

Buying Groups

Matching Engine Technical Guide

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This document describes how the Buying Groups matching engine works. It covers the matching process for each scenario, the exact order methods are attempted, what records are compared at each step, and how the engine handles edge cases such as simultaneous batch matches and hierarchy chains.

Section 1 - Key Principles

1.1 First Match Wins

The most important principle of the matching engine is that it stops as soon as a match is found. Methods are attempted in a fixed priority order. If Method 1 finds a match, Methods 2, 3 and 4 are never attempted. This means higher priority methods always take precedence.

Important: A record is only matched once. Once assigned to a Buying Group the engine will not re-evaluate or move it to a different Buying Group unless the record is manually changed or a reset is performed.

1.2 What Is Compared

When checking for a match the engine compares against multiple sources in sequence within each method. For example within Exact Name matching it first checks existing Account names, then Lead company names, then Buying Group names. If a match is found against Account names it stops and does not check Lead company names or BG names.

Source	Checked For	Field Compared	Condition
Existing Accounts with BG	Exact, Stripped, Fuzzy	Account.Name	Account must have Buying_Group__c populated
Existing Leads with BG	Exact, Stripped, Fuzzy (Lead matching only)	Lead.Company	Lead must have Buying_Group__c populated and IsConverted = false
Buying Group names	Exact, Stripped (if no Account/Lead match found)	Buying_Group__c.Name with "Buying Group" suffix stripped	BG must have Status__c = Active
Account parent hierarchy	Hierarchy only	Account.ParentId chain	Ancestor Account must have Buying_Group__c populated
Buying Group Member emails	Email Domain (Lead matching only)	Buying_Group_Member__c.Email__c domain	BGM must have Email_Domain_Type__c = Corporate
Pending BGs in same batch	All methods	Pending BG name (not yet inserted)	BG being created in the current batch run for another record

1.3 Name Normalisation

All names are normalised before comparison:

- Converted to lowercase
- Leading and trailing whitespace trimmed

- For Stripped Exact matching: one prefix from the Name Prefix Strip List is removed (e.g. 'the', 'a', 'an'), then one suffix from the Name Suffix Strip List is removed (e.g. 'ltd', 'inc', 'corp'). Only one prefix and one suffix are removed per name.

Note: Normalisation is applied consistently to both the record being matched and the candidates it is being compared against. This ensures 'Acme Corporation' and 'Acme' both normalise to 'acme' and match each other.

1.4 Batch Processing Order

In batch context, Accounts are sorted by hierarchy depth before matching begins. Parent Accounts are always processed before their child Accounts. This ensures a child Account can inherit its parent's Buying Group in the same batch run.

Leads have no defined processing order in batch - they are processed in the order returned by the SOQL query.

Note: In real-time trigger context (single record insert or update) there is no sorting - the record is processed immediately as it fires the trigger.

Section 2 - Account Matching Decision Tree

The following decision tree shows exactly how an Account is matched. At each diamond the engine checks the question. YES always leads to a match result and stops. NO continues to the next step.

Step	Question / Check	YES - Result	NO - Next Step
1a	Does an existing Account (already in a BG) have the same name as this Account?	Assign to that BG Match Type = Exact Name	Check BG names (1b)
1b	Does an existing BG name (minus 'Buying Group' suffix) exactly match this Account name?	Assign to that BG Match Type = Exact Name	Go to Step 2 (Stripped) if enabled, else Step 3 (Hierarchy)
2a	After stripping prefixes/suffixes, does a normalised Account name match this Account's normalised name? (Stripped Exact Name enabled)	Assign to that BG Match Type = Stripped Exact Name	Check BG names (2b)
2b	After stripping, does an existing BG name match this Account's normalised name?	Assign to that BG Match Type = Stripped Exact Name	Go to Step 3 (Hierarchy) if enabled
3	Does this Account have a ParentId? Does any ancestor Account (up to 10 levels) have a BG assigned? (Hierarchy enabled)	Assign to ancestor's BG Match Type = Hierarchy	Go to Step 4 (Fuzzy) if enabled
4	Does any existing Account name score >= Fuzzy Threshold (default 90%) using Jaro-Winkler similarity? Best score wins. (Fuzzy enabled)	Assign to that BG Match Type = Fuzzy Name	No match found - go to Step 5
5	No match found after all enabled methods.	Automatic: Create new BG Match Type = Original - Automatic Role = Primary	Suggested: Create Task Manual: No action

Note: Steps 1a and 1b are both part of Exact Name matching. The engine checks Account names first, then BG names. If either finds a match the result is the same Match Type = Exact Name. The same sub-step pattern applies to Stripped Exact (2a checks Account names, 2b checks BG names).

