# iEventMonitor

**Version 4.17**

**As of March 2020**

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Introduction

iEventMonitor is a system monitoring tool for the IBM i series of computer systems.  Using iEventMonitor, you can automatically watch your system for a variety of events and then send out notifications to either a set of email addresses, text messages or as break messages to logged in user profiles.  You can monitor for messages in any message queue, watch for specific messages in any message queue, watch for changes in disc space use and more.  Starting with Release 2, you can also monitor for certain security related audit notices as well.

For the purposes of this documentation, your system will be referred to as an "**iSeries**" system.  This term is used generically and applies to all systems in the IBM i family, including your **Power System**, **i5** system, **AS/400** system or your **iSeries**.

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Overview

When certain events occur on your iSeries system, you need to be able to react quickly to deal with error situations or prevent problems.  If you have the luxury of having a computer operator who can sit and constantly monitor your system, then you have this covered.  But, traditional computer operators are few and far between these days.

**iEventMonitor** can be used to help you stay on top of important events happening on your iSeries system.  Events monitored include:

•        activity in message queues such as the system operator message queue (QSYSOPR)
•        security events posted to the QSYSMSG security message queue
•        unanticipated changes in the total amount of disc space in use on the system
•        file events for specific files including record adds, records changes, record deletes and even record reads (within reason)
•        watching for specific messages being issued in any message queue
•        watch for jobs building up in a job queue, but not running
•        watch for a job ending, or starting, or both
•        watch for security audit postings to the system audit journal
•        .... more

When one of these events happens, iEventMonitor can automatically notify you by email, text or by sending a break message to specific user profiles after first checking to make sure that they are currently signed onto your system.  You can also specify a combination of email addresses, text addresses and user profiles.

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<u>What's New in Release 4</u>

The following features and capabilities have been added to iEventMonitor with Release 4 which became available in June 2019:

•       A new audit feature has been added to let you track command line use for specific user profiles.  This lets you know what power users are doing on your system using their access to the command line process.
•       A new option has been added to the Job Watch function to monitor run time for the watched job.
•       A new feature implemented for the Watch task (option #1 on the WATCH menu) lets you generate an alert based on a text string posted to a message queue.


<u>What's New in Release 4.06</u>

Release 4.06 includes the following updates which became available as of August 2019:

•       A new macro function, &SEV, was added to the Alert Subject Text field for the message queue monitor.  The message severity level will be shown.
•       Reminder alerts are now clearly identified in the Email subject field.
•       Optional header and trailer lines added for all alert messages.
•       A new macro function, &JOBNO, was added to the Alert Subject Text field for the message queue monitor.  The message severity level will be shown.
•       Optional Alert Subject Text added for Job Watches.
•       Optional lock-wait ignore by job name added.
•       The display activity log now defaults to start with the current day activity.


<u>What's New in Release 4.17</u>

Release 4.17 includes the following updates which became available as of March 2020:

•       Now allows for a non-standard SMTP Port Number to be used for email alerts.
•       Gives you control over messages that are constantly repeated letting you suppress identical alerts during a defined period of time.
•       Option lets you specify that iEventMonitor include the exact message time for a message queue alert.
•       A new macro function, &JOBID, was added to the Alert Subject Text field for the message queue monitor.  The specific Job Name, User and Job Number will be shown.
•       A new option has been added to the Job Watch function letting the alert only be issued when the job has been running longer than expected.
•       New Network Watch added.
•       ASP % Watch enhanced to allow a separate monitor for different ASPs.
•       User Watch changed to allow control over Prime Shift and Off-Shift alerts for user profile log on/off activity.

What's New in Release 3

The following features and capabilities have been added to iEventMonitor with Release 3 which became available in March 2018:

- Message queue monitors improved by removing the object lock on the message queue that is being monitored
- The email notification field was expanded from 100 to 200 characters to provide for more contacts being used
- Total CPU utilization monitor added
- Optional exit program available for Watch Tasks
- All monitor and watch tasks are now logged and can be started or ended together with a single command
- Interactive work with iEventMonitor tasks added
- The ASP disc space monitor has been enhanced to include additional monitors to watch for disc space exceeding a given threshold

What's New in Release 3.06

Release 3.06 includes the following updates which became available as of May 2018:

- A user profile activity watch has been added
- The WATCH menu has been split into two menus, WATCH and WATCH2
- A second optional default notification option is now available for all alerts, to be switched for the primary set during off hours
- A delete option has been added to the Work With iEventMonitor Tasks display.
- An option to include additional information in alerts from message queue monitors. When active, the job name, user profile and job number will be included in the alert notification.
- Optional alert when a watched job queue has been put on hold.
- Reminder option added to the Job Watch function

What's New in Release 3.13

Release 3.13 includes the following updates which became available as of October 2018:

- A reminder option added to the message queue monitor for error messages needing a response. If a message goes unanswered, an alert will be issued.
- A watch for Mutex-Wait jobs has been added. When a job goes into MTXW status for a specified period of time, an alert is issued.
- An output queue watch has been added to check specific output queues for spool files piling up.
- The Watch task has been improved by optionally adding more detailed information to the user written exit point.
- A watch for Lock-Wait jobs has been added. When a job goes into LCKW status for a specified period of time, an alert is issued.

What's New in Release 3.19

Release 3.19 includes the following updates which became available as of March 2019:

- A new activity log for all alerts issued by iEventMonitor has been added.
- New options have been added to the Work With iEventMonitor Tasks that allow you to start, step and change individual tasks.
- The MASTER menu has been redesigned to make it easier to use.
- The default message severity is now shown on the screen when you work with Message ID Exceptions.
- The interval use of the ASP% watch has a new parameter that gives you more control over how and when the alerts are issued

Note For Customers Upgrading from Release 2

**If you had iEventMonitor Release 2.01 or later installed and you are using the Watch Task feature with the Autostart option, this note applies to you.** If you are not using this feature, you can skip this section.

Release 3 has re-engineered the way that Autostarts work in iEventMonitor. As a result of this, the AUTOSTART parameter on the STRIEMWAT and ENDIEMWAT commands has been removed. If you implemented these commands in any of your own CL programs, such as in the QSTRUP program, you will need to update your program to remove the AUTOSTART parameter.

Also, the STRWATCH and ENDWATCH commands have now been removed from the product. They are replaced with the STRIEM and ENDIEM commands. If you are using the STRWATCH or ENDWATCH commands, replacing it with the STRIEM or ENDIEM commands should also be done.

