AVAYA

Avaya Solution & Interoperability Test Lab

Application Notes for Geomant OnCall IVR with Avaya Aura® Session Manager 7.0.1 and Avaya Aura® Communication Manager 7.0.1 - Issue 1.0

Abstract

These Application Notes describe the configuration steps for Geomant OnCall IVR to interoperate with Avaya Aura® Session Manager 7.0.1 and Avaya Aura® Communication Manager 7.0.1. IVR allows customer to be routed using script based self-service functionality via Avaya Aura® Communication Manager vectors. The IVR server connects via a SIP Trunk.

Readers should pay attention to Section 2, in particular the scope of testing as outlined in Section 2.1 as well as any observations noted in Section 2.2, to ensure that their own use cases are adequately covered by this scope and results.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

SJW; Reviewed:
SPOC 12/20/2016

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1. Introduction

These Application Notes describe the configuration steps for Geomant OnCall IVR to interoperate with Avaya Aura® Session Manager 7.0.1 and Avaya Aura® Communication Manager 7.0.1. The IVR uses scripted prompts to route calls to services via SIP.

2. General Test Approach and Test Results

The general test approach was to configure an IVR server to communicate with the Communication Manager via a SIP trunk configured on the Session Manager. The OnCall IVR was deployed in the Devconnect lab. Testing was performed by calling inbound to a VDN and using Vectors to allow the calling party to connect to the OnCall IVR. The call is processed using key presses based on the IVR options provided.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

2.1. Interoperability Compliance Testing

The interoperability compliance test included both feature functionality and serviceability testing. The feature functionality testing focused on the OnCall IVR receiving calls in different call scenarios. The tests included:
- Call connected to an Available Agents.
- Call queued when No Available Agents.
- Call disconnected on request.
- Failover/Service – Tests the behaviour of OnCall IVR Server during certain failed conditions.

2.2. Test Results

All Test cases were completed successfully with the following observations.
- Options are turned off by default meaning that although the connection to Session manager is working correctly, a 405 message is returned.

2.3. Support

Technical Support can be obtained for Geomant products from the following.

Web: www.geomant.com
Email:support@geomant.com
Telephone: +44 (0)207 022 4874

3. Reference Configuration

The configuration shown in **Figure 1** was used during the compliance test of Geomant OnCall IVR with Session Manager and Communication Manager. The OnCall IVR utilises a SIP connection through Session Manager and place calls to Communication Manager.
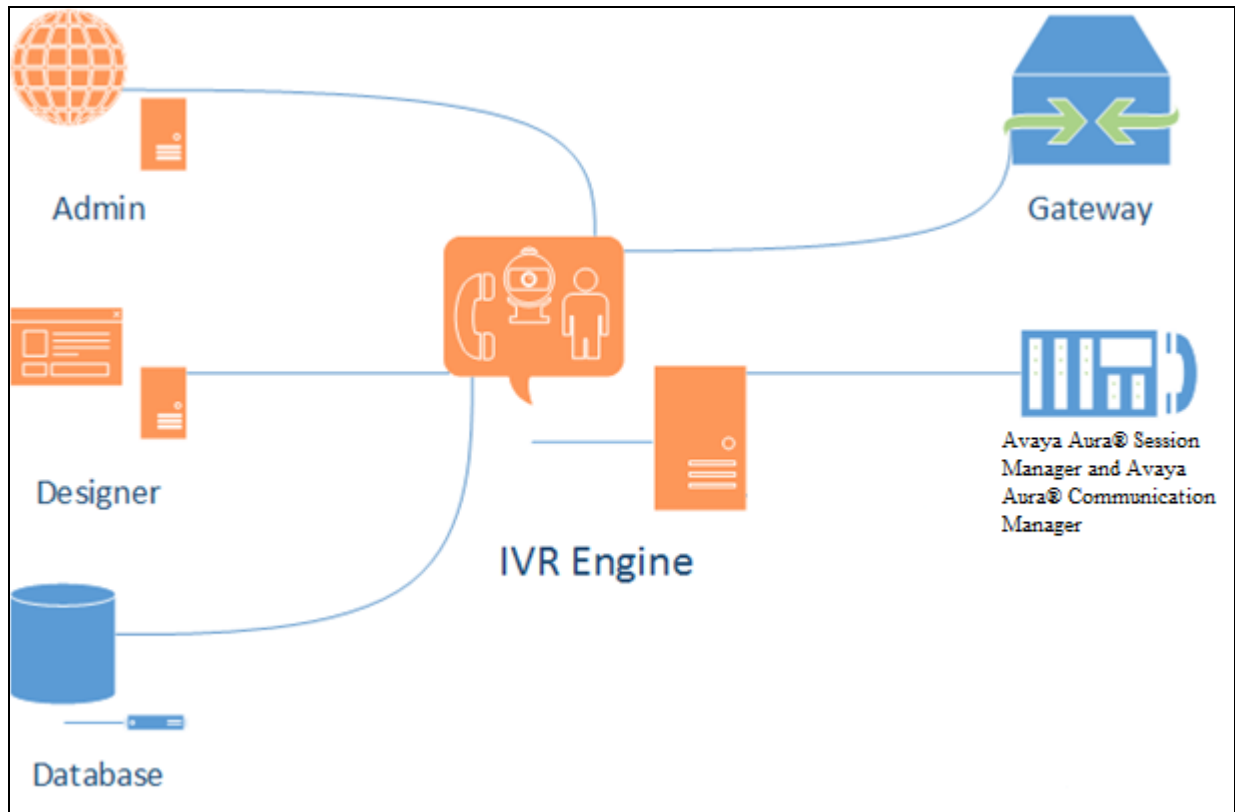

