

Evans, Sharon AVED:EX

From: Jovellanos, Lawrence MTIC:EX
Sent: Thursday, October 3, 2013 1:53 PM
To: Maloney, Debbie MTIC:EX; Abbott, Brenda X AVED:EX; Perrey, Jordan AVED:EX
Cc: Sedun, Jeanne AVED:EX; 'Roger Twomey'; 'edm@vnet.on.ca'; Michalchuk, Gary; Madsen, John T MTIC:EX
Subject: RE: Adv Ed Speech Recognition

Hi Jordan,

I would recommend testing the speech recognition settings first and then make a decision. Both speech recognition & DTMF are supposed to work properly.

I also spoke with Roger around noon to check with the provider to see if there were any changes made on the "gain" settings of the SIP trunk. It is a bit unusual to suddenly have issues on the sensitivity & confidence levels when no change was done on the IVR.

Cheers!

Lawrence Jovellanos
Lawrence.Jovellanos@gov.bc.ca

Technical Architect
Networks, Communications and Collaboration Services
E317 4000 Seymour Place
Victoria BC V8W 9V1
+1-250-387-5454

From: Maloney, Debbie CITZ:EX
Sent: Thursday, October 3, 2013 1:46 PM
To: Abbott, Brenda X AVED:EX; Perrey, Jordan AVED:EX
Cc: Jovellanos, Lawrence CITZ:EX; Sedun, Jeanne AVED:EX; 'Roger Twomey'; 'edm@vnet.on.ca'; 'Gary Michalchuk'; Madsen, John T CITZ:EX
Subject: RE: Adv Ed Speech Recognition

Roger's team will be setting this up will provide a phone number and instructions on what they would like the callers to do. Look for this information early tomorrow morning.

Thanks.
deb

Debbie Maloney

Senior Network Technical Consultant
Network, Communications & Collaboration Services
Shared Services BC
Ministry of Technology, Innovation and Citizens' Services
E341-4000 Seymour Place, PO Box 9412, Victoria BC V8W 9V1
Phone: 250-387-7809 Fax: 250-387-9264
<mailto:Debbie.Maloney@gov.bc.ca>

 Please consider the environment before printing this email

From: Abbott, Brenda X AVED:EX
Sent: Thursday, October 3, 2013 1:30 PM

To: Maloney, Debbie CITZ:EX; Perrey, Jordan AVED:EX

Cc: Jovellanos, Lawrence CITZ:EX; Sedun, Jeanne AVED:EX; 'Roger Twomey'; 'edm@vnet.on.ca'; 'Gary Michalchuk'; Madsen, John T CITZ:EX

Subject: RE: Adv Ed Speech Recognition

Hi Debbie, we are good to test at 9 am PST.

Please forward the call numbers so I can provide to the testing team.

Thanks

Brenda Abbott

Financial Analyst,

Student Services Branch

Ministry of Advanced Education

Phone: (250) 952-7411

Fax: (250) 387-4858

email - brenda.abbott@gov.bc.ca

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From: Maloney, Debbie CITZ:EX

Sent: Thursday, October 3, 2013 12:22 PM

To: Abbott, Brenda X AVED:EX; Perrey, Jordan AVED:EX

Cc: Jovellanos, Lawrence CITZ:EX; Sedun, Jeanne AVED:EX; 'Roger Twomey'; 'edm@vnet.on.ca'; 'Gary Michalchuk'; Madsen, John T CITZ:EX

Subject: RE: Adv Ed Speech Recognition

Hi Brenda & Jordan,

SSBC would like this testing to be done in the DEV environment before testing in PROD. This can be set up for tomorrow morning if you are agreeable. This would allow you to see the difference the settings make before placing them into PROD.

The limitation is there wouldn't be as much diversity in callers as there would be with doing this in PROD.

Please provide a time tomorrow morning that will work with your group to do some testing. Roger's team as well as folks from SSBC will also be testing at this time.

Thanks.

deb

Debbie Maloney

Senior Network Technical Consultant

Network, Communications & Collaboration Services

Shared Services BC

Ministry of Technology, Innovation and Citizens' Services

E341-4000 Seymour Place, PO Box 9412, Victoria BC V8W 9V1

Phone: 250-387-7809 Fax: 250-387-9264

<mailto:Debbie.Maloney@gov.bc.ca>

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From: Abbott, Brenda X AVED:EX
Sent: Thursday, October 3, 2013 10:00 AM
To: Perrey, Jordan AVED:EX
Cc: Jovellanos, Lawrence CITZ:EX; Maloney, Debbie CITZ:EX; Sedun, Jeanne AVED:EX
Subject: FW: Adv Ed Speech Recognition

Hi please advise.

Thanks

Brenda Abbott
*Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
Fax: (250) 387-4858*

email - brenda.abbott@gov.bc.ca

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From: Roger Twomey [<mailto:rtwomey@telus.smartinfo.ca>]
Sent: Thursday, October 3, 2013 9:38 AM
To: Abbott, Brenda X AVED:EX
Cc: Gary.Michalchuk@telus.com; edm@vnet.on.ca; jbelanger@vnet.on.ca; jcarney@vnet.on.ca; jtomlinson@vnet.on.ca
Subject: Adv Ed Speech Recognition

Hi Brenda,

When you get a chance can we talk about the speech recognition? The following is a suggested approach to improve performance.

This is what we want to do in prod ... we could start it as early as this afternoon.

1. Set the sensitivity level back to the default of 0.5
2. Keep the Recognition Speed vs. Accuracy at the default setting of 0.5.
3. Set the confidence level to 0.4 (Previously the default was 0.3 which was too low and caused a lot of caller utterances to be interpreted as meaning "help" or "transfer". Currently, the confidence level is set to 0.5, which is too high as a lot of caller utterances are being ignored.)
4. Let the system run with the above settings for 2 to 3 hours or until we capture utterances for at least 100 callers.
5. Analyze the utterances. This could take a day to do. If 0.4 appears to work "okay" then we set the confidence level to either side of 0.4 (i.e. first to 0.35 and then to 0.45) and repeat step 4 above. And keep gradually adjusting based on which setting works best until we get to a point where the confidence setting produces the best results. This may take a several days to do as the utterance analysis is time consuming.
6. Then we start working with gradually adjusting the Recognition Speed vs. Accuracy level (if we are still below a 90% success rate with respect to confidence level) to see if this setting improves the success rate without affecting what callers hear (i.e. if it takes the speech engine too long to perform the recognition so that there is a noticeable pause to the caller).

7. The last step would be adjusting the sensitivity level gradually, if it is required at this point.

The reason we want to use production is so we can get real cases to analyze using development would take longer and the data wouldn't reflect your callers if we used development/test systems. I also think we will improve the performance on our first go around but maybe not to the optimum that is why we want multiple tests, that is unless you tell us to stop as you are satisfied after the first one or two tests.

Let me know when we can talk about this.

Thanks,

Roger

Evans, Sharon AVED:EX

From: Abbott, Brenda X AVED:EX
Sent: Tuesday, October 1, 2013 10:13 AM
To: Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX
Subject: FW: AdvEd - Issues Summary

Importance: High

Please see below

Brenda Abbott

*Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
Fax: (250) 387-4858*

email - brenda.abbott@gov.bc.ca

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From: Roger Twomey [<mailto:rtwomey@vnet.on.ca>]
Sent: Tuesday, October 1, 2013 9:44 AM
To: Gary.Michalchuk@telus.com
Cc: Jovellanos, Lawrence CITZ:EX; Abbott, Brenda X AVED:EX; Maloney, Debbie CITZ:EX; csa.vmt@telus.com
Subject: AdvEd - Issues Summary

Gary,

Below is the update on the issues.

Roger

Speech Recognition Issues

Default confidence level for Prophecy is 0.3 which is why initially so many callers' utterances were being interpreted as an intention to transfer (i.e. being interpreted as either "help" or "agent"). We increased the confidence level to 0.5 which is a big jump from 0.3. This caused the opposite effect. Caller utterances were then not being accepted.

We have spoken to the speech recognition experts at Voxeo and they recommend the following:

- **Confidence Level:** The default confidence level for Prophecy ASR (Automated Speech Recognition) is 0.3. Voxeo has suggested setting it to between 0.4 and 0.45. This would be a "quick" approach to handling the speech recognition issues related to interpretation. First we need to deal with the interpretation of the utterances (i.e. confidence level) by accepting and analyzing sets of utterances from different sources (ideally about 50 to 100 people). The ideal method would be to start using a setting of 0.4 and if that is okay, then test using different confidence levels 0.35, 0.4, 0.45 to see which

works best and then adjust in that direction. For example, if 0.45 appears to be the best out of the three, then we repeat the 3-way split process but use 0.4, 0.45 and 0.5. If 0.45 ends up being the best, then we could try 0.43, 0.45, 0.48 and so on. This is an easy way to gradually improve without risking a total failure. The key is that when we first start varying that we don't change too far away from our base value in one step or we risk a big drop. Ideally, it would be best to run the above tests with actual AdvEd callers in production, if AdvEd gives us permission. The alternative would be to have volunteers call in to try out the system. Voxeo can also have their employees call in to participate in this sampling via our development system. The advantage to using actual AdvEd callers would be that they are the actual system users, they have various ethnicities calling in, whereas Voxeo would not. Plus it wouldn't take very long to capture data for 50 to 100 actual AdvEd callers.

We need to deal with the confidence level first until we can adjust it to an appropriate level. This will improve interpretation of caller utterances.

- **Sensitivity Level:** Sensitivity Level would be dealt with after the appropriate confidence level has been determined. Sensitivity level would deal with background noise issues. Adjusting both settings at the same time (which is what we were doing) prevents us from determining what the best setting is for each. We would go through the same process with sensitivity level, meaning making gradual adjustments until an appropriate setting is reached. For sensitivity levels, we would need to watch the No Input rate and adjust sensitivity level accordingly.
- **Recognition Speed vs. Accuracy:** There is also a Recognition Speed vs. Accuracy setting which would allow us to increase the recognition accuracy at the expense of speed. The default is 0.5. Voxeo has suggested setting this to 1.0. Setting it to that level would result in more accurate recognitions but interpretation would be slower. We would need to test this out to identify if this would be noticeable to callers.
- **Estimated Time Frame:** Depending upon the number of revisions we need to go through, and if we are allowed to make and monitor the configuration changes in the production environment, we could probably complete the tuning within 5 business days. If we are not allowed to use the production environment, then it could take longer than 5 business days, especially as the sample audience is not as large/varied and it is not the actual audience who will be using the AdvEd IVR application.

Glossary of Terms for Speech Recognition:

Confidence Level - The parameter "Confidence Level" (confidencelevel) is specified with a float value in the range of "0.0" (minimum confidence) to "1.0" (maximum confidence). Speech recognition results are rejected when the recognition confidence is below the specified threshold. Setting this parameter higher will result in fewer false recognitions at the cost of more No Match events. Setting it lower will reduce the number of No Match events at the risk of more false recognitions. The default value is "0.3" within Prophecy ASR..

Sensitivity Level - The parameter "Sensitivity Level" (sensitivity) is specified with a float value in the range of "0.0" (least sensitive to noise) to "1.0" (highly sensitive to quiet input). It controls the sensitivity of the speech recognition process. Higher values will allow the speech recognition engine to recognize softer speech input but will also pick up more background noise. This parameter may need to be tuned downward if the voice application is used in noisy environments, or upward if it is used in very quiet environments. The default value is "0.5" within Prophecy ASR.

Recognition Speed vs. Accuracy - The parameter "Recognition Speed vs. Accuracy" (speedvsaccuracy) is a float value between "0.0" (fastest recognition) and "1.0" (best accuracy). It lets you control the trade-off between speed and accuracy in the speech recognition engine. Lower values cause potential recognition results with a low probability to be pruned early in the search process, resulting in faster recognition speed. Higher values retain potential recognition results longer, resulting in slower but more accurate recognitions. The default value is "0.5".

Call Transfer Issues

- **Programming Changes/Testing:** We have a CCXML expert working on modifying the code as well as a Voxeo VoiceObjects expert and several people performing the regression testing. We are currently in the process of performing full regression testing on the transfer module using a series of test cases. It is important to

understand that our testing is not being done against an ACD queue as we do not have access to one or control over what happens within an ACD queue. We are identifying specific reproducible scenarios that can cause transfer problems and then making adjustments in the code to correct those problems. Then we perform the full regression testing again to see if those problems were resolved and if any new problems were introduced as a result of those fixes. Once we are at the point where all of our test cases pass, then we would like AdvEd to do the same regression testing (using our test cases and any other ones that they may come up with) but do the testing against the actual ACD queues as they have more control over those queues than we do. (Previously, we were only performing our regression testing before promoting any changes to production. But due to current issues, we feel it is imperative that similar testing be performed against the actual ACD queues in case there are differences in the results between ACD queues and regular land/cell lines.) If any issues are identified, then we will work on making the necessary code changes to correct them and we will redo our regression testing, followed by AdvEd redoing their regression testing. Once all tests pass for us and AdvEd, we can then promote the changes to production. At that point, we will monitor the system and investigate any issues on a per-call basis, which is why it will be important to provide us with as much information as possible.

- **Alternate Network:** We are also in the process of moving over to a different service provider's network (i.e. from Primus to TELUS). Once that transition is complete, we will also perform the above-mentioned regression testing against that network using the AdvEd application in order to see if the new network provides any improvements with respect to call transfers. And again, after we complete our own testing, we would like AdvEd to complete their own testing using their ACD queues. In order to use TELUS' network, we will also have to modify the call transfer code as there are additional telephony parameters that must be passed to the TELUS network.
- **Time Frame:** We expect this to take a minimum of 2 to 3 weeks. We will have a better ETA once we have been able to reduce the number of issues and complete regression testing a few times.

Evans, Sharon AVED:EX

From: Sajko, Marijan AVED:EX
Sent: Tuesday, November 5, 2013 12:39 PM
To: Singh, Nancy K AVED:EX; Abbott, Brenda X AVED:EX
Cc: Sedun, Jeanne AVED:EX
Subject: RE: IVR costs to date

Hi Nancy,

I don't believe that reverting back to the previous version of the IVR is an option. I seem to recall the reason SSBC paid for the conversion to the new IVR was because the old IVR service was being deprecated.

Debbie Maloney should be able to confirm if the old IVR service even exists as a service offering.

From: Singh, Nancy K AVED:EX
Sent: Tuesday, November 5, 2013 12:09 PM
To: Sajko, Marijan AVED:EX; Abbott, Brenda X AVED:EX
Cc: Sedun, Jeanne AVED:EX
Subject: RE: IVR costs to date

Hi Marijan – From my perspective, reverting to our old system (prior to the introduction of the latest version of the IVR) ***is an option that SSB and our ADM should consider*** given the complications, expense and overall lack of value-for-money of this latest version. We need to isolate the costs of that older system from what we have now to get some perspective. As always, this is Jeanne's call as to if/how she wants to pursue further....

Thanks everyone!

Nancy

From: Sajko, Marijan AVED:EX
Sent: Tuesday, November 5, 2013 11:50 AM
To: Abbott, Brenda X AVED:EX
Cc: Singh, Nancy K AVED:EX
Subject: RE: IVR costs to date

Hi Brenda,

I'm not sure what you mean by the touch tone service. The only other IVR component that that I am aware of is the Automatic Call Distributor (ACD). The ACD is a device that distributes incoming calls (from IVR or D&H) to a specific group of agents.

Attached is the list of SSB agents (phone #s) and monthly costs associated with each agent:

	Monthly Amount
S17	54.08
	54.08
	54.08

S17 54.08
54.08
54.08
54.08
54.08
54.08
54.08
54.08
54.08
54.08
54.08
54.08
54.08
54.08

From: Abbott, Brenda X AVED:EX
Sent: Tuesday, November 5, 2013 10:03 AM
To: Sajko, Marijan AVED:EX
Cc: Singh, Nancy K AVED:EX
Subject: IVR costs to date

Hi Marijan, I thought I would give you all an update of costs to date for the IVR. We are charged 12 cents a minute for the IVR and as at October 31st we have paid \$114,036.64. I found this number on the IVR reports and they match what I got from Shared Services on Monday. I am still hunting down the costs have touch tone service only. I have the rate list from Shared Services but am not able to identify what the basic IVR costs would be, are you able to find these costs?

Thanks

Brenda Abbott
*Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
Fax: (250) 387-4858*

email - brenda.abbott@gov.bc.ca

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Evans, Sharon AVED:EX

From: Perrey, Jordan AVED:EX
Sent: Thursday, October 3, 2013 1:04 PM
To: Thompson, Joseph AVED:EX; Sedun, Jeanne AVED:EX
Subject: RE: Escalation of Ongoing IVR Issues

Maybe as a heads up.

I did meet with Shirley yesterday at an OCIO/SSBC meeting. She gave me her promise that she will be getting this fixed.

Jordan Perrey

A/Chief Information Officer and Executive Director
Technology and Business Transformation Branch
Ministry of Advanced Education
Cell: 250-415-1445

From: Thompson, Joseph AVED:EX
Sent: Thursday, October 3, 2013 12:23 PM
To: Perrey, Jordan AVED:EX; Sedun, Jeanne AVED:EX
Subject: FW: Escalation of Ongoing IVR Issues

Worth me bringing Sarf into this?

Joe Thompson

A/Assistant Deputy Minister
Student Services and Sector Resource Management Division
Ministry of Advanced Education

From: Mitrou, Shirley CITZ:EX
Sent: Tuesday, October 1, 2013 2:23 PM
To: Perrey, Jordan AVED:EX
Cc: Thompson, Joseph AVED:EX; Sedun, Jeanne AVED:EX; van der Lee, Tina CITZ:EX; Gill, Peter CITZ:EX; Maloney, Debbie CITZ:EX; Schmuland, Brenda D CITZ:EX
Subject: RE: Escalation of Ongoing IVR Issues

Jordan the vendor has sent the update below. I have requested that a meeting be called as quickly as possible to get all players to the table to move the options forward. I have requested that the vendors provide a plan with timelines for each of the incidents that have been reported as the update below is not done by incident number. In the mean time the update below is provided.

Please advise who should attend.

