

Release Notes

PROIV Version 13.100

Spring 2024 Release



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1 Introduction

1.1 Document Structure

- Section 1 – Introduction
- Section 2 – System Requirements
- Section 3 – Getting Started with Version 13
- Section 4 – Platform and Database Specific Information
- Section 5 – Common Vulnerabilities and Exposures
- Section 6 – Resolved Issues

1.2 Installing the PROIV Application

Information on installing PROIV is held in the latest PROIV Install guide for version 13 which can be found in the Documentation page on the PROIV Support Web-site.

2 System requirements

2.1 End of Life Information

The following components, platforms and databases are end-of-life or will be soon. Since the release of PROIV version 13, version 12 is no longer supported so you should upgrade to this release as soon as possible.

2.1.1 Removed Functionality

The following functionality has been removed from version 13

- PROIV Aurora

2.1.2 Deprecated Functionality

The following PROIV functionality is now deprecated and will be removed from a future version of PROIV.

- External Sub-routines
- C-ISAM
- Change Management

2.1.3 End-of-Life Notices

The following are now end-of-life and not supported in version 13, this also includes any earlier versions than those listed and those stated as end of life in earlier versions of the release notes.

Databases:

- PostgreSQL version 12

2.2 Supported Platforms and Databases

This section lists the currently supported operating environments for PROIV and supersedes all other documents.

The following table provides details about the compatibility of system requirements, platforms, databases and browsers for PROIV v13 components. For the installation process, refer to the latest update of the PROIV v13 Installation guide.

PROIV Version 13.100 Server Supported Platforms							
Platform				Databases			
Operating System	Architecture	Min OS	Max OS	Oracle	SQL Server	PostgreSQL	C-ISAM
				19c 21c 23c	2016 2019 2022 Azure SQL	12 - 16	7.26
Windows Server	x86-64	2016	2022	✓ (note 2)	✓	✓	✗
Windows Workstation	x86-64	10	11	✓ (note 2)	✓	✓	✗
Redhat Linux	x86-64	8	9	✓ (note 2)	✓ (note 1)	✓	✓
AIX	Power 8/9	7.2	7.3	19c only	✗	✗	✓

Notes

1. Only Azure SQL supported, requires the Microsoft SQL Server Linux version 18 driver, installing this package will bring in the necessary version of unixODBC.
2. Support for Oracle databases and Operating system combinations is in line with Oracle's stated certifications as of the release date of this document.

PROIV Version 13.100 Supported Client / Browser Platforms			
Operating System	PROIV Client	Google Chrome	Microsoft Edge
Windows 10	✓	✓	✓
Windows 11	✓	✓	✓
Windows 2016		✓	✓
Windows 2019		✓	✓

Notes

1. Google Chrome and Microsoft Edge are tested on the latest production releases only; pre-production releases are not supported.

2.3 MFC Client / Forms Designer Platforms

The MFC Client and Forms Designer are 32-bit applications which are compatible with the Windows 10 and 11 operating systems. Whilst the installation may be successful on other versions of Microsoft Windows, they are not supported platforms and are not tested; Zellis will not accept any fault reports or support issues on non-supported platforms.

Version 9.4 introduced a change to the way the MFC Client responded to the return key when focus was on a dynamic icon. If you wish to use the previous behaviour a new option has been added to the General Settings for the application in v9.41 onwards called "Hotspots action on CR" which will need to be checked to get the previous behaviour.

3 Getting Started with Version 13

3.1 New Features 13.100

3.1.1 Flexible SQL Server Configuration

This release of PROIV introduces a new advanced configuration section for SQL Server. It is now possible to control transaction isolation level, concurrency and cursor types used by PROIV in its interaction with the database. Furthermore, it is possible to enable or disable the addition of lock hints in the SQL generated.

Using certain combinations of the new settings and additional database configuration gives a more Oracle like experience when using SQL Server. Uncommitted changes in one session are not visible to another and locking occurs when two sessions attempt to update the same record simultaneously.

This functionality **must** be used with extreme care, it is important that documentation topic id 560062 is read through before making changes away from the defaults.

On install Version 13 operates in the same manner as previous releases of PROIV.

3.1.2 Gen Time Property Caching

The gen process has been updated to cache the default soft properties between function gens. It is transparent to application developers but the gentime performance is noticeable when building large lists of functions. It uses approximately 128 kilobytes of additional memory per PROIV session. It is not configurable.