Figure 1: OnCall IVR with Avaya Aura® Session Manager and Communication Manager

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4. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Avaya Equipment/Software	Release/Version
Avaya Aura® Communication Manager running on VMware	R7.0 Build R017x.00.0.441.0 S/W update 7.0.1.1.0.441.23169 Platform update PLAT-rhel6.5-0010
Avaya Aura® Session Manager running on VMware	R7.0.1.1.70114
Avaya Aura® System Manager running on VMware	R7.0.1.2 Build No. 7.0.0.0.0.16266 S/W update 7.0.1.2.075662 Service Pack 2
Avaya 96xx IP phones 9611G (H.323)	6.6029
Avaya G430 Media Gateway • MGP Firmware	Version 37.38.0
Geomant Equipment/Software	
OnCall IVR Server	Version 2.0.9.

5. Configure Avaya Aura® Communication Manager

Configuration and verification operations on Communication Manager illustrated in this section were all performed using Avaya Site Administrator Emulation Mode. The information provided in this section describes the configuration of Communication Manager for this solution. It is implied a working system is already in place, including SIP trunks to Session Manager. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 10**. The configuration described in this section can be summarized as follows:

•   Verify System Capacity (SIP)
•   Verify System Options (EAS-PHD)
•   Define VDN's
•   Define Vectors

5.1. Verify System Capacity

The license file installed on the system controls these attributes. If a required feature is not enabled or there is insufficient capacity, contact an authorized Avaya sales representative. Use the **display system-parameters customer-options** command to determine these values. On **Page 2** of the System-Parameters Customer-Options form**,** verify that the number of **Maximum Administered SIP Trunks** supported by the system is sufficient.

```
display system-parameters customer-options                      Page   2 of  10
                           OPTIONAL FEATURES

IP PORT CAPACITIES                                                   USED
                    Maximum Administered H.323 Trunks: 12000 16
           Maximum Concurrently Registered IP Stations: 18000 2
             Maximum Administered Remote Office Trunks: 12000 0
Maximum Concurrently Registered Remote Office Stations: 18000 0
                 Maximum Concurrently Registered IP eCons: 414   0
  Max Concur Registered Unauthenticated H.323 Stations: 100   0
                       Maximum Video Capable Stations: 41000 1
                Maximum Video Capable IP Softphones: 18000 4
                     Maximum Administered SIP Trunks: 24000 180
  Maximum Administered Ad-hoc Video Conferencing Ports: 24000 0
   Maximum Number of DS1 Boards with Echo Cancellation: 522   0
                            Maximum TN2501 VAL Boards: 128   0
                   Maximum Media Gateway VAL Sources: 250   0
           Maximum TN2602 Boards with 80 VoIP Channels: 128   0
          Maximum TN2602 Boards with 320 VoIP Channels: 128   0
  Maximum Number of Expanded Meet-me Conference Ports: 300   0


        (NOTE: You must logoff & login to effect the permission changes.)
```

