Clasic Payroll
Premier Payroll
Premier HR
Premier ESS

Technical Information & System Requirements September 2023

Sage

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1.0 Payroll

Sage VIP Premier is an AcuCobol based Payroll Application designed to meet the needs of all businesses. This Payroll Applications is primarily used by members of the Payroll and / or Human Resources (HR) department (s) to complete payroll processing, leave administration and various other statutory tasks.

1.1 Payroll Architecture

The Payroll application is a single tier application with the program and data files residing in a single location.

The Payroll data is stored in ISAM data files that are encrypted using proprietary encryption algorithms housed in the AcuCobol runtime libraries.

1.1.1 Security

Payroll data is, along with financial business information, quite possibly one of the most sensitive corporate data stores. The data is prone to hack attempts and intrusion from many potential sources, including but not limited to: existing employees, disgruntled employees, IT personnel, database administrators, external malicious hackers and many other sources.

As such, much time, thought and careful design has gone into the security sub-system and data storage models to eliminate as far as possible data compromise and manipulation. Any security system design is in many ways dictated by both the operating system on which the application is designed and deployed as well as the database technology in which data is stored. Sage is no different in this regard.

Securing the Sage Payroll data can be achieved by adding various layers of security, for example:

Layer 1: Physical Security
This can be achieved by installing the Payroll Application onto a dedicated server and restricting access to this server and associated workstations to authorised personnel.
The client is responsible for the implementation of this layer of security.

Layer 2: Network Security
Network access to the payroll file share on the server should be limited to the direct users of the payroll application itself. For example, Payroll and HR practitioners normally exposed to salary data, the salary data capture clerks, wage administrators, personnel managers etc.
Access to the server at operating system level should also be limited to authorised personnel only.
The client is responsible for the implementation of this layer of security.

Layer 3: Application Security
All Payroll data, including the user access permission sub-system, is stored in proprietary AcuCorp COBOL ISAM data files. This data is encrypted using proprietary encryption algorithms housed in the AcuCorp runtime libraries.

This encryption uses a byte transformation algorithm unique to every byte in the file.

1.1.2 Authentication

Authentication is the process by which the Application verifies the identity of the user attempting to access the application.

Best Practice: Each user that will access the Payroll Application should be assigned their own unique username and password.

The Sage VIP Premier Payroll Application has a password policy that requires passwords to comply with minimum strength, length, expiry, and re-use specifications.
Authentication data is encrypted during the authentication process.

1.1.3 Authorisation

Authorisation is the function of specifying access rights to resources within the Application.

Payroll users can be restricted in terms of which areas of the application they can access. This can be done on a menu, modular and in some instances field level basis. This extends to data capture, reporting and informational screens throughout the application.

An extension of the authorisation model is the use of zone codes within the application. Data within the Payroll may be segmented into many “Zones” or logical collections which could represent departments, business units, organisations, or any other logical grouping of payroll employees.

This data is then exposed or hidden from end-users depending on their “Zone” access rights granted in the Application Security Layer. In this way, multiple users of the application may have access to certain employee records and not to others. Each user is allowed access to one or more data “Zones” in the application.

1.1.4 Password Security and Policies

Sage VIP Premier Payroll provides for the following password policies:

Advanced Access Control	
Rule	**Definition**
Password Length	Can be defined to a maximum of 15 characters
Password Complexity	Specify if password must be ONLY Alpha, ONLY Numeric or Alpha-Numeric.
Password Reuse	Number of unique passwords to be used before original password may be reused.
Password Expiry	Passwords can be set to expire after 30, 60 or 90 days.
Account Lockout	User accounts are automatically locked after three failed password attempts. Can be changed.

Global Access Control	
Rule	**Definition**
Password Length	Can be defined to a maximum of 15 characters
Password Complexity	Specify if password must be: • ONLY Alpha, • ONLY Numeric, • Alpha-Numeric, • Upper Alpha, Lower Alpha AND Numeric Characters Only • Upper Alpha, Lower Alpha AND Special Characters Only • Upper Alpha, Lower Alpha, Numeric AND Special Characters • Upper Alpha, Numeric AND Special Characters Only • Lower Alpha, Numeric AND Special Characters Only
Password Reuse	Number of unique passwords to be used before original password may be reused. (Maximum 20 times)
Password Expiry	Passwords can be set to expire after 30, 60 or 90 days.
Account Lockout	User accounts are automatically locked after specified failed password attempts. (Up to 9)
Multiple Logins	Allow same user to log in more than once. (Yes/No)
Username and Password the same	Allow User name and Password to be the same. (Yes/No)

1.2 Installation Scenarios

This section details the most common installation scenarios with regards to the Payroll Application.

1.2.1 Standalone Installations

Where the Payroll Application is installed on a single workstation, the default install location is usually the following: C:\Premier

Folder Security

All user accounts that require access to the Payroll Application must have Full Control permissions set on the folder where the Payroll Application has been installed. These permissions must also apply to descendent folder and files.

Desktop Shortcut

Each user that requires access to the Payroll Application will have a desktop shortcut that references the Payroll Application executable.

The typical syntax of the Target line for this shortcut will be:
C:\<folder name>\wrun32.exe -s -c cblconfi vipsal.acu

You can also access and run the Createshortcut.exe application available within the payroll folder, to create the shortcut above. This will have to be repeated on each workstation that needs to access the payroll.

System Requirements

All workstations that will be accessing the Sage VIP Premier Payroll application should meet the system requirements for a standalone installation as detailed in the workstation system requirements section.

