



Implementation Guide

Historion Genre 6.x



Copyright Notice

Copyright © Cybermynd Information Systems Consulting Pty Ltd (2017).

Copyright subsists in this document and is the property of Cybermynd Information Systems Consulting Pty. Ltd. (ABN 24 094 169 749) (Cybermynd).

You may reproduce this document (including by way of downloading, saving between devices, emailing and printing) strictly as necessary to assist you to carry out any 'permitted purpose' directly (as opposed to enabling others to carry out any permitted purpose).

Permitted purposes are: (a) to evaluate the software under a Trial Licence; (b) to use the software under a 'Full Licence'; (c) to assess and understand the software for the purposes of any audit or compliance check; or (d) for any other purpose permitted in writing by Cybermynd. This Manual may not be reproduced for any other purpose. All other rights reserved.

Historion® is a Registered Trademark of Cybermynd Information Systems Consulting Pty Ltd.

Disclaimer

The Historion® Software is an application that is designed to function as a radiation dose record keeping system to assist in the management of radiation exposure within the workplace.

In addition, the software includes features and functions which can assist users to comply with particular requirements relating to the management of radiation exposure. These requirements may (for example) be mandatory obligations imposed by state or federal legislation or statutory instruments, or may be non-binding recommendations issued by bodies such as ARPANSA or Standards Australia.

We do not guarantee, and do not represent, that use of the software will ensure compliance with all of the requirements as they exist within your jurisdiction. You must exercise your own independent skill and judgment in ensuring that the software is suitable for your needs when used in conjunction with your own systems and processes.

To the maximum extent permitted by law, we exclude and limit our liability to you for any losses caused through your failure to exercise such skill and judgment.

Please refer to the Historion® End User Licence Agreement for more information.

Use of Third-party Trademarks

Any third-party trademarks that may have been used or referenced in this document have been done so in an editorial fashion and are not to the detriment of the trademark holder.



Document Version details						
Author	Rob Brown Senior Consultant, Cybermynd					
Code Release	6.x Series					
Electronic Copy	historion.com.au\usermanual.pdf					
Document Version	v1.0 August 2017					
Feedback to	service@historion.com.au Attention Historion Technical Support Re: Documentation					

Further Information					
Contact	Historion® Sales and Support				
	Cybermynd Information Systems Consulting Pty Ltd				
Telephone	+61 3 9876 0323				
Email	service@historion.com.au				
Web	historion.com.au				



Table of Contents

1	Intr	oduction	5
	1.1	Purpose	5
	1.2	Background	5
	1.3	Acknowledgement	5
2	Doo	cument Conventions	6
	2.1	Typographic	6
	2.2	Content	7
3	Sys	tem Conventions	8
	3.1	Splash Screen	8
	3.2	Historion Ribbon	9
	3.3	Screen Tabs and the Tab Bar	11
	3.4	Standard Controls	12
	3.5	Listing Screens	13
	3.6	Deleting Records	19
	3.7	Detail Screens	19
	3.8	Screen Modes	22
	3.9	Error Handling	23
4	Inst	allation	
	4.1	Overview of Historion Architecture	29
	4.2	Minimum Installation Requirements	
	4.3	Database Setup	
	4.4	Workstation Setup	49
	4.5	Database Connections	50
	4.6	Licence Key File	63
	4.7	Common Issues	64
A	ppendi	x 1 - Quick Reference Guides	67



1 Introduction

1.1 Purpose

The Radiation Safety Officer strives to safeguard people who are occupationally exposed to radiation and members of the public from accidental or incidental exposure. This is achieved through use of appropriate radiation shielding, protective devices, constant monitoring and reporting of exposure levels, observation of best practices and ongoing training of staff in safe and correct procedures. In order to execute their roles properly whilst observing a wide range of legal, regulatory and advisory checks, controls and reporting obligations, Radiation Safety Officers work under pressure with, at times, overwhelming volumes and disparate sources of data.

This role is made significantly more efficient and effective when aided by specialised software with a range of tools, such as tailored exposure detection mechanisms and optimised utilities that assist in managing wearer annual radiation exposure budgets and detailed analysis of dose readings data. Historion was designed by Radiation Safety Officers for use by Radiation Safety Officers. Historion is provider-independent and with a configurable dose schema design will adapt to import dose readings data from a theoretically unlimited number and variety of Dosimetry vendors and sources. With a wide range of additional industry specific utilities Historion is rapidly setting a new standard in data manipulation and convenience tools, evolving into the Radiation Safety Officer's essential toolbox.

1.2 Background

The term Historion is a combination of the words "History" and "ion", meaning "history of ions" or "history of ionising radiation" which describes the software's primary purpose as a record keeping system for dose readings and for reporting exposure to ionising radiation. The Historion logo displays the last three characters of the word ("ion") in a different coloured font, reflecting the different meanings within the word.

The Historion® logo includes a circle that graphically represents a scanning radar "searching for ions". The name Historion for this software was first used by Rob Brown of Cybermynd in 2009 whilst designing and prototyping the first test version of the system (initially as a Microsoft Access database) in close association with and guidance from Zoe Brady of Alfred Health.

Historion® was certified initially in Australia in 2010 (and subsequently internationally) as a Registered Trademark owned by Cybermynd Information Systems Consulting Pty Ltd.

Prototyping and development of the initial Australian release of Historion was undertaken over a six year period with input from ARPANSA, CSIRO, the Victorian Government, Alfred Health, ACT Health and a wider group of prominent Australian hospitals and universities.

1.3 Acknowledgement

Specific acknowledgement is given to Alfred Health in Victoria, Australia, where the founding concepts and industry requirements for Historion were first brought to our attention. In particular we thank Zoe Brady, Certified Medical Physicist Specialist and Radiation Safety Officer at the Alfred Radiology Department for the initial system idea and extensive testing and feedback efforts during many prototyping rounds with our team.

Additional thanks are extended to ACT health, CSIRO, Prince of Wales Hospital, St George Hospital, Bartolo Safety Management and members of the NSW Hospital and University Radiation Safety Officer's Group (HURSOG) for their various suggestions and guidance on improvements to the software on behalf of the radiation safety industry.



2 Document Conventions

2.1 Typographic

The typographic conventions used throughout this manual are explained here.

Convention	Description				
Screen Modes	References to other section of this document use active hyperlinks				
First Name	References to fields on screen are denoted by straight brackets and highlight				
[New <u>C</u> onnection]	References to buttons on screen are within square brackets and greyed				
Edit Classification	References to screen hyperlinks as distinct from active document hyperlinks				
\bigwedge	Important concept or tip for noting, accompanied by navy font for description				
	A feature or setting under consideration or already being developed				
	Green arrows are frequently used to draw attention to a feature or step				
	Red boxes may be used, for emphasis if multiple field changes are needed				
Important	Words underlined are to stress an important fact or differentiation				
Reading Details	Screens in Historion are referred to with their names in title case				
<enter></enter>	Specific keyboard keys to be pressed are denoted by angled brackets				
Table n. Name	Tables are separately numbers and referred to by table number and name				
Figure n. Name	Diagrams and screen pictures and are referred to by figure number and name				
Reserved	Description				
Reserved	Description				
Reserved	Description				
Wearer	References to primary data entities are made in Title Case throughout the document. Examples include Wearer, Dose Report and Dose Reading. All words that appear in Title Case are further defined in the <u>Glossary</u>				

Table 1 Typographic Conventions



2.2 Content

The Historion User Manual documents all features of the software. For each feature the following five main topics are assessed and given consideration, to the extent of the complexity and significance of the feature. Some, all or none of the items below may describe a given feature in the User Manual;

- 1. Background
 - Purpose and Radiation Safety context
 - The RSO's requirement or situation the feature addresses and benefits gained. Some examples include;
 - o Long-term records management of the data items the feature relates to
 - o Speed and convenience in finding specific or specific types of records
 - o Regulatory obligations, guidelines or standards the feature assists in meeting
 - External references where expanding context, origin, or industry significance
 - o Financial savings or cost benefits the feature provides
 - Typical usage scenarios
 - How Historion addresses the requirement or situation for the Radiation Safety Officer.
- 2. Operational instructions and reference
 - How to use the feature
 - Enumerated steps for most common tasks
 - How related data is affected and considerations when making changes
 - How Historion handles deleting the record type involved, its parent or child records
 - Best practices, data naming conventions or standards applicable
- 3. Other design, process or administrative considerations and feature notes
 - Settings, options and adjustable reference lists that populate relevant dropdowns
 - Security or role-based controls or provisions applicable to the feature
 - Process, decision or information flow charts necessitated by complexity where helpful
 - Any limitations of the feature if relevant
 - Known situations to avoid, if applicable
 - IT Department or hosting provider considerations or decisions relative to the feature
- 4. Future changes planned
- Features identified for addition or improvement by Historion development team or customers.
- Additional functions intended already in prototype development, or at workshop stage.
- Additional functions intended for the feature in a future release, for which development partner and wider customer input and commentary are currently being solicited.
- 5. Keyboard shortcuts; special navigation keys or control key options if applicable.



3 System Conventions

Navigation in Historion is via Ribbon Tabs, Menus, Screen Tabs, Hyperlinks and Controls. Historion is a Windows Forms application, with a standard Windows look and feel and controls that are familiar to Windows users and are consistent in their presentation and behaviour. The following System Conventions are employed consistently throughout the Historion software suite.

3.1 Splash Screen

The Historion Splash Screen provides an initial welcome banner briefly shown as the software starts;



Figure 1 Historion Splash screen

Splash Screen Presence and Troubleshooting

The presence of the Historion Splash Screen provides an important diagnostic indicator for support purposes such as troubleshooting implementation issues. Implementation issues such as database connection problem and other environment or network settings can sometimes interfere with start-up of the software.

Handling of these types of circumstances is further described under <u>3.9 Error Handling</u>.



3.2 Historion Ribbon

Ribbon Concept

The ribbon was introduced in the Historion version 6.x genre. The Historion Ribbon provides a professional and modern look and feel to the software and a post 2010 era presentation of the software's features. The Microsoft Office 2013 style has been applied in versions 6.x.

The ribbon provides a tabbed layout that is convenient for inclusion of a lot of features in one place and allows for easy expansion of the software. The ribbon groups related features in a logical manner. People remember visually where items are and will adopt habits for retrieving data quickly and this becomes automatic. The important practice is to not keep repositioning the location of various tools in new versions of the software. Consistent use of the ribbon and retained location of features over time will minimise training requirement for new releases.

The Main Form's ribbon structure follows a tab - panel - feature hierarchy that is represented in the role administration area and corresponds to the ribbon's layout.

Roles allow tabs, panels and features to be visible or hidden according to organisational requirement.



The Recent Items List

The Recent Items List provides a familiar concept that users will be used to in Microsoft Office and similar applications where the file menu or a recent list show the most recently edited items for convenient, fast retrieval. Using the Recent Items List requires a simple selection of the item in the list, in the same way that Users would experience if using recent Microsoft Word or Excel files.