On Page 7 On Page 2 of the System-Parameters Customer-Options form, verify that EAS-PHD and the **Vectoring** options are set to **y**.

```
display system-parameters customer-options                    Page   7 of  12
                        CALL CENTER OPTIONAL FEATURES

                        Call Center Release: 7.0

                                ACD? y                     Reason Codes? y
                       BCMS (Basic)? y          Service Level Maximizer? n
         BCMS/VuStats Service Level? y          Service Observing (Basic)? y
 BSR Local Treatment for IP & ISDN? y    Service Observing (Remote/By FAC)? y
                 Business Advocate? y           Service Observing (VDNs)? y
                  Call Work Codes? y                          Timed ACW? y
       DTMF Feedback Signals For VRU? y                 Vectoring (Basic)? y
                 Dynamic Advocate? n             Vectoring (Prompting)? y
      Expert Agent Selection (EAS)? y          Vectoring (G3V4 Enhanced)? y
                        EAS-PHD? y              Vectoring (3.0 Enhanced)? y
                 Forced ACD Calls? n     Vectoring (ANI/II-Digits Routing)? y
                                          Vectoring (G3V4 Advanced Routing)? y
          Lookahead Interflow (LAI)? y                   Vectoring (CINFO)? y
 Multiple Call Handling (On Request)? y   Vectoring (Best Service Routing)? y
    Multiple Call Handling (Forced)? y          Vectoring (Holidays)? y
   PASTE (Display PBX Data on Phone)? y          Vectoring (Variables)? y
          (NOTE: You must logoff & login to effect the permission changes.)
```

5.2. Add Customer Call and Queuing VDN's

Use the command **add vdn #** where # is a valid extension in the Communication Manager dial plan. Give the VDN a descriptive **Name*:**. enter the **Destination** as the Vector Number used and enter the first skill as the skill given to the agents assigned to answer the customer calls. Vector **60** was used in testing. This step is repeated for the queuing VDN with the Destination being the Vector used to route the customer call.

```
add vdn 8274100                                              Page   1 of   3
                         VECTOR DIRECTORY NUMBER

                            Extension: 827-4100
                                Name*: GeomantOutbound
                          Destination: Vector Number        60
                   Attendant Vectoring? n
                   Meet-me Conferencing? n
                   Allow VDN Override? n
                                  COR: 1
                                  TN*: 1
                             Measured: both  Report Adjunct Calls as ACD*? n
        Acceptable Service Level (sec): 20

        VDN of Origin Annc. Extension*:
                           1st Skill*: 1
                           2nd Skill*:
                              3rd Skill*:
```

5.3. Add Customer Call and Queuing Vector's

The vector examples below are examples of what was used in testing. Use the **change vector #** command where # is the Destination vector added in **Section 5.2**.

5.3.1. Customer Call Vector GeomantIVR

The Vector simply transfers the call to the Geomant OnCall IVR, where a self-service IVR script plays an announcement indicating the customer to enter a digit to request a transfer to an agent. If the digit is pressed the call is queued to an agent and if not the call is disconnected.

```
change vector 60                                              Page   1 of   6
                               CALL VECTOR

    Number: 60              Name: GeomantIVR
Multimedia? n     Attendant Vectoring? n    Meet-me Conf? n          Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? y  G3V4 Adv Route? y   CINFO? y   BSR? y   Holidays? y
 Variables? y   3.0 Enhanced? y
01 wait-time    2   secs hearing ringback
02 route-to     number 8200001           with cov n if digit       = 1
03 stop
```