1.2.2 Peer-to-Peer Installations

Where the Payroll Application is installed on a peer-to-peer network, one workstation typically acts as the host and the other workstation(s) act as the client(s).

The client workstations need access to the files on the host workstation. This is typically achieved by creating a file share on the host and then creating a mapped drive from the client workstation to this file share.

Best Practice: To create an organised folder structure for the client workstations, it is recommended that an additional level be added to the folder structure on the host workstation. For example: c:\Payroll\Premier.

The c:\Payroll\ folder is then shared on the network.

When browsing the host workstations file system from the client workstation, the 'Payroll' share should be visible. A mapped drive is then created to this share e.g. v:\ .

If mapped drives are used, the server location must be set as a Trusted Site under Internet Options

Folder Security

All user accounts that require access to the Payroll Application must have Full Control permissions set on the folder where the Payroll Application has been installed. These permissions must also apply to descendent folder and files.

Desktop Shortcut

A desktop shortcut to the Payroll Application executable is created on each client workstation.

The typical syntax of the Target line for this shortcut will be:
v:\Premier\wrun32.exe -s -c cblconfi vipsal.acu

You can also access and run the Createshortcut.exe application available within the payroll folder, to create the shortcut above. This will have to be repeated on each workstation that needs to access the payroll.

System Requirements

All workstations that will be accessing the Payroll application should meet the system requirements for a standalone installation as detailed in the workstation system requirements section.

1.2.3 Client-Server (LAN) Installations

Where the Payroll Application is installed on a client-server network on a Local Area Network (LAN), a file server acts as the host with various workstations connecting to the host.
The client workstations need access to the files on the file server. This is typically achieved by creating a file share on the server and then creating a mapped drive from the client workstation to this file share.

Best Practise: To create an organised folder structure for the client workstations, it is recommended that an additional level be added to the folder structure on the file server. For example: D:\Payroll\Pemier

The D:\Payroll\ folder is then shared on the network.

When browsing the server file system from the client workstation, the 'Payroll' share should be visible. A mapped drive is then created to this share e.g. v:\ .

If mapped drives are used, the server location must be set as a Trusted Site under Internet Options

Folder Security

All user accounts that require access to the Payroll Application must have Full Control and Sharing permissions set on the folder where the Payroll Application has been installed. These permissions must also apply to descendent folders and files.

Desktop Shortcut

A desktop shortcut to the Payroll Application executable is created on each client workstation.

The typical syntax of the Target line for this shortcut will be:

v:\Premier\wrun32.exe -s -c cblconfi vipsal.acu

You can also access and run the Createshortcut.exe application available within the payroll folder, to create the shortcut above. This will have to be repeated on each workstation that needs to access the payroll.

System Requirements

All workstations that will be accessing the Payroll application should meet the system requirements for a standalone installation as detailed in the workstation system requirements section.

The file server hosting the Payroll Application file share should meet the minimum server system requirements.

1.2.4 Wide Area Network (WAN) Installations

Where the Payroll Application is installed on a Wide Area Network (WAN), the same procedures as a Local Area Network installation should be followed, with the exception that users outside of the LAN will need to access the Payroll Application using Remote Desktop Services (formally Terminal Services) or Citrix.

Users that need to access the Payroll Application via a VPN, APN, 3G or similar scenarios will also need to access the Payroll Application using Remote Desktop Services (formally Terminal Services) or Citrix.

Best Practise

It is recommended that Remote Desktop Services be installed on the same server as the Payroll Application

System Requirements

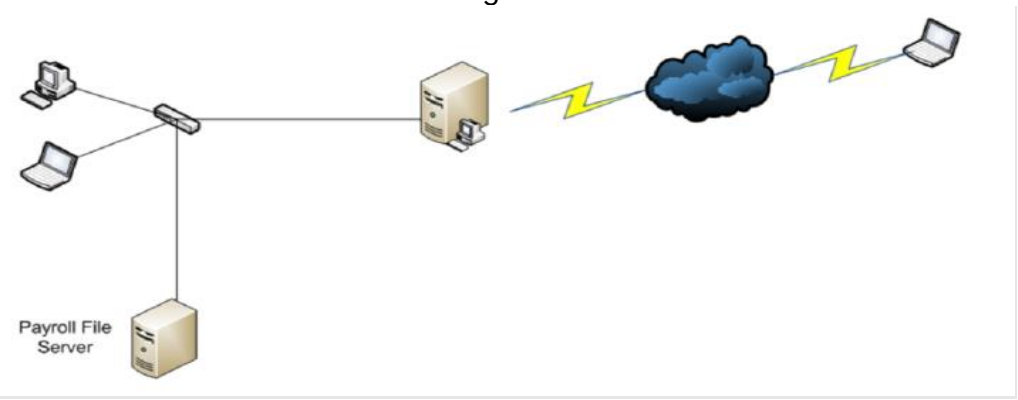
All workstations that will be accessing the Sage VIP Payroll application should meet the system requirements for a standalone installation as detailed in the workstation system requirements section.

The file server hosting the Payroll Application file share should meet the minimum server system requirements.

It is the responsibility of the clients network administrator to ensure the Remote Desktop Services (Terminal Services) server has sufficient capacity to service the total number of remote users that may access the server via Remote Desktop Services (Terminal Services) or Citrix. A minimum of 500 MB RAM should be available for each concurrent user of the Payroll Application.

Microsoft Office (32 bit) and PDF Printer drivers may also need to be installed based on the requirements of the Payroll users.

