version or component. If these issues cannot be resolved via normal code fixes, the customer may have to implement a Standard Software Deployment system to correct the issue.

This information is subject to change, without notice, at any time.
SIZING FOR INFOR ERP SYTELINE

Important Notice:
If you plan to use SyteLine Web-rendered client sessions, then when sizing the utility server, treat one session as three concurrent sessions. For example, a utility server configured for 300 concurrent users of SyteLine via Smart client will support 100 SyteLine Web-rendered clients instead. The reason for this additional overhead on the server is that the rendering of forms and form scripts, which is otherwise done by the Smart client, must be handled by the server in a Web-rendered presentation. Both Smart client and Web-rendered presentation methods work across LAN, WAN and Internet connections. All of the examples and sizing information for a utility server in this guide is intended for Smart client connectivity to the utility server.

1-20 Concurrent Users

Database / Utility Server (combined servers)

- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better)
- Memory Size
  - 1 Processor – 4MB L2/L3 Cache (or better)
- Disk I/O Config
  - 8GB (must be expandable)
  - 6 Ultra 320 -72/144/300GB SCSI / SAS Drives
  - Terminal Server Remote Administration
  - SQL 2005/2008
  - Infor ERP SyteLine Code
- Other

Example disk drive configuration

**Disk Array 0**
- Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
  - Operating System
  - Swap file
  - SQL Code
  - SyteLine Code

**Disk Array 1**
- Drive 2, 3 (RAID 1): Logical Drive E: (144/300GB drives)
  - SQL Databases (LDF)

**Disk Array 2**
- Drive 4, 5 (RAID 1): Logical Drive F: (144/300GB drives)
  - SQL Databases (MDF)
21-50 Concurrent Users

Database / Utility Server (combined servers)

- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz(or better)
  - 2 Processor – 4MB L2/L3 Cache (or better)
- Memory Size
  - 8GB (must be expandable)
- Disk I/O Config
  - 6 Ultra 320 -72/144/300GB SCSI / SAS Drives
  - Terminal Server Remote Administration
  - SQL 2005/2008
  - Infor ERP SyteLine Code
- Other
  - 1GB Ethernet adapter

Example disk drive configuration

**Disk Array 0 Drive 0, 1 (RAID 1):** Logical Drive C: / D: (72/144/300GB drives)
- Operating System
- Swap file
- SQL Code
- SyteLine Code

**Disk Array 1 Drive 2, 3 (RAID 1):** Logical Drive E: (144/300GB drives)
- SQL Databases (LDF)

**Disk Array 2 Drive 4, 5 (RAID 1):** Logical Drive F: (144/300GB drives)
- SQL Databases (MDF)
51-100 Concurrent Users

Database Server:

- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better),
  - 2 Processor – 4MB L2/L3 Cache (or better)
- Memory Size
  - 8GB (must be expandable)
- Disk I/O Config
  - 8 Ultra 320 72/144/300GB SCSI / SAS Drives
  - Terminal Server Remote Administration
  - SQL 2005/2008
  - Infor ERP SyteLine Code
- Other
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Code

Example disk drive configuration

**Disk Array 0**  Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
  - Operating System
  - Swap file
  - SQL Code
  - SyteLine Code

**Disk Array 1**  Drive 2, 3 (RAID 1): Logical Drive E: (144/300GB drives)
  - SQL Databases (LDF)

**Disk Array 2**  Drive 4,5,6,7 (RAID 10): Logical Drive F: (144/300GB drives)
  - SQL Databases (MDF)

Utility Server:

- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better),
  - 2 Processors – (must be expandable)
- Memory Size
  - 8GB
- Disk I/O Config
  - 2 x Ultra 320 72GB SCSI / SAS Drives RAID 1
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Code
- Other
  - Infor ERP SyteLine Code
- Network Interface
  - 1GB Ethernet adapter
101-200 Concurrent Users

Database Server:

- Operating System
- Processor Size & #
- Memory Size
- Disk I/O Config
  - Other
  - Network Interface

- Windows 2003/2008 Server
- Quad-Core Xeon 2.0 GHz (or better)
- 2 Processor – 4MB L2/L3 Cache (or better)
- 16GB (must be expandable)
- 10 Ultra 320 - 72/144/300GB SCSI / SAS Drives
- Terminal Server Remote Administration
- SQL 2005/2008
- Infor ERP SyteLine Code

Example disk drive configuration

**Disk Array 0** Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
- Operating System
- Swap file
- SQL Code
- SyteLine Code

**Disk Array 1** Drive 2,3,4,5 (RAID 10): Logical Drive E: (144/300GB drives)
- SQL Databases (LDF)

**Disk Array 2** Drive 6,7,8,9 (RAID 10): Logical Drive F: (144/300GB drives)
- SQL Databases (MDF)

Utility Server:

- Operating System
- Processor Size & #
- Memory Size
- Disk I/O Config
  - Other
  - Network Interface

- Windows 2003/2008 Server
- Quad-Core Xeon 2.0 GHz (or better)
- 2 Processors – (must be expandable)
- 8GB
- 2 x Ultra 320 72GB SCSI / SAS Drives RAID 1
- Internet Information Server (IIS)
- Infor ERP SyteLine Code
- 1GB Ethernet adapter
201-300 Concurrent Users

Database Server:
- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better)
  - 4 Processor – 4MB L2/L3 Cache (or better)
- Memory Size
- Disk I/O Config
  - Other
  - Network Interface
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better)
  - 4 Processor – 4MB L2/L3 Cache (or better)
- Memory Size
- Disk I/O Config
  - Other
  - Network Interface

Example disk drive configuration

**Disk Array 0** Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
- Operating System
- Swap file
- SQL Code
- Infor ERP SyteLine Code

**Disk Array 1** Drive 2,3,4,5 (RAID 10): Logical Drive E: (144/300GB drives)
- SQL Databases (LDF)

**Disk Array 2** Drive 6,7,8,9 (RAID 10): Logical Drive F: (144/300GB drives)
- SQL Databases (MDF)

**Utility Server: (Quantity 1-2)**
- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better)
  - 2 Processors – (must be expandable)
- Memory Size
  - 8GB
- Disk I/O Config
  - Other
  - Network Interface
  - 1GB Ethernet adapter
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better)
  - 2 Processors – (must be expandable)
- Memory Size
- Disk I/O Config
  - Other
  - Network Interface
  - 1GB Ethernet adapter

**Utility Server: (Quantity 1-2)**
- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better)
  - 2 Processors – (must be expandable)
- Memory Size
  - 8GB
- Disk I/O Config
  - Other
  - Network Interface
  - 1GB Ethernet adapter

**Utility Server: (Quantity 1-2)**
- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better)
  - 2 Processors – (must be expandable)
- Memory Size
  - 8GB
- Disk I/O Config
  - Other
  - Network Interface
  - 1GB Ethernet adapter
301-600 Concurrent Users

Database Server:

- Operating System • Windows 2003/2008 Server
- Processor Size & # • Quad-Core Xeon 2.0 GHz (or better),
  • 4 Processor – 4MB L2/L3 Cache (or better)
- Memory Size • 32-48GB (must be expandable)
- Disk I/O Config • 16 Ultra 320 -72/144/ 300GB SCSI /SAS Drives
  ➢ Other • Terminal Server Remote Administration
  ➢ SQL 2005/2008
  ➢ Infor ERP SyteLine Code
- Network Interface • 1GB Ethernet adapter

Example disk drive configuration

Disk Array 0 Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
  ➢ Operating System
  ➢ Swap file
  ➢ SQL Code
  ➢ Infor ERP SyteLine Code

Disk Array 1 Drive 2,3,4,5 (RAID 10): Logical Drive E: (144/300GB drives)
  ➢ SQL Databases (LDF)

Disk Array 2 Drive 6,7,8,9,10,11,12,13,14,15 (RAID 10): Logical Drive F: (144/300GB drives)
  ➢ SQL Databases (MDF)

Utility Server: (Quantity 2-4)

- Operating System • Windows 2003/2008 Server
- Processor Size & # • Quad-Core Xeon 2.0 GHz (or better),
  • 2 Processors – (must be expandable)
- Memory Size • 8GB
- Disk I/O Config • 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
  ➢ Other • Internet Information Server (IIS)
  ➢ Infor ERP SyteLine Code
- Network Interface • 1GB Ethernet adapter
601-900 Concurrent Users

Database Server: (Quantity 2 – Active / Active Cluster)