Figure 2 Recent Items List

The following facts about the Recent Items are important to note;

- The Recent Items List was introduced in the version 6.x genre of Historion with the Historion Ribbon. The current Recent Items List is limited to Wearers, Centres, Historion Users and Dose Reports.
- The Items in the Recent Items List are only recorded and shown as Recent Items when a Save action has occurred, either in response to an "add new record" or "save existing record edits" command,
- The Recent Items List has a maximum of 20 items in the current Historion release.
- The Recent items List Is always available, regardless of the currently active ribbon tab.



3.3 Screen Tabs and the Tab Bar

Historion creates Screen Tabs representing open screens in the Tab Bar beneath the Historion Ribbon as screens are opened. Screen tabs are removed from the Tab Bar when screens are closed. When multiple screens are opened and not closed then multiple screen tabs will start to appear in the Tab Bar with one representing each open screen and showing its name in the Tab. This is to allow easy navigation between open screens by clicking the screen tab representing the required screen. Screens can also be closed from the Tab Bar by clicking on the X close symbol on each tab;



Figure 3 Screen Tabs and the Tab Bar

/!`

Screen Tabs in the Tab Bar are temporarily locked while a screen is in edit mode. This is by design and ensures that one screen is in Edit Mode at a time, protecting potentially related data in other screens whilst a record is being updated.



3.4 Standard Controls

Historion uses a set of controls. The most commonly used confirm to a consistent design and form their own graphical communication standard. Their generic functions are described here;

Control	Purpose
⋳	The <u>Home</u> Control Clicking on the Home Control closes the current screen and returns the focus to the Home Tab. Home is not available when a screen is in Edit Mode. This is by design.
Ħ	The Export Control The Export Control appears in Listing screens. The Export Control copies the currently displayed data into a new Microsoft® Excel Workbook. Historion prompts for confirmation of the export before proceeding.
\bigcirc	The <u>Back</u> Control Clicking on the Back Control closes the current screen and displays the previous screen. If no prior screen was open the Historion Home Tab is displayed. The Escape Key (shown on most keyboards as ESC) is an alternative to the Back Control. When screens are closed their Screen Tabs are removed from the Tab Bar.
()+	Add Controls Most Listing Screens provide an Add Control to allow a new record of a given type to be added to the Historion Database. The Add Control opens the Detail Screen for a selected type of record in new record Edit Mode. The artwork for Add Controls is tailored to provide a visual indicator of what will be added.
	Delete Controls Most Listing Screens provide a Delete Control to allow an existing record of a given type to be removed from the Historion Database, subject to record validation checks and subordinate data rules. The artwork for Delete Controls is tailored to provide a visual indicator of what will be deleted.
	The <u>Edit</u> Control The Edit Control places a Detail Screen in Edit Mode. If the Edit Control is hidden using Custom Roles the Save and Cancel controls detailed below will be hidden.
	The <u>Save</u> Control The Save Control runs screen-specific data validation checks and when the validation is passed, commits the new or changed record details to the Historion Database.
9	The <u>Cancel</u> Control The Cancel Control aborts adding a new record or discards changes to an existing record subject to a confirmation prompt. If no field changes have commenced for a new record then Historion will close the screen without prompting.

Table 2 Standard Controls

Each of the above controls, excluding Home and Back can be shown or hidden from users by defining Custom Roles as further described under <u>15.2 Access Rights - Roles</u>



3.5 Listing Screens

Listing Screens are used to display rows of existing records and as selection and navigation aids. Listing Screens allow management of a table or set of common record types in the Historion Database. Working with data in Historion involves navigating between Listing Screens, which display record choices for selection and Detail Screens which are for adding new or making changes to existing records.

Listing screens use some concepts for columns that are similar in nature to Microsoft Excel. Listing screens however are <u>not</u> spreadsheets. They are data grids showing records in a Historion database. Example listing screens include; a list of Equipment, a list of Premises or a list of radiation Safety Training Courses (shown below)

Some Listing Screens allow selection of multiple rows at a time, such as for deleting purposes (using CTL or SHIFT) as further outlined under <u>3.5 Deleting Records</u> below.



Listing Screen Features

Figure 4 Example Listing Screen Showing Common List Controls



Column Sorting

Listing screens are sorted by a default order applicable to the content of the list and can be resorted by any column simply by clicking the column's heading. Click the same column heading a second time to change the direction of the sort order.

Select All Cell

The Select All Cell is available in some Listing Screens. It is the first, blank column header of the data display grid in the screen and is activated simply by clicking on it.



If multi-select is available then the Listing Screen will also support the Select All function. Select all behaves the same way that Microsoft® Excel allows Select All by clicking on the top left cell; all rows in the screen are selected and show as highlighted.

The Select All feature is a time saving option so the user doesn't have to individually select each row. The Dose Reports list screen, accessible from the [Imported] button in the Dosimetry ribbon tab, is an example of a screen where the Select All feature is available.

Column Selector Control

The Column Selector Control is accessed via a small button with icon representing columns that appears at the top right corner of the listing screen, immediately above the vertical scrollbar of the data grid;

			III K	
Campus	Campus Abbreviation	Centre Reporting Label	<u>^</u>	Figure 6 Column Selector

The purpose of the Column Selector Control is to allow customization of the listing screen. Listing Screens in Historion appear with a default set of columns. In some listing screens an extended set of optional additional columns are made available for selection. The RSO may prefer a more limited set of columns than the default or may wish to add more where available.

When the Column Selector control is clicked the Column Selector Menu is shown with three choices;

Select Columns

III

Default Columns

Auto-Size Columns

Figure 7 Column Selector Menu



Hiding and Showing Columns

The Column Selector is activated simply by clicking it. The column selector is available to all users for listing screen customization. Columns are selected or deselected by clicking the Select Columns option and then clicking the tick box in front of the name of the column to include or exclude the column from the current listing screen;



Historion remembers which columns are selected by a specific User for display in a specific Listing Screen. Column selections are saved for each user in the Historion database. This occurs as the Listing Screen is closed. Each user's Listing Screen column selections are stored separately by User and the User's saved column selections are reapplied to the screen each time the screen is opened.

The <u>View></u> column cannot be hidden as this would interfere with normal screen navigation.

Historion Implementation Guide





Re-ordering Columns

Listing screen columns can be relocated to the left or to the right of their default positions. To re-order columns drag the column heading with the left mouse key held down and drop the column heading to the left or right as required. Keep the mouse pointer within the header row while dragging the column; Before

Centre No. Centre			Campus	
After			Ş	}
Campus	Centre No.	Centre		Figure 9 Re-ordering Columns

Historion remembers the column order selected for display in a Listing Screen. The order of the Columns (not Rows) across the screen are retained.

In some more complex listing screens, such as the Duplicates Dose Readings listing screen, which is accessible from the Dosimetry ribbon tab, the first two or three columns are locked. This is so that important record context is not lost when operating the different features in these screens.

Restoring Default Columns

Column preferences for a listing screen can be reset to the system default. This is done via the Default Columns option in the Column Selector menu. Historion prompts for confirmation;

Select Columns	
Default Columns	
Auto-Size Columns	
Please confirm	83
Reset Dose Reports List screen to default columns?	Figure 10 Resetting Columns
Yes No	

Note: restoring columns to defaults replaces the original column selections and Column Order.

/!\



Re-Sizing and Auto-Sizing Columns

Individual columns can be re-sized in listing screens in the same way that columns are resized in Microsoft Excel; by selecting the line between the required column and the column next to it and dragging the column header to the required width;



An automatic sizing feature is also available from the Column Selector;



Figure 12 Auto-sizing all Columns

As its name suggests the auto-size feature expands or contracts column widths to ensure that the data in each column fits neatly and can all be read. The following points explain some additional aspects of the column auto-sizing feature in Historion;

- Listing screens are not continually auto-sized each time they are opened. This is a design
 decision based on system performance and application responsiveness. Larger listing screens
 with many columns and thousands of rows become slower and less responsive if the columns
 are auto-sized each time the list is opened as each cell is checked to ensure its data fits fully
 within the data grid displayed.
- The very first time a listing screen is opened by a user and if the listing screen has data in it, Historion automatically auto-sizes the screen's columns. This provides a good approximate for the column widths for Historion to display thereafter.
- Over time as the data in the list grows the user can elect to use the automatic auto-size feature in the Column Selector to refresh the fit of the data in the listing screen's data grid.
- Auto-sized column widths are saved in Historion for each user and are re-applied each time the listing screen is opened, in the same way that column selections and column orders are saved and as though each column were individual resized by the user.
- Auto-sizing the columns of a list screen does not affect the column selections or the column orders set by the user, it only adjusts the widths of columns already displayed.
- Auto-sizing column widths replaces manually set columns widths.



Record Count Tooltip

Historion includes a record count tool-tip which is displayed when the vertical scroll bar is selected in a listing screen;



The Record Count Tooltip is a convenience feature and is similar to the same feature seen in Microsoft Access sub form lists. A limitation of the record count tooltip is that it only appears when the number of records in the listing screen are sufficient to cause the vertical scrollbar to appear.



post

3.6 Deleting Records

Most Listing Screens provide a Delete Control to allow an existing record of a given type to be removed from the Historion Database. The Delete Control will remove a record shown in a Listing Screen if validated data circumstances and any cascade rules or limitations involving subordinate or associated data allow the record to be deleted. These rules are in place to avoid accidental deleting.

Deleting a record from Historion is subject to <u>two</u> delete confirmation prompts. The first confirmation prompt is displayed prior to validation checks for the delete action taking place. The second confirmation prompt is displayed after validation rules have been checked and is a general confirmation for all delete actions indicating that the delete can now occur as validation rules have been passed.

First confirmation prompt (record type specific);

Please confirm DELETE $ imes$	
Delete this Training Course?	Figure 14 First Delete Confirmation Prior to delete Validation checks
Yes <u>N</u> o	

Second confirmation prompt (only when validation and cascade rules are confirmed, generic prompt);

Confirm		\times	
1	You are about to delete 1 record. If you click Yes, you won't be able to undo this Delete operation. Are you sure you want to delete these records?		Figure 15 Second Delete Confirmation p Validation
	Yes No		

A future Historion System Settings option is under consideration for; turning off the second confirmation prompt system-wide prior to executing record deletes. Historion records are important so record deleting is managed carefully. The default setting would remain two prompts which may be changed at customer discretion.

Some Listing Screens support selection of multiple records at a time for deleting. The Dose Reports List, which is accessed via the imported icon in the Dosimetry Ribbon Tab, is one example.

To select multiple records in a Listing Screen that supports multi-select, hold down the CTL key whilst clicking each required record row to select multiple individual records, or hold down the SHIFT key to select a continuous block of records.

3.7 Detail Screens

-Ò

Detail Screens as their name implies contain the details for a specific, selected entity or record type. For example the screen might be for a specific Historion User, item of Equipment or Dose Reading. Historion Implementation Guide Page 19 of 69



Detail Screens behave differently to Listing Screens as they have a different purpose. Detail Screens are not used for listing, filtering, sorting and exporting data, they are used for adding and editing data.

