Direct VoIP Provisioning Center Data Management Guide

VoIP ALI Data Provisioning Processes

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Introduction

The purpose of this guide is to provide the VoIP Provisioning Center (VPC) with a detailed overview of the processes associated with ALI data provisioning for VoIP deployments where West Direct is the ALI database provider for the PSAP. This guide provides clarification of the ALI provisioning activities required and the sequence in which these activities must be performed by the VPC and other entities involved.

The diagrams contained within this guide are simplified workflow diagrams. The work activities flow from left to right across the page in the sequence in which the activities are performed. The participants of the process are listed on the left hand side of the page and those activities for which the participants are responsible are displayed in the boxes directly in line with the participant's name. Any process inputs that are required to make the process operate are listed directly after the participant's list. The process workflow diagrams provided in this guide are:

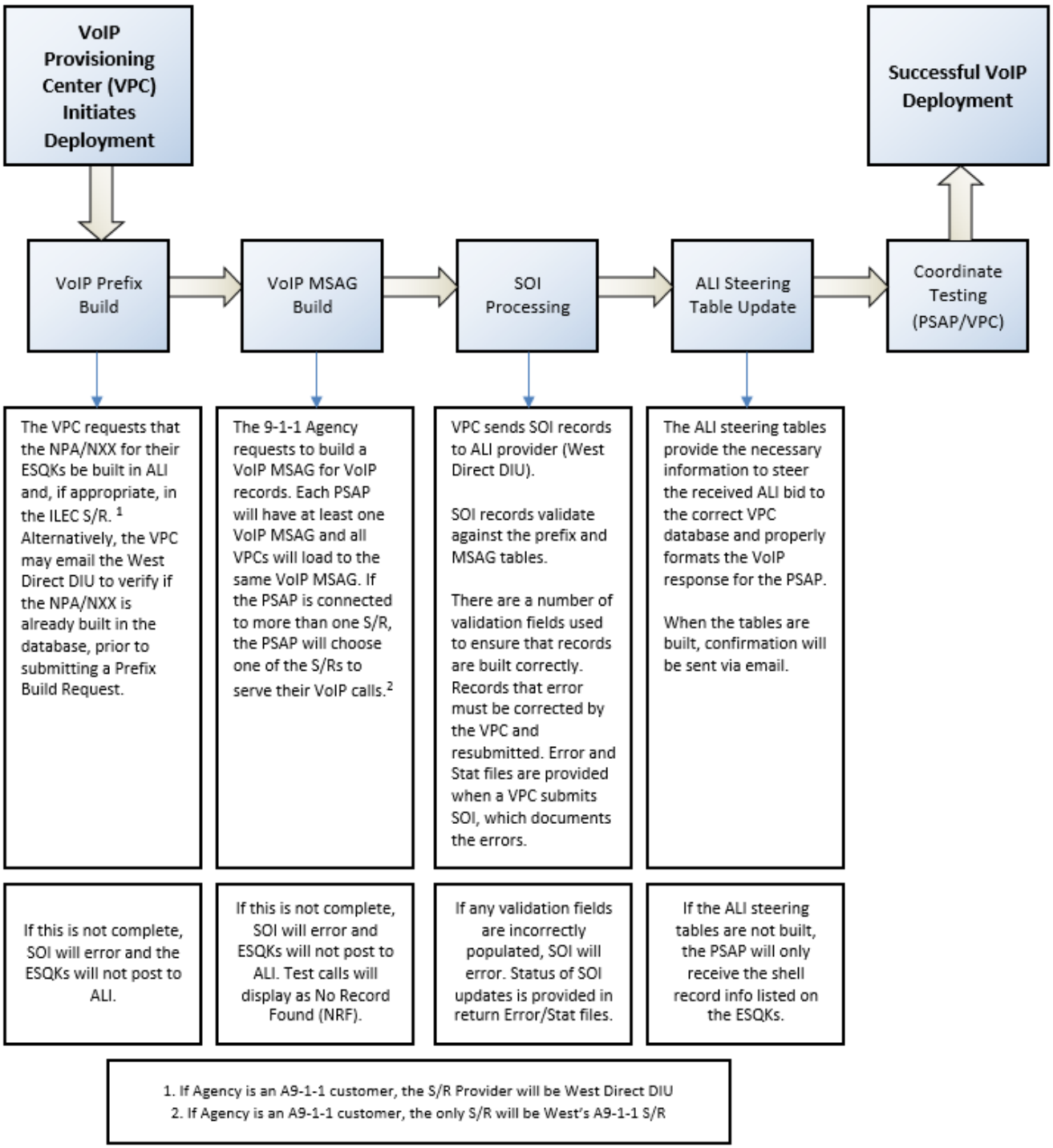
- VoIP Deployment Process Overview
- VoIP Table Build – NPA/NXX Request Process
- VoIP MSAG Build Process
- Service Order Interface (SOI) Process
- Steering Table Update Process