- Operating System
- Processor Size & #
  - Windows 2003/2008 Server
  - Quad-Core Xeon 2.0 GHz (or better),
  - 4 Processor – 4MB L2/L3 Cache (or better)
- Memory Size
- Disk I/O Config
  - Other
  - 48GB (must be expandable)
  - 16 Ultra 320 -72/144/ 300GB SCSI /SAS Drives
- Terminal Server Remote Administration
- SQL 2005/2008
- Infor ERP SyteLine Code
- Other
- Internet Information Server (IIS)
- Infor ERP SyteLine Code
- Network Interface
  - 1GB Ethernet adapter

Example disk drive configuration

Disk Array 0  Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
- Operating System
- Swap file
- SQL Code
- Infor ERP SyteLine Code

Disk Array 1  Drive 2, 3 (RAID 1): Logical Drive Q: (144/300GB drives)
- Quorum Drive

Disk Array 2  Drive 4,5,6,7 (RAID 10): Logical Drive E: (144/300GB drives)
- SQL Databases (LDF)

Disk Array 3  Drive 8, 9,10,11,12,13,14,15 (RAID 10): Logical Drive F: (144/300GB drives)
- SQL Databases (MDF)

Utility Server: (Quantity 3-5)

- Operating System
- Processor Size & #
  - Windows 2003/2008 Server
  - Quad-Core Xeon 2.0 GHz (or better),
  - 2 Processors – (must be expandable)
- Memory Size
- Disk I/O Config
  - Other
  - 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
  - Internet Information Server (IIS)
- Infor ERP SyteLine Code
- Other
  - 8GB
  - 1GB Ethernet adapter
901-1200 Concurrent Users

Database Server: (Quantity 2 – Active / Active Cluster)

- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better),
  - 4 Processor – 4MB L2/L3 Cache (or better)
- Memory Size
  - 64GB (must be expandable)
- Disk I/O Config
  - 16 Ultra 320 -72/144/ 300GB SCSI /SAS Drives
  - Terminal Server Remote Administration
  - SQL 2005/2008
  - Infor ERP SyteLine Code
- Other
- Network Interface
  - 1GB Ethernet adapter

Example disk drive configuration

- Disk Array 0  Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
  - Operating System
  - Swap file
  - SQL Code
  - Infor ERP SyteLine Code
- Disk Array 1  Drive 2, 3 (RAID 1): Logical Drive Q: (144/300GB drives)
  - Quorum Drive
- Disk Array 2  Drive 4,5,6,7 (RAID 10): Logical Drive E: (144/300GB drives)
  - SQL Databases (LDF)
- Disk Array 3  Drive 8, 9,10,11,12,13,14,15 (RAID 10): Logical Drive F: (144/300GB drives)
  - SQL Databases (MDF)

Utility Server: (Quantity 4-7)

- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better)
  - 2 Processors – (must be expandable)
- Memory Size
  - 8GB
- Disk I/O Config
  - 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Code
- Other
- Network Interface
  - 1GB Ethernet adapter
Infor ERP SyteLine Smart Clients:
These workstations are considered Smart clients, which means the application processing is shared between the client, the MTS/IDO middle tier, and SQL Server. A Smart client provides the fully functional and user-friendly graphical interface of desktop applications with the communication protocol http/http(s) to allow internet or WAN deployment. The client leverages “click-once” deployment for ease of installation and is auto-updating from the Infor ERP SyteLine servers.

- Operating System
  - Windows XP Professional / Vista Business Edition/ Windows 7 Professional
- Processor Size & #
  - Multi-Core Processor 1.6GHz (or better)
  - 1 Processor
- Memory Size
  - 1GB / 2GB /3GB (based on O/S)
  - .NET Framework
  - Network connection

Infor ERP SyteLine Web Rendering Browsers:
SyteLine forms that are supplied with the application, personalized or created from scratch can be rendered in a web browser after the forms are saved and permissions are assigned. The following browsers are supported for SyteLine form web rendering:

- Internet Explorer 8
- Firefox 3.6
- Safari 5.02
- Chrome 8

Note: If you use Web Rendering with Internet Explorer 8, you must clear the Display Internet sites in Compatibility View field found on the Tools>Compatibility View Settings dialog in Internet Explorer.

Infor ERP SyteLine Web Mobile Browsers:
Mobile phones and devices that have a web browser can use SyteLine web-rendered mobile forms that are supplied with the application, personalized, or custom-created.
# SIZING FOR INFOR ERP SYTELINE APS

## 1 – 8 sites

**APS ERDB Server:**

- **Operating System**: Windows 2003/2008 Server
- **Processor Size & #**: Quad-Core Xeon 2.0 GHz (or better)
- **Memory Size**: 4-8GB
- **Disk I/O Config**:
  - **Other**: 2 x Ultra 320 72GB SCSI / SAS Drives RAID 1
  - **Network Interface**: Internet Information Server (IIS)
  - **Other**: Infor ERP SyteLine APS Code
  - **Network Interface**: 1GB Ethernet adapter

## 8 – 16 sites

**APS ERDB Server:**

- **Operating System**: Windows 2003/2008 Server
- **Processor Size & #**: Quad-Core Xeon 2.0 GHz (or better)
- **Memory Size**: 12GB
- **Disk I/O Config**:
  - **Other**: 2 x Ultra 320 72GB SCSI / SAS Drives RAID 1
  - **Network Interface**: Internet Information Server (IIS)
  - **Other**: Infor ERP SyteLine APS Code
  - **Network Interface**: 1GB Ethernet adapter

**OR:**

**APS ERDB Server: (Quantity 2)**

- **Operating System**: Windows 2003/2008 Server
- **Processor Size & #**: Quad-Core Xeon 2.0 GHz (or better)
- **Memory Size**: 8GB
- **Disk I/O Config**:
  - **Other**: 2 x Ultra 320 72GB SCSI / SAS Drives RAID 1
  - **Network Interface**: Internet Information Server (IIS)
  - **Other**: Infor ERP SyteLine APS Code
  - **Network Interface**: 1GB Ethernet adapter
SIZING FOR INFOR ERP SYTELLINE BUSINESS INTELLIGENCE

Server Requirements
- No additional servers are required
- Infor ERP SyteLine Business Intelligence data cubes are created via an ODBC connection to the SyteLine database server and are then typically saved to a centralized location or sent to a user directly
- A file server may be used to centrally store Business Intelligence cubes
- The SyteLine Business Intelligence module does not officially support 64 bit operating systems.

Client Requirements
Deployment options:

Fat Client:
- This strategy involves configuring a client to run the Business Intelligence product locally. In this instance, locally means the program logic is executed on the PC workstation. Additionally, the client must be configured to either communicate directly to the SyteLine database or to the multidimensional cubes which can be created. The cubes are a subset of data that is extracted and displayed in a user-defined format and condition.

ERP SyteLine Business Intelligence Fat Client:
- Operating System
  - Windows XP Pro/Vista Business Edition/ Windows 7 Professional
- Processor Size & #
  - Multi-Core Processor 1.6GHz (or better)
  - 1 Processor
- Memory Size
  - 1GB / 2GB /3GB (based on O/S)
- Disk I/O Config
  - Other
  - 500MB disk space
  - Network connection

The disk space is optional. Approximately 100 MB is needed for Impromptu, Power Play and Business Intelligence client components. Additional space can be utilized for storing of reports and cubes on the client.

Thin Client:
- This deployment strategy involves configuring a client to run the Business Intelligence product via a remote emulation session on a Windows 2003/2008 Server running Terminal Services or Terminal Services with Citrix. The server, not the PC, has the communication link with the database server or cube of data. In most cases, this represents the best method of deployment to allow remote facility users to access live connection analysis or centrally stored data.
SIZING FOR INFOR ERP SYTELINE BUSINESS INTELLIGENCE WEB

Server Requirements

- Web Server
- The Infor ERP SyteLine Business Intelligence Web Power Play Server is served by an IIS Web Server. Power Play Server is updated with the Business Intelligence data cubes and allows end users to select cubes (by permissions given) for drill down and reporting.
- The SyteLine Business Intelligence module does not officially support 64 bit operating systems.