Section 3 - Lead Matching Decision Tree

Lead matching is more complex than Account matching. Leads can match against both Account names AND existing Lead company names, and have an additional Email Domain matching method. The full priority order is shown below.

Step	Question / Check	YES - Result	NO - Next Step
1	Does an existing Account (already in a BG) have the same name as this Lead's Company?	Assign to that BG Match Type = Exact Name	Go to Step 2
2	After stripping, does any existing Account name match this Lead's normalised company name? (Stripped enabled)	Assign to that BG Match Type = Stripped Exact Name	Go to Step 3
3	Does an existing Lead (already in a BG) have the same Company name as this Lead? Also checks pending BGs from same batch.	Assign to that BG Match Type = Exact Name	Go to Step 4
4	After stripping, does any existing Lead company name match this Lead's normalised name? Also checks pending BGs. (Stripped enabled)	Assign to that BG Match Type = Stripped Exact Name	Go to Step 5
5	Does this Lead have a non-public email domain? Does a Contact BGM in a BG share the same email domain? (Email Domain enabled)	Assign to that BG Match Type = Email Domain	Go to Step 6
6	Does a Lead BGM in a BG share the same corporate email domain as this Lead? (Email Domain enabled)	Assign to that BG Match Type = Email Domain	Go to Step 7
7	Does any existing Account name score >= Fuzzy Threshold using Jaro-Winkler? Best score wins. (Fuzzy enabled)	Assign to that BG Match Type = Fuzzy Name	Go to Step 8
8	Does any existing Lead company name score >= Fuzzy Threshold using Jaro-Winkler? Best score wins. (Fuzzy enabled)	Assign to that BG Match Type = Fuzzy Name	No match - go to Step 9
9	No match found after all enabled methods.	Automatic: Create new BG Match Type = Original - Automatic	Suggested: Create Task Manual: No action

Note: Notice that Lead matching checks Account names before Lead names at both Exact (Steps 1 and 3) and Stripped (Steps 2 and 4) levels. Account-based matches therefore take priority over Lead-based matches within the same method. Hierarchy matching does not apply to Leads.

Section 4 - Matching Methods in Detail

4.1 Exact Name Matching

The simplest and highest priority method. Company names are compared as-is (lowercase, trimmed) with no modification.

- Example: Account 'Acme Corp' will exactly match an existing Account or Lead also named 'Acme Corp'
- Example: Account 'ACME CORP' will match 'acme corp' because comparison is case-insensitive
- Example: Account 'Acme Corp' will NOT match 'Acme Corporation' - that requires Stripped Exact matching

4.2 Stripped Exact Name Matching

Names are normalised by removing one prefix and one suffix before comparison. The strip lists are configurable in Default Settings.

- Only one prefix is removed per name (the first matching prefix found)
- Only one suffix is removed per name (the first matching suffix found)
- Prefix must appear at the start of the name followed by a space
- Suffix must appear at the end of the name preceded by a space

Original Name	After Strip	What Was Removed
Acme Corporation	acme	Suffix: corporation
The Johnson Group	johnson	Prefix: the, Suffix: group
A1 Solutions Ltd	a1 solutions	Suffix: ltd (prefix "a" not removed - must be followed by space)
Delta Inc	delta	Suffix: inc
Omega	omega	Nothing removed - no matching prefix or suffix

4.3 Hierarchy Matching (Accounts Only)

Hierarchy matching uses the native Salesforce Account ParentId field - not any formula or custom field. The engine walks up the parent chain until it finds an ancestor with a Buying Group assigned or reaches the top of the hierarchy.

- Maximum depth: 10 levels
- The first ancestor with a BG found wins - the engine does not continue up the chain after finding a match
- In batch context, hierarchy sort ensures parent Accounts are processed before children in the same batch
- In batch context, if a parent Account is being assigned a BG in the same batch run, the child can inherit that pending assignment even before the parent's BG is saved to the database

Note: Hierarchy matching does not apply to Leads. Leads do not have a parent relationship in Salesforce.

4.4 Email Domain Matching (Leads Only)

Email domain matching is only available for Leads. It matches a Lead to a Buying Group based on a shared corporate email domain.

