



**Sample Report**  
**Virsae System and Application Assessment**

*This document is a 20-page abridged example of a typical report.*



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## 1.0 Executive Summary

The results of this System and Applications Assessment are very positive in terms of overall voice quality. It is one of the best environments assessed to date with the voice quality experienced by users being generally exceptional. Having said that, elements of the deployment are at risk, particularly if something changes.

Voice quality will plunge if there is a change in WAN setup or provider. This is because there is currently very little contestability on the voice network, which is masking a number of issues with the QoS configuration both with the Avaya equipment and on the network.

There are several other factors existing in production that are not configured correctly yet are not resulting in negative consequences for now, but almost certainly will at some stage in the future. For example, there has been a significant investment in providing local survivability. In some cases, local survivability will fail when it is required. This is due to a combination of the survivable servers not being in standby, and also a lack of resources local to that server, which are required for use during operation.

While the WAN offers low contestability for bandwidth, two Media Gateways are experiencing errors. These errors are often a precursor to an outage and should be investigated to avoid a possible outage.

Improvements in Customer Experience, particularly with regard to inbound calls to the call center, can be made by using Event data and automatically drawn Vector call flows presented in this report. Event data uncovers issues with Customer Experience that are seldom reported by end-users and yet are the source of frustration and can led to churn.

There is room to significantly lift the efficiency and cost effectiveness of WAN and Trunks through simple reconfiguration and traffic modeling.

### 1.1. Summary Legend

The summary tables in the following detailed sections depict the status of data discovered by Virsae:

Item	Symbol
Report data is within accepted values, or best practice has been applied, no action is required.	✓
Report data is not ideal. This is unlikely to cause issues, but best practice recommends ongoing observation or changes.	■
Report data is outside of accepted values, further investigation is required as there are potential issues with Customer Experience or Reliability. Cost Savings are also possible.	●
Report data shows a serious issue that is likely to cause an outage, or have a serious negative impact on Customer Experience, urgent action required.	✘

### 1.2. Recommendations

#### 1.2.1. Urgent

The following are recommended for urgent action:

- ✘ Two sites are currently not survivable as the servers are not registered. This is due to a fault that needs to be addressed.

- \* Configuration issues exist - both with the survivable servers and with audio groups. Correction is recommended to ensure the solution works when the survivable processors are active.
- \* Correct DS1 synchronization sources. This is a very simple, non-business impacting process that will immediately increase reliability of trunks and improve voice quality.
- \* Three SIP Entities are down. Four SIP Entities are partially up. Two SIP Entities are unmonitored. Remediate any existing issues or remove redundant configuration. All production SIP Entities should be monitored unless there is a specific reason otherwise.
- \* DSP media resources need to be added at two locations: Site xx and Site yy. The current configuration is negatively impacting customer experience.
- Quality of Service settings need to be checked in conjunction with the data network team. A review of the IP Network Region and Location design is highly recommended.
- All Media Gateways should run error-free. The presence of a high number of missed heart-beats represents a serious risk of an outage on two Media Gateways.
- A review of the Vector design is highly recommended. Use the Event data provided to reconcile Events against Vector as-built flow charts provided with this report to isolate and correct issues that impact customer experience.
- Trunk Groups can be rationalized, and significant cost savings realised.
- Music on hold is delivered by analogue port, meaning many music sources devices are deployed around the network. This is not best practice and represents an unnecessary overhead that can be removed by converting to announcement-based audio group music.

### 1.2.2. Non-urgent

There are several simple improvements that can be made that will increase efficiency and provide an improved customer experience. Refer to the summary sections throughout the document.

## 2.0 Configuration Management

The following sections and schematic diagrams depict how the key parts of the solution are configured.

### 2.1. Media Gateways

Media Gateways communicate with the main server via gatekeepers. Gatekeepers may be C-Lan or Processor Ethernet. Reliability of the Media Gateways is essential to trouble-free operation.

#### 2.1.1. Summary

Item	Configuration
Media Gateway Controller	✓
Survivability	✗

The Media Gateways are all using 10.xx.xx.xxx (PROCR) as their primary controller. Although this also represents a single point of failure, it is the current recommended architecture from Avaya.

Two sites are currently not survivable. Some configuration issues exist - correction is recommended.

