Introduction

Once results have been entered/uploaded into e:Vision it is possible to scale marks. Scaling can be applied to selected students or the class as a whole. When scaling, the user will be able to select from a defined list of methods (e.g. by percentage, fixed amount etc) and define the scaling factor (e.g. +5%). Scaling can also be applied to bands of marks (e.g. Marks 0-50 scaled up by 2%, marks 51-100 scaled up by 1%).

How scaling is applied

It is possible to apply scaling to either individual assessment components (Results II only) or the overall Module result (Results I and II).

Scaling Module results (Results One & Two)

If applying scaling to the overall module result, the user must first Calculate Module Results. This will set the result (SMR) status to complete; however this status needs to be reset to the previous status (SAS or RAS) before scaling can be applied. This is done by using the Undo Module Results option. Once scaling has been performed, the original module mark/grade is stored in the Calculated field. The Actual and Agreed mark/grade is updated with the scaled one. The Agreed mark/grade can still be manually modified as part of the Examination Board process.

Note: Scaling module results is independent of any scaling that has been performed at a component (SAT) level, and will override the marks/grade calculated from the components (Results II only).

Scaling component marks (Results Two only)

Scaling can be performed at an assessment component level prior to the Calculate Module Results process being initiated. Once scaling has been performed, the original mark is stored in the Unscaled mark field, and the revised mark is stored in Actual. If the same assessment component is scaled again, the scaling is based on the Original (Unscaled mark field).

Once the module result has been calculated, scaling can be applied at an assessment component (SAT) level – provided there has been no Module level (SMR) scaling performed. The user must use the Undo Module Results option to reset the result status to SAS or RAS. Once the assessment component has been scaled the user MUST remember to again run the Calculate Module Results process.
Perform scaling

Refer to How scaling is applied on page 1 of this document to ensure that you are applying scaling in the correct sequence when processing results.

The scaled mark still needs to fit within the Mark Scheme range. For example, if the maximum mark on the mark scheme is 100, the system will not scale a mark if it is over 100 – it will generate an error instead.

1. Navigate to the scaling selection page
2. Enter parameters to identify the module to be scaled, e.g., Academic Year, semester, module code etc.
3. Use wildcards (*) in the search.
4. Click Search.
4. Select the module to be scaled from the list. If you entered sufficient data in the selection screen to identify a specific module in a semester, this screen will be bypassed.
5. Click **Scale** from:
   - **Module Details** to apply scaling to the total module results
   - the relevant **Assessment Details** component to scale marks for the assessment item only (Results Two)

   All subsequent screens behave in the same manner, regardless of which assessment result is being scaled.
6. Enter scaling options in the **Process Options** pop-up window:

<table>
<thead>
<tr>
<th>Scaling scheme (MSH)</th>
<th>Select (e.g., Percent, Fixed Amount)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale all Records?</td>
<td>Select either:</td>
</tr>
<tr>
<td></td>
<td>• Yes, to scale all</td>
</tr>
<tr>
<td></td>
<td>• No, to select specific students to scale</td>
</tr>
<tr>
<td>Review changes?</td>
<td>Use default (Yes)</td>
</tr>
<tr>
<td>Debug messaging?</td>
<td>Use default (No)</td>
</tr>
</tbody>
</table>

7. Click **Edit Scheme** to maintain scaling parameters.
8. Enter the Min, Max range of raw marks.
9. Enter the Scaled Mark/Value (scaling factor). If the Scaling Scheme is:
   - **PERCENT**, then the scaled mark is the percentage to increase/decrease the original mark (e.g. 5.00 will increase mark by 5%, -5.00 decreases the mark by 5%)
   - **LIN**, then the scaled mark is the value to increase/decrease the original mark (e.g. 5.00 will increase mark by 5 points, -5.00 decreases the mark by 5 points).

Mark Scaling
Mark Scaling process

This screen allows you to select the module that you wish to apply scaling to and will then guide you through the scaling process up to the point that any changes are committed.

Scaling Scheme Details
The table below displays details about the selected Scaling Scheme (USH).

<table>
<thead>
<tr>
<th>Scaling Scheme</th>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERCENT</td>
<td></td>
<td></td>
<td>Increase or decrease by percentage</td>
</tr>
</tbody>
</table>

Scaling Scheme Elements
Any Scaling Scheme Elements should be displayed below. These can be amended, added to, or removed from the list and the new values can then be taken forward into the mark scaling process. Once you have finished making changes, please use the Continue button to use these values or Discard to use the original stored values.

The Ordinals field is used to specify the order in which the records should be processed (the first record will always be used). The Minimum and Maximum Raw Mark fields are used to specify a mark range when the record should apply to an original mark. Finally, the Scaled Mark is used in the calculation of the new mark and could represent a percentage, value, mark or interpolation point depending upon the Scaling Type.