Detail Screen Features

etail Sci	reen		Editabl	e Reco	rd Fields	edit o	r add n	node)					
	Licensed to 4	\lfred Health - [I	Centre 12341										-
Recent	Dosimetry	y Wearers	Centre	s Protect	ive Devices	Regulated D)evices	Training	Licences	Tools	Reports	Admin	Help
(With the second	Transfer In	mported Se	earch	Customise	Alerts	Gaps	Duplicates	Overlaps	History	,			
÷	Exposure	Data		Notific	tions		Data Qualit	у	Monitor	s			
Home DoseR	eports × Ce	entres × Centre	±1234 ×										^
1234 ACME	E Radiology	_	_										
Centre No	1234	Name	ACME Radio	ogy									
Description	A Centre fo	r Historion testi	ing purposes	- 37									
Report Label	1234 Radio	logy	31-1		Cost Centre	AABB-1122							
Location	Donvale, Vi	ictoria			Campus			-					
					Centre Status	Active		-					
Notes	1 2016				Centre Status	Active		•					
Centre Conta View Co	acts Weare	ers Provider Extension	Details Al	erts	Main Contact	(s) 🔻 Note	s re Contact	Locatio	n Contact		Extension	Email	
View Rol	b Brown	123	rob@histor	ion.com.au	V	Test C	ontact	Donvale	Rob Brov	vn	123	rob@histori	on.co
<u>View</u> Jac	qui Gallagher:	r 456	jacqui@his	torion.com.au		Test C	on	Donvale	Jacqui G	allagher	456	jacqui@hist	orion.c
Home	Export	Delete								7		Edit	Back
ome Co	ontrol	Expor	rt Contr	ol D	elete Co	ontrol	Add	Contro	Ed	it Co	ntrol	Back	Contr

Figure 16 Example Detail Screen (Centre Details)



Detail Screen Features

Detail screens will always have a Back Control and a Home Control. Most Details Screens, but not all, will also have an Edit, Cancel and Save Control. Some Detail Screens display important information that is not meant to be edited or at least not changed in that screen.

Home Control

The Home Control returns the user to the home form tab.

Export Control

The Export Control is not usually present on a Detail Screen, unless the Detail Screen contains lists of subordinate records in Sub Tabs. In the example provided in Figure 15 above, the sub tabs provide lists of subordinate records or enclose additional categories of records beneath the main entity record, in this case the Centre. When present in a Detail Screen the Export Control will export the content of the currently displayed Sub List, such as a list of Centre Contacts in the example provided. The Export Control is unavailable (hidden) when its use is not applicable.

Delete Control

The Delete Control is not usually present on a Detail Screen, unless the Detail Screen contains lists of subordinate records in Sub Tabs. In the example provided in Figure 15 above, the sub tabs provide lists of subordinate records or enclose additional categories of records beneath the main entity record, in this case the Centre. When present in a Detail Screen the Delete Control would be used to delete a selected record within the currently displayed Sub List, such as a selected Centre Contact in the example provided. The Delete Control is unavailable (hidden) when its use is not applicable.

Add Control

The Add Control is not usually present on a Detail Screen, unless the Detail Screen contains lists of subordinate records in Sub Tabs. In the example provided in Figure 15 above, the sub tabs provide lists of subordinate records or enclose additional categories of records beneath the main entity record, in this case the Centre. When present in a Detail Screen the Add Control would be used to create a new record within the currently displayed Sub List, such as a new Centre Contact in the example provided. The Add Control is unavailable (hidden) when its use is not applicable.

Edit, Cancel and Save Controls

Edit, Cancel and Save Controls are present in most Detail Screens. Detail Screens without these Controls typically have a specialized purpose. The Edit, Cancel and Save Controls allow manipulation of the displayed Detail Screen's behaviour and adjustments on its record fields to occur. Screen Modes are further covered in section <u>3.8 Screen Modes</u> below.

Back Control

The Back Control is available in every Historion screen that is not presently in Edit Mode and return the User to the previous screen that was in use.

Specialized Controls

Some Detail Screens, such as the Dose Report Types Screen accessed via the Types icon in the Admin Ribbon Tab, have controls that perform a function unique to the screen and are described in further detail in this manual where applicable.



3.8 Screen Modes

View Mode

Most Historion screens open in View Mode by default. All Listing Screens are shown in View Mode. Detail Screens are shown in view mode when displaying an existing record selected from a Listing Screen. View Mode is a Read Only, no changes allowed, mode of displaying a screen and its data.

Edit Mode

Detail Screens shown in View Mode can be switched to Edit Mode so an existing record can be changed. Switching a Detail Screen to Edit Mode displays the <u>Cancel</u> and <u>Save</u> controls, giving the user the option to keep or discard current modifications. Edit Mode can be allowed or disallowed using Custom Roles as further defined under <u>Access Rights - Roles</u>

A screen in edit mode has all text fields and dropdown fields emphasized with a pale blue colour providing an obvious visual indication that Edit Mode is currently active;

F	Equipment Service	Components Followup	
	Service Reason	~	
	Service Type	~	
	Requested by		Pale blue Edit Mode indicator

Figure 17 Example Screen in Edit Mode

Note that in addition to locking Screen Tabs during edit sessions, an edit session must be completed (by using either <u>Cancel</u> or <u>Save</u> as required) before Historion can be closed.

Add Mode

<

Detail Screens are shown in Add Mode (almost identical to Edit Mode) when a new record of a given type is being created such as when a user has click the Add Control in a Listing screen.

The main difference between Add Mode and Edit Mode is the result; the Historion Database will have a new record inserted as a result of Add Mode whilst Edit Mode changes an existing record that was previously added to the database.



3.9 Error Handling

Start-up and Connection Issues

Understanding the timing of any diagnostic messages displayed, before or after the splash screen, on start-up of Historion helps in resolving setup issues. The Historion Splash Screen is displayed;

- After preliminary network connections and server security permissions have been verified;
- After the software licence key file has been checked;
- Prior to loading the Main Historion screen

If any of the preliminary checks fail then the Splash Screen will <u>not</u> display. If the Splash Screen does not display then Historion should provide an indication as to the problem, error or licence expiry or conflict that is stopping connection to the Historion Server or the Historion Database.

Historion Diagnostic Messages

Software faults can be caused by a range of unexpected scenarios. Server and network outages, over active anti-virus utilities and unhandled data conditions or scenarios can result in a diagnostic message being displayed. The diagnostic message results when Historion cannot complete what it is trying to do.

Depending on the nature of the fault some conditions will require the software to close whilst in other cases the software can continue but has failed to perform part of its task for some reason. As much information as can be known about the reason is displayed in the diagnostic window, to assist with troubleshooting.

At any time that a diagnostic message occurs it is important to note what you were trying to do at the time, with which record or records you were working and the sequence of events. It is always a good idea to exit and restart Historion and to log any faults with Historion Support.

The example diagnostic message below was induced with a deliberately incorrect .ini file setting;



Figure 18 Example Diagnostic Message



Reporting Diagnostic Messages

Depending on the type and context of a software fault Historion will try to provide additional assistance through documentation links and will always display the link to the Historion contact page for further support assistance.

For errors that are of an unexpected nature the diagnostic window may display quite cryptic detail. If Historion can interpret the issue and it is of a known type (as in the example below) then more helpful text and contextual information is deliberately provided. Sometimes the only information available to Historion is reported back from SQL Server, or a local proxy server, network interface or the remote service in the case of online data transfers.

These messages are used by local IT Support and Historion support staff to troubleshoot a problem. Different interfaces and products use a range of codes and error logging messages for diagnostic purposes which will make sense to support staff or programmers. In the event that a diagnostic message is displayed it is important to capture at least the message itself.

Resolving software faults depends heavily on collecting whatever minimal evidence and clues are available at the start of the troubleshooting process. Support staff have little to work with when a report comes in along the lines of "it gave me an error message..."

A right-mouse click menu is available in the text box of the diagnostic message. CTL-C can also be used to copy selected text to the clipboard for emailing to support.



Figure 19 Selecting Diagnostic Message Text (right-click)

Note that if an error happens and the detail is not captured at the time then there is usually a backup copy of the error message retained and available in the Windows Event Viewer as described below under <u>Windows Event Viewer</u>.



The Windows Event Viewer

The Windows Event Viewer is a utility that is installed as part of Windows. The Event Viewer service starts when Windows is started and is constantly recording application, security, hardware and noteworthy software events and errors detected in these areas if they occur.

The Event Viewer can be accessed in multiple ways;

Windows XPSelect Start, Run and in the run box type eventvwr then press <enter>Windows 7Select Start, Run and in the run box type eventvwr then press <enter>

To access the Event Viewer in Windows 8.1, Windows 10, and Windows Server 2012:

- 1. Right click on the Start button and select Control Panel > System & Security and double-click Administrative tools.
- 2. Double-click Event Viewer.
- 3. Select the type of logs that you wish to review (ex: Application, System)

The Event Viewer can also be access from the MS-DOS prompt by typing eventvwr and <enter>, it is available as a Microsoft Management Console (MMC) snap-in and it also usually available through the Control Panel.

Event Viewer allows you to monitor events in your system. It maintains logs about program, security, and system events on your computer. You can use Event Viewer to view and manage the event logs, gather information about hardware and software problems, and monitor Windows security events. The Event Log service starts automatically when you start Windows.

All users can usually view application and system logs. It is possible that an IT Department may have restricted access to the Event Viewer on workstations for non-support staff, which will mean their assistance is required to access the Event Viewer.



More detail is available regarding the event viewer at: https://technet.microsoft.com/en-us/library/bb457163.aspx



Locating Historion Diagnostic Messages in the Event Viewer

Diagnostic messages or errors that Historion encounters are typically logged in the Windows Logs, Application Logs area of the Event Viewer. After starting the Windows Event Viewer using one of the methods outline above, look for a Source in the source column called "HISTORION".

The Event Viewer columns can be sorted by clicking on the required column heading, such as the Source column heading, then the list can be scrolled alphabetically by source.