<u>Off-Shift Default Notification Feature</u>

iEventMonitor allows you to define two different default notification fields.  The alternate can be used for off-shift alert notifications.  This lets you define a different set of notifications for non-prime shift events.

As shipped from Kisco, this feature is turned off.  To activate the feature, you must take the following actions:

1.  Run the IEMSET command (menu option #9 on the INSTALL menu) and define a value Alternate Notification Address field (parameter DFTID2) using the same rules used for the Default Notification Address (paremeter DFTID).

    **Note**: Specify a special value of *NONE if you do not want to activate this feature.

2.  Define the start and end time for your primary shift using the      new fields on the IEMSET process.

3.  To treat certain days of the week as off-shift all day (such as Saturday or Sunday), enter the day of the week value in the new field provided on the IEMSET command (parameter OFFDAYS).  If you want all days considered the same, use the special value of *NON (for none).

Once you have activated this feature, whenever an alert condition is detected by iEventMonitor and the *DFTID special value has been specified for that alert monitor, then the alternate alert notification value will be used during off-shift times.

Installation and Security

Specific installation instructions are covered in the section of this manual titled "Installation".  To install your product on trial, follow those instructions.  iEventMonitor can be installed from distribution media supplied by Kisco Information Systems or from a download file from the Internet.  The initial installation will allow iEventMonitor to run on your system for a period of at least thirty days.  At the end of the trial period, the software will no longer function.

When you decide to keep iEventMonitor, you must send your payment to Kisco Information Systems.  At that time, Kisco must know the serial number for your system and the partition number where you have iEventMonitor installed.  If you are not sure of your serial number, you can display it by using option #2 on the INSTALL menu.

When Kisco receives your payment and serial/partition numbers, they will issue a password to you.  This password, when applied, will certify your copy of iEventMonitor and will permanently activate the software on your system.  The password and certification instructions will be provided in writing by email.

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Kisco Software Support

Kisco Information Systems software support is available from 7am to 6pm eastern time.  You can reach software support with the following methods:

|  |  |
|---|---|
| Phone: | 518-897-5002 |
| Email: | support@kisco.com |
| Fax: | 518-897-5003 |
| Mail: | Kisco Information Systems |
|  | 89 Church Street |
|  | Saranac Lake, NY 12983 |

Off-hours support can be provided for all registered customers with advance notification.  Contact our support staff at least 24 hours in advance when you think you will need off-hours support and we will provide instructions for contacting us during that time.  If you have unscheduled off-hours support needs, you should place a phone call and send an email request.  Support is generally available during off-hours.

Kisco Information Systems provides unlimited software support during your first year of ownership.  This includes the time during your free trial.  Following the first year of ownership, there is a modest fee structure to maintain support for your software.

The Kisco support policy program works as follows:

1.      First year support is included in the purchase price  This includes unlimited telephone support, unlimited E-mail support, free release updates and free license transfers.

2.      After the first year, an annual charge will apply for support and software maintenance.

3.      The annual fee will be charged at the rate of 15% of the current selling price.

4.      Support covered by this annual fee includes:

         a.      Unlimited telephone support (518-897-5002)

      b.      Unlimited E-mail support (Support@kisco.com)
      c.      Defect analysis and correction
      d.      Free updates to correct known defects (Kisco PTFs)
      e.      Free license transfers (when you move to a different system)

5.      Customers must be active on maintenance in order to get a license transfer for the software to a new serial number.

At the end of your first year of ownership, you will receive an invoice from us for your next year's maintenance charge. Non-payment of this invoice will be taken to mean that you decline maintenance.

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World Wide Web Support

You can also use the World Wide Web to reach us and to obtain software support information. Just set your web browser to our web address at:

      http://www.kisco.com

Support information specifically for iEventMonitor can be found at this address:

      http://www.kisco.com/iem/support

At our Website, you will find:

- Product information about all Kisco software products for the IBM i.

- Customer support information including:

      ▸     Latest release level information for all products
      ▸     Technical bulletins
      ▸     Frequently asked questions and answers
      ▸     Problem reports including iEventMonitor PTF availability
      ▸     Descriptions for recent enhancements to products
      ▸     E-mail contact information for getting in touch with us

- Information about consulting services available from Kisco Information Systems.

- Registration for automatic notification about iEventMonitor enhancements and changes.

- ..... and more

The first time you visit the Customer support section of our website for iEventMonitor, be sure to register for automatic notification. Once you are registered, we will automatically send Email notices to you about upgrades, enhancements and fixes for iEventMonitor as soon as they become available.

We invite you to visit our Website, use the contact features to let us know what you think. We're always looking for ways to better serve you, our customer.

The Master Menu

The main menu used by iEventMonitor is called MASTER and is found in the library IEMLIB. There are several ways to display the menu. You can issue the following GO command from any terminal session command line:

GO IEMLIB/MASTER

This method does not require that the library name be added to your library list. You can also add the library to your library list and display the menu with an easier format. To add the library to your library list and display the menu, enter the following two commands:

ADDLIBLE IEMLIB
GO MASTER

The main iEventMonitor menu appears as follows:



Each menu option handles the following functions. The right margin of the menu display shows the command that is run by that option. All commands are located in the application library named IEMLIB. Each function is described in more detail later in this manual:

1.      Send an Alert                          Can be used to manually send an alert message

2.      Start a Message Que Monitor            Start a message queue monitor session

3.      Stop a Message Que Monitor             End an active message queue monitor

4.      Display Active Monitors                Display active monitor tasks

| | | |
|---|---|---|
| 5. | Maintain Message ID Exceptions | Update message queue ID exceptions.  Lets you ignore specific messages. |
| 6. | Maintain Message Overrides | Allows you to implement additional controls over which messages will be reported or ignored for the message queue monitor function. |
| 7. | Work With iEventMonitor Tasks | Displays all iEventMonitor tasks that are currently considered to be active. |
| 8. | Work With File Monitors | Set up file action monitors and then activate or deactivate them. |
| 9. | Display Activity Log | Displays a list of alerts that have been issued by iEventMonitor starting with those issued on the current day. |
| 10. | To Watch Menu | Displays the WATCH task menu. |
| 15. | To Network Menu | Displayed the NETWORK task menu. |
| 20. | To Audit Monitor Menu | Displays the AUDIT monitor task menu. |
| 30. | To Install Menu | Displays the INSTALL task menu. |

Each of these menu options is discussed in the following sections of this user's guide.

iEventMonitor Automatic Restart Feature

Whenever you start a monitor or watch task in iEventMonitor, that function is logged on the system as active.  This logging is done automatically and it captures all of the startup options that you specify, regardless of the task that you are starting.