The first diagram shown is the high-level overview of data provisioning for VoIP deployments. The diagrams that follow are more detailed workflow diagrams of each of those processes depicted in the high-level diagram. An example of the Direct ALI Steering Table form and instructions for populating the form are included herein. The e-mail address for obtaining an electronic copy of the official forms is also provided.

Finally, a list of West Direct DIU support contacts is provided in the back of this guide for your reference.

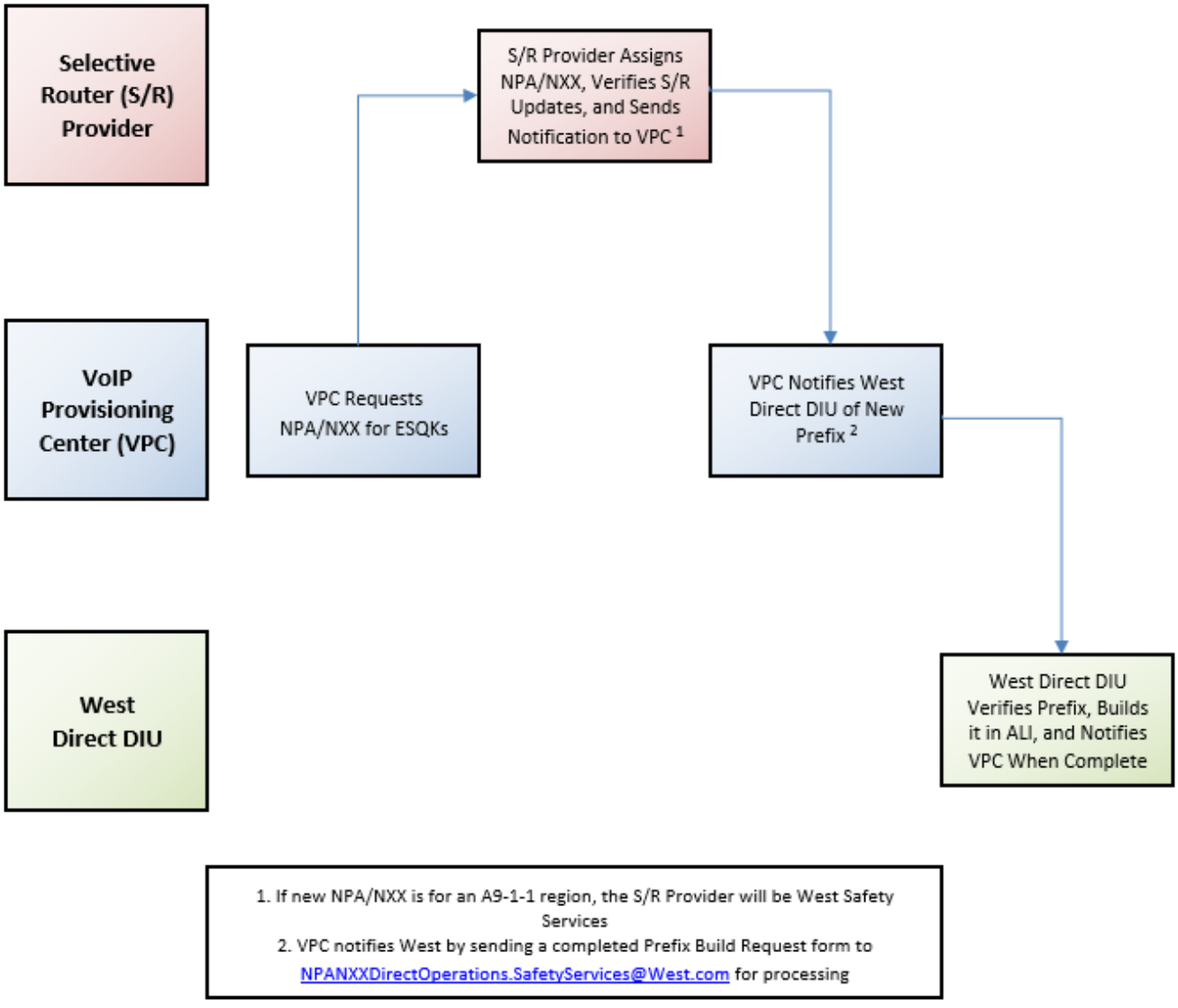
The purpose of this guide is to promote an understanding of the VoIP data provisioning processes and to ultimately ensure that VoIP deployments move smoothly and efficiently.