(
🛃 Event Viewer							
<u>File Action View H</u> elp							
(= =) 🖄 🖬 🚺 🖬							
🛃 Event Viewer (Local)	Application Nu	mber of events: 34,424 (!) Ne	w events available				Actions
D Custom Views	Land	Deterord Time	Course	Europh ID	Tech Colores		Application
Vindows Logs	Level	Date and Time	Source	Event ID	Task Category	_	- Onen Smuddlan
Application	1 Information	14/06/2017 9:41:22 AM	MSSQLSERVER	18456	Logon		Open Saved Log
Security	Error	14/06/2017 9:41:26 AM	HISTORION	0	None		Y Create Custom View
Setup	Warning	14/06/2017 10:59:19 AM	Search	3036	Gatherer		Import Custom View
System	1 Information	14/06/2017 11:04:50 AM	MSSQL\$SQLEXPRESS2014	3402	Server		Clearlog
Forwarded Events	1 Information	14/06/2017 11:04:50 AM	MSSQL\$SQLEXPRESS2014	17137	Server		
Applications and Services Logs	1 Information	14/06/2017 11:04:51 AM	MSSQL\$SQLEXPRESS2014	18267	Backup		Filter Current Log
Subscriptions	1 Information	14/06/2017 11:04:51 AM	MSSQL\$SQLEXPRESS2014	3014	Backup		Properties
	1 Information	14/06/2017 11:04:51 AM	MSSQL\$SQLEXPRESS2014	17137	Server		🙀 Find
	(1) Information	14/06/2017 11:04:51 AM	MSSQL\$SQLEXPRESS2014	4356	Backup		E Save All Events As
	(1) Information	14/06/2017 11:14:56 AM	MSSQL\$SQLEXPRESS2014	18456	Logon		Bave All Events As
	(i) Information	14/06/2017 11:15:18 AM	MSSQL\$SQLEXPRESS2014	18456	Logon		Attach a Task To this Log
	(i) Information	14/06/2017 11:31:23 AM	Office Software Protecti	900	None		View 🕨
	(i) Information	14/06/2017 11:31:24 AM	Office Software Protecti	1003	None		O Refrech
	(i) Information	14/06/2017 11:31:24 AM	Office Software Protecti	902	None		
	(i) Information	14/06/2017 11:31:24 AM	Office Software Protecti	1066	None		🛛 Help 🕨 🕨
	(i) Information	14/06/2017 11:36:24 AM	Office Software Protecti	903	None		Event 0. HISTORION
	(1) Information	14/06/2017 1:29:23 PM	MSSQL\$SQLEXPRESS2014	18456	Logon		Event Descention
	(i) Information	14/06/2017 1:30:58 PM	MSSQL\$SQLEXPRESS2014	18456	Logon		Event Properties
	 Information 	14/06/2017 1:31:08 PM	MSSQL\$SQLEXPRESS2014	18456	Logon		Attach Task To This Event
	 Information 	14/06/2017 1:34:00 PM	MSSQL\$SQLEXPRESS2014	18456	Logon		E Copy ►
	 Information 	14/06/2017 1:34:37 PM	MSSQL\$SQLEXPRESS2014	18456	Logon		Save Selected Events
	 Information 	14/06/2017 1:36:04 PM	MSSQL\$SQLEXPRESS2014	18456	Logon		
	 Information 	14/06/2017 1:36:33 PM	MSSQL\$SQLEXPRESS2014	18456	Logon		Q Refresh
	 Information 	14/06/2017 1:37:49 PM	MSSQL\$SQLEXPRESS2014	18456	Logon		👔 Help 🕨 🕨
	 Information 	14/06/2017 1:38:26 PM	MSSQL\$SQLEXPRESS2014	18456	Logon		-
	 Information 	14/06/2017 1:39:10 PM	MSSQL\$SQLEXPRESS2014	18456	Logon		
	Information	14/06/2017 1:40:43 PM	MSSQL\$SQLEXPRESS2014	18456	Logon		
						*	

Figure 20 Windows Event Viewer Showing HISTORION Diagnostic Log

To open the details of the Diagnostic Message or Windows Application Event as it is known in the Event Viewer double-click the event in the list.

The Event Properties Window is displayed as described below.



Event Properties Window

The Event Properties Window includes a General tab with a summary of the Diagnostic Message and a Details tab where extensive diagnostic information about the event is usually available. Selecting the [Copy] button copies the full detail of the event to the clipboard where it can be pasted into Notepad or sent via email to local IT support or Historion support. This is shown in Figure 20 below.

eneral Details]
[Exception Messa clsTblUser::Select Cannot open data Login failed for us [Source] DataLayer	ge] One::Error occured. abase "Historion_" requested ser 'OPTIMUS\Rob'.	by the login. The l	ogin failed.	* 	
Log Na <u>m</u> e:	Application				
Source:	HISTORION	Logge <u>d</u> :	14/06/2017 9:41:26 AM		
Event ID:	0	Task Categor <u>y</u> :	None		
Level:	Error	Keywords:	Classic		
<u>U</u> ser:	N/A	Compute <u>r</u> :	OPTIMUS		
<u>O</u> pCode:					
More Information:	Event Log Online Help				
					1
Copy				C	lose

Figure 21 Diagnostic Event Properties Window in the Event Viewer



Figure 22 Detailed Diagnostic information copied from the Event Viewer to Notepad



Instances where Diagnostic Detail is not available

Some fault circumstances do not allow software an opportunity to log a Diagnostic Message or error cause. An example is a local power outage or pulling the power cable out of the back of a workstation without cleanly shutting the computer down. There may be System logs from Windows in the Event Viewer indicating that Windows was shut down in an unexpected manner, logged by Windows itself, but if Historion is running at the time this occurs it will have no opportunity to record a diagnostic message of any type.

There are some other types of errors that can cause an unhandled fault where the software cannot issue a Diagnostic Message for Windows to record in the Event Viewer. Hardware (in particular memory) faults on the workstation are another example of this. Typically Historion Diagnostic Messages, especially for known event types will be recorded in the Event Viewer.

The Event Viewer is a good place to look (sort by the Source column) to see a collection of messages in the event where there is a repeated fault or suspected theme to logged events over a period of time.



4 Installation

4.1 Overview of Historion Architecture

Historion's architecture is optimized for;

- Ease and simplicity of deployment (imperative in Government, Hospital and University sites)
- Data security and integrity
- Performance and responsiveness
- Utility and integration with desktop tools

Historion is implemented as a basic SQL Client- Server model;



Figure 23 Historion basic Workstation - SQL Server architecture

Salient facts relative to Historion's architecture include;

- There is no additional service between the Historion client and the database server
- A direct connection to the Database Server is required for the software to operate. This requires that a port such as the SQL Server port 1433 is available and not Firewall blocked.
- Customers have a choice of Active Directory (integrated) or direct (SQL) security
- The workstation software is provide as one executable file, there is no install kit
- The workstation software requires a licence key .DAT file to operate beyond a 30-day trial
- There are two choices for Historion workstation connections; Registry Settings or INI File
- Advanced deployment alternatives (Citrix Winframe, App V, shared drive etc.) can be used



4.2 Minimum Installation Requirements

Historion's minimum installation requirements include;

Database Server

Historion uses Microsoft SQL Server, instead of a desktop database technology, for storing radiation dose records. This decision was made, importantly, for the security of radiation dose readings data and for performance and load reasons. Some installations have hundreds of thousands of readings.

Sizing

- Microsoft® SQL Server 2008 R2 or higher
- Minimum 1 GB memory for SQL Server (higher preferred if available)
- Minimum 1 GB HD Space (higher preferred if available)

Historion's starting database size is 129.1 MB Historion's starting log size is 32.2 MB

Versions

As at the version 6.x genre of Historion SQL Versions 2008 to 2016 have been tested and all versions within this range are in operation at different customer sites.

Workstation

- Windows 7 or higher
- Microsoft Office 2010 or higher

The version 6.x (and prior) genre of Historion may continue to operate on Windows XP with Office 2003 however this setup is not supported. Whilst Historion may run on Windows XP it is important to note that Microsoft has expired support for Windows XP on the 8th of April 2014 as publicly advised at; https://www.microsoft.com/en-us/WindowsForBusiness/end-of-xp-support

The .NET 3.5 Framework Service Pack 1 must be installed if running Historion on Windows XP

For further details regarding minimum system requirements and any updates to this information that may be needed from time to time please see: <u>https://historion.com.au/system-requirements</u>



4.3 Database Setup

Please note that the intended audience of this section of the Historion User Manual includes;

- ✓ IT Department staff involved in networks and SQL database administration
- ✓ Power Users with SQL Server and Database training and experience

Undertaking the steps described in this section will require

- ✓ Correctly functioning Windows Server and SQL Server environments
- ✓ Appropriate administrative permissions, group membership etc. of the above

Please further note that for the 5.x and 6.x genre of Historion versions Historion database scripts and backup files are only available on request from Historion support at: <u>www.historion.com.au\contact-us</u>

Typical SQL Setup Process

The SQL Database Setup process often requires tailoring to a specific IT Department's requirements. The usual process used for database setup for Historion trials or production deployment is described in this section of the Historion User Manual and is based on the following steps further detailed below;

- 1. Decide whether Active Directory (integrated) or SQL (direct) Security will be used
- 2. Establish initial (founding) Historion Administrator(s)
- 3. Provide Historion Support with required SQL Server version details
- 4. Either a database creation script or SQL backup for restore will be provided
- 5. Implement the Historion SQL Database on the required SQL Server
- 6. Adjust security settings for SQL database
- 7. Implement Client Connections



1. Decide whether Active Directory (integrated) or SQL (direct) Security will be used

This is a decision that a local IT Department would make. The most common implementation mode used by Historion customers is Active Directory (integrated) security.

The Windows Active Directory is a security architecture option for Windows Server based networks. Active Directory security provides central authentication and authorization services for Windows based computers. It also enables Network Administrators to assign policies, deploy software, and apply critical updates within an organization. When a user attempts to log on to a Windows computer that is on a Windows Active Directory Domain.

With Active Directory security Windows automatically attempts to verify a user's password with the Active Directory (which resides on a separate central authentication server). SQL Server databases can leverage an existing Active Directory security regime in a login mode known as integrated authentication. If Active Directory is used;

- A single password to the network (the Windows logon) is sufficient to access both the workstation and Historion, no second password is needed to run the application.
- Access to the Historion database is governed by membership of an Active Directory Group that is managed by the IT Department.

SQL Security or 'direct' security involves logging into the database itself as a process independent of logging in to the Windows workstation. If SQL Security is used;

- A separate logon, in addition to logging into Windows will be required, with a separate SQL database username and password.
- Access to the Historion database will be manually maintained by an SQL server database administrator user in addition to normal Windows network access.



Active Directory (integrated) security is more convenient for Help Desk workers to manage. When a new Historion User required access the Help Desk simply adds the new worker's account to the Historion Group and the Historion Admin user (the main RSO) adds the new User details in Historion. With Active Directory a separate SQL account setup is not needed.



2. Establish initial (founding) Historion Administrator(s)

We recommend Historion customers have two Historion Administrator Users. One is for contingency. An IT Department individual is a suggestion for a second or fall back Historion Administrator.

Founding Historion Administrators are added to Historion at the SQL Server Database Table level. This can be done by Historion Support and included in the Historion database create script or backup file for restoring on SQL Server, or the founding Administrators can be added to the required Historion SQL Server Database Tables after the database is setup by local IT Support.

If Historion Support is to include founding Administrators in the script or backup that creates the Historion Database then we must be sent the full name and Windows User ID of each Administrator.

After a founding Historion Administrator has been added, that User can log in with their Administrator permissions and add other users to Historion using purpose built screens and prompts in the software.

The process below is required to establish (or re-establish) a founding Historion Administrator if there are no Historion Users added to the database yet, or no user accounts with Administrator permissions.

After the required Historion SQL Database has been installed;

- 1. Setup security as described under Adjust security settings for Historion SQL database
- 2. Open the Historion Database table tblUser
- 3. Add a new entry for the required Historion Administrator Account with values as shown below;

Field	Value
UserID	The Windows User ID of the User. This is required even if SQL (direct) Security is being used. Historion Roles and Security use Windows User IDs. Required.
FullName	Required.
Email	Optional. Recommended.
IsActive	True . Required. If not set to True the User will not be able to log into Historion.
RoleID	Set to 2 . Required. Will be deprecated in future release, is in support of 5.x genre.
SiteID	Leave as NULL. Will be deprecated in future release, is in support of 5.x genre.
SQLUserName	The Windows User ID of the User if Active Directory (integrated) SQL Security. The SQL Database Login if SQL (direct) Security is being used. Historion Roles and Security use SQLUserName in association with Windows User IDs. Required.
All other fields	Leave as NULL, other Landauer fields are set as needed in Historion screens.

