



Bria 4 Dial Plan Guide

CounterPath Corporation
Suite 300, One Bentall Centre
505 Burrard Street, Box 95
Vancouver, BC V7X 1M3
Tel: 604.320.3344
sales@counterpath.com www.counterpath.com

© September 1 2014 CounterPath Corporation. All rights reserved.

This document contains information proprietary to CounterPath Corporation, and shall not be used for engineering, design, procurement, or manufacture, in whole or in part, without the consent of CounterPath Corporation. The content of this publication is intended to demonstrate typical uses and capabilities of the CounterPath Bria 4 softphone application from CounterPath Corporation. Users of this material must determine for themselves whether the information contained herein applies to a particular IP-based networking system. CounterPath makes no warranty regarding the content of this document, including—but not limited to—implied warranties of fitness for any particular purpose. In no case will CounterPath or persons involved in the production of this documented material be liable for any incidental, indirect or otherwise consequential damage or loss that may result after the use of this publication.

CounterPath and the  logo are trademarks of CounterPath Corporation.

Windows, Windows Vista, Active Directory, Excel and Outlook are registered trademarks of Microsoft Corporation in the United States and other countries.

This manual corresponds to Bria version 4.0 and higher.

Rev 2

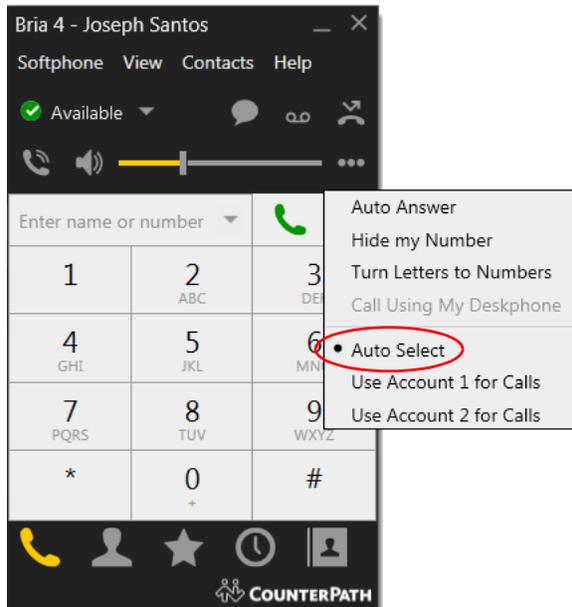
1 Purpose of Dial Plans

A dial plan is used for any combination of these reasons:

- To modify (transform) the input, if transformation is required to ensure that the call gets established. For example, to add the “9” required to obtain an outside line from a PBX.
- To select the account to use to place a call, if users can have more than one account. For example, if you want calls that match one pattern to go through one account and calls that match another pattern to go through another account.
- To prevent unresolvable calls being placed. For example, to prevent using network bandwidth on a call that will certainly fail. You define patterns that you know will work, and only place a call if it matches one of these patterns.

When users use Bria in Auto Select mode (see the illustration below), the dial plan can be used to select the account to use for the call. Once the account is selected, the dial plan can also be used to transform the phone number, for example, to add “9” to the start of the number

Even if users select the account to use when making calls or even if the user has only one SIP account, dial plans can still be used to transform the phone number.



The Default Dial Plan

The default dial plan is:

```
#n\a\a.T;match=1;prestrip=2;
```

where #n is the account prefix (#1 for the first account in the list (proxy0), #2 for the second account (proxy1), and so on).

If the input is the account prefix and the number (for example, #16045551212), then the Account for this dial plan is selected. The account prefixed is stripped from the number before the call is placed.

If all accounts use this dial plan, then the behavior is as follows: if the input includes the account, then that account is used. In other words, you can force selection of a specific account by including the account prefix. If the input does not include #n, then the preferred account is used.

