

ARTL: Digital Signatures and Adobe Acrobat Reader Software

Registers of Scotland (RoS) wishes to bring to the attention of all ARTL users an issue regarding the application of digital signatures within Adobe Acrobat Reader software.

Background information

In early 2006, RoS released information detailing the required software for use with the ARTL system. To support digital signature capability, Adobe Reader software is needed and the latest version of the software then available was version 7.0.7. Due to a flaw in version 7.0.7, Adobe released version 7.0.9 and this became the minimum version of the Adobe Reader software required for ARTL.

In late 2006, Adobe released version 8 of Adobe Reader providing improved security. As a result, RoS now identifies version 8 of Adobe Reader as the recommended version of the software for use with ARTL.

Potential security vulnerability regarding Adobe Reader Version 7.0.9 and ARTL

It has been learned that in Version 7.0.9, when the ARTL smartcard is left in the card reader after the ARTL user's personal identification number (PIN) has been entered and the digital signature has been applied, the Adobe software remains functional in the background – retaining the user's PIN - until the Internet browser is closed down or the user removes the smartcard from the card reader.

This could result in a digital signature being applied unlawfully, without the knowledge of the ARTL user, if the user's computer is left unattended and unlocked with the smartcard still in the reader.

The implication is that ARTL users who have Version 7.0.9 installed **must** remove their smartcards straight after digitally signing electronic documents, so as to prevent any security vulnerability arising. (Policy documents concerning smartcard usage, to be published soon by RoS, will require this action.) It is also good practice to lock computers whenever they are left unattended.

Improved security associated with Adobe Reader Version 8

The improved security associated with Version 8 of the Adobe Reader software provides a more robust alternative.

In Version 8, after an ARTL user has digitally signed and submitted an electronic document, the Adobe software automatically shuts down after a short time (approximately 30 seconds).

While the user using Adobe Version 8 should still remove the smartcard from the card reader after a signing event, because that is always best practice from a security standpoint, the potential for misuse of the smartcard is drastically reduced as the Adobe software quickly shuts down and no longer retains the user's PIN.

Recommendation to upgrade to Adobe Reader Version 8

Having taken advice from Adobe, both RoS and BT plc (the IT partner of RoS) recommend that ARTL users should upgrade their Adobe Reader software to Version 8 if their operating system allows them to do so. They should check that upgrading

will not have any adverse impact on any other applications in their office systems that use Adobe Acrobat Reader.

Version 8 is available as a free download from the Adobe website and should not involve users in incurring any expense. The position with the different Windows operating systems is shown in the following table.

Available versions of Adobe Acrobat as at March 2007

Windows Operating System	Service Pack Version	Adobe Reader Version Available	Notes
Vista	-	8	Adobe expects version 8 to be used with Vista
XP (All)	SP2	8	
	SP1	7.0.9	
	No SP Installed	7.0.9	
2000	SP4	8	
	SP2 & SP3	7.0.9	
	SP1	6.0.1	Below ARTL minimum specification

The Adobe Reader software can be downloaded at the Adobe website – <http://www.adobe.com>.

A direct link to the Adobe Reader software is – <http://www.adobe.com/products/acrobat/readstep2.html>

System requirements for Adobe 8, which will be of particular interest to ARTL users' IT staff or consultants, are detailed at – <http://www.adobe.com/products/acrobat/acrrsystemreqs.html#80win>

Updated IT requirements for ARTL

RoS' specification of IT requirements for ARTL users, as published in the ARTL section of its website, is being updated to reflect the information contained in this note.

A reminder about smartcard security

Finally, RoS wishes to emphasise once again the importance of good smartcard security, no matter which version of Adobe Reader is in use. This is, however, particularly relevant to ARTL users who do not use Adobe Reader Version 8, whether by choice or because their operating systems will not allow them to upgrade to that version.

Basically good security is a matter of always remembering:

- to remove the smartcards from the card reader straight after applying the digital signature
- not to leave the smartcard unattended, either in the card reader or anywhere else, at any time
- to 'lock' the computer when it is not in use.

It should also be noted that The Law Society of Scotland have issued additional guidance on this subject in the following terms:-

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Registers of Scotland have advised of a security issue which they have identified in relation to Adobe Acrobat Reader 7.

Although Registers of Scotland feel that subject to precautionary steps Adobe Acrobat Reader 7 can be used the view of the Society is that:

- 1. The security issue poses an unacceptable risk to the integrity of Digital Signatures under ARTL and*
- 2. As Adobe Acrobat Reader 8 is a free product all members should upgrade to version 8 before going live with ARTL.*

Please note that to upgrade to Adobe Acrobat Reader 8 you will need to have applied all operating system updates to your Windows 2000, Windows XP or Vista operating system. If in doubt consult your supplier. Regrettably Adobe Acrobat Reader 8 does not support Windows 95. You will recall that in his article in the Journal (January 2006 page 50) James Ness pointed out the Society's view that Windows XP was the operating system of choice for ARTL on the grounds that there would be support issues with older operating systems."

RoS wishes to reiterate that its own advice to ARTL users is that they should upgrade their Adobe Reader software to Version 8 if their operating system allows them to do so and that they should check that upgrading will not have any adverse impact on any other applications in their office systems that use Adobe Acrobat Reader.