

## Blending Configuration Document – Salesforce Article

### Introduction

With the blending configuration, Primo customers can influence the ranking of records in a blended result list in order to boost or de-boost records coming from specific search engines (SE). Each found record in a search has an initial score (hit rank) related to how well it fits the user's search query. The score influences where it is ranked in the result list. However, this initial score can vary according to the amount of descriptive data, differences in the ranking calculation of a search engine, record boost, and field boost settings, and the use of institutional boost.

The ranking scores of records returned by the local SE are typically lower than the score of Primo Central records, causing local records to display lower in the list of results. For a blended result list you may therefore want to give the local results an extra boost to appear higher up in the result list. In other cases, for example for the EBSCO or WorldCat adaptors, you may want to de-boost the results to allow for a higher ranking of local and Primo Central records.

Blending configuration can be done per search engine (SE). One SE is responsible for the local indexes, e.g. your catalog and local repositories, one for Primo Central and so on.

Note that you can also define and configure other settings to influence the ranking of records coming from the local search engine, for example by boosting certain fields. This article only deals with the blending settings.

### What Does the Blending Configuration Do?

Primo applies the blending parameters in several steps, each one has a configurable value:

1. Boosting/De-Boosting  
Local results are boosted by the **constant factor**
2. Check if record is eligible for blending  
Primo checks if the result with the highest rank matches the setting of the **Minimum hit rank for combining** parameter (high/medium/low). If none matches the parameter value, no result record will be boosted.

### 3. Placement of first record in result list

The first position in the result list is always reserved for the highest ranked record according to the hit rank. Blending therefore starts from the second position, or lower, according to your **combine location** settings. Values can be Top (the 2nd record), Center (the 5th record), Bottom (the 9th record). Primo boosts the first eligible record by increasing its rank to a high enough number to appear in the defined position.

### 4. Placement of remaining (eligible) records

Primo then assigns the same boost (that was used to boost the first record into the defined position in 3.) to the remaining eligible records (the maximum number of records that are boosted is defined in the **Number of results to reward** parameter)

#### **Note:**

There is no need to configure blending for all SEs, only the SEs that require more or less boost.

## **Configuring Blended Searches**

This section describes the recommended blending configurations and an in depth description of each of the Blending parameters in the Search Engine Configuration Wizard.

### **Blending Configuration Recommendations**

The blending of results depends on a wide range of variables (type of search, available descriptive data, and type of SE and its ranking algorithm). There is no 'perfect' blending configuration setting, but the following recommended settings will work for most Primo installations and can be adapted to local settings and customer preferences.

1. If the search blends results from the local SE and Primo Central, the following recommended values should be configured for the local SE only:
  - Minimum hit rank for combining: Medium
  - Combine Location: Top
  - Number of Results to reward: 5
  - Constant factor: 4.0
2. If more than two SEs have been defined in the Primo installation (for example, the local SE, Primo Central, and a deep search adaptor), it may be necessary to add additional configuration to de-boost one of the search engines to give their results a less prominent position.

In the following example configuration, records from the local SE will be boosted, and the EBSCO and WorldCat adaptor records will be de-boosted.

3. Local SE:
  - a. Minimum hit rank for combining: Medium
  - b. Combine Location: Top
  - c. Number of Results to reward: 5
  - d. Constant factor: 4.0
  
4. EBSCO adaptor:
  - a. Minimum hit rank for combining: High
  - b. Combine Location: Bottom
  - c. Number of Results to reward: 3
  - d. Constant factor: 0.1
  
5. WorldCat adaptor:
  - a. Minimum hit rank for combining: High
  - b. Combine Location: Bottom
  - c. Number of Results to reward: 3
  - d. Constant factor: 0.1

For information about the EBSCO adaptor, see the “Configuring the EBSCO Adaptor” section in the *Primo Back Office Guide*. For information on the WorldCat adaptor, see the documentation in El Commons.

#### NOTES:

- It is important that you set the **primo\_rank** parameter correctly in the `thirdnode-config.xml` file. If you blend EBSCO or WorldCat with other SEs (such as Primo local or Primo Central), set the **primo\_rank** parameter to **true** so that Primo will apply its own ranking algorithm to the records returned by EBSCO or WorldCat and blend the results.
  
- After any configuration change, you will need to save the changes, go to Deploy All, and deploy the Search Engine Configuration.

### Testing the Blended Search Configuration

It is highly recommended to test the blending configuration settings once they have been applied and deployed. It is not necessary to open a new session: results are displayed with new settings automatically.

To test the settings in the Primo FE, select a record that exists in two or more of the SEs to be tested, and use the title of the record as a search term in a blended search. The records from the different SEs should appear in the top of the result list.

