

Alice and Windows Security

Alice and Alice Inquiry will run without any problems on a computer where full access to the local C: drive is available, but since in the 'real world' no computer accessed by students permits full access to the C: drive, specific security adjustments need to be made to allow Alice to run where users' access rights to the C: drive is restricted.

The symptoms of Alice being affected by insufficient access rights to the C: drive are:

1. In Management Mode (AFW.EXE) **neither Inquiry or Circulation will start.** The green menu dot may go yellow briefly and will then return to green.
2. In Inquiry Only mode (AFWOPAC.EXE or AFWXOPAC.EXE), the 'fuel gauge' will display showing that the module is loading but will then vanish from the screen and **Inquiry will not start** .
3. Various **File Error messages** occur that specify a file that cannot be accessed that is located on the C: drive. The exact location will vary with the version of Alice and any overrides that have been implemented but may include:
C:\WINDOWS\AFW(Alice 5)
C:\WINNT\AFW(Alice 5)
C:\Documents and Settings\username\Local Settings\Temp\AFW(Alice 6 prior to plug-in .015)
C:\Program Files\AFW(Alice 6 Plug in .015 and later)
4. Alice **asks for the Machine Name to be confirmed every time it is started** . This should only happen once, the first time Alice is run on a computer.

What causes this problem?

Alice creates a working directory (\AFW) on the local C: drive and stores in it an .INI file and some data and index files. Alice requires full access to these files and, more inconveniently, to the root folder of the drive to create \AFW in the first place.

With Alice 5.x the directory was created under C:\WINDOWS (or C:\WINNT for NT & WIN2K). This directory was a particularly poor choice since it is one of the first folders to be refused write access to ordinary computer users and this frequently caused problems. The usual workaround was to run Alice in Management Mode (AFW.EXE) on the workstation while logged in as an administrator user. The folder C:\WINDOWS\AFW would be created and given sufficient rights so that restricted users could also access it and all was fine from then on.

The initial release of Alice 6 tried to work around the issue by creating the \AFW folder in the user's profile (C:\Documents and Settings\username\Local Settings\AFW). On the surface this looked like a good move since users always had full access to their profile. In practice it was a bad idea because different

usernames would have their own private copy of \AFW and in particular the file AFW.INI.

One of the functions of AFW.INI is to uniquely identify a given computer to Alice so that it can know which computer is to be considered the Alice Shutdown Machine. The Alice Shutdown Machine is the only one that can perform data archives, recoveries and various data maintenance functions and it is essential that one (and only one) computer is identified as the Alice Shutdown machine. The line in the [MACHINE] section of AFW.INI assigns the computer a number based on the path used to start Alice.

```
[MACHINE]
L:\OASIS=12
```

This entry is created when Alice is started in Management Mode (by running AFW.EXE) for the first time on a given computer when it prompts you for MACHINE NAME.

The problem caused by creating \AFW in the user's profile is that logging in on a computer using a different username will create a separate \AFW folder with a separate AFW.INI with a different machine number and that computer will no longer be the Alice Shutdown Machine.

A further issue occurs if the Local Settings folder is erased each time the user logs out of the network. Windows workstations connected to networks frequently are configured to have this occur. Whenever Alice is run after each new logon, it will prompt for a new MACHINE NAME, and then be issued a new Machine Number and 'forget' that it is meant to be the Alice Shutdown machine.

To make matters worse, Alice allows only 99 Machine Numbers to be allocated. Normally this is more than anyone could ever need, but if one Machine Number is used up every time Alice is run on every computer, the 99 available Machine Numbers will be soon used up. When all the 99 Machine Numbers are used, it is no longer possible to logon to Alice and the message 'Invalid Machine Number' will be displayed. If there is another Alice computer still logged on, it is possible to delete (one at a time) some of the superfluous entries in **System, Parameters, Workstation**, but if no other computer is still logged in to Alice, then it can only be repaired by accessing the file OPERATOR.D using DBU and deleting the Machine Number entries which are from record 100 onwards.

The latest plug-in for Alice 6 (.015) tried yet another strategy, to place the \AFW folder, under C:\Program files. This is no better than C:\WINDOWS as again it will almost certainly be write protected against ordinary users.

What is the solution?