Task records are removed from the log file whenever you run a specific ENDxxxx command to stop a monitor or watch task.

At any time, you can review what tasks are currently logged by using menu option #7 on the MASTER menu.  To add a task to the list of active tasks, just start it.  To update or change the settings for a task, just end it and then restart it using the correct settings.

To end the active tasks without removing them from the task log, use the ENDIEM command.

If the tasks have been ended with the ENDIEM command, then you can restart them all using the STRIEM command.  Option #7 on the MASTER menu includes function keys you can use to end or start the tasks in iEventMonitor that are present in the task log.

Work With iEventMonitor Tasks

When you select option #7 from the MASTER menu, or run the WRKIEM command, the
following display will be shown:



This display allows you to work with each listed monitor or watch as follows by placing a code in
the Opt field next to the task you want to work with:

1     Start - If the task is currently showing as Inactive, you can start it using option 1.

2     Change - lets you review the settings in use for the task and make changes.
Changes can only be made if the task is currently showing as Inactive.

3     End - lets you stop and active task.

4     Delete - lets you delete a task from the list. A delete can only be processed when the
task is showing as Inactive.

The following function keys can be used for control over these tasks:

F6     Will start all tasks provided that they are not currently running.  This is the same as
using the STRIEM command.

F7     Will end all tasks if they are running.  When ending tasks this way, they will not be

removed from the task log.  This is the same as using the ENDIEM command.

F9       Will produce a listing of the active tasks log.

Note that tasks are added to this list when they are started using the individual functions on the various menu options in iEventMonitor. Once a task has been started once, you can then control it entirely using this display.

<u>Send An Alert</u>

When you select menu option #1 or prompt the SNDALERT command in library IEMLIB, the following display will be shown:
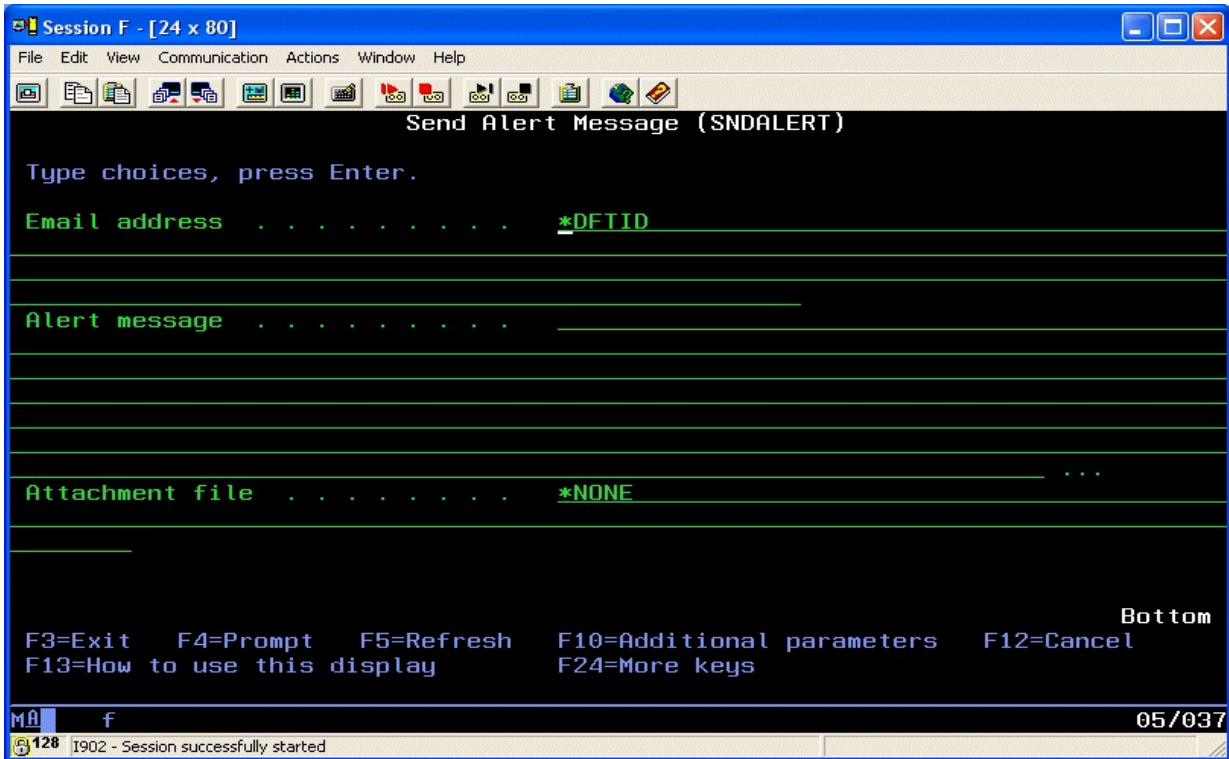


This can be used to manually send an alert message.  Fill in the two parameters as follows:

| | |
|---|---|
| Email address | Enter an email address, user profile or a combination of values. Separate the values by a semi-colon character (';').  If you used the special value *DFTID, then iEventMonitor will use the value specified as the "Default Email Address" on the IEMSET command (option #9 on the INSTALL menu). |
| | When specifying a user profile, precede it with the # character.  For example, if you want to send a notification to the QSECOFR profile, enter it as #QSECOFR.  When a user profile is used, the software will check to see if the user is signed onto your system and a break message will be sent to each session located. |
| Alert message | Enter up to 1,024 characters that you want to send as your alert message. |
| Attachment File | Enter the path for an attachment file that you want to include with the alert notification.  As an example, if you want to include a file named myfile.txt that is stored in the tmp folder in the IFS, then this parameter would look like this: |

/tmp/myfile.txt

If you leave the default value *NONE, then no attachment file will be included.

Note that this command can be used either from the command line or within your own CL programs.  When you process the command, the alter message text will be sent to all addresses specified.