VoIP Deployment Process Overview



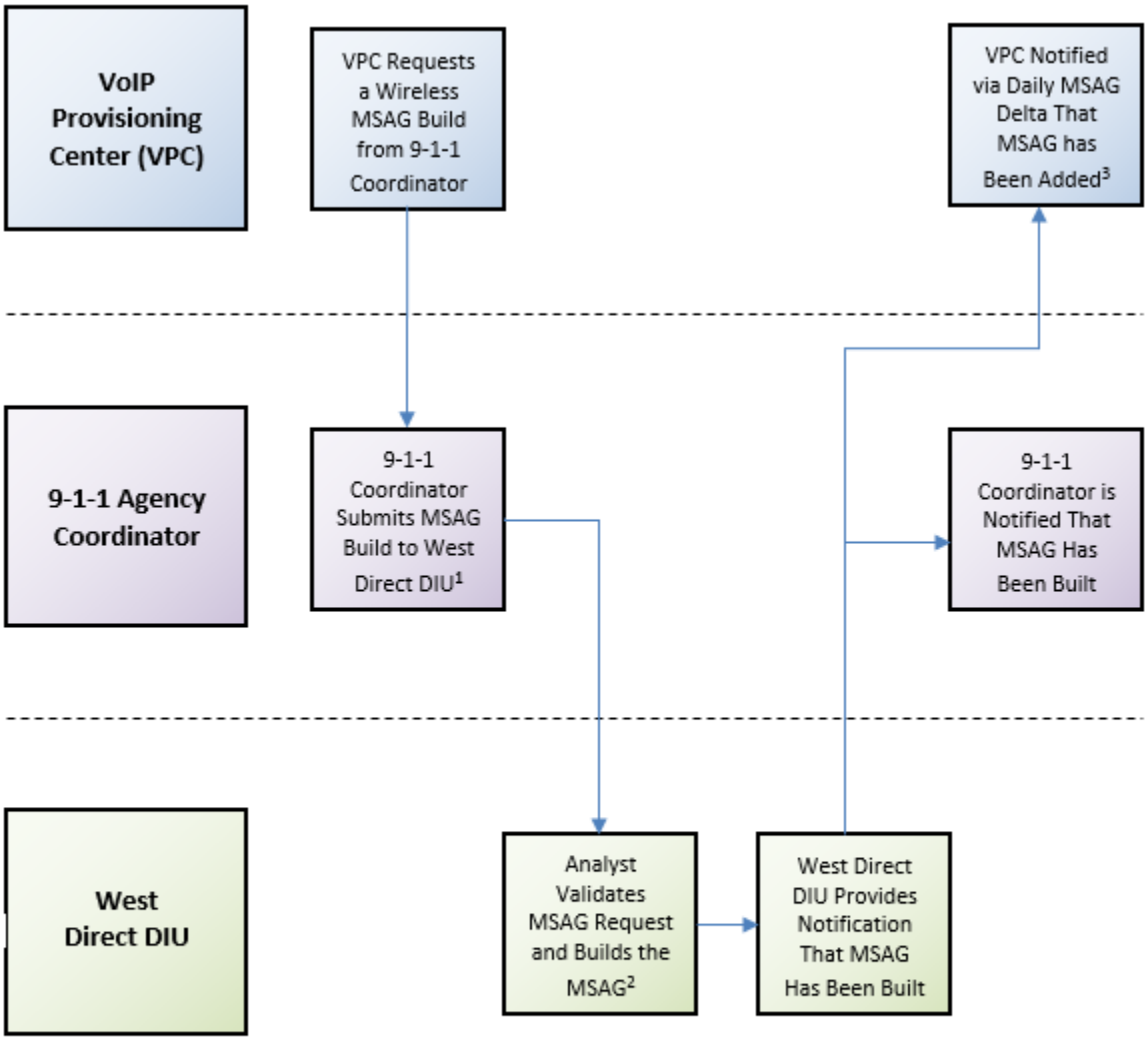
VoIP Table Build

NPA/NXX Request Process



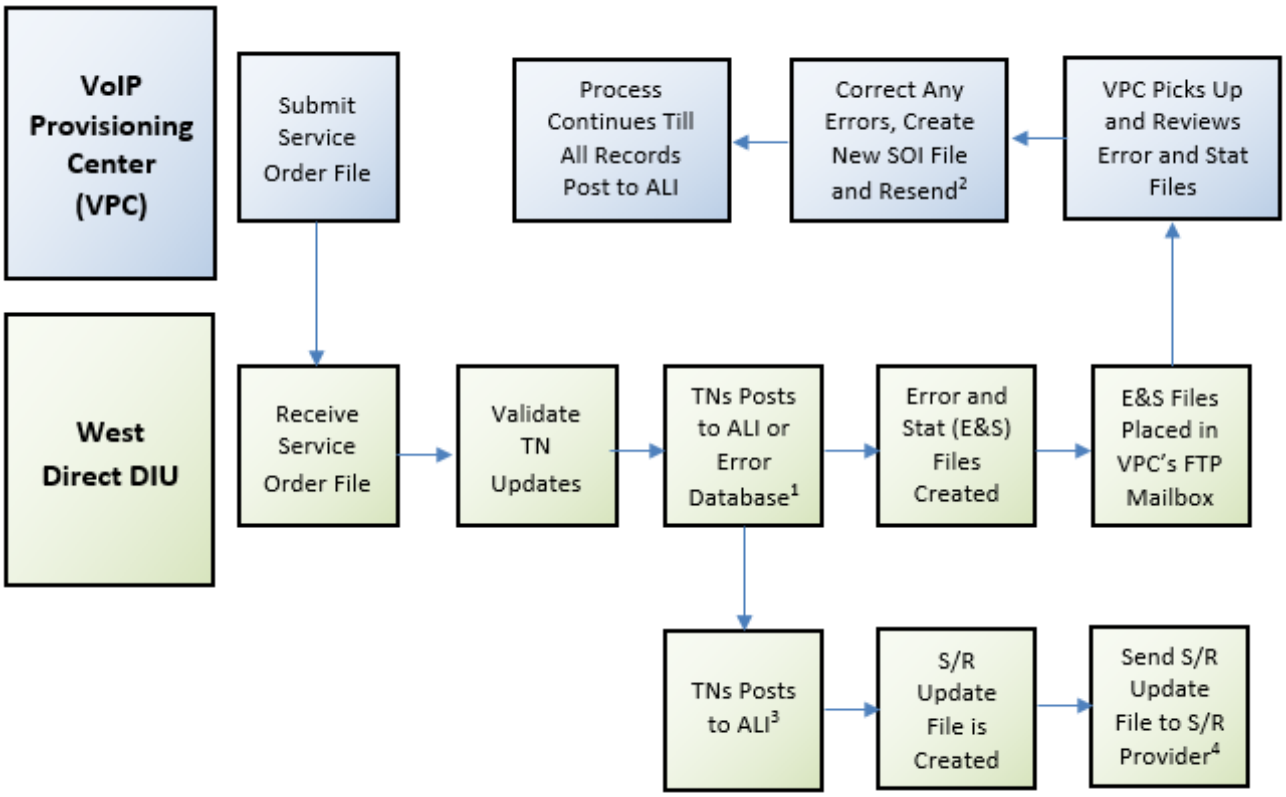
1. If new NPA/NXX is for an A9-1-1 region, the S/R Provider will be West Safety Services
2. VPC notifies West by sending a completed Prefix Build Request form to NPANXXDirectOperations.SafetyServices@West.com for processing

