

MailEnable TAB Delimited Configuration Providers

Overview

TAB Delimited file storage will always have issues where there is significant load for concurrent write access to the files. Where high levels of concurrency are required the configuration is better suited to databases.

For example, consider 5 mail users are attempting to change their password at one time and at the same time, another 5 administrators have added new mailboxes (all clicking the OK button within a few seconds of each-other).

In this situation, the first request to change the password will issue a write block on the configuration file, hence forcing the remaining 9 request to pend until the block file is removed. When the first request is completed, one of the queued 9 transactions will be afforded access to block the other remaining 8 requests; and the queue will eventually clear.

MailEnable Blocking Tuning Parameters

A problem arises when one of the requests has been waiting for an excessive amount of time before being granted access to the file. In this situation, the request will forcibly remove the block file and will assume itself to be granted write access to the TAB file. This is necessary to overcome the situation where the block file is orphaned by a terminated process or some other unforeseen situation.

When this occurs a situation can occur where two threads both think they have exclusive access to the block file and therefore may cause corruption to each other (and the underlying data).

The solution to the problem is to increase the wait time for access to the file to prevent such a situation from occurring. The negative effect of this is that if the situation mentioned immediately above should occur for some unseen reason, then access to the underlying data will effectively be blocked up-and-until the orphaned block file is removed.

Associated Registry Keys

The following table outlines the registry keys that control the behaviour associated with making changes to MailEnable's Tab Delimited Configuration Files.

The registry keys are all DWORD registry keys located under the following registry key: HKEY_LOCAL_MACHINE\SOFTWARE\Mail Enable\Mail Enable\Providers

Registry Value Name	Description	Explanation
Write Wait Timeout	The maximum number of seconds that MailEnable will wait before a pending thread attempting to gain WRITE access the TAB file.	This entry defaults to 80 seconds. ie: Clients will wait 80 seconds before they are denied write access to a configuration file. You should only change this entry should you have large numbers of users who are

		potentially making configuration changes.
Read Wait Timeout	The maximum number of seconds that MailEnable will wait before a pending thread attempting to gain READ access the TAB file.	This entry defaults to 80 seconds. ie: Clients will wait 80 seconds before they are denied read access to a configuration file. You should only change this entry should you have large numbers of users who are potentially making configuration changes.
Read Deadlock Timeout	The maximum amount of seconds before MailEnable will attempt to forcibly remove a block when undertaking a READ operation (under the presumption that it has been orphaned by a rogue process).	This entry determines how old a block file must be before MailEnable will forcibly remove it. The default value is 80 seconds. You should only change this entry should you have large numbers of users who are potentially making configuration changes.
Write Deadlock Timeout	The maximum amount of seconds before MailEnable will attempt to forcibly remove a block when undertaking a WRITE operation (under the presumption that it has been orphaned by a rogue process).	This entry determines how old a block file must be before MailEnable will forcibly remove it. The default value is 80 seconds. You should only change this entry should you have large numbers of users who are potentially making configuration changes.
ApplyTimeout	The maximum amount of seconds MailEnable will attempt to commit modifications.	This value should not be changed from the default of 20 seconds.
UnBlock Timeout	The maximum number of seconds MailEnable will retry when attempting to Unblock a file.	This value should typically remain unchanged and should be left with a default value of 80 seconds.

Example Registry File

The following registry import file shows typical configuration settings

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\Mail Enable\Mail Enable\Providers]
"Read Wait Timeout"=dword:00000078
"Apply Timeout"=dword:00000028
"Write Wait Timeout"=dword:000000a0
"UnBlock Timeout"=dword:000000a0
"Write Deadlock Timeout"=dword:000000a0
"Read Deadlock Timeout"=dword:000000a0
```

Provider Caching Registry Keys

Some version of MailEnable support caching of Tab Delimited Files. This effectively has the files loaded into memory rather than reading them from the disk whenever they are accessed. There is an obvious performance increase in doing this and it also assists in assuring the integrity of tab delimited files when they are subjected to high read/write concurrency.

The relevant registry keys associated with this follow:

Example Registry File

The following registry import file shows typical configuration settings

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\Mail Enable\Mail Enable\Providers]
"Cache Mode"=dword:00000001
"Cache Refresh Frequency"=dword:0000003c
```