NAATI Translator e-testing options review

March 2016

Introduction

In September 2015 NAATI published its response to an independent review of options and issues to transition to keyboarded translator assessment.[1] In this paper, NAATI outlined directions for further work to evaluate the feasibility of three options:

- adapting the American Translators Association's (ATA) *CertSoft* program;
- adapting the e-Exam BYOD options; and
- using a commercially available and supported e-test solution.

During investigation of these options, NAATI became aware that the ATA was no longer pursuing the implementation of *CertSoft* so NAATI sought information from the ATA about the alternative options they are trialling, and conducted consultations directly with the *CertSoft* developers, so in effect NAATI investigated four options:

- ATA's approach to translator e-testing
- *CertSoft*
- E-exam BYOD
- Commercially available and supported e-test solution

NAATI's investigations have highlighted the fact that currently there is not one clear model for the use of computers in translator testing (e-testing) and that there is currently a lot of activity in this area as certification agencies around the world are seeking to implement translating testing solutions using information technology. The pace of technological change is fast and NAATI needs to be mindful of the importance of adopting a solution that will operate flexibly within this dynamic environment and respond to the diverse needs of NAATI translator test candidates. In addition, any solution must enable flexibility into the future to deal with both the outcomes of the Improvements to NAATI Testing (INT) Project and subsequent reviews and changes to the certification system. For background and technical information about implementing e-tests for translators, readers are encouraged to review the Keyboarded Translator Assessment Discussion Paper (KTADP) by Doherty and Garcia and then NAATI's response to the KTADP (see links in footnote 1 below).

This paper provides some brief background information; brief descriptions of each of the four options and summarises NAATI's investigations for translator e-testing, (including highlighting issues requiring further consideration); it concludes by identifying options for development and pilot testing.

[1] S Doherty & I Garcia (2015) *Keyboarded Translation Assessment Discussion Paper*, NAATI, Canberra, pp: 1-16, available at: https://www.naati.com.au/PDF/INT/INT_Keyboard_Translation_Discussion_Paper_May15.pdf and
NAATI (2015) *NAATI response to the Keyboarded Translation Assessment Discussion Paper*, NAATI, Canberra, pp: 1-15 available at: http://www.naati.com.au/PDF/INT/NAATI_response_to_KTADP_30_September_2015.pdf

1.0 Background

In 2012 the authors of an independent review of NAATI's standards, testing and assessment, recommended that:

NAATI move to computerised translator tests in the first place. Secondly, that test candidates undertaking computerised translator tests be allowed access to the internet while taking the test, taking into account security considerations (Recommendation 8). [2]

NAATI's Board accepted this recommendation and in the *INT Project Discussion Paper* November 2013 (INTPDP), NAATI stated:

Keyboarded translator testing is agreed in principle subject to costing and resources. Whether access to the internet during testing will be agreed will require more work. [3]

As outlined in NAATI's response to the KTADP, the INT Project is guided by three aims: improved validity, increased reliability and practicality. In terms of implementing translator e-testing NAATI specified that at a minimum the e-test scheme should use information communications technology (ICT): deliver the assessment, record the candidates' responses, provide candidates with access to translating resources and improve the efficiency of the assessment process. In addition, NAATI seeks to provide candidates with a test experience that better reflects 'real life' translation practice.[4] However, this does not mean that candidates will have access to *all* of the tools and resources they may use in translation practice. The test needs to be conducted in a secure environment in which the integrity and confidentiality of the test materials, both the source texts and candidate responses (translations) are protected. The assessment process must ensure that candidates are not able to contact colleagues and that the test is completed without input from individuals other than the candidate seeking certification. In terms of Internet access this means that no access enabling direct or indirect communication to third parties or software considered inappropriate for certification testing would be permitted and access to electronic and online resources such as dictionaries may be limited through a 'whitelist'.

In seeking to assess the various options, NAATI identified five principles to inform the use of technology in translator testing:

- Ensure integrity of the certification process.
- Flexibility to deal with changing technology.
- Limited capital investment required.
- Limited ongoing expenditure involved.
- Enable NAATI to deliver its services reliably and equitably.