Start a Message Que Monitor

To start a message queue monitor for any message queue, run option #2 on the MASTER menu. The following prompt will be displayed:

```
E - 3:5250 Display                                                    _ □ ×
File   Edit   View   Communication   Actions   Window   Help


                    iEventMonitor Message Monitor (STRIEMON)

    Type choices, press Enter.

    Message que to be monitored  . .      █                Queue name
    Message que library  . . . . . .      *LIBL            Library name, *LIBL
    Email notification address . . .      *DFTID



    Severity filter  . . . . . . . .      00               00-99
    Send Start/Stop Notifications?        *YES             *NO, *YES
    Message option . . . . . . . . .      *KEEP            *KEEP, *RMV
    Reminder Alert Option  . . . . .      *NONE            *NONE, 1-60 Minutes
    Include message time?  . . . . .      *NO              *YES, *NO




                                                                       Bottom
    F3=Exit    F4=Prompt    F5=Refresh    F10=Additional parameters    F12=Cancel
    F13=How to use this display        F24=More keys

    MA + E                                                            05/037
```

Fill in the parameters as follows:

| | |
|---|---|
| Message que to be monitored | Enter the name of the message queue to be monitored. |
| Message que library | Enter the name of the library that contains the message queue.  Most system message queues can use the *LIBL special value. |
| Email notification address | Enter an email address, user profile or a combination of values.  Separate the values by a semi-colon character (';').  If you used the special value *DFTID, then iEventMonitor will use the value specified as the "Default Email Address" on the IEMSET command (option #9 on the INSTALL menu).

When specifying a user profile, precede it with the # character.  For example, if you want to send a |

notification to the QSECOFR profile, enter it as #QSECOFR. When a user profile is used, the software will check to see if the user is signed onto your system and a break message will be sent to each session located.

Severity filter

Lets you ignore messages below a given severity level. For QSYSOPR, we recommend setting this value to 70. If you want to see every message, use the value 00.

Send Start/Stop Notifications?

Use the *YES value to sent out an alert when the message monitor is started and ended. Change the value to *NO if you do not want these messages sent.

Message option

Leave the default value *KEEP in place if you want to keep the message on the message queue after the alter has been sent. To cause these messages to be removed from the message queue, change this value to *RMV.

Reminder Alert Option

This option tells iEventMonitor to issue reminder alerts when inquiry messages have been detected and they have not been responded to in a given period of time.

Choose one of the following values:

*NONE

No reminder alerts will be issued.

1-60

A variable number of minutes between reminder alerts. iEventMonitor will wait for the number of minutes specified and then check to see if the message has been answered. If not, a reminder alert will be issued. The reminder alerts will be repeated until the message is answered or the job in question has ended.

Include message time?

Choose one of the following values:

*NO   The message time from the message queue entry will not br shown in the alert.

*YES  The message time from the message queue entry will be shown in the alert. This may be useful for installations monitoring multiple systems across multiple time zones.

When you fill in the parameters and press ENTER, a task will be started in the IEMONITOR subsystem for the message queue selected. The name of the job will be the name of the message queue preceded by the letters IE. For example, the monitor for the QSYSOPR message queue will be a job named IEQSYSOPR.

If you press the F10 key, additional parameters are presented:

| | | |
|---|---|---|
| Alert Subject Text | | The message queue monitor allows you to use an alternate alert subject when reporting message queue alerts. To use the standard subject, just leave the special value *DFT in place. |

To use an alternate subject text, enter up to 64 characters in this field. The field also supports three optional macro fields as follows:

| | |
|---|---|
| &MSGIDX | The message ID being alerted will be used |
| &SYSNAME | The system name will be used |
| &JOB_NAMEX | The job name that issued the message will be used |
| &JOBNO | The job number that issued the message will be used |
| &JOBID | A 28 characters value will be substituted in the following format: |

nnnnnn/uuuuuuuu/jjjjjjjjjj

job number/user/job name

**Make sure that you leave 22 positions following the &JOBID macro to allow for the values to be posted.**

| | |
|---|---|
| &SEV | The severity level of the message will be used |

**Note**: For the macros to work, they must be coded EXACTLY as shown in all upper case characters.

## User Exit Program Feature

The iEventMonitor message queue monitor includes the ability to call a user exit program when a message queue monitor is triggered. When a message is detected that meets the criteria for issuing an alert message, iEventMonitor will check to see if a user program has been specified. If there is one, then that program will be called before the alert is issued. An option is also included to suppress the alert notification from iEventMonitor if you want to stop the alert message from being

sent.

When the user exit program is called, a single parameter is passed with a parameter length of 4,000 characters.  The layout of the parameter is fixed as follows:

| Start | End | Length | Description |
|-------|-----|--------|-------------|
| 1 | 10 | 10 | Message Queue being monitored |
| 11 | 20 | 10 | Library name as specified in the start |
| 21 | 24 | 4 | Message key - binary value |
| 25 | 31 | 7 | Message ID |
| 32 | 163 | 132 | Message text |
| 164 | 165 | 2 | Severity level |
| 166 | 245 | 80 | Message sender - see IBM documentation for details - includes information about the job that generated the mssage |
| 246 | 250 | 5 | Message 2 length |
| 251 | 3250 | 3000 | Variable message text 2 |
| 3251 | 4000 | 750 | Not used - reserved for future implementations |

Three additional parameters are available with the STRIEMON command.  When the command is prompted, use the F10 option to show the additional parameters.  The three parameters are as follows:

Exit program (XPGM)  Enter the name of the user exit program that you want to call. If you do not want to use an exit program, leave the default special value of *NONE in place.

Exit program library (XLIB)  When specifying a user exit program, enter the name of the library where is resides here.

Send alerts  (XALERT)  Choose one of the following values:

*NO    No alerts will be issued.
*YES   Alerts will be issued as normal.

When a user exit progam is specified, iEventMonitor will check to make sure it is a valid program in the library reference provided.  If the program cannot be found, the monitor start will be stopped.  If the program is valid, it is the user's responsibility to make sure that it completes successfully.  iEventMonitor will check for a CPF0000 error and attempt to continue processing if one is issued from the exit program, but other errors could cause the monitor to fail.  Kisco recommends extensive testing before putting a user exit program into full production use.

