



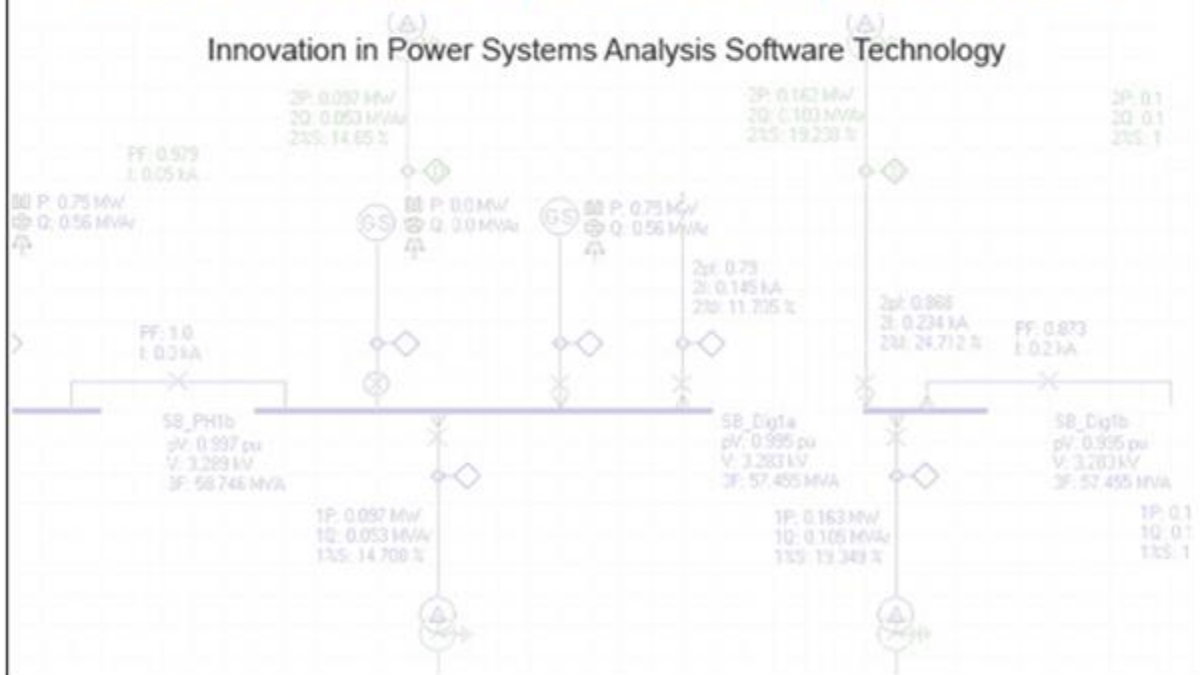
## Web Access Security Solution Guide



# ERACS

## Electrical Power Systems Analysis Software

Innovation in Power Systems Analysis Software Technology



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## Abbreviations List

HTTP	HyperText Transfer Protocol
CD	Compact Disc
EWAM	ERACS Web Access Manager

## **1. Introducing the ERACS Web Access security solution**

### **1.1 What is the ERACS Web Access security solution?**

The ERACS Web Access security solution is a software-based alternative to the traditional hardware security keys employed by ERACS to prevent unauthorised use of the software. This facility enables ERACS to obtain its licence from our ERACS Web Server via the Internet.

### **1.2 What are the hardware/software requirements?**

In order to make use of the ERACS Web Access security solution, the following items are required:

- An installation of ERACS
- An Internet connection and stable Internet access
- A firewall exception for ERACS.exe

### **1.3 How does it work?**

The ERACS Web Access facility uses remote procedure calls to communicate with our ERACS Web Server. ERACS initiates an HTTP request to establish a connection to the ERACS Web Server. If a proxy server is being utilised for company Internet traffic, the proxy server settings will be automatically detected and the HTTP request will be made via the proxy server. Otherwise, a direct Internet connection is assumed.

The ERACS Web Server waits for an HTTP request to arrive. Upon receiving the request, the ERACS Web Server processes it and sends an appropriate HTTP response back to ERACS. Authorisation to use ERACS is granted via this request/response communication between ERACS and the ERACS Web Server. This communication occurs at regular time intervals.

Sometimes, ERACS is unable to communicate with the ERACS Web Server and we have found that this is normally due to firewall restrictions, where ERACS is prevented from communicating with the external ERACS Web Server. In order to enable ERACS to access our Web Server, ERACS must be included in the list of firewall exceptions.

All ERACS communications with the ERACS Web Server are transmitted using the HTTP Secure (HTTPS) protocol, which ensures data is encrypted and therefore protected against eavesdropping and tampering.