VoIP MSAG Build Process



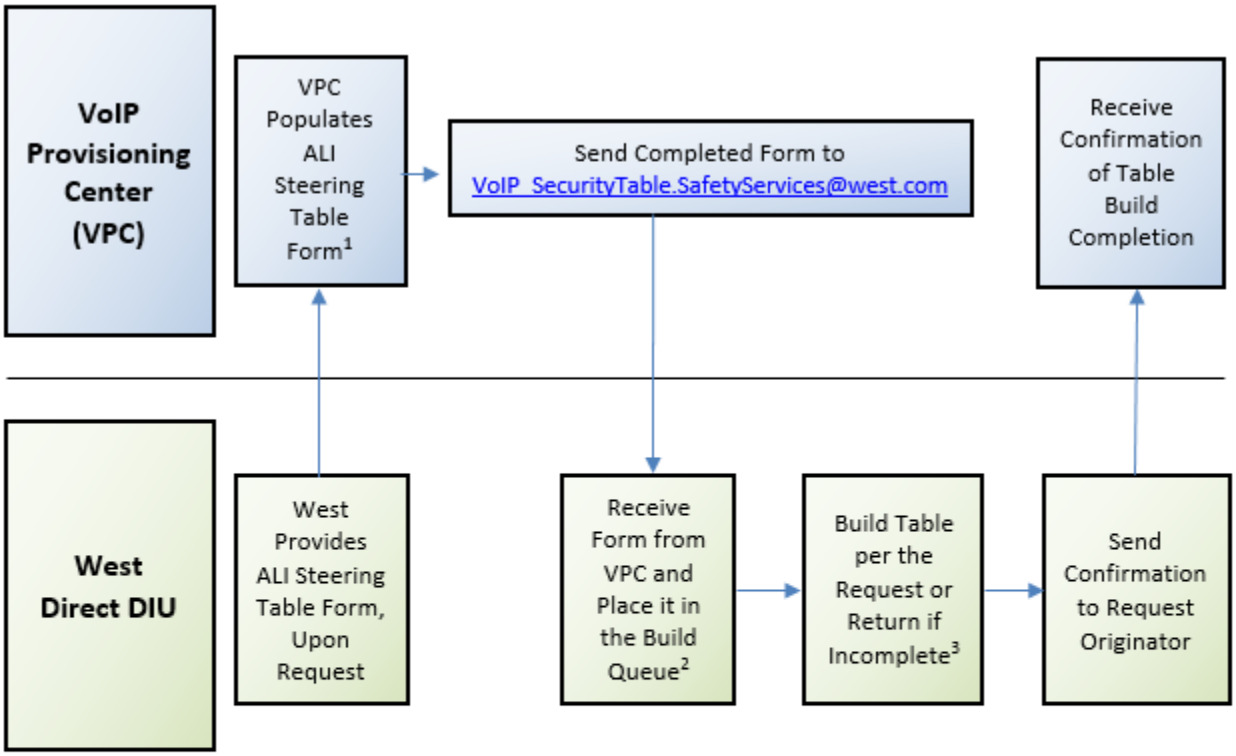
1. MSAG Change Request (MSAG CR) will be submitted via 9-1-1 NET application
2. If MSAG CR fails validation, it's returned to 9-1-1 Coordinator to correct and resubmit
3. Daily MSAG Delta is sent to VPC's FTP mailbox which details new MSAG entry. The VPC can also verify MSAG has been added via the MSAG Query in 9-1-1 NET

Service Order Interface (SOI) Process



1. If NPA/NXX in service order file is new and has not yet been built, the SOI updates will error with a 101 code
2. TN(s) in error must be corrected and then resubmitted by the VPC via a new SOI file
3. If updates in SOI file are for an A9-1-1 region, they're automatically sent from ALI to the S/R
4. The delay between the TN posting in ALI and the S/R updating is a few minutes to 24 hours