- The Lead must have an email address
- The email domain must not be in the Public Domain Blocklist (gmail.com, yahoo.com etc.)
- The engine first looks for Contact BGMs with Email_Domain_Type__c = Corporate sharing the same domain (Step 5)
- If no Contact BGM match is found, it then looks for Lead BGMs with the same domain (Step 6)
- Contact domain matches take priority over Lead domain matches

Scenario	Result
Lead email = jane@acmecorp.com, Contact BGM with email = john@acmecorp.com exists in BG	Lead matched via Email Domain (Contact BGM match - Step 5)
Lead email = jane@acmecorp.com, Lead BGM with email = bob@acmecorp.com exists in BG (no Contact BGM)	Lead matched via Email Domain (Lead BGM match - Step 6)
Lead email = jane@gmail.com	No email domain match attempted - gmail.com is in Public Domain Blocklist
Lead has no email address	Email domain matching skipped entirely

4.5 Fuzzy Name Matching

Fuzzy matching uses the Jaro-Winkler string similarity algorithm. This algorithm is particularly good at detecting transpositions and typos in company names.

- Names are normalised (stripped) before fuzzy comparison
- A pre-filter is applied: only candidates whose name starts with the same 3 characters are considered. This limits the comparison set for performance.
- An additional length ratio filter is applied: if the shorter name is less than 50% the length of the longer name the pair is skipped
- The best scoring candidate above the threshold wins - not just any candidate above threshold
- Default threshold is 90% (0.9). Higher values require closer matches.

Name 1	Name 2	Match?	Reason
Johnson Controls	Johnson Contrals	Yes (at 90%)	One character transposition - high similarity score
Acme Corporation	Acme Corp	Handled by Stripped	Both strip to "acme" - caught by Stripped Exact before Fuzzy is reached
Microsoft	Microsft	Yes (at 90%)	One character deletion - high similarity score
IBM	IBN	Likely no	3-character names with one difference score below 90%
Johnson Controls	Johnston Controls	Yes (at 90%)	Common spelling variant - high similarity score

4.6 Jaro-Winkler Algorithm Detail

The Jaro-Winkler score is calculated as follows:

- Jaro score: based on the number of matching characters and transpositions between the two strings
- Winkler prefix bonus: up to 4 characters of shared prefix boost the score. This rewards names that start the same way.
- Score range: 0.0 (completely different) to 1.0 (identical)
- The configurable Fuzzy Match Threshold (default 90) is divided by 100 to get the decimal threshold (0.9)

Section 5 - Edge Cases and Special Scenarios

5.1 Two Records Match the Same BG in the Same Batch

When multiple records in the same batch run match the same Buying Group name, the engine uses a 'pending BGs' map to track BGs being created mid-batch. This prevents duplicate Buying Groups from being created.

- First record to match creates a pending BG (not yet saved to database)
- Subsequent records in the same batch that match the same name are linked to the pending BG
- At the end of the batch all pending BGs are inserted once
- All records linked to the pending BG are then updated with the real BG Id

5.2 Role Assignment When Multiple Accounts Match a Lead-Only BG

When multiple Accounts match into a BG that previously only had Lead members, role assignment works as follows:

- The first Account processed that matches the Lead-only BG gets Role = Primary
- All subsequent Accounts matching the same BG get Role = Secondary
- In batch context, the processing order is hierarchy depth order (not alphabetical). The first Account in hierarchy depth order wins Primary.
- In real-time context, the first Account to be saved wins Primary.

5.3 Accounts Already in a BG Are Not Re-Matched

The matching engine only processes Accounts and Leads that do not currently have a Buying Group assigned. Records with an existing BG assignment are excluded from matching. To re-match a record it must first be cleared (either manually or via Reset Buying Groups).

5.4 Converted Leads Are Excluded

Converted Leads (IsConverted = true) are always excluded from matching. The engine never attempts to match a converted Lead, and converted Leads are never used as matching candidates for other Leads.

5.5 Suggested Tier Behaviour

In Suggested tier, the matching engine still runs all matching steps internally but does not assign the BG. Instead:

- If a match is found: a Task is created on the Account or Lead referencing the matched BG name, asking the user to review and assign manually
- If no match is found: a Task is created saying no match was found and suggesting the user create a new Buying Group
- No BGM records are created in Suggested tier - only Tasks

5.6 Manual Tier Behaviour

In Manual tier, the matching engine does not run at all on insert or update. No matching, no Tasks, no BG assignments. Users assign Buying Groups manually by editing the Buying_Group__c field on Account or Lead records. When manually assigned, Match_Type__c is set to 'Manual' or 'Original - Manual'.