

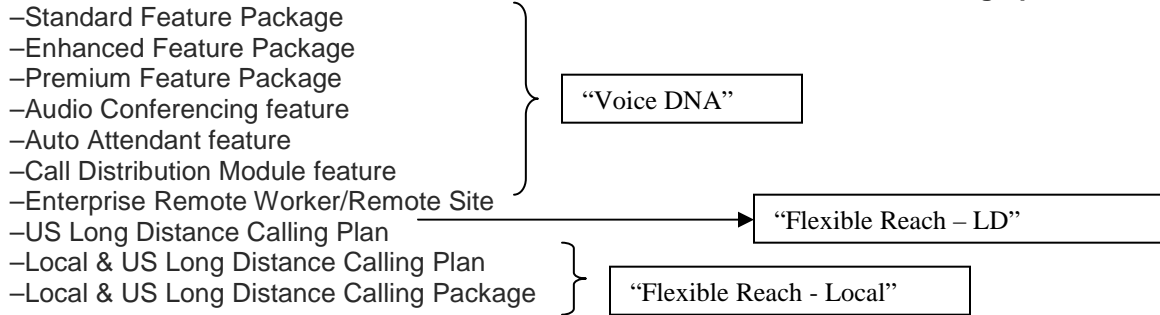


AT&T Voice DNASM Dial Plan Considerations

1 Definitions

Voice DNA is part of the AT&T VOIP Services portfolio of services that share common attributes that allow for ease of communications among users at various locations. There are some key terms that you need to familiarize yourself with, in order to be able to correctly configure the services.

1.1 AT&T Business VOIP Services – Suite of Business VOIP services with following options:



1.2 Customer Dial Plan –

The 10 digit public and private dialing plan used by a customer at their site and/or between their sites that are enabled with AT&T's Business VOIP services, with the ability to Private Dial (see definition below) within the private network.

1.3 Customer Location Dial Plan –

Each location deploying AT&T Business VOIP Service must define certain attributes. A Location Dial Plan is defined by the following elements (described above):

- Private Dial Plan indicator (always YES for Voice DNA)
 - Private Dial Plan Prefix (a.k.a. On-Net Prefix)
 - Off-net Prefix
 - Extension Length
- All Voice DNA sites within the same Tenant (defined below) share the same Location Dial Plan and hence, the same values for the above elements.
 - In order to be able to use abbreviated/private dialing between various AT&T Business VOIP sites (e.g. calling between Flex Reach LD/Local and Voice DNA sites), these sites MUST belong to the same CUSTOMER Dial Plan.

1.4 Tenant –

A Voice DNA “Tenant” is defined as a single location or a group of locations using Voice DNA service and belonging to a single Customer account AND Location Dial Plan (i.e. Tenant = Dial Plan). **All Voice DNA sites belonging to a Customer account MUST be part of the same Tenant.**

- A Voice DNA “Tenant” is uniquely identified by a “Tenant ID” and a “Tenant Registration Code (TRC)”, both system-generated. While the Tenant ID is used for tenant identification, a TRC is used, if needed, by the Customer Administrator for manual provisioning of IP phones.

1.5 Public Dial Plan –

Customer North American Numbering Plan (NANP) E.164 numbers defined for the Customer location, i.e. 10-digit NPA-NXX-XXXX. Customers using the Public Dial Plan can dial the full 10-digit number or can dial off-net prefix + **7-digits when calling their local NPA**. For example, a caller with a telephone number of 718-351-1100 calling a user with a telephone number 718-234-1234 (same NPA) can simply dial the off-net prefix followed by 234-1234.

1.6 Private Dialing –

Also referred to as “Abbreviated Dialing”, Private dialing is the ability for end users within a single customer account to dial each other without traversing the public network. These calls are classified by AT&T as On-Net and receive On-Net billing treatment. Private Dialing can occur between a customer’s Voice DNA service users, both on the same location as well as between different locations. Private Dialing can be accomplished by:

- Utilizing the full 10-digit public TN of the end user. (Dialing pattern: Off Net Prefix + 10 digit TN)
OR
- Utilizing an abbreviated dial string - extension dialing (Dialing pattern: Private Dial Plan Prefix + extension)
OR
- Extension dialing

1.7 Private Dial Plan Prefix –

This is the prefix that other locations within the customer’s dial plan will dial to reach end users at another location belonging to the same company. It is also referred to as “On-Net Prefix”. All Voice DNA sites within a customer dial plan share a common Private Dial Plan Prefix. (For Flex Reach LD and Flex Reach Local sites, the Private Dial Plan Prefix is unique to each site.) The Private Dial Plan Prefix can be up to 2 digits in length but must begin with a digit between 2 and 9.