Steering Table Update Process



1. Detailed instructions for populating and submitting the ALI Steering Table form are included within the form
2. Normal turnaround time for ALI steering table builds is five (5) business days
3. If request is returned to originator, turnaround time is five (5) business days from the time the corrected form is received by West

Direct ALI Steering Table Form Instructions

Field Name	Apppropriate Field Entry
1. Contact Name and Number	Enter the name and phone number for the individual submitting the form
2. ALI ID	Enter the ALI identification, if applicable
3. ALI Steering Provider	Enter the name of the carrier who provides ALI steering for the TN range(s) listed on the form (i.e. Bandwidth, Comtech TCS, T-Mobile, TRDO)
4. Carrier/NENA ID	Enter the carrier's NENA ID which is associated with the NPA-NXX of the TN range(s) listed on the form. Leave this field blank if the carrier does not have a registered NENA ID
5. ILEC	Enter the database platform that the TN range(s) listed on the form should be built to (i.e. ATT-MW, ATT-SE, Delaware, Direct, Frontier, Verizon/Shared)
6. ESRK-ESRD-ESQK	Specify if the TN or TN range in the row are ESQKs, ESRKs or ESRDs
7. PSAP Name and State	Specify the PSAP name and state associated with the TN or TN range in the row
8. Insert Request	Enter a TN or TN range that should be added to the ALI steering table
9. Delete Request	Enter a TN or TN range that should be removed from the ALI steering table
10. Change Request/Current Range	Enter a current TN or TN range that should be changed in the ALI steering table
11. Change Request/New Range	Enter a new TN or TN range that should replace the current TN or TN range detailed in the prior field
12. Special Instructions	If applicable, detail special instructions associated with the ALI steering table build request

After completing the required fields in the form, email the completed form to VoIP_SecurityTable.SafetyServices@West.com. The Direct ALI Steering Table form will be processed within five (5) business days of receipt. An email notification will be sent to the request initiator when the ALI Steering Table provisioning has been completed.

Sample of the "Direct ALI Steering Table Form"

ALI Steering Table Form

Please limit to 10 TN range builds per request. After the form is completed e-mail the form to: WSecurityTable@west.com for wireless requests or voip_securitytable.safetyservices@west.com for VOIP requests. The ALI Steering Table Form will be processed within five business days of receipt. Once the form has been processed, an e-mail notification will be sent back to the initiator of the form.

Contact Name and Number: (Contact submitting the form)	
ALI ID: (if applicable)	
ALI Steering Provider: (TCS, Bandwidth, West Safety Services - TRDO, INdigital, Onvoy)	
Carrier/NENA ID: Enter the carrier's NENA ID associated with the NPA/NXX of the shell record. Leave this field blank if the carrier does not have a registered NENA ID	
ILEC: Choose from the list below	

ALASKA - ATTMW - ATTSE - CENTURYLINK - DC - DELAWARE - DENCO - DIRECT - FRONTIER - FRONTIER CT - HAWAII - PULASKI

Specify ESRK - ESRD - ESQK	**PSAP Name and State**	**Insert Request** (i.e. 123-456-7890 through 8000)	**Delete Request** (i.e. 123-456-7890 through 8000)	**Range** (i.e. 123-456-7890 through 8000)	**Change Request / New Range** (i.e. 123-456-7890 through

Special instructions: (i.e. TCS THUNDER, ATTRSETNAME or SALI)	

VPC ALI Data Provisioning Checklist

This checklist is provided to assist in expediting the provisioning and troubleshooting processes. If deployment testing assistance is requested from West, this list will be reviewed before scheduling assistance to ensure that all of the necessary provisioning steps have been taken before allocating resources to assist with testing.