Stop a Message Que Monitor

To end a message queue monitor that was previously started, run option #3 on the MASTER
menu.  This ill display the following prompt screen:

```
Session F - [24 x 80]
File  Edit  View  Communication  Actions  Window  Help

                       End Message Que Monitor (ENDIEMON)

   Type choices, press Enter.

   Message Que Name . . . . . . . .    _____        Que name
   Message Que Library  . . . . . .    *LIBL_____     Library name




                                                                    Bottom
   F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
   F24=More keys

MA    f                                                             05/037
 128  I902 - Session successfully started
```
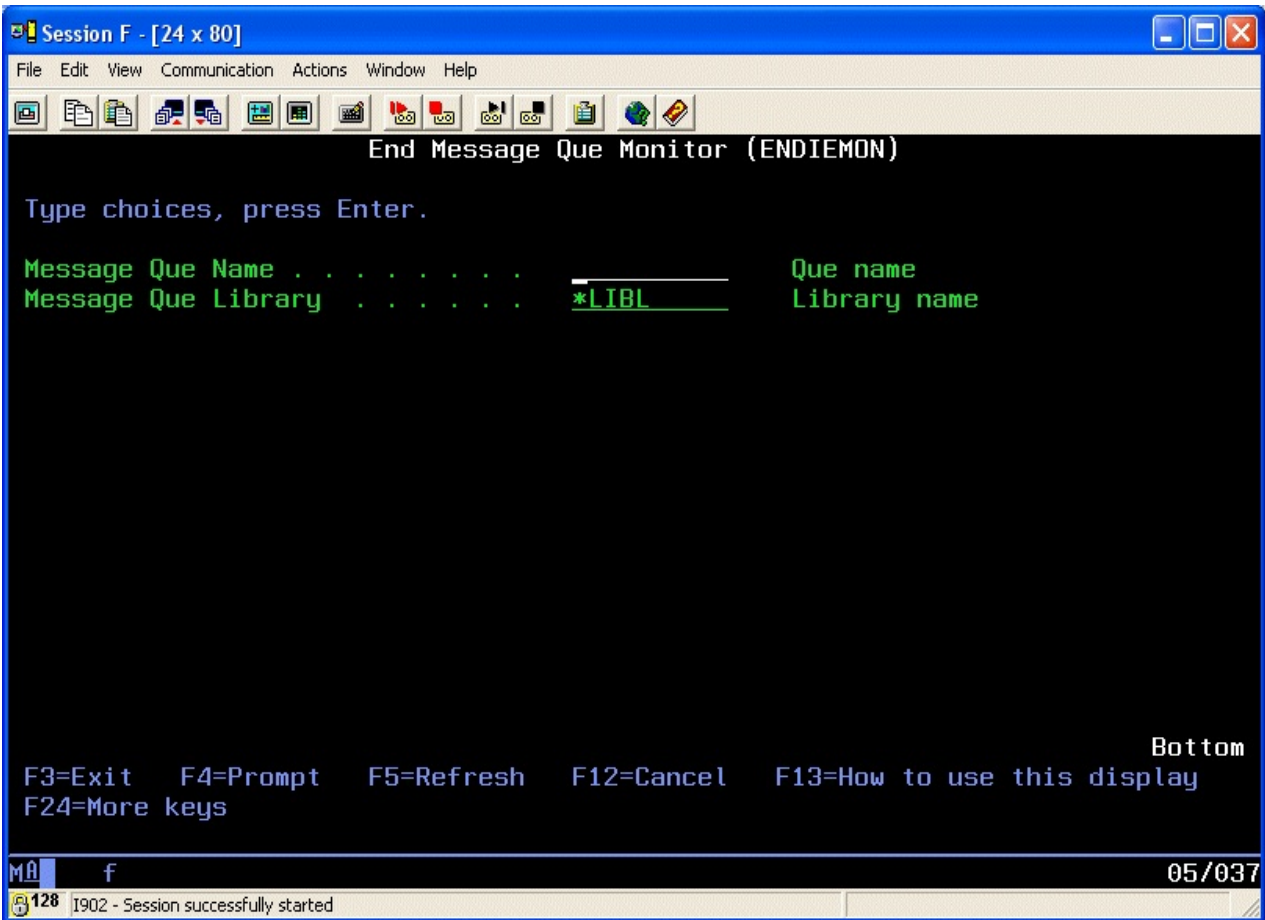
Enter the parameters as follows:

| | |
|---|---|
| Message Que Name | Enter the name of the message queue monitor that you want to stop. |
| Message Que Library | Enter the name of the library where the queue is located.  If you started the monitor with the *LIBL library reference, you MUST use it again here when ending the monitor. |

When you press ENTER, the active monitor will be ended.  When you end a message queue
monitor using the ENDIEMON command, the monitor configuration is removed from
consideration for automatic restart using the STRIEM command.

Display Active Monitors

When you select menu option #4 on the MASTER menu, the IEMONITOR subsystem will be displayed.  Active message queue monitor tasks, the ASP Monitor task, and Audit Monitors if active, will be shown here.  The ASP Monitor will be a task named IEMCHASP.  The message queue monitors will be named as already documented.  Audit monitors are named XXMONIT with the XX set to the audit type code is use.