Business Intelligence Web Server:

- Operating System   | Windows 2003/2008 Server
- Processor Size & # | Quad-Core Xeon 2.0 GHz (or better)
- Memory Size        | 2GB
- Disk I/O Config    | 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
   - Other
   - Network Interface | 1GB Ethernet adapter

Client Requirements

Browser Client:

- Any workstation that supports Internet Explorer can use Infor ERP SyteLine Business Intelligence Web. There are no additional requirements beyond running a web browser.
SIZING FOR INFOR ERP SYTELINE CHANNEL SALES

Channel Sales Server:

- Operating System
  - Windows 2003/2008 Server

- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better)
  - 1-2 Processor – (must be expandable)
  - 8-16GB

- Memory Size
  - 8-16 GB

- Disk I/O Config
  - 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Configuration Code
  - 1GB Ethernet adapter

Other

- Network Interface

Load balance and additional servers can be added as necessary if the Channel Sales application has a large volume of users. These servers may include Content servers or additional Configuration servers.
SIZING FOR INFOR ERP SYTELINE CONFIGURATION

1-5 Concurrent Users

- No additional servers are required
- Configuration code to be placed on utility server
- Single server Infor ERP SyteLine deployment will require an additional server for Infor ERP SyteLine Configuration
- Use sizing for 6-25 concurrent users (below)

6-25 Concurrent Users

Configuration Server:

- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better)
  - 1 Processor – (must be expandable)
- Memory Size
  - 4GB
- Disk I/O Config
  - 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Configuration Code
  - 1GB Ethernet adapter

- Other
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Configuration Code
  - 1GB Ethernet adapter

26-75 Concurrent Users

Configuration Server:

- Operating System
  - Windows 2003/2008 Server
- Processor Size & #
  - Quad-Core Xeon 2.0 GHz (or better)
  - 2 Processors – (must be expandable)
- Memory Size
  - 8GB
- Disk I/O Config
  - 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Configuration Code
  - 1GB Ethernet adapter

- Other
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Configuration Code
  - 1GB Ethernet adapter

Client Requirements

- See client requirements for Infor ERP SyteLine
- Internet Explorer 7 or 8 is recommended
SIZING FOR INFOR ERP SYTELINE DATA COLLECTION

Sizing Guidelines:
Sizing for Infor ERP SyteLine Data Collection should be inclusive to the concurrent count you will have for standard SyteLine users. Please refer to the Infor ERP SyteLine sizing section and include your total SyteLine clients and SyteLine Data Collection users in your total concurrent number.

Store and Forward
The components of the TRAKKER Antares Store and Forward Data Collection systems are:

- EZBuilder File Server
- TRAKKER Antares File Copy Utility
- Reader Configuration
- Data Collection Parameters
- DC Client Directory

Using TRAKKER Antares Store and Forward data collection, the reader sends transactions to the EZBuilder file server on the DC client workstation.

The EZBuilder file server receives the reader transactions through a serial port or network connection and places them in the imtrans1 or imtrans2 file in the DC client directory. During the polling process, the background process on the DC client workstation switches the EZBuilder file server output between the imtrans1 and imtrans2 files at each polling cycle.

Supported Equipment

- Intermec TRAKKER Antares handheld batch reader
- Intermec TRAKKER Antares handheld radio frequency reader
- Intermec TRAKKER Antares stationary batch reader
- Intermec TRAKKER Antares stationary radio frequency reader
- Intermec Communication Dock for batch handheld terminals
Web-Based Data Collection

Web-based data collection uses wedge readers, RFDC (Radio Frequency Data Collection) terminals, or other similar devices.

You can use any web-based data collection device that supports Internet Explorer. The ¼ VGA screen standard is supported with SyteLine Data Collection.

With validation enabled, transactions can be saved immediately to the SyteLine database. The system validates the information and detects errors as the transactions are entered. When validation is disabled, such as when the main SyteLine database is down, the transactions are stored in a separate database and uploaded during replication when the main database is restored.

Web-based data collection allows you to enter data with a keyboard, bar code wedge reader, RFDC terminals, or other web-based collection devices that support Internet Explorer.

Style sheets are provided for the following:
- Intermec CK Series (RF versions)
- Internet Explorer using wedge barcode reader and/or keyboard data entry.

Check with your data collection hardware provider for RFDC brands other than Intermec to make sure they are able to run Microsoft Internet Explorer. It is recommended that you acquire a loaner or demonstration device to test before making a purchase in order to assure that the device will meet your needs.
SIZING FOR INFOR ERP SYTELINE SHIPPING AND LOGISTICS

1-5 Concurrent Users
- No additional servers are required if the application runs on a low-use server that meets the operating system requirements
  - See sizing for 6-25 concurrent users (below)
- Shipping and Logistics application code to be placed on identified server
- Single server Infor ERP SyteLine deployment will require an additional server for Infor ERP Shipping and Logistics as an application server
  - Use sizing for 6-25 concurrent users (below)

6-25 Concurrent Users
Shipping and Logistics Application Server:
- Operating System: Windows 2008 Server x64
- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
  - 1 Processor – (must be expandable)
- Memory Size: 4GB
- Disk I/O Config
  - Other
  - Network Interface
    - Internet Information Server (IIS)
    - Infor ERP SyteLine Shipping and Logistics

26-75 Concurrent Users
Shipping and Logistics Application Server:
- Operating System: Windows 2008 Server x64
- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
  - 2 Processors – (must be expandable)
- Memory Size: 8GB
- Disk I/O Config
  - Other
  - Network Interface
    - Internet Information Server (IIS)
    - Infor ERP SyteLine Shipping and Logistics

In all the scenarios above, the SyteLine ERP database server is used as the data store for the SyteLine Shipping and Logistics application data. The database server must run Windows 2008 and SQL 2008 or better as x64 platforms. SQL Server Reporting Services must also be installed.

Client Requirements
- Existing PC, Terminal Servers, Laptops or Thin Clients
- Internet Explorer 7 or better is recommended
Parcel Workstations
- Existing Shipping PC
- Meets Specifications for carriers such as UPS or FedEx

Mobile Scanners
- Running Windows Mobile 6.5
- 240w x 320h (1/4 VGA) minimum resolution
- Running Internet Explorer Mobile
- Recommended:
  - Touch Screen
  - Color
  - Function Keys for usability

Notes and Guidelines for Selecting Mobile Scanning Devices
There are a wide variety of mobile/wireless scanning devices that can be used with the SyteLine Shipping and Logistics application including devices from vendors such as PsionTeklogix, Symbol, and others. The most significant device requirement for running the SyteLine Shipping and Logistics Mobile Portal is the use of Internet Explorer Mobile. The notes in this section provide some guidelines and assistance in choosing between different mobile device options.

Terminology and Choosing a Windows CE Platform
Windows CE operating system versions can reference confusing terminology that makes it difficult to identify differences between technology and operating systems. Consider the following background as you make your evaluation:

- Windows CE, Windows Mobile, and PocketPC names are sometimes referenced as “the same thing,” when in reality these terms identify different formulations of Windows CE technology.

- Windows CE (sometimes called WinCE or lately Windows CE.NET) is the Microsoft operating system for small computer-devices and for embedded systems. This operating system has its own unique kernel and runs on many different CPUs such as Intel, MIPS, ARM, and SuperH, making it different from other Windows operating systems such as Windows XP, Windows Vista, or Windows Server. In addition, while the original target of Windows CE was handheld computers, the scope has expanded in recent years to encompass a wider range of “embedded Windows” devices and technology.

- Microsoft releases Windows CE in various toolkit and source forms, and various “platforms” have been created, leveraging a set of different components of the Windows CE operating system along with different hardware from various vendors. The result is a variety of “platforms” with names like PocketPC 2002, Windows Mobile 2003, Windows Mobile 5, and Smartphone 2003.

- PocketPC and Windows Mobile platforms are examples of systems that are typically intended for PDA use. They are designed to be very portable and have more rigid or minimalist requirements than full Windows CE.
Smartphone 2003 is another example platform that is targeted for cell phones. The same underlying Windows CE operating system is used, but a more limited configuration is supported by various cell phone manufacturers.

Given the above details, it may be simpler to remember that Windows CE is the underlying Windows operating system, and you can buy a device with a “full version” of that operating system or a “stripped down” version/platform to fit on certain hardware such as a PDA or a cell phone. Usually, warehouse and shipping operations need a full Windows CE device for best performance, flexibility, and maintainability over time.

**Internet Explorer Mobile or Pocket Internet Explorer**

When it comes to evaluating web browsers running on mobile devices, there are fewer terms and fewer options than for mobile operating systems. Since it can still be confusing, consider the following:

- IE Mobile or Internet Explorer Mobile refers to the same basic web browser. The older and more widely known name is Pocket Internet Explorer. IE Mobile uses a totally different layout engine than Microsoft IE 6, 7, or 8 (the desktop Windows browser).

- Although Internet Explorer Mobile runs on both Windows Mobile and Windows CE devices, the versions on Windows CE devices tend to be more feature-rich. That is consistent when you remember that Windows Mobile is targeted more toward PDA use, so when vendors “shrink down” the capabilities of the Windows platform for a PDA device, they reduce features of the browser implementation.