Verified	Data Provisioning Process	How To Verify[1]
	1) Valid Wireless MSAG(s) built	Verify through 9-1-1 NET. See process document to determine resolution if this step has not been completed.
	2) Prefix Build Request form filled out, submitted, and processed by West	A confirmation is sent to the requestor by West once the NPA/NXX table has been built. This can also be confirmed via a request to the West Direct DIU Analysts (DirectAnalysts.SafetyServices@West.com). See process document to determine resolution if this step has not been completed.
	3) Service Order Input (SOI) files submitted and ESRKs posted to ALI	Verify this through a review of your Error and Stats files.
	4) Direct ALI Steering Table form filled out, submitted, and processed by West	A confirmation is sent to the requestor by West once the table has been built. This can also be confirmed via a request to the West Direct DIU PjS mailbox (DirectPjS.SafetyServices@West.com).
	5) Request technical assistance to troubleshoot deployment issues [2] [3]	Contact West's Carrier Support Center at 888-460-0686.

[1] Refer to process documentation for symptoms if the corresponding process has not been completed.

[2] To adequately schedule resources for technical assistance, a minimum 5-day notice is required.

[3] When requesting technical assistance, it will only be provided when all of the processes detailed in this checklist have been appropriately verified.

VPC Deployment Technical Support and Troubleshooting

- VoIP testing cannot be scheduled until the steps in this guide have been completed. West Direct DIU supports VoIP testing during normal business hours, which are 8:00 a.m. to 5:00 p.m. Mountain Time (MT), Monday through Friday (excluding observed holidays).

- VoIP testing may be arranged by contacting a West Direct DIU Project Specialist (see 'VPC Assistance Guide' below).

- Afterhours testing may be accommodated on a resource-available basis and will be billable at West's professional services rates.

- Production-related technical support is available 24x7x365 through West's ECRC (see 'VPC Assistance Guide' below).

West Direct DIU VPC Assistance Guide

Topic	Contact	Email Address	Information Required
101 Errors / NPA-NXX Build Requests	West Direct DIU	NPANXXDirectOperations.SafetyServices@West.com	Completed Prefix Build Request Form
9-1-1 NET® Error Corrections Provisioning Questions	West Direct DIU	DirectAnalysts.SafetyServices@West.com	9-1-1 NET Setup Form or User ID Error Code and TN Description of Issue
West Direct DIU ALI Steering Table Build Requests	West Safety Services	VoIP_SecurityTable.SafetyServices@West.com	A Completed "Direct ALI Steering Table Form"
Requests for: C:E Setup and Assistance SOI File Questions and Issues Troubleshooting Assistance	Brian Scattergood Sr. Project Specialist 720-864-5259 Sophia Lucero Project Specialist 720-494-5848	DirectPjS.SafetyServices@West.com	For New C:E Setups, a Completed C:E Setup Form is Required For SOI Issues, the SOI File Name is Required
Connect:Enterprise or 9-1-1 NET Application Issues	West Service Desk 877-856-7504	N/A	C:E Mailbox ID, File ID or 9-1-1 NET User ID
24-Hour Support for Production Issues Only	Emergency Call Relay Center 800-357-4911	N/A	Contact Info and Description of Issue

Ticket Request Instructions

Submit Ticket Requests to West Service Desk as Follows:

1. Provide your name, call back number, and a description of the problem. Make sure to specify if the PSAP region in question is an A9-1-1 region or CSEC/Texas region.

2. Identify the issue as one of the following:

   A. Connect:Enterprise / SOI Processing Issues
      I. What is your C:E mailbox ID?
      II. What is the name of the SOI file in question?
      III. If you're receiving an error, what is the error message?

   B. VoIP Troubleshooting
      I. Misrouted Call:
         a. Was the location information that was returned from the third party vendor ALI displayed at the PSAP?
         b. What specifically displayed on the call taker's screen (all numbers and words)?
         c. Have you verified with the selective-router (S/R) provider that the ESQK/ESN is in the S/R database?

      II. Incorrect or No Data Displayed at the PSAP:
         a. What specifically displayed on the call taker's screen (all numbers and words)?
         b. What else displayed on the PSAP screen (i.e. 'no record found,' incorrect location, shell record only, etc.)?
         c. Did the VPC VoIP ALI receive an E2 bid for the call?

