



18/07/02

Technical Note: TN16 REV. 0

AS/400 CONNECTION TIMEOUTS



1 INTRODUCTION

This Technical Note describes the AS/400 System values and Communication values which directly effect TN sessions. These values, especially the timeouts related to the Communication, could have an immediate effect on the applications that uses RF Terminals. In fact for power management purpose the RF terminals cannot give a reply to some enquiries that the AS/400 sends to the RF terminals and this draws to loose the session with the host.

All these parameters are system parameters so can be changed only using users with administration rights (QSECOFR). Please check them with Customer AS/400 administration personnel.

These parameters have effect on all Clients connected to the AS/400, so it is necessary to inform the Customer before any modification. It is also strongly recommended that the Customer personnel make any modification.

2 AS400 System Values

There are two different System Values related to job inactivity:

- **QINACTIV**: Inactive Job Timeout
- **QINACTMSGQ**: Inactive Message Queue

In order to look at them the AS/400 command to obtain information is **WRKSYSVAL**. After the command is introduced, a list of System Values is displayed. To check them scroll the list until you find the desired System Value then hit 5 (to view) or 2 (to modify) in the field at the left side of the Value, then hit Enter (Sorry for the Italian-language window but the two parameters are the first two).

```

Gestione valori di sistema
Sistema: S44T4235
Inizio elenco da . . . . .
Sottogruppo per tipo . . *ALL
Caratteri iniz. valore di sistema
F4 per elenco

Immettere le opzioni e premere Invio.
2=Modifica 5=Visualizzazione

Opzione Val.di sistema Tipo Descrizione
QINACTIV *SEC Supero tempo per lavori inattivi
QINACTMSGQ *SEC Coda messaggi per lavori inattivi
QIPLDATTIM *SYSCTL Data e ora per IPL automatico
QIPLSTS *SYSCTL Indicatore di stato dell'IPL
QIPLTYPE *SYSCTL Tipo di IPL da eseguire
QJOBMSGQFL *ALC Azione integrale della coda messaggi di lavoro
QJOBMSGQMX *ALC Ampiezza massima della coda messaggi di lavoro
QJOBMSGQSZ *ALC Dimensione iniziale delle code messaggi dei lavo
Segue . . .

Comando
==>
F3=Fine F4=Richiesta F5=Rivisual. F9=Duplicazione F11=Vis. nomi
F12=Annullamento
  
```

2.1 Inactive Job Timeout

The Inactivity Job Timeout (QINACTIV) specifies when the system takes action on inactive interactive jobs. Changes to this system value have effect immediately. The default value is *NONE

Time in minute . . . : *NONE *NONE, 5-300

The possible values are:

- **NONE*: specify the system does not check for inactive interactive jobs
- *5 – 300*: specify the number of minutes a job can be inactive before action is taken.

2.2 Inactive Message Queue.

The Inactive Message Queue specifies the action the system takes when an interactive job has been inactive for the interval of time specified by the system value QINACTITV above described. The interactive job can be ended, disconnected, or message CPI1126 can be sent to the message queue you specify. If the specified message queue does not exist or is damaged when the inactive time out interval is reached, the messages are sent to the QSYSOPR message queue. All of the messages in the specified message queue are cleared during an IPL. If you assign a user's message queue to be QINACTMSGQ, the user loses all messages that are in the user's message queue during each IPL. A change to this system value takes effect immediately.

Message Queue : *ENDJOB None, *ENDJOB, *DSCJOB

The possible value are:

- **ENDJOB*: ends any job, secondary job, and group jobs. If *ENDJOB is specified, the interactive job is ended along with any secondary job and any group jobs associated with it. If there are many inactive jobs in a subsystem that are to be ended at once, the interactive response time of that subsystem may be slowed down. The default value is *ENDJOB
- **DSCJOB*: disconnects any interactive job, secondary job, or group jobs. If *DSCJOB is specified, and the job cannot be disconnected, *ENDJOB will be used.

3 TCP/IP Settings

In addition to the System Values, there are also some TCP/IP settings related with the connection timeouts.

There are three different timeouts, one related with the TCP Protocol and the other two, related with the TELNET protocol:

- **TCPKEEPALV**: TCP Keep Alive.
- **INACTTIMO** and **TIMMRKTIMO**: TELNET inactivity Timeout.

3.1 TCP Keep Alive

TCP keep alive (TCPKEEPALV) specifies the amount of time, in minutes that TCP waits before sending out a probe to the other side of a connection. The probe is sent when the connection is otherwise idle, even when there is no data to be sent.