Speech Recognition Issues

Default confidence level for Prophecy is 0.3 which is why initially so many callers' utterances were being interpreted as an intention to transfer (i.e. being interpreted as either "help" or "agent"). We increased the confidence level to 0.5 which is a big jump from 0.3. This caused the opposite effect. Caller utterances were then not being accepted.

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- **Time Frame:** We expect this to take a minimum of 2 to 3 weeks. We will have a better ETA once we have been able to reduce the number of issues and complete regression testing a few times.

Shirley Mitrou | Executive Director | Client Services | Shared Services BC

Ph: 250 415-5402 | **e:** Shirley.Mitrou@gov.bc.ca | **m:** PO Box 9412, Stn Prov Gov, Victoria BC V8W 9V1



CLIENT SERVICES
A BRANCH OF SHARED SERVICES BC

From: Perrey, Jordan AVED:EX

Sent: Tuesday, October 1, 2013 8:46 AM

To: Mitrou, Shirley CITZ:EX

Cc: Thompson, Joseph AVED:EX; Sedun, Jeanne AVED:EX; van der Lee, Tina CITZ:EX; Gill, Peter CITZ:EX

Subject: RE: Escalation of Ongoing IVR Issues

Thanks for your continued attention.

We really appreciate it!

Jordan Perrey

A/Chief Information Officer and Executive Director

Technology and Business Transformation Branch

Ministry of Advanced Education

Cell: 250-415-1445

From: Mitrou, Shirley CITZ:EX
Sent: Monday, September 30, 2013 7:12 PM
To: Perrey, Jordan AVED:EX
Cc: Thompson, Joseph AVED:EX; Sedun, Jeanne AVED:EX; van der Lee, Tina CITZ:EX; Gill, Peter CITZ:EX
Subject: RE: Escalation of Ongoing IVR Issues

Jordan, resources are working on this and we are not waiting until the 2nd. I have requested an update by tomorrow morning. We are treating this as a very high priority and I will ensure that we get this resolved. I did call the phone tree and agree it is very frustrating.

Thank you for your patience. Update to follow by noon tomorrow.

Shirley

From: Perrey, Jordan AVED:EX
Sent: Monday, September 30, 2013 4:18 PM
To: Mitrou, Shirley CITZ:EX
Cc: Thompson, Joseph AVED:EX; Sedun, Jeanne AVED:EX; van der Lee, Tina CITZ:EX; Gill, Peter CITZ:EX
Subject: RE: Escalation of Ongoing IVR Issues

Thanks Shirley for the response and quick attention.

I can appreciate that process is important when dealing with any complex technical issue; however, I do not think process has been completely ignored. Below is a list of incidents and their reported dates. It is worth noting that the Ministry doesn't have ultimate say on the severity the ticket is assigned.

August 28th - Incident IM311208 Opened - intermittent call transfers not working
Sept 11th - CALL587089 FW: Phone system – an attachment that outlined all of the issues with the IVR
Sept 12th - Incident IM312314 Opened - 8005611818 IVR not working properly
Sept 25th - IM312314 - TELUS Ticket# 1038474330 - IVR not working properly

Subsequently, I do not feel we have fully addressed the concerns identified in the original email. Specifically, a timely resolution to the issues we are having. I feel an October 2nd meeting is too delayed given the issues reported. Lastly, we haven't had any commitment from Telus or an SSBC service manager to follow-up on the specific issues/incidents prior to a meeting. I understand a meeting of all the parties is critical for long term issue resolution; however, issues have been outstanding for a number of weeks. I would invite you and the service managers to call 1-800-561-1818 and try navigating the options and transferring to the call centre to see first-hand.

Thanks and I look forward to your response,

Jordan Perrey
A/Chief Information Officer and Executive Director
Technology and Business Transformation Branch
Ministry of Advanced Education
Cell: 250-415-1445

From: Mitrou, Shirley CITZ:EX
Sent: Friday, September 27, 2013 4:09 PM
To: Perrey, Jordan AVED:EX
Cc: Thompson, Joseph AVED:EX; Sedun, Jeanne AVED:EX; van der Lee, Tina CITZ:EX; Gill, Peter CITZ:EX
Subject: RE: Escalation of Ongoing IVR Issues

Jordan, I met with the service owner folks on this service this afternoon. The purpose of the meeting was to get additional background and develop a plan to move this forward and get it resolved. SSBC owns the service and we take full accountability for ensuring that your issues in this matter are addressed.

I understand that there are 4 incidents open for the issues and I have asked that they be escalated this afternoon to severity 2. I assume they were opened as severity '3'. A meeting with TELUS is planned next week to review the 4 incidents and develop the action plan to address them. Our service management staff will be there, as will Peter (acting for Tina) and Brenda Schmuland. Our vendor will be in attendance as well of course.

We as SSBC have service managers who own this service and we take full accountability for resolving the issues. Part of what I believe the issue has been here is that the incidents weren't opened following standard incident reporting processes. As I'm sure you can understand, its challenging for us to hold TELUS accountable when they don't have incidents to track and for us to escalate. Ensuring that all incidents are reported to 77000 option 3 is essential to ensure that we have the evidence to report to TELUS to ensure that they address the issues.

With respect to the contract details, our service management team will ensure that our vendors meet their contractual obligations.

Following the meeting on Oct 2 I will be able to update you on the plan, should you wish to discuss at any time, please don't hesitate to call me.

Shirley Mitrou | Executive Director | Client Services | Shared Services BC

Ph: 250 415-5402 | **e:** Shirley.Mitrou@gov.bc.ca | **m:** PO Box 9412, Stn Prov Gov, Victoria BC V8W 9V1



CLIENT SERVICES
A BRANCH of SHARED SERVICES BC

From: Perrey, Jordan AVED:EX
Sent: Friday, September 27, 2013 9:40 AM
To: Mitrou, Shirley CITZ:EX
Cc: Thompson, Joseph AVED:EX; Sedun, Jeanne AVED:EX
Subject: Escalation of Ongoing IVR Issues
Importance: High

Good morning Shirley,

I am looking to escalate ongoing issues with our Interactive Voice Response system and the services we have received. Throughout the end of August and all September we have been having significant issues with our telephony systems. We have engaged SSBC as well as Telus numerous times to reach a resolution with little luck. It appears that the gravity of the situation is not fully appreciated by both parties. Particularly on a couple of fronts:

- We have had no response from our Director of Client Relations at SSBC on this matter (See below and the attachment);
- We have been asked numerous times to call generic help lines to re-submit tickets;
- Our requests for details around the contract (between SSBC and Telus) has yielded us an URL to a publically redacted version;

- With a number of situations we have had deal directly with Telus.

Ultimately we have been very disappointed with the arrangement and services we have received. Our services 1-year prior with a previous provider were completely different than what we are experiencing today. I would like to be able to report to my executive the following:

- 1) Recognition and accountability of the issues from SSBC
- 2) Timelines and a defined approach for an expedited resolution
- 3) Contract terms and particularly the consequences for service disruptions
- 4) Complete involvement from SSBC

I would appreciate your timely response to the above.

Regards,

Jordan Perrey

A/Chief Information Officer and Executive Director
Technology and Business Transformation Branch
Ministry of Advanced Education
Cell: 250-415-1445

From: Perrey, Jordan AVED:EX
Sent: Thursday, September 26, 2013 9:51 AM
To: van der Lee, Tina CITZ:EX
Subject: RE: "Heads up" re: significant IVR issues

Hi Tina,

I haven't heard back. Can we connect on this?

Thanks,

Jordan Perrey

A/Chief Information Officer and Executive Director
Technology and Business Transformation Branch
Ministry of Advanced Education
Cell: 250-415-1445

From: Perrey, Jordan AVED:EX
Sent: Tuesday, September 24, 2013 11:34 AM
To: van der Lee, Tina CITZ:EX
Subject: FW: "Heads up" re: significant IVR issues
Importance: High

Hi Tina,

We have discussed a couple of times the issues with IVR. We are now at the point where issues are severely impacting our operations. Telus seems to be acting; however, fixes have been slow and not proactive. Further, I am concerned with the level of monitoring of this contract from SSBC's perspective.

I would like to escalate this as a bigger issue. Could you action?

Thanks,

Jordan Perrey

A/Chief Information Officer and Executive Director
Technology and Business Transformation Branch
Ministry of Advanced Education
Cell: 250-415-1445

From: Sedun, Jeanne AVED:EX

Sent: Tuesday, September 24, 2013 11:02 AM

To: Perrey, Jordan AVED:EX

Cc: Sajko, Marijan AVED:EX

Subject: "Heads up" re: significant IVR issues

Importance: High

Hi Jordan. I've asked Brenda Abbott to set up a time to walk you and Marijan through a demo of the IVR. There are significant issues with the system including:

- The initial welcome message is getting cut off every time
- Some of the messages are looping (as in repeating 5 or 6 times)
- The voice sensitivity setting is completely out of whack (technical term). If you even ruffle a piece of paper, you get "I did not understand you."
- One of the messages played (you have exceeded the maximum number of attempts) and then there is dead silence => no message about please call back
- The system doesn't leave the caller enough time to answer the questions

I could go on but I think you get the picture. This is the first time I went through a demo and I'm VERY disappointed. Telus acknowledged in a teleconference last Friday that there are a number of issues. They are apparently doing regression testing. However, this system has been in use for a year. This is very poor customer service for our students and reflects badly on SABC.

Jeanne M. Sedun

Executive Director
Student Services Branch | StudentAid BC
Ministry of Advanced Education
Tel: 250-356-5277 | Cell: S17

Evans, Sharon AVED:EX

From: Perrey, Jordan AVED:EX
Sent: Monday, September 30, 2013 3:32 PM
To: Sedun, Jeanne AVED:EX
Subject: RE: Escalation of Ongoing IVR Issues

I agree. She never did address the issues (more so pointed at the process).

I will respond and perhaps we see if Joe and Sarf want to have a conversation at the ADM of corporate services meeting this week.

Jordan Perrey

A/Chief Information Officer and Executive Director
Technology and Business Transformation Branch
Ministry of Advanced Education
Cell: 250-415-1445

From: Sedun, Jeanne AVED:EX
Sent: Monday, September 30, 2013 3:29 PM
To: Perrey, Jordan AVED:EX
Subject: RE: Escalation of Ongoing IVR Issues

Well, a bit of finger pointing from my perspective. Couple of concerns:

- Brenda has in fact filed incident reports for each issue.
- Telus is contacting Brenda directly to resolve some of the issues, without including the contract manager – SSBC.
- I find it very troubling that we are not apprised of the contractor expectations for a service we are receiving.
- When should we expect some service improvements?

Thanks for asking. ☺

Jeanne

From: Perrey, Jordan AVED:EX
Sent: Friday, September 27, 2013 4:18 PM
To: Sedun, Jeanne AVED:EX
Subject: RE: Escalation of Ongoing IVR Issues

Hmmm, are you comfortable with this response?

I don't see a resolution here.

Jordan Perrey

A/Chief Information Officer and Executive Director
Technology and Business Transformation Branch
Ministry of Advanced Education
Cell: 250-415-1445

From: Mitrou, Shirley CITZ:EX
Sent: Friday, September 27, 2013 4:09 PM

Evans, Sharon AVED:EX

From: Hutchinson, Laura AVED:EX
Sent: Thursday, August 29, 2013 9:28 AM
To: Singh, Nancy K AVED:EX
Cc: Sedun, Jeanne AVED:EX; Melin, Michelle C AVED:EX; Abbott, Brenda X AVED:EX
Subject: RE: Feedback regarding the IVR

Hi Nancy – here is another student who has had difficulty with the IVR:

I tried the number, went through all the menu options, got to an operator, she could barely speak english, she told me I had the wrong number, then the number she told me to call was the one I was calling, she told me she'd transfer me and then disconnected me, when I called back the answering message said all the lines were busy and to call back later. I am not happy!

Thanks,

Laura Hutchinson

Manager, Online Strategies and Public Engagement

Web and Online Engagement Unit | Technology and Business Transformation Branch

Ministry of Advanced Education

Mobile: 250-514-8724

From: Singh, Nancy K AVED:EX
Sent: Wednesday, August 28, 2013 8:41 AM
To: Hutchinson, Laura AVED:EX
Cc: Sedun, Jeanne AVED:EX; Melin, Michelle C AVED:EX; Abbott, Brenda X AVED:EX
Subject: RE: Feedback regarding the IVR
Importance: High

Hi Laura – Thanks for sending us this message. We have had some issues with the IVR that we are trying to work through. Continue to keep us in the loop as student feedback is absolutely valuable to us.

Nancy Singh

Director, Program Delivery

Student Services Branch

Ministry of Advanced Education

(250) 387-7443

From: Hutchinson, Laura AVED:EX
Sent: Wednesday, August 28, 2013 7:35 AM
To: Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX
Subject: Feedback regarding the IVR

Hi Jeanne and Nancy – a student has submitted feedback regarding the IVR that I thought might be of interest to you:

I phoned the automated line - as instructed by my application assessment - for my questions. This phone service is one of the worst I have ever had to use. It did not give enough time for you to say or dial your response before counting your response as "invalid." I am not a person who has difficulty with technology or speech and it took me five attempts to reach a customer service representative because the automated service kept hanging up on me for having too many "invalid answers." I'm not sure if your goal in using this phone service is to deter people from getting to your costumer service representatives (and therefore cutting down on your number of staff), but that is certainly what it felt like.

By the time I got to the customer service representative I was frustrated and frazzled. I admit that I wasn't very kind and gracious with her (of which I am very sorry for) but I felt I had gone through an uphill battle just to get to her.

Even adding a few more seconds to allow for each response would improve this service exponentially.

Thanks

Laura Hutchinson

Manager, Online Strategies and Public Engagement

Web and Online Engagement Unit | Technology and Business Transformation Branch

Ministry of Advanced Education

Mobile: 250-514-8724

Evans, Sharon AVED:EX

From: Abbott, Brenda X AVED:EX
Sent: Monday, September 30, 2013 4:00 PM
To: Perrey, Jordan AVED:EX
Cc: Sajko, Marijan AVED:EX; Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX
Subject: FW: IVR Concerns
Attachments: IM312315 8005611818 IVR CC6 report discrepancy; FW: CC6 special close; IM312314 - TELUS Ticket# 1038474330; Incident IM311208 Opened.; Incident IM312315 Opened.; Incident IM312314 Opened.; FW: CALL587089 FW: Phone system; RE: IVR Concerns

Hi Jordan, in a discussion with Joe late Friday he asked that I send this to your shop for recommendations(it's the last item).

I have also attached the incident reports that were created through 77000 that are applicable to these problems. In summary they are:

August 28th - Incident IM311208 Opened - intermittent call transfers not working
Sept 12th - Incident IM312314 Opened - 8005611818 IVR not working properly
Sept 11th - CALL587089 FW: Phone system – an attachment that outlined all of the issues with the IVR
Sept 25th - IM312314 - TELUS Ticket# 1038474330 - IVR not working properly

Thanks Jordan.

Brenda Abbott
*Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
Fax: (250) 387-4858*

email - brenda.abbott@gov.bc.ca

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From: Liz Della Mora [<mailto:edm@vnet.on.ca>]
Sent: Friday, September 27, 2013 11:58 AM
To: Abbott, Brenda X AVED:EX; 'Roger Twomey'
Cc: Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX
Subject: RE: IVR Concerns

Hi Brenda,

If you can provide a response to my previous questions, that would be helpful as we may be able to make some adjustments today.

I worked with Voxeo last night going through logs and utterance recordings in order to try and determine the cause of some of the speech recognition issues. We have had utterance recording turned on in production since September

19th. This means while speech recognition is waiting for a caller to say something, it is recording whatever the caller says/whatever sound it hears. It is also logging to a database what it thought the caller said (i.e. their utterance) and the confidence level it has for that specific caller utterance (from 0.0 to 1.0, where 0 is lowest confidence and 1 is highest confidence). We had a few people hear dial into the system so that we could capture their utterances as well as the confidence level of those utterances. During our review of a small sample of utterances, we found several things:

1. Echo Cancellation

One of our testers indicated that when they called into the system they did not say anything and they were immediately rejected (i.e. heard the "I do not understand" message). When we listened to their utterance recording, we heard the "Welco" from the "Welcome ..." prompt and that is the utterance that it tried to match to the vocabulary for that particular menu prompt. The closest match was "help" with a 0.25 confidence level. We confirmed that the caller was using a landline speakerphone. The problem with speakerphones (landline and cell) are that they do not necessarily have any echo cancellation built into them. Many cell phones have echo cancellation, but as they each use different technologies/algorithms, the quality of echo cancellation may be better for some and worse for others. Because this issue is dependent upon the caller's device, there is nothing we can do about it. So, the user of speakerphones can cause the IVR audio prompts to be sent back (echoed) to the IVR system and thus treated as a caller's utterance.

Below is a quick overview of echo cancellation:

The term echo cancellation is used in telephony to describe the process of removing echo from a voice communication in order to improve voice quality on a telephone call. In addition to improving subjective quality, this process increases the capacity achieved through silence suppression by preventing echo from traveling across a network.

In telephony, "echo" is very much like what one would experience yelling in a canyon. Echo is the reflected copy of the voice heard some time later and a delayed version of the original.

Examples of echo are found in everyday surroundings such as:

- Hands-free car phone systems
- A standard telephone or cellphone in speakerphone or hands-free mode
- Dedicated standalone "conference phones"
- Installed room systems which use ceiling speakers and microphones on the table
- Physical coupling (vibrations of the loudspeaker transfer to the microphone via the handset casing)

In most of these cases, direct sound from the loudspeaker (not the person at the far end, otherwise referred to as the Talker) enters the microphone almost unaltered. The difficulties in cancelling echo stem from the alteration of the original sound by the ambient space. These changes can include certain frequencies being absorbed by soft furnishings, and reflection of different frequencies at varying strength.

2. Speech Recognition Delays

Because of the timing issues you referred to in your email, we also investigated whether the speech recognition engine was taking too long to interpret the caller's utterances. We found that there were no delays with respect to speech recognition interpretation.