Additional requirements for Remote Desktop Services (Terminal Services) or Citrix should be determined by your network administrator, taking into account other application that may be installed and used on the server e.g. Microsoft Office



1.3 System Requirements – Workstations

The table below details the minimum system requirements for workstations that will run the Payroll Application.

Payroll Workstation System Requirements		
	Minimum	**Recommended**
Processor	Dual Core 3.0 GHz	Dual Core 3.0 GHz or higher
Memory	4 GB	8+ GB
Screen Resolution	1024 x 768	1024 x 768
Network Card‡	100 Mbps	1 Gbps
Supported Operating Systems	Windows 10 – 64bit	Windows 10, 64 bit or higher (Home editions not supported)
Available Hard Drive Space	5 GB	10 GB
Other Requirements:		
USB 2.0 Port Microsoft .net Framework 4.8 or higher PDF Reader (Latest supported by the Operating Systems) Office 2013 (x86) or later (for ODBC and SI Reporting)		

Note: The payroll application has been tested on-64 bit versions of all the supported operating systems. ODBC and Sage Intelligence reporting only work on 32 bit Office applications.

1.3.1 Assumptions

The system requirements described in this document are based on configurations that have been successfully tested by the Sage Product Delivery Team during their ongoing testing of the Payroll application.

It is the responsibility of the client's IT department to combine these system requirements with those of other applications that users may have installed on their workstations to ensure sufficient resources are available.

Note: The payroll application has been tested on-64 bit versions of all the supported operating systems. ODBC and Sage Intelligence reporting only work on 32 bit Office applications.

ǂ Wireless networks are not supported as actual data throughput is generally less than the required 100 Mbps, which can lead to data corruption.

Note:. Microsoft support for Windows 8 has been officially discontinued. While our application(s) may still run on Windows 8 it is strongly advised that all workstations be updated to a minimum of Windows 10

1.4 System Requirements – Server

The table below details the minimum system requirements for Payroll File Server.

Payroll File Server		
	Minimum	**Recommended**
Processor	Quad Core 3.0 GHz	Quad Core 3.0 GHz or higher
Memory	8 GB	8 GB
Screen Resolution	1024 x 768	1024 x 768
Network Cardǂ	100 Mbps	1 Gbps
Supported Operating Systems	Windows Server 2016	Windows Server 2016 or higher
Available Disc Space	10 GB	20+ GB (Data dependant)
Other Requirements:		
CD / DVD ROM / USB 2.0 Port (for backups) Microsoft .net Framework 4.8 or higher		

1.4.1 Assumptions

The system requirements described in this document are based on configurations that have been successfully tested by the Sage Product Delivery Team during their ongoing testing of the Payroll application.

It is the responsibility of the client's IT department to combine these system requirements with those of other applications that may have installed on the servers to ensure sufficient resources are available.

Note: The payroll application has been tested on-64 bit versions of all the supported operating systems. ODBC and Sage Intelligence reporting only work on 32 bit Office applications.

ǂ Wireless networks are not supported as actual data throughput is generally less than the required 100 Mbps, which can lead to data corruption.

1.5 Backups

It is the responsibility of the client's IT department to ensure that regular (daily) backups are made of the relevant Payroll folders and that these backups are secured as per client's backup policy e.g. offsite.

Month end backups should also be made after all payroll processing has been completed and salaries transmitted. These backups should be retained for a longer period in accordance with company and statutory requirements. The entire payroll folder as well as sub-folders should be included in the backup to ensure all data and program files are available should system recovery be necessary.

Full backups are recommended as recovery from incremental backups is time consuming and not always successful.

The size of backups will vary, dependant on the number of employees on the payroll and the payroll and HR modules that are in use. Backups typically range between 300 MB and 1 GB.

2.0 Premier Employee Self Service

The Premier ESS Application is a web-based application that allows employees' access to certain Payroll and HR information as stored and maintained within the Premier Payroll Application.

Employees may be granted access to some or all the features available, which include:

- Viewing and editing of Personal Details,
- Viewing and editing of Family Information,
- Viewing Leave Balances and applying for Leave,
- Viewing pay slips,
- Viewing IRP5s and
- Completing Performance Review forms.

Note:
The Premier ESS Application is only compatible with the Premier Payroll and Premier HR Applications.

2.1 Basic ESS Architecture

The Sage VIP Premier ESS Application comprises of three application-level components and two service components.

The application-level components consist of the following:

SAGE VIP Premier Payroll
The ESS Application queries the Premier Payroll data files for all employee master data, leave transaction history, new transaction parameters and much more.

Microsoft SQL Server
User accounts as well as current and historical workflow transaction data is stored in the Microsoft SQL database. ESS configuration data is also stored in this database.

Microsoft Internet and Information Services (IIS) Web Server
The IIS Web Server publish the ESS application to your corporate intranet so that end users may access the application using their web browser.
The application-level components can be consolidated on a single server, or distributed on multiple servers as required.

Best Practice

The recommended best practice for a Premier ESS installation is to segregate the VIP Premier Payroll data and ESS SQL database from other enterprise data to add an additional layer of security.

The VIP Premier Payroll data is stored in proprietary Cobol-based ISAM files and the Premier ESS data is stored in a SQL database.

Confidential information such as payslip data and passwords are encrypted in the SQL database. By segregating this data, a higher level of security can be achieved.

It is NOT recommended that the ESS Application be installed on servers that perform other business critical functions, e.g. Domain Controllers or Exchange Servers.