Maintain Message ID Exceptions

The message queue monitor allows you to ignore specific messages from processing by the monitor for a specific message queue. Using this feature, you can select to ignore messages for paper changes on printers and other hardware related situations. You can set these up using option #5 on the MASTER menu. When you select this option, a list of current message Ids will be presented:
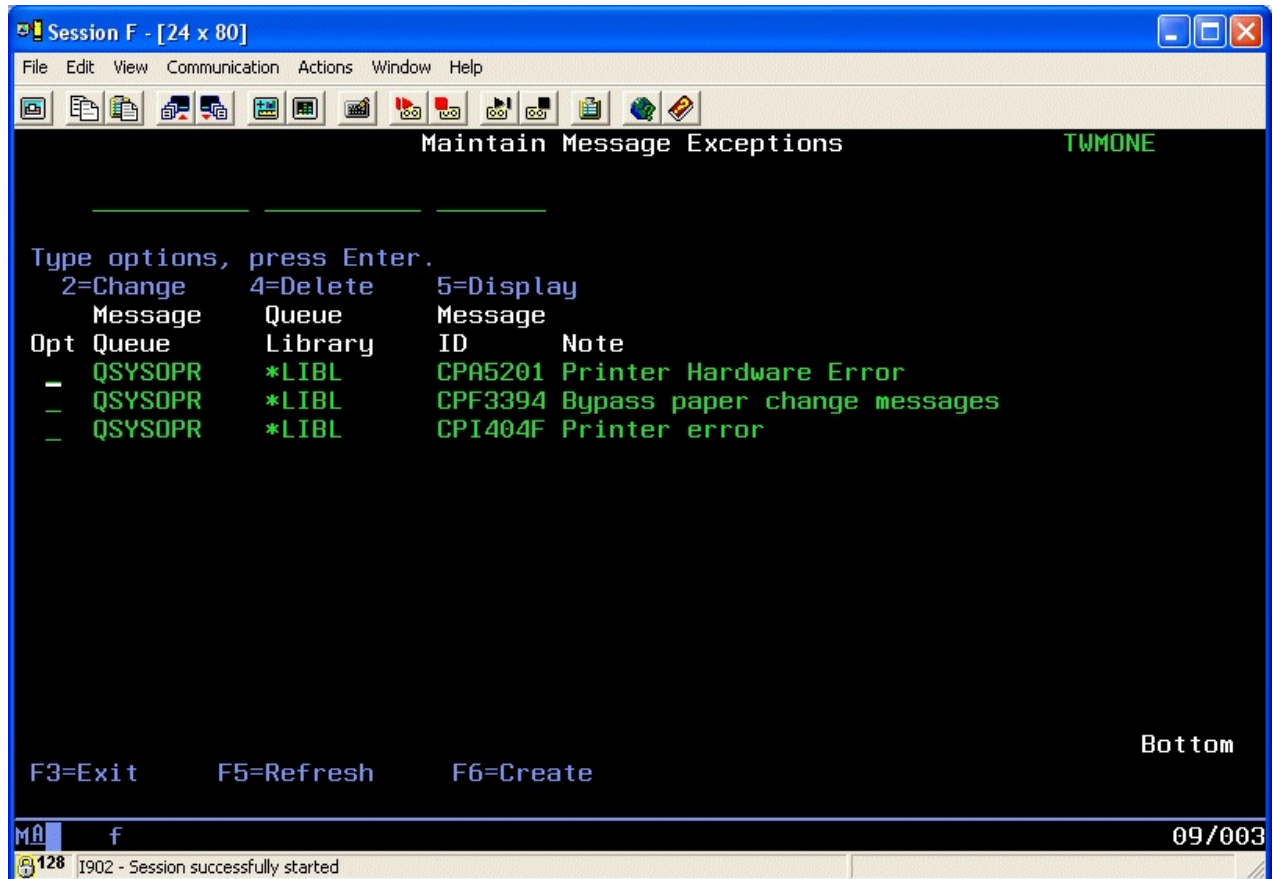


When you first start this option, the list will be blank. To create a new entry, use the F6 function key.

When you start the process to create a new entry, the following display will be presented:
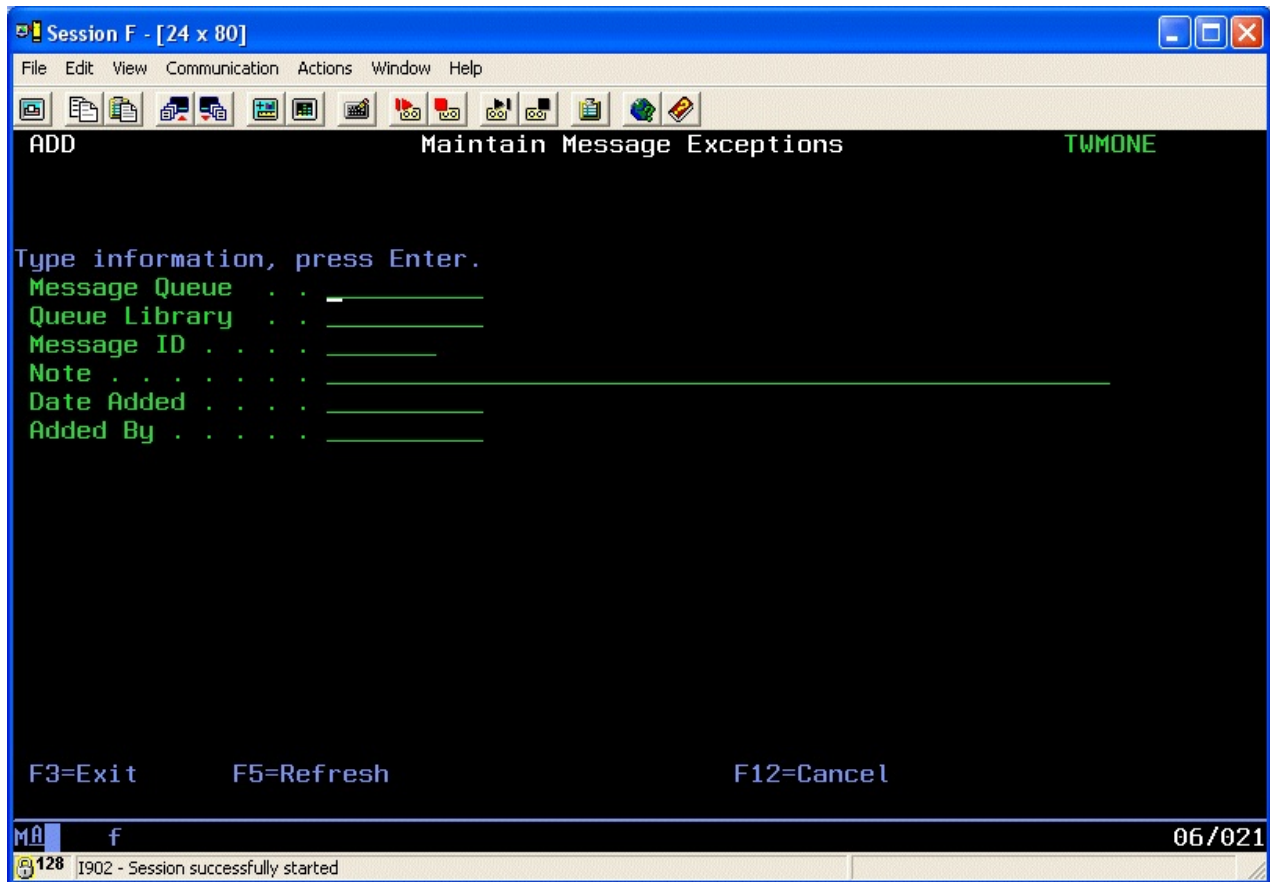


Enter the fields as follows:

Message Queue      Enter the name of the monitored message queue where you want this
                   message to be ignored.

Queue Library      Enter the library reference for the message queue.  If you start your monitor
                   with a *LIBL reference, you MUST also use that same reference here.

Message ID         Enter the 7 character message ID that you want to ignore.

Note               Enter any descriptive information for the entry that you want.

Once you press ENTER and record the new entry, messages with this message ID will be ignored
for the monitored message queue.