5.3.2. Queuing Vector
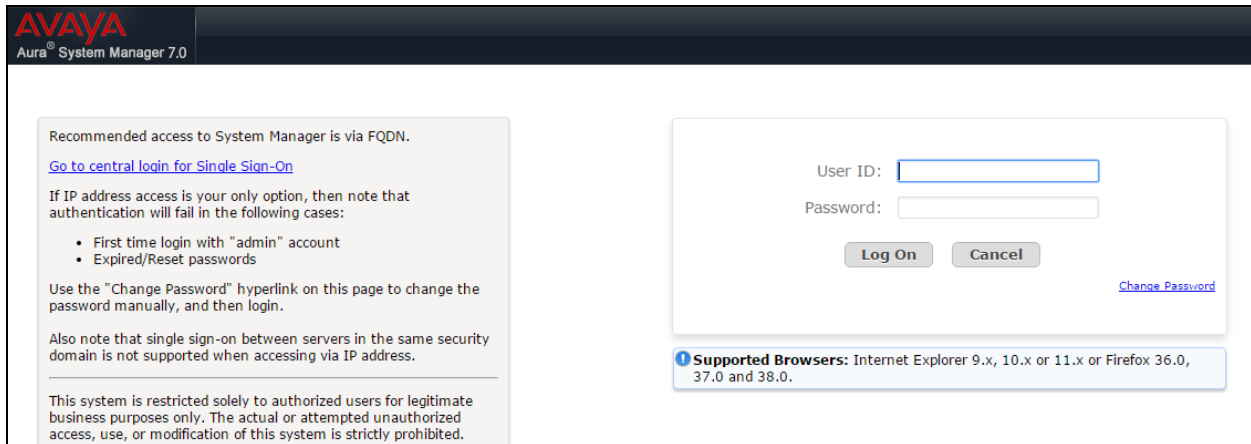
The Vector queues the customer call to a pre-defined skill and waits in the queue until an agent becomes available.

```
change vector 61                                              Page   1 of   6
                               CALL VECTOR

    Number: 61              Name: GeomantINB
Multimedia? n     Attendant Vectoring? n    Meet-me Conf? n          Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? y  G3V4 Adv Route? y   CINFO? y   BSR? y   Holidays? y
 Variables? y   3.0 Enhanced? y
01 wait-time    2   secs hearing ringback
02 queue-to     skill 1st  pri m
03 wait-time    10  secs hearing ringback
04 goto step    3            if unconditionally
05 stop
```

6. Configure Avaya Aura® Session Manager

The section describes the steps required to allow OnCall IVR to communicate with Session Manager. All configuration was done using the Avaya Aura® System Manager web interface and it is assumed that a working Session Manager has been previously installed and configured; making this out with the scope of this document.

Browse to **https://System Manager IP/Hostname/SMGR** to access the web interface of the System Manager. Login with authorized credentials.

The dashboard will be loaded and from this select **Routing** from the **Elements** section.

6.1. Add IVR Entity

The OnCall IVR server must be added as a trusted entity on System Manager. On the **Routing** tab select **SIP Entities** from the left hand menu and click on **New**