As per my questions to you, I believe that your last item "the system doesn't leave the caller enough time to answer the question" is not related to speech recognition, but to the amount of time the IVR waits for input

from the caller after the prompt has played. Currently, we wait for 5 seconds. This value can be modified. Just keep in mind that the caller will hear dead air during this time period, so if the timeout is set to 10 seconds, it means that the menu prompt will play in full (assuming the caller does not interrupt it) and will then pause for 10 seconds waiting for input from the caller, so if the caller does not say anything or press a key they will hear 10 seconds of silence while the IVR is waiting for them to respond, then they will hear the “no response was detected” message and the menu will they be replayed for them. The timeout can be adjusted on a per menu basis, but I would suggest deciding on a value and making it global so that there is consistency across all menus for the caller.

As a part of our investigation into the actual utterance recordings, I will have our people pay attention to any utterances where the caller starts saying something towards the end or at the end of the timeout period. This would tell us that the caller needs more time to provide their response and we can adjust accordingly.

3. Speech Recognition Confidence Level

Currently, the speech recognition confidence level is set to 0.5. We reviewed a small sample of utterance recordings and the corresponding confidence levels and found the following:

- The current confidence level of 0.5 appears to be too high (for the first few menus at least)
- There are certain vocabulary words (for the few couple of menus) that consistently has a low confidence level (that word being “status”)
- There are a few recordings where it is only the last part of the word that is being heard in the utterance recordings (e.g. “atus” instead of “status”, etc.)

I am having two of our employees go through all of the utterance recordings and the related confidence levels in order to identify a confidence level that would work better than 0.5 (something between 0.41 and 0.45 may be better). I also want them to identify any particular vocabulary words that consistently have a low confidence level result ... in those cases, we may need to either adjust the speech recognition vocabulary at those specific menus (i.e. maybe we need to add more variations of a particular vocabulary word), or adjust the confidence level at those specific menus so that they each use a different conference level.)

We will also have a group of people call into our DEV system after we have made any configuration or vocabulary changes in order to provide us with more sampling. We will review those samples in order to determine whether the changes we made are effective or if they need to be further modified. AdvEd also needs to be a part of this testing – we can set up 2 lines – one with the current settings and one with the changes, to allow AdvEd to perform the same tests on both and let us know if there are substantial improvements or not.

Testing would include various scenarios:

- Calls where the caller barges in with their utterances (i.e. they talk while the prompts are being played)
- Calls where the caller does NOT barge in with their utterances (i.e. caller waits until the whole prompt has played and then starts speaking)
- Calls from a PSTN phone (i.e. landline, non-sip phone) using a speakerphone
- Calls from a PSTN phone (i.e. landline, non-sip phone) not using a speakerphone
- Calls from a sip phone using a speakerphone
- Calls from a sip phone not using a speakerphone
- Calls from skype
- Calls from a cell phone using a speakerphone
- Calls from a cell phone not using a speakerphone
- Calls with zero background noise
- Calls with low background noise
- Calls with moderate to high background noise

The above analysis and testing process is time consuming, but it needs to be done.

4. Extraneous Noise (Speech Recognition Sensitivity Level)

Through our investigation of utterance recordings, we did hear a couple of recordings where there was a sound on the line or even hearing someone moving their headset and the speech engine attempted to interpret that sound.

This is related to the sensitivity level, which is currently set to 0.4 so it should be ignoring background noises, but this setting may need adjustment. This would be a part of our testing outlined in (3) above. The problem with adjusting it too low is that at some point it will start ignoring callers voices who speak in a low voice. Again, it is a matter of adjusting the value in correspondence with the confidence level value and test until we arrive at an appropriate setting. AdvEd will also need to be a part of that testing.

5. Speech Recognition Vocabulary Changes

As mentioned in (3) above, some changes to the speech recognition vocabulary may help improve the speech recognition interpretation:

- **Add multiple words better recognition**
Speech recognition can work better with more words as there is more information for the speech recognition engine to use for comparison. For example, “status” appears to have a lot of low confidence results. Changing it to have the caller say “application status” can increase the confidence level. As part of the analysis of utterance recording and related confidence results, we will also try to identify any similar areas for improvement in the speech recognition vocabulary. If we do increase the wording, then the related voice prompt should also be re-recorded to include the new wording that the caller should use.
- **Add additional possibilities**
As a part of the initial review of utterance recordings, we identified at least one utterance “status” where the whole word is not necessarily heard (i.e. “atus” is heard instead). We will try to identify any similar scenarios or any scenarios where a word is pronounced slightly differently and misinterpreted because of that pronunciation. Including additional pronunciations may also improve the speech recognition interpretation.

6. DTMF Only

While the above analysis and testing is going on, as an interim measure, AdvEd may want to consider switching off speech recognition and only allowing DTMF input until the speech recognition issues are dealt with. In that case, either the prompts could be re-recorded, or they could be edited to remove any references to the use of speech recognition (e.g. leaving in “press X” but removing “say x”).

7. Alternative Speech Recognitions Platforms

If the above-mentioned changes still do not result in a speech recognition system that is satisfactory to AdvEd, then Roger will look into alternative speech recognition platforms and what is involved in their implementation.

We would like to arrange a call with you in order to discuss the above items and to allow you to decide which option(s) you would prefer, and to discuss how to move certain changes into production.

Liz

From: Liz Della Mora [<mailto:edm@vnet.on.ca>]
Sent: September 26, 2013 6:49 PM
To: 'Abbott, Brenda X AVED:EX'; 'Roger Twomey'
Cc: 'Sedun, Jeanne AVED:EX'; 'Singh, Nancy K AVED:EX'
Subject: RE: IVR Concerns

Hi Brenda,

I am looking into the speech rec issues right now. I have a few questions/comments:

- The initial welcome message is getting cut off every time;
Do you mean that when you call in, you are missing the first few words of the first prompt? If not, can you please explain.
- Some of the messages are looping (repeating 5 or 6 times)
Can you provide more details on this comment? Which message was looping? Or do you mean because of the “did not understand” messages, that you are hearing the same menu multiple times?
- The voice sensitivity setting is completely out of whack (technical term). If you even ruffle a piece of paper, you get “I did not understand you.”
- One of the messages played includes, “you have exceeded the maximum number of attempts”. The student is suddenly dropped. There is dead silence with no subsequent message to the student, e.g. no message such as “ please call back”.

As we have utterance recording turned on, I can check to see what the IVR thought it heard a person say vs. what I actually hear in the recording. Can you confirm what number you were calling from and approximate time when you encountered the speech rec issues? Also, was it as landline, cell, etc.? Was it quiet when you were recording? Were you using a speakerphone?
I will also try the system out myself.

- The system doesn't leave the caller enough time to answer the questions.
How much time would you like? This timeout has always been set to 5 seconds. If you would like me to increase it, that is something I can do right away. Is this particular issue (i.e. not enough time to answer the questions) something that has always been there or is it just something that you noticed recently?

Also, are the above speech rec issues something you started noticing recently, or have them been occurring since the system went live? Just trying to determine if the problems started occurring or getting worse after a particular time.

Liz

From: Abbott, Brenda X AVED:EX [<mailto:Brenda.Abbott@gov.bc.ca>]
Sent: September 26, 2013 4:39 PM
To: 'edm@vnet.on.ca'; 'Roger Twomey'

Cc: Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX

Subject: IVR Concerns

Importance: High

Hi Liz & Roger,

On Monday I took the management team for a tour of the IVR system. Unfortunately the tour just highlighted many of the challenges we have been struggling with.

The items that created the most concern were:

- The initial welcome message is getting cut off every time;
- Some of the messages are looping (repeating 5 or 6 times)
- The voice sensitivity setting is completely out of whack (technical term). If you even ruffle a piece of paper, you get “I did not understand you.”
- One of the messages played includes, “you have exceeded the maximum number of attempts”. The student is suddenly dropped. There is dead silence with no subsequent message to the student, e.g. no message such as “ please call back”.
- The system doesn’t leave the caller enough time to answer the questions.

We realize your team is working hard to correct the problems with this phone system but I must let you know we are very disappointed with the product. The problems encountered during our testing, in my view, **hindered our ability to provide even a very basic level of service to students.** As I am now familiar with the program during testing I finally just had to “barge through” using touch tone in order to get further along in the system. This was extremely frustrating for me, so you can imagine what our clients are experiencing. This product is adding cost to the ministry and no customer service to our clients.

There needs to be some discussion on mitigating these costs. Every time a caller is forwarded to an agent there are costs associated. These costs can be significant during periods of high volumes and create a situation that no call centre would be able to handle.

This product has been in production for approximately one year and was thoroughly tested prior to being migrated to production. Student Services Branch does not seem have any records to identify what types of upgrades were made to the application. Is this something that was provided to Shared Services BC?

We are so concerned that we intend to escalate this issue to our Executive very soon. Please let us know what your go-forward steps are and recommend a time to connect.

Many thanks,

Brenda Abbott

Financial Analyst,

Student Services Branch

Ministry of Advanced Education

Phone: (250) 952-7411

Fax: (250) 387-4858

email - brenda.abbott@gov.bc.ca

Evans, Sharon AVED:EX

From: Singh, Nancy K AVED:EX
Sent: Thursday, October 24, 2013 8:42 AM
To: Sedun, Jeanne AVED:EX
Subject: A potential item to bring up with Joe - IVR costs
Attachments: FW: IVR Pricing Information

Hello Jeanne,

Hope to touch on this item when we meet later this morning. Thank you!

Nancy

From: Sajko, Marijan AVED:EX
Sent: Monday, October 21, 2013 4:02 PM
To: Singh, Nancy K AVED:EX; Abbott, Brenda X AVED:EX; Stone, Marlowe J AVED:EX
Cc: Perrey, Jordan AVED:EX
Subject: RE: IVR charges

Hi Nancy,

Attached are the SSBC IVR charges for this fiscal. These charges appear in TBTB's IM/IT Services project coding

WTS Reference	Recovery Period	GL Period	Expense Amount
IVR_AVED_3876100	14-Apr	14-May	8708.88
IVR_AVED_3876100	14-Jul	14-Sep	18541.44
IVR_AVED_3876100	14-Aug	14-Sep	25180.2
			\$52,430.52

As per the attached email, the charges for the IVR are consumption based at 12 cents per minute. The 800 service is 4 cents per minute and are voted charges.

From: Singh, Nancy K AVED:EX
Sent: Wednesday, October 9, 2013 3:32 PM
To: Abbott, Brenda X AVED:EX; Stone, Marlowe J AVED:EX; Sajko, Marijan AVED:EX
Subject: FW: IVR charges

Thanks all. **Marijan** – looking forward to this meeting. I need to understand how we pay for these services, how much, and what we can do to address the situation re lack of optimal service on the IVR.

Very much appreciate your attention. Please let me know which days/times work for you so we can have a fulsome discussion.

Nancy Singh
Director, Program Delivery
Student Services Branch
Ministry of Advanced Education

From: Stone, Marlowe J AVED:EX
Sent: Wednesday, October 9, 2013 3:04 PM
To: Singh, Nancy K AVED:EX
Subject: Fwd: IVR charges

Sorry Nancy missed you on the cc list. Marijan works with the Shared Services invoicing.

Marlowe Stone
(250) 514-4192

Begin forwarded message:

From: "Stone, Marlowe J AVED:EX" <Marlowe.Stone@gov.bc.ca>
Date: 9 October, 2013 1:41:50 PM PDT
To: "Sajko, Marijan AVED:EX" <marijan.sajko@gov.bc.ca>
Cc: "Abbott, Brenda X AVED:EX" <Brenda.Abbott@gov.bc.ca>
Subject: Fwd: IVR charges

Marijan: as discussed. Shared Services contract charges re IVR.

Marlowe Stone
(250) 514-4192

Begin forwarded message:

From: "Abbott, Brenda X AVED:EX" <Brenda.Abbott@gov.bc.ca>
Date: 9 October, 2013 1:09:24 PM PDT
To: "Stone, Marlowe J AVED:EX" <Marlowe.Stone@gov.bc.ca>
Cc: "AVED Application Support AVED:EX" <applicationsupport@gov.bc.ca>, "Singh, Nancy K AVED:EX" <Nancy.Singh@gov.bc.ca>
Subject: IVR charges

Hi Marlow, I am looking to set up a meeting for you, me & Nancy to go over the charges from Shared Services for the IVR application. As you may be aware we have been experiencing problems with the application and want to see what we are being charged and if we are able to come up with a strategy to mediate the costs.

Can I ask that you gather any billing information for this service and once you confirm you are able to obtain the data I will set a time .

Thanks Marlow

Brenda Abbott
*Financial Performance Analyst
Ministry of Regional Economic & Skills Development
with service to the Ministry of Sciences and Universities
Phone: (250) 387-9571*

Fax: (250) 952-6103

email - brenda.abbott@gov.bc.ca

Evans, Sharon AVED:EX

From: Abbott, Brenda X AVED:EX
Sent: Friday, November 22, 2013 1:47 PM
To: Sedun, Jeanne AVED:EX
Cc: Stratholt, Miles L AVED:EX; Singh, Nancy K AVED:EX
Subject: RE: Follow-up requested re: IVR comparisons

Hi Jeanne, yes I can find out what the other provinces use. If there is a contact list I could use that would be great. I know Alberta only uses touch tone and did not experience the problems we did.

As for the cost savings concept, I have enquired at Shared Services. I asked Debbie Maloney specifically and was informed the cost is 12 cents per minute and depends exclusively on usage. Karla Maria also confirmed that when this project was initiated there are no options for ministries that have high volume call centres. I have also asked Jennifer about prior year costs as until we know what those were we don't know if the new costs are out of line. If TBTB is thinking of transferring this back to SSB there might be a significant budget pressure. I would be curious to see what MSP and the Health line are paying as well as the other provinces. Do you want me to find out, from the other provinces, what range their costs are? I can ask how the charges are calculated without asking for actual costs or I can ask for cost without the details. Just point me in the direction you would like and I'll follow up.

Brenda

Brenda Abbott

*Financial Analyst,
Student Services Branch
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From: Sedun, Jeanne AVED:EX
Sent: Friday, November 22, 2013 11:53 AM
To: Abbott, Brenda X AVED:EX
Cc: Stratholt, Miles L AVED:EX; Singh, Nancy K AVED:EX
Subject: Follow-up requested re: IVR comparisons

Hi Brenda. Joe was wondering if BC was one of only a few provinces to use IVR technology for their SFA programs. Do you know the answer? If not, can you please try to find out. He was wondering if we could / should eliminate the voice component of the system from both a cost savings and "too many technical glitches" perspective.

With thanks,

Jeanne M. Sedun
Executive Director

Evans, Sharon AVED:EX

From: Thompson, Joseph AVED:EX
Sent: Wednesday, October 9, 2013 8:35 AM
To: Perrey, Jordan AVED:EX; Sedun, Jeanne AVED:EX
Subject: FW: Advanced Ed IVR Issue Summary

See below.

Joe Thompson

A/Assistant Deputy Minister
Student Services and Sector Resource Management Division
Ministry of Advanced Education

From: Ahmed, Sarf CITZ:EX
Sent: Wednesday, October 9, 2013 7:06 AM
To: Thompson, Joseph AVED:EX
Cc: Mitrou, Shirley CITZ:EX
Subject: Fw: Advanced Ed IVR Issue Summary

FYI. We Should know by tomorrow how long it will take. It seems unfortunately it is going to take some more time to fix both the issues.

Sent from my BlackBerry 10 smartphone on the Rogers network.

From: Bangert, Wilf R CITZ:EX
Sent: Wednesday, October 9, 2013 5:09 AM
To: Ahmed, Sarf CITZ:EX; Hughes, Bette-Jo CITZ:EX
Cc: Ritchie, CJ CITZ:EX; Mitrou, Shirley CITZ:EX
Subject: Fwd: Advanced Ed IVR Issue Summary

Hello all,

We spoke with TELUS about the IVR issues at OMC. I asked TELUS to provide a summary and update of the issues (below).

Wilf.

Sent from my iPad

Begin forwarded message:

From: John Black <John.Black@telus.com>
Date: 9 October, 2013 12:58:27 AM PDT
To: "Bangert, Wilf R CITZ:EX" <Wilf.R.Bangert@gov.bc.ca>
Cc: "Ehle, Dan CITZ:EX" <Dan.Ehle@gov.bc.ca>
Subject: Advanced Ed IVR Issue Summary

Wilf,

As discussed this afternoon, we are actively engaged in the escalation for the Advanced Ed IVR issues.

Background: This was raised as an issue in late September when some negative Tweets started to circulate regarding the inability for students to get information related to their loans and the loan process. We have been working with the team from SSBC as well as the TELUS partner who provides the service to help resolve.

Issue Summary: There are effectively two main issues that are being addressed:

- **Call Control (transfer of calls within IVR)** – there are intermittent issues relating to some call transfers and call disconnects. Technical experts are actively working through the troubleshooting. An ETA for resolution is anticipated by Thursday AM
- **Speech Recognition** – there have been issues with the success rate of the speech recognition feature. The system is being tuned to improve the performance. This requires a fairly complicated process of optimizing performance of multiple settings. This is expected to take 1.5-3 weeks to complete.

Next Steps (Communications):

It appears this is being escalated through multiple channels simultaneously within the Province. To avoid duplicate communication streams, we will focus on the following communication protocol to ensure there is proper visibility to progress and resolution:

- TELUS to receive daily update from partner contact highlighting previous day's progress and current day's activities
- TELUS to meet daily with John Madsen and Debbie Maloney from SSBC to provide an update on progress
- TELUS to provide a similar update to Dennis Murch and Dan Ehle daily until resolved

Please let me know if there are further questions. Note that I'm also copying Dan as we've been working with him and his team on the escalation.

Thanks,
John

John Black - Director, Client Service Management

Client Service & LCD Management | Tel (604) 453-2289 | Cell S22 | john.black@telus.com |

TELUS Enterprise Solutions | <http://www.telus.com/>

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IVR issues – September 3rd – 5th, 2013

On Tuesday Sept 3rd

- It was identified through twitter there was an issue with the IVR as calls were again being transferred to the info centre and then dropped.
- The Info Centre was unable to transfer calls to SSU.
 - Through investigation D&H has identified that the maximum capacity of 384 concurrent calls was reached on Tuesday Sep 3rd. D&H answers calls for BC, NB, NF&L, ON, Sask and National. D&H continues to investigate if this was directly related to the dropped call issue.
- SABC contacted the service provider (Telus) about the issues with the IVR and that we needed to have the problem resolved ASAP. It was identified that when a fix was put into production on August 27th a problem had developed with the code.