   C. Other (define)

West Direct DIU A9-1-1 Prefix Build Request Form

To request a new NPA/NXX build for the West Direct Platform, please populate the requestor-specific information in the right-hand column of the following table and submit to West at NPANXXDirectOperations.SafetyServices@West.com.

Information Description	Requestor-Specific Information
NPA-NXX:	
TN Range: (i.e., 7000-7199, 7200-7399):	
Your Company Name:	
Company Type: (i.e., WRLN, WRLS or VoIP)	
Your NENA ID:	
Prefix Rate Center:	
Selective Router Name or CLLI:	
Submitted By:	
Email:	
Contact Phone Number:	

Appendix A: Glossary (Terms and Definitions)

ALI

Automatic Location Identification (ALI) refers to 1) a feature of enhanced 9-1-1 service that provides the display of the name, address, telephone number, and emergency service agencies associated with the telephone equipment from which 9-1-1 is dialed, and 2) the database that stores this information for retrieval during a 9-1-1 call.

Direct DIU

The Direct Data Integrity Unit (DIU) is responsible for managing data associated with all regions that are directly hosted by West Safety Services, as well as the unit that manages V9-1-1 functionality for various government agencies.

ELT

English Language Translation is a database table that provides the names of the emergency service agencies that serve a particular ESN. For VoIP, PSAPs may choose an ELT that reads "Verify" for each police, fire, and EMS field so that the call taker does not auto-dispatch an incorrect service agency without first verifying the VoIP caller's actual location.

ESN

Emergency Service Number is a three-to-five-digit numeric code that represents an emergency service zone. This number is used by the selective router to route E9-1-1 calls to a particular PSAP.

ESQK

Emergency Service Query Key is one of the P-ANIs used for VSP routing over the Peering network.

ILEC

Incumbent Local Exchange Carrier is the dominate phone carrier within a geographic area as determined by the FCC.

MSAG

Master Street Address Guide is a database that contains all valid addresses within an E9-1-1 service area. Each address range in an MSAG is associated with an Emergency Service Number (ESN) to enable proper routing of 9-1-1 calls.

NENA

National Emergency Number Association is a U.S.-specific organization of 9-1-1 service providers.

NPA/NXX

Number Plan Area/Prefix is the area code and the first three digits of a local seven-digit phone number. This number identifies the central office out of which the phone number originates.

PSAP

Public Safety Answering Point is an agency in the United States, typically county or city controlled, responsible for answering 9-1-1 calls for emergency assistance from police, fire, and ambulance services. A Primary PSAP receives the calls directly. If the call is relayed or transferred, the next receiving PSAP is designated a Secondary PSAP.

S/R

Selective Router (aka 9-1-1 tandem) is a switch that electronically routes 9-1-1 calls based on the p-routing number assigned to the call from a central office area that is served by more than one PSAP to the proper PSAP. This is accomplished by the combination of the Routing ESN and the customer location information.

SOI

Service Order Input is the process of sending an electronic file of a designated pANI range for a PSAP by matching the PSAP's MSAG to the range. This will be sent electronically to the 9-1-1 host's selective router so it is able to route the range to the correct PSAP.

VoIP

Voice over IP is the routing of voice conversations over an IP-based network (including, but not exclusive to, the Internet). The voice data flows over a general-purpose packet-switched network, instead of traditional dedicated, circuit-switched telephony transmission lines.

VPC

VoIP Provisioning Center is the group responsible for provisioning VoIP pANI data in the appropriate 9-1-1 host provider's database.

VSP

VoIP Service Provider is a vendor that sells VoIP telephony service.

Appendix B: Revision History

Version	Summary of Version Changes
V2008.06.11	Initial Release
V2008.07.07	Revised Intrado VPC Assistance 'Where to Call' section to reflect current contact information
V2012.03.21	1) Updated "Direct External VoIP Steering Form Instructions" section and table 2) Updated Intrado VPC Assistance "Where to Call" table 3) Added new "Direct A9-1-1 Prefix Build Request Form" section and table 4) Updated Appendix A: Glossary
V2018.02.28	1) Updated "Intrado" to "West" 2) Updated page numbering 3) Updated all flow charts within document 4) Updated "Direct External VoIP Steering Table Form" example