As noted by Doherty and Garcia in their review, there are not yet any clear models for the implementation of computerised certification testing for translation.[5] When their review was conducted, the ATA' s approach appeared to best match NAATI's needs and seemed to be the most advanced in terms of implementing computerised translator testing. However, as mentioned above recent consultations with the ATA revealed that they were adopting a new approach and thus NAATI's review was adjusted to take account of these developments. NAATI believes that with unlimited resources, any of the options investigated could provide a suitable e-testing solution, but by applying

[2] S Hale, I Garcia, J Hlavac, M Kim, M Lai, B Turner & H Slatyer (2012) Improvements to NAATI testing: development of a conceptual overview for a new model for NAATI standards, testing and assessment, UNSW, Sydney, p 8. Available at: https://www.naati.com.au/PDF/INT/INTFinalReport.pdf

[3] NAATI (2013) *INT Project Discussion Paper*, NAATI, Canberra, p. 13, available at: https://www.naati.com.au/PDF/INT/INT%20Project%20Discussion%20Paper%20-%20November%202013.pdf.

[4] See Hale *et al*, Note 2 above p.69.

[5] Doherty & Garcia at Note 1, above.

the above principles, in particular those relating to capital investment and ongoing expenditure some options were found to better meet NAATI's requirements.

In our September 2015 response, NAATI identified the different elements of translator testing that need to be considered in transitioning to translator e-tests and a preference for an integrated system that addressed all of these elements.

1. Supervision/invigilation of assessment
2. Delivery and format of assessment materials including job/task specification
3. Typing of translations (candidate responses)
4. Type of keyboard offered to candidate for typing.
5. Access to internet-based and/or electronic resources
6. Saving/archiving of candidate responses
7. Despatch and distribution of candidate responses for marking
8. Marking of responses by examiner

The primary focus of the current investigations detailed below were elements 1-6.

2.0 Descriptions and review of the four options

Option 1: ATA approach to translator e-testing

Recommendation 10 of the KTADP refers to trialling software developed by the ATA for the delivery of their certification test – *CertSoft* and NAATI agreed to investigate this option (see Option 2 below). In order to assess the feasibility of using *CertSoft* NAATI contacted the ATA seeking information about their implementation of it for translator testing. In July 2015 the ATA had issued a public statement on exam delivery methods in 2015 and beyond, indicating that further internal testing of exam delivery methods were proceeding as previous approaches 'had not lived up to expectations'.[6] NAATI sought additional information from the ATA and they generously shared information about their experiences of trialling various options over the past couple of years and their plans for future translator testing. Whilst the ATA have previously used *CertSoft* to deliver a limited number of translator e-tests, going forward the ATA Certification Committee decided to pilot alternative options in an effort to identify the best option for meeting the ATA's priorities of 'security, reliability, exam integrity, convenience for candidates, administrative interface and integration with other systems'.[7] In addition to sharing information about their previous use of *CertSoft* the ATA were also able to provide information about their experiences of using commercially available e-test delivery systems, commercial testing centres and remote online proctoring. None of these options met the ATA's needs (which are essentially the same as NAATI's). In particular, the ATA found that the commercially available options were not able to support limited ('whitelisted') Internet use. Commercial testing centres require high volumes of test candidates and struggle to support a variety of keyboard configurations (such as Chinese and Arabic) and the cost of using these facilities is also prohibitive. The ATA also found remote online proctoring to be ineffective with numerous breaches of exam security measures going unreported during mock testing trials.

The ATA Certification Committee decided to change their approach to maximise passage security and simplify the test administration process. During the first half of 2016 the ATA will be piloting an e-test scheme involving:

[6] ATA (2015) *Public statement on exam delivery methods in 2015 and beyond*, available at: http://www.atanet.org/certification/aboutcert_keyboarded_exam.php.
[7] ATA at Note 6 above.

- locally organised group sittings
- candidates bring their own device (BYOD)
- printed copy of source passages provided to candidates and these must be returned at the conclusion of the test
- no restrictions on reference materials on candidate laptops and full Internet access
- translations keyed in using a plain-text editor and saved to a USB provided by the ATA.

In terms of security, the ATA is using in-person invigilation, with a ratio of around 1 proctor to every 5 candidates. The proctors will have been trained to monitor for illicit activities such as keying the source text into the computer and using email or other external communication functions. In addition, candidates are required to sign an agreement regarding dire consequences for any breaches of test security measures.

As described above the ATA have decided to approach the implementation of translator e-testing by removing element 2 (delivery of the test) from the e-test solution and providing candidates with a hard copy of the source text. This has the obvious advantage of simplifying the test delivery process and removing the need to develop and deliver an e-test. This approach does not address NAATI's preference for a fully integrated e-test scheme, however the advantages in terms of streamlining test delivery via print while allowing candidates to type their responses is recognised as a potential 'low-tech' solution.