- Some devices run the full Windows Internet Explorer browser, which is acceptable for SyteLine Shipping and Logistics use. SyteLine Shipping and Logistics can run on Internet Explorer Mobile or on a full version of Internet Explorer running on a Windows CE device.

**Choosing the Right Mobile Device for Use with SyteLine Shipping and Logistics**

For users who perform scanning in a warehouse and shipping environment, Infor recommends running the SyteLine Shipping and Logistics Mobile Portal on devices configured as follows:

- **IE Mobile or Pocket IE**: SyteLine Shipping and Logistics is tested and supported on the standard Windows IE Mobile browser to provide a consistent and predictable user experience. Other compatible browsers may work, but you should test third party browsers carefully.

- **Windows CE**: For warehouse and shipping operations, the best choice is usually a Windows CE device with the more complete Windows operating system, not the “PDA-like” platform. The SyteLine Shipping and Logistics Mobile Portal runs on other Windows CE platforms but may offer reduced capabilities.

- **Screen Size**: Infor recommends a minimum 240wX320h screen to ensure that standard screen layouts on scanners fit without scrolling. Most modern devices offer substantially higher resolutions. A smaller screen could require personalization or customization to reduce scrolling.
- **Touch Screen and Function Keys**: Touch screens and function keys are extremely beneficial for delivering a fast and easy user experience. Users can touch buttons on the screens, or they can use function keys if that method is faster for them.

- **Wireless Networking**: Standard 802.11b/g/n support is provided for most modern devices. SyteLine Shipping and Logistics requires local internet connectivity. Protocols like HTTPS or SSL are not required unless the devices might operate over a non-secure internet channel.

- **Color Screens**: Color screens are an optional but recommended feature that helps users easily see and recognize data and menus, to reduce error rates.

- **Interchangeable Scanning Heads**: Scanning requires a connection between hardware, software, and barcodes. Some devices provide various types of interchangeable “heads” for advanced symbologies like 2D barcodes. Think about whether you will need to scan those types of barcodes in the future, and plan on a device that is expandable.

**Sample Reference Device that Meets SyteLine Shipping and Logistics Requirements**

SyteLine Shipping and Logistics is a partner and reseller of PsionTeklogix hardware to provide easy, convenient, and cost-effective options for wireless barcode scanning devices. The PsionTeklogix Workabout Pro scanner is a highly recommended device that meets all of the requirements for supporting SyteLine Shipping and Logistics, including:

- Microsoft Windows CE 5.0
- Available 802.11 b/g for networking
- Internet Explorer Mobile
- 480x640 resolution (well above minimum requirements)
- Color and Touch-screen available
- Available function keys on the device
EXAMPLE HARDWARE RECOMMENDATIONS

20 Concurrent Configuration Example
Definition of Implementation:
- 20 Concurrent users
  - 20 Concurrent Infor ERP SyteLine
- 1 Infor ERP SyteLine Site
- Local and/or remote users

Products include:
- Infor ERP SyteLine – MRP Mode
Database / Utility Server (combined servers): The primary purpose of the database server is to house the volatile data for the company. This data is shared via services across the network to users who run object code that manipulates and reports on the data. The total number of SQL databases supported by the database server impacts the number of required processors, as well as memory. Infor ERP SyteLine uses a SQL database as the data repository. The utility server is a networked computer used to centrally store Infor framework applications. In this configuration, the utility server is combined with the database server. The primary reason for the utility server is to house non-volatile data and applications required for the Infor suite. The utility server runs the IDO Runtime Service. This service is used to render the Intelligent Data Objects (IDO) of the Infor ERP SyteLine system via metadata from the SyteLine Objects Database.

These IDOs contact the business processes of the SyteLine system.

- Operating System
- Processor Size & 
- Memory Size
- Disk I/O Config
  - Other
  - Network Interface

Example disk drive configuration

**Disk Array 0** Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
- Operating System
- Swap file
- SQL Code
- Infor ERP SyteLine Code

**Disk Array 1** Drive 2, 3 (RAID 1): Logical Drive E: (144/300GB drives)
- SQL Databases (LDF)

**Disk Array 2** Drive 4, 5 (RAID 1): Logical Drive F: (144/300GB drives)
- SQL Databases (MDF)

**ERP SyteLine Smart Clients:** These workstations are considered Smart clients, which means the application processing is shared between the client, the MTS/IDO middle tier, and SQL Server. A Smart client provides the fully functional and user-friendly graphical interface of desktop applications with the communication protocol http/http(s) to allow internet or WAN deployment. The client leverages “click-once” deployment for ease of installation and is auto-updating from the Infor ERP SyteLine servers.

- Operating System
- Processor Size & 
- Memory Size
  - Other

- Windows XP Professional / Vista Business Edition/ Windows 7 Professional
- Multi-Core Processor 1.6GHz (or better)
- 1 Processor
- 1GB / 2GB /3GB (based on O/S)
- SQL Client license
- .NET Framework
- Network connection
50 Concurrent Configuration Example
Definition of Implementation:
- 50 Concurrent users
  - 40 Concurrent SyteLine
  - 10 Concurrent SyteLine Data Collection
- 2 SyteLine Sites
- Local and/or remote users

Products include:
- Infor ERP SyteLine – MRP Mode
- Infor ERP SyteLine Data Collection
**Database / Utility Server (combined servers):** The primary purpose of the database server is to house the volatile data for the company. This data is shared via services across the network to users who run object code that manipulates and reports on the data. The total number of SQL databases supported by the database server impacts the number of required processors, as well as memory. Infor ERP SyteLine uses a SQL database as the data repository. The utility server is a networked computer used to centrally store Infor framework applications. In this configuration, the utility server is combined with the database server. The primary reason for the utility server is to house non-volatile data and applications required for the Infor suite. The utility server runs the IDO Runtime Service. This service is used to render the Intelligent Data Objects (IDO) of the Infor ERP SyteLine system via metadata from the SyteLine Objects Database.

These IDOs contact the business processes of the SyteLine system.

- Operating System
  - Windows 2003/2008 Server
- Processor Size & 
  - Quad-Core Xeon 2.0 GHz (or better),
  - 2 Processor – 4MB L2/L3 Cache (or better)
- Memory Size
  - 8GB (must be expandable)
- Disk I/O Config
  - 6 Ultra 320 -72/144/300GB SCSI / SAS Drives
  - Terminal Server Remote Administration
  - SQL 2005/2008
  - Infor ERP SyteLine Code
- Other
  - SQL Code
- Network Interface
  - 1GB Ethernet adapter

**Example disk drive configuration**

**Disk Array 0**
- Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
  - Operating System
  - Swap file
  - SQL Code
  - Infor ERP SyteLine Code

**Disk Array 1**
- Drive 2, 3 (RAID 1): Logical Drive E: (144/300GB drives)
  - SQL Databases (LDF)

**Disk Array 2**
- Drive 4, 5 (RAID 1): Logical Drive F: (144/300GB drives)
  - SQL Databases (MDF)
Infor ERP SyteLine Smart Clients: These workstations are considered Smart clients, which means the application processing is shared between the client, the MTS/IDO middle tier, and SQL Server. A Smart client provides the fully functional and user-friendly graphical interface of desktop applications with the communication protocol http/http(s) to allow internet or WAN deployment. The client leverages “click-once” deployment for ease of installation and is auto-updating from the Infor ERP SyteLine servers.