2 Dial Plan Activity

When the user makes a call, Bria takes the phone number (the input) and performs the following:

1. Cleanup. This step is not part of the dial plan: it is always performed even when there is no dial plan.

Input is cleaned up by removing spaces, dashes, open brackets, and close brackets. Cleanup allows Bria to support calls placed using contacts from a contact list, including Microsoft® Outlook®.

2. Matching.

There are two phases in the Matching step: before and after the user presses Enter or Call.

Bria starts comparing the input to the pattern in the dial plan as soon as the user types a digit. If Bria finds a match that includes a T timer to trigger auto dialing, Bria applies the transformation associated with the pattern, and dials the transformed number right away without any further user interaction. In this phase, Bria goes through all the dial plans of all the enabled accounts regardless of the user's selection of dial-out account (Auto Select, and Use Account X for Calls).

When the user finishes typing a number and presses Enter or Call, Bria checks the user's selection of accounts to determine which accounts to go through.

- When Bria is used in Auto Select mode, Bria compares the input to the patterns in the dial plan for each enabled account. Each account has one dial plan, and each dial plan has one or more patterns.
- When Bria is not used in Auto Select mode, Bria compares the input to the patterns in the dial plan for the already selected account (not to all accounts). If a match is found, the transformation associated with the pattern is performed.

3. Transformation. If a match is found between the input and a pattern, that pattern's transformation (if any) is performed.
4. Place Call. Then the call is placed using the transformed input.

3 Dial Plan Syntax

The dial plan has the following syntax:

```
pattern[ |pattern];match=1;<transformation>=<value>;[match=2;
<transformation>=<value>;]
```

Where:

- Items in [] are optional.
- Pattern: the pattern that will be matched. One or more patterns. Each pattern is separated by a | pipe. The pipe is optional after the last pattern. Each pattern is implicitly numbered, starting from 1.
- Match; Transformation: A pair that identifies the pattern number to compare with the input, and the transformation to perform on the input when a match is obtained. The transformation is optional (meaning that if there is no transformation for a pattern, then the input that matches this pattern is not transformed). One or more pairs.

“match=” is a literal. “n” identifies the pattern. “transformation=” is replaced by a keyword, see below. “value” is replaced by a value.

Spaces are allowed only in the <value> items.

Remember that dial plans are applied after the input has been cleaned up!

Example

```
\a\a.T|xxxxxxxxxx;match=1;prestrip=2;match=2;pre=8;
```

where:

- `\a\a.T` is the first pattern.
- `xxxxxxxxxx;` is the second pattern.
- `match=1;prestrip=2;` is the first match-transformation pair.
- `match=2;pre=8;` is the second match-transformation pair.

Pattern

Valid Content

The content for a pattern follows the digit map rules of RFC 2705, supplemented by the rules for regular expressions. Where there is an overlap between the digit map and regular expression rules, the digit map rules apply. For this reason, there are some special cases, included in the table below.

The following table describes the most common elements. All regular expression elements are supported.

Element	Origin	Description
	Regular expression rules	Pipe character, used to separate patterns.
0 1 2 3 4 5 6 7 8 9	Literals	Literal digits, used as is.
# * a to z	Literals	Literal characters, used as is. Special cases: <ul style="list-style-type: none"> • The literal x character is represented by <code>\x</code>. • The literal t character is represented by <code>\t</code>.
x	Digit map rules	Wildcard for any single digit, 0 to 9.
\a	Regular expression rules	Wildcard for any single alphanumeric character.
[digit-digit]	Regular expression rules	A digit within the specified range.
[character-character]	Regular expression rules	A character within the specified range.
[digit1, digit2, digit3]	Regular expression rules	One of the characters in the collection.
.	Digit map rules	Repeat the last element 0 or more times. For example, <code>xxx.</code> means repeat the last x 0 or more times, which means this pattern matches three or more digits (not four or more digits)! Use of this element results in a pattern with “minimum requirements”.