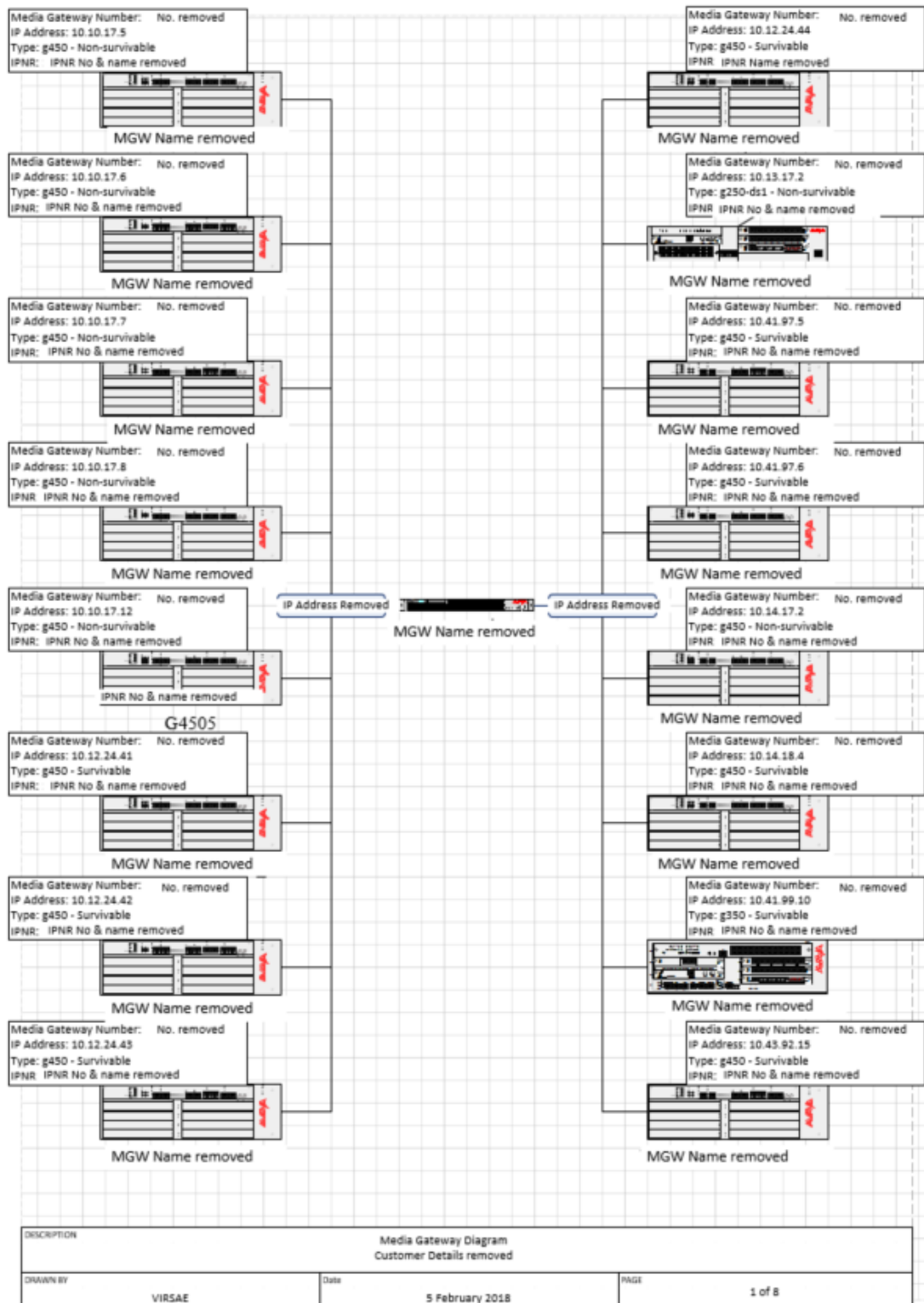
#### 2.1.2. Detail

Survivability

The following 8 x Media Gateways have issues with their configuration, or are not survivable at the time of writing this report:

Media Gateway	Name	IPNR	Issue	Impact
2	abc_BR-990	111	ESS is in IPNR 1 "removed Colo"	■
18	def_BR-50	19	LSP is in IPNR 4 "removed"	■
36	ghi_jklm	21	ESS is in IPNR 1 "removed Colo"	■
37	opq_rstu	21	ESS is in IPNR 1 "removed Colo"	■
49	QRST_BR-049	149	LSP is not registered to ACM	✗
70	vw_BR-211/2	70	No survivable processor	■
88	xyz_BR-297	27	LSP is not registered to ACM	✗
100	S1SMB_BR-991	2	ESS is in IPNR 1 "removed Colo"	■

Detailed schematics appear on the following pages.



Seven further media gateway diagrams related to this example customer not shown.

Link to the Media Gateway Diagrams is [here](#).

## Network Regions

The Network Region design should closely match the physical layout of the network, including the real-time queues in the WAN configuration. Misalignment between the IP Network Region configuration and the WAN is a cause of many IP telephony issues.

The same concept applies to Session Manager, where Locations are used for the same purpose.

### 2.1.3. Summary

Item	Configuration
ACM IP Network Regions	●
SM Locations	●

A review of the IP Network Region design is highly recommended.

The Session Managers have no Locations configured at all.

### 2.1.4. Detail

The configuration of the Network Regions within ACM infers that the network contains nine main hubs, and all inter-site traffic traverses one or more of these hubs:

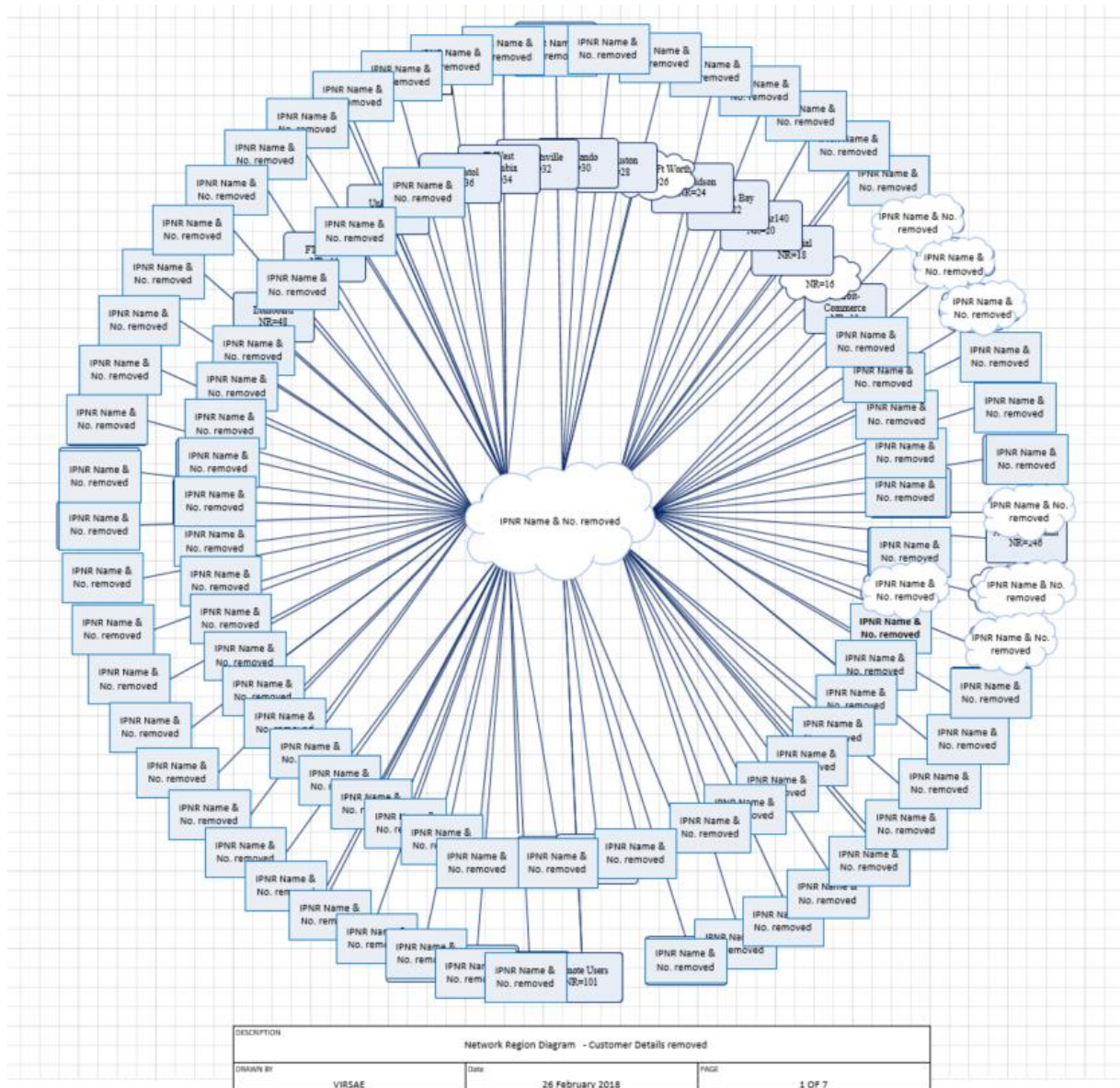
- ▼ Removed Colo (1)
- ▼ Old Removed Colo (15)
- ▼ abc (26)
- ▼ def (16)
- ▼ hij (10)
- ▼ S1 klm (2)
- ▼ opqr (12)
- ▼ AAC-S1 (243)
- ▼ AACC-S1 (244)

The configuration also suggests that there are no bandwidth limitations on WAN circuits between sites. This is an unlikely scenario.

Detailed schematics appear on the following pages.

Neither Session Manager has Locations configured. This will become a major issue as more users and functionality moves into Session Manager.





Six further network regions diagrams related to this example customer not shown.

Link to the Network Region Diagrams is [here](#).

## 2.2. IP Station QoS

VSM gathers data about configuration on all aspects of the communication systems that can negatively impact voice quality. Voice engineers often look to the data network as the cause of all voice problem and in many cases, this is true, but there are many times when the cause is closer to home in the configuration of the voice system, or caused by miscommunication about network requirements based on voice configuration.

Caller experience at “customer” is of a very high standard. However, there are a large number of IP phones that are not configured to best practice standards. All the IP Phones can be easily reviewed for the settings and those needing remediation identified - there



are too many to list in this document, however the information will be provided to enable correction.

### 2.2.1. Summary

Item	Configuration
IP Station QoS	●

A review of the IP Station QoS is highly recommended. The main reason there are few VQM issues at “customer” is because there is very little contention on the network.

### 2.2.2. Detail

This information was accurate at the time of the review which focused on the same period as the Voice calls that were examined i.e. 3rd January 2018:

- ✔ There are 377 IP Phones that are in the VLAN 0 which is typically the default VLAN and does not have an QoS applied
- ✔ There are 364 IP Phones that have 802.1Q Tagging set to “Off” which means that QoS queues set in the network will not be honored
- ✔ There is 1 IP Phone (extn 108441) has a primary Ethernet Speed of “10mbps”
- ✔ There are 2 IP Phones (extn 130546, 115617) that 802.1Q Framing set to “Off”

Links to the Phone data with the details behind these extensions is report is [here](#)

### 2.2.3. Example

The most important settings are highlighted in the table below. In this case, the configuration is good including the DSCP Audio being set to 46 (best practice setting). Configuration such as software version was compared against other extensions on the same hardware type and there is a good level of consistency. VLAN 6 is the common VLAN for IPNR 111 and therefore assumed to be correct.

Item	Configuration
Station Number	12345
Station Name	User Name
IPAddress	removed
Number	12345
Siteld	111
Site	Bay St - 2nd Floor
Type	9611
Hardware	9611GD01A
Software	6.6029
EthernetSpeed	100
EthernetDuplex	full duplex
EthernetStatus	auto negotiation
SecondaryEthernetSpeed	100
SecondaryEthernetDuplex	full duplex
SecondaryEthernetStatus	auto negotiation
RTCPMonitorAddress	removed

Item	Configuration
8021QFramingCode	on
Layer28021QAudioPriority	6
Layer28021QSignallingPriorit	6
Layer28021QVLAN	6
8021QTaggingStatus	on
DHCPInUse	removed
DHCPLeaseTime	691500
DHCPLeaseRenew	345750
DHCPLeaseRebind	605059
SSOption	0
SSOptionContents	MCIPADD=10.128.x.xx,10.128.x.xx,TFTPSRVR=172.xx.x.xxx,HTTPSRVR=172.xx.x.xxx,HTTPDIR=/96x1_H323,L2Q=1,L2QVLAN=6,VLANTES
DSCPAudio	46
DSCPSignalling	46
Id	2c58f77b-cad6-xxx-bbb54df78939
UTCDateTime	1/8/2018 21:09
ApplicationVersion	S9608_11HALBR6_6_0_29U_V474.tar
PhoneSerialNo	10WZ50551545
MACAddress	B4:B0:17:84:xx.xx
Domains	"customer".com
DSPVersion	PX3.2

### 2.3. Audio Groups

Audio Groups can be confusing to administer and manage. Even if Audio Groups are not set up correctly, they can still appear to work when tested. For example, the .wav file played is the one 'closest' to the caller. Test calls can reveal the appropriate announcement content is heard. But how can announcements on distant VAL boards be tested? The distant boards can contain the incorrect .wav file, and therefore play the wrong message. The Audio Group report can be used to confirm that the configuration is correct in every aspect.