## 2. Configuring ERACS to use the Web Access security solution

### 2.1 New ERACS Installations

After selecting the "Install ERACS" option from the ERACS CD Browser (which should automatically appear on inserting an ERACS CD, or can be manually launched by opening <CD-drive>:\autorun.exe, or by opening the same file contained within a downloaded eracs\_<version>.zip file), ERACS will be installed. Subsequently, the Security Key Configuration window should automatically appear, as in Figure 1.

From the Security Key Configuration window:

- Select the "Web Access" option
- Click the OK button



Figure 1: ERACS Security Key Configuration window



## 2.2 Existing ERACS Installations

From *ERACS*:

- From the "Tools" menu, select the "Program Options..." menu item to launch the Options window, as in Figure 2.
- From the Options window, select the "Security" tab
- Select the "Web Access" option
- Click the OK button

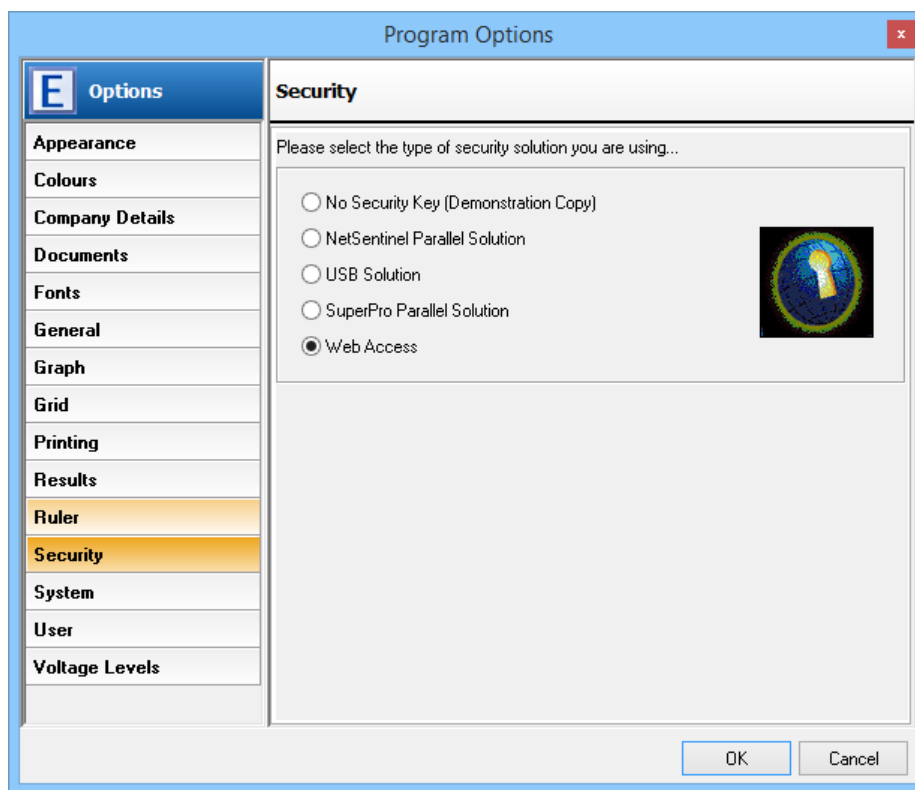


Figure 2: ERACS Options window

Alternatively, from Windows Explorer/My Computer:

- Navigate to the ERACS installation folder (typically C:\Program Files\ERACS\)
- Open the "Utils" subfolder
- Launch the "DongleConfig.exe" application and the Security Key Configuration window should appear, as in Figure 1.
- Select the "Web Access" option
- Click the OK button

### 3. Using ERACS via the Web Access security solution

#### 3.1 Logging into ERACS using a Web User Licence

Having configured ERACS to use the Web Access security solution, a login prompt will be presented to the user when launching ERACS, as in Figure 3. The login credentials supplied by the ERACS Team should be entered in the "Username" and "Password" fields, before clicking the "Login" button to initiate a session with the ERACS Web Server. If the ERACS Web Server recognises the login credentials as valid, appropriate permission will be granted to use the ERACS facilities associated with that particular web user licence.



Figure 3: ERACS Login window

#### 3.2 Unlocking a Web User Licence

If you wish to employ your Web User Licence on a different computer (on which ERACS is installed), you will need to select "Unlock Web User Licence" from the Tools menu within ERACS instead of exiting ERACS normally. Alternatively, you can configure the licence to be automatically unlocked each time ERACS is closed (see section 4.5 for further information).