1.8 Off Net Prefix –

This is the prefix that will be used for dialing Off-net calls (i.e., calls to end points outside of the customer’s AT&T VOIP suite of services). These calls could be local, LD, international, toll free, or other special off-net types (e.g., N11, operator services, etc). The off-net prefix is a single digit between 2 and 9. **The Off Net Prefix cannot be the same as any Private Dial Plan Prefix within the Customer’s Dial Plan.**

1.9 Extension –

For Voice DNA users with a public telephone number, an extension is usually defined as a sub-set of the public number (the last 3-7 digits). For users that do not have public numbers assigned, the Voice DNA Administrator may assign any extension that must a) be the same length as other users’ extensions, b) not be the same as any extension assigned to any other user and c) not be all zeros (for example, a 4 digit extension 0000 is not allowed).

Additionally, for values of N between 2 and 9,

- i. Publicly dialable general numbers cannot be assigned as extensions.
 - a. In a 3-digit extension tenant, users must not be assigned extensions such as 911, N11, etc.
 - b. In a 4-digit extension tenant, 0911 and 1911 must not be assigned as extensions (**the other 0N11, 1N11 strings may be assigned as extensions**).
- ii. Extensions cannot equal Off-net Prefix plus a publicly dialable general number.
 - a. In a 5-digit extension tenant with an Off-net Prefix of "9", users must not be assigned extensions matching 90911 or 91911 since 0911 and 1911 are publicly dialable numbers.
- iii. Extensions cannot equal On-net Prefix plus any of the valid dial strings.
 - a. In a 4-digit extension tenant with an On-net Prefix of "6", users must not be assigned extensions matching 6911.
 - b. In a 5-digit extension tenant with an On-net Prefix of "6", users must not be assigned extensions matching 60911 or 61911.
 - c. In a 5-digit extension tenant with an On-net Prefix of "22" (e.g., a 2 digit On-net Prefix), users must not be assigned extensions matching 22911 or 22911.
 - d. In a 6-digit extension tenant with an On-net Prefix of "22" (e.g., a 2 digit On-net Prefix), users must not be assigned extensions matching 220911 or 221911.

1.10 Extension Length –

The extension length defines the length of the abbreviated public number (a.k.a. BVOIP Extension) that can be used to reach an AT&T VOIP (Flex Reach or VDNA) end user.

a) The extension length will be the same for all Voice DNA sites within a customer dial plan and it is **STONGLY RECOMMENDED that it be the same length as the extensions for the customer's Flexible Reach locations*.**

**If the customer chooses to keep the extension lengths for Voice DNA locations to be different from their Flexible Reach locations, the following rule must be considered:*

*The Voice DNA extension length
MUST NOT equal
a Flexible Reach location's total length of On-net Prefix + Extension*

b) An ERROR will result if two end users in the same CUSTOMER DIAL PLAN have overlapping ranges in their phone number of the same length as the extension. E.g., if the Voice DNA group uses 4 digit extensions, there cannot be two end users in the group with phone numbers of 212-222-1234 and 201-333-1234. Additionally, if there are Flexible Reach Locations in the same CUSTOMER DIAL PLAN with extension length =4, there CANNOT be a Flexible Reach user with the phone number 908-444-1234.

Please see the Voice DNA dial plan examples below for a more thorough review.

2 Extension Rules

Extensions assigned to **Voice DNA** users must be 3 to 7 digits in length:

Voice DNA Extension is used for

- a) Private dialing within a Voice DNA location,
- b) Private dialing between Voice DNA locations of a given Customer/Tenant (a.k.a. Intra-Tenant dialing) and
- c) Private dialing between Voice DNA and Flex Reach Local/LD locations.

3 Abbreviated Dialing Patterns

End users can always dial the Off-net Prefix and the public 10-digit Telephone Number to reach other end users at the same site or across Customer Sites. If the call is classified as On-Net (i.e., to another end user within the Customer Dial Plan) On-Net billing treatments will apply.

