1 Login Page

The NEOpoint login page has two fields for enter ‘Username’ and ‘Password’.
There is a ‘Remember Me’ checkbox, which remembers the user information in the browser.

The NEOpoint login page display only when authentication mode is “Forms”. For Windows authentication, user login in using windows account.
2 Chart View

Reports Tab is the place where the user can select and view charts.

The toolbar at the top of the chart view has controls to set report start date, report period, step, instances (e.g. NSW1, QLD1), refresh, next, previous. In addition, there are back and forward buttons for history reports.
3 Table View

Table View is the place where the user can view report data.

Report table view has several options to select:
- **Table – All**
  Display all the columns.
- **Table – Properties**
  Display properties of each data column.
- **Table – Merged**
  Display combining all the datetime values into a single datetime column.

**Table – Merged Option**

This option displays data only when the first column is datetime. The column name must remain as Datetime because it is combining the datetime columns of potentially many sections with different names. The Datetime must always be in order. The reason is that each sections rows are scanned, the datetime is read and that section added to a single sorted dictionary of datetimes.
4 Multiple Reports Windows

NEO allows displaying more than one report windows. User can compare charts and data in the same screen.

While holding the mouse over the chart, the report window can shift in any direction. User can lock this report windows are shifting by clicking the ‘Lock pane positions’ toolbar option.

Lock pane positions toolbar icon toggle close to open image as in the image.
5 Report Menu Options

Report menu options are:

- **Add Report**: add a new report window.
- **Clear**: close all open report windows and clear the report view.
- **Bring To Front**: selected report window bring to front.
- **Send To Back**: selected report window send to back.
- **Arrange**: allocate fixed amount of chart space as determined by the number of charts.
- **Save as a dashboard...**: save open reports into a dashboard.
- **Lock Start Date**: all open report windows lock to a same time.
- **Delete Report**: delete selected report window.
- **Export CSV**: report data export into a CSV file.
- **Save as HTML**: arrange multiple reports and save as a HTML file.
- **Help**: open help file.

![Menu button appears when the mouse hovers over the pane. Click on the button to open the menu.]

5.1 Add a new report window


![Add Report menu.](image-url)
2. New report window displays as in the image below.

3. Select the new report window and click on a report link. The chart displays in the new report window.
5.2 Clear all open reports

1. Select the ‘Clear’ menu option and then display blank report window.

5.3 Arrange report windows

1. Select the ‘Arrange’ menu option.
2. Reports arranged to the fixed amount of chart space as determined by the number of charts.

5.4 Lock start date for all reports

1. Select the ’Lock Start Date’ menu option.
2. Change the starting date and click on the Refresh button. All open reports refreshed and display the same starting date.

5.5 Delete a report

1. Select a report and click the ‘Delete Report’ menu option.
5.6 Export report data into a CSV file

1. Select a report and click the ‘Delete Report’ menu option.

5.7 Reports save as a Dashboard

1. Arrange reports and select the ‘Save as a dashboard’ menu option.
2. Enter a dashboard name. Click OK button. A dashboard must create inside a folder. Default dashboard folder automatically create for you.

3. Go to the DASHBOARD folder and select the saved dashboard to view.
5.8 Save as HTML

1. Open multiple reports. All reports must have ‘Period Code’ selected as report period.
2. Select the ‘Save as HTML’ menu option.
3. Reports save as standalone HTML page and automatically download the HTML file.

4. Open the HTML file using any browser.
6 Use Period Code

Select the ‘Period Code’ option from the Period drop-down list. This will cause the Start Date selectors to hide and the Period Code text box to appear. As an example type -1w+1d (-1w1d) in the Period Code text box and refresh the report. Report data display for last 8 days including current date.

Period codes:
- y = year(s)
- m = month(s)
- w = week(s)
- d = calendar day(s)
- h = hour(s)
- l = minute(s)
- g = 6am offset (-1gd+1gd)
- t = 4am offset (-1td+1td)

You can also use tilde (~) to calculate the report to date based on how many periods from the report from date, i.e. -1w~1d means the report from date is 1 week before the start of current day and the report to date is 1 day after the report from date.
7 Get Links

Links dialog box open when selecting the Get Links menu option in the tool bar. As an example, select, copy the paste-able link.