On Thursday Sept 5th

- Roger Twoney from Telus identified two issues:
 - Overload situation at D&H which is a significant issue.
 - No message played and the calls were dropped. Code was there for the message and Telus is investigating why it is not playing.ETA: will have an ETA late Thursday or Friday.
- Nancy Singh noted Urgency to have the message installed.
 - It was noted the messaging to clients through the IVR system was not working and clients were just being dropped without warning. What messages are the CSR's providing to the clients?
- Marijan Sajko, Director, Technology Solutions asked how many calls were dropped in last 24 hrs?
- On Thursday Brenda requested daily call volume reports from D&H so SABC can monitor the issue. The report does not specify calls dropped but does show 236 abandoned calls
- Marijan Sajko asked if more ports could be added at D&H?
 - Linda Vukosa from D&H is not sure.
 - D&H answers calls for BC, NB, NF&L, ON, Sask & National
- This is a significant problem as student aid programs from the above portfolios are experiencing high volumes and D & H does not have the capacity in technology as well as staff to manage the issue.
- What is the definition of an abandoned call? When does a call become abandoned?
 - Abandoned calls are those calls that are abandoned by the customer before speaking to an agent. Definition provided by Linda Vukosa from D&H Thursday Sept 5th.
- Conference calls were attended by Telus SSB & TBTB & D&H on a daily basis on Sept 3, 4, 5 & 6. Tech support from D & H only participated on Wednesday Sept 4th.
- D&H appears non-responsive to
 - Providing incident reports
 - 4 missed SLA's since Oct 1, 2012
 - No tech support on the calls to provide clarification on Tuesday or Thursday
 - Lack of concern for the issue
 - No timely communication to SSB when critical incidents occur. Critical Incidents were discussed on the Aug 15th call and D & H does not consider this type of issue to be a critical issue.
- Roger to update AVED reps Brenda Abbott and Nancy Singh when message replaced.

On Friday Sept 6th

- Conference call between SSB, D & H, Telus and CITZ to discuss what has been discovered and what the next steps are.
- Roger Twoney from Telus explained:
 - The message was disabled during the recent fix and the IVR has been corrected so it will now provide a message to the caller if all lines are busy at D&H
 - Requested that the CSR's not hang up immediately, waiting 12 to 15 seconds to ensure the transfer has gone through. Linda Vukosa identified the agents don't have that choice. As soon as the 0111 is keyed in the call is released and the next call in the queue rings almost immediately.
- Roger Twoney from Telus explained what the difference was between the two codes
 - 0111 is a consulted transfer meaning the agent is able to stay on the line during the transfer and the 3 parties can all hear each other.
 - 0222 is a supervised transfer which means the agent and SSU are able to talk and the agent hits 8 so the client is now talking to SSU. Does or can the agent remain on the call??
- Brenda Abbott asked Linda Vukosa for an update on the D & H end of things.
 - Linda verified she would go back on the floor and test the 12 to 15 second request and report back next week. Linda clearly stated the CSR's are told to never use the 0222 transfer option.
 - Although Linda had no update on the technology side the note below was received from **Shakir A. Nathoo** Client Relationship Manager, Client Relations, Student Lending at D&H. Here is what I have learned:
 - We are in the process of assessing the frequency of such an event over the past year and will look to the future planned volumes to anticipate if the incident could happen again and when (i.e. January '14 Winter Peak). The Tuesday following the long weekend in September was and has traditionally been our busiest day of the year across all of our Client portfolios in Student Lending.
 - We will then look at strategies to limit or balance the inbound calls for the high, moderate and low volume clients as we have done this week to following this incident to mitigate the overall blockages. We have not had the issue repeat itself since Monday based on the short term re-configurations we have performed.

We are also in the process of investigating and assessing process improvements to handle larger call volumes as well as the option to add more lines to accept a higher maximum volume (i.e. higher then the maximum threshold we currently have in place).

If you have any questions in the interim then kindly let us know. Regards, Shakir

- Brenda Abbott requested that D & H provide a solution that is better for the short term and to please have that to us by early next week.
- Roger Twoney at Telus has committed to:
 - Continue to investigate the voice sensitivity issue. It could take up to a week or so to resolve
 - Continue to investigate the transfer problem which is creating dropped calls
 - Continue to investigate the reporting to see if there is a way to identify how big the dropped call problem is.

Sept 10th conference call between Telus, SSBC & SSB

This call was set up by Lawrence Jovellanos at SSBC to clearly identify the current issues with the IVR and what are the next steps.

Roger started off by talking about the reporting problem from a previous issue around calls being labelled as “Call Centre Unavailable” and if Telus could regenerate the numbers to correctly reflect what actually occurred.

Brenda Abbott asked Roger to go over the events of the last 2 weeks so everyone was aware of the issues. And they are:

- call volume discrepancy
- dropped calls
- errors in reporting
- unable to transfer from Call Centre to Ministry
- speech recognition sensitivity
- messaging not activated

There was discussion around what happened and why. Telus acknowledged the new version was not thoroughly tested and that's why the breaks that happened were not caught. Roger admitted that they were rushing to make the fix and that in hindsight he needs to step back, take a breath and ensure a process if followed.

Brenda provided the numbers for Sept 3rd. The reports showed 5,886 calls entering the IVR with 4,144 showing as a completed transfer 1. Although only 3 calls were reported as being transfer 2 completed. Lawrence asked if D& H had answered those calls. Nancy indicated D & H did not have the capacity to handle the large volume and only reported 1,559 getting through to them and answering 1,161. That leaves a discrepancy of over 2,000 calls that no one knows where they went. The assumption is the speech recognition sensitivity had created the problem with the reports.

Roger from Telus committed to provide a clearer vision of the problem after he has a chance to talk to some of his peers at the conference he is attending in the USA. Roger will provide an update on Thursday Sept 11th.

Evans, Sharon AVED:EX

From: Flower, Ross AVED:EX
Sent: Thursday, September 26, 2013 11:13 AM
To: AVED Student Services
Cc: Dey, Krysta AVED:EX; AVED Web Services AVED:EX; Chang, Lucy AVED:EX; Chou, Alan AVED:EX; Cybulski, Vincent AVED:EX
Subject: IVR issues



Please be advised that Telus has reported that the long distance IVR lines are not working. They have told me that clients dialing the long distance numbers 800 561-1818 and 1-(250) 387-6100 are unable to get through. Clients dialing (250) 387-6100 as a local call are able to get through.

There is no ETR at this time.

The Webservices team has been informed, a tweet has gone out and the appropriate changes will be made to the webpage shortly.

Brenda Abbott and I are finalizing the details on a procedure to help notifications of this type reach the appropriate teams in a more timely manner.

Ross Flower
Service Manager

Client Support Services
Technology and Business Transformation Branch
Ministry of Advanced Education

250 217-5329

Evans, Sharon AVED:EX

From: Abbott, Brenda X AVED:EX
Sent: Wednesday, November 6, 2013 8:56 AM
To: Sedun, Jeanne AVED:EX
Cc: Singh, Nancy K AVED:EX; Ingram-Kum, Jennifer AVED:EX
Subject: FW: IVR options

Hi as you can see by Debbie's response below, there are no options for reducing these costs. I also asked about the option to deactivate the Speech recognition function and Debbie confirmed it would not make a difference to the cost.

I therefore conclude there would be no cost benefit to eliminating the speech recognition function.

Brenda

Brenda Abbott
*Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
Fax: (250) 387-4858*

email - brenda.abbott@gov.bc.ca

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From: Maloney, Debbie MTIC:EX
Sent: Wednesday, November 6, 2013 8:40 AM
To: Abbott, Brenda X AVED:EX
Subject: RE: IVR options

Hi Brenda, to confirm our conversation a few moments ago, there aren't any options for the IVR costs. The IVR service is consumption based and is \$0.12/minute.

Thanks for your query.
deb

From: Abbott, Brenda X AVED:EX
Sent: Wednesday, November 6, 2013 8:27 AM
To: Maloney, Debbie MTIC:EX
Subject: IVR options

Hi Debbie, I have been asked to investigate options around IVR costs. As I have never looked at these I really don't even know what is reasonable. Are you able to provide this type of information? If not can you provide a contact work with to gather this type of information?

Thanks

Brenda Abbott

Financial Analyst,

Student Services Branch

Ministry of Advanced Education

Phone: (250) 952-7411

Fax: (250) 387-4858

email - brenda.abbott@gov.bc.ca

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Evans, Sharon AVED:EX

From: Abbott, Brenda X AVED:EX
Sent: Friday, September 20, 2013 10:44 AM
To: Sedun, Jeanne AVED:EX
Subject: FW: IVR technical issues

As requested

Brenda Abbott
Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
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-----Original Message-----

From: Abbott, Brenda X AVED:EX
Sent: Tuesday, September 17, 2013 12:20 PM
To: 'Roger Twomey'
Cc: Maloney, Debbie CITZ:EX; Singh, Nancy K AVED:EX
Subject: FW: IVR technical issues

Hi Roger, I have set up a meeting for Friday September 20th at 10 am PST. I need for you to be able to provide information on the following issues. There needs to be a clear understanding and a defined timeframe of when your team will have the following issues resolved:

- Dropped calls - all calls to SSU come from the call centre.

- o This happens when SSU tries to answer a call. The line rings but there is no caller when the line is answered. This incident was opened in December 2012 and has never been resolved. SSB needs to know what is being done and when this problem will be fixed.
- Not able to transfer from Call Centre to SSU

- o This problem happens when the call centre is trying to transfer to SSU. They have reported dead air after keying 0111. What would cause this type of problem? What happens when the call is transferred to the call centre. You have indicated the IVR still tracks the call but does the IVR release it to D&H and then D&H tries to connect to the IVR again as it transfers to SSU. If the IVR doesn't let the call go how is it being disconnected at transfer.

- Voice recognition sensitivity

- o I noticed the IVR is picking up sounds from the area around the caller and is unable to recognize the command when I was navigating through the system on August 30, 2013.

The IVR automatically transfers the caller to the call centre. This is very frustrating for our clients as well as increasing the cost to us for your service. On September 3, 2013 the IVR reports would show 4,144 Transfer 1 complete. From 5,886 recorded, the total number of calls into the IVR are way off.

- Reporting

o The reports that are generated from the IVR and the Contact Centre Manager(CC6) do not match. The number of calls offered to the CC6 is 7 while the IVR records the transfer 2 complete as 3.

Our clients do not have another option when trying to work their way through Student Financial assistance in BC. For this reason finding a solution to these problems is paramount and it needs to happen quickly.

What was the problem that required the fix on August 27th.

Is it a viable solution for the previous version of the IVR to be imported into production.

What would be the process if we decided to disable the voice recognition function?

What options are available to us so these issues can be managed and resolved?

Thanks

Brenda

Brenda Abbott
Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
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email - brenda.abbott@gov.bc.ca

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Evans, Sharon AVED:EX

From: Abbott, Brenda X AVED:EX
Sent: Tuesday, October 15, 2013 8:41 AM
To: Sedun, Jeanne AVED:EX
Cc: Singh, Nancy K AVED:EX; Melin, Michelle C AVED:EX; Stratholt, Miles L AVED:EX; Cownden, Theresa AVED:EX
Subject: IVR

Hi Jeanne, Roger confirmed the upgrades were put into production this morning. I just did a test and the IVR is working a lot better. It recognized all of my commands and I was able to barge through. Telus continues to work on the other issues we have identified and will let me know when we are needed to conduct further testing.

Brenda

Brenda Abbott
*Financial Analyst,
Student Services Branch
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Phone: (250) 952-7411
Fax: (250) 387-4858*

email - brenda.abbott@gov.bc.ca

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Evans, Sharon AVED:EX

From: Perrey, Jordan AVED:EX
Sent: Tuesday, September 3, 2013 4:24 PM
To: Colthorpe, Glenn AVED:EX; Sedun, Jeanne AVED:EX; Hutchinson, Laura AVED:EX
Cc: Singh, Nancy K AVED:EX; Timewell, Stuart AVED:EX
Subject: RE: Phone system

Hi Glenn,

Tweets would provide rough timelines. Our best bet is to get D+H and Telus on the same conference call. They should be able to hash out where the issue is. Have you guys had any initial conversations with D+H?

Could we get Roger on a call for 9am tomorrow morning? I will send a meeting invite, if you wouldn't mind forwarding off to Telus and D+H.

Talk soon!

Jordan Perrey
A/Chief Information Officer and Executive Director
Technology and Business Transformation Branch
Ministry of Advanced Education
Cell: 250-415-1445

From: Colthorpe, Glenn AVED:EX
Sent: Tuesday, September 3, 2013 4:21 PM
To: Perrey, Jordan AVED:EX; Sedun, Jeanne AVED:EX; Hutchinson, Laura AVED:EX
Cc: Singh, Nancy K AVED:EX; Timewell, Stuart AVED:EX
Subject: RE: Phone system

Jordan, are we able to determine the approximate time the calls were dropped from the ANI, and, if the calls were dropped prior to being transferred to the first agent (D&H) or second agent (AVED)? Telus has requested further info on when the calls were dropped in order to further identify in today's call records which calls this occurred to – I wondered if the info in the tweets provided any timelines?
Thank you.

Glenn

Glenn Colthorpe
Operational Policy and Program Management Unit
Student Services Branch, Ministry of Advanced Education
PO Box 9173 Stn Prov Govt | Victoria BC V8W 9H7
(250) 387-7444 Glenn.Colthorpe@gov.bc.ca

From: Perrey, Jordan AVED:EX
Sent: Tuesday, September 3, 2013 4:14 PM
To: Colthorpe, Glenn AVED:EX; Sedun, Jeanne AVED:EX; Hutchinson, Laura AVED:EX
Cc: Singh, Nancy K AVED:EX; Timewell, Stuart AVED:EX
Subject: RE: Phone system

Thanks Glenn!

Do you have a contact there? Be great to schedule a conference call with them in the AM to get a better understanding of the issues and to also ensure we have reached a resolution.

Talk soon!

Jordan Perrey

A/Chief Information Officer and Executive Director
Technology and Business Transformation Branch
Ministry of Advanced Education
Cell: 250-415-1445

From: Colthorpe, Glenn AVED:EX
Sent: Tuesday, September 3, 2013 4:03 PM
To: Sedun, Jeanne AVED:EX; Hutchinson, Laura AVED:EX; Perrey, Jordan AVED:EX
Cc: Singh, Nancy K AVED:EX; Timewell, Stuart AVED:EX
Subject: RE: Phone system

Hello, I spoke again with Telus, their engineers are working on the call dropping issue, they will continue to work on it through this evening, plus they are fine tuning the speech recognition function.
The incident # is: IM311454

Glenn

Glenn Colthorpe
Operational Policy and Program Management Unit
Student Services Branch, Ministry of Advanced Education
PO Box 9173 Stn Prov Govt | Victoria BC V8W 9H7
(250) 387-7444 Glenn.Colthorpe@gov.bc.ca

From: Sedun, Jeanne AVED:EX
Sent: Tuesday, September 3, 2013 3:07 PM
To: Hutchinson, Laura AVED:EX; Perrey, Jordan AVED:EX
Cc: Colthorpe, Glenn AVED:EX; Singh, Nancy K AVED:EX; Timewell, Stuart AVED:EX
Subject: RE: Phone system

Hey Jordan – thanks for your follow-up with SSBC. Has the IVR issue been identified as a top priority? Any idea when the issue will be resolved? In the meantime, I've asked for a notice to go up on the SABC website. At a minimum, the notice should reference that we're aware we're having phone trouble and are working to get it fixed. The notice should probably have gone up as soon as we realized there was an issue.

Glenn, are you able to speak to the TELUS ticket number question?

Jeanne

P.S. FYI, I've taken a few people off of the distribution list for this note since several are S22

From: Hutchinson, Laura AVED:EX
Sent: Tuesday, September 3, 2013 3:02 PM
To: Sedun, Jeanne AVED:EX; Colthorpe, Glenn AVED:EX; Stratholt, Miles L AVED:EX; Timewell, Stuart AVED:EX; Melin, Michelle C AVED:EX
Cc: Singh, Nancy K AVED:EX; Darche, Michael K AVED:EX; Abbott, Brenda X AVED:EX
Subject: RE: Phone system

Hi Jeanne – do you have any additional information / timelines on when it might be fixed – advice for students (keep calling, wait to call...)

Thanks,

Laura Hutchinson

Manager, Online Strategies and Public Engagement

Web and Online Engagement Unit | Technology and Business Transformation Branch

Ministry of Advanced Education

Mobile: 250-514-8724

From: Sedun, Jeanne AVED:EX

Sent: Tuesday, September 3, 2013 2:59 PM

To: Hutchinson, Laura AVED:EX; Colthorpe, Glenn AVED:EX; Stratholt, Miles L AVED:EX; Timewell, Stuart AVED:EX; Melin, Michelle C AVED:EX

Cc: Singh, Nancy K AVED:EX; Darche, Michael K AVED:EX; Abbott, Brenda X AVED:EX

Subject: RE: Phone system

Can we please get a notice posted on the SABC website that we're experiencing phone trouble. I just checked and there's no notice on the site.

Jeanne

From: Hutchinson, Laura AVED:EX

Sent: Tuesday, September 3, 2013 1:33 PM

To: Colthorpe, Glenn AVED:EX; Stratholt, Miles L AVED:EX; Timewell, Stuart AVED:EX; Melin, Michelle C AVED:EX

Cc: Singh, Nancy K AVED:EX; Darche, Michael K AVED:EX; Sedun, Jeanne AVED:EX; Abbott, Brenda X AVED:EX

Subject: RE: Phone system

Thanks Glenn –

Has there been any update to this? I am getting a lot of complaints over Twitter about being hung up on after selecting to speak to an operator.

Laura Hutchinson

Manager, Online Strategies and Public Engagement

Web and Online Engagement Unit | Technology and Business Transformation Branch

Ministry of Advanced Education

Mobile: 250-514-8724

From: Colthorpe, Glenn AVED:EX

Sent: Tuesday, September 3, 2013 9:34 AM

To: Stratholt, Miles L AVED:EX; Timewell, Stuart AVED:EX; Melin, Michelle C AVED:EX

Cc: Singh, Nancy K AVED:EX; Hutchinson, Laura AVED:EX; Darche, Michael K AVED:EX; Sedun, Jeanne AVED:EX; Abbott, Brenda X AVED:EX

Subject: FW: Phone system

Hi, I have contacted Roger Twomey at Telus – he is investigating and he will have his team test the system, and Roger will call me back within 90 minutes with a status.