Table 3 tblUser entries for new Historion Administrator User



- 4. Open the Historion Database table tblHxSetup
- 5. Add a new entry for the required Historion Administrator Account with values as shown below;

Field	Value		
HxSetupID	Leave blank. This is field is auto-populated.		
UserID	Must match UserID previously added to tblUser.		
CentreInternalID	Leave as NULL.		
AllCentres	True. Required. If not set to True User will not access all data.		
BusinessUnitID	Leave as NULL.		
AllBusinessUnits	True. Required. If not set to True User will not access all data.		
WearerInternalID	Leave as NULL.		
AllWearers	True. Required. If not set to True User will not access all data.		
HxRoleID	Set to 1. Required. Specifies User's Role as a Historion Administrator		
StartDate	Leave as NULL. Used for a User Role to commencing in the future.		
EndDate	Leave as NULL. Used for setting a User Role to cease in the future.		
AddedBy	Windows User ID or Name of SQL Admin adding tblHxSetup tab row		
AddedDateTime	Current Date SQL table reverse format: e.g. 2016-11-05 if 5 th Nov 16		
LastUpdatedBy	Windows User ID or Name of SQL Admin adding tblHxSetup tab row		
LastUpdatedDateTime	Current Date SQL table reverse format: e.g. 2016-11-05 if 5 th Nov 16		

Table 4 tblHxSetup entries for new Historion Administrator User

Once Historion Founding Administrators are added and Workstation Setup completed other users can be added using the normal Historion User Administration process.



3. Provide Historion Support with required SQL Server details

SQL Server Version

If Historion Support are providing either an SQL database creation script or an SQL database backup file for restoration, we will need to know the version of SQL Server that the new Historion Database will be hosted on.

The version 5.x and 6.x genres of Historion have been tested and are deployed by our customers on; Current service packs and update releases (32-bit and 64-bit versions) as at time of publication of;

- ✓ SQL Server 2008 R2
- ✓ SQL Server 2012
- ✓ SQL Server 2014
- ✓ SQL Server 2016

Historion Support is constantly testing Historion on new and emerging SQL Server Versions, Service Packs, patch releases and updates. We recommend ensuring the latest service packs are applied to SQL Server. More information is available on the Microsoft® SQL Server web site at www.microsoft.com/sql

Cloud Hosting if Required

The Historion Database can be hosted in the cloud, provided port 1433 is opened on the local router for outgoing internet traffic to the cloud host and database. A future release will provide an additional webbased service so that the Internet port 80 can be used instead. Historion's parent company Cybermynd Pty Ltd is a Microsoft® Azure Cloud Agent and can provide administrative services accordingly.

In Australia the Australian Signals Directorate (ASD) has recognised Microsoft Azure as a certified and Government approved Cloud Computing Provider. For further details refer to the ASD article at; www.asd.gov.au/infosec/irap/certified_clouds

Microsoft® Azure is available on the Eastern side of Australia in secure data centres in Sydney and Melbourne. Alternative cloud arrangements are possible, please contact Historion Support for details; www.historion.com.au/contact-us



4. Either a database creation script or SQL backup for restore will be provided

Starting Historion Database Name

Historion Support and Local IT Support will need to know the starting database name.

The name of the database is not limited to any specific name, other than SQL Server Database naming conventions or Local It Department standards. Further, Historion licencing does not restrict the number of SQL Databases the organisation can elect to use.

We recommend at least three SQL databases be considered for each Historion customer deployment;

Examples names:

Historion Database	Purpose
Historion_Trial	Historion Database used, not necessarily to be kept, during 30-day trial
Historion_Pilot	Historion Database used, possibly to be kept, during Historion approved pilot
Historion_Live	Historion Database used for production Radiation Safety Data
Historion_Production	Historion Database alternative to Historion_Live for live Radiation Safety Data
Historion_Training	Historion Database reserved for training not using live Radiation Safety Data
Historion_Test	Historion Database reserved for testing new releases typically a copy of live

Table 5 Example Historion Database Names

Sizing and Settings Requirements

Depending on implementation size and complexity we may also seek to confirm database starting requirements and any specialized configuration requirements including but not limited to;

- ✓ Starting database size
- ✓ Starting log size
- ✓ Any other preferred local settings if specified



Please note that for the 5.x and 6.x genre of Historion versions Historion database creation scripts and backup files are only available on request from Historion support at: www.historion.com.au/contact-us



5. Implement the Historion SQL Database on the required SQL Server

This chapter of the Historion User Manual assumes that an SQL Server environment is already in place and that access to skills and support required to create or restore SQL databases are available. Specific details relative to Active Directory Group SQL accounts and permissions are provide in the following section 6 of this chapter for assisting IT Departments with this aspect of deployment.

Express editions for Microsoft SQL Server can be downloaded from the Microsoft web site for free. Historion supports Express editions of SQL Server however there are limitations to SQL Server Express editions that implementers should be aware of.

Limitations differ according to the version of Microsoft SQL Express used. Examples (this information is subject to change) can include;

- × Maximum memory utilized by SQL Server Database Engine is 1GB
- × Maximum size of the each relational database is 10 GB.
- × No SQL Profiler
- × Dedicated admin connection under trace flag.
- × Single CPU (prior to 2008 R2 Express)
- × Depending on SQL Express versions, setup and operating system there can be limitations on numbers of user connections that can be active concurrently

Microsoft SQL Server Express downloads are available at: www.microsoft.com/en-us/sql-server/

A good comparison of SQL Express Editions and the limitations is available at: www.fmsinc.com/microsoftaccess/sqlserverupsizing/express/index.html



6. Adjust security settings for Historion SQL database

In order to operate Historion, users must have EXECUTE permissions on Historion's SQL Stored Procedures (SPROCS) and SELECT permissions on its Tables and Views. Once this is provided there is an application-based layer of security that regulates access to various software features within the Historion application itself.

The require SQL permissions are met by either establishing the user as a database owner (dbo - in most settings this is too high a level of permission and not appropriate) or by assigning the user membership of the SQL database role Historion_Role. The user's SQL login can be assigned directly to the Historion_Role or an Active Directory Group containing required users can be assigned instead.

The following example provides a basic overview of assigning access to the Historion_Role via an Active Directory Group, in a small Active Directory setting. This is a simple example only to highlight the concept of Group membership minimally achieving the security permissions assignment required to operate Historion in an Active Directory setting.

The example does not recommend a specific Active Directory setup or configuration type nor does it address the practice of creating domain local resource groups and catalogue global user groups and binding the two groups in Active Directory per Microsoft best practices and industry adopted methods.



Active Directory Group

If Active Directory (integrated) security is used a Group must be created for the Historion Users that will be using the software. The name of the Group and the name of the Historion database are not restricted however the following SQL security steps occur. In Windows Server Active Directory Management a Group must be created and Users assigned. A basic example is shown below;

Computers		
File Action View Help		
(= =) 🎢 📰 🔏 📋 🗶 🖬 🗛 📾		
Active Directory Users and Computers Active Directory Users and Computers Builtin Computers Domain Controllers Managed Service Accounts Users	Name Administrator Administrator Allowed RODC Password Replication Bob S. Rahul Domain Admins Domain Computers Domain Controllers Domain Guests Domain Users Enterprise Admins Guest Istorion_Users RAS and IAS Servers Read-only Domain Controllers Rob C. Brown Ted N. Agis	Type User User User User Security Group - Domain Local User Security Group - Global Security Group - Global Security Group - Global Security Group - Global Security Group - Universal User Security Group - Domain Loca Security Group - Domain Loca Security Group - Global User User User
istorion_Users Properties	<u>? ×</u>	
General Members Member Of Managed By Members: Arry E. Carol Active Directory Domain Service Amy E. Carol devteam.cybermynd.com/Users Bob S. Rahul devteam.cybermynd.com/Users Ted N. Agis devteam.cybermynd.com/Users	s Folder The nar example that foll requires	he Historion_Users is an e only, this can be any name ows Active Director naming ments or local standards
OK Canc	el <u>A</u> pply	

Figure 24 Active Directory Group for Historion Users



Active Directory Group Login

If Active Directory (integrated) security will be used then an SQL <u>Login</u> for the Active Directory <u>Group</u> containing the intended Historion Users must be created. Create a new Login by selecting the Group;

🖃 🚞 Security	
	New Login
<u>a</u>	Filter
<u>A</u>	
	Start PowerShell
2	Reports +
<u>a</u>	Befresh
Login - New	
Select a page	Script - 📑 Help
Server Roles	Login name:
Securables	Windows authentication
Status	C SQL Server authentication
	Password: Select User or Group
	Confirm par Select this object type:
	Specify User or Built-in security principal Object Types
	Old pas From this location:
	Enforce Entire Directory
	Enter the object name to select (<u>examples</u>):
	Check Names
	C Mapped to
	Map to Cre Advanced
Connection	Mapped Cr
Server: WS200864\SQL2008R2)
Connection: DEVTEAM\Administrator	Object Types
View connection property	Select the types of objects you want to find.
Drogeroup	Object types:
All Ready	Built in security principals
	OK Cancel

Figure 25 Prepare Search for Historion Active Directory Group

The Search Object Types to find must include <u>Groups</u> otherwise only Users will be selectable.

/!`



Type in the name of the Active Directory Group that the Historion Users will use in the Object Name box and select Check Names. If a Group is found it is underlined per the Historion_Users group below. Note that Group will be included in object types to check if the preceding step was executed;

Select User or Group		? ×	
Select this object type:			
User, Group, or Built-in security principal	C	bject Types	
From this location:			
Entire Directory		Locations	
Enter the object name to select (<u>examples</u>): Historion Users		Check Names	
Advanced	ОК	Cancel	

Select OK then change the Default Database to the required Historion Database;

Login - New				<u> </u>
Select a page	🔄 Script 👻 📑 Help			
≝ General Server Roles	Login name:	DEVTEAM\Historion_Use	rs	Search
Securables	 Windows authentication 			
Status	C SQL Server authentication			
	Password:			
	Confirm password:			
	Specify old password			
	Old password.			
	Enforce password polic	У		
	Enforce password expir	ation		
	User must change pass	word at next login		
	Mapped to certificate		*	
	O Mapped to asymmetric key		<u>~</u>	
	Map to Credential		<u> </u>	Add
Connection	Mapped Credentials	Credential	Provider	
Server: WS200864\SQL2008R2				
Connection: DEVTEAM\Administrator				
Wew connection properties				
Progress				Remove
Ready	Default database:	Historion	•	
Walter.	Default language:	<default></default>	•	
			ОК	Cancel

Figure 26 Historion Group and Default Database selected



Select [OK] and confirm that the new Login for the required Active Directory Group was created;

The new Login should appear now appear in the Logins list preceded by the Active Directory Domain;

E 🦲 Security	/ ins
<u>a</u> <u>a</u>	DEVTEAM\Administrator NT AUTHORITY\SYSTEM sa
<u>*</u>	DEVTEAM Historion_Users

The new Login icon should appear as a Group icon. Open the new Login from the list again then;

- Select User Mapping from the top left panel then;
- Map the Historion database to the new Active Directory Group Login in the top right panel
- Select the Historion_Role membership in the lower right panel then select [OK]

Login Properties - DEVTEAM	\Historion	_Users		_ <u>_</u> _ ×
Select a page		+ 🖪 Help		
🚰 General				
Server Poles	Users ma	apped to this login:		
User Mapping	Мар	Database	User	Default Schema
Status		Historion	DEVTEAM\Historion	n Users
		master		
		model		
		msdb		
		tempdb		
	Database	t account enabled for: e role membership for:	Historion Historion	
Connection	db_a	ccessadmin		
Server:		ackupoperator atareader		
W 5200864 \ 5QL2008H2	db_d	atawriter		
Connection: DEVTEAM\Administrator		dladmin		
View connection properties		enydatawriter		
The connection properties		wner		
Progress	db_s	ecurityadmin		
Dest.				
Ready				
				OK Groat

Figure 27 Historion Group Database User Mapping and Role membership



Confirmation of Active Directory Group Addition to Database Security

If the preceding steps have been done correctly the applicable security nodes in SQL Management Studio emphasized below should have values corresponding to the name you nominated for your Historion database and the name used for your Historion Active Directory users Group;



Figure 28 Historion Database, Active Directory Group Login and Database User Setup Confirmed

The next step is to proceed to and complete Historion Role Permission Assignment.