#### 2.3.1. Summary

Announcement Ext	Name	Audio Group	Configuration
108240	IT_Support_Center_1	3	●
112216	xxx_Holiday	3	●
All others			✓

Two announcements have Audio Groups set up, but the .wav files have not been uploaded onto the corresponding boards.

Audio Groups are not configured to cover every site which may prevent correct operation if a site has to run under its Local Survivable Processor or Enterprise Survivable Server.

Not having Audio Groups configured on all Media Gateways can lead to inefficient WAN usage.

**Note:**

Music on hold is delivered by analogue port, meaning many music sources devices are deployed around the network. This is not best practice and represents an unnecessary overhead that can be simplified and improved by converting to announcement-based music.

**2.3.2. Detail**

The table below shows the configuration of Audio Group 3. This has been included, as it is very difficult to get a complete view of the configuration through regular interfaces. (Note, for the purposes of this examples only some of Audio Group 3 has been included).

SAMPLE REPORT

Extn	Name	Group	Board	File Name	Create Date Time	Size Kb	Group Name
102201	Redacted	3	008V9	F:Redacted.wav	8/09/2017 21:52	79	xyz/abc location
102201	Redacted	3	035V9	F:Redacted.wav	18/04/2017 11:56	79	xyz/abc location
102201	Redacted	3	100V9	F:Redacted.wav	18/04/2017 11:56	79	xyz/abc location
102232	Dial_6_Digit1	3	008V9	F:Dial_6_Digit1.wav	8/09/2017 21:54	24	Xyz/abc location
102232	Dial_6_Digit1	3	035V9	F:Dial_6_Digit1.wav	26/01/2017 8:26	24	Xyz/abc location
102232	Dial_6_Digit1	3	100V9	F:Dial_6_Digit1.wav	26/01/2017 8:26	24	Xyz/abc location
102249	AH_TRIAL	3	008V9	F:AH_TRIAL.wav	8/09/2017 21:50	149	xyz/abc location
102249	AH_TRIAL	3	035V9	F:AH_TRIAL.wav	25/01/2017 20:49	149	xyz/abc location
102249	AH_TRIAL	3	100V9	F:AH_TRIAL.wav	25/01/2017 20:49	149	xyz/abc location
102250	AH_RENOWN	3	008V9	F:AH_RENOWN.wav	8/09/2017 21:51	152	Xyz/abc location
102250	AH_RENOWN	3	035V9	F:AH_RENOWN.wav	25/01/2017 20:56	152	Xyz/abc location
102250	AH_RENOWN	3	100V9	F:AH_RENOWN.wav	25/01/2017 20:56	152	Xyz/abc location
102260	ZERO	3	008V9	F:ZERO.wav	8/09/2017 21:59	15	xyz/abc location
102260	ZERO	3	035V9	F:ZERO.wav	26/01/2017 10:22	15	xyz/abc location
102260	ZERO	3	100V9	F:ZERO.wav	26/01/2017 10:21	15	xyz/abc location
102261	ONE	3	008V9	F:ONE.wav	8/09/2017 21:59	14	Xyz/abc location
102261	ONE	3	035V9	F:ONE.wav	26/01/2017 10:22	14	Xyz/abc location
102261	ONE	3	100V9	F:ONE.wav	26/01/2017 10:21	14	Xyz/abc location
102262	TWO	3	008V9	F:TWO.wav	8/09/2017 21:59	12	xyz/abc location
102262	TWO	3	035V9	F:TWO.wav	26/01/2017 10:47	12	xyz/abc location
102262	TWO	3	100V9	F:TWO.wav	26/01/2017 10:43	12	xyz/abc location
102263	THREE	3	008V9	F:THREE.wav	8/09/2017 21:59	12	Xyz/abc location
102263	THREE	3	035V9	F:THREE.wav	26/01/2017 10:22	12	Xyz/abc location
102263	THREE	3	100V9	F:THREE.wav	26/01/2017 10:21	12	Xyz/abc location