3.1.3 Kernel / Client Connector Synchronisation

Aimed at addressing the intermittent occasions when an OpenClient or LiteClient session may lock up and become desynchronised from the kernel. This feature enhances the communication protocol between client connector and kernel to improve the synchronisation between the two end points. The PROIV Client is unaffected.

3.1.4 Larger Rest Payloads

REST Payloads size has been increased from 10 megabytes to 4 gigabytes. It is important to note that using this additional capacity will incur more resources to be used by the PROIV Application Connector. You may need to change the JVM base memory settings to take advantage of the feature.

3.1.5 Logging support in Bundled SSOs

All the SSOs present in the PROIV distribution have been updated with richer logging support, this allows for much improved support and diagnosis of issues should they arise.

3.1.6 Jetty 12 and Spring 6

This version of PROIV has been updated to bundle Jetty 12 and now makes use of Spring Framework version 6. Consequently, the PROIV web code has moved to the jakarta.servlet namespace. If you bundle your own servlets as part of any of the PROIV web applications then you will need to update your code to the correct namespace.

Using Spring Framework 6 gives us a solid base on which we can address product vulnerabilities and also allows us to leverage the rich framework in future development. This change is transparent to users of PROIV.

3.2 Changes to Existing Features in Version 13

3.2.1 Aurora

Aurora has been removed Client Connector along with the preconfigured services.

4 Platform and Database specific Information

Note: Prior to upgrading PROIV Server software on any platform it is essential that all users and Web Services are disconnected from the system to prevent various system locks from blocking the installation of essential components during the upgrade process. This includes connections from the Windows Client, Open Client and Lite Client. Any system that connects via SOAP or RESTful Web Services should also be temporarily disabled.

4.1 64-bit Linux

This release is supported on Linux operating systems as per the supported platforms section above. It is very important that the operating system has all vendor-supplied patches installed.

4.1.1 Security Enhanced Linux (SELinux)

If installing as non-root user on SELinux the PROIV web services may not start automatically. If this is the case, they will need to be started manually by a user with root privileges for each of the services, e.g.

```
$ cd <install-path>/LicensingServices/bin
```

```
$ ./licensingServices start
```

See also Section 7 for Known Issues regarding limitations on <install-path>.

4.1.2 Supported Java Runtime Environments

PROIV on 64-bit Linux (glibc) is bundled with the Microsoft JRE Version 17, the installation uses this, there is no option to search for a different JRE during installation.

4.1.3 PostgreSQL

The solution makes use of native PostgreSQL database drivers making it easier to configure. The drivers required by PROIV on the Linux platform can be found in the following directory which is included in the LD_LIBRARY_PATH environment variable in the runproiv.sh script:

```
$PROIV_HOME/virtual_machine/lib
```

4.1.4 Oracle

The Linux platform includes the Oracle 19c Instant client, it can be found in the directory of your installation as shown below. This directory is added to the LD_LIBRARY_PATH environment variable as part of the **runproiv.sh** script. The Oracle 19c Instant Client is the minimum version required on 64-bit Linux platforms.

`$PROIV_HOME/virtual_machine/lib/instant_client`

Oracle performance is much better if the Oracle connection information is specified by an Oracle System Identifier (SID). Specify the name of the SID by exporting `ORACLE_SID` in your PROIV start-up script. The Connection string then only needs to specify `username/password`.

4.1.5 Azure SQL

Support for Azure SQL is enabled through the Microsoft ODBC Driver 18 for SQL Server (Linux). Instructions for using it can be found at [Microsoft](#). Once installed the driver will have automatically installed the correct version of unixODBC.

The unixODBC shared libraries must be added to the `LD_LIBRARY_PATH` in the ***runproiv.sh*** script; failure to do so will result in the PROIV SQL Server interface not initialising correctly.

It is recommended that the Microsoft instructions be followed for installing unixODBC.

Access to SQL Server is via an ODBC DSN (Data Source Name), these are configured as per the unixODBC documentation. By way of example; the configuration is a two part process; first the unixODBC driver manager needs to know about the Microsoft ODBC Driver for SQL Server; this is typically done by adding a section similar to:

```
[ODBC Driver 18 for SQL Server]
Description=Microsoft ODBC Driver 18 for SQL Server
Driver=/opt/microsoft/msodbcsql18/lib64/libmsodbcsql-18.3.so.3.1
UsageCount=10
```

To the `/etc/odbcinst.ini` file.

The data source is then configured; this can either be a system data source in which the system config file `/etc/odbc.ini` or the users specific `.odbc.ini` located in their home directory. The content would include a section similar to the following:

```
[Stock]
Driver = ODBC Driver 18 for SQL Server
Server = localhost,1433
Description = Stock Control Database
```

In this case the Stock data source is defined as being on server local host accessible on port 1433.