SQL (Direct) Security Login

The following steps are required to add a new Historion User without Active Directory Group membership and only use SQL (direct) security. Add an SQL Login for the new user, complete required details and select the required Historion database as the default. The Login name does not need to match the Windows Username. Ensure SQL Server authentication (not Windows) is selected;

2	New Login		This example is of a new SQL User with
<u>a</u> .	Filter	• 15	the name Bob Rahul, username RahulE
	Start PowerShell		
2	Reports	•	
2.	Refresh		

Login - New			
Select a page	Script - 📑 Help		
Server Roles	Login name:	RahulB	Search
Securables	Windows authentication SQL Server authentication]	
	Password: Confirm password:	•••••	
	Specify old password Old password:		
	Enforce password polic	y ation	
	User must change pass Mapped to certificate	word at next login	V
	Mapped to asymmetric key		Add
Connection	Mapped Credentials	Credential Provider	
Server: WS200864\SQL2008R2			
Connection: DEVTEAM\Administrator			
View connection properties			
Progress			Remove
Ready	Default database:	Historion	
-419-	Default language:	<default></default>	
			OK Cancel

Figure 29 New SQL (direct) database security account



Select [OK] then confirm that the new Login has been added to the list of Logins;



The new Login should appear in the list with a <u>User</u> icon. Open the Login from the list again then;

- Select User Mapping from the top left panel.
- Map the Historion database to the new Login for the SQL (direct) user account top right panel.
- Select the Historion_Role membership in the lower right panel then select OK.

Palastan					
select a page	Script	🕶 🚺 Help			
General					
Server Holes	Users mapped to this login:				
Securables	Man	Database	User	Default Schema	1
Status		Historion	RahulB		
		master		<u></u>	
		model			
		msdb			
		tempdb			
	☐ Gues Database	t account enabled for: e role membership for:	Historion Historion		
Connection	Database	t account enabled for: e role membership for: ccessadmin	Historion Historion		
Connection Server:	Database	t account enabled for: e role membership for: ccessadmin ackupoperator atareader	Historion Historion		
onnection Server: WS200864\SQL2008R2	Database	t account enabled for: e role membership for: ccessadmin ackupoperator atareader atawriter	Historion Historion		
Connection Server: WS200864\SQL2008R2 Connection: DEVTEAM\Administrator	Database	t account enabled for: e role membership for: ccessadmin ackupoperator atareader atawriter dladmin	Historion Historion		
Connection Server: WS200864\SQL2008R2 Connection: DEVTEAM\Administrator	Database	t account enabled for: e role membership for: ccessadmin ackupoperator atareader atawriter dladmin enydatareader envdatawriter	Historion Historion		
Server: WS200864\SQL2008R2 Connection: DEVTEAM\Administrator	Database	t account enabled for: ccessadmin ackupoperator atareader atawriter dladmin enydatareader enydatawriter wner	Historion Historion		
Connection Server: WS200864\SQL2008R2 Connection: DEVTEAM\Administrator IV View connection properties	Database Database db_a db_b db_d db_d db_d db_d db_d db_d db_d db_d	t account enabled for: ccessadmin ackupoperator atareader atawriter dladmin enydatareader enydatawriter wner eowthedmin	Historion Historion		
Connection Server: WS200864\SQL2008R2 Connection: DEVTEAM\Administrator IVIEW connection properties View connection properties	Database Database db_a db_b db_d	t account enabled for: ccessadmin ackupoperator atareader atawriter dladmin enydatareader enydatareader enydatawriter wner courtyadmin rION_Role	Historion Historion		

Figure 30 new SQL (direct) Database User Account Mapping and Role membership



Confirmation of SQL (direct) Security

If the preceding steps have been done correctly the applicable security nodes in SQL Management Studio emphasized below should have values corresponding to the name you nominated for your Historion database and the name used for the new SQL (direct) Security User Account;

🖃 🚞 Databases
🖃 间 Historion
😥 🚞 Database Diagrams
🕀 🚞 Tables
🕀 🚞 Views
🕀 🚞 Synonyms
🕀 🚞 Programmability
🕀 🚞 Service Broker
🕀 🚞 Storage
🖃 🚞 Security
🖃 🚞 Users
🛄 dbo
🕵 RahulB
🧟 sys
🕀 🚞 Roles
🕀 🚞 Schemas
🕀 🚞 Asymmetric Keys
🕀 🚞 Certificates
💮 🕀 📄 Symmetric Keys
🗉 🔰 LEGRAND ROB
🗄 🔰 PROJCOST
🖃 🚞 Security
🖃 🚞 Logins
🚑 sa
🤱 RahulB

Figure 31 Historion Database, SQL (direct) Security Login and Database User Setup Confirmed

The next step is to proceed to and complete Historion Role Permission Assignment.



Historion_Role Permission Assignment

Historion requires that the SQL Database Role Historion_Role has a standard set of permissions assigned to it which accord members access, in a safe manner, to allow appropriate record actions; SELECT, DELETE and INSERT to be performed on applicable data.

The Historion_Role needs at least Stored Proc Execute and Table Select access. There are also some custom SQL Types used by Historion that require specific permissions to be set.

The Historion database provides procedures that assign the required permissions to the SQL Database Role: Historion_Role. The procedures can be executed as a new script in SQL Management Studio by executing the commands exactly as follows or by downloading and running the permissions assignment script from one of the links below.



These are time saving commands for assigning applicable permissions without having to manually select and set permissions against hundreds of individual SPROCS, tables and views. Running the permission assignment commands also negates risk of human error.

```
HistorionPermissions.sql - ...))
--Update permissions
dbo.spGrantExectoAllStoredProcs HistorION_Role
G0
dbo.spGrantExectoAllTables HistorION_Role
G0
dbo.spGrantExectoAllViews HistorION_Role
G0
GRANT REFERENCES ON TYPE::dbo.DoseReportReadingOverlapType TO Historion_Role
G0
GRANT EXECUTE ON TYPE::dbo.DoseReportReadingOverlapType TO Historion_Role
G0
```

Figure 32 Permission Assignment Commands for Historion Database affecting Historion_Role only

The above Historion Permissions script can be typed in or is available more conveniently in three different formats (.txt, .sql and .zip) from the following three different locations;

Historion	https://www.historion.com.au/uploads/HistorionPermissions.txt
Drop Box	https://www.dropbox.com/s/bo215u22q3wdyk4/HistorionPermissions.sql?dl=0
Cybermynd	http://www.cybermynd.com.au\HistorionPermissions.zip



7. Implement Client Connections

Implementing Client Connections is part of the Workstation Implementation process.

It is important for the Client Connection string to correctly specify whether a trusted connection is used, in the case of SQL Server setup with Windows Active Directory (integrated) security or if an untrusted connection is used in the case of SQL (direct) Login security.

The connection string must end in **Trusted_Connection=True** for Active Directory integrated security The connection string must end in **Trustet_Connection =False** for SQL (direct) security logins;

🔄 historion.ini - Notepad
<u>File Edit Format V</u> iew <u>H</u> elp
connection=Data Source=DEVSQL;Initial Catalog=HISTORION_TEST;Trusted_Connection=True ;connection=Data Source=PRODSQL;Initial Catalog=HISTORION_PROD;Trusted_Connection=True ;connection=Data Source=TRAINSQL;Initial Catalog=HISTORION_TRAINING;Trusted_Connection=True
Replace DEVSQL with the name of your SQL Server Repalce HISTORION_TEST with the name of your Historion database
; Connection String format is:
; connection=Data Source=SQLSERVERNAME\INSTANCENAME;Initial Catalog=DATABASENAME;Trusted_Connection=True
; lines commented out with a semicolon ";" character are ignored ; the first non-commented connection string listed is used ; switched between connection string by adding or removing the ";" comment character

Figure 33 the historion.ini connection settings file



4.4 Workstation Setup

Please note that for the 5.x and 6.x genre of Historion versions the latest Historion executable is only available on request from Historion support at: <u>www.historion.com.au\contact-us</u>

The Historion setup process is deliberately simplified. Historion Radiation Safety customers are found amongst IT environments that typically include Government, University and Hospital types of settings which have unpredictable combinations, not in any order or weighting, of;

- Amongst the most restrictive IT environments imaginable
- Highly custom Windows network security settings and desktop policies
- A requirement to provide distributed desktop tools over wide network areas
- Custom or very advanced tools and scripts for software deployment resulting from the above
- Outdated, antiquated workstations still running Windows XP that are retained for supporting specialised software on which it would be helpful if new software will still operate

The setup process for Historion Workstations is;

- 1. Obtain the latest Historion.exe executable. A downloadable link will be provided on request;
- 2. Obtain a historion.dat licence key file. A licence key file is required for use beyond 30 day trial;
- 3. Create a folder in Windows for the Historion.exe program file and historion.dat licence file and copy the Historion.exe and historion.dat files to this location. Example locations include:

Historion Folder Example	Note/Example of use
C:\Historion\	Many organisations will not permit a C:\ drive root level folder
C:\Data\Historion\	Not uncommon in Government sites, read-writable local folder
C:\Program Files(x86)\Historion\	Often used if auto deployed. Windows permissions needed
H:\My Files\Historion\	User's home (H) drive on a Windows File Server read/write
U:\Shared Files\Historion\	Writable shared folder location
S:\Group Apps\Historion\	Read-only shared folder location such as for Citrix deployment

Table 6 Examples of Historion deployment folders

- 4. Create a shortcut to the Historion.exe program file on the Windows Desktop for the user.
- 5. Implement the connection to the Historion database as <u>either</u> a Windows Registry stored setting using the Historion dbConnct.exe utility or as an INI file based connection as further described under 4.5 Database Connections.



4.5 Database Connections

Historion Database Connections are created by either a Windows Registry stored connection or a historion.ini file. In both cases a file is required to be downloaded to setup the connection. This is typically a once-off process unless setting up a new Workstation or changing connections.