SAMPLE REPORT

102264	FOUR	3	008V9	F:FOUR.wav	8/09/2017 21:55	13	Xyz/abc location
102264	FOUR	3	035V9	F:FOUR.wav	26/01/2017 10:47	13	Xyz/abc location
102264	FOUR	3	100V9	F:FOUR.wav	26/01/2017 10:43	13	Xyz/abc location
102265	FIVE	3	008V9	F:FIVE.wav	8/09/2017 21:55	14	Xyz/abc location
102265	FIVE	3	035V9	F:FIVE.wav	26/01/2017 10:21	14	Xyz/abc location
102265	FIVE	3	100V9	F:FIVE.wav	26/01/2017 10:21	14	Xyz/abc location
102266	SIX	3	008V9	F:SIX.wav	8/09/2017 21:59	13	Xyz/abc location
102266	SIX	3	035V9	F:SIX.wav	26/01/2017 10:47	13	Xyz/abc location
102266	SIX	3	100V9	F:SIX.wav	26/01/2017 10:43	13	Xyz/abc location
102267	SEVEN	3	008V9	F:SEVEN.wav	8/09/2017 21:59	12	Xyz/abc location
102267	SEVEN	3	035V9	F:SEVEN.wav	26/01/2017 10:22	12	Xyz/abc location
102267	SEVEN	3	100V9	F:SEVEN.wav	26/01/2017 10:21	12	Xyz/abc location
102268	EIGHT	3	008V9	F:EIGHT.wav	8/09/2017 21:54	12	Xyz/abc location
102268	EIGHT	3	035V9	F:EIGHT.wav	26/01/2017 10:21	12	Xyz/abc location
102268	EIGHT	3	100V9	F:EIGHT.wav	26/01/2017 10:43	12	Xyz/abc location
102269	NINE	3	008V9	F:NINE.wav	8/09/2017 21:58	12	Xyz/abc location
102269	NINE	3	035V9	F:NINE.wav	26/01/2017 10:47	12	Xyz/abc location
102269	NINE	3	100V9	F:NINE.wav	26/01/2017 10:43	12	Xyz/abc location
102278	ELON_Main_Menu	3	008V9	F:ELON_Main_Menu.wav	8/09/2017 21:54	120	Xyz/abc location
102278	ELON_Main_Menu	3	035V9	F:ELON_Main_Menu.wav	26/01/2017 10:21	120	Xyz/abc location
102278	ELON_Main_Menu	3	100V9	F:ELON_Main_Menu.wav	26/01/2017 10:21	120	Xyz/abc location
102279	NO_PA_ADMIN_OFFICE	3	008V9	F:NO_PA_ADMIN_OFFICE.wav	8/09/2017 21:57	30	Xyz/abc location
102279	NO_PA_ADMIN_OFFICE	3	035V9	F:NO_PA_ADMIN_OFFICE.wav	26/01/2017 10:22	30	Xyz/abc location
102279	NO_PA_ADMIN_OFFICE	3	100V9	F:NO_PA_ADMIN_OFFICE.wav	26/01/2017 10:21	30	Xyz/abc location
102283	NO_REGIONAL_MAIN_MENU	3	008V9	F:NO_REGIONAL_MAIN_MENU.wav	8/09/2017 21:58	243	Xyz/abc location
102283	NO_REGIONAL_MAIN_MENU	3	035V9	F:NO_REGIONAL_MAIN_MENU.wav	26/01/2017 10:22	243	Xyz/abc location
102283	NO_REGIONAL_MAIN_MENU	3	100V9	F:NO_REGIONAL_MAIN_MENU.wav	26/01/2017 10:21	243	Xyz/abc location

SAMPLE REPORT

102295	Xxx_AFTER_HRS_NO_MSG1	3	008V9	F:xxx_AFTER_HRS_NO_MSG1.wav	8/09/2017 21:56	197	Xyz/abc location
102295	Xxx_AFTER_HRS_NO_MSG1	3	035V9	F:xxx_AFTER_HRS_NO_MSG1.wav	26/01/2017 10:21	197	Xyz/abc location
102295	Xxx_AFTER_HRS_NO_MSG1	3	100V9	F:xxx_AFTER_HRS_NO_MSG1.wav	26/01/2017 10:21	197	Xyz/abc location
102298	IT_Support_Main_Menu2	3	008V9	F:IT_Support_Main_Menu2.wav	8/09/2017 21:56	300	Xyz/abc location
102298	IT_Support_Main_Menu2	3	035V9	F:IT_Support_Main_Menu2.wav	27/01/2017 8:53	300	Xyz/abc location
102298	IT_Support_Main_Menu2	3	100V9	F:IT_Support_Main_Menu2.wav	27/01/2017 8:53	300	Xyz/abc location
102299	ENTER_EXT_OR_PRESS_ZERO	3	008V9	F:ENTER_EXT_OR_PRESS_ZERO.wav	8/09/2017 21:55	76	Xyz/abc location
102299	ENTER_EXT_OR_PRESS_ZERO	3	035V9	F:ENTER_EXT_OR_PRESS_ZERO.wav	26/01/2017 10:21	76	Xyz/abc location
102299	ENTER_EXT_OR_PRESS_ZERO	3	100V9	F:ENTER_EXT_OR_PRESS_ZERO.wav	26/01/2017 10:21	76	Xyz/abc location
102303	NO_SOUTH_CTRL_MAIN_MENU_V4	3	008V9	F:NO_SOUTH_CTRL_MAIN_MENU_V4.wav	8/09/2017 21:58	62	Xyz/abc location
102303	NO_SOUTH_CTRL_MAIN_MENU_V4	3	035V9	F:NO_SOUTH_CTRL_MAIN_MENU_V4.wav	26/01/2017 10:22	62	Xyz/abc location
102303	NO_SOUTH_CTRL_MAIN_MENU_V4	3	100V9	F:NO_SOUTH_CTRL_MAIN_MENU_V4.wav	26/01/2017 10:21	62	Xyz/abc location
102308	Moose_Main_Menu	3	008V9	F:Moose_Main_Menu.wav	8/09/2017 21:54	210	Xyz/abc location
102308	Moose_Main_Menu	3	035V9	F:Moose_Main_Menu.wav	26/01/2017 10:47	210	Xyz/abc location
102308	Moose_Main_Menu	3	100V9	F:Moose_Main_Menu.wav	26/01/2017 10:43	210	Xyz/abc location
102310	Moose_Main_OOH	3	008V9	F:Moose_Main_OOH.wav	8/09/2017 21:54	155	Xyz/abc location
102310	Moose_Main_OOH	3	035V9	F:Moose_Main_OOH.wav	26/01/2017 10:21	155	Xyz/abc location
102310	Moose_Main_OOH	3	100V9	F:Moose_Main_OOH.wav	26/01/2017 10:20	155	Xyz/abc location
102311	Moose_Service_Dept_OOH1	3	008V9	F:Moose_Service_Dept_OOH1.wav	8/09/2017 21:54	176	Xyz/abc location
102311	Moose_Service_Dept_OOH1	3	035V9	F:Moose_Service_Dept_OOH1.wav	26/01/2017 10:21	176	Xyz/abc location
102311	Moose_Service_Dept_OOH1	3	100V9	F:Moose_Service_Dept_OOH1.wav	26/01/2017 10:20	176	Xyz/abc location
102318	NO_HOUSTON_ADMIN_OFFICE	3	008V9	F:NO_HOUSTON_ADMIN_OFFICE.wav	8/09/2017 21:57	28	Xyz/abc location
102318	NO_HOUSTON_ADMIN_OFFICE	3	035V9	F:NO_HOUSTON_ADMIN_OFFICE.wav	26/01/2017 10:22	28	Xyz/abc location
102318	NO_HOUSTON_ADMIN_OFFICE	3	100V9	F:NO_HOUSTON_ADMIN_OFFICE.wav	26/01/2017 10:21	28	Xyz/abc location
102321	Barnado_AFS_MM_Opt	3	008V9	F:Barnado_AFS_MM_Opt.wav	8/09/2017 21:52	67	Xyz/abc location
102321	Barnado_AFS_MM_Opt	3	035V9	F:Barnado_AFS_MM_Opt.wav	25/01/2017 21:37	67	Xyz/abc location
102321	Barnado_AFS_MM_Opt	3	100V9	F:Barnado_AFS_MM_Opt.wav	25/01/2017 21:37	67	Xyz/abc location