To configure PROIV to access the database as the default SQL database you would set the connection string to

`username/password/Stock`

where username and password are replaced with the correct credentials for the database.

4.1.6 Integration with “systemd” services

From Version 13 the names of the “systemd” services have been updated to avoid clashes with PROIV Versions 10 and 11. The new names are listed below.

- p4analytics13.service
- p4appcon13.service
- p4clicon13.service
- p4licensing13.service
- p4system13.service
- p4taskserver13.service

On a clean install the systemd unit files will be created with these new names.

4.2 AIX

This release is supported on AIX operating systems as per the supported platforms section above. It is very important that the operating system has all vendor-supplied patches installed. See the Supported Platforms section for the currently supported Technology levels.

PROIV is compiled and targeted for Power 8 and 9 processors, execution on older hardware will result in core dumps, this is unsupported.

4.2.1 Supported Java Runtime Environments

PROIV on 64-bit AIX only supports the IBM Semeru Certified Java 17 JDK. The installation process initially refers to the path that is set in the JAVA_HOME variable; in case this is not found, it looks in the following directories (as defined using a regular expression) for a Java 17 JDK and will use it in preference as it is found.

/usr/*[jJ][aA][vV][aA]*17*	/opt/*[jJ][aA][vV][aA]*17*
/usr/*[jJ]2[sS][Ee]*	/opt/*[jJ]2[sS][Ee]*
/usr/*[jJ][dD][kK]*	/opt/*[jJ][dD][kK]*
/usr/*[jJ][aA][vV][aA]*	/opt/*[jJ][aA][vV][aA]*
/usr/*[jJ][aA][vV][aA]*/*[jJ]2*	/opt/*[jJ][aA][vV][aA]*/*[jJ]2*
/opt/*[jJ]2*	/usr/*[jJ]2*

4.2.2 Oracle

The AIX platform includes the Oracle 19c Instant client, it can be found in the \$PROIV_HOME/virtual_machine/lib/instant_client directory of your installation. This directory is added to the LD_LIBRARY_PATH environment variable as part of the **runproiv.sh** script.

Oracle may generate a warning return code “ORA-24347” when NULL columns are used in aggregate functions. This happens for all PROIV V8 and V9 versions. PROIV regards the warning as an error and rolls back the transaction. Within PROIV, this is only likely to happen with full function SQL.

You can instruct PROIV to ignore the Oracle warning by disabling the Enable Warnings As Error switch in the Oracle section of the Virtual Machine configuration in the PROIV Dashboard.

Oracle performance is much better if the Oracle connection information is specified by an Oracle System Identifier (SID). Specify the name of the SID by exporting ORACLE_SID in your PROIV start-up script. The Connection string then only needs to specify username/password.

4.2.3 AIX Pre-requisites

PROIV Version 13 is compiled with the Open XLC 17 compiler, consequently it has a dependency on the IBM Open XL C/C++ 17.1.1 runtime environment file sets. These must be installed for PROIV to work.

4.3 64-bit Windows

This release is supported on Windows operating systems as per the supported platforms section above. It is very important that the operating system has all vendor-supplied patches installed.

4.3.1 Supported Java Runtime Environments

The 64-bit Windows installation is bundled with a Microsoft Java 17 Runtime Environment.

4.3.2 PostgreSQL

The solution makes use of native PostgreSQL database drivers (libpq). If you wish to use PostgreSQL as your database you will need to download and install the PostgreSQL software from <https://www.postgresql.org/>. The Windows “Path” environment variable should be modified to include the paths to the PostgreSQL lib and bin folders.

4.4 Operating System Authentication to connect PROIV with Oracle database

On UNIX platforms, PROIV supports user authentication to establish connection between PROIV sessions and an Oracle database. You can configure an Oracle Database to authenticate (that is, verify the identity of) users or other entities that connect to the database. Authentication must be configured in two ways, such as through the PROIV application and from the Oracle database.

On the PROIV side, the username and/or password provided in the PROIV Dashboard settings should be blank. On the Oracle database side, you must set Oracle configuration to allow OS authentication. For more information, refer to Oracle documentation.

This will not affect standard database authentication of credentials, however should problems arise it is possible to connect using the existing method by setting the OCI Simple Logon property in the PROIV Dashboard. This cannot be used with OS authentication.

4.5 File System Support

PROIV is not supported on shared file systems such as SAMBA (SMB/CIFS), or NFS.