The service components installed are:

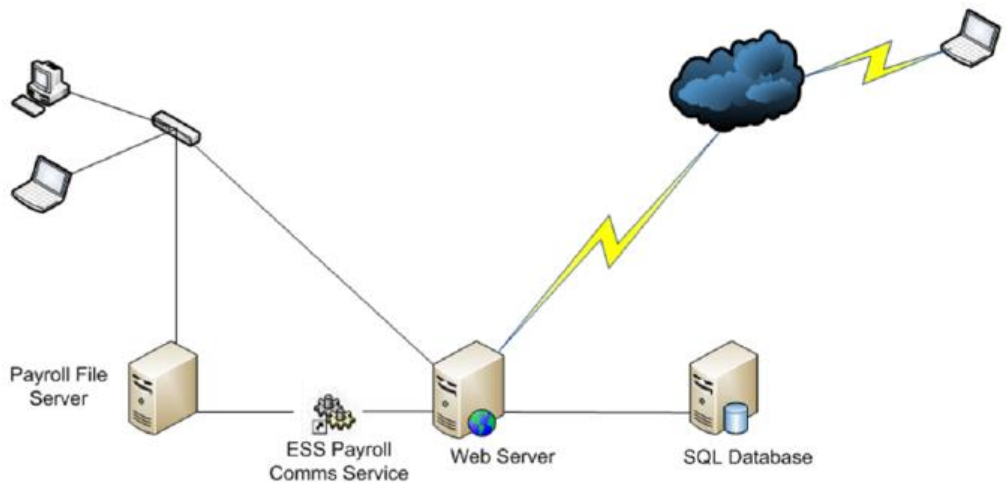
Premier ESS Payroll Comms Service
This service is the link between the Premier ESS Web Application and the Sage VIP Premier Payroll data. All data requests from the Web Application are handled by this service and the relevant payroll data is extracted from the Sage VIP Premier Payroll data files and passed back to the Web Application. This service is also used to update the Sage VIP Premier Payroll data files on final approval of requests originating from the Premier ESS Application.

Premier ESS Process Service
This service consists of three services integrated into one physical service.

Router Service
The router service handles all the communication between the various ESS services and the ESS web application.

Workflow Service
The workflow service handles all requests submitted to workflow for approval and updates the SQL database accordingly. This service also generates the email notifications that are sent to the relevant users during each step of the workflow.

Payslip Service
The payslip service monitors the Sage VIP Premier Payroll data, and on creation of the payslip data files, this service updates the Microsoft SQL database with the relevant data. IRP5 data is also handled by this service.



2.2 Additional Application Requirements

The Premier ESS Application is reliant on several other applications which are the client's responsibility to provide, configure and make available to the end users of the Premier ESS Application.

These applications are:

Web Browser
Users interact with the Premier ESS Application via a web browser from their own or a communal workstation. Microsoft Edge is the recommended browser, however the application is compatible with most common browsers e.g. Mozilla Firefox, Google Chrome.

Mail Server
The Premier ESS Application notifies users of new transactions or changes to transaction status via email. The Premier ESS Application forwards these emails to your corporate mail server for distribution to the relevant users. It is therefore necessary to configure your mail server to allow mail relays from the ESS Application server. SPAM filters should also be configured to "white list" all email generated by the ESS Application.

Emails are sent using the standard SMTP protocol.

Email Client
All users should have access to an HTML enabled email client. All transaction notifications to users and approvers are sent via email.

While it is recommended that each user have access to a PC and have their own email address, there are situations where this is not possible. It is then recommended that users have access to communal PC's to facilitate use of the application. In these situations, email notifications are usually routed to their supervisor or other designated party.

Security / Encryption
Financial information (payslips and IRP5s) is encrypted within the ESS database using Rijndael encryption. Rijndael is a block cipher, which means that the cryptographic key and algorithm are applied to data in a block rather than in individual bits. It is an alternative to a stream cipher. The cipher handles data in 128 bit blocks and supports 128, 156, and 192 bit keys. ESS uses 128 bit keys. Database connection strings within the application configuration files can be optionally encrypted using the same encryption.

Authentication

Authentication is the process by which the Application verifies the identity of the user attempting to accessing the application.

The ESS Application makes use of the Microsoft SQL Membership Provider Class of ASP.net for Forms Authentication.

Alternatively, Active Directory Authentication can be configured if the client has an existing Microsoft Active Directory infrastructure.

Authorisation

Authorisation is the function of specifying access rights to resources within the Application.

Premier ESS users are restricted in terms of which areas of the application they can access on a menu basis linked to application roles granted by the ESS Administrator.

This extends to workflow approval, reporting, impersonation, and informational screens throughout the application.

Password Security and Policies

When Forms Authentication is used, user passwords are stored using the Hash password format with the SHA1 algorithm (Secure Hashing Algorithm) of SQL Membership Provider. SHA1 is the default used. The hashed format passes a user's plaintext password and a random salt value through a one-way hash algorithm before storing the password. To validate a password, the provider must salt and hash the entered password and compare the two hash values. A hashed password cannot be retrieved.

Premier ESS provides for the following password policies when using Forms Authentication.

Rule	Definition
Password Length	Can be defined to be any minimum length. Default is 6 characters.
Password complexity	Specify the number of non-alphanumeric characters required in password. Default is 0
Account Lockout	User accounts are automatically locked after five failed password attempts.
User Session Timeout	A user's browser session will timeout after the IIS defined interval. Default is 15 minutes.