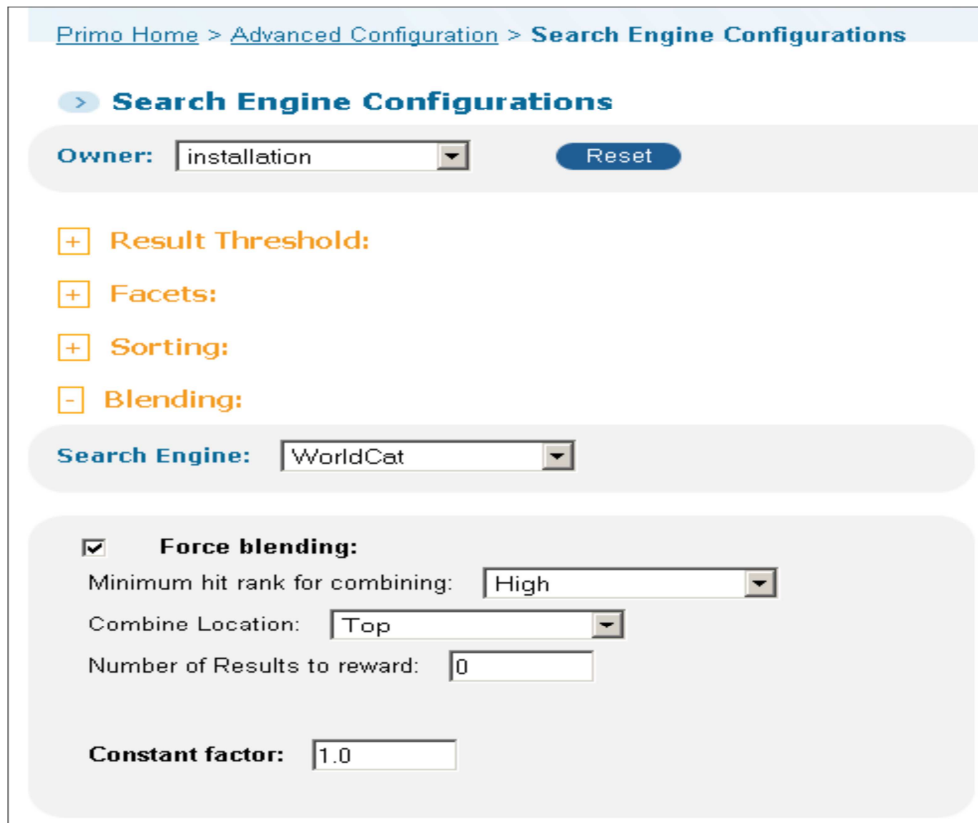
After performing an exact title search, it is recommended to perform a few additional searches to check the blending. For example:

- author + title search
- part of title or phrase search
- keyword search

If necessary, the blending configuration can be adjusted by changing the 'constant factor' or 'minimum hit rate' if necessary.

### Blended Search Configuration Parameters

The Search Engine Configuration Wizard includes the following parameters in the **Blending** section.



The screenshot shows the 'Blending' section of the Search Engine Configuration Wizard. The breadcrumb trail is 'Primo Home > Advanced Configuration > Search Engine Configurations'. The section title is '> Search Engine Configurations'. The 'Owner' is set to 'installation' with a 'Reset' button. There are expandable sections for 'Result Threshold:', 'Facets:', 'Sorting:', and 'Blending:'. The 'Blending' section is expanded, showing 'Search Engine:' set to 'WorldCat'. Under 'Force blending:', the 'Minimum hit rank for combining:' is set to 'High', 'Combine Location:' is set to 'Top', and 'Number of Results to reward:' is set to '0'. The 'Constant factor:' is set to '1.0'.

### ***Search Engine***

From the drop-down list, select the SE that you want to boost in terms of ranking. The following SEs can be configured:

- Local SE
- Primo Central
- All deep search adaptors

There is no need to configure all SEs, only the ones that require more or less boost. If two SEs have been defined in the Primo installation (the local SE and Primo Central), configure the Blending configuration for the local SE only.

### ***Force blending***

Select this field to turn on blending and boost or de-boost records in the results list for the specified SE. NOTE: You must select this field to display and configure the remaining fields in the Blending section.

### ***Minimum hit rank for combining***

This field indicates whether records with a high, medium, or low ranking score should be boosted. Setting this parameter to **High** indicates that only records with a high ranking will be blended.

When configuring the local SE, make sure that the local records appear at the top of the results list. It is recommended to select the **Medium** option because these records of this ranking generally have a lower ranking by definition than the records from Primo Central.

### ***Combine Location***

This field specifies the placement of the boosted record on the first page of the search results. The valid values are Top (the 2nd record), Center (the 5th record) or Bottom (the 9th record).

When configuring the local Search Engine, it is recommended to select '**top**'.

### ***Number of Results to reward***

This field specifies the number of records to boost as long as they match the level specified in the **Minimum hit rank for combining** parameter.

When configuring the local SE, it is recommended to set this parameter to **5**.

### ***Constant (boost) factor***

This field specifies a number that will be added to the ranking of all records in the result set of a boosted SE, regardless of the query. You should never set this parameter to **0** because it is part of a complex algorithm and may cause multiplication or division by 0. If this parameter is set to **1**, records from this source will be given no additional boost. To give a positive boost, enter a number that is higher than 1. To give a negative boost (de-boost), enter a number between 0 and 1 (such as 0.1).

When configuring the local SE, it is recommended to set this parameter to **4**.