Element	Origin	Description
T	Digit map rules	<p>A timeout period of approximately 4 seconds will take place before automatic dialing starts.</p> <p>The T timer forces Bria to wait after a match is made. This timer should always be included in these situations:</p> <ul style="list-style-type: none"> Any pattern that uses the . (dot). For example, if the pattern is xxxx. then adding a timer lets you type three or more digits. If there is no timer, then as soon as you type three digits, Bria makes the match as soon as you type three digits. Any dial plan that has two patterns that are similar in elements but different in length. For example, if one pattern is xxx and the other pattern is xxxxxxx, then adding the timer lets you continue typing past three digits, in order to get a match on the second pattern. <p>In this situation, the T timer should be included in the shorter pattern.</p>

Transformation Keywords

Keyword	Description
prestrip	Strip the first n characters from the input before placing the call.
poststrip	Remove n number of characters from the end of the input before placing the call.
pre	Add the specified account prefix to the input before placing the call.
post	Attach the specified postfix to the input before placing the call.
replace	Replaces the input with the specified string before placing the call.

Order of Transformations

These transformations are always performed in the following order (the order in which the transformations are entered in the dial plan is not significant):

prestrip > poststrip > pre > post > replace

4 How the Input Is Processed

Comparing Input to the Dial Plan Patterns

The input is compared to each dial plan in turn, starting with the first listed account. Keep in mind that the input being compared is different depending on whether the input is dragged/selected or typed:

- If the input is dragged or selected, then the entire input is compared to each dial plan.
- If you are typing the input, then the digits are compared one by one as they are entered. Each time a new digit is entered, the comparison starts over at the first account.

Results of the Comparison

Bria finds a match according to the following rules.

Type of Match	Result If User Presses Enter or Call	Result if User Stops typing
The input matches the pattern and the pattern does not include the T timer	This pattern's account is immediately selected. The transformation is performed. Bria attempts the call.	Nothing happens until the user presses Enter or Call.
The input matches the pattern and the pattern includes the T timer	Not applicable because the rule for "if user stops typing" (next column) will take effect before the user has a chance to press Enter or Call.	T starts counting down after each key press. When T expires (approximately 4 seconds), this pattern's account is selected. Then the transformation is performed and Bria attempts the call.
The input does not match the pattern	Bria chooses the account used for calls depending on the user's selection. If the user selects Auto Select, then the "preferred account" is used for calling. No transformation is performed. Bria attempts the call.	Nothing happens until the user presses Enter or Call.

The "preferred account" is identified in the Account List. It can be set through provisioning (feature:accounts:defaultForCall setting) and can be changed by the user.

5 Examples

Example 1

```
\a\a.T|xxxxxxx.T;match=2;pre="9"
```

This simple example shows how to differentiate between a PSTN number and a softphone address, and how to add a “9” dialing prefix only to the PSTN number.

Example 2

```
3xxT|1xxxxxxxxxx|[2-9]xxxxxxxxxx|+x.T;match=2;pre="9";
match=3;pre="91";match=4;prestrip=1;pre="9011"
```

3xxT	The first pattern is any three-digit number beginning with 3. No transformation. The assumption is that this is an internal extension. The timer forces Bria to wait after detecting a three-digit number beginning with 3, in case you are actually dialing a local call starting with 3.
1xxxxxxxxxx	The second pattern is any eleven-digit number beginning with 1. Prefix with 9 and dial as is. The assumption is that this is a long-distance PSTN call within North America (within North America, all long-distance calls start with 1).
[2-9]xxxxxxxxxx	The third pattern is any ten-digit number beginning with a number other than 1. The assumption is that this is a local PSTN call within a ten-digit dialing zone.
+x.T;	The fourth pattern is a number of any length that begins with +, to indicate an international PSTN call from North America. Delete the +, prefix with 9011 (011 is the number to access an international line from North America).
match=2;pre="9";	For the second pattern, prefix 9 to access an outside line.
match=3;pre="91";	For the third pattern, prefix 9 and 1 to access an outside line and enter the long-distance code.
match=4;prestrip=1;pre="9011"	For the fourth pattern, remove the + and prefix 9011 to access an outside line and enter the international code.