An important factor relating to the implementation of this type of solution is the difference in what is at stake through certification testing. In Australia, unlike in the USA, there is a relationship between NAATI accreditation and the migration process, which means that for many NAATI test candidates the stakes are considerably higher with outcomes extending beyond professional practice to the success of an application to migrate to Australia. The higher ratio of invigilators required for this approach would also increase the ongoing cost of testing. Based on experience NAATI would be less comfortable with adopting this approach as it potentially increases the risk of conflict between a test taker and supervisor and the disruption to a testing session that would result. NAATI will continue to liaise with the ATA about the outcome of their pilot testing.

Option 2: *CertSoft*

CertSoft is the name of a software program designed specifically for the delivery of keyboarded translator tests. *CertSoft* was developed by Professor Alan Melby and colleagues through the Brigham Young University Translation Research Group (TRG).[8] *CertSoft* provides a platform to deliver translator assessments and record the translator's responses (translations) and was initially developed in collaboration with the ATA according to their existing paper-based test format.[9] Using *CertSoft* the source text is displayed on the left side of the screen enabling the candidate to enter their translation using a plain text editor on the right side of the screen (see slides 44-45 in footnote 9 for a screen image of the test interface).[10] The candidate then submits their responses before logging out of the software. Importantly *CertSoft* uses Unicode standards to allow for keyboard input for a large number of language scripts. Such functionality is not generally supported in existing commercially available e-test solutions. The original *CertSoft* program was delivered using 3-level architecture, and required both a Windows and Linux server. Whilst at this time the ATA has decided to investigate alternative options for the delivery of keyboarded exams, NAATI felt that it in order to assess the feasibility of

[8] http://certsoftadmin.byu.edu/ModularCertSoft/

[9] American Translator's Association (ATA) (2012*) ATA American Translators Association the voice of interpreters and translators overview of services*, PowerPoint (see slides 37 - 45 *Keyboarded Exam*) available at: www.govtilr.org/Publications/**ATA**2012.pdf.

[10] See link in Note 9 above.

using *CertSoft* it was necessary to seek information about the status of this option from another source. Accordingly, NAATI contacted Professor Alan Melby, who has been directly involved in the development of *CertSoft* as outlined above.

Melby was able to provide advice on the redevelopment of *CertSoft*. Melby confirmed that during previous ATA trials candidates had successfully completed translator testing using the *CertSoft* system (including the use of a 'whitelist' of Internet resources). In one ATA trial there were some technical issues relating to the set-up of the servers that led to some disruption during a test sitting, although these issues were resolved there was some disruption to the delivery of the testing. Melby advised that through the TRG, two new modes of *CertSoft* are being developed (a 2-level mode and a 3-level mode). The 2-level is currently operational and puts a heavy burden on the proctors/invigilators to monitor what the candidates are doing. The new 3-level mode will be a pure Linux solution (it will not require a Windows server as previous versions did) and will likely be operational by May 2016. We understand that using only a Linux-based operating system will simplify test delivery. Melby advised that *CertSoft* could be adapted for use by NAATI as a customised system including technical support and maintenance, or through a self-contained source code license that could be supported by local technical expertise.

The major issue that has arisen during NAATI's investigations of the various options relates to translator testing from English into a Language other than English (LOTE). This is particularly important to NAATI as around 70% of translator tests sat are from English into a LOTE. In addition, NAATI currently provides professional level translator testing in over 45 languages. As mentioned above *CertSoft* uses Unicode standards and has NAATI provided Melby with a list of NAATI translator testing languages to enable internal testing of the *CertSoft* system's capacity to deal with LOTEs. We have been advised that:

- when using the 3-level architecture, the candidate will have access to all of the language keyboards provided by Windows
- the flexibility of the 3-level architecture also allows for additional keyboard support from 3rd parties to be installed if they are needed.

NAATI will continue to monitor the redevelopment of *CertSoft* and will consider trialling it in 2016.