<table>
<thead>
<tr>
<th>Sequence</th>
<th>Order/Rank</th>
<th>Min Raw Mark</th>
<th>Max Raw Mark</th>
<th>Scaled Mark/Value</th>
<th>Scaled Grade</th>
<th>Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>1</td>
<td>0.00</td>
<td>10.00</td>
<td>0.00</td>
<td>4.50</td>
<td>Remove</td>
</tr>
</tbody>
</table>

Continue
Discard Changes
10. Click Add if you require multiple scaling factors. In this example, all marks under 50 will be scaled up by 2, marks over 50 will be scaled down by 1 (the percentage or amount depends on the Scaling Scheme selected in the previous screen).

<table>
<thead>
<tr>
<th>Sequence</th>
<th>Order/Rank</th>
<th>Min Raw Mark</th>
<th>Max Raw Mark</th>
<th>Scaled Mark/Value</th>
<th>Scaled Grade</th>
<th>Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>1</td>
<td>49.00</td>
<td>49.99</td>
<td>1</td>
<td></td>
<td>Add</td>
</tr>
<tr>
<td>0002</td>
<td>10</td>
<td>48.00</td>
<td>48.99</td>
<td>2</td>
<td></td>
<td>Add</td>
</tr>
</tbody>
</table>

11. Click Continue to save the changes and return to the Process Options window.

- Click Discard Changes to return to the Process Options screen without saving any changes.
- If you click Edit Scheme again, you will be given the option of using the changes you previously made, or revert to the original values.
12. Click **Ok** on the **Process Options** window to start scaling.
If you selected the option to only scale specific students’ results, you are presented with this screen.

13. Select the appropriate check boxes to scale marks for the selected students.

14. Click **Continue**.
The system displays both the **Original** and the **Scaled** marks and grades.

15. Click **Continue**.

A message displays requesting confirmation to save the scaled marks or discard them.

16. Click **Yes** to save the scaled marks.
Once scaling has been completed, please ensure the following:

- If the Module result had been undone before scaling, return to the **Process Module Results** screen and click **Agree All** to reset the result status to complete.
- You may first want to **Process** individual student results if changes are required as a result of the Examination Board meeting.
- If scaling was performed for a specific assessment component (Results Two only) ensure that module results are calculated after scaling has been performed.
- Wait until all assessment component results have been confirmed before doing this.

### Mark Scaling methods

The following methods can be used to scale marks. These can be specified in the Scaling Scheme as defined above.

- **For a Linear Interpolation scheme** the **Scaled Mark** field holds the scaled mark that represents that particular point.
  - It is important to note that if a mark range has been specified then this will refer to the minimum mark. The linear nature of this scheme means that the scaled mark for any intermediate points should be able to be inferred from that single value.
- **For a Linear Adjustment scheme** the **Scaled Mark** field holds the value by which any mark within the mark range should be updated by. This can either be a positive or a negative value in order to allow the marks to be scaled up and down.
- **A Percentage Adjustment scheme** is very similar to **Linear Adjustment**, the only difference being that the value within the **Scaled Mark** field is treated as a percentage. This can also be either a positive or negative value in order to allow the marks to be scaled up or down by that particular percentage.
- **The Translation scheme** causes the **Scaled Mark** value to be assigned directly to the record being scaled.
- **The Grading by Percentage scheme** allows peer to peer ranking against other students, by offering a percentage of students a particular grade e.g. top 10% obtain an A*, the next 10% obtain an A etc. Students are ordered by descending mark. The Grade to be applied is stored in the **Scaled Grade** (MSR_SCLG) field on MSR. The Percentage of students to which this value applies is stored in the **Minimum raw mark** (MSR_MINM) field. **Scaled Mark** is optionally defined, i.e. it can be left blank if retaining the original mark. It should be noted that when scaling Grades only, no changes will occur if the new mark and grade is not a valid combination (as defined on the **Mark Scheme**). If applicable a wider set of mark and grade ranges can be set up as “OTH” (Other) type **Mark Conversion records**. The mark scaling process determines the number of students for each percentage, e.g. 10% of students is equivalent to 6 students. If students have the same mark across percentage boundaries (in this example the 6th and 7th student have the same mark) both will be included in the higher boundary (i.e. assigned the better grade) and the next number/band will be decremented accordingly (e.g. assign the next grade to 5 rather than the usual 6 students).
- **The ‘Bell Curve’ scheme** allows peer to peer ranking against other students, based on normal distribution. The mean mark is used in association with the standard deviation, for example: students within half a standard deviation above the mean receive a grade C; students within one standard deviation above the mean receive a grade B etc. The Minimum (MSR_MINM) and Maximum Raw Mark (MSR_MAXM) fields may hold positive or negative values, for example between -0.5 and 0.00 standard deviations from the mean (i.e. within half a standard deviation below the mean). The Grade to be applied is stored in the **Scaled Grade** (MSR_SCLG) field on MSR. **Scaled Mark** is optionally defined, i.e. it can be left blank if retaining the original mark. The mark scaling process calculates the mean mark and standard deviation of the students. The process then converts Minimum (MSR_MINM) and Maximum Raw Mark (MSR_MAXM) fields into actual mark values (mark ranges) by multiplying the Minimum/Maximum by the Standard Deviation and adding to the mean.