In addition to the public dialing available, the following abbreviated (private) dialing patterns are supported (NOTE: abbreviated dialing between IP Flex Reach and VDNA users is supported only if the VDNA the extension is the last several digits of the corresponding 10 digit TN).

3.1 Flex Reach LD/Local to VDNA Calling¹

A Flex Reach LD/Local user can call a Voice DNA user within the same company by dialing:

Private Dial Plan Prefix of VDNA location + VDNA Extension.

Note that all Voice DNA sites within a customer dial plan share a common Private Dial Plan Prefix AND the Voice DNA extension must be the last few digits of the public TN.

3.2 VDNA to Flexible Reach LD/Local Calling¹

A Voice DNA user can call a Flex Reach LD/Local user within the same company by dialing:

Flex Reach LD/Local location Private Dial Plan Prefix + Extension

where the Private Dial Plan Prefix is that assigned to the site of the called party.

3.3 VDNA to VDNA Calling

A Voice DNA user can call another Voice DNA user within the same Tenant by dialing:

VDNA Extension only,
OR
VDNA Private Dial Plan Prefix + VDNA Extension

Where, the Private Dial Plan Prefix is that assigned to the VDNA Group (all VDNA sites within a tenant share a common Private Dial Plan Prefix).

TIP: If different sites within the same Voice DNA tenant need to have unique Extension identifiers, the first digit of the extension may be set to be the same for all users at a particular site. For example, if a Voice DNA customer has 3 locations X, Y and Z,

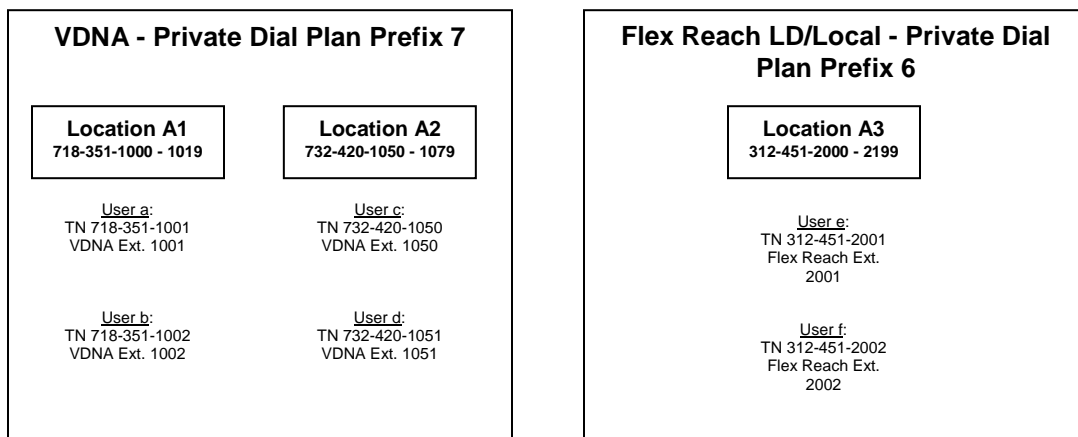
- users at location X may be assigned extensions starting with the number 2,
- users at location Y may be assigned extensions starting with the number 3 and
- users at location Z may be assigned extensions starting with the number 4.

¹ Please check with your AT&T Sales representative for supported configurations

4 Voice DNA Dial Plan example # 1

Customer definition:

- Customer has 2 VDNA locations & 1 Flex Reach LD/Local location
- VDNA Locations:
 - 718-351-1000 through 1019
 - 732-420-1050 through 1079
 - Private Dial Plan Prefix of 7 is selected (Same Private Dial Plan Prefix applies to both VDNA sites).
 - Off Net Prefix = 9 (Same Off Net Prefix is used by both sites)
 - 4 digit extension length
- Flexible Reach LD/Local Location:
 - 312-451-2000 through 2199
 - Private Dial Plan Prefix of 6 is selected
 - Off Net Prefix = 8
 - 4 digit extension length
 - Total length On Net Prefix + extension = 5