Enter a descriptive **Name** and valid **FQDN or IP Address**. Select **SIP Trunk** from the **Type** drop down. All other entries can be default. Click on **Commit** to save the changes (not shown).
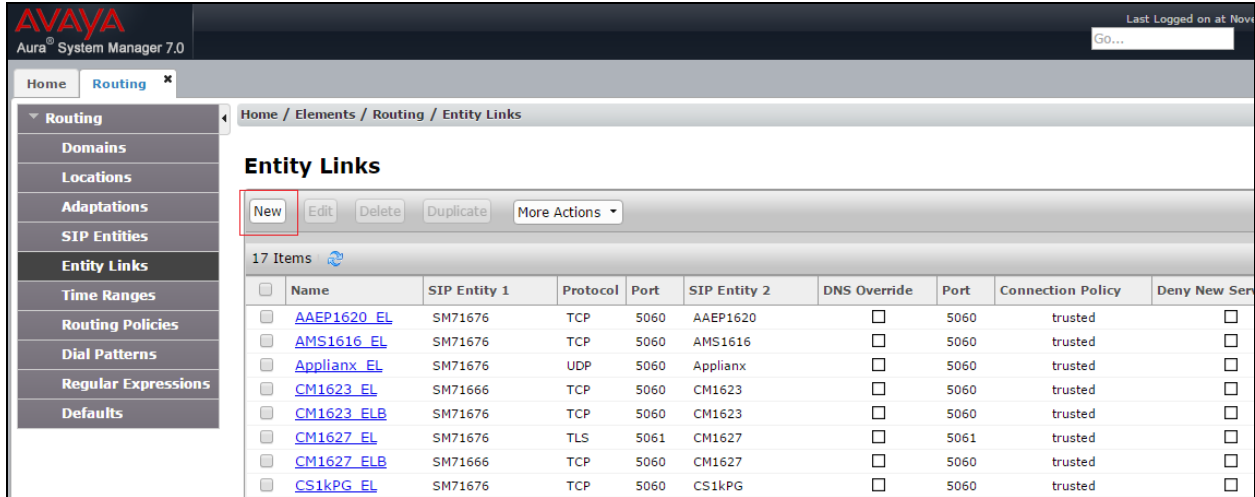
6.2. Add IVR Entity Link
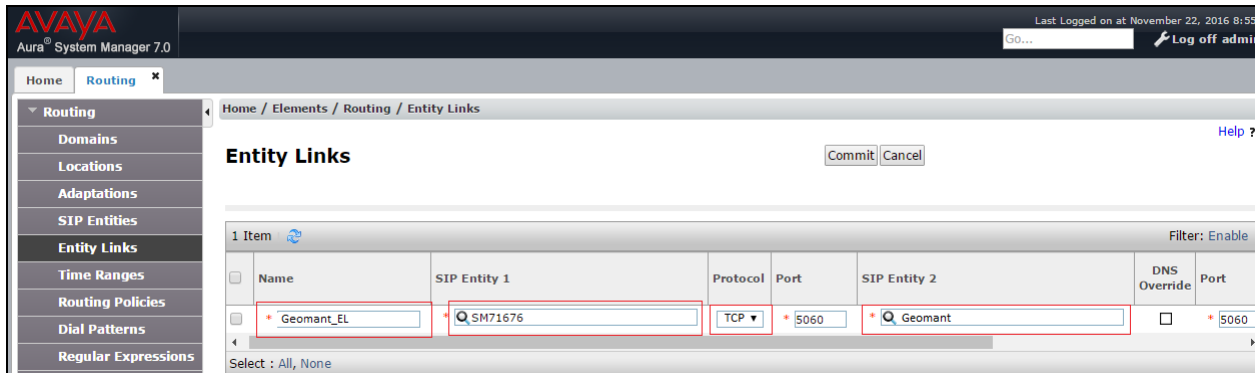
A trusted link between the Session Manager and OnCall IVR must be created to allow SIP communication to be made between the servers. On the **Routing** tab Select **Entity Links** from the left hand menu and click on **New**.

Enter a descriptive **Name** and Select the Session Manager entity as **SIP Entity 1** used to communicate. **SM72676** was used for testing. Enter the **OnCall IVR** entity as **SIP Entity 2** and then select the **Protocol** as **TCP**. The Port will automatically reset to 5060.