5 Common Vulnerabilities and Exposures

This release of PROIV includes fixes for all the CVEs listed below and those fixed in previous versions. It is recommended that all components are upgraded to this version.

5.1 CVEs Addressed for version 13.100.13

Number	Description
CVE-2023-5072	JSON-Java upgraded to version 20231013
CVE-2023-45133	@babel/traverse upgraded to version 7.23.2
CVE-2023-44487	Jetty Servlet API @ version 4.0.6 is flagged with the CVE – suppression added
CVE-2023-35116	Jackson-databind upgraded to version 2.16.0.
CVE-2023-26159	follow-redirects upgraded to version 1.15.4
CVE-2022-44720	package.json upgraded to version 6.9.0
CVE-2023-35887	sshd upgraded
CVE-2022-25883	semver upgraded to latest version
CVE-2023-34053	Spring version upgraded
CVE-2024-22233	Spring version upgraded
CVE-2022-1471	Spring version upgraded
CVE-2022-31160	JQuery UI upgraded to version 1.13.2
CVE-2024-1597	postgresql upgraded to 42.7.2
CVE-2024-22243	spring-web upgraded to 5.3.32
CVE-2023-48795	sshd upgraded
CVE-2021-37533	commons-net upgraded to version 3.9.0
CVE-2024-29180	webpack-dev-server upgraded to version 4.15.2
CVE-2024-29857	Bouncy Castle upgraded to 1.78
CVE-2024-29041	express upgraded to version 4.19.2
CVE-2024-22262	org.springframework:spring-web upgraded to version 6.1.6
CVE-2024-25710	Apache Commons Compress upgraded

6 Resolved Issues

This release of software includes fixes for all issues fixed in previous releases up to and including version 12.104 as well as the issues listed in the tables below. A full list of resolved issues is now available on the PROIV Support Website.

6.1 Resolved Issues for version 13.100.13

Support Ref.	Description	PROIV Ref.
PRB0052376	While using Developer to edit a function, Ctrl+F no longer opens the search popup window	234201
PRB0052388	Restful task URL paths not resolved consistently	234701
PRB0052405	Cursor not visible in open client on a multi line edit box in paging screen	235369
PRB0052434	Home/End keys not working after selecting from listbox in OpenClient	236736
PRB0052481	Open client help generates an invalid URL when overriding the default help	241066
PRB0052503	MFC Client using SSH connection hangs after approximately 10 hours	242712
PRB0052541	If a user tries to access an Open Client session for an undeployed Configuration-Profile, it is then not possible to access the Open Client once the Configuration-Profile has been deployed.	245218
PRB0052573	Task linkage not updated after import	246808
PRB0052604	Open Client incorrectly renders combo box fields defined in paging screen in expand mode	248223
PRB0052607	Scratch array not removed when running a function cleanup	248493
PRB0052619	Using ENABLE(&#@NO-CR) in on focus logic causes Open Client to hang	249545
PRB0052649	Selecting de-selecting list box records does not update the computed field value	250583
PRB0052660	Oracle transaction incorrectly committed after Ctrl+Break	251063
PRB0052684	Restful Web Service fails to read/process all json records	252070
PRB0052694	Slow PROIV Dashboard performance while amending web service settings	252250
PRB0052727	Open Client right click menu incorrectly renders screen modes	254519
PRB0052744	Multi-selection of records in a list box does not update the computed field value	254996
PRB0052743	Open Client fails to render the combo box string in a paging screen while in expand mode	256329
PRB0052801	Why is the REST response body empty on a request error	258304
PRB0052836	Browser zoom affects combo box display	260009
PRB0052890	Back tab from a date field results in the year portion having been cleared/changed in an open client session	264245
PRB0052863	When a restful request encounters a sql error then system variable @TERM is cleared	261945
PRB0052873	Developer's default screen size replaces the SESSION.SetScreenSize setting when a function has been opened for edit and is run	262239