2.3 ESS Application Installation

Installation of the Premier ESS Application will be done by a Sage Business Partner, however, a representative of the clients IT department will need to be available at all times during the installation process.

It is the responsibility of the clients IT department to ensure that the server(s) meet or exceed the minimum system requirements as provided by Sage. The server(s) must be correctly configured prior to the Sage Business Partner beginning with the Premier ESS Application installation.

2.3.1 Pre-requisites - Server(s)

The server(s) on which the various components of the Premier ESS Application are to be installed must meet or exceed the minimum system requirements.

To facilitate a smooth installation of the Premier ESS Application, the following tasks can be performed by your IT department before the arrival of the Sage Business Partner.

- Configure the Windows 2016 Server as a Web Server and enable ASP.net
- Install latest service packs (e.g. SP2) if applicable
- Install Microsoft .net Framework 3.5 with SP1
- Install Microsoft .net Framework 4.0
- Install a separate instance of SQL 2016 / 2019 for ESS. E.g. servername\ess (If corporate security policies require this)
- Setup an ESSAdmin user account with local administrative permissions, as well as network permission to the Premier Payroll data files. This account is used by the various ESS Services. The account password should be set to never expire, to ensure uninterrupted operation.
- Ensure that a SQL account is available with sysadmin permissions to the SQL database.
- Ensure that the mail server will accept SMTP relays from the Web Server that will host the ESS Application.
- Compile a list of server names and IP addresses for the servers to be used.

2.3.2 Pre-requisites - Workstations(s)

Employees using the Premier ESS Application require workstations that meet or exceed the minimum system requirements for workstations.

Additional Information

- Premier ESS cannot be installed on Linux or other non-Windows operating systems; this is due to the fact that various Microsoft components are required.
- Premier ESS must be installed on IIS 7.0 or above. No other web server can be used.
- It is NOT advised to install Premier ESS on a Domain Controller, Exchange Server or any other business critical server. A dedicated server for the Premier Payroll and Premier ESS applications is recommended.

2.3.3 Publishing the ESS Website

In certain circumstances, it may be necessary to publish the Premier ESS website to a public IP address, i.e. the Internet, to allow users access to the Premier ESS website from other locations and external networks.

To ensure the integrity and security of the Premier ESS data, it is recommended that the following security measures are implemented:

- An SSL certificate be purchased by the client and installed on the Premier ESS web server. This will ensure that communication between the web server and client workstations is encrypted and reduces the risk of hacking.
- The web server be adequately firewalled to prevent hacking and ultimate access to the underlying Sage VIP Premier Payroll and SQL data. Hosting the Premier ESS web site within a DMZ, with the Sage VIP Premier Payroll and SQL data on the private side of the DMZ is recommended.

It is the client's responsibility to ensure that the network configuration is properly configured to manage the risks of publishing the Premier ESS application to a public URL.

2.4 Backups

It is the responsibility of the clients IT department to ensure that regular (daily) backups are made of the SQL database and the Sage VIP Premier Payroll data.

Full backups are recommended as recovery from incremental backups is time consuming and not always successful.

The following SQL databases specific to the ESS application must be included in the backup:

- GuESS
- GuESSDoc

Each of the Premier ESS services has configuration files that should also be included in the backups to speed up the reconfiguration process after a reinstallation.

The following Premier ESS Service configuration files must be backed up:

- Genesis.Ess.Server.exe.Config
- Genesis.Ess.VipCommsServer.exe.Config
- Genesis.Ess.HRCommsServer.exe.config
- Web.config

Updates

From time to time updates to the Premier ESS Application will be made available to clients for download from the Customer Zone of the Sage VIP website, https://customerzone.sagevip.co.za/newlogin.php

The update will always be accompanied by installation instructions as well as additional information about the changes that are incorporated in the update.

2.5 System Requirements - ESS Workstations

The table below details the minimum system requirements for workstations that will access the Premier ESS Application.

Premier ESS Workstations		
	Minimum	Recommended
Processor	Intel Processor	Dual Core 3.0 GHz or higher
Memory	4 GB	8 GB
Screen Resolution	1024 x 768	1024 x 768
Network Card	100 Mbps	1 Gbps
Web Browser		Microsoft Edge, Mozilla Firefox , Google Chrome
Supported Operating Systems	Windows 10	Windows 10 or higher
Other Requirements:		
PDF Reader (Latest supported by the Operating Systems) Email Client capable of viewing HTML emails (e.g. Microsoft Outlook)		

Assumptions

The system requirements described in this document are based on configurations that have been successfully tested by the Sage VIP Quality Control team during their ongoing testing of the Sage VIP Payroll applications.

It is the responsibility of the client's IT department to combine these system requirements with those of other applications that users may have installed on their workstations to ensure sufficient resources are available.

Note:
While our application(s) may still run on Windows XP, Windows 7 and Windows 8 it is strongly advised that all workstations be updated to a minimum of Windows 10.