I will keep in contact with Roger throughout the morning.

Glenn

Glenn Colthorpe

From: Singh, Nancy K AVED:EX
Sent: Tuesday, September 3, 2013 9:25 AM
To: Stratholt, Miles L AVED:EX; Timewell, Stuart AVED:EX; Colthorpe, Glenn AVED:EX
Subject: Fwd: Phone system

Regards,
Nancy Singh

Sent from my iPhone

Begin forwarded message:

From: "Hutchinson, Laura AVED:EX" <Laura.Hutchinson@gov.bc.ca>
Date: 3 September, 2013 9:13:56 AM PDT
To: "Sedun, Jeanne AVED:EX" <Jeanne.Sedun@gov.bc.ca>, "Singh, Nancy K AVED:EX" <Nancy.Singh@gov.bc.ca>
Cc: "Darche, Michael K AVED:EX" <Michael.Darche@gov.bc.ca>
Subject: Phone system

Good morning – it appears there may be an issue with the phone system this morning, as reported by a Tweet:

@studentaidbc your phone system is messed up. Please fix it! It hangs up when transferring calls to operator. People requiring assistance.

Thanks,

Laura Hutchinson

Manager, Online Strategies and Public Engagement

Web and Online Engagement Unit | Technology and Business Transformation Branch

Ministry of Advanced Education

Mobile: 250-514-8724

Evans, Sharon AVED:EX

From: Perrey, Jordan AVED:EX
Sent: Tuesday, September 3, 2013 3:35 PM
To: Sedun, Jeanne AVED:EX; Hutchinson, Laura AVED:EX
Cc: Colthorpe, Glenn AVED:EX; Singh, Nancy K AVED:EX; Timewell, Stuart AVED:EX
Subject: RE: Phone system

Thanks Jeanne.

Nancy and I just spoke at DEC. We will be arranging a call with all the parties asap. My immediate recommendation is they make more lines available. I am thinking this issue is due to volume.

In terms of notifications, we would rely on your guys' direction in terms of posting outages (related to IVR). Outside of twitter we do not hear of any issues from students (particularly with IVR). Twitter is not always the best mechanism to get the magnitude of an issue. We will get something up on the website asap.

Talk soon!

Jordan Perrey

A/Chief Information Officer and Executive Director
Technology and Business Transformation Branch
Ministry of Advanced Education
Cell: 250-415-1445

From: Sedun, Jeanne AVED:EX
Sent: Tuesday, September 3, 2013 3:07 PM
To: Hutchinson, Laura AVED:EX; Perrey, Jordan AVED:EX
Cc: Colthorpe, Glenn AVED:EX; Singh, Nancy K AVED:EX; Timewell, Stuart AVED:EX
Subject: RE: Phone system

Hey Jordan – thanks for your follow-up with SSBC. Has the IVR issue been identified as a top priority? Any idea when the issue will be resolved? In the meantime, I've asked for a notice to go up on the SABC website. At a minimum, the notice should reference that we're aware we're having phone trouble and are working to get it fixed. The notice should probably have gone up as soon as we realized there was an issue.

Glenn, are you able to speak to the TELUS ticket number question?

Jeanne

P.S. FYI, I've taken a few people off of the distribution list for this note since several are S22

From: Hutchinson, Laura AVED:EX
Sent: Tuesday, September 3, 2013 3:02 PM
To: Sedun, Jeanne AVED:EX; Colthorpe, Glenn AVED:EX; Stratholt, Miles L AVED:EX; Timewell, Stuart AVED:EX; Melin, Michelle C AVED:EX
Cc: Singh, Nancy K AVED:EX; Darche, Michael K AVED:EX; Abbott, Brenda X AVED:EX
Subject: RE: Phone system

Hi Jeanne – do you have any additional information / timelines on when it might be fixed – advice for students (keep calling, wait to call...)

Evans, Sharon AVED:EX

From: Abbott, Brenda X AVED:EX
Sent: Tuesday, October 22, 2013 4:13 PM
To: Graham, Rudy AVED:EX
Cc: Colthorpe, Glenn AVED:EX; Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX
Subject: RE: possible IVR issues

Hi Rudy, I have just made a call to the IVR and everything appears to be working as expected. We have been experiencing problems but have made significant improvements with the speech recognition function in just the last week or so. As the tweet is not descriptive enough to distinguish where the problem is I would suggest not posting anything at this time.

With that said I am out of the office tomorrow and if something come up please contact Glenn Colthorpe and he can assess the problem.

Thanks

Brenda Abbott
*Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
Fax: (250) 387-4858*

email - brenda.abbott@gov.bc.ca

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From: Singh, Nancy K AVED:EX
Sent: Tuesday, October 22, 2013 3:57 PM
To: Graham, Rudy AVED:EX
Cc: Colthorpe, Glenn AVED:EX; Abbott, Brenda X AVED:EX; Sedun, Jeanne AVED:EX
Subject: FW: possible IVR issues
Importance: High

Hi Rudy,

Thanks for your message. I have copied Brenda (our IVR point person) for her information.

Nancy

From: Graham, Rudy AVED:EX
Sent: Tuesday, October 22, 2013 2:03 PM
To: Singh, Nancy K AVED:EX; Colthorpe, Glenn AVED:EX
Cc: AVED Application Support AVED:EX
Subject: possible IVR issues

Hi Nancy and Glenn,

I am just looping Nancy in on this conversation I started with application support who has forwarded this to Glenn to investigate. We got a tweet from a student possibly indicating that there are issues with the IVR system

“@studentaidbc (<https://hootsuite.com/dashboard#>) yup systems are still down, no access to applicant files at all. they are calling me back tomorrow “

Not sure if the student is referring to the call center not having access or if they are not able to access their details through the IVR system. Little confused as to who is calling him/her back we have sent a tweet back to them asking for more detail however I just thought we should look into this a bit further in case there is an actual issue with the IVR system.

If there is an issue with the IVR system could you please let us know so that we can post a message on the website and send out a tweet to let others know of the outage.

Thanks,

Rudy Graham

Senior Web and User Experience Analyst

Web and Online Engagement Unit | Technology and Business Transformation Branch Ministry of
Advanced Education

Phone: (250) 514-4904

Evans, Sharon AVED:EX

From: Singh, Nancy K AVED:EX
Sent: Monday, October 7, 2013 2:48 PM
To: Abbott, Brenda X AVED:EX; Sedun, Jeanne AVED:EX
Subject: RE: Adv Ed Speech Recognition Numbers/Info for Customer

Importance: High

Hi Brenda – I made a few more edits FYI. Please run with Jeanne's version. Thanks so much for moving on this!

Nancy

From: Abbott, Brenda X AVED:EX
Sent: Monday, October 7, 2013 2:22 PM
To: Sedun, Jeanne AVED:EX
Cc: Singh, Nancy K AVED:EX
Subject: RE: Adv Ed Speech Recognition Numbers/Info for Customer
Importance: High

Edited by Brenda for Nancy. Jeanne please approve

Hi Roger & Liz,

I hope the testing performed on October 4th assisted your team in finding the system problems we have been experiencing. It is to our benefit that the continued problems be resolved in the quickest possible time.

Our business is customer service to clients looking to access financial aid from the Ministry of Advanced Education. The service is provided to guide the client through a system that is already stressful. In order to provide satisfactory customer service we expect the IVR product to perform as described at the time of development.

The biggest problem is the speech recognition technology. Clients are using varied tools to access our services. The IVR settings for the speech recognition function do not appear to be able to manage different ways clients access our services. From our conversation Friday I understand some settings are not able to be shut off. One option is to deactivate the speech recognition function.

During our conversation you mentioned adjusting the setting by .25. I understand you want to minimize the changes so you are better able to isolate which setting is creating the problem, but I must stress that time is of the essence. I don't have the expertise to provide guidance but it was mentioned there must be other businesses using the same technology, and could possibly provide some clarity around the problem.

SABC has identified a number of problems over the last several months - the reports not being correct, the agents not being able to transfer to SABC using the 0111 & 0222, the speech recognition function in the IVR, and dropped calls as problematic since December 2012 (and continues to be unresolved).

These are serious issues for a client services business. SABC is not able continue to accept these defects within the IVR and will be forced to look at other options. It is our expectation that the Speech Recognition problem is corrected no later than October 15, 2013, otherwise SABC will request that this function is deactivated.

Brenda Abbott
*Financial Analyst,
Student Services Branch*

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From: Roger Twomey [<mailto:rtwomey@vnet.on.ca>]

Sent: Friday, October 4, 2013 7:49 AM

To: Abbott, Brenda X AVED:EX; Maloney, Debbie CITZ:EX; Perrey, Jordan AVED:EX

Cc: Jovellanos, Lawrence CITZ:EX; Sedun, Jeanne AVED:EX; edm@vnet.on.ca; 'Gary Michalchuk'; Madsen, John T CITZ:EX

Subject: Adv Ed Speech Recognition Numbers/Info for Customer

Brenda,

This is a follow-up to the email I sent last night.

The following numbers are set up for AdvEd

This has been setup only as a reference so you can easily hear what is currently the production settings but in a test environment. S15 this number is pointed to an app that matches the SRec settings that currently exist in PROD:

- Confidence Level = 0.5
- Sensitivity Level = 0.4
- Recognition Speech vs. Accuracy = 0.5 (default setting)

This is the test number we want the call to go to. S15 this number is pointed to an app that we will be using to gradually adjust the SRec settings in order to analyze the utterances, etc. that we get:

- Confidence Level = 0.4
- Sensitivity Level = 0.5 (default setting)
- Recognition Speech vs. Accuracy = 0.5 (default setting)

Brenda, as a part of the testing, if possible could you also get callers to do the following:

- Trying saying their option quickly (e.g. say "main menu" quickly)
- Say some word that is not in the grammar at that particular menu ... you either give them a non-grammar word to say (like "banana" instead of "main menu") or you list the available grammar so that the caller knows what NOT to say and they can say whatever they want.

Also, we should get the following information from each caller:

- Approximate date/time of each call (or at least the first call and then we can extrapolate from there based on their ANI)
- Number they are calling from
- Indicate whether they are calling from a landline, cell phone, SIP phone, skype, or other (specify)

- Indicate whether they are using a speakerphone or not

FYI, I know that we cannot specifically ask your callers (testers) to do all of the following, but we Voicenet will also be trying the following scenarios:

- Calls where the caller barges in with their utterances (i.e. they talk while the prompts are being played)
- Calls where the caller does NOT barge in with their utterances (i.e. caller waits until the whole prompt has played and then starts speaking)
- Calls from a PSTN phone (i.e. landline, non-sip phone) using a speakerphone
- Calls from a PSTN phone (i.e. landline, non-sip phone) not using a speakerphone
- Calls from a sip phone using a speakerphone
- Calls from a sip phone not using a speakerphone
- Calls from skype
- Calls from a cell phone using a speakerphone
- Calls from a cell phone not using a speakerphone
- Calls with zero background noise
- Calls with low background noise
- Calls with moderate to high background noise

Thanks,

Roger

Evans, Sharon AVED:EX

From: Abbott, Brenda X AVED:EX
Sent: Thursday, October 10, 2013 8:47 AM
To: Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX
Subject: FW: Adv Ed Speech Recognition update

See below, I need to respond

Brenda Abbott

*Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
Fax: (250) 387-4858*

[email - brenda.abbott@gov.bc.ca](mailto:brenda.abbott@gov.bc.ca)

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From: Roger Twomey [<mailto:rtwomey@telus.smartinfo.ca>]
Sent: Wednesday, October 9, 2013 4:57 PM
To: Abbott, Brenda X AVED:EX
Cc: Michalchuk, Gary CITZ:IN; David Bertoia; edm@vnet.on.ca; Maloney, Debbie CITZ:EX; Jovellanos, Lawrence CITZ:EX; jbelanger@vnet.on.ca; jtomlinson@vnet.on.ca
Subject: RE: Adv Ed Speech Recognition update

Hi Brenda,

I was wondering if we could have a call tomorrow to review the call results for today. Is there any chance we could have the call at 11:00 am PST? If that time doesn't work for you let me know and I will re-arrange my schedule.

Roger

From: Abbott, Brenda X AVED:EX [<mailto:Brenda.Abbott@gov.bc.ca>]
Sent: October-09-13 11:59 AM
To: 'Roger Twomey'
Cc: 'edm@vnet.on.ca'; Maloney, Debbie CITZ:EX
Subject: RE: Adv Ed Speech Recognition update

Thanks Roger.

Just to confirm can we start the testing now?

Brenda Abbott

*Financial Analyst,
Student Services Branch
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From: Roger Twomey [<mailto:rtwomey@telus.smartinfo.ca>]
Sent: Wednesday, October 9, 2013 8:50 AM
To: Abbott, Brenda X AVED:EX
Cc: Michalchuk, Gary CITZ:IN; edm@vnet.on.ca; jbelanger@vnet.on.ca; jcarney@vnet.on.ca; jtomlinson@vnet.on.ca; Madsen, John T CITZ:EX; Jovellanos, Lawrence CITZ:EX; Maloney, Debbie CITZ:EX
Subject: RE: Adv Ed Speech Recognition update

Hi Brenda,

This email is to confirm our conversation of this morning. The following was agreed to;

1. Conduct one more test at a confidence level of .36
2. Analyze the results
3. Confirm with you on your preference to the confidence setting (todays results or yesterdays)
4. Load test the application
5. Move it to production on Tuesday morning during off hours
6. Prepare for the next series of speech recognition test in the test environment to improve the sensitivity level which deals with the ignoring background noise

Thanks for your time and I will talk to you tomorrow.

Regards,

roger

From: Roger Twomey [<mailto:rtwomey@telus.smartinfo.ca>]
Sent: October-09-13 10:27 AM
To: Abbott, Brenda X AEIT:EX (Brenda.Abbott@gov.bc.ca)
Cc: 'Gary.Michalchuk@telus.com' (Gary.Michalchuk@telus.com); 'edm@vnet.on.ca'; jbelanger@vnet.on.ca; jcarney@vnet.on.ca; jtomlinson@vnet.on.ca; Madsen, John T CITZ:EX (John.Madsen@gov.bc.ca); Jovellanos, Lawrence CITZ:EX (Lawrence.Jovellanos@gov.bc.ca); Maloney, Debbie CITZ:EX (Debbie.Maloney@gov.bc.ca)
Subject: Adv Ed Speech Recognition update

Hi Brenda,

I realize that we will be talking in approximately 1 hour but I thought that I would provide the following to you prior to our conference call.

Based on the test results we received from our testers, Voxeo testers and from the government testers we were able identify that improvements have been made. Our recommendation to Advanced Education is that we make 1 more adjustment to the confidence setting and try another test. Based on this test we would like you to consider moving the change to production (we will use the better of yesterdays and todays test). This will provide your users immediate improvement. After this has been done we would like to conduct some tests (in the test environment) to the sensitivity settings. Sensitivity level deals with the ignoring background noise.

The time frame to complete our analysis of the test results and make the change to the settings and to be ready for the next test is approximately 1 day.

Roger

From: Roger Twomey [<mailto:rtwomey@telus.smartinfo.ca>]
Sent: October-03-13 12:38 PM
To: Abbott, Brenda X AEIT:EX (Brenda.Abbott@gov.bc.ca)
Cc: 'Gary.Michalchuk@telus.com' (Gary.Michalchuk@telus.com); 'edm@vnet.on.ca'; jbelanger@vnet.on.ca; jcarney@vnet.on.ca; jtomlinson@vnet.on.ca
Subject: Adv Ed Speech Recognition

Hi Brenda,

When you get a chance can we talk about the speech recognition? The following is a suggested approach to improve performance.

This is what we want to do in prod ... we could start it as early as this afternoon.

1. Set the sensitivity level back to the default of 0.5
2. Keep the Recognition Speed vs. Accuracy at the default setting of 0.5.
3. Set the confidence level to 0.4 (Previously the default was 0.3 which was too low and caused a lot of caller utterances to be interpreted as meaning "help" or "transfer". Currently, the confidence level is set to 0.5, which is too high as a lot of caller utterances are being ignored.)
4. Let the system run with the above settings for 2 to 3 hours or until we capture utterances for at least 100 callers.
5. Analyze the utterances. This could take a day to do. If 0.4 appears to work "okay" then we set the confidence level to either side of 0.4 (i.e. first to 0.35 and then to 0.45) and repeat step 4 above. And keep gradually adjusting based on which setting works best until we get to a point where the confidence setting produces the best results. This may take a several days to do as the utterance analysis is time consuming.
6. Then we start working with gradually adjusting the Recognition Speed vs. Accuracy level (if we are still below a 90% success rate with respect to confidence level) to see if this setting improves the success rate without affecting what callers hear (i.e. if it takes the speech engine too long to perform the recognition so that there is a noticeable pause to the caller).
7. The last step would be adjusting the sensitivity level gradually, if it is required at this point.

The reason we want to use production is so we can get real cases to analyze using development would take longer and the data wouldn't reflect your callers if we used development/test systems. I also think we will improve the performance on our first go around but maybe not to the optimum that is why we want multiple tests, that is unless you tell us to stop as you are satisfied after the first one or two tests.

Let me know when we can talk about this.

Thanks,

Roger

No virus found in this message.

Checked by AVG - www.avg.com

Version: 2013.0.3408 / Virus Database: 3222/6735 - Release Date: 10/09/13

Evans, Sharon AVED:EX

From: Sedun, Jeanne AVED:EX
Sent: Tuesday, November 5, 2013 2:03 PM
To: Singh, Nancy K AVED:EX; Abbott, Brenda X AVED:EX
Cc: Ingram-Kum, Jennifer AVED:EX
Subject: RE: telecom costs

I agree that further follow-up is needed. Brenda, can you and Jennifer please chat and confirm the best approach to move this forward.

Thanks!

Jeanne

From: Singh, Nancy K AVED:EX
Sent: Tuesday, November 5, 2013 11:34 AM
To: Abbott, Brenda X AVED:EX
Cc: Sedun, Jeanne AVED:EX; Ingram-Kum, Jennifer AVED:EX
Subject: RE: telecom costs

Hi Brenda – please leave this in Jeanne’s hands to determine next steps. From my point of view, Jennifer definitely has a need to know, and yes, the situation is not ideal....