The command to use on the AS/400 to obtain information on the TCP is: **CHGTCPA** (sorry for the Italian but the parameter described is the first one)

```

Modifica attributi TCP/IP (CHGTCPA)

Immettere le scelte e premere Invio.

lasciare attivo TCP . . . . . *SAME      1-40320, *SAME, *DFT
puntatore urgente TCP . . . . . *SAME      *SAME, *BSD, *RFC
ricez. dimensione buffer TCP . . . *SAME      512-8388608, *SAME, *DFT
invio dimensione buffer TCP . . . *SAME      512-8388608, *SAME, *DFT
checksum UPD . . . . . *SAME      *SAME, *YES, *NO
inoltrare IP datagram . . . . . *SAME      *SAME, *YES, *NO
raccolta supero tempo IP . . . . . *SAME      60-120, *SAME, *DFT
tempo di attivazione IP . . . . . *SAME      1-255, *SAME, *DFT
supero tempo cache ARP . . . . . *SAME      1-1440, *SAME, *DFT
Errori registr. protocollo . . . . *SAME      *SAME, *YES, *NO

F3=Fine   F4=Richiesta   F5=Rivisualizzazione   F12=Annullamento
F13=Come usare lo schermo   F24=Altri tasti
Non } stato possibile reperire i valori correnti.
  
```

TCP keep alive 5 _____ 1-40320, *SAME, *DFT

The possible values are:

- **SAME*: the keep-alive time interval value does not change from its current setting.
- **DEF*: the keep-alive time interval value of 120 minutes is used.
- *tcp-keep-alive*: specify a keep-alive time interval in minutes. Valid values range from 1 through 40320 minutes (28 days).

3.2 TELNET Attributes

There are two different parameters that can have influence in disconnecting TELNET Sessions:

- **INACTTMO**: Inactivity timeout
- **TIMMRKTIMO**: Timemark timeout

TELNET Inactivity timeout (INACTTIMO) specifies the number of seconds the system allows a TELNET connection to remain inactive before it is ended. When a TELNET connection is inactive longer than the specified length of time, it is ended.

Note: the system may wait an additional 1 to 120 seconds to end the inactive connection.

The INACTTIMO parameter does not override the connection timer. For example, assume the connection timer (specified on the INZWAIT parameter of the STRTCPTELN command) is set to 120 seconds, and the INACTTIMO parameter is set to 15 seconds. If the connection timer goes off when the inactivity timer is at 14 seconds, the connection timer would be reset for another 120 seconds. Even if the inactivity timer would go off a second later, the connection would not be ended until the connection timer ends (119 seconds later).

Timemark timeout (TIMMRKTIMO) specifies the number of seconds between timemarks. TELNET sends a timemark to each connection at the specified time interval. If TELNET is unable to send the timemark, it ends the connection.

The command to use on the AS/400 to obtain information on the TELNET Attributes is: **CHGTELNA**. Here both parameters are displayed:

```

Change TELNET Attributes (CHGTELNA)

Immettere le scelte e premere Invio.

Autostart server . . . . . *SAME      *YES, *NO, *SAME
Inactivity timeout . . . . . *SAME      0-2147483647, *SAME, *DFT
Timemark timeout . . . . . *SAME      0-2147483647, *SAME, *DFT
Default NVT type . . . . . *SAME      *SAME, *VT100, *NVT
Coded character set identifier *SAME      1-65533, *SAME, *MULTINAT...
ASCII fullscreen mapping:
  Outgoing EBCDIC/ASCII table . *SAME      Name, *SAME, *CCSID, *DFT
  Library . . . . .          Name, *LIBL, *CURLIB
  Incoming ASCII/EBCDIC table . *SAME      Name, *SAME, *CCSID, *DFT
  Library . . . . .          Name, *LIBL, *CURLIB

Fine

F3=Fine   F4=Richiesta   F5=Rivisualizzazione   F12=Annullamento
F13=Come usare lo schermo   F24=Altri tasti
  
```

```

Inactivity timeout . . . . . 900_____ 0-2147483647, *SAME, *DFT
Timemark timeout . . . . . 600_____ 0-2147483647, *SAME, *DFT
  
```

Inactivity timeout possible values are:

- **SAME*: the time-out value does not change if it was previously set. Otherwise, 0 seconds is used.
- **DFT*: the time-out value is set to the default of 0 seconds.
- *inactive-timeout*: specify an inactive time-out period in seconds. Valid values range from 0 through 2147483647 $((2^{*}31)-1)$ seconds. A value of 0 means that there is no time-out.

Timemark timeout possible values are:

- **SAME*: the timemark value does not change if it was previously set. Otherwise, 600 seconds is used.
- **DFT*: the timemark value is set to the default of 600 seconds.
- *timemark-timeout*: specify the timemark time-out in seconds. Valid values range from 0 through 2147483647 $((2^{*}31)-1)$ seconds. A value of 0 means that there is no time-out.