- Operating System
  - Windows XP Professional / Vista Business Edition/ Windows 7 Professional
- Processor Size & #
  - Multi-Core Processor 1.6GHz (or better)
  - 1 Processor
- Memory Size
  - 1GB / 2GB /3GB (based on O/S)
  - SQL Client license
  - .NET Framework
  - Network connection

Infor ERP SyteLine Data Collection Clients:
- Internet Explorer capable device
- Intermec CK31
75 Concurrent Configuration Example

Definition of Implementation:

- 75 Concurrent users
  - 60 Concurrent Infor ERP SyteLine
    - 5 Concurrent Infor ERP SyteLine with SyteLine Configuration
  - 15 Concurrent Infor ERP SyteLine Data Collection
- 2 Infor ERP SyteLine Sites
- Local and/or remote users

Products include:

- Infor ERP SyteLine
- Infor ERP SyteLine Configuration
- Infor ERP SyteLine Data Collection
**Database Server:** The primary purpose of the database server is to house the volatile data for the company. This data is shared via services across the network to users who run object code that manipulates and reports on the data. The total number of SQL databases being supported by the database server will impact the number of required processors, as well as memory. Infor ERP SyteLine uses a SQL database as the data repository.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better), 2 Processor – 4MB L2/L3 Cache (or better)
- Memory Size: 8GB (must be expandable)
- Disk I/O Config:
  - Other: 8 Ultra 320 -72/144/300GB SCSI / SAS Drives
  - Terminal Server Remote Administration
  - SQL 2005/2008
  - Infor ERP SyteLine Code
- Network Interface: 1GB Ethernet adapter

**Example disk drive configuration**

**Disk Array 0**  Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
- Operating System
- Swap file
- SQL Code
- Infor ERP SyteLine Code

**Disk Array 1**  Drive 2, 3 (RAID 1): Logical Drive E: (144/300GB drives)
- SQL Databases (LDF)

**Disk Array 2**  Drive 4, 5, 6, 7 (RAID 10): Logical Drive F: (144/300GB drives)
- SQL Databases (MDF)

**Utility Server:** The utility server is a networked computer used to centrally store Infor framework applications. The primary purpose of the utility server is to house non-volatile data and applications required for the Infor suite. The utility server runs the IDO Runtime Service. This service is used to render the Intelligent Data Objects (IDO) of the Infor ERP SyteLine system via metadata in from the SyteLine Objects Database. These IDOs contact the business processes of the SyteLine system.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- Memory Size: 8GB
- Disk I/O Config:
  - Other: 2 x Ultra 320 72GB SCSI / SAS Drives RAID 1
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Code
- Network Interface: 1GB Ethernet adapter
**Infor ERP SyteLine Smart Clients:** These workstations are considered Smart clients, which means the application processing is shared between the client, the MTS/IDO middle tier, and SQL Server. A Smart client provides the fully functional and user-friendly graphical interface of desktop applications with the communication protocol http/http(s) to allow internet or WAN deployment. The client leverages “click-once” deployment for ease of installation and is auto-updating from the Infor ERP SyteLine servers.

- **Operating System**
  - Windows XP Professional / Vista Business Edition/Windows 7 Professional
- **Processor Size & #**
  - Multi-Core Processor 1.6GHz (or better)
  - 1 Processor
- **Memory Size**
  - 1GB / 2GB /3GB (based on O/S)
  - SQL Client license
  - .NET Framework
  - Network connection

**Infor ERP SyteLine Configuration Clients:**
- See client requirements for Infor ERP SyteLine
- Internet Explorer 7 or 8 is recommended

**Infor ERP SyteLine Data Collection Clients:**
- Internet Explorer capable device
- Intermec CK31
100 Concurrent Configuration Example

Definition of Implementation:
- 100 Concurrent users
  - 85 Concurrent Infor ERP SyteLine
    - 5 Concurrent Infor ERP SyteLine with SyteLine Configuration
  - 15 Concurrent Infor ERP SyteLine Data Collection
- 4 Infor ERP SyteLine Sites
- Local and/or remote users

Products include:
- Infor ERP SyteLine
- Infor ERP SyteLine APS
- Infor ERP SyteLine Business Intelligence
- Infor ERP SyteLine Configuration
- Infor ERP SyteLine Data Collection
**Database Server:** The primary purpose of the database server is to house the volatile data for the company. This data is shared via services across the network to users who run object code that manipulates and reports on the data. The total number of SQL databases being supported by the database server will impact the number of required processors, as well as memory. Infor ERP SyteLine uses a SQL database as the data repository.

- **Operating System**
  - Windows 2003/2008 Server

- **Processor Size & #**
  - Quad-Core Xeon 2.0 GHz (or better),
  - 2 Processor – 4MB L2/L3 Cache (or better)

- **Memory Size**
  - 12GB (must be expandable)

- **Disk I/O Config**
  - 10 Ultra 320 - 72/144/300GB SCSI / SAS Drives
  - Terminal Server Remote Administration
  - SQL 2005/2008
  - Infor ERP SyteLine Code

- **Network Interface**
  - 1GB Ethernet adapter

**Example disk drive configuration**

**Disk Array 0**  **Drive 0, 1** (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
- Operating System
- Swap file
- SQL Code
- Infor ERP SyteLine Code

**Disk Array 1**  **Drive 2, 3** (RAID 1): Logical Drive E: (144/300GB drives)
- SQL Databases (LDF)

**Disk Array 2**  **Drive 4, 5, 6, 7** (RAID 10): Logical Drive F: (144/300GB drives)
- SQL Databases (MDF)

**Utility Server:** The utility server is a networked computer used to centrally store Infor framework applications. The primary purpose of the utility server is to house non-volatile data and applications required for the Infor suite. The utility server runs the IDO Runtime Service. This service is used to render the Intelligent Data Objects (IDO) of the Infor ERP SyteLine system via metadata in from the Infor ERP SyteLine Objects Database. These IDOs contact the business processes of the Infor ERP SyteLine system. In this configuration, the SyteLine Configuration server components will reside on this server.

- **Operating System**
  - Windows 2003/2008 Server

- **Processor Size & #**
  - Quad-Core Xeon 2.0 GHz (or better),
  - 2 Processors – (must be expandable)

- **Memory Size**
  - 8GB

- **Disk I/O Config**
  - 2 x Ultra 320 72GB SCSI / SAS Drives RAID 1
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Code

- **Network Interface**
  - 1GB Ethernet adapter
**APS Server:** The APS Server is a networked computer used to centrally store Infor framework applications. The purpose of the APS Server is to run and calculate the Advance Planning engine of Infor ERP SyteLine along with providing results from CTP requests.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- 1 Processor – (must be expandable)
- Memory Size: 4GB
- Disk I/O Config: 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1

**Infor ERP SyteLine Smart Clients:** These workstations are considered Smart clients, which means the application processing is shared between the client, the MTS/IDO middle tier, and SQL Server. A Smart client provides the fully functional and user-friendly graphical interface of desktop applications with the communication protocol http/http(s) to allow internet or WAN deployment. The client leverages “click-once” deployment for ease of installation and is auto-updating from the Infor ERP SyteLine servers.

- Processor Size & #: Pentium IV 2.0 GHz (or better)
- 1 Processor
- Memory Size:
  - Other: 512MB / 1GB
  - SQL Client license
  - .NET Framework
  - Network connection

**Infor ERP SyteLine Business Intelligence Fat Client:**

- Processor Size & #: Multi-Core Processor 1.6GHz (or better)
- 1 Processor
- Memory Size: 1GB / 2GB /3GB (based on O/S)
- Disk I/O Config:
  - Other: 500MB disk space
  - Network connection

The disk space is optional. Approximately 100 MB is needed for Impromptu, Power Play and Business Intelligence client components. Additional space can be utilized for storing of reports and cubes on the client.
Infor ERP SyteLine Business Intelligence Thin Client:
- This deployment strategy involves configuring a client to run the Business Intelligence product via a remote emulation session on a Windows 2003/2008 Server running Terminal Services or Terminal Services with Citrix. The server, not the PC, has the communication link with the database server or cube of data. In most cases, this represents the best method of deployment to allow remote facility users to access live connection analysis or centrally stored data.

Infor ERP SyteLine Configuration Clients:
- See client requirements for Infor ERP SyteLine
- Internet Explorer 7 or 8 is recommended

Infor ERP SyteLine Data Collection Clients:
- Internet Explorer capable device
- Intermec CK31
200 Concurrent Configuration Example

Definition of Implementation:
- 200 Concurrent users
  - 175 Concurrent Infor ERP SyteLine
    - 15 Concurrent Infor ERP SyteLine with SyteLine Configuration
  - 25 Concurrent Infor ERP SyteLine Data Collection
- 5 Infor ERP SyteLine Sites
- Local and/or remote users

Products include:
- Infor ERP SyteLine
- Infor ERP SyteLine APS
- Infor ERP SyteLine Business Intelligence
- Infor ERP SyteLine Configuration
- Infor ERP SyteLine Data Collection
**Database Server:** The primary purpose of the database server is to house the volatile data for the company. This data is shared via services across the network to users who run object code that manipulates and reports on the data. The total number of SQL databases being supported by the database server will impact the number of required processors, as well as memory. Infor ERP SyteLine uses a SQL database as the data repository.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better), 2 Processor – 4MB L2/L3 Cache (or better)
- Memory Size: 8GB (must be expandable)
- Disk I/O Config: 16 Ultra 320 - 72/144/300GB SCSI / SAS Drives
- Network Interface: Terminal Server Remote Administration
- SQL Code: SQL 2005/2008
- Infor ERP SyteLine Code

**Example disk drive configuration**

**Disk Array 0**  Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
- Operating System
- Swap file
- SQL Code
- Infor ERP SyteLine Code