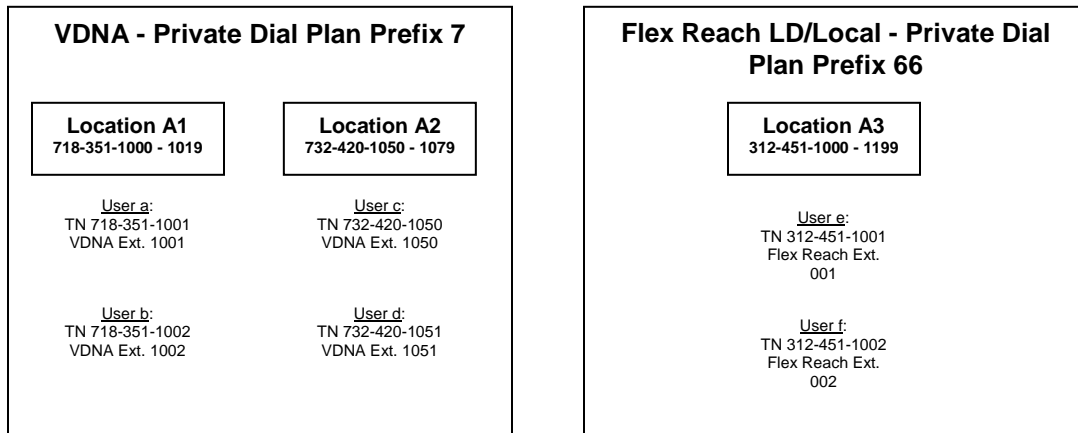
Dialing Notes:

- 1. Intra- VDNA tenant: Users 'a' through 'd' can call each other by dialing:**
 - VDNA extension only (e.g., user 'c' dials 1001 to reach user 'a').
 - Private Dial Plan Prefix + VDNA extension (e.g., user 'c' dials 71001 to reach user 'a').
 - Off Net Prefix + Full public TN (e.g., user 'c' dials 9-718-351-1001 to reach user 'a').
- 2. VDNA to Flex Reach LD/Local dialing:**
 - Private Dial Plan Prefix + Flex Reach extension (e.g., user 'c' dials 62001 to reach user 'e').
 - Off Net Prefix + Full public TN (e.g., user 'c' dials 9-312-451-2001 to reach user 'e').
- 3. Flex Reach to VDNA dialing:**
 - Private Dial Plan Prefix + Flex Reach extension (e.g., user 'e' dials 71001 to reach user 'a').
 - Off Net Prefix + Full public TN (e.g., user 'e' dials 8-718-351-1001 to reach user 'a')

5 Voice DNA Dial Plan example # 2: VDNA / Flex Reach sites with different extension lengths. *(Different extension lengths used to avoid the conflict caused by the overlap in phone number ranges for the VDNA and Flex Reach sites – Location A1 and Location A3 range overlap of 1000-1019)*

Customer definition:

- Customer has 2 VDNA locations & 1 Flex Reach LD/Local location
- VDNA Locations:
 - 718-351-1000 through 1019
 - 732-420-1050 through 1079
 - Private Dial Plan Prefix of 7 is selected (Same Private Dial Plan Prefix applies to both VDNA sites).
 - Off Net Prefix = 9 (Same Off Net Prefix is used by both sites)
 - 4 digit extension length
- Flexible Reach LD/Local Location:
 - 312-451-1000 through 1199
 - Private Dial Plan Prefix of 66 is selected
 - Off Net Prefix = 8
 - 3 digit extension length
 - Total length On Net Prefix + extension = 5



Dialing Notes:

- 4. Intra- VDNA tenant: Users 'a' through 'd' can call each other by dialing:**
 - VDNA extension only (e.g., user 'c' dials 1001 to reach user 'a').
 - Private Dial Plan Prefix + VDNA extension (e.g., user 'c' dials 71001 to reach user 'a').
 - Off Net Prefix + Full public TN (e.g., user 'c' dials 9-718-351-1001 to reach user 'a').
- 5. VDNA to Flex Reach LD/Local dialing:**
 - Private Dial Plan Prefix + Flex Reach extension (e.g., user 'c' dials 66001 to reach user 'e').
 - Off Net Prefix + Full public TN (e.g., user 'c' dials 9-312-451-1001 to reach user 'e').
- 6. Flex Reach to VDNA dialing:**
 - Private Dial Plan Prefix + Flex Reach extension (e.g., user 'e' dials 71001 to reach user 'a').
 - Off Net Prefix + Full public TN (e.g., user 'e' dials 8-718-351-1001 to reach user 'a')