SAMPLE REPORT

107028	HVAC_Inclement_Weather	3	008V9	F:HVAC_Inclement_Weather.wav	8/09/2017 21:56	78	Xyz/abc location
107028	HVAC_Inclement_Weather	3	035V9	F:HVAC_Inclement_Weather.wav	26/01/2017 10:21	78	Xyz/abc location
107028	HVAC_Inclement_Weather	3	100V9	F:HVAC_Inclement_Weather.wav	26/01/2017 10:21	78	Xyz/abc location
108065	After_Hours_Inbound1	3	008V9	F:After_Hours_Inbound1.wav	8/09/2017 21:50	76	Xyz/abc location
108065	After_Hours_Inbound1	3	035V9	F:After_Hours_Inbound1.wav	25/01/2017 20:25	76	Xyz/abc location
108065	After_Hours_Inbound1	3	100V9	F:After_Hours_Inbound1.wav	25/01/2017 20:23	76	Xyz/abc location
108078	Hardware_Express_1	3	008V9	F:Hardware_Express_1.wav	8/09/2017 21:55	240	Xyz/abc location
108078	Hardware_Express_1	3	035V9	F:Hardware_Express_1.wav	26/01/2017 10:21	240	Xyz/abc location
108078	Hardware_Express_1	3	100V9	F:Hardware_Express_1.wav	26/01/2017 10:21	240	Xyz/abc location
108081	Maintenance_USA1	3	008V9	F:Maintenance_USA1.wav	8/09/2017 21:58	272	Xyz/abc location
108081	Maintenance_USA1	3	035V9	F:Maintenance_USA1.wav	26/01/2017 9:44	272	Xyz/abc location
108081	Maintenance_USA1	3	100V9	F:Maintenance_USA1.wav	26/01/2017 9:38	272	Xyz/abc location
108085	Mall1	3	008V9	F:Mall.wav	8/09/2017 21:58	218	Xyz/abc location
108085	Mall1	3	035V9	F:Mall.wav	26/01/2017 10:22	218	Xyz/abc location
108085	Mall1	3	100V9	F:Mall.wav	26/01/2017 10:21	218	Xyz/abc location
108087	Main_Menu_v1	3	008V9	F:Main_Menu_v1.wav	8/09/2017 21:56	95	Xyz/abc location
108087	Main_Menu_v1	3	035V9	F:Main_Menu_v1.wav	25/01/2017 16:56	95	Xyz/abc location
108087	Main_Menu_v1	3	100V9	F:Main_Menu_v1.wav	25/01/2017 19:59	95	Xyz/abc location
108218	HelpDeskGreeting1	3	008V9	F:HelpDeskGreeting1.wav	8/09/2017 21:55	237	Xyz/abc location
108218	HelpDeskGreeting1	3	035V9	F:HelpDeskGreeting1.wav	26/01/2017 9:43	237	Xyz/abc location
108218	HelpDeskGreeting1	3	100V9	F:HelpDeskGreeting1.wav	26/01/2017 9:38	237	Xyz/abc location
108228	IT_Support_Center	3	008V9	F:IT_Support_Center.wav	8/09/2017 21:56	142	Xyz/abc location
108228	IT_Support_Center	3	035V9	F:IT_Support_Center.wav	23/03/2017 8:11	142	Xyz/abc location
108228	IT_Support_Center	3	100V9	F:IT_Support_Center.wav	23/03/2017 8:11	142	Xyz/abc location
108240	IT_Support_Center_1	3	035V9	F:IT_Support_Center_1.wav	5/06/2017 9:34	145	Xyz/abc location
108253	PREMIER_calling	3	008V9	F:PREMIER_calling.wav	8/09/2017 21:51	150	Xyz/abc location
108253	PREMIER_calling	3	035V9	F:PREMIER_calling.wav	25/01/2017 20:56	150	Xyz/abc location
108253	PREMIER_calling	3	100V9	F:PREMIER_calling.wav	25/01/2017 20:56	150	Xyz/abc location