**Disk Array 1**  Drive 2,3,4,5 (RAID 10): Logical Drive E: (144/300GB drives)
- SQL Databases (LDF)

**Disk Array 2**  Drive 6,7,8,9 (RAID 10): Logical Drive F: (144/300GB drives)
- SQL Databases (MDF)

**Utility Server:** The utility server is a networked computer used to centrally store Infor framework applications. The primary purpose of the utility server is to house non-volatile data and applications required for the Infor suite. The utility server runs the IDO Runtime Service. This service is used to render the Intelligent Data Objects (IDO) of the ERP SyteLine system via metadata in from the SyteLine Objects Database. These IDOs contact the business processes of the SyteLine system. In this configuration the SyteLine Configuration server components will reside on this server.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better), 2 Processors – (must be expandable)
- Memory Size: 8GB
- Disk I/O Config: 2 x Ultra 320 72GB SCSI / SAS Drives RAID 1
- Other: Internet Information Server (IIS)
- Network Interface: 1GB Ethernet adapter
- Infor ERP SyteLine Code
**APS Server: (Quantity 2)** The APS Server is a networked computer used to centrally store Infor framework applications. The purpose of the APS Server is to run and calculate the Advance Planning engine of Infor ERP SyteLine along with providing results from CTP requests.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- 1 Processor – (must be expandable)
- Memory Size: 4GB
- Disk I/O Config
  - Other
- Network Interface: 1GB Ethernet adapter

**Configuration Server:** The Infor ERP SyteLine Configuration Server is a networked computer used to run and calculate Configuration models and processing. This data is generated from data within the SQL Server databases.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- 1 Processor – (must be expandable)
- Memory Size: 4GB
- Disk I/O Config
  - Other
- Network Interface: 1GB Ethernet adapter

**Infor ERP SyteLine Smart Clients:** These workstations are considered Smart clients, which means the application processing is shared between the client, the MTS/IDO middle tier, and SQL Server. A Smart client provides the fully functional and user-friendly graphical interface of desktop applications with the communication protocol http/http(s) to allow internet or WAN deployment. The client leverages “click-once” deployment for ease of installation and is auto-updating from the SyteLine servers.

- Processor Size & #: Multi-Core Processor 1.6GHz (or better)
- 1 Processor
- Memory Size: 1GB / 2GB /3GB (based on O/S)
- Other
  - SQL Client license
  - .NET Framework
  - Network connection
Infor ERP SyteLine Business Intelligence Fat Client:

- Processor Size & #: Multi-Core Processor 1.6GHz (or better)
- Memory Size: 1GB / 2GB /3GB (based on O/S)
- Disk I/O Config: 500MB disk space
  - Other: Network connection

The disk space is optional. Approximately 100 MB is needed for Impromptu, Power Play and Business Intelligence client components. Additional space can be utilized for storing of reports and cubes on the client.

Infor ERP SyteLine Business Intelligence Thin Client:

- This deployment strategy involves configuring a client to run the Business Intelligence product via a remote emulation session on a Windows 2003/2008 Server running Terminal Services or Terminal Services with Citrix. The server, not the PC, has the communication link with the database server or cube of data. In most cases, this represents the best method of deployment to allow remote facility users to access live connection analysis or centrally stored data.

Infor ERP SyteLine Configuration Clients:

- See client requirements for Infor ERP SyteLine
- Internet Explorer 7 or 8 is recommended

Infor ERP SyteLine Data Collection Clients:

- Internet Explorer capable device
- Intermec CK31
400 Concurrent Configuration Example

Definition of Implementation:
- 400 Concurrent users
  - 350 Concurrent Infor ERP SyteLine
    - 25 Concurrent Infor ERP SyteLine with SyteLine Configuration
  - 50 Concurrent Infor ERP SyteLine Data Collection
- 8 Infor ERP SyteLine Sites
- Local and/or remote users

Products include:
- Infor ERP SyteLine
- Infor ERP SyteLine APS
- Infor ERP SyteLine Business Intelligence
- Infor ERP SyteLine Business Intelligence Web
- Infor ERP SyteLine Configuration
- Infor ERP SyteLine Data Collection
**Database Server:** The primary purpose of the database server is to house the volatile data for the company. This data is shared via services across the network to users who run object code that manipulates and reports on the data. The total number of SQL databases being supported by the database server will impact the number of required processors, as well as memory. Infor ERP SyteLine uses a SQL database as the data repository.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better), 4 Processor – 4MB L2/L3 Cache (or better)
- Memory Size: 24GB (must be expandable)
- Disk I/O Config:
  - Other: 16 Ultra 320 -72/144/300GB SCSI /SAS Drives
  - Terminal Server Remote Administration
  - SQL 2005/2008
  - Infor ERP SyteLine Code
- Other:
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Code
- Network Interface: 1GB Ethernet adapter

**Example disk drive configuration**

**Disk Array 0** Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
- Operating System
- Swap file
- SQL Code
- Infor ERP SyteLine Code

**Disk Array 1** Drive 2,3,4,5 (RAID 10): Logical Drive E: (144/300GB drives)
- SQL Databases (LDF)

**Disk Array 2** Drive 6,7,8,9,10,11,12,13,14,15 (RAID 10): Logical Drive F: (144/300GB drives)
- SQL Databases (MDF)

**Utility Server: (Quantity 2)** The utility server is a networked computer used to centrally store Infor framework applications. The primary purpose of the utility server is to house non-volatile data and applications required for the Infor suite. The utility server runs the IDO Runtime Service. This service is used to render the Intelligent Data Objects (IDO) of the Infor ERP SyteLine system via metadata in from the SyteLine Objects Database. These IDOs contact the business processes of the SyteLine system. In this configuration, the SyteLine Configuration server components will reside on this server.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better), 2 Processors – (must be expandable)
- Memory Size: 8GB
- Disk I/O Config:
  - Other: 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Code
- Other:
  - Internet Information Server (IIS)
  - Infor ERP SyteLine Code
- Network Interface: 1GB Ethernet adapter
**APS Server: (Quantity 2)** The APS Server is a networked computer used to centrally store Infor framework applications. The purpose of the APS Server is to run and calculate the Advance Planning engine of Infor ERP SyteLine along with providing results from CTP requests.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- 1 Processor – (must be expandable)
- Memory Size: 4GB
- Disk I/O Config: 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
- Other: Internet Information Server (IIS)
- Network Interface: 1GB Ethernet adapter
- Other: Infor ERP SyteLine APS Code

**Configuration Server:** The Infor ERP SyteLine Configuration Server is a networked computer used to run and calculate Configuration models and processing. This data is generated from data within the SQL Server databases.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- 1 Processor – (must be expandable)
- Memory Size: 4GB
- Disk I/O Config: 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
- Other: Internet Information Server (IIS)
- Network Interface: 1GB Ethernet adapter
- Other: Infor ERP SyteLine Configuration Code

**Web Server:** The Infor ERP SyteLine Business Intelligence Web Power Play Server is served by an IIS Web Server. Power Play Server is updated with the Business Intelligence data cubes and allows end users to select cubes (by permissions given) for drill down and reporting.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- 1 Processor – (must be expandable)
- Memory Size: 2GB
- Disk I/O Config: 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
- Other: Internet Information Server (IIS)
- Network Interface: 1GB Ethernet adapter
- Other: Business Intelligence Web Code
**Infor ERP SyteLine Smart Clients:** These workstations are considered Smart clients, which means the application processing is shared between the client, the MTS/IDO middle tier, and SQL Server. A Smart client provides the fully functional and user-friendly graphical interface of desktop applications with the communication protocol http/http(s) to allow internet or WAN deployment. The client leverages “click-once” deployment for ease of installation and is auto-updating from the SyteLine servers.

- Processor Size & #: Multi-Core Processor 1.6GHz (or better)
- Memory Size: 1GB / 2GB /3GB (based on O/S)
- Other: SQL Client license, .NET Framework, Network connection

**Infor ERP SyteLine Business Intelligence Fat Client:**

- Processor Size & #: Multi-Core Processor 1.6GHz (or better)
- Memory Size: 1GB / 2GB /3GB (based on O/S)
- Disk I/O Config: 500MB disk space
- Other: Network connection

The disk space is optional. Approximately 100 MB is needed for Impromptu, Power Play and Business Intelligence client components. Additional space can be utilized for storing reports and cubes on the client.

**Infor ERP SyteLine Business Intelligence Thin Client:**

- This deployment strategy involves configuring a client to run the Business Intelligence product via a remote emulation session on a Windows 2003/2008 Server running Terminal Services or Terminal Services with Citrix. The server, not the PC, has the communication link with the database server or cube of data. In most cases, this represents the best method of deployment to allow remote facility users to access live connection analysis or centrally stored data.