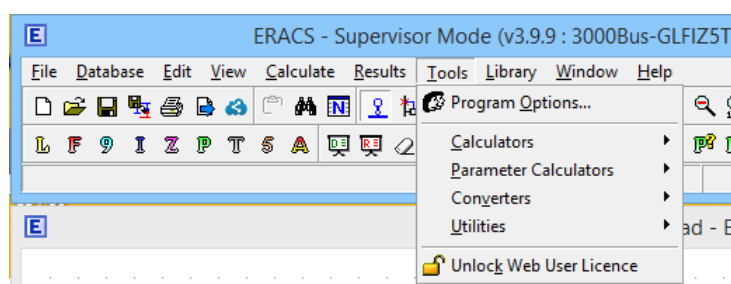


Figure 4: ERACS Unlock Web User Licence menu item

## 4. Managing multiple ERACS Web User Licences

### 4.1 What is the ERACS Web Access Manager (EWAM)?

The ERACS Web Access Manager (EWAM) is a dedicated web-based application for managing ERACS Web User Licences. EWAM enables you to:

- View all Web User Licences available to your company/institution (including information such as "Date Last Used", "Licence Locked to a PC" and "Licence in Use") – see section 4.4 for more information.
- Edit individual web user licence information (such as Username, Password and Access Level) – see section 4.5 for more information.
- Unlock individual Web User Licences – see section 4.6 for more information.
- Unlock all Web User Licences simultaneously – see section 4.7 for more information.
- View licence usage statistics – see section 4.8 for more information.

### 4.2 How do I access it?

Using a web browser (such as Internet Explorer), enter the following address in the address bar: <https://ewam.eracs.co.uk/> and the EWAM Login page will be displayed, as in Figure 5.

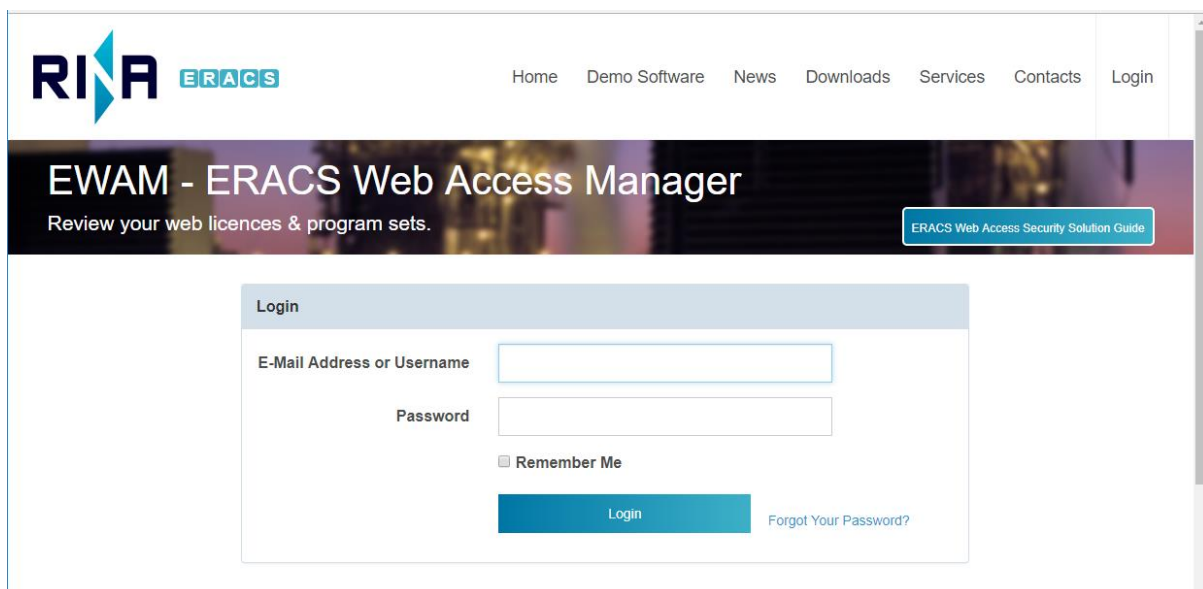


Figure 5: EWAM Login page

### 4.3 Logging into EWAM

When the ERACS Team have authorised you to use EWAM, you will receive an email containing EWAM login credentials. Those credentials can be entered in the “Username” and “Password” fields of the EWAM Login page (Figure 5), before clicking the “Login” button. If the login credentials are recognised as valid, the program sets associated with your account will be displayed, as in Figure 6.