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112206	Credit_References	3	008V9	F:Credit_References.wav	8/09/2017 21:54	170	Xyz/abc location
112206	Credit_References	3	035V9	F:Credit_References.wav	26/01/2017 9:24	170	Xyz/abc location
112206	Credit_References	3	100V9	F:Credit_References.wav	26/01/2017 9:23	170	Xyz/abc location
112207	Collections_Directory	3	008V9	F:Collections_Directory.wav	8/09/2017 21:53	266	Xyz/abc location
112207	Collections_Directory	3	035V9	F:Collections_Directory.wav	26/01/2017 9:04	266	Xyz/abc location
112207	Collections_Directory	3	100V9	F:Collections_Directory.wav	26/01/2017 9:04	266	Xyz/abc location
112208	AR_Directory	3	008V9	F:AR_Directory.wav	8/09/2017 21:52	114	Xyz/abc location
112208	AR_Directory	3	035V9	F:AR_Directory.wav	26/01/2017 9:10	114	Xyz/abc location
112208	AR_Directory	3	100V9	F:AR_Directory.wav	26/01/2017 9:10	114	Xyz/abc location
112210	Credit_Greeting	3	008V9	F:Credit_Greeting.wav	8/09/2017 21:52	175	Xyz/abc location
112210	Credit_Greeting	3	035V9	F:Credit_Greeting.wav	25/01/2017 21:14	175	Xyz/abc location
112210	Credit_Greeting	3	100V9	F:Credit_Greeting.wav	25/01/2017 21:13	175	Xyz/abc location
112211	Credit_Directory	3	008V9	F:Credit_Directory.wav	8/09/2017 21:53	158	Xyz/abc location
112211	Credit_Directory	3	035V9	F:Credit_Directory.wav	26/01/2017 9:15	158	Xyz/abc location
112211	Credit_Directory	3	100V9	F:Credit_Directory.wav	26/01/2017 9:16	158	Xyz/abc location
112212	High_Call_Volume	3	008V9	F:High_Call_volume.wav	8/09/2017 21:55	128	Xyz/abc location
112212	High_Call_Volume	3	035V9	F:High_Call_volume.wav	26/01/2017 9:43	128	Xyz/abc location
112212	High_Call_Volume	3	100V9	F:High_Call_volume.wav	26/01/2017 9:38	128	Xyz/abc location
112214	Credit_Main_Menu	3	008V9	F:Credit_Main_Menu.wav	8/09/2017 21:53	336	Xyz/abc location
112214	Credit_Main_Menu	3	035V9	F:Credit_Main_Menu.wav	26/01/2017 10:47	336	Xyz/abc location
112214	Credit_Main_Menu	3	100V9	F:Credit_Main_Menu.wav	26/01/2017 10:43	336	Xyz/abc location
112215	Credit_Main_Opt_2	3	008V9	F:Credit_Main_Opt_2.wav	8/09/2017 21:54	96	Xyz/abc location
112215	Credit_Main_Opt_2	3	035V9	F:Credit_Main_Opt_2.wav	26/01/2017 10:47	96	Xyz/abc location
112215	Credit_Main_Opt_2	3	100V9	F:Credit_Main_Opt_2.wav	26/01/2017 10:43	96	Xyz/abc location
112216	Credit_Holiday	3	035V9	F:Credit_holiday.wav	26/01/2017 9:16	46	Xyz/abc location
112217	XYZ_Credit_Reference	3	008V9	F:XYZ_Credit_Reference.wav	8/09/2017 21:55	165	Xyz/abc location
112217	XYZ_Credit_Reference	3	035V9	F:XYZ_Credit_Reference.wav	26/01/2017 9:43	165	Xyz/abc location
112217	XYZ_Credit_Reference	3	100V9	F:XYZ_Credit_Reference.wav	26/01/2017 9:38	165	Xyz/abc location