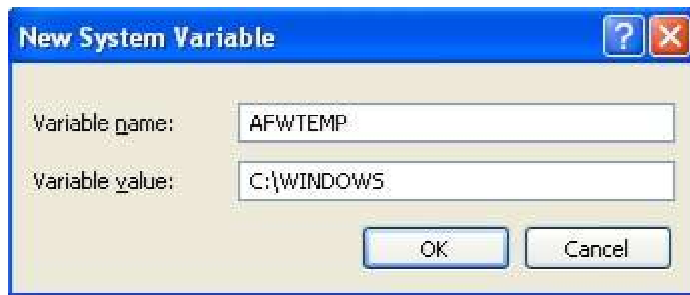
There are a couple of solutions and the one that is best for a particular situation can be a matter of choice.

1. Force Alice to store its work files back in C:\WINDOWS\AFW

If Alice was working fine before being upgraded to version 6, the most expedient solution is to tell Alice to keep using the original location for the work files.

There are two ways of doing this:

1. Create a System Environment Variable named AFWTEMP with its value as the directory in which the \AFW folder should be created. **Control Panel, System, Advanced, Environment Variables, System Variables**, New, Variable Name = AFWTEMP, Variable Value = C:\WINDOWS



To do this you must modify each individual workstation as a local administrator or get clever with Windows Group Policies or some other central deployment mechanism.

2. Pass the location for \AFW as a Parameter on the command line in the shortcut that starts Alice Inquiry. The format of the 'switch' is /AFWTEMP:C:\WINDOWS



This solution can be implemented by changing any shortcuts that start Alice and may be easier than visiting each computer as is required by option 1.

Which ever method you choose, the directory C:\WINDOWS\AFW must already exist with Read, Write and Modify rights granted to any user that will be running Alice.

2. Force Alice to store \AFW somewhere else on the C: drive

Either of these methods described above can redirect the location of \AFW to anywhere you like, however:

- the folder must already exist (Alice will not create it even if it can);
- the user must be granted full rights to that folder.

I normally use a folder named C:\AFWTEMP if for some reason the original location C:\WINDOWS is unsatisfactory.

3. Force Alice to store \AFW on a Network drive with a separate folder for each workstation

In extreme circumstances it may not be possible to store the \AFW folder on the C: drive at all. This might occur when:

- security is set so tight that all user access to the C: drive is prevented and the user cannot even see the C: drive;
- C: drive protection schemes are in use that undo any changes made to the C: drive whenever the computer is restarted.

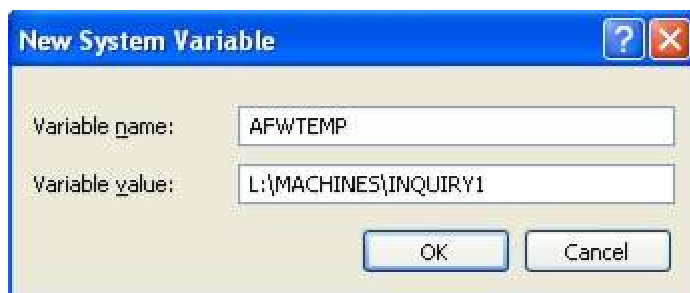
In this case the environment variable %COMPUTER_NAME% can be used along with the AFWTEMP switch to direct Alice to create \AFW on the file server in a folder unique to each individual computer. The users would need full access rights to these folders but this is not a security risk since the \AFW folder can be recreated by Alice even if it is deleted and no data of any consequence is stored there. The individual COMPUTER_NAME folders would need to be created in advance, since Alice will not create them and this would need to be considered if a computer was renamed for any reason or a new computer needed to run Alice.

Example :

1. Create folder for individual COMPUTER-NAME folders. **L:\MACHINES** . Grant **Read Only** rights to Everyone, **Full Access** to Administrators.

2. Underneath L:\MACHINES create individual folders named the same as each of the computers. e.g. LIBRARY1, INQUIRY1, etc. Grant **Full Rights** to **Everyone** to each folder (Note: it may be possible to use Special rights to be more selective about the security assigned but I have not tested this).

3. Change the shortcut used to start Alice to include the Environment variable %COMPUTER_NAME% e.g. Target:
L:\OASIS\AFWOPAC.EXE /AFWTEMP:L:\MACHINES\%COMPUTER_NAME%
 Alternatively, you can hard code the Computer Name into the System Environment Variable AFWTEMP



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