Type here to quickly filter listings

#### Staff Off-Site

Company: RINA - ERACS Team  
 Calculation Modules: Loadflow, Fault, IEC509, Protection, Injection, Impedance, Transient, ArcFlash  
 Program Size: 3000Bus  
 Program Type: Time-Unlimited  
 Usage Statistics: Show

#### Web User Licences

Username	Password	Email	Access Level	Shareable	Auto Unlock	Licence Locked To PC	Licence In Use	Date Last Used	Action
admin@rinaltd.com	*****	admin@rinaltd.com	User	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No	No	07 May 2020	<a href="#">Edit</a> <a href="#">Share</a>
supervisor@rinaltd.com	*****	supervisor@rinaltd.com	Supervisor	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No	No	11 Jun 2020	<a href="#">Edit</a> <a href="#">Share</a>
supervisor@rinaltd.com	*****	supervisor@rinaltd.com	Supervisor	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No	No	29 Apr 2020	<a href="#">Edit</a> <a href="#">Share</a>

Figure 6: EWAM Program Sets page

### 4.4 Viewing Web User Licences

The Program Sets page shows the program sets and associated Web User Licences available to your company, as in Figure 6. A *program set* is a collection of ERACS feature information common to a number of Web User Licences. A Web User Licence can only be associated with one program set.

The details of each program set precede the table of Web User Licences which belong to it.

**Web Program Information** - This section contains read-only information about the program set the licences are associated with and includes: a description as the heading, the company the program set belongs to, the available ERACS calculation modules, the maximum number of busbars which can be added to an ERACS single-line diagram, whether the program set is time-locked (together with corresponding program set start and end dates) or time-unlimited, and licence usage statistics (see section 4.8).

The details of each Web User Licence will be displayed in a single row of a table comprising the following columns:

**Username** - This column displays the username which is used in the ERACS Login window (Figure 3) and is editable in EWAM.

**Password** - This column displays the password which is used in the ERACS Login window (Figure 3) and is editable in EWAM.

**Email** - This column displays the email which is associated with this account and is editable in EWAM.

**Access Level** - This column displays the access level which dictates the facilities and level of control available to a user within ERACS. Access Level is editable in EWAM and can be set to: Supervisor, Operator, User, Student or None (see the ERACS User Guide for a description of the Access Level).

**Date Start** - This column displays the *date from* which this licence can be used to access ERACS, but is only displayed if the associated program set is time-locked. If no Start Date has been entered for the particular licence, the start date of the program set will be checked instead when a user logs into ERACS.

**Date End** - This column displays the *date until* which this licence can be used to access ERACS, but is only displayed if the associated program set is time-locked. If no End Date has been entered for the particular licence, the end date of the program set will be checked instead when a user logs into ERACS.

**Shareable** - This column indicates whether the licence can be utilised by a different licence within the same program set, should that different licence already be in use. By enabling this option, one can create a pool of licences which can be shared across that particular program set.

For example, if the Shareable field is set to "Yes" for both "user1" and "user2" licences, and "user2" attempts to login but finds their licence is already in use, the ERACS Web Server will see that "user2" is a Shareable licence and will look for another Shareable licence within the program set which is not in use and, if found, will automatically utilise that available licence.

**Auto Unlock** - This column indicates whether the licence will be automatically unlocked from a computer when a user closes ERACS.

**Licence Locked To PC** - This column indicates whether the licence is currently locked to a particular computer.

**Licence In Use** - This column indicates whether the licence is currently being used within ERACS. A value of "Lost Connection" is displayed when communication has abnormally ceased between ERACS and the ERACS Web Server.

**Date Last Used** - This column displays the date and exact time that ERACS last communicated with the ERACS Web Server, for the particular licence. Hover over the date to see the time portion as well.

**Action** - This column comprises two clickable icons. If the licence is not in use, it may be unlocked from a particular computer by clicking the *padlock* icon. The licence details may be edited by clicking the *pencil* icon. In the final row of the table, all not-in-use licences (corresponding to one program set) may be unlocked by clicking the corresponding *padlock* icon. See the subsequent sections for further details of these actions.

## 4.5 Editing a Web User Licence

To edit a Web User Licence, click the *pencil* icon in the Action column of the Web User Licences table. This will unlock the row for editing, as in Figure 7.

- Two new icons will be displayed; clicking the first icon (green) confirms changes to any edited information, clicking the second icon (orange) cancels any changes made and returns the row to a read-only state.
- This row contains editable information about the Web User Licence itself and comprises form controls for editing username, password, email, access level, licence start date (optional), licence end date (optional), shareable and auto unlock.

Ticking "Auto Unlock" will ensure that (a) the licence is automatically unlocked from a computer when a user closes ERACS, or (b) the licence can be reused on another computer if ERACS does not close normally and communication abnormally ceases between ERACS and the ERACS Web Server (i.e. "Lost Connection" is displayed in the "Licence in Use" column of the Web User Licences table).