Maintain Message Overrides

iEventMonitor also has additional controls added to the product to allow for flexibility to the message queue monitor function.  These add controls by job name, user profile, program name and time.

With these options, you can override the control by message severity and have iEventMonitor either always alert messages that arrive at the message queue or always suppress the alert  The criteria used can be the user profile that sent the message, the job name that sent the message,  the name of the program that sent the message or a time override on repeating a message.  In each category, you can instruct iEventMonitor to either always alert messages that match or never alert messages that match.

When iEventMonitor checks for these overrides, it will always check for the user profile first, then the job name and lastly the program name.  If any override is found, the first one found will apply. If no overrides are found, then the logic of using the message severity code will apply and the message ID will be checked against the Message ID Control table.

To create an override, use option #6 on the MASTER menu.  When you start this option, a screen like the following will be displayed:
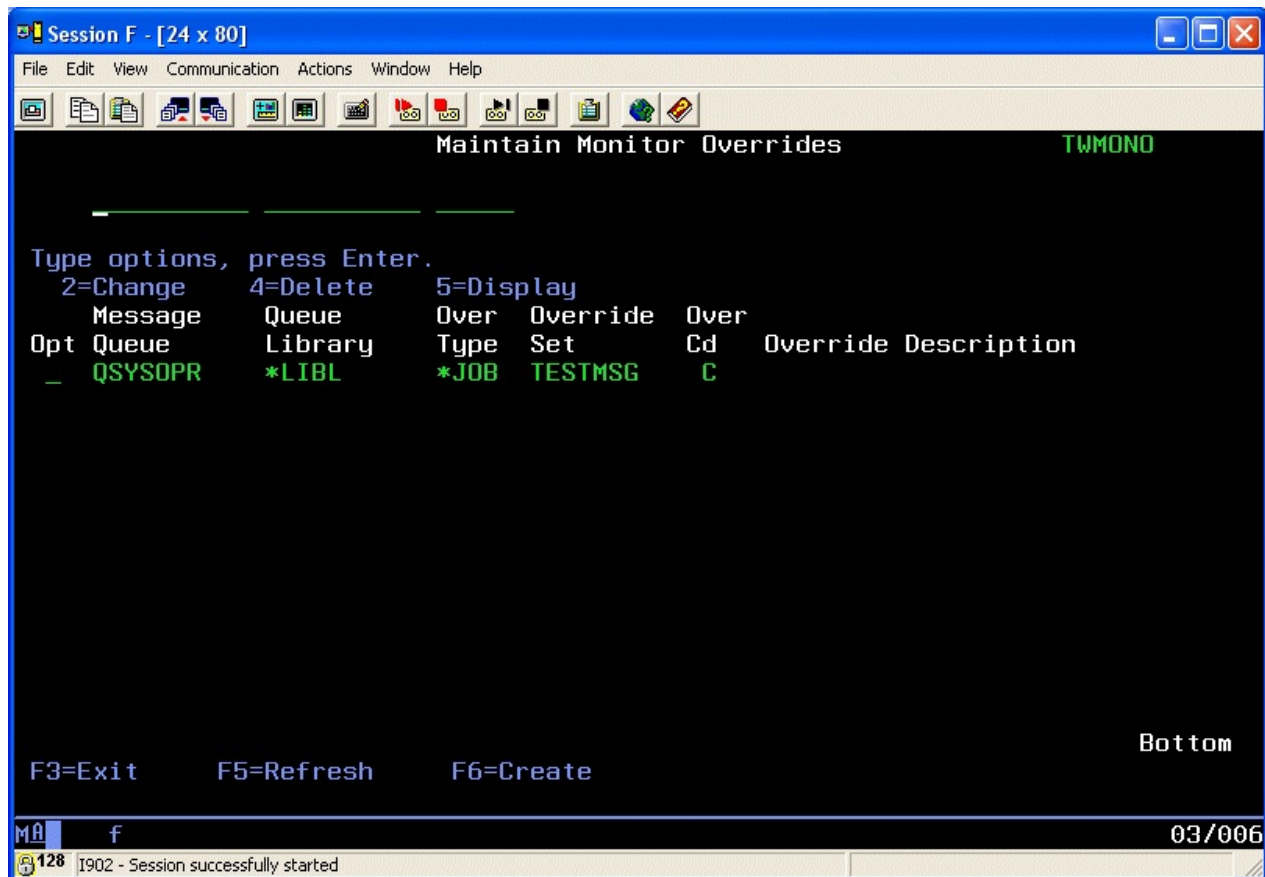
To create a new override, use the F6 function key. When you do, the following detail screen will be displayed:



An override must be associated with a specific message queue. The message queue must also be referenced exactly the same way that the monitor is started. If you start the monitor referring to the message queue library using the *LIBL library list option, then the override must also be created this way.

Fill in the fields as follows:

| | |
|---|---|
| Message Queue | Enter the name of the message queue |
| Queue Library | Enter the library for the message queue |
| Override Type | Choose one of the values as follows:<br><br>*USER: The override set is a user profile<br>*JOB:  The override set is a job name<br>*PGM:  The override set is a program name<br>*TIME: The override set is for a time delay on repeated messages |
| Override Set | Enter the override set to be checked against the message received.  If you entered *USER above, enter the user profile here.  If *JOB, enter the job name.  If *PGM, enter the program name. |

Override Code       Choose one of the values as follows:

A      Always alert the qualifying message
X      Never alert the qualifying message
C      Combines Always alert (as stated above with code A) with message ID Exceptions.  If the message should always be reported but there is an active ID Exception for it, it will be suppressed.
T      Use this value for a time exception.  See also the "Delay Minutes" setting below.

Override Description  Enter your own description for the override condition.

Delay Minutes      For a Time exception, enter the number of minutes that you want to suppress the message for.  This will prevent a regularly occurring message from being alerted over and over.  A value of 1 to 1440 may be entered.

Note: Using Override Code C, you can get all messages issued for a job, user or program, but still suppress specific messages that you are not interested in seeing, like paper changes or printer alignment.

Note: An example of the *TIME override might be when your system is low on storage.  When this happens, your system will issue the CPI099C message every 30 minutes until the low storage situation no longer exists.  Before this change, iEventMonitor would issue a fresh alert on this message every time it was issued.  After this change, you can control how often this error is repeated as an alert.  You might want it to be issued as an alert every 4 hours instead of every 30 minutes.