2.6 System Requirements - Server

The table below details the minimum system requirements for the Premier ESS Web Server

Premier ESS Web and Database Server		
	Minimum	Recommended
Processor	Dual Core 3.0 GHz or higher	Quad Core 3.0 GHz or higher
Memory	8 GB	16 GB
Available disk space	40 GB	80+ GB
Screen Resolution	1024 x 768	1024 x 768
Network Card	100 Mbps	1 Gbps
Supported Operating Systems	Windows Server 2016 with IIS (ASP.net Role enabled)	Windows Server 2016\2019 with IIS (ASP.net Role enabled)
Other Requirements:		
Database Software	SQL Server 2016 R2 Express*	SQL Server 2016 Standard
Web Browser	Microsoft Edge Mozilla Firefox Google Chrome	Microsoft Edge Mozilla Firefox Google Chrome
Microsoft .net Framework 3.5 SP1 Microsoft .net Framework 4.0 Microsoft .net Framework 4.5 or higher		

Assumptions
The system requirements described in this document are based on configurations that have been successfully tested by the Sage VIP Quality Control team during their ongoing testing of the Premier ESS Application and are based on an employee count of approximately 500.

It is the responsibility of the clients IT department to combine these system requirements with those of other applications that may be installed on the servers to ensure sufficient resources are available.

- The SQL Instance Collation should be set to: Latin1_General_CI_AS
- The Express versions of SQL Server have limitations with regards to memory and CPU usage (1GB RAM and 1CPU) as well as the maximum size of each database (10GB for SQL 2016\2019

Express) These limitations may impact on the performance of the application when large numbers of users access the application.

Best Practice

The recommended best practice for a Premier ESS installation is to segregate the Sage VIP Premier Payroll data and ESS SQL databases from other enterprise data to add an additional layer of security. The SQL Databases can be hosted on a separate instance of SQL if necessary.

It is NOT recommended that the ESS Application be installed on servers that perform other business critical functions, e.g. Domain Controllers or Exchange Servers.

Best Practice - SQL Database

It is advisable to ensure that the SQL Server version chosen will provide sufficient storage and performance for the solution being implemented.

Consult your Database Administrator and relevant documentation provided by Microsoft.

SQL Best Practices - http://msdn.microsoft.com/en-us/sqlserver/bb671432

SQL Storage Best Practices - http://technet.microsoft.com/en-us/library/cc966534.aspx

Editions and supported features of SQL Server 2016 - http://technet.microsoft.com/en-us/library/cc645993.aspx

3.0 Premier HR

The Premier Human Resource (HR) Application is a windows forms application which has fully functional HR capabilities that stretch from job management to performance management, employment equity management, succession planning and much more.

The following Modules are included in Premier HR:

- Job and Position Management
- Employee Record Management
- Performance Management
- Skills Development Management
- Employment Equity Management
- Employee Recruitment
- Remuneration

Line Managers may be given access to the information and processes within the system for their department. Premier HR provides for over 100 standard HR reports. These reports may be customised to suit the company's requirements.

3.1 Basic Premier HR Architecture

The Premier HR Application comprises of two application level components and three service components.

The application components consist of the following:

Premier HR Integrator
The Premier HR Integrator is an integration tool which allows for the integration of employee fixed information between Premier HR and the Premier Payroll system. The purpose of the integrator is to ensure data integrity between the two systems. This ensures that the employee data kept in Premier HR is consistent with the employee data kept in the Premier Payroll system.

Microsoft SQL Server
User accounts as well as current and historical data is stored within the Microsoft SQL databases. The Premier HR Integrator configuration data is also stored in these databases.

The application components can be consolidated on a single server, or distributed on multiple servers as required.

The service components installed are:

Premier Integrator Comms Service
This service is the link between the Premier HR .Net Application and the Premier Payroll data. All data requests from the Premier HR Integrator Application are handled by this service. The relevant payroll data is extracted from the Premier Payroll data files and passed back to the Premier HR Application.

This service is also used to update the Premier Payroll data files with information from the Premier HR Application. The direction of extraction or updating of data is determined by the Premier HR Integrator Application.

Premier HR Timer Service

The timer service runs as a windows service which enables the sending of Emails through the Premier HR Application via the Simple Mail Transfer Protocol (SMTP).

Premier Integrator Scheduler Service

The scheduler service handles all integrations between Premier HR and Premier Payroll which have been scheduled to run at specific time intervals. This service also generates the e-mail notifications that are sent to the relevant users after an integration.

3.2 System Security

Authentication

All Sage Premier HR data, including the user access permission sub-system, is stored in SQL server. User passwords are encrypted. Authentication data travels encrypted during authentication process.

Password Security and Policies

Passwords are stored using the 3Des algorithm with 16 character key length.

The Premier HR Application provides for various password policy configurations. See the table below:

Rule	Definition	Detail	
Password Strength	The password strength has four pre-defined settings. These are: None, Weak, Medium, and Strong	None	The password can be blank and does not need to comply with any rules.
		Weak	The password needs to be at least 5 characters long.
		Medium	The password must meet the following conditions: • be longer than 7 characters. • contain the following characters: a-z • plus at least one of the following characters A-Z , 0-9 or a special character e.g. `~!@#$%^&*(),.<>?:{}[]-=_+
		Strong	The password must meet the following conditions: • be longer than 7 characters. • contain the following characters: a-z, A-Z and 0-9 • contain at least one special character e.g. `~!@#$%^&*(),.<>?:{}[]-=_+

Password re-use	Specify the number of times a different password must be used before a previously used password can be used again.	The user is allowed to use the same password after the specific number of times. Maximum value of 100 times.
Password expiry	Specify the number of days that a password may be used without change before it expires, and the user is forced to change the password.	Password will expire after a user-defined period (in days). Maximum value is 3650 days. Premier HR calculates days according to the workstation date and time settings
Account Lockout	User accounts are automatically locked after three failed password attempts.	
User Session Timeout	User session timeout's can be defined in the security settings.	A session time out value can be set to automatically log users out of the system after a pre-defined interval of inactivity.