**Infor ERP SyteLine Business Intelligence Web Client**

- Any workstation that supports Internet Explorer can use Infor ERP SyteLine Business Intelligence Web. There are no additional requirements beyond running a web browser.

**Infor ERP SyteLine Configuration Clients:**

- See client requirements for Infor ERP SyteLine
- Internet Explorer 7 or 8 is recommended

**Infor ERP SyteLine Data Collection Clients:**

- Internet Explorer capable device
- Intermec CK31
800 Concurrent Configuration Example

Definition of Implementation:
- 800 Concurrent users
  - 700 Concurrent Infor ERP SyteLine
    - 40 Concurrent Infor ERP SyteLine with SyteLine Configuration
  - 100 Concurrent Infor ERP SyteLine Data Collection
- 8 Infor ERP SyteLine Sites (6 APS, 2 MRP)
- Local and/or remote users

Products include:
- Infor ERP SyteLine
- Infor ERP SyteLine APS
- Infor ERP SyteLine Business Intelligence
- Infor ERP SyteLine Business Intelligence Web
- Infor ERP SyteLine Configuration
- Infor ERP SyteLine Data Collection
**Database Server: (Quantity 2 – Active / Active Cluster)** The primary purpose of the database server is to house the volatile data for the company. This data is shared via services across the network to users who run object code that manipulates and reports on the data. The total number of SQL databases being supported by the database server will impact the number of required processors, as well as memory. Infor ERP SyteLine uses a SQL database as the data repository.

- **Operating System**
  - Windows 2003/2008 Server
- **Processor Size & #**
  - Quad-Core Xeon 2.0 GHz (or better),
  - 4 Processor – 4MB L2/L3 Cache (or better)
- **Memory Size**
  - 48GB (must be expandable)
- **Disk I/O Config**
  - Other
    - Network Interface
      - 1GB Ethernet adapter

### Example disk drive configuration

**Disk Array 0**  Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
- Operating System
- Swap file
- SQL Code
- Infor ERP SyteLine Code

**Disk Array 1**  Drive 2, 3 (RAID 1): Logical Drive Q: (144/300GB drives)
- Quorum Drive

**Disk Array 2**  Drive 4,5,6,7 (RAID 10): Logical Drive E: (144/300GB drives)
- SQL Databases (LDF)

**Disk Array 3**  Drive 8, 9,10,11,12,13,14,15 (RAID 10): Logical Drive F: (144/300GB drives)
- SQL Databases (MDF)

**Utility Server: (Quantity 4)** The utility server is a networked computer used to centrally store Infor framework applications. The primary purpose of the utility server is to house non-volatile data and applications required for the Infor suite. The utility server runs the IDO Runtime Service. This service is used to render the Intelligent Data Objects (IDO) of the Infor ERP SyteLine system via metadata in from the SyteLine Objects Database. These IDOs contact the business processes of the SyteLine system. In this configuration the SyteLine Configuration server components will reside on this server.

- **Operating System**
  - Windows 2003/2008 Server
- **Processor Size & #**
  - Quad-Core Xeon 2.0 GHz (or better),
  - 2 Processors – (must be expandable)
- **Memory Size**
  - 8GB
- **Disk I/O Config**
  - Other
    - Network Interface
      - 1GB Ethernet adapter
**APS Server: (Quantity 2)** The APS Server is a networked computer used to centrally store Infor framework applications. The purpose of the APS Server is to run and calculate the Advance Planning engine of Infor ERP SyteLine along with providing results from CTP requests.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- Memory Size: 4GB
- Disk I/O Config:
  - Other
  - Network Interface
- Other: Internet Information Server (IIS)
- Infor ERP SyteLine APS Code: 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1

**Configuration Server:** The Infor ERP SyteLine Configuration Server is a networked computer used to run and calculate Configuration models and processing. This data is generated from data within the SQL Server databases.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- Memory Size: 4GB
- Disk I/O Config:
  - Other
  - Network Interface
- Other: Internet Information Server (IIS)
- Infor ERP SyteLine Configuration Code: 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1

**Web Server:** The Infor ERP SyteLine Business Intelligence Web Power Play Server is served by an IIS Web Server. Power Play Server is updated with the Business Intelligence data cubes and allows end users to select cubes (by permissions given) for drill down and reporting.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- Memory Size: 2GB
- Disk I/O Config:
  - Other
  - Network Interface
- Other: Internet Information Server (IIS)
- Business Intelligence Web Code: 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
Infor ERP SyteLine Smart Clients: The workstation is considered a Smart client, which means the application processing is shared between the client, the MTS/IDO middle tier, and SQL Server. A Smart client provides the fully functional and user-friendly graphical interface of desktop applications with the communication protocol http/http(s) to allow internet or WAN deployment. The client leverages “click-once” deployment for ease of installation and is auto-updating from the Infor ERP SyteLine servers.

- Operating System • Windows XP Professional / Vista Business Edition/ Windows 7 Professional
- Processor Size & # • Multi-Core Processor 1.6GHz (or better)
- Memory Size • 1GB / 2GB /3GB (based on O/S)
- Other • SQL Client license
- • .NET Framework
- • Network connection

Infor ERP SyteLine Business Intelligence Fat Client:

- Operating System • Windows XP Pro/Vista Business Edition/ Windows 7 Professional
- Processor Size & # • Multi-Core Processor 1.6GHz (or better)
- Memory Size • 1GB / 2GB /3GB (based on O/S)
- Disk I/O Config • 500MB disk space
- Other • Network connection

The disk space is optional. Approximately 100 MB is needed for Impromptu, Power Play and Business Intelligence client components. Additional space can be utilized for storing of reports and cubes on the client.

Infor ERP SyteLine Business Intelligence Thin Client:

- This deployment strategy involves configuring a client to run the Business Intelligence product via a remote emulation session on a Windows 2003/2008 Server running Terminal Services or Terminal Services with Citrix. The server, not the PC, has the communication link with the database server or cube of data. In most cases, this represents the best method of deployment to allow remote facility users to access live connection analysis or centrally stored data.

Infor ERP SyteLine Business Intelligence Web Client

- Any workstation that supports Internet Explorer can use Infor ERP SyteLine Business Intelligence Web. There are no additional requirements beyond running a web browser.

Infor ERP SyteLine Configuration Clients:

- See client requirements for Infor ERP SyteLine
- Internet Explorer 7 or 8 is recommended

Infor ERP SyteLine Data Collection Clients:

- Internet Explorer capable device
- Intermec CK31
1000 Concurrent Configuration Example

Definition of Implementation:
- 1000 Concurrent users
  - 850 Concurrent Infor ERP SyteLine
    - 45 Concurrent Infor ERP SyteLine with SyteLine Configuration
  - 150 Concurrent Infor ERP SyteLine Data Collection
- 12 Infor ERP SyteLine Sites (8 APS, 4 MRP)
- Local and/or remote users

Products include:
- Infor ERP SyteLine
- Infor ERP SyteLine APS
- Infor ERP SyteLine Business Intelligence
- Infor ERP SyteLine Business Intelligence Web
- Infor ERP SyteLine Configuration
- Infor ERP SyteLine Data Collection
Database Server: (Quantity 2 – Active / Active Cluster) The primary purpose of the database server is to house the volatile data for the company. This data is shared via services across the network to users who run object code that manipulates and reports on the data. The total number of SQL databases being supported by the database server will impact the number of required processors, as well as memory. Infor ERP SyteLine uses a SQL database as the data repository.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better), 4 Processor – 4MB L2/L3 Cache (or better)
- Memory Size: 64GB (must be expandable)
- Disk I/O Config
  - Other
  - Network Interface

Example disk drive configuration

- Disk Array 0: Drive 0, 1 (RAID 1): Logical Drive C: / D: (72/144/300GB drives)
- Operating System
- Swap file
- SQL Code
- Infor ERP SyteLine Code
- Disk Array 1: Drive 2, 3 (RAID 1): Logical Drive Q: (144/300GB drives)
- Quorum Drive
- Disk Array 2: Drive 4,5,6,7 (RAID 10): Logical Drive E: (144/300GB drives)
- SQL Databases (LDF)
- Disk Array 3: Drive 8, 9,10,11,12,13,14,15 (RAID 10): Logical Drive F: (144/300GB drives)
- SQL Databases (MDF)