Paste the above-copied link into a new browser window.

The CSV download link by default is for the merged view so it only shows sections that have datetime in the first column but when a report has no sections with datetime then nothing will be displayed in the download file. There are two ways around this:

- Modify the link so section=0 instead of -1; or
- Click on the menu button on the pane and select “Export CSV”.

Get Links Menu

Paste the link in the browser and click enter button
8 View Reports History

Back and Forward buttons to go through and view history reports.
9 Dashboards

The Dashboard page select using the DASHBOARD favourites.

Dashboard favourite object display in red colour font.

Dashboards page lists all the dashboards that have been created.

Right click on the right side panel and select ADD DASHBOARD FOLDER menu option to add a new folder.

Add new dashboard folder or dashboard.
Enter the dashboard name, click OK button, and newly created dashboard display under the dashboard favourite object.

Select reports, arrange and save as a dashboard.
10 All Reports

This page lists all reports used in NEOpoint. The user can expand and collapse the list of reports under the heading section in the list. A search text box is located at the top of the page. Enter a search string and click the SEARCH button to highlight report names with the search string.
11 Events Page

Recently run report events, including error messages display in the Event View.

<table>
<thead>
<tr>
<th>Index</th>
<th>Date/Time</th>
<th>Category</th>
<th>Message</th>
<th>Module</th>
<th>Event Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>06/12/2016 15:43:33</td>
<td></td>
<td>Opening Report: Region Price All, 30min Cumulative Distribution. SingleType:</td>
<td>Report</td>
<td>Event</td>
</tr>
<tr>
<td>1</td>
<td>06/12/2016 15:43:33</td>
<td></td>
<td>&quot;MMS (ES) idcloud/Report/Services/NEOpoint/Prices/New1 EnergyPrice/Region Price All, 30min Cumulative Distribution: &quot;</td>
<td>Report</td>
<td>Event</td>
</tr>
<tr>
<td>3</td>
<td>06/12/2016 15:43:33</td>
<td></td>
<td>select REDCVID, SETTLEMENTDATE, RRP as &quot;Price&quot;, ORDER from MMS.TRADINGSPRICE where SETTLEMENTDATE between to_date('2016/12/8 0:00:00', 'yyyy/mm/dd hh24miss') and to_date('2016/12/7 0:00:00', 'yyyy/mm/dd hh24miss') order by REDCVID</td>
<td>MMS (ES) idcloud</td>
<td>Query</td>
</tr>
<tr>
<td>5</td>
<td>06/12/2016 15:43:33</td>
<td></td>
<td>Records read 150. Execution time 0 secs, Read time 0 secs.</td>
<td>MMS (ES) idcloud</td>
<td>Event</td>
</tr>
</tbody>
</table>
12 Alerts Page

The Alerts page list all the alerts that belong to the current account. It allows you to Insert, Duplicate and Remove alerts. When user click on the Send test alert button, it will immediately trigger alert and send the test email.

User must tick one of the checkboxes to enable alerts notifications.

The Quiet hours tab is the place user can select hours that they are not wish to get alert notifications.
12.1 Create an Alert

1. Select the Alerts menu option from the menu list.
2. Click on the INSERT NEW ALERT button.

3. Select a variable. DUPLICATE ALERT button duplicates the selected alert and REMOVE ALERT button deletes the selected alert.

4. Select data fields appropriately. Enter the email address and tick the Enable email alerts check box to activate the Alert.

5. Click the SEND TEST ALERT button to test the created alert. This will sent an email and a record will be displayed in the Alert Notification page.
### NEOpoint - Alert Notifications -

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Email</th>
<th>DeviceID</th>
<th>Message</th>
<th>Report</th>
<th>Sound</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-11-30 15:25:00</td>
<td><a href="mailto:vajra@iesys.com">vajra@iesys.com</a></td>
<td></td>
<td>P5min in QLD1 will be $265.72. For 30-NOV-2016 15:25 [D1=15:00]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016-11-30 15:25:00</td>
<td>vajra</td>
<td></td>
<td>P5min in QLD1 will be $295.00. For 30-NOV-2016 15:25 [D1=14:55]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
13 Alert Notifications Page

Alert Notifications page display all executed Alerts. When you click on the Message link, it will open related Alert.
14 About Page

The About page display important NEOpoint information such as authentication mode, user account name, lists of favourites that user can view, version number and list of errors for NEOpoint.