Option 3: BYOD e-exam

During previous research, as outlined in NAATI's September 2015 response to the KTADP, NAATI identified a bring your own device (BYOD) e-exam solution being developed and used within the Australian university sector through the Transforming Exams research project.[11] The project website provides a wealth of information about this system, which has been specifically designed to meet the needs of high stakes invigilated exams in the university sector (although no pilots have yet been run using a translation e-Exam). This approach delivers the e-test through a re-usable bootable USB stick, which provides access to the e-Exam system desktop.[12] Candidates boot the e-Exam system on their laptop using the USB stick and save their responses to the USB on completion of the assessment. Following completion of the test the candidate's computer will operate as usual (no software is loaded on to the candidate's computer).[13] The system provides a locked down operating system that enables the test owner to control the candidate's activity during the testing process including access to

[11] See http://transformingexams.com/research.html.
[12] See Hillier, M (2015) *e-Exams the story so far…(2013-2015)*. Available at: http://transformingexams.com/files/e-exams_Dec_2015_96dpi.pdf.
[13] In order to operate the USB e-exam platform candidates need to know the 'one time boot key' for their particular laptop. See: http://www.transformingexams.com/guides.html.

'whitelisted' Internet resources. The unique desktop image identifying that a valid USB is in use during the testing process would also assist invigilators to visually monitor the candidate's activity.

NAATI met with the lead researcher on the Transforming Exams Project Dr Mathew Hillier to discuss the possibility of using this system to deliver e-tests for translators. The outcomes of these discussions were extremely positive; in particular, this option is available in a form that enables NAATI to commence pilot testing with limited capital expenditure and provides potential for direct collaboration with existing partners within the university sector. In addition, NAATI sought advice from its current IT service provider to assess the feasibility of implementing this system using NAATI's existing IT infrastructure. These consultations confirmed that an in-house, translating assessment version of the system could be set up for testing by NAATI at relatively low cost.

This approach offers the most practical option to enable NAATI to produce and deliver an e-test solution in-house (although additional technical expertise would be required to initially establish this system and administer the test sittings). Doherty and Garcia recommended that NAATI conduct small-scale pilot testing of translator testing using computers and identified collaborating with existing university partners as a useful way to do this.[14] NAATI agrees that collaborating with existing university partners in the development and trialling of a translator e-test using this system would be mutually beneficial.

Option 4: Commercially available and supported e-test solution

NAATI is aware of numerous commercially available and supported e-test solutions, and conducted preliminary consultations with a well-established global provider of testing programs operating in Australia. The advantage of these providers is that in addition to developing a custom-designed integrated test delivery system they can also take on responsibilities for test administration processes; provide test centres and offer a wide range of add-on products and services. These e-testing systems are well established, widely used, highly secure and supported by strong technical expertise.

However, referring back to the principles and the available information, these systems do not offer the same level of flexibility as the other options and NAATI estimates that this option would be the most costly to implement and require significant ongoing financial investment. These systems generally best suit test owners that need to deliver a high volume tests using fixed format question types, for example, multiple choice or matching and significant adjustments would be required to the method of test delivery to meet NAATI's needs.

The two main issues that arose during these consultations were that the volume of NAATI tests is relatively low, but variety of tests required is high (over 45 languages); and the distribution of tests across languages is very uneven (with many languages having a very small number of test candidates). In addition, these systems are not currently designed to enable the entry of text in a wide range of LOTEs, which is particularly important to NAATI (as described under option 2) above. Whilst this option provides a high level of security and comes fully supported, the significant cost involved in establishing and maintaining the use of such systems needs to be considered within the context of the need to be able to flexibly accommodate changes that will be implemented to the test format through the INT Project outcomes. NAATI believes that in the short term, options 1, 2 and 3 above allow for greater flexibility into the future, although NAATI would also bear more of the risk. NAATI is still awaiting further advice regarding commercially available and supported options, however at this stage it appears that there are big limitations in the capacity of these systems to deliver a solution that would address NAATI's diverse language testing needs and this raises significant equity issues.

[14] Doherty & Garcia at Note 1, above.

Conclusion

NAATI considers that Option 2 (*CertSoft*) and Option 3 (BYOD e-test) best meet NAATI's current requirements and are both viable options for pilot testing. In the first instance based on immediate capacity to implement NAATI will proceed with internal set-up and testing of Option 3. Depending on the outcomes of this in-house testing NAATI will then seek to collaborate with university partners to conducted broader scale pilot testing. NAATI will continue to monitor the development of a new version of *CertSoft* and awaits the outcomes of the language testing outlined above. NAATI will also continue to liaise with the ATA on the outcome of their 2016 pilot testing program and will provide updates and further information about the progress of this work through future publications on the NAATI website and consultations with stakeholders as part of the broader INT project.

If you have any questions in relation to this paper or have any feedback you would like to provide NAATI please email intproject@naati.com.au.