Email	Access Level	Shareable	Auto Unlock	Licence Locked To PC	Licence In Use	Date Last Used	Action
<input type="text"/>	User <input type="button" value="v"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No	Lost Connection	16 Jun 2020	<input checked="" type="checkbox"/> <input type="button" value="↺"/>
<input type="text"/>	User <input type="button" value="v"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	No	No	10 Jun 2020	<input type="button" value="✎"/> <input type="button" value="🔒"/>

Figure 7: Editing a Web User Licence

## 4.6 Unlocking an individual Web User Licence

A Web User Licence is unlocked by clicking the *padlock* icon in the Action column of the same table row, as in Figure 8. The licence may then be used to log into ERACS from a different computer on which ERACS is installed.

If the "Licence In Use" column is displaying "Yes" for a particular Web User Licence, the *padlock* icon will not be displayed in that row (as in the third table row of Figure 8). Therefore, it will not be possible to unlock such a licence, as unlocking will disrupt the active user's ERACS session.

If, for a particular Web User Licence, communication between ERACS and the ERACS Web Server has abnormally ceased, the "Licence In Use" column will display "Lost Connection" after a defined period of time and the licence may be unlocked via the displayed *padlock* icon, highlighted in the second table row of Figure 8.






Auto Unlock	Licence Locked To PC	Licence In Use	Date Last Used	Action
No <input type="checkbox"/>	Yes	No	09 Aug 2018	 
Yes <input checked="" type="checkbox"/>	Yes	Lost Connection	09 Aug 2018	 
Yes <input checked="" type="checkbox"/>	Yes	Yes	09 Aug 2018	

Figure 8: Unlock a Web User Licence option

## 4.7 Unlocking all Web User Licences

All not-in-use licences may be unlocked via the Web User Licences table, by clicking the *padlock* icon in the Action column of the *final row* of the table, as in Figure 9. The licences may then be used to log into ERACS from different computers on which ERACS is installed.






Yes <input checked="" type="checkbox"/>	No	No	13 Sep 2017	 
Yes <input checked="" type="checkbox"/>	No	No	26 Oct 2017	 
Unlock All Web User Licences				

Figure 9: Unlock All Web User Licences option

## 4.8 Viewing Usage Statistics

Each program set has a set of usage statistics associated with it, which can be displayed by clicking the "Show" link adjacent to the Usage Statistics caption.

These statistics allow you to see the times and durations of usage of individual licenses. They also provide a means of seeing where conflicts (when someone tries to use a license which is already in use elsewhere) have occurred, where licences were not part of a Shareable pool.

You can choose to view usage statistics for a number of different windows of time. Completed ERACS sessions are marked in blue, currently active ERACS sessions in green and conflicts in red. Hover over a block and you'll be presented with a greater level of detail. Click the green Refresh icon to generate the very latest usage statistics.

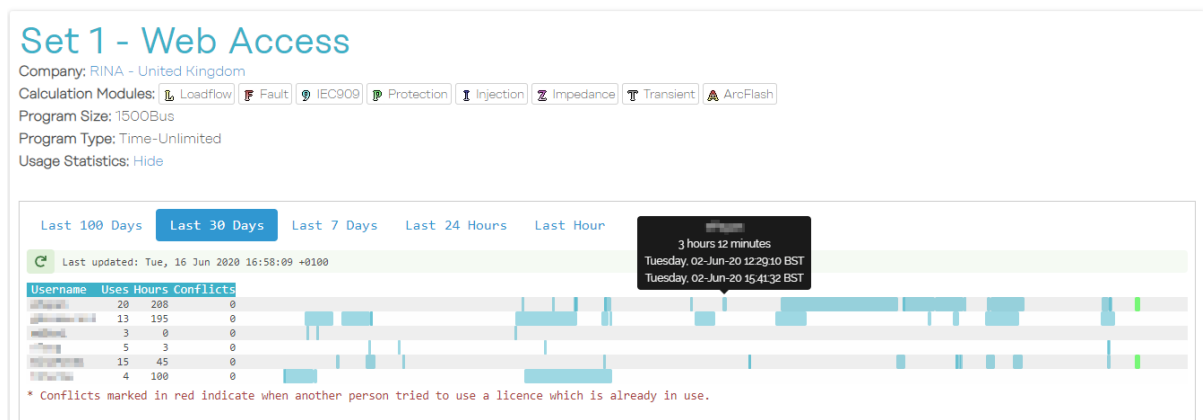


Figure 10: Viewing the Last 30 Days of ERACS licence usage