7. Configure Geomant OnCall IVR

Geomant OnCall IVR is installed and configured by Geomant Technicians. Support can be obtained using the contact information in **Section 2.3**. For testing the following entry was edited in the OnCall IVR configuration file to allow communication with the The Avaya Aura® Session Manager.
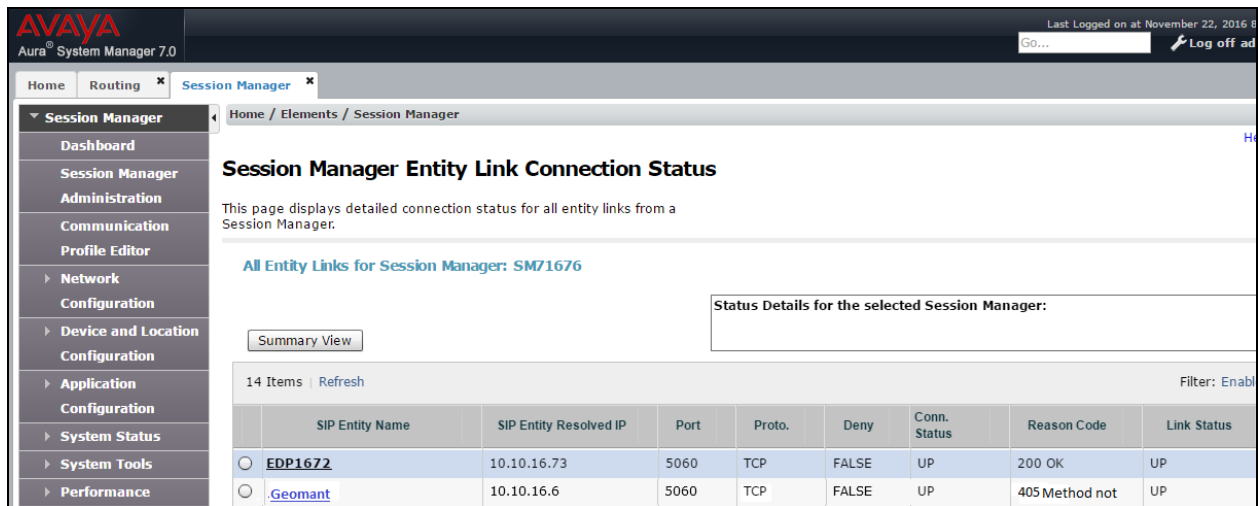
1. From the Installation Directory locate and open the **EndPoint\UCMAIVR.exe.config**

2. Check and update the configuration parameters as per your requirements – use the parameter descriptions below for guidance.

   - **Localhost**: the local host name used to build a SIPURI, e.g. Avaya Session Manager IP address
   - **Port**: the SIP network communication port of the *Endpoint Service*, the default is **5060**
   - **Standaloneserverport:** the SIP network communication port of the SIP server. The default is 5060
   - **Standaloneserveraddress:** the IP address of the telephony infrastructure server (e.g. a SIP PBX) where the SIP INVITE messages are sent in case of outbound calls and transfers). This is the Avaya Session Manager.

8. Verification Steps

This section describes the steps needed to verify the link between OnCall IVR and Session manager is established.

8.1. Session Manager

From the System Manager Dashboard (not shown), select Session Manager from the Elements Section. Select SIP Entity Monitoring (not shown) from left hand menu under **System Status**. Verify that the **Geomant** SIP Entity is set to **Deny False**, **Conn. Status** is **UP**, and **Link Status** is **UP**.

8.2. OnCall IVR

Check OnCall IVR server logs to show that port has been established and waiting for requests. OnCall IVR server logs can be found on the local server at *C:\<Installation Directory> \EndPoint\log*.

8.3. Communication Manager

Calls can be made to the OnCall IVR server and from the OnCall IVR to the VDN numbers to verify routing.

9. Conclusion

These Application Notes describe the compliance tested configuration of the Geomant OnCall IVR Solution with Avaya Aura® Communication Manager 7.0.1 and Avaya Aura® Session Manager 7.0.1. All tests passed with observations noted in **Section 2.2**.

SJW; Reviewed:
SPOC 12/20/2016

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10. Additional References

This section references the Avaya documentation relevant to these Application Notes. The following Avaya product documentation is available at http://support.avaya.com.

[1] *Administering Avaya Aura® Communication Manager,* Release 7.0, August 2015, Document Number 03-300509, Issue 1.
[2] *Avaya Aura® Communication Manager Feature Description and Implementation,* Release 7.0, August 2015, Document Number 555-245-205, Issue 1.
[3] *Administering Avaya Aura® Session Manager,* Release 7.0, Issue 1 August 2015.
[4] *Administering Avaya Aura® System Manager,* Release 7.0, Issue 1, August, 2015.

Product Documentation for OnCall IVR can be requested from
http://kb.geomant.com/display/kb/Geomant+IVR