Thanks so much for looking into these costs and keeping us informed!

Nancy

From: Abbott, Brenda X AVED:EX
Sent: Tuesday, November 5, 2013 11:25 AM
To: Singh, Nancy K AVED:EX
Cc: Sedun, Jeanne AVED:EX; Ingram-Kum, Jennifer AVED:EX
Subject: telecom costs

Hi Nancy, during my investigations around the IVR costs I was able to get my hands on costs charged to Student Services via TBTB. I see some anomalies and wondered if I should continue to follow up ensuring only SSB costs are charged to our project code within the larger TBTB budget. Or should this information be passed to Jennifer to follow-up. I have discussed the topic with Bruce Smith in budgets and apparently this issue is long standing and continues to be a problem from the view of Finance.

Either way I’m fine with the direction you provide.

Thanks Nancy

Brenda Abbott
*Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
Fax: (250) 387-4858*

email - brenda.abbott@gov.bc.ca

Evans, Sharon AVED:EX

From: Abbott, Brenda X AVED:EX
Sent: Thursday, November 21, 2013 2:20 PM
To: Melin, Michelle C AVED:EX
Cc: Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX; Ingram-Kum, Jennifer AVED:EX
Subject: testing - transfers and dropped calls

Hi Michelle, as discussed Telus is preparing to move to the next step of the testing. This includes ensuring the transfer of calls, cradle to grave, works. Unfortunately, these calls will need to come through the queue just like a real client as we have no way to isolate the testers. I will ask the testers to identify themselves so SSU staff are not delayed in moving to the next caller.

I don't have any test cases but if anything changes I will let you know.

This testing is planned for Monday and Tuesday Nov 25th & 26th, times to be determined.

Brenda

Brenda Abbott
*Financial Analyst,
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Phone: (250) 952-7411
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Evans, Sharon AVED:EX

From: Mitrou, Shirley MTIC:EX
Sent: Monday, October 28, 2013 8:46 AM
To: Sedun, Jeanne AVED:EX
Cc: Ahmed, Sarf MTIC:EX; Thompson, Joseph AVED:EX; Perrey, Jordan AVED:EX
Subject: RE: Thank you

Jeanne, I'm very pleased that we are making progress on this and that service improvements have occurred. I'll ensure that it continues to get the focus it needs to ensure all issues are resolved. I appreciate your note of thanks.

Shirley Mitrou | Executive Director | Client Services | Shared Services BC
Ph: 250 415-5402 | **e:** Shirley.Mitrou@gov.bc.ca | **m:** PO Box 9412, Stn Prov Gov, Victoria BC V8W 9V1



CLIENT SERVICES
A BRANCH of SHARED SERVICES BC

From: Sedun, Jeanne AVED:EX
Sent: Friday, October 25, 2013 5:06 PM
To: Mitrou, Shirley MTIC:EX
Cc: Ahmed, Sarf MTIC:EX; Thompson, Joseph AVED:EX; Perrey, Jordan AVED:EX
Subject: Thank you

Hi Shirley. We're making good progress with some of the IVR issues. I personally tested out the voice recognition aspect of the IVR system last week. It's come a long way. While there are still some issues outstanding, your ongoing assistance is much appreciated.

With thanks,

Jeanne M. Sedun
Executive Director
Student Services Branch | StudentAid BC
Ministry of Advanced Education
Tel: 250-356-5277 | Cell: S17

Evans, Sharon AVED:EX

From: Perrey, Jordan AVED:EX
Sent: Wednesday, September 4, 2013 9:22 AM
To: Colthorpe, Glenn AVED:EX; Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX; van der Lee, Tina MTIC:EX; Schmuland, Brenda D MTIC:EX; 'rtwomey@telus.smartinfo.ca'; 'Linda.vukosa@resolve.com'; 'Moshe Yudkowsky (speech@pobox.com)'; 'Roger Twomey (rtwomey@vnet.on.ca)'; 'Linda Vukosa'; 'Naudia Larrow'
Subject: FW: Phone system

Attached are the Tweets AVED received yesterday.

Thanks,

Jordan Perrey
A/Chief Information Officer and Executive Director Technology and Business Transformation
Branch Ministry of Advanced Education
Cell: 250-415-1445

-----Original Message-----

From: Hutchinson, Laura AVED:EX
Sent: Tuesday, September 3, 2013 5:52 PM
To: Perrey, Jordan AVED:EX; Colthorpe, Glenn AVED:EX; Sedun, Jeanne AVED:EX
Cc: Singh, Nancy K AVED:EX; Timewell, Stuart AVED:EX
Subject: RE: Phone system

Hi Glenn - here are some reports via Twitter from today:

S22 9:11am via Twitter for iPhone @studentaidbc your phone system is messed up. Please fix it! It hangs up when transferring calls to operator. People requiring assistance.

S22 9:15am via Twitter for Android @studentaidbc Phone system working? It tells me I'm being transferred then disconnects. I need to speak to someone about cancelling my app.

(I reported this issue at 9:13am)

S22 9:29am via Twitter for Android @studentaidbc Thank you. It appears to be working now. I'm at least on hold and waiting. No longer redialing.

(At this time, it appeared to be working - then more came in after lunch)

S22 12:58pm via Twitter for iPhone @studentaidbc I've been trying but the call keeps getting disconnected as I'm waiting to be transferred. :(

S22 12 1:05pm via Twitter for iPhone @studentaidbc every time i call to speak to an operator i keep getting hung up on.

I hope this helps identify the issue - please keep me informed of updates so that I can communicate out via Twitter and update the service notice on the website. We get Tweets asking us for status updates when we have a service notice posted.

Thanks
Laura

From: Perrey, Jordan AVED:EX

From: AVED Student Services Callbacks AVED:EX
Sent: Thursday, September 12, 2013 9:56 AM
To: AVED Student Services Callbacks AVED:EX
Subject: 2 Dropped calls

Brenda Abbott
*Financial Analyst,
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From: Bennett, Mark AVED:EX
Sent: Wednesday, September 11, 2013 8:52 AM
To: Abbott, Brenda X AVED:EX
Subject: Deopped calls

Good morning Brenda,

I have had two calls since 8:30 and both dropped as soon as I answered. I didn't catch the time of the first call but the second dropped at 8:47. I'll let you know if I receive anymore dropped calls.

Thanks,

Mark Bennett
Student Support Officer
Ministry of Advanced Education
www.StudentAidBC.ca

 (250) 953-3346

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From: AVED Student Services Callbacks AVED:EX
Sent: Thursday, September 12, 2013 9:57 AM
To: AVED Student Services Callbacks AVED:EX
Subject: 3 X dropped call

Brenda Abbott
*Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
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From: Melin, Michelle C AVED:EX
Sent: Wednesday, September 11, 2013 12:49 PM
To: Coleman, Lisa M AVED:EX; Abbott, Brenda X AVED:EX
Subject: RE: Enquiry re: phones

Thanks Lisa. Phone issues to Brenda.

Fyi Brenda.

Regards,

Michelle Melin
*Administrator, Student Support Team
Student Services Branch
Ministry of Advanced Education
Phone: 250 387 6107
Fax: 1 888 262 2112
e-mail: Michelle.Melin@gov.bc.ca*

From: Coleman, Lisa M AVED:EX
Sent: Wednesday, September 11, 2013 12:19 PM

To: Melin, Michelle C AVED:EX
Subject: FW: Enquiry re: phones
Importance: High

FYI . . .

From: Tarasoff, Stephen AVED:EX
Sent: Wednesday, September 11, 2013 9:49 AM
To: Coleman, Lisa M AVED:EX
Subject: Enquiry re: phones

Hello Lisa,

I was just talking with Robbie (security) and she mentioned that a client who came in had a concern about the fact that, upon calling the 387-6100 number and being transferred after the initial contact, was presented with a fast beeping sound and then silence without a connection to the party they to whom they were being transferred.

Robbie just wanted to let us know in the event further investigation is warranted. As I am unfamiliar with who the correct person to advise of such an occurrence would be, I thought you might know.

Thank-you.

Stephen

Stephen Tarasoff
Inventory Control Clerk
StudentAid BC
Ministry of Advanced Education
Phone #: (250) 387-1573
E-mail: Stephen.Tarasoff@gov.bc.ca

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From: Noble, Wade AVED:EX
Sent: Wednesday, September 18, 2013 4:02 PM
To: AVED Student Services Callbacks AVED:EX
Subject: Call drop 4:02pm

Dropped on first ring, nothing on call display.

Wade Noble

Student Support Officer

www.StudentAidBC.ca

Tel 250-387-3354

Fax 250-387-4858

Email SABC.SSU@gov.bc.ca

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From: Noble, Wade AVED:EX
Sent: Monday, September 16, 2013 3:43 PM
To: AVED Student Services Callbacks AVED:EX
Cc: Melin, Michelle C AVED:EX
Subject: Dead air 2:27pm

Picked up to dead air, I disconnected after several greeting attempts, then called # back on display S22
S22 and successfully got to caller.

Wade Noble

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From: Noble, Wade AVED:EX
Sent: Monday, September 16, 2013 3:35 PM
To: AVED Student Services Callbacks AVED:EX
Cc: Melin, Michelle C AVED:EX
Subject: Dead air 3:34pm

Answered call from S22 nobody on the other line after several attempts at greeting, disconnected and tried to call that number, got automated message stating number not in service.

Wade Noble
Student Support Officer

www.StudentAidBC.ca

Tel 250-387-3354

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From: Noble, Wade AVED:EX
Sent: Monday, September 16, 2013 3:41 PM
To: AVED Student Services Callbacks AVED:EX
Cc: Melin, Michelle C AVED:EX
Subject: Dead Air 3:36pm

Picked up call, dead air then call dropped... got # off call display S22 and successfully connected w/caller.

Wade Noble
Student Support Officer

www.StudentAidBC.ca

Tel 250-387-3354

Fax 250-387-4858

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From: Noble, Wade AVED:EX
Sent: Monday, September 16, 2013 10:28 AM
To: AVED Student Services Callbacks AVED:EX
Cc: Melin, Michelle C AVED:EX
Subject: Dropped call 10:27am

Dropped on pick up, no chance to grab call display.

Wade Noble

Student Support Officer

www.StudentAidBC.ca

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Fax 250-387-4858

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From: Noble, Wade AVED:EX
Sent: Monday, September 16, 2013 12:28 PM
To: AVED Student Services Callbacks AVED:EX
Cc: Melin, Michelle C AVED:EX
Subject: Dropped call 12:27pm

Dropped on pickup, no call display info.

Wade Noble

Student Support Officer

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Tel 250-387-3354

Fax 250-387-4858

Email SABC.SSU@gov.bc.ca

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From: Si, Trent AVED:EX
Sent: Monday, September 16, 2013 1:52 PM
To: AVED Student Services Callbacks AVED:EX
Subject: dropped call

@1:52pm. Another dropped call. No phone#

Trent Si
Student Support Officer
Student Services Branch
Ministry of Advanced Education

From: Roger Twomey [rtwomey@vnet.on.ca]
Sent: Friday, September 20, 2013 9:57 AM
To: Cownden, Theresa AVED:EX; Maloney, Debbie MTIC:EX
Subject: FW: AdvEd

See below,

Roger

From: Liz Della Mora [<mailto:edm@vnet.on.ca>]
Sent: September-20-13 12:52 PM
To: 'Roger Twomey'
Subject: AdvEd

Issues:

1. Dropped calls - all calls to SSU come from the call centre

This happens when SSU tries to answer a call. The line rings but there is no caller when the line is answered. This incident was opened in December 2012 and has never been resolved. SSB needs to know what is being done and when this problem will be fixed.

We have a CCXML expert working on modifying the code. We are currently in the process of performing full regression testing on the transfer module using a series of test cases. It is important to understand that our testing is not being done against an ACD queue as we do not have access to one or control over what happens within an ACD queue. We are identifying specific reproducible scenarios that can cause transfer problems and then making adjustments in the code to correct those problems. Then we perform the full regression testing again to see if those problems were resolved and if any new problems were introduced as a result of those fixes. Once we are at the point where all of our test cases pass, then we would like AdvEd to do the same regression testing (using our test cases and any other ones that you may come up with) but do the testing against the actual ACD queues as you have more control over those queues than we do. If any issues are identified, then we will work on making the necessary code changes to correct them and we will redo our regression testing, followed by AdvEd redoing their regression testing. Once all tests pass for us and AdvEd, we can then promote the changes to production. At that point, we will monitor the system and investigate any issues on a per-call basis,

which is why it will be important to provide us with as much information as possible.

We will also be upgrading our IVR software as there is at least one fix in the update that corrects a transfer-related timing issue. We don't believe that this timing issue exists in your application, but we will apply the update just in case there are any other issues that may be corrected.

We are also in the process of moving over to a different service provider's network (i.e. from Primus to TELUS). Once that transition is complete, we will also perform the above-mentioned regression testing against that network using the AdvEd application in order to see if the new network provides any improvements with respect to call transfers. And again, after we complete our own testing, we would like AdvEd to complete their own testing using their ACD queues.

2. Not able to transfer from Call Centre to SSU

This problem happens when the call centre is trying to transfer to SSU. They have reported dead air after keying 0111. What would cause this type of problem? What happens when the call is transferred to the call centre. You have indicated the IVR still tracks the call but does the IVR release it to D&H and then D&H tries to connect to the IVR again as it transfers to SSU. If the IVR doesn't let the call go how is it being disconnected at transfer.

See response to 1 above.

3. Voice recognition sensitivity

I noticed the IVR is picking up sounds from the area around the caller and is unable to recognize the command when I was navigating through the system on August 30, 2013. The IVR automatically transfers the caller to the call centre. This is very frustrating for our clients as well as increasing the cost to us for your service. On September 3, 2013 the IVR reports would show 4,144 Transfer 1 complete. From 5,886 recorded, the total number of calls into the IVR are way off.

a) Confidence Level

The parameter "Confidence Level" is specified with a float value in the range of "0.0" (minimum confidence) to "1.0" (maximum confidence). Speech recognition results are rejected when the recognition confidence is below the specified threshold. Setting this parameter higher will result in fewer false recognitions at the cost of more No Match events. Setting it lower will reduce the number of No Match events at the risk of more false recognitions. The default value is "0.5".

We have implemented "utterance recording" for the AdvEd application on our production servers. This will allow us to compare what the caller said to how it was interpreted by the Speech Recognition engine. It will also allow us to see what the confidence level was for every utterance. Based on that information, we can determine how to adjust the confidence level. This is a manual and time consuming process.

The confidence level is currently set to 0.5 as a global setting (i.e. it affects all menu/input prompts). This can be adjusting at a per-menu/input level if we find that there are specific menus where a lot of speech recognition rejections are occurring.

b) Sensitivity Level

The parameter "Sensitivity Level" is specified with a float value in the range of "0.0" (least sensitive to noise) to "1.0" (highly sensitive to quiet input). It controls the sensitivity of the speech recognition process. Higher values will allow the speech recognition engine to recognize softer speech input but will also pick up more background noise. This parameter may need to be tuned downward if the voice application is used in noisy environments, or upward if it is used in very quiet environments. The default value is "0.5".

We have adjusted this value down to 0.4. We can adjust it further based on your feedback, but keep in mind that adjusting it too low may cause the system to ignore the caller's speech.

c) Universal Commands

The parameter "Universal Commands" (universals) specifies which universal command grammars should be active within the voice dialog. The value is one of: "all" - make all universal grammars active; "none" - deactivate all universal grammars; a space-separated list of the universal grammar names (e.g. "help exit cancel") - make the specified grammars active and all non-specified grammars inactive. Usually the following three universal commands are supported: "help" - the caller is asking for help; "exit" - the caller is asking to exit the application; "cancel" - the caller is asking to cancel the prompt that is being played. The default value is set to "help" at the VoiceObjects media platform driver level for all media platforms supporting universal commands. Some media platforms may optionally provide platform-specific universal command grammars. For example, the Nuance Cafe platform supports the command "goback" - the caller wants to retract the last response and go back to an earlier part of the dialog interaction.

We were not aware that the system had default universal grammars that it uses in the background. Those universal grammars include the words: help, exit and cancel. In AdvEd's case, "help" is also one of the words that callers can use as a part of the AdvEd application grammar. We think that there were so many transfers taking place, because the speech rec engine was interpreting sounds (e.g. clearing your throat, etc.) and words that were not in the grammar at those menus, as "help", which was causing callers to be transferred even though they did not say "help". This setting has since been modified.

4. Reporting

The reports that are generated from the IVR and the Contact Centre Manager(CC6) do not match. The number of calls offered to the CC6 is 7 while the IVR records the transfer 2 complete as 3.

Other Questions:

1. What was the problem that required the fix on August 27th.

The problem was dropped calls.

This was the day on which D&H was maxing out on their resources and the IVR was receiving a busy or ring no answer result during our transfer attempts. Below is a description of what the caller and Agent1 should have heard during these failed transfer attempts as well as what was actually happening at that time:

- a) Callers should have heard the *"Please call back during regular business hours, Monday through Friday, 8:30 a.m. to 4:30 p.m. If you are calling during regular business hours and received this message, all representatives are currently busy, please try your call again later. Thank you"* message if Agent1 did not answer (i.e. line was busy, RNA, etc.). Instead of hearing that message, all call legs were being dropped. This situation has since been corrected (on the IVR side) so that the caller does hear the appropriate message.
- b) Agent1 was not hearing the *"We were unable to reach agent2, we are reconnecting you with the caller"* message if Agent2 did not answer (i.e. line was busy, RNA, etc.) and all call legs were being dropped instead of the caller and Agent1 being reconnected with each other again.

2. Is it a viable solution for the previous version of the IVR to be imported into production.

No, it is not viable. There have been changes made to the code to deal with known reason for dropped calls, so reverting back to the previous code would only reintroduce those issues.

3. What would be the process if we decided to disable the voice recognition function?

We can turn speech recognition off very quickly via a configuration change.

However, there are about 70 menu prompts and 4 Input prompts. Because every voice prompt includes DTMF instructions and speech recognition instructions (e.g. To do X, say "abc" or press 2), all of those prompts would need to be redone (to only include DTMF instructions) and replaced.