![About Page](image)
15 NEOpoint Mobile View

Use NEOpoint mobile view for tablets and smartphones. Select the Mobile Reports menu option to open the mobile view as in the image below.

- Click on this icon to open the list of reports
- Click on this icon to open the report toolbar controls
- Back to Desktop view
### 16 System Events Page

The System Events page allows viewing all the events related to NEOpoint system start up. Some of the displayed events are system initialisation, authentication mode, load favourites related to the authentication mode and errors.

<table>
<thead>
<tr>
<th>Index</th>
<th>Date/Time</th>
<th>Category</th>
<th>Message</th>
<th>Module</th>
<th>Event Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td>2016-12-06 15:38:49</td>
<td></td>
<td>In object 'Region Demand All 1' section, Row 1 has a duplicate Type and is therefore ignored.</td>
<td>ChartLoader</td>
<td>Warning</td>
</tr>
<tr>
<td>76</td>
<td>2016-12-06 15:40:25</td>
<td></td>
<td>Report: Unrecognised Target = 'Chart Axes Label'</td>
<td>ChartLoader</td>
<td>Warning</td>
</tr>
<tr>
<td>77</td>
<td>2016-12-06 15:40:15</td>
<td></td>
<td>Report: Unrecognised Target = 'Chart Axes Label'</td>
<td>ChartLoader</td>
<td>Warning</td>
</tr>
<tr>
<td>78</td>
<td>2016-12-06 15:40:34</td>
<td></td>
<td>In object 'Intercom Flow and Limits 5min (V-SA)' section, Row 1 has a duplicate Type and is therefore ignored.</td>
<td>ChartLoader</td>
<td>Warning</td>
</tr>
<tr>
<td>79</td>
<td>2016-12-06 15:40:33</td>
<td></td>
<td>In object 'Region Demand 5min (V-SA)' section, Row 1 has a duplicate Type and is therefore ignored.</td>
<td>ChartLoader</td>
<td>Warning</td>
</tr>
<tr>
<td>80</td>
<td>2016-12-06 15:40:58</td>
<td></td>
<td>Report: Unrecognised Target = 'Chart Axes Label'</td>
<td>ChartLoader</td>
<td>Warning</td>
</tr>
<tr>
<td>81</td>
<td>2016-12-06 15:40:58</td>
<td></td>
<td>Report: Unrecognised Target = 'Chart Axes Label'</td>
<td>ChartLoader</td>
<td>Warning</td>
</tr>
<tr>
<td>82</td>
<td>2016-12-06 15:40:20</td>
<td></td>
<td>In object 'Region Demand 5min (SA)' section, Row 1 has a duplicate Type and is therefore ignored.</td>
<td>ChartLoader</td>
<td>Warning</td>
</tr>
<tr>
<td>83</td>
<td>2016-12-06 15:40:37</td>
<td></td>
<td>In object 'Intercom Flow and Limits 5min (V-SA)' section, Row 1 has a duplicate Type and is therefore ignored.</td>
<td>ChartLoader</td>
<td>Warning</td>
</tr>
<tr>
<td>84</td>
<td>2016-12-06 15:48:25</td>
<td></td>
<td>Report: Unrecognised Target = 'Chart Axes Label'</td>
<td>ChartLoader</td>
<td>Warning</td>
</tr>
<tr>
<td>85</td>
<td>2016-12-06 15:48:25</td>
<td></td>
<td>Report: Unrecognised Target = 'Chart Axes Label'</td>
<td>ChartLoader</td>
<td>Warning</td>
</tr>
</tbody>
</table>
17 System Activity Page

A site Administrator can view seven days of system activities at one time including number of reports run and number of logins. Forward and backward buttons allow viewing previous or next week’s data. User names are clickable and allow viewing each user’s activities in the User Activity page.

Click on the report name and then report will be displaying in the “History” page.
18 Report Usage Page

Administrator can view report usage for selected date period including/excluding weekends. Select a start date and an end date and then click on UPDATE button. Usage by report details will be displayed. Select a report name in the list and then date, distinct users and hit count details display for the selected report.
19 Import data from NEOpoint to Excel

Run a report in NEOpoint and click on the “Get links” icon in the report tool bar to grab the XML link for the report data you wish to export.