Authorisation

Premier HR users are restricted in terms of which areas of the application they are allowed access to on a menu and record basis linked to application roles granted by the HR Administrator.

The Premier HR System allows for multiple companies within one database. The security model is a role base security model which works as follows.

- Company Security - A user can be excluded from seeing certain companies within a database completely.
- Forms Security – A user can be limited from seeing certain screens as well as being limited to what he can do per screen. Ie Add, Edit, Delete
- Zones – An extension of the Application Security Model is the use of zone codes within the application. Data within Premier HR is segmented into many “Zones” or logical collections which could represent departments, business units, organizations or any other logical grouping of HR employees. The zones are defined on the Position (hierarchy level) during the configuration of the system. Zones are defined on employee level for terminated and on hold employees. This data is then exposed or hidden from end-users depending on their “Zone” access rights granted in the Application Security Layer. In this way, multiple users of the system may have access to certain employee’s data and not to others. Each user is allowed access to one or more Data “Zones” in the application.
- All user maintenance is self-contained within the system and does not require any 3rd party authentication or authorization software.

Document storage in Premier HR

Premier HR allows for document management functionality within the HR Application. The Document attachments are stored as a byte array within an image data type.

The database administrator may determine the allowable document extension types to be attached to employee records and stored within the database. This can be set up within the Premier HR Application.

The size of the database will be influenced by the types and number of documents attached within the Premier HR system and must be considered when assessing hardware requirements.

Best Practice - SQL Database

It is advisable to ensure that the SQL Server version chosen will provide sufficient storage and performance for the solution being implemented.

Consult your Database Administrator and relevant documentation provided by Microsoft.

- SQL Best Practices - http://msdn.microsoft.com/en-us/sqlserver/bb671432
- SQL Storage Best Practices - http://technet.microsoft.com/en-us/library/cc966534.aspx
- Editions and supported features of SQL Server 2016 - http://technet.microsoft.com/en-us/library/cc645993.aspx

3.3 HR Application Installation

Installation of the Premier HR Application will be done by a Sage Business Partner; however, a representative of the clients IT department will need to be available at all times during the installation process.

It is the responsibility of the clients IT department to ensure that the server(s) meet or exceed the minimum system requirements as provided by Sage. The server(s) must be correctly configured prior to the Sage Business Partner beginning with the Premier HR Application installation.

Pre-requisites - Server(s)

The server(s) on which the various components of the Premier HR Application are to be installed must meet or exceed the minimum system requirements.

To facilitate a smooth installation of the Premier HR Application, the following tasks can be performed by your IT department before the arrival of the Sage Business Partner.

- Install latest service packs (e.g. SP2) if applicable
- Install a separate instance of SQL 2016 / 2019 for ESS. E.g. servername\ess
- Setup an HRAdmin user account with local administrative permissions, as well as network permission to the Premier Payroll data files. This account is used by the various HR Services. The account password should be set to never expire, to ensure uninterrupted operation.
- Ensure that a SQL account is available with sysadmin permissions to the SQL database.
- Ensure that the mail server will accept relays from the HR Server.
- Compile a list of server names and IP addresses for the servers to be used.

Pre-requisites - Workstations(s)

Employees using the Premier HR Application require workstations that meet or exceed the minimum system requirements for workstations.

3.4 Backups

It is the responsibility of the client's IT department to ensure that regular (daily) backups are made of the relevant SQL databases and the Premier Payroll data and that these backups are secured as per client's backup policy e.g. offsite.

Full backups are recommended as recovery from incremental backups is time consuming and not always successful.

Each of the Premier HR services has configuration files that should also be included in the backups to speed up the reconfiguration process after a reinstallation.

The following SQL databases specific to the HR application must be backed up:

- Premier HR – Data Database*
- Premier HR – Collective Database*
- Premier HR – Integrator Database*

* The actual name of the database must be confirmed with the Sage Business Partner or HR Consultant, as the database name can be customised per client.

The following Premier HR Service configuration files must be backed up:

- Genesis.Integrator.SchedulerService.exe.config
- Genesis.Integrator.VipCommsServer.exe.config

3.5 System Requirements - Premier HR Workstations

The table below details the minimum system requirements for workstations that will access the Premier HR Application.

Premier HR Workstations		
	Minimum	Recommended
Processor	Intel Processor	Dual Core 3.0 GHz or higher
Memory	4 GB	8 GB
Screen Resolution	1024 x 768	1024 x 768
Network Card	100 Mbps	1 Gbps
Supported Operating Systems	Windows 10	Windows 10
Other Requirements:		
Microsoft .net Framework 3.5 SP1 Microsoft .net Framework 4.0 or higher PDF Reader (Latest supported by the Operating Systems) Email Client capable of viewing HTML emails (e.g. Microsoft Outlook 2013 or later)		

Assumptions

The system requirements described in this document are based on configurations that have been successfully tested by the Sage VIP Quality Control team during their ongoing testing of the Sage VIP Payroll applications.

It is the responsibility of the clients IT department to combine these system requirements with those of other applications that users may have installed on their workstations to ensure sufficient resources are available.

Note:
Microsoft support for Windows 8 has been officially discontinued. While our application(s) may still run on Windows 8 it is strongly advised that all workstations be updated to a minimum of Windows 10.