4. What options are available to us so these issues can be managed and resolved?

No virus found in this message.

Checked by AVG - www.avg.com

Version: 2013.0.3408 / Virus Database: 3222/6684 - Release Date: 09/20/13

IVR issues – September 3rd – 5th, 2013

On Tuesday Sept 3rd

- It was identified through twitter there was an issue with the IVR as calls were again being transferred to the info centre and then dropped.
- The Info Centre was unable to transfer calls to SSU.
 - Through investigation D&H has identified that the maximum capacity of 384 concurrent calls was reached on Tuesday Sep 3rd. D&H answers calls for BC, NB, NF&L, ON, Sask and National. D&H continues to investigate if this was directly related to the dropped call issue.
- SABC contacted the service provider (Telus) about the issues with the IVR and that we needed to have the problem resolved ASAP. It was identified that when a fix was put into production on August 27th a problem had developed with the code.

On Thursday Sept 5th

- Roger Twoney from Telus identified two issues:
 - Overload situation at D&H which is a significant issue.
 - No message played and the calls were dropped. Code was there for the message and Telus is investigating why it is not playing.ETA: will have an ETA late Thursday or Friday.
- Nancy Singh noted Urgency to have the message installed.
 - It was noted the messaging to clients through the IVR system was not working and clients were just being dropped without warning. What messages are the CSR's providing to the clients?
- Marijan Sajko, Director, Technology Solutions asked how many calls were dropped in last 24 hrs?
- On Thursday Brenda requested daily call volume reports from D&H so SABC can monitor the issue. The report does not specify calls dropped but does show 236 abandoned calls
- Marijan Sajko asked if more ports could be added at D&H?
 - Linda Vukosa from D&H is not sure.
 - D&H answers calls for BC, NB, NF&L, ON, Sask & National
- This is a significant problem as student aid programs from the above portfolios are experiencing high volumes and D & H does not have the capacity in technology as well as staff to manage the issue.
- What is the definition of an abandoned call? When does a call become abandoned?
 - Abandoned calls are those calls that are abandoned by the customer before speaking to an agent. Definition provided by Linda Vukosa from D&H Thursday Sept 5th.
- Conference calls were attended by Telus SSB & TBTB & D&H on a daily basis on Sept 3, 4, 5 & 6. Tech support from D & H only participated on Wednesday Sept 4th.
- D&H appears non-responsive to
 - Providing incident reports
 - 4 missed SLA's since Oct 1, 2012
 - No tech support on the calls to provide clarification on Tuesday or Thursday
 - Lack of concern for the issue
 - No timely communication to SSB when critical incidents occur. Critical Incidents were discussed on the Aug 15th call and D & H does not consider this type of issue to be a critical issue.
- Roger to update AVED reps Brenda Abbott and Nancy Singh when message replaced.

On Friday Sept 6th

- Conference call between SSB, D & H, Telus and CITZ to discuss what has been discovered and what the next steps are.
- Roger Twoney from Telus explained:
 - The message was disabled during the recent fix and the IVR has been corrected so it will now provide a message to the caller if all lines are busy at D&H
 - Requested that the CSR's not hang up immediately, waiting 12 to 15 seconds to ensure the transfer has gone through. Linda Vukosa identified the agents don't have that choose. As soon as the 0111 is keyed in the call is released and the next call in the queue rings almost immediately.
- Roger Twoney from Telus explained what the difference was between the two codes
 - 0111 is a consulted transfer meaning the agent is able to stay on the line during the transfer and the 3 parties can all hear each other.
 - 0222 is a supervised transfer which means the agent and SSU are able to talk and the agent hits 8 so the client is now talking to SSU. Does or can the agent remain on the call??
- Brenda Abbott asked Linda Vukosa for an update on the D & H end of things.
 - Linda verified she would go back on the floor and test the 12 to 15 second request and report back next week. Linda clearly stated the CSR's are told to never use the 0222 transfer option.
 - Although Linda had no update on the technology side the note below was received from **Shakir A. Nathoo** Client Relationship Manager, Client Relations, Student Lending at D&H. Here is what I have learned:
 - We are in the process of assessing the frequency of such an event over the past year and will look to the future planned volumes to anticipate if the incident could happen again and when (i.e. January '14 Winter Peak). The Tuesday following the long weekend in September was and has traditionally been our busiest day of the year across all of our Client portfolios in Student Lending.
 - We will then look at strategies to limit or balance the inbound calls for the high, moderate and low volume clients as we have done this week to following this incident to mitigate the overall blockages. We have not had the issue repeat itself since Monday based on the short term re-configurations we have performed.

We are also in the process of investigating and assessing process improvements to handle larger call volumes as well as the option to add more lines to accept a higher maximum volume (i.e. higher than the maximum threshold we currently have in place).

If you have any questions in the interim then kindly let us know. Regards, Shakir

- Brenda Abbott requested that D & H provide a solution that is better for the short term and to please have that to us by early next week.
- Roger Twoney at Telus has committed to:
 - Continue to investigate the voice sensitivity issue. It could take up to a week or so to resolve
 - Continue to investigate the transfer problem which is creating dropped calls
 - Continue to investigate the reporting to see if there is a way to identify how big the dropped call problem is.

Sept 10th conference call between Telus, SSBC & SSB

This call was set up by Lawrence Jovellanos at SSBC to clearly identify the current issues with the IVR and what are the next steps.

Roger started off by talking about the reporting problem from a previous issue around calls being labelled as “Call Centre Unavailable” and if Telus could regenerate the numbers to correctly reflect what actually occurred.

Brenda Abbott asked Roger to go over the events of the last 2 weeks so everyone was aware of the issues. And they are:

- call volume discrepancy
- dropped calls
- errors in reporting
- unable to transfer from Call Centre to Ministry
- speech recognition sensitivity
- messaging not activated

There was discussion around what happened and why. Telus acknowledged the new version was not thoroughly tested and that’s why the breaks that happened were not caught. Roger admitted that they were rushing to make the fix and that in hindsight he needs to step back, take a breath and ensure a process if followed.

Brenda provided the numbers for Sept 3rd. The reports showed 5,886 calls entering the IVR with 4,144 showing as a completed transfer 1. Although only 3 calls were reported as being transfer 2 completed. Lawrence asked if D& H had answered those calls. Nancy indicated D & H did not have the capacity to handle the large volume and only reported 1,559 getting through to them and answering 1,161. That leaves a discrepancy of over 2,000 calls that no one knows where they went. The assumption is the speech recognition sensitivity had created the problem with the reports.

Roger from Telus committed to provide a clearer vision of the problem after he has a chance to talk to some of his peers S22 in the USA. Roger will provide an update on Thursday Sept 11th.

It was noted that in the last week there have been 14 dropped calls reported.

Thursday September 12, 2013

In an effort for SSB to better identify where the problems are with the call system, Michelle Melin & Brenda Abbott had a call with S22 from Alberta Student financial aid. It was interesting to hear they had a small problem with volume in the 3rd week of Aug and an issue with transferring calls from outside of Canada to the centre in Alberta, but no other problems with their IVR or the call centre.

But S22 from Alberta indicated D&H were responsive to the issue of CSR’s doing cold transfers and worked to ensure each call transferred was communicated to a staff at the other end. This is very telling as D&H appeared to be unable to perform this for BC and unwilling to encourage it to the staff.

Conference Call September 20, 2013

The issues for D & H to discuss were:

- What is causing the dropped calls when CSRs are transferring back to BC. Is there a setting that can be changed so the CSRs remain on the line until the call is answered at the other end. Is there an impact to SLAs, and if so, to what extent?
- What is causing the inability of CSRs to transfer at all. When is this problem most prevalent? Does this happen at certain times of the day or is it random?
- BC acknowledges volume is an issue for D&H and staffing challenges also contribute to the problem. We would be interested in D&H's strategy toward resolving these very significant issues for us. In the last year the SLAs were missed in four months, which negatively impacts our clients.

The issues for Telus to discuss were:

- Dropped calls – all calls to SSU come from the call centre.
 - This happens when SSU tries to answer a call. The line rings but there is no caller when the line is answered. This incident was opened in December 2012 and has never been resolved. SSB needs to know what is being done and when this problem will be fixed.
- Not able to transfer from Call Centre to SSU
 - This problem happens when the call centre is trying to transfer to SSU. They have reported dead air after keying 0111. What would cause this type of problem? What happens when the call is transferred to the call centre. You have indicated the IVR still tracks the call but does the IVR release it to D&H and then D&H tries to connect to the IVR again as it transfers to SSU. If the IVR doesn't let the call go how is it being disconnected at transfer.
- Voice recognition sensitivity
 - I noticed the IVR is picking up sounds from the area around the caller and is unable to recognize the command when I was navigating through the system on August 30, 2013. The IVR automatically transfers the caller to the call centre. This is very frustrating for our clients as well as increasing the cost to us for your service. On September 3, 2013 the IVR reports would show 4,144 Transfer 1 complete. From 5,886 recorded, the total numbers of calls into the IVR are way off.
- Reporting
 - The reports that are generated from the IVR and the Contact Centre Manager(CC6) do not match. The number of calls offered to the CC6 is 7 while the IVR records the transfer 2 complete as 3.

Our clients do not have another option when trying to work their way through Student Financial assistance in BC. For this reason finding a solution to these problems is paramount and it needs to happen quickly.

What was the problem that required the fix on August 27th?

Is it a viable solution for the previous version of the IVR to be imported into production?

What would be the process if we decided to disable the voice recognition function?

What options are available to us so these issues can be managed and resolved?

Issues:

1. Dropped calls - all calls to SSU come from the call centre

This happens when SSU tries to answer a call. The line rings but there is no caller when the line is answered. This incident was opened in December 2012 and has never been resolved. SSB needs to know what is being done and when this problem will be fixed.

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We have adjusted this value down to 0.4. We can adjust it further based on your feedback, but keep in mind that adjusting it too low may cause the system to ignore the caller's speech.

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universal grammars active; "none" - deactivate all universal grammars; a space-separated list of the universal grammar names (e.g. "help exit cancel") - make the specified grammars active and all non-specified grammars inactive. Usually the following three universal commands are supported: "help" - the caller is asking for help; "exit" - the caller is asking to exit the application; "cancel" - the caller is asking to cancel the prompt that is being played. The default value is set to "help" at the VoiceObjects media platform driver level for all media platforms supporting universal commands. Some media platforms may optionally provide platform-specific universal command grammars. For example, the Nuance Cafe platform supports the command "goback" - the caller wants to retract the last response and go back to an earlier part of the dialog interaction.

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4. Reporting

The reports that are generated from the IVR and the Contact Centre Manager(CC6) do not match. The number of calls offered to the CC6 is 7 while the IVR records the transfer 2 complete as 3.

We will investigate these issues. Would it be possible for AdvEd to provide us with their CC6 data to compare to ours so that we could identify where the differences are?

Other Questions:

1. What was the problem that required the fix on August 27th.

The problem was dropped calls.

This was the day on which D&H was maxing out on their resources and the IVR was receiving a busy or ring no answer result during our transfer attempts. Below is a description of what the caller and Agent1 should have heard during these failed transfer attempts as well as what was actually happening at that time:

- a) Callers should have heard the *"Please call back during regular business hours, Monday through Friday, 8:30 a.m. to 4:30 p.m. If you are calling during regular business hours and received this message, all representatives are currently busy, please try your call again later. Thank you"* message if Agent1 did not answer (i.e. line was busy, RNA, etc.). Instead of hearing that message, all call legs were being dropped. This situation has since been corrected (on the IVR side) so that the caller does hear the appropriate message.
- b) Agent1 was not hearing the *"We were unable to reach agent2, we are reconnecting you with the caller"* message if Agent2 did not answer (i.e. line was busy, RNA, etc.) and all

call legs were being dropped instead of the caller and Agent1 being reconnected with each other again.

2. Is it a viable solution for the previous version of the IVR to be imported into production.

No, it is not viable. There have been changes made to the code to deal with known reason for dropped calls, so reverting back to the previous code would only reintroduce those issues.

3. What would be the process if we decided to disable the voice recognition function?

We can turn speech recognition off very quickly via a configuration change. However, there are about 70 menu prompts and 4 Input prompts. Because every voice prompt includes DTMF instructions and speech recognition instructions (e.g. To do X, say "abc" or press 2), all of those prompts would need to be redone (to only include DTMF instructions) and replaced.

It was agreed that after Telus has completed testing and is confident all functions of the IVR are working as per the specifications SSB would complete the same series of tests. It could take a few days to run through the tests and if any deficiencies are identified, Telus will need to begin the process from the beginning. This could take a number of weeks to complete.

Friday October 4, 2013

Brenda,

The following numbers are set up for AdvEd

This has been setup only as a reference so you can easily hear what the production setting is currently but in a test environment.

S15 – this number is pointed to an app that matches the Speech Recognition settings that currently exist in PROD:

- Confidence Level = 0.5
- Sensitivity Level = 0.4
- Recognition Speech vs. Accuracy = 0.5 (default setting)

This is the test number we want the call to go to. 855-261-6558– this number is pointed to an app that we will be using to gradually adjust the Speech Recognition settings in order to analyze the utterances, etc. that we get:

- Confidence Level = 0.4
- Sensitivity Level = 0.5 (default setting)
- Recognition Speech vs. Accuracy = 0.5 (default setting)

I gathered a team to test the IVR so Telus had a baseline to work from. There were AVED staff, Telus staff and staff from Florida calling the application. These calls were recorded so the service provider could identify what is happening.

AVED, SSBC & Telus had a CC @ 11:30 am to discuss the next steps. We were assured the service provider would have news by the end of Monday and provide the next steps.

Monday October 7, 2013

From: Si, Trent AVED:EX
Sent: Tuesday, September 17, 2013 8:40 AM
To: AVED Student Services Callbacks AVED:EX
Subject: re: called dropped

@8:39am, another dropped call.
No phone#

Trent Si
Student Support Officer
Student Services Branch
Ministry of Advanced Education

From: Si, Trent AVED:EX
Sent: Tuesday, September 17, 2013 12:08 PM
To: AVED Student Services Callbacks AVED:EX
Subject: Re: dropped call

@12:07, another dropped call. No phone#

Trent Si
Student Support Officer
Student Services Branch
Ministry of Advanced Education

From: Si, Trent AVED:EX
Sent: Tuesday, September 17, 2013 3:47 PM
To: AVED Student Services Callbacks AVED:EX
Subject: Re: dropped call

At 3:47pm, another dropped call. No phone#

Trent Si
Student Support Officer
Student Services Branch
Ministry of Advanced Education

From: Si, Trent AVED:EX
Sent: Monday, September 16, 2013 1:35 PM
To: AVED Student Services Callbacks AVED:EX
Subject: RE: dropped calls

@1:34pm, a call dropped, no phone#
Thanks

Trent Si
Student Support Officer
Student Services Branch
Ministry of Advanced Education

From: Si, Trent AVED:EX
Sent: Tuesday, September 17, 2013 9:10 AM
To: AVED Student Services Callbacks AVED:EX
Subject: Re: dropped calls

Importance: High

This time @9:09, the phone rang once, then the caller is gone. There's something wrong... no phone#

Thanks

Trent Si
Student Support Officer
Student Services Branch
Ministry of Advanced Education

From: Liz Della Mora [edm@vnet.on.ca]
Sent: Friday, August 30, 2013 3:45 PM
To: Abbott, Brenda X AVED:EX; 'Roger Twomey'
Subject: RE: IVR Issues

Hi Brenda,

I have not forgotten about you ... I am still doing some fine-tuning and testing on our development server in order to improve the speech recognition confidence and reduce the noise sensitivity level. Once I have something that appears to work better than the current settings, I will let you know when I move it to production.

Thanks.

Liz

From: Abbott, Brenda X AVED:EX [<mailto:Brenda.Abbott@gov.bc.ca>]
Sent: Friday, August 30, 2013 4:28 PM
To: 'Roger Twomey'; 'edm@vnet.on.ca'
Subject: FW: IVR Issues

Here is an itemized summary of my problems this morning.

Thanks

Brenda Abbott
*Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
Fax: (250) 387-4858*

email - brenda.abbott@gov.bc.ca

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From: Abbott, Brenda X AVED:EX
Sent: Friday, August 30, 2013 12:57 PM
To: AVED Request IT AVED:EX

Subject: IVR Issues

There have been some issues with the IVR today. I have attached my note which itemizes the problems I am encountering with the system(see attachment).

Can you request an incident through CSCHELP - SSBC TSD DSS Customer Service Centre CITZ:EX to record the problem and so the issue follows the correct process.

Thanks

Brenda Abbott

Financial Analyst,

Student Services Branch

Ministry of Advanced Education

Phone: (250) 952-7411

Fax: (250) 387-4858

email - brenda.abbott@gov.bc.ca

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From: Noble, Wade AVED:EX
Sent: Monday, September 30, 2013 4:05 PM
To: AVED Student Services Callbacks AVED:EX
Cc: Melin, Michelle C AVED:EX
Subject: Dead Air: 4:02pm

Answered call from S22 dead air. Tried calling back, got automated 'number not in use' msg.

Wade Noble
Student Support Officer

www.StudentAidBC.ca

Tel 250-387-3354

Fax 250-387-4858

Email SABC.SSU@gov.bc.ca

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From: Noble, Wade AVED:EX
Sent: Friday, September 20, 2013 12:06 PM
To: AVED Student Services Callbacks AVED:EX
Subject: Dropped call 12:05pm

Dropped on pickup after two rings, didn't catch call display.

Wade Noble

Student Support Officer

www.StudentAidBC.ca

Tel 250-387-3354

Fax 250-387-4858

Email SABC.SSU@gov.bc.ca

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From: Noble, Wade AVED:EX
Sent: Tuesday, September 24, 2013 12:18 PM
To: AVED Student Services Callbacks AVED:EX
Subject: Dropped call 12:17pm

Dropped on first ring, nothing on call display.

Wade Noble

Student Support Officer

www.StudentAidBC.ca

Tel 250-387-3354

Fax 250-387-4858

Email SABC.SSU@gov.bc.ca

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From: Noble, Wade AVED:EX
Sent: Monday, September 30, 2013 3:30 PM
To: AVED Student Services Callbacks AVED:EX
Subject: Dropped call 3:29pm

Dropped on first ring, no call display.