The Historion dbConnect.exe connection utility is available for download (zipped) at:

Historion (.zip)	https://historion.com.au/uploads/dbconnect.zip
Dropbox (.zip)	https://www.dropbox.com/s/pjjweokm03e4ht9/dbconnect.zip?dl=0
Cybermynd (.zip)	www.cybermynd.com.au\historion\connect\dbconnect.zip
An example Historion IN	Il with commented lines for instruction is available at:
Historion (.ini)	https://historion.com.au/uploads/historion.ini
Historion (.txt)	https://historion.com.au/uploads/historion.txt
Dropbox (.ini)	https://www.dropbox.com/s/of2ktn3sn3hnmy4/historion.ini?dl=0
Cybermynd (.zip)	http://www.cybermynd.com.au\historion\ini\historion.zip

 \triangle

Please note that multiple download locations and file types are provided due to some Historion customer environment restrictions and downloading difficulties - to allow options and every opportunity for these files to be downloaded. If downloading the historion.txt text file ensure that the file extension is renamed to **.ini** A file named historion.txt will be ignored.

For connection specifics please see the following;

- Creating Historion Windows Registry connections, using the dbConnect utility as described further under <u>Creating Historion Connections in the Windows Registry with dbConnect</u>
- Creating Historion INI file based connections, using a historion.ini file as described further under the section <u>Creating Historion Connections using a historion.ini file</u>
- Combinations of dbConnect and historion.ini files and options and their ramifications as further described under the section <u>Historion Database Connection Combinations</u>



Creating Historion Connections in the Windows Registry with dbConnect

The dbConnect.exe application, downloadable from any of the three locations specified in the preceding section on <u>Database Connections</u> requires write access to a section of the Windows Registry normally allowed for commercial software. In order for this to succeed the currently logged in Windows User must either; be logged in with Local Administrator rights to the Windows Workstation or run the application dbConnect.exe with elevated permissions.

To run with elevated permissions, right-click the dbConnect.exe file and select "Run as administrator";

🔍 dh Canadatana		
abConnect.exe		0
historion.dat		Open
A Historion.exe	9	Run as administrator
•		

If local administrator rights are not current a login will be required as shown below.

Note that the Program Name should be "HISTORION Connection Tool" and the Verified Publisher should display Historion's parent company "Cybermynd Information Systems Consulting Pty Ltd" as shown below. Cybermynd will always use recognised code signing techniques. If these details are not present select No and contact Local or Historion Support.

🌏 User Account	Control			×
Do you want to allow the following program to make changes to this computer?				
8	Program name: Verified publisher: File origin:	HISTORION Co CYBERMYND CONSULTING Hard drive on th	nnection Tool INFORMATION FPTY LTD his computer	SYSTEMS
To continue, typ	e an administrator p	password, and t	hen dick Yes.	
	DEVTEAM\Ca	arolAmyE		
	Use another	account		
Show deta	ils		Yes	No

Figure 34 Elevated Permissions Required for Historion Connection Tool dbConnect.exe

Sign in with elevated permissions and the Historion Connection Tool is available as follows;



The Historion Connection Tool

Historion Datab	oases		
Connection T	lool		HISTORION [®]
Database List	Setup a Local SQL Server Hel	p	
Database	▲ Server	Status	New <u>C</u> onnection
			Connection Settings
			Test ALL
			Remove Connection
			Exit

Figure 35 the Historion Connection Tool

Note: if the [New <u>Connection</u>] button is not enabled, elevated permissions are not active. Refer to the previous page for an explanation of the elevated permissions requirement. Select [New <u>Connection</u>];

<u>'</u>!\

🗞 New Connection 🛛 💌
Select SQL Server:
▼ <u>R</u> efresh
Log on to the server
Use <u>Windows</u> Authentication
Use SQL Authentication
User name:
Password:
HISTORION Database:
Cancel Test Connection Save Connection

A Tip! It is faster to type in the SQL Server name if the name is known than to use the dropdown list. The dropdown list browses the network for existing servers available and this can be time consuming

Figure 36 New Connection Details



Complete the Connection Details and select Save Connection. A Windows Authentication (integrated) security example is shown below;

😵 New Connection	
Select SQL Server: OPTIMUS\SQLEXPRESS2014	
Log on to the server Image: Signal Authentication Use Signal Authentication User name: Password:	Figure 37 Windows Active Directory (integrated) Connection example
HISTORION Database: HISTORION_PROD Cancel Test Connection Save Connection	

The new Connection will show in the list. Select the Connection, then [Test Connection] or [Test ALL] The Status of the connection will show next to it. A failed connection will show Cannot Connect.

Historion Datab	oases		
Connection T	ool		HISTORION [®]
Database List	Setup a Local SQL Server H	elp	
Database	▲ Server	Status	New Connection
HISTORION_	PROD OPTIMUS\SQLEXPR	ESS2014 OK	
			Connection Settings
			Test ALL
			Remove Connection
			Exit Historion

Figure 38 New Connection with OK Status



If more than one connection is present Historion will use the first OK status Connection. Select a successful connection and "is the default connection" [] tick box if multiple Connection are present.

🗞 Historion Data	bases				—
Connection 1 Database List	Tool Setup a	Local SQL Server	Help		HISTORION [®]
Database HISTORION	_DEMO	Server OPTIMUS		Status OK (Default)	New <u>C</u> onnection
HISTORION	_PROD	OP TIMUS\SQLEXP	PRESS2014		Connection <u>Settings</u> <u>Test Connection</u> <u>Remove Connection</u>
HISTORION_D	EMO on C	PTIMUS is the defa	ult connection	V	Exit <u>H</u> istorion

The selected default connection will display OK (Default) next to it.

Figure 39 New Connection with OK Status

The following points are important to note;

- When a connection is selected as the default Historion tests the connection to confirm that it works. A connection that presently doesn't work will not be allowed to be set to the default.
- The [Test ALL] feature is available when no Connections are selected
- The [Test Connection] feature is available when a specific Connection is selected
- Testing multiple connections as the same time with the [Test ALL] can take some time to process especially if one or more connections fail.
- Login Credentials (usernames and passwords) are <u>not</u> stored for either type of Connection.



Updating and Testing a Connection

To change a Historion Connection select it from the list of Connections then [Connection Settings] After changing settings for a Connection use the [Test Connection] function within the Connection dialog to ensure that the Connection works;

😵 New Connection	×			
Select SQL Server:				
OPTIMUS\SQLEXPRESS2014				
l og op to the server				
		Fi	gure 40 Test, Diagnose l	Jpdate
Use <u>Windows</u> Authentication		Co	onnection Details	
Use SQL Authentication				
User name:			Connection updated	-X -
Password:				
HISTORION Database:	_			updated
HISTORION_PROD				
	<u> </u>		(m	
<u>Cancel</u> <u>lest Connection</u> <u>Save</u>	Connection			OK
		1		
SQL Connection Test Outcome	SQL Conne	ection Test O	utcome 🛛 💌	
Test Connection Failed.		Test Conner	tion Succeeded	
Result:		rest connec	alon succeded.	
Login failed for user				
			UK	
ОК				

Record required changes and select [Test Connection]. If the Connection test is successful select the [Save Connection] button.

 \triangle

The main list of Connections in the Historion Connection Tool only show pass or fail outcomes for connections. Available diagnostic detail is available if the [Test Connection] feature is used within the Connection settings dialogue as shown above.



Removing a Connection

When a Connection is removed (by selecting the Connection and [Remove Connection] the Historion Connection Tool prompts for confirmation with the following message;

Please con	firm connection removal
2	Please confirm you wish to remove your connection to: The [HISTORION_DEMO] database on the [OPTIMUS] server NB: This does NOT remove the database itself. Only your connection (link) to the database is removed. Proceed?
	Yes No

Figure 41 Remove Connection Confirmation Prompt

Connection Tool Tabs

The Setup a Local SQL Server tab contains a link to download Microsoft® SQL Server 2014 Express

😼 Historion Databases	—
Connection Tool	HISTORION [®]
Database List Setup a Local SQL Server Help	
Download Microsoft SQL Server Express	

The Help tab contains a link to the Historion web site Contact us page.

🐁 Historion Datab	oases		×
Connection T	ool	HISTORION [®]	
Database List	Setup a Local SQL Server Help		
<u>Contact</u>	HISTORION Support	Connection Tool Version: 3.0.0.7	





Historion Connections and the Windows Registry

The Connections added by the Historion Connection Tool are added to a section of the Windows Registry commonly available to commercial software for storing settings.

The information in this section of the manual is provided for IT Departments who may want to deploy Historion connection settings using Microsoft® App V, Windows Group policies or similar Registry distribution technology.

The Windows Registry location used to specify the Default Connection is; HKEY_LOCAL_MACHINE\SOFTWARE\Cybermynd\Historion\

A branch beneath this location is used to store details of all available connections including default; HKEY_LOCAL_MACHINE\SOFTWARE\Cybermynd\Historion**Connections**

Note that if the workstation has a combination of 32 and 64 bit hardware and software the Windows Registry location used by commercial software may be virtualised and Connections will instead appear under:

HKEY_LOCAL_MACHINE\SOFTWARE**Wow6432Node**\Cybermynd\Historion\Connections The following points relative to Historion Connections are important;

- No Username or Passwords are stored by Historion in the Windows Registry, for either Connection type including SQL (direct) Login security.
- The Connection settings in the Windows Registry are bypassed and <u>ignored</u> if a historion.ini file is present in the same folder as the Historion.exe program file.



Example Windows Registry Connection Values

The following example Connections were created to demonstrate Windows Registry values. Note that the Historion_Train Connection is an SQL (direct) Login connection type - no credentials are stored;

Historion Data	oases					
Connection T	ool					HISTOR ION®
Database List	Setup a Loc	al SQL Server	Help			
Database		Server		Status		New <u>C</u> onnection
HISTORION_ HISTORION_	DEMO PILOT	OP TIMUS IRONHIDE		(Default)		Connection Settings
HISTORION_	PROD	MEGATRON				Test Connection
Historion_Tra	in TRIAL	OPTIMUS\SQ RATCHET	LEXPRESS2014			<u>Remove Connection</u>
Make Historion_	_Train on OP1	TIMUS\SQLEXP	RESS2014 the (default connection 🔲	E E	it <u>H</u> istorion

Figure 44 Example Connections

The default connection;

💣 R	Registry Editor				- • •
File	Edit View Favorites Help				
	Cybermynd	*	Name	Data	
	Historion		ab) (Default)	(value not set)	
	Connections		ab DefaultConnection	Data Source=OPTIMUS;Initial Catalog=HISTORION_DEMO;Integrated Security=True	
			ab DefaultDatabase	HISTORION_DEMO	

All connections created in the Connection Tool, note SQL (direct) login connection no credentials

📸 Registry Editor			
File Edit View Favorites Help			
Classes Clients Clients Cybermynd Google Google Google Hewlett-Packard	Name (Default) HISTORION_DEMO20170910163239 HISTORION_PILOT20170910163411 HISTORION_PROD20170910163334 HISTORION_PROD20170910164517 HISTORION_TRIAL20170910163501	Data (value not set) Data Source=OPTIMUS;Initial Catalog=HISTORION_DEMO;Ir Data Source=IRONHIDE;Initial Catalog=HISTORION_PILOT;Ir Data Source=MEGATRON;Initial Catalog=HISTORION_PROD Data Source=OPTIMUS\SQLEXPRESS2014;Initial Catalog=HIS Data Source=RATCHET;Initial Catalog=HISTORION_TRIAL;In	itegrated Security=True itegrated Security=True Integrated Security=True torion_TrainIntegrated Security=False tegrated Security=True
Computer\HKEY_LOCAL_MACHINE\SOF	TWARE\Wow6432Node\Cybermynd\Histo	rion\Connections	h

Figure 44 Historion Connections Stored in the Windows Registry



Creating Historion Connections using a historion.ini File

If a historion.ini file will be used it must be located in the <u>same folder</u> as the Historion.exe program file. If a historion.ini file is used and can be edited by users then they will be able to change the default Historion database connection that the historion.ini file specified by editing the text in the file.