In Excel, go to the Data Tab. Click on the “From Web” menu option and paste the copied link. Import copied data using the IMPORT button as in the image below.

Once your data is imported, you can process/visualize it the way you want to.
20 Import data from NEOpoint to Matlab

Run the report that you want to import in NEOpoint and then click on the “Get links” icon in the report tool bar.

Copy the Matlab command from the list of links and do the next steps in Matlab.

In Matlab, paste the command and get the output into a variable of name `data`

```matlab
Trial>> data = webread('http://dev.neopoint.com.au/Service/Json', 'key', 'abc123def', 'f', '101 Prices\Region Dispatch, P5min and Predispatch Prices 5min', 'from', '26/04/2015 12:00:00 AM', 'period', 'Daily', 'pc', '', 'instances', 'NSW1', 'section', '-1');
```

For example:

```matlab
Trial>> data

ans =
      190×1 struct array with fields:
        DateTime
        NSW1_PRICE
        QLD1_PRICE
        SAI_PRICE
        TASS_PRICE
        VIC1_PRICE
```

Press Enter to run the command, this should import the data for the report into Matlab in variable ‘Data’

Now, to plot this data, use the following command

```matlab
X = {data.DateTime}';
X = datetime(X,'InputFormat','yyyy-MM-dd HH:mm:ss');
Y = [data.NSW1_RRP]';
plot(X,Y)
```
20.1 Getting timeout error

If you are getting TimeOut error for large size of data, create weboptions and set timeout to a larger value.
For example: `options = weboptions('TimeOut',120);
And use the options as last argument in webread command.
For example:
```
data = webread('http://neopoint.com.au/Service/Json', 'key', 'abc123def', 'f', '101 Prices\Dispatch and Predispatch Prices 5min', 'from', '8/05/2015 12:00:00 AM', 'period', 'Daily', 'pc', '', 'instances', '', 'section', '-1', options);
```

20.2 How to handle missing data

To handle empty or null values as in case of some reports, using the following commands
```
options = weboptions('TimeOut',120);
test = webread('http://dev.neopoint.com.au/Service/Json', 'key', 'abc123def', 'f', '101 Prices\Region Dispatch, P5min and Predispatch Prices 5min', 'from', '08/05/2015 12:00:00 AM', 'period', 'Daily', 'pc', '', 'instances', 'NSW1', 'section', '-1', options);
if iscell(test)
    for i = 1:length(test)
        X(i,:) = datetime(test(i).DateTime,'InputFormat','yyyy-MM-dd HH:mm:ss');
        temp = test(i).NSW1_RRP;
        if isempty(temp)
            Y(i,:) = NaN;
        else
            Y(i,:) = temp;
        end
    end
else
    X = {test.DateTime}';
    X = datetime(X,'InputFormat','yyyy-MM-dd HH:mm:ss');
    Y = [test.NSW1_RRP]';
end
plot(X,Y)
```
21 Import data from NEOpoint to R

R is a very popular open source language based on the S language and used for statistical data analysis. Simplest way to read is via CSV format.

To get CSV link, run the report that you wish to import and on the “Get links” icon in the report tool bar.

Copy the CSV link from the box.

To read the data into R, use the read.csv command and paste the URL link

```
Read.csv(file="URL")
```

Following lines of code shows how to plot a chart using the loaded data. Added more lines to convert the first column from string to datetime and plot it again.

```r
> w=read.csv(file="http://localhost:52419/Service/Csv?
> 
> plot(w$DateTime, w$Price.5min)
> lines(w$DateTime, w$Price.5min)
> rdate<-strptime(w$DateTime, "%Y-%m-%d %H:%M:%S")
> plot(rdate, w$Price.5min)
> lines(rdate, w$Price.5min)
```
22 Change NEOpoint Screen Themes

To change theme, use the dropdown on the top right hand corner. Currently, NEOpoint has 4 different themes as Dark, Light, Blue and Green that affects the page scheme and reports as well. Reports are styled in NEO for those themes.
23 Contact NEOpoint support

NEO Support contact details are also available on the About page:

E-mail: NEOsupport@iesys.com
Phone: +61 2 9436 2555
Fax: +61 2 9436 1218