	Sort select validation allows no variables to be selected on window close	257208
	Developer warns about using RESTful functions as RESTful task error function	262351
	Combo box is not displaying properly on pressing F6	257748
	First selected item in single-click, multi-select listbox can have extraneous characters	257994
	Paging on auto-seq file throws error on insert (SQL Server)	261029
	Switch to control current function name and title passed to client	261177
	File Definition change allows unsupported file types & File Type Dropdown is incorrect	261920
	Commit after full function sql throws fetch out of sequence after last row (Oracle)	258451
	Using a template can stretch the last paging field rather than proportionally stretching all fields	258721
	Editbox fields utilising standard validation "DATE" and Display Mask "DATE4" are incorrectly converted when a leap year is entered using "DDMM" format.	259223
	OC and LC Client combo box rendering issues in Paging Areas	259559
	Setting diagnostic slider All from level 0 to a positive value and back to 0 does not consistently hide/unhide the individual diagnostic sliders	257547
	Paging button inherits checkbox values when positioned to the far right of a paging area	255984
	Paging areas in full screen width windows narrower than expected	254202
	Window called en-route to a clicked paging button receives unexpected FnKey (2)	254942
	Page navigation on lite client paging screens is limited to 2 pages when a sort is not defined.	251479
	MFC Unresponsive when executing Paging Screen function with Sort on Column Click and Remember Settings	247401
	Dashboard config migration allows windows to migrate unix config files and vice versa	245834
	SQL Server FF-SQL Corrupted with a trailing lock hint	246662
	"RecordCount" property value is lost on json import	243921
	Open Client file download performance using SSH is adversely affected when UMSGs are present in the code	244957
	SQL Server/Azure SQL primary in D mode omits the order by	241331
	Developer File report does not appear to assign the logic generated to a logic point	239135
	RESTful service error when the path does not start with '/'	236885
	Paging button FnKey logic with processing terminates early	234480
	Dynamic icon has to be double clicked twice to open	225043
	Revoke and Invert buttons are disabled under Current Licence Usage	269533
	RestfulRequest fails to convert object to array	269566
	Paging area issue – button click & paging exit/re-entry	226129

6.2 Known Issues

Changes have been made to URL parsing in the RESTful interface to PROIV, where previously an incoming request might match multiple paths (and select the longest matching path) an exact match is now required.

The MFC Client may become unresponsive when "Remember Settings" is selected on a paging screen where no column headings are specified. Either specifying column headings or removing "Remember Settings" resolves the issue.

Configuration migration currently allows a unix configuration to be migrated on a windows installation and vice-versa. This is not supported and will corrupt your configuration so should not be attempted under any circumstances.

When the PROIV client is running with a secure connection some browsers will convert any non-secure image requests to a secure one (e.g. change http to https). If the server supplying the image does not support https then the image will not be found. Chrome and Edge do the conversion but Firefox does not. We would recommend that all images accessed by the PROIV clients as a URL use the secure protocol (https) that way they will always show in all browsers.

PROIV uses Apache FOP version 2.6 and this expects image paths to be enclosed in url format. E.g.

The following format is no longer supported

```
<xsl:attribute name="src">
<xsl:value-of select="//PdfImage"/>
</xsl:attribute>
```

And should be changed to this supported format:

```
<xsl:attribute name="src"> url('file:<xsl:value-of select="//PdfImage"/>')
</xsl:attribute>
```

The wrapper function @VIPWP03 is a run-time function which gives the user the ability to bulk build functions outside of PROIV Developer. If this function is run within the PROIV Developer then the programmer should save the value of Communication Variable 6 (@\$COM6) before and restore after running the function

SELinux prevents running a system service where the binary to execute (e.g. /home/user1/v11/ClientServices/bin/clientServices) is in a user's home directory or root user's home directory. As a result, SELinux is not supported.

There is an issue running SQLPlus to Oracle databases on IBM AIX that reports errors similar to the following:

rtld: 0712-001 Symbol CreateloCompletionPort was referenced.

The solution is to change the IOCP IBM AIX parameter from “defined” to “available”, this action requires root privilege, further details can be found at the following URL:

<https://geodatamaster.com/2015/09/04/sqlplus-error-for-oracle-12c-in-ibm-aix-rtld-0712-001-symbol-createiocompletionport-was-referenced/>

There is a difference in behaviour between the Open Client and the Windows Client when processing graphics assigned to an Icon when they are to be obtained from the internet. The Windows Client requires the internet settings to specify the URL of the graphics location on the internet and this is then used to access a file specified as the graphic for the icon. The Open Client allows the full URL, including the name of the file, to be assigned to the icon. The name of the file used for the Windows Client is case sensitive.

Over time the number of files in the temp folders of ApplicationServices and ClientServices will increase due to deploying and re-deploying configurations. You should periodically remove these files to reduce problems with disk space and the impact on the time it takes to uninstall and re-install the application.

Under Windows the @DemoFileSendRecieve demo function will not transfer files to the default boots directory if the running process does not have permission to do so.

A red triangle pointing downwards, partially overlapping a grey triangle that points upwards, creating a white triangular space in the center.

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**For further information please
visit zellis.com**

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