Wade Noble

Student Support Officer

www.StudentAidBC.ca

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Fax 250-387-4858

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From: Noble, Wade AVED:EX
Sent: Wednesday, September 18, 2013 9:08 AM
To: AVED Student Services Callbacks AVED:EX
Cc: Melin, Michelle C AVED:EX
Subject: Dropped call 9:07am

Dropped on pick up, didn't get call display.

Wade Noble

Student Support Officer

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From: Noble, Wade AVED:EX
Sent: Wednesday, September 18, 2013 9:16 AM
To: AVED Student Services Callbacks AVED:EX
Cc: Melin, Michelle C AVED:EX
Subject: Dropped call 9:14am

Dropped in middle of first ring, nothing on call display.

Wade Noble

Student Support Officer

www.StudentAidBC.ca

Tel 250-387-3354

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Email SABC.SSU@gov.bc.ca

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From: Abbott, Brenda X AVED:EX
Sent: Tuesday, November 12, 2013 2:33 PM
To: 'Roger Twomey'
Cc: 'edellamora@telus.smartinfo.ca'
Subject: Sept Dropped calls
Attachments: 2 Dropped calls; 3 X dropped call; Dropped call 3X same student; Dropped call 10:27am; Dropped call 12:27pm; RE: dropped calls; dropped call; Re: dropped calls; Dead air 3:34pm; Dead Air 3:36pm; Dead air 2:27pm; re: called dropped; Re: dropped calls; Re: dropped call; Dropped call 2:28pm; Re: dropped call; Dropped call 9:07am; Dropped call 9:14am; Call drop 4:02pm; Re: dropped calls; dropped call; Dropped call 12:05pm; Dropped call 12:17pm; Dropped call 3:29pm; Dead Air: 4:02pm

Thanks

Brenda Abbott
*Financial Analyst,
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0

Status: 2 - Pending

Assign:

CB4F SSU Call Back

Atmpts

Date	Time	SIN	Phone	1	2	3	ReDir	Stat	Assign
				>		>			
01	2013-SEP-03 11:14							N N N ~ PEND	/ done
02	2013-SEP-03 11:06							N N N ~ PEND	/ done
03	2013-SEP-03 11:05							N N N ~ PEND	/ done
04	2013-SEP-03 10:50							N N N ~ PEND	/ done
05	2013-SEP-03 10:45							N N N ~ PEND	/ done
06	2013-SEP-03 10:44							N N N ~ PEND	/ done

07

08

09

we are all here, no phone call got transferred thru.

Trent -

Status: 2 - Pending

Assign:

CB4F SSU Call Back

Atmpts

Date	Time	SIN	Phone	1	2	3	ReDir	Stat	Assign
				>	>				
01	2013-SEP-03 10:10	S22		N	N	N	~	PEND	✓ Done
02	2013-SEP-03 09:57			N	N	N	~	PEND	✓ Done
03	2013-SEP-03 09:30			N	N	N	~	PEND	✓ Done
04	2013-SEP-03 09:30			N	N	N	~	PEND	✓ Done
05	2013-SEP-03 09:30			N	N	N	~	PEND	✓ Done
06									
07									
08									
09									
10									

Action: DTL-#, A1-#, A2-#, A3-#, RD-#, STAT, MS, MM, AA-#, CD

PROD Student Financial Assistance System LLAVIS_SFP
2013-SEP-03 CALL CENTRE COMMAND (For SABC Info Centre Referrals) CCC_100

|||||
Status: 2 - Pending
Assign:

CB4F SSU Call Back

	Date	Time	SIN	Phone	Atmpts			ReDir	Stat	Assign
					1	2	3			
01	2013-SEP-03	08:57	S22	S22	N	N	N	-	PEND	
02	2013-SEP-03	08:56	S22	S22	N	N	N	-	PEND	
03										
04										
05										
06										
07										
08										
09										
10										

✓ Done
✓ Done

|||||
Action:_____ DTL-#, A1-#, A2-#, A3-#, RD-#, STAT, MS, MM, AA-#, CD

call back was set up during
office hour.

From: Jan McCann [jan.mccann@dhltd.com]
Sent: Wednesday, September 4, 2013 9:26 AM
To: Cownden, Theresa AVED:EX; Abbott, Brenda X AVED:EX
Cc: Linda Vukosa
Subject: FW: 0111 Transfer not working

Hi Ladies,

Here are three specific examples from yesterday when the transfer to SSU did not work.

Time of call: 2:25pm

Originating Telephone number on call display: S22

Error message you hear: the service you are trying to reach is not available. please try again later. we are sorry for the inconvenience.

Time of call: 3:48pm

Originating Telephone number on call display: S22

Error message you hear: the service you are trying to reach is not available. please try again later. we are sorry for the inconvenience

Time of call: 3:54pm

Originating Telephone number on call display: S22

Error message you hear: the service you are trying to reach is not available. please try again later. we are sorry for the inconvenience.

Jan McCann
Team Leader, Student Lending Call Centre
Flr 11 - 2 Robert Speck Parkway



t: 905-306-2652

www.dhltd.com

Answers begin with understanding™

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From: Abbott, Brenda X AVED:EX
Sent: Friday, September 6, 2013 8:12 AM
To: Cownden, Theresa AVED:EX
Cc: Singh, Nancy K AVED:EX; Melin, Michelle C AVED:EX
Subject: FW: IVR Calls received vs. Info centre

Here are the limits on our phone system as described by Lawrence.

From: Abbott, Brenda X AVED:EX
Sent: Friday, July 19, 2013 8:15 AM
To: Jovellanos, Lawrence CITZ:EX; Maloney, Debbie CITZ:EX
Cc: 'Roger Twomey'; AVED Business Analysts AVED:EX; Singh, Nancy K AVED:EX
Subject: RE: IVR Calls received vs. Info centre

Hi everyone, a call will need to be set up to discuss how we are going to move forward to resolve these issues. The dropped calls are different now because they are either just not there when the call is picked up or they fade in and out during the call. I also want someone to investigate the difference in recorded calls received.

Debbie are you able to set up a call for sometime next week.

Thanks

Brenda Abbott
*Financial Analyst,
Student Services Branch
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Phone: (250) 952-7411
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From: Jovellanos, Lawrence CITZ:EX
Sent: Thursday, July 18, 2013 2:30 PM
To: Abbott, Brenda X AVED:EX; Maloney, Debbie CITZ:EX
Cc: 'Roger Twomey'

Subject: RE: IVR Calls received vs. Info centre

Hi Brenda,

Good afternoon.

Just a note on the calls received.

The calls received will never match until such time as the contact centre in Mississauga move to SIP or restrict their incoming to calls only coming from the IVR. This has been explicitly stated in the beginning.

Normally the calls would be bigger on the contact centre but if the IVR is reporting more calls than the contact centre is receiving then I would agree there is something wrong with the captured data. It could be that the less than 4 or 6 secs (can't recall the exact numbers) calls are not being discarded or the caller hung up before the transfer could be completed. The latter is supposed to be recorded, and part of the calls. You should deduct the number of abandoned calls to this figure to get to the approximate amount of 3rd party contact centre calls completed/answered. There is also the number of transfers completed I believe.

Hope this helps...

Lawrence Jovellanos
Lawrence.Jovellanos@gov.bc.ca

Technical Architect
Networks, Communications and Collaboration Services
Technology, Innovations and Citizens' Services
E317 4000 Seymour Place
Victoria BC V8W 9V1
+1-250-387-5454

From: Abbott, Brenda X AVED:EX
Sent: Friday, August 30, 2013 11:59 AM
To: Singh, Nancy K AVED:EX
Cc: AVED Business Analysts AVED:EX; Cownden, Theresa AVED:EX
Subject: IVR Issues August 30th testing

Hi Nancy, this is how I spent my Friday morning. I did put a call into Roger and Telus is looking into the problem.

In order for me to identify if there are problems within the IVR system, I used the list of applications that was provided during the contribution table reassessment issue as well as some app's that were in the filing basket. This gave me a variety of issues to test. I used touch-tone and voice activated as well as a combination of both to maneuver through the system. I am only providing information on the problem I encountered.

- 1) At 8:57 There was no greeting and I was transferred directly to an agent
- 2) At 8:58 There was no greeting and I was transferred directly to an agent
- 3) At 9:00 dialed the IVR and went through the menu items using touch-tone on app #

S22

The instructions were intermittent.

The message would stop part way through then start at the beginning.

I managed to get the amount awarded to the client but then the system transferred me to an agent.

I hung up as I didn't want or need to talk to an agent.

- 4) Dialed into IVR using touch-tone on app # S22

Went through the complete process

Everything worked great!

- 5) Dialed into IVR using voice on app # S22

Was asked to provide sin#.

I voiced the 9 digits but made an error.

The system asked me to repeat which I did with the correct number.

Would not accept and asked for me to re-enter, on 3rd finally accepted.

Had to enter the app # 2X before was accepted.

I worked my way through the system and was finally being provided with the award amount.

The program cut-out while telling the \$\$\$ amount and said it was transferring me to an agent.

Didn't tell me why and I hung up as I didn't need to talk to an agent.

- 6) Dialed into IVR on app # S22

Went through the program with no issues.

Told me the \$\$ and when they would be deposited.

There was a noise in the back ground; got a message the system didn't recognize the noise and was transferred to an agent.

I hung up.

7) Dialed into IVR on app # S22

When asked for sin #, system cut-out and asked for sin again

Entered app # 2X

Message stating exceeded maximum # of attempts and line just went dead, no instruction

15 seconds (??) later there is a ring and operator says please hang up and try your call again.

8) At 10:44 dialed into IVR on app # S22

Started welcome message

Cut-out and transferred me to agent

9) At 10:46 dialed into IVR on app # S22

Went through welcome asked to chose voice or 1

Would not accept 1 and transferred me to agent

Hung up

10) At 11:30 dialed IVR on app # S22

Cut out on welcome message

Cut out on FT or PT

Asked for sin # and cut out on confirmation message

Asked for app # and cut out on confirmation message

Says app has been approved but cuts out and message states I am being transferred to agent.

S22

and will resume my investigation

S22

Brenda

Brenda Abbott

Financial Analyst,

Student Services Branch

Ministry of Advanced Education

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From: Abbott, Brenda X AVED:EX
Sent: Tuesday, September 10, 2013 11:32 AM
To: Cownden, Theresa AVED:EX
Subject: IVR

Theresa can you review and edit as needed. Thanks

Hi Debbie, welcome back. As I have only taken over this portfolio recently myself I will try to provide some background.

Student Services Branch is responsible for the call centre which includes the IVR and we also use the CC6 system to manage calls from our clients. From what I can piece together in 2010 a decision was made to upgrade the IVR system for which Shared Services holds the contract. The system was put into place September 2012 and has had some hiccups. Dropped calls is one of those issues that has not been resolved yet.

Originally the prefix 555 was added in order for Telus to be able to track when the calls were being released. Sometime in May or June the prefix was removed as the problem had been reduced to a minimum. Recently the info centre is reporting an increase in dropped calls again. During this period we were informed the call centre was unable to transfer using 0111 and Telus was asked to investigate. At the same time I was looking at the reports trying to see if I could see anything that would help to identify where the problem may be. I found a termination point "Call Centre Unavailable" and questioned what this meant as the entries were during business hours. Telus realised they had made a coding error and the calls were timing out and provided the "Call Centre Unavailable" description. This error would impact the cost of the IVR as Telus was not recording these as billable calls.

Around the end of July Telus imported a fix into production. On August 27th Telus imported another fix into production and on August 30th I was testing to see how things were going. We had a few tweets come in reporting that IVR was messed up, it would just transfer the caller to an agent because it didn't understand what the command meant. Then on Tuesday Sept 3rd everything went crazy with the high volume of the first day of classes, the voice sensitivity issue and the inability for the info centre to transfer calls to SSU. On Sept 3rd the IVR reports shows 5,886 calls coming into the IVR, 4,144 transfer 1 completed (to the call centre) with only 3 transfer 2 (back to SSU) completed.

There were conference calls on the 4th, 5th & 6th in order to get progress reports from both service providers. When I talked to Roger on Sept 5th S22 it was noted that they did not test the new version thoroughly. This caused dropped calls, no messaging that all

lines are busy, voice sensitivity, the reports are not capturing the correct information and not being able to transfer. My issue is with fixes are being imported into production without being tested thoroughly. It seems that with every fix there is a break somewhere else. I understand that it takes time to get bugs out of a new application but we are coming to one year of being in production. The issue of dropping calls was identified at the beginning and is still causing a problem.

So my questions are:

What is in the contract? As SSBC holds the contract we don't know what the service deliverables are?

What is considered an acceptable amount of time to resolve these types of issues?

I don't think it's acceptable for a service provider to import fixes into production without thorough testing. For that matter should fixes not be tested by SSBC prior to any changes in production?

What is the process for change requests. Is there a form that we can fill out to ensure the problem is clearly defined before any work is performed?

I hope this provides you with the background needed to assist us in resolving the problems with the IVR.

Brenda Abbott

Financial Analyst,

Student Services Branch

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From: Maloney, Debbie CITZ:EX
Sent: Monday, September 9, 2013 11:09 AM
To: Abbott, Brenda X AVED:EX
Subject: RE: SABC CC6

Hi Brenda, do you have that information that you can share with me? As I have recently taken over you as a client, I would like to piece together what I can about your services. If I know the number to your CC6, I can look for documentation that Andrena would have had.

I am back today S22 and see there is a meeting tomorrow. S22

S22

Thanks.
deb

Debbie Maloney

Senior Network Technical Consultant
Network, Communications & Collaboration Services
Shared Services BC
Ministry of Technology, Innovation and Citizens' Services
E341-4000 Seymour Place, PO Box 9412, Victoria BC V8W 9V1
Phone: 250-387-7809 Fax: 250-387-9264
<mailto:Debbie.Maloney@gov.bc.ca>

 Please consider the environment before printing this email

From: Abbott, Brenda X AVED:EX
Sent: Friday, September 6, 2013 9:06 AM
To: Jovellanos, Lawrence CITZ:EX
Cc: Maloney, Debbie CITZ:EX
Subject: RE: SABC CC6

Thanks Lawrence, I found where you answered this for me in July. Sorry.

Brenda

Brenda Abbott
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Student Services Branch
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From: Jovellanos, Lawrence CITZ:EX
Sent: Friday, September 6, 2013 9:04 AM
To: Abbott, Brenda X AVED:EX
Cc: Maloney, Debbie CITZ:EX
Subject: RE: SABC CC6

Hi Brenda,

Good morning.

Unfortunately I do not have that information.

I copied Debbie on this email. She should be able to assist you on getting that information.

Cheers!

Lawrence Jovellanos
Lawrence.Jovellanos@gov.bc.ca

Technical Architect
Networks, Communications and Collaboration Services
E317 4000 Seymour Place
Victoria BC V8W 9V1
+1-250-387-5454

From: Abbott, Brenda X AVED:EX
Sent: Thursday, September 5, 2013 3:46 PM
To: Jovellanos, Lawrence CITZ:EX
Subject: SABC CC6

Hi Lawrence, are you able to tell me what the capacity is for the Contact Centre Manager 6 used by SABC. We are having problems with the IVR & D&H capacity. The call volumes have been very high this week and we are wondering if any of the problems could be caused by our system.

Thanks

Brenda Abbott
*Financial Analyst,
Student Services Branch
Ministry of Advanced Education
Phone: (250) 952-7411
Fax: (250) 387-4858*

email - brenda.abbott@gov.bc.ca

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From: Roger Twomey [rtwomey@telus.smartinfo.ca]
Sent: Friday, September 6, 2013 7:34 AM
To: Colthorpe, Glenn AVED:EX; Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX; van der Lee, Tina MTIC:EX; Cownden, Theresa AVED:EX
Subject: RE: dropped calls: Friday update

Theresa,

The IVR has been corrected so it will now provide a message to the caller if all lines are busy at D&H.

Roger

-----Original Appointment-----

From: Colthorpe, Glenn AVED:EX [<mailto:Glenn.Colthorpe@gov.bc.ca>]
Sent: September-04-13 5:22 PM
To: Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX; van der Lee, Tina CITZ:EX; Schmuland, Brenda D CITZ:EX; 'rtwomey@telus.smartinfo.ca'; 'Linda.vukosa@resolve.com'; 'Moshe Yudkowsky (speech@pobox.com)'; 'Roger Twomey (rtwomey@vnet.on.ca)'; 'Linda Vukosa'; 'Naudia Larrow'; Coleman, Lisa M AVED:EX; Ingram-Kum, Jennifer AVED:EX; Cownden, Theresa AVED:EX; Melin, Michelle C AVED:EX; Stratholt, Miles L AVED:EX; Perrey, Jordan AVED:EX; Sajko, Marijan AVED:EX
Subject: dropped calls: Friday update
When: September-06-13 11:30 AM-12:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: AVED R 410 ST. Ann's AVED:EX

When: Friday, September 6, 2013 11:30 AM-12:00 PM (GMT-08:00) Pacific Time (US & Canada).

Where: AVED R 410 ST. Ann's AVED:EX

Note: The GMT offset above does not reflect daylight saving time adjustments.

~~*~*~*~*~*~*~*~*

Dial in information:

S15, S17

No virus found in this message.

Checked by AVG - www.avg.com

Version: 2013.0.3392 / Virus Database: 3222/6638 - Release Date: 09/04/13

From: Colthorpe, Glenn AVED:EX
Sent: Wednesday, September 4, 2013 10:12 AM
To: Perrey, Jordan AVED:EX; 'rtwomey@telus.smartinfo.ca'
Cc: Sedun, Jeanne AVED:EX; Singh, Nancy K AVED:EX; Cownden, Theresa AVED:EX; Melin, Michelle C AVED:EX; Coleman, Lisa M AVED:EX; Stratholt, Miles L AVED:EX; Ingram-Kum, Jennifer AVED:EX
Subject: RE: Phone system
Attachments: 20130904100857.pdf

Hello Jordan and Roger, attached is the list of call-back requests submitted by D+H September 3rd re dropped calls, I've deleted the social insurance numbers for client privacy; however, the report indicates the date, time and telephone numbers.

Glenn

Glenn Colthorpe
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9H7
(250) 387-7444 Glenn.Colthorpe@gov.bc.ca