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117496	3_Calls_Ahead_In_Queue	3	008V9	F:3_Calls_Ahead_In_Queue.wav	8/09/2017 21:49	29	Xyz/abc location
117496	3_Calls_Ahead_In_Queue	3	035V9	F:3_Calls_Ahead_In_Queue.wav	25/01/2017 20:03	29	Xyz/abc location
117496	3_Calls_Ahead_In_Queue	3	100V9	F:3_Calls_Ahead_In_Queue.wav	25/01/2017 19:58	29	Xyz/abc location
117497	4_Calls_Ahead_In_Queue	3	008V9	F:4_Calls_Ahead_In_Queue.wav	8/09/2017 21:49	24	Xyz/abc location
117497	4_Calls_Ahead_In_Queue	3	035V9	F:4_Calls_Ahead_In_Queue.wav	25/01/2017 20:03	24	Xyz/abc location
117497	4_Calls_Ahead_In_Queue	3	100V9	F:4_Calls_Ahead_In_Queue.wav	25/01/2017 19:58	24	Xyz/abc location
117498	5_Calls_Ahead_In_Queue	3	008V9	F:5_Calls_Ahead_In_Queue.wav	8/09/2017 21:49	24	Xyz/abc location
117498	5_Calls_Ahead_In_Queue	3	035V9	F:5_Calls_Ahead_In_Queue.wav	25/01/2017 20:03	24	Xyz/abc location
117498	5_Calls_Ahead_In_Queue	3	100V9	F:5_Calls_Ahead_In_Queue.wav	25/01/2017 19:58	24	Xyz/abc location
117499	6_Calls_Ahead_In_Queue	3	008V9	F:6_Calls_Ahead_In_Queue.wav	8/09/2017 21:49	23	Xyz/abc location
117499	6_Calls_Ahead_In_Queue	3	035V9	F:6_Calls_Ahead_In_Queue.wav	25/01/2017 20:03	23	Xyz/abc location
117499	6_Calls_Ahead_In_Queue	3	100V9	F:6_Calls_Ahead_In_Queue.wav	25/01/2017 19:58	23	Xyz/abc location
117500	7_Calls_Ahead_In_Queue	3	008V9	F:7_Calls_Ahead_In_Queue.wav	8/09/2017 21:49	24	Xyz/abc location
117500	7_Calls_Ahead_In_Queue	3	035V9	F:7_Calls_Ahead_In_Queue.wav	25/01/2017 20:03	24	Xyz/abc location
117500	7_Calls_Ahead_In_Queue	3	100V9	F:7_Calls_Ahead_In_Queue.wav	25/01/2017 19:59	24	Xyz/abc location
117501	8_Calls_Ahead_In_Queue	3	008V9	F:8_Calls_Ahead_In_Queue.wav	8/09/2017 21:49	25	Xyz/abc location
117501	8_Calls_Ahead_In_Queue	3	035V9	F:8_Calls_Ahead_In_Queue.wav	25/01/2017 20:03	25	Xyz/abc location
117501	8_Calls_Ahead_In_Queue	3	100V9	F:8_Calls_Ahead_In_Queue.wav	25/01/2017 19:59	25	Xyz/abc location
117502	9_Calls_Ahead_In_Queue	3	008V9	F:9_Calls_Ahead_In_Queue.wav	8/09/2017 21:49	24	Xyz/abc location
117502	9_Calls_Ahead_In_Queue	3	035V9	F:9_Calls_Ahead_In_Queue.wav	25/01/2017 20:03	24	Xyz/abc location
117502	9_Calls_Ahead_In_Queue	3	100V9	F:9_Calls_Ahead_In_Queue.wav	25/01/2017 19:59	24	Xyz/abc location
117505	1_call_Ahead_In_Queue	3	008V9	F:1_call_Ahead_In_Queue.wav	8/09/2017 21:49	23	Xyz/abc location
117505	1_call_Ahead_In_Queue	3	035V9	F:1_call_Ahead_In_Queue.wav	25/01/2017 16:45	23	Xyz/abc location
117505	1_call_Ahead_In_Queue	3	100V9	F:1_call_Ahead_In_Queue.wav	25/01/2017 16:44	23	Xyz/abc location
117513	Leave_MSG_please	3	008V9	F:Leave_MSG_please.wav	8/09/2017 21:58	171	Xyz/abc location
117513	Leave_MSG_please	3	035V9	F:Leave_MSG_please.wav	26/01/2017 9:44	171	Xyz/abc location
117513	Leave_MSG_please	3	100V9	F:Leave_MSG_please.wav	26/01/2017 9:38	171	Xyz/abc location

## 3.0 Availability Management

### 3.1 Platform Generated Alarms

While the Virsae System and Application Assessment collects the alarms from the systems and can report on those alarms there is no representation or responsibility to actively monitor or respond to alarms. The following critical, major and minor alarms occurred during the report period:

Alarm Name	Repeat Count	Severity
Duplication Manager	2	0
ACM restarted	1	2
Application Enablement Services Session	2	2
ASAI Adjunct TCP/IP Link	2	2
Backup Alarm	2	2
CDR Link	1	2
cmgDspPowerClear	21	2
cmgDspPowerFault	1	2
cmgSyncSignalFault	7	2
DS1 Interface Media Module	65	2
Enterprise Survivable Server	10	2
File Synchronization	3	2
Gateway Environment	1	2
Global Alarm Manager	1	2
ISDN-PRI Signaling Group	25	2
Media Gateway	49	2
Platform alarm	12	2
Server Maintenance Engine	14	2
Service Monitor	6	2
Survivable Processor-Main	12	2
Common Media Gateway	9	4
Digital Line	114	4
H323 Signaling Group	8	4
ISDN-PRI Signaling Link port	4	4
Login Authentication Failure	18	4

**Note:**

These alarms have been included for information only. Refer to maintenance provider for more information.

### 3.2. VSM Generated Alarms

The following incidents occurred in the report period, and these would not have been visible through normal alarming techniques. They have been highlighted by Virsae as they are precursors to outages, or are having an impact on Customer Experience. They have been generated because of capacity constraints, or incorrect configuration:

Alarm Name	Repeat Count	Severity
ACM Event: 10,000 step executed	18	4
ACM Event: Annc not found on board	27	4
ACM Event: H.248 transaction timeout	38	4
ACM Event: No announcement available	2	4
ACM Event: No VOIP Resource	7	4
ACM Event: Reset MG - Pkt Send Err	65	4
ACM Event: Route -to step failed	385	4
ACM Event: Skill indirection used improperly	140	4
ACM Event: Svs obsrv exceed max	9	4
ACM Event: Unable to Connect	4	4
ACM Event: Vector with no steps	3	4
ACM Event: Wait step music failed	1	4

**Note:**

Detailed information regarding the above is shown in the Events section of this document.

### 3.1. Events

Events are indicative of a problem occurring within the application. Some Events will be registered during normal call processing, but others represent issues with Customer Experience that are seldom reported by end-users. As such, they are a valuable source of data for those looking to improve quality.

Some 24,905 events were captured in the reporting period:

Event Type	Repeat Count
Call process denial events	3057
Connection Manager denial events	6
Data Manager	2
Dial Plan Manager	1
ESS	1
IP Denial Events	394
User Manager	10
Vector events	21434

3.1.1. Summary

Item	Configuration
Vector Processing	●

A review of the Vector design is highly recommended. Use the table above to reconcile Events against Vector configuration to isolate and correct issues.

3.1.2. Detail

The table below focuses on a subset of Events that provide the greatest insights for predicting faults and identifying negative Customer Experience.