3.6 System Requirements - Server

The table below details the minimum system requirements for Premier HR Application Server

Premier HR Server		
	Minimum	Recommended
Processor	Dual Core 3.0 GHz or higher	Quad Core 3.0 GHz or higher
Memory	8 GB	16+ GB
Available disk space	40 GB	80+ GB
Screen Resolution	1024 x 768	1024 x 768
Network Card	100 Mbps	1 Gbps
Supported Operating Systems	Windows Server 2016 x64	Windows Server 2016
Other Requirements:		
Database Software	SQL Server 2014 Express*	SQL Server 2016
Microsoft .net Frameworks: 3.5 SP1 and 4.0		

Assumptions
The system requirements described in this document are based on configurations that have been successfully tested by the Sage VIP Quality Control team during their ongoing testing of the Sage Premier HR Application and are based on an employee count of approximately 500.

It is the responsibility of the clients IT department to combine these system requirements with those of other applications that are installed on the server(s) to ensure sufficient resources are available.

Sufficient RAM should be made available to adequately process database queries and transactions from multiple simultaneous Premier HR operators.

- The SQL Instance Collation should be set to: Latin1_General_CI_AS
- The Express versions of SQL Server have limitations with regards to memory and CPU usage (1GB RAM and 1CPU) as well as the maximum size of each database (10GB for SQL 2016 / 2019 Express)
- These limitations may impact on the performance of the application when large numbers of users access the application. The document attachment feature of Premier HR should be considered when planning the SQL version to be used. Documents are stored in the database in an uncompressed binary format, which can lead to rapid growth of the database.

Best Practice

The recommended best practice for a Premier HR installation is to segregate the Sage VIP Premier Payroll data and HR SQL database from other enterprise data to add an additional layer of security. The SQL Databases can be hosted on a separate instance of SQL if necessary.

It is NOT recommended that the Premier HR Application be installed on servers that perform other business critical functions, e.g. Domain Controllers or Exchange Servers.

3.7 System Requirements - Remote Desktop Services Server

The table below details the minimum system requirements for the Remote Desktop Services Server

Remote Desktop Services Server		
	Minimum	Recommended
Processor	Dual Core 3.0 GHz or higher	Quad Core 3.0 GHz or higher
Memory	8 GB	12+ GB
Available disk space	40 GB	80+ GB
Screen Resolution	1024 x 768	1024 x 768
Network Card	100 Mbps	1 Gbps
Supported Operating Systems	Windows Server 2016	Windows Server 2016 or higher
Other Requirements:		
Microsoft .net Frameworks: 3.5 SP1 and 4.0		

Assumptions

It is the responsibility of the client's network administrator to ensure the Remote Desktop Services (Terminal Services) server has sufficient capacity to service the total number of remote users that may access the server via Remote Desktop Services (Terminal Services) or Citrix. A minimum of 350 MB RAM should be available for each concurrent user of the Premier HR Application.

Additional requirements for Remote Desktop Services (Terminal Services) or Citrix should be determined by your network administrator, taking into account other application that may be installed and used on the server e.g. Microsoft Office.

4.0 Disaster Recovery

In the event of a server failure, the client will be responsible for providing the most recent backups of the various databases, configuration files and file shares as detailed in this document.

The Sage Business Partner will provide the client with the most recent install files for the relevant Sage applications licensed to the client.

The Sage Business Partner consultant will provide the necessary assistance to re-install and reconfigure the applications. This assistance can be provided either via remote assistance or on site, depending on the client's location and requirements. This assistance will be charged at the normal consulting rates applicable at the time.

5.0 Frequently Asked

Q: What is ODBC?
A: ODBC (Open Data Base Connectivity) is a very powerful tool that provides users with the ability to extract data from the Payroll Application for report generation in Microsoft Excel, Word or similar ODBC capable applications.
All versions of the Payroll Application ship with the required ODBC drivers and configuration tools.
To make use of Sage Intelligence and ODBC, Microsoft Office is required. The components that must be installed include MS Excel (with MS Query), MS Access and MS Word. Microsoft Office 2007 or above recommended.
Due to technical reasons, we do not have a 64 bit ODBC driver that works with Office 64 bit versions. ODBC can only work with Office 32 bit versions.

Q: Are there any API's available for these products?
A: These products do not allow for any API's.

Q: Does the Payroll Application run successfully on Novel Netware solutions?
A: The Payroll Application is only tested on Microsoft Windows based networks.

Q: Is Microsoft Windows 8 and Server 2012 R2 supported?
A: Microsoft will begin Windows 8 / 8.1 and Server 2012 R2 end of life and support in January 2023. This means it will stop all support and updates to the operating system. Windows 8 / 8.1 and Server 2012 already reached the end of Mainstream Support on January 9, 2018.
We recommend using Windows 10 and Server 2016 or higher for all deployment.

Q: Can the payroll be run on an external drive or on Google drive?
A: No, this is not supported or tested.

Q: Is Linux, Unix or Mac OS supported?
A: Linux, Unix and Mac OS are not supported.

Q: Can the system be installed and run on an Azure environment?
It is not recommended to install in an Azure environment. It will be at your own risk as Sage has not tested the products in Azure and will not be supporting it in an Azure environment.

Q: How do I set a mapped drive as a trusted site?
A: This must be done under the computer's Internet Options (which can be accessed in several ways). You can refer to the article on our knowledge base for detail instructions: How do I set a mapped drive as a trusted site in a network environment?

Q: Where can we find more information on Windows versions and end of support dates?
A: you can use the following link: https://en.wikipedia.org/wiki/List_of_Microsoft_Windows_versions

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