If a historion.ini file is used and it has a valid connection then any connections stored in the Windows Registry previously recorded by the dbConnect utility (or deployed to the Windows Registry via other means) will be ignored in favour of the hitorion.ini file settings.

An example historion.ini can be downloaded as described in <u>Workstations Setup Step 5</u> other a new historion.ini file can be created by typing the following text in a new text file in Notepad and saving the new text file with the name historion.ini

connection=Data Source=DEVSQL;Initial Catalog=HISTORION TEST;Trusted Connection=True

There are two important changes that will need to be made to the above connection string or its equivalent in the first line of a downloaded historion.ini example file;

- Change the DEVSQL text to the name of your SQL Server that is hosting Historion (If your SQL Server has an instance name the format is SERVERNAME\INSTANCENAME).
- Change the HISTORION_TEST text to the name of your Historion database (unless your database is actually called HISTORION_TEST in which case keep it).

The downloadable .ini file example uses additional, commented, text lines beginning with a semicolon character to guide use of the historion.ini file.



Figure 45 the example historion.ini file contents

Please note that the end of the live connection string must match the security mode used;

The connection string must end in Trusted_Connection=True for Active Directory integrated security

The connection string must end in Trustet_Connection =False for SQL (direct) security logins;



Historion Database Connection Scenarios

Scenario One: (Typical Setup) Adjustable Windows Registry Stored Connection Mode

<u>File Edit View Tools H</u> elp		
Organize 👻 Include in library 👻 S	nare with 👻 Play all 🛛 Burn 📰 👻	-
Computer Computer System (C:) Program Files Program Files (x86) Users Windows	SubConnect.exe historion.dat Historion.exe	

Figure 46 Windows Registry Stored Connection Mode only

The above example would require connections to be created in the Windows Registry using the Historion Connection Tool dbConnect.exe. This is evident because a historion.ini file is not present.

Scenario Two: INI File Connection Mode

<u>File Edit View T</u> ools <u>H</u> elp		
Organize 👻 Include in library 👻 S	are with 👻 Play all Burn 🎼	- 🗊 6
Computer Computer System (C:) Program Files Program Files (x86) Users Windows	historion.dat Historion.exe	

Figure 47 historion.ini Connection Mode Only

The above example would require connections to be specified in the historion.ini file only. There may have been Historion connections created in the Windows Registry previously but Historion will ignore these when a historion.ini file is present.

Historion Implementation Guide



Scenario Three: Restricted Windows Registry Connection Mode



Figure 48 Restricted Windows Connection Mode

The above example would require that Windows Registry Connection details have already been created or deployed to the workstation as part of a controlled Connection regime during the login process, otherwise Historion will be unable to connect in the absence of either type of connection.

Scenario Four: Mixed Connection Modes

<u>F</u> ile <u>E</u> dit ⊻iew <u>T</u> ools <u>H</u> elp		
Organize 👻 Include in library 👻 S	hare with 👻 Play all 🛛 Burn 🛛 🔠 💌 [1 6
System (C:) Program Files Program Files (x86) Users Windows	 dbConnect.exe historion.dat Historion.exe historion.ini 	

Figure 49 Mixed Connection Modes will use historion.ini

The above example would require connections to be specified in the historion.ini file only. There may have been Historion connections created in the Windows Registry previously but Historion will ignore these when a historion.ini file is present.



Advanced Setup Options

IT Departments use a variety of means for deploying Historion to their User Workstations. Some of these methods include;

Shared Drive

A Shared Drive can be used to run the software from a central point. This is not necessarily an optimal mode of execution from a performance perspective but it will work if setup and managed correctly. The setup needs to take into consideration the two different Historion Connection types and how these would be best applied to a group of people if the same executable is shared. A read only historion.ini might be considered for Shared Drive use.

Multiple Historion customers use a Shared Drive deployment method.

Citrix Winframe, XenApp, Terminal Services

A server-side setup used can be used to run the software from a central point. This is potentially an optimal mode of execution from a performance perspective.

The setup needs to take into consideration the two different Historion Connection types and how these would be best applied to a group of people if the same executable is shared. A read only historion.ini might be considered for centralised use. Consideration of how user remote profiles are setup and affected by the Connection Types is important.

Multiple Historion customers use a Citrix Winframe type of deployment technology.

Microsoft App V

Microsoft App v has been used for Historion deployment by Customers operating the 5.x and 6.x genre versions of Historion with success.

The setup needs to take into consideration the two different Historion Connection types and how these would be best applied to individuals receiving streaming applications.



4.6 Licence Key File

The Historion Licence Key file is required to operate the software beyond a 30-day trial. Historion Licence key files are provided to Historion customers on renewal of the software licence for an agreed period of one or more years in duration.

The Licence Key File tells Historion;

- Who the software is licenced to
- The Historion implementation (customer) number
- The maximum number of Wearers allowed for import during each 12 month period
- When the implementation licence next expires

The Licence Key file is provided by Historion Support to the main contact and system administrator of Historion for each implementation (customer).

When the Licence Key File is updated for anew licence period <u>all</u> locations of the Historion.exe program file that are in use will need to have their historion.dat licence key file replaced.



Figure 50 Historion Program Folder Showing Licence Key File



4.7 Common Issues

Active Directory Update Delay

After requesting an Active Directory Group or Group Membership, it can take a surprisingly long time for the Group name to be available in the Select Objects list if within a large complex network. The Login for a Group must be created by selecting the Group when it becomes available.

Incorrect Account Assignment

The Database User account created for the Historion_Users group must be cross-mapped correctly to an actual SQL Server Group login. Admins sometimes separately create a database account for the group instead of allowing the database user for the group to be automatically created through the AD object selection function described above. Don't do this.

Workstation Connection Issues

Connection issues can occur from the desktop workstation to the server due to a range of issues. When the Historion.exe workstation software cannot find the database or it is blocked from reaching or logging in to the database then the following message is displayed;



Figure 51 typical General Connection error, cannot log in to SQL server

General connection issues described by the above message will occur if;

- × The User is not a member of the required Active Directory Group and a trusted connection is specified at the end of the active connection string in if the Historion.ini file is being used.
- × A software or hardware firewall is preventing connection via the default SQL Server port 1433.
- × The database doesn't existing or the name is incorrectly specified in the Historion.ini file
- × The server doesn't exist or the name of the server is incorrectly specified in Historion.ini
- × The SQL Server does not allow remote TCP/IP connections
- × There is a network DNS or name resolution type of issue outside of Historion control



Permission Assignment Missing

Historion requires that the SQL Database Role Historion_Role has a standard set of permissions assigned to it which accord members access, in a safe manner, to allow appropriate record actions; SELECT, DELETE and INSERT to be performed on applicable data.

Permission Assignment can be affected if the Historion database is created from a restore, if the Historion_Role is removed and re-added and if permissions are manually, incorrectly adjusted against the SQL Database Role Historion_Role. The error message below is a classic indication of this issue and will happen on start-up of if Historion_Role permissions have not be been assigned.



It should always be OK to re-run the Historion permissions assignment script described above under Historion_Role permission assignment. This is recommended after database changes or moving a database. The permission assignment commands are included at the bottom of all Historion Database Update Scripts released.



Figure 51 Historion_Role permissions not assigned

No Dose Records Display, Data not Visible

This most commonly happens what there is a mismatch between the Historion username details recorded in tbIUser and tbIHxSetup or an incorrect SQL Username is specified.

Check the Historion User account setup in System Admin. If Active Directory (integrated) security is used the Windows Username and SQL username fields should be the same.

If your security mode has switched from integrated to direct security, or the reverse, or your database is being moved to or back out from cloud storage, then new user accounts may be needed, contact Historion support for assistance before attempting to rectify this.



New User not yet added to Historion by Historion Admin

If the Historion database can be reached, permissions on the Historion_Role are not a factor as described above and the message below occurs, it is because the user has not yet been added to the list of users within Historion itself. See Appendix 1 below.

The diagnostic message described below caters for a new installation where the initial or founding admin accounts for Historion have not been added and are needed in the tables described in the message, or - a user wishing to user Historion has not yet been added to the list by the Historion Admin in an existing Historion implementation.

Windows user account not known	×
Windows User [RahulsSBob] has not been added to Historion.	
Please contact your administrator to be added to the Historion user list. If setting up Historion for local use you must have an entry for your Windows Username in [tblUser] and [tblHxSetup].	
This is not an SQL connection error.	
ОК	

Figure 52 Common message displayed; new user not added by Historion Admin yet



Appendix 1 – Quick Reference Guides

Adding new Users (Historion Admin)

Step	Task Description	Task Icon
1	Obtain the new Users full name and Windows Network Login ID Contact your <u>IT Department</u> and request that the user with given details be placed in your Historion Active Directory (network) group Users cannot login without membership of this group. Active Directory Group for IT Requests:	n/a
2	Open the Admin Ribbon Tab	Admin
3	Click the Users icon to display the current list of Users in Historion	(a) Users
4	Click the Add User icon, lower right corner of the Users list page	
5	Complete all User Details fields shown, only email is non mandatoryUser ID SQL Login Name EmailThe windows username used to log onto the network Unless advised otherwise this is same as the User ID The full name of the new User The email address of the new User (not mandatory)	Data Fields
	You must tick the [] User is Active box for the user to log in	User is Active
6	Click the Save icon, lower right corner of the User Details page	Save
7	Click the Assign Role icon, lower right corner of the User Details page At least one Role must be assigned before a User can log in	Assign Role
8	Select the Role, Centre and Business Unit as required then Save Do not select the Wearer Role unless granted a single wearer access to their own Dose Reports history in Historion.	Save
\checkmark	Task completed	Finished!



Checking Historion Version Details

Step	Task Description	Task Icon
1	Open the Help Ribbon Tab	Help
2	Click the About icon to display the About Summary dialogue	(i) About
3	Historion or IT support will occasionally need to know these details:	About Connected Server Connected Database Software Version Database Update
	HISTORION®	



Generating Exit Letters

Step	Task Description	Task Icon
1	Open the Wearers Ribbon Tab	Wearers
2	Click the Search binoculars icon to display the Wearer Search page	(P) Search
3	Search Criteria Wearer Fr Fred Smith Start typing the Wearer's name in the Wearer Dropdown then select the required Wearer when their name appears and click Search	<u>S</u> earch
4	Click the View link next to the Wearer's name in the Search Results	View
5	Click the Letter icon - lower left centre of the Wearer Details page	Letter
7	Click the Letter icon (shown below) to create the letter.	Letter
\checkmark	Task completed	Finished!