Utility Server: (Quantity 5) The utility server is a networked computer used to centrally store Infor framework applications. The primary purpose of the utility server is to house non-volatile data and applications required for the Infor suite. The utility server runs the IDO Runtime Service. This service is used to render the Intelligent Data Objects (IDO) of the Infor ERP SyteLine system via metadata in from the SyteLine Objects Database. These IDOs contact the business processes of the SyteLine system. In this configuration the SyteLine Configuration server components will reside on this server.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better), 2 Processors – (must be expandable)
- Memory Size: 8GB
- Disk I/O Config
  - Other
  - Network Interface
- SQL Code: Internet Information Server (IIS), Infor ERP SyteLine Code

Utility Server: (Quantity 5) The utility server is a networked computer used to centrally store Infor framework applications. The primary purpose of the utility server is to house non-volatile data and applications required for the Infor suite. The utility server runs the IDO Runtime Service. This service is used to render the Intelligent Data Objects (IDO) of the Infor ERP SyteLine system via metadata in from the SyteLine Objects Database. These IDOs contact the business processes of the SyteLine system. In this configuration the SyteLine Configuration server components will reside on this server.
APS Server: (Quantity 2) The APS Server is a networked computer used to centrally store Infor framework applications. The purpose of the APS Server is to run and calculate the Advance Planning engine of Infor ERP SyteLine along with providing results from CTP requests.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- Memory Size: 4GB
- Disk I/O Config: 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
- Network Interface: 1GB Ethernet adapter

Configuration Server: The Infor ERP SyteLine Configuration Server is a networked computer used to run and calculate Configuration models and processing. This data is generated from data within the SQL Server databases.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- Memory Size: 4GB
- Disk I/O Config: 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
- Network Interface: 1GB Ethernet adapter

Web Server: The Infor ERP SyteLine Business Intelligence Web Power Play Server is served by an IIS Web Server. Power Play Server is updated with the Business Intelligence data cubes and allows end users to select cubes (by permissions given) for drill down and reporting.

- Processor Size & #: Quad-Core Xeon 2.0 GHz (or better)
- Memory Size: 2GB
- Disk I/O Config: 2 x Ultra 320 72GB SCSI /SAS Drives RAID 1
- Network Interface: 1GB Ethernet adapter
**Infor ERP SyteLine Smart Clients:** This workstation is considered a Smart client, which means the application processing is shared between the client, the MTS/IDO middle tier, and SQL Server. A Smart client provides the fully functional and user-friendly graphical interface of desktop applications with the communication protocol http/http(s) to allow internet or WAN deployment. The client leverages “click-once” deployment for ease of installation and is auto-updating from the Infor ERP SyteLine servers.

- Processor Size & #: Multi-Core Processor 1.6GHz (or better)
- Memory Size: 1GB / 2GB /3GB (based on O/S)
- Other: SQL Client license, .NET Framework, Network connection

**Infor ERP SyteLine Business Intelligence Fat Client:**

- Processor Size & #: Multi-Core Processor 1.6GHz (or better)
- Memory Size: 1GB / 2GB /3GB (based on O/S)
- Disk I/O Config: 500MB disk space
- Other: Network connection

The disk space is optional. Approximately 100 MB is needed for Impromptu, Power Play and Business Intelligence client components. Additional space can be utilized for storing of reports and cubes on the client.

**Infor ERP SyteLine Business Intelligence Thin Client:**

- This deployment strategy involves configuring a client to run the Business Intelligence product via a remote emulation session on a Windows 2003/2008 Server running Terminal Services or Terminal Services with Citrix. The server, not the PC, has the communication link with the database server or cube of data. In most cases, this represents the best method of deployment to allow remote facility users to access live connection analysis or centrally stored data.

**Infor ERP SyteLine Business Intelligence Web Client**

- Any workstation that supports Internet Explorer can use Infor ERP SyteLine Business Intelligence Web. There are no additional requirements beyond running a web browser.

**Infor ERP SyteLine Configuration Clients:**

- See client requirements for Infor ERP SyteLine
- Internet Explorer 7 or 8 is recommended

**Infor ERP SyteLine Data Collection Clients:**

- Internet Explorer capable device
- Intermec CK31
Example Information (All)

Standard Technical Requirements / Information

- A switched Ethernet backbone is required to create separate collision domains for users and independent collision domains for each of the servers described or configured for the Infor software.

- Infor strongly recommends that all servers are connected at 1Gbps to the same switch or backplane.

- There should be no more than 12-16 users per collision domain, to limit the number of Ethernet collisions on a broadcast domain within the IP network. This requirement is met if the entire network is switched. If Ethernet hubs are used, Infor recommends no more than 16 users on a hub, and that hub should be connected directly to a switched port on the backplane. This is a standard networking best practice.

- All environments require a Domain Controller to authenticate users and services on the network. It is assumed that this server/structure already exists. No Infor product server should perform any Domain Controller roles.

- Each user running over a WAN connection consumes approximately 15Kb to 24Kb of bandwidth. The Wide Area Network (WAN) configuration is recommended as follows:
  - 20Kb per active user (20Kb * 10 users = 200Kb)
  - Maximum of 150ms latency is recommended
  - The consumption of bandwidth per user can be very dynamic, dependent on the use of the system. The provided numbers give a conservative rule to follow when designing and reviewing the infrastructure.

- WAN sizing and configuration should also allow for other traffic across the WAN, including:
  - Domain authentication or replication, if applicable
  - DNS or WINS replication or lookups, if applicable
  - Internet traffic routing through gateways, if applicable
  - E-mail traffic, including client-to-server or server-to-server
  - Printing to and from locations
  - IP telephony
  - Virtual Private Network (VPN) overhead (LAN-to-LAN VPN)

It is strongly recommended that you invoke Traffic Shaping and/or QOS mechanisms on the WAN connectivity of choice.

- Disk space requirements vary depending on the use of the system and the amount of archive data that is maintained. When purchasing disk subsystems, allow for expansion in order to provide the needed disk space for your implementation and production environment.

- Use enterprise versions of the operating system and SQL Server on the database server, to allow for expansion of the server past the limitations of the standard versions.

- The SQL Server – Client Access Licenses (CAL) model is sufficient for the licensing of the SQL Server and the applications that are served by SQL Server if all the users and/or devices used to access the application are used by company employees.
The SQL Server – Per Processor license model is required when the applications served by SQL Server are used by “unknown” users or devices. This includes any user who is not an employee of the organization that owns the SQL Server. This license allows for unlimited connection counts of known or unknown users. When using this model, CALs are not needed for the users.

Per Processor licenses are purchased as a server license, and each processor/processor filled socket requires a license.

Enterprise SQL Server per processor licenses can be expensive. If the solution includes a requirement for applications that are accessed by unknown users, and Enterprise SQL Server is used, there are alternate ways to deploy the applications across two database servers. For example, one server running Enterprise SQL Server could be used for “known user” applications with CALs assigned. “Unknown users” could run on the standard version of SQL Server with a Per Processor license model. In some cases, this method can save substantial licensing costs. Ask for additional details from a technical resource.
Requirements Prior to the Installation of Infor Software:

- All servers that will have the Infor software suite loaded must be fully functional. This means:
  - Operating systems are installed with the latest supported service pack for the software version being installed.
  - Appropriate Windows updates are applied.
  - Terminal Services, in Remote Administration mode, is installed on the appropriate servers.
  - All servers are fully configured as Member Servers within the domain or Active Directory structure.
  - Servers are not Domain Controllers.
  - No networking issues exist with these servers or on the environment backplane.
  - Servers meet the recommended hardware specifications supplied by Infor.
  - Disk partitions have been created as appropriate and based on information provided by Infor technical personnel.
  - Servers are dedicated to running Infor software.
  - A client PC is available for the installation of any Infor client software. This client is also used to train users on the installation of clients.
  - A networked printer is available and can be accessed by the designated SyteLine utility server. This printer is used to train users on the configuration of the SyteLine system to printers, and to test printing from the software.
  - If faxing from SyteLine is required, a fax modem must be installed in the appropriate fax server or utility server.
  - Access to servers is available from a “comfortable working environment.”
  - Windows operating system media is available for all servers and clients.
  - Media and licenses for Microsoft Office are available.
  - Media and licenses for Microsoft SQL Server are available.
  - Access is available to IT resources, including personnel, without excessive delay. The designated System Administrator should be present during the installation process.
  - All relevant software to be installed has arrived, including complementary products and components, at least 2 days before the installation is to occur.
  - If data is to be backed up from a previous version of SyteLine, the existing server must have enough capacity for these backups to occur.

Configuration recommendation expiration

This configuration recommendation expires if any of the following occurs:

- 6 months since the hardware configuration was provided
- Version change of the SyteLine system
- User count or site count change
- Deployment method change
- Products purchased/proposed change
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