When all fields have been entered, press ENTER to record the override in the table.  Once created, messages monitored on the message queue will check this table first before checking for severity and message ID exceptions.

File Monitors

When you select option #8 from the MASTER menu, or run the WRKFILMON command, the following display will be shown:



This display shows a list of files that are set up for the File Monitor feature in iEventMonitor. A File Monitor will "watch" an iSeries database file for selected types of process activity. You can configure your file monitor to look for record adds, record changes, record deletes and even record read processing. When any selected event occurs, iEventMonitor will send an alert with the details. You can specify for detailed information on each event or summary information after every nth event.

The above sample display shows one file monitor that is in Active status. Once a monitor has been created, you must then activate it before it will start reporting. You can always deactivate a monitor but leave the configuration in place for future use.

To create a new File Monitor, press the F6 function key and the following screen will be presented to you:
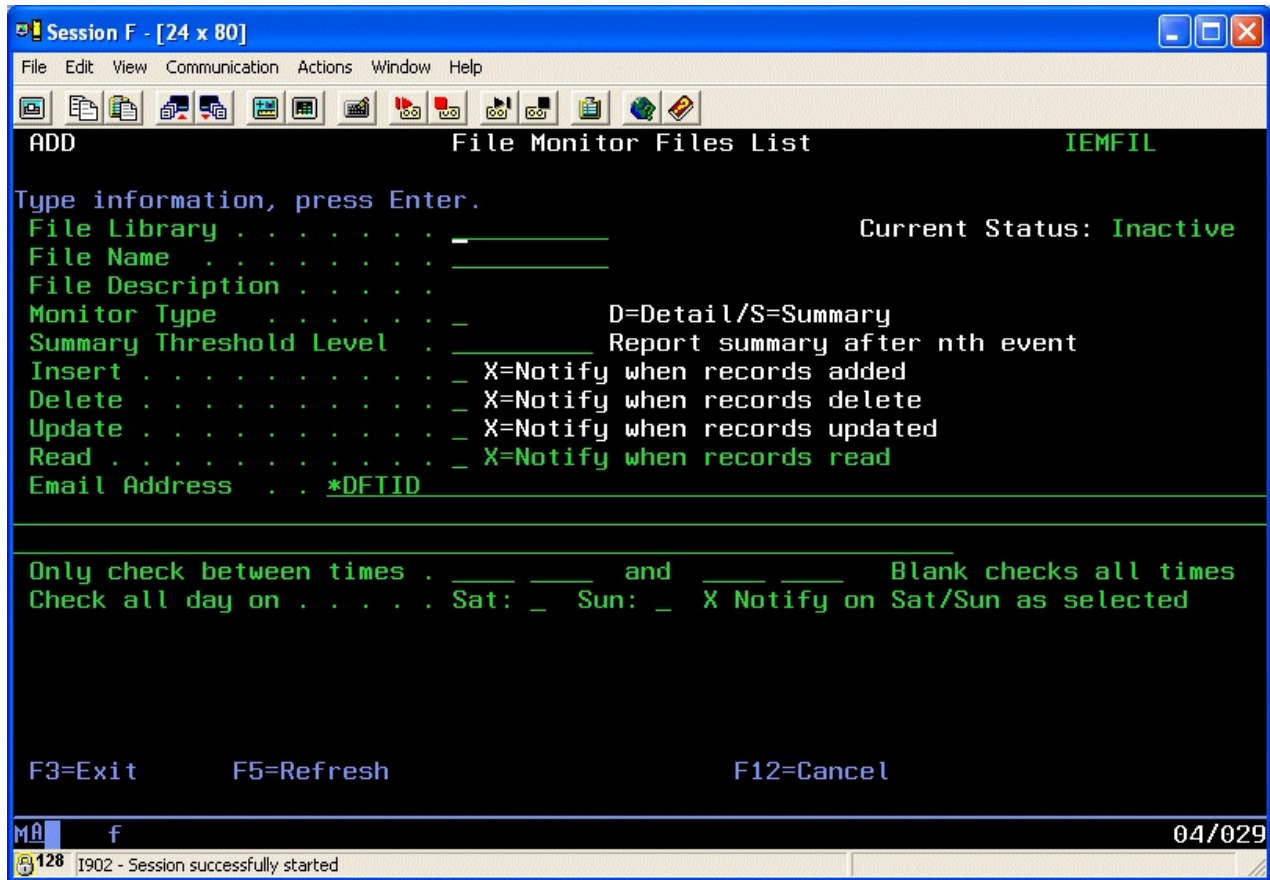


Fill in the fields as follows:

| | |
|---|---|
| File Library | Enter the name of the library where the file resides. |
| File Name | Enter the name of the file to be monitored. |
| File Description | Leave this blank when creating the monitor.   The system will pick this field up for the file description. |
| File Monitor Type | D: Detail level monitor.  For every selected  event, iEventMonitor will issue an alert.<br>S: Summary level monitor.  iEventMonitor will issue a summarized alert each time the Summary Threshold has been reached. |
| Summary Threshold | For summary monitors only.  Enter the number of events between alerts. |
| Insert | Enter X if you want to monitor for records being added to the file. |
| Delete | Enter X if you want to monitor for records being deleted from the file. |
| Update | Enter X if you want to monitor for records being updated in the file. |

| | |
|---|---|
| Read | Enter X if you want to monitor for records being read from the file. |
| **WARNING!!** | We strongly advise that you not use a Read monitor when you are running a Detail monitor. This could easily result in an excessive number of alerts being issued and possible system and/or application degradation. |
| Email address | Enter an email address, user profile or a combination of values. Separate the values by a semi-colon character (';'). If you use the special value *DFTID, then iEventMonitor will use the value specified as the "Default Email Address" on the IEMSET command (option #9 on the INSTALL menu). |
| | When specifying a user profile, precede it with the # character. For example, if you want to send a notification to the QSECOFR profile, enter it as #QSECOFR. When a user profile is used, the software will check to see if the user is signed onto your system and a break message will be sent to each session located. |
| Only check between Time | This is an optional entry. If you leave it blank, there will be no restriction on the time of day when the monitor will run. If you want to limit the time period when the monitor will be active, enter the time span when you want the monitor to run. Two fields are provided to allow you to span the time period from midnight to the next morning. |
| Check all day on | If you want the file monitor to be active on Saturday and Sunday, place an X in the field for those days. |

Once you have the monitor configured, press ENTER to set record the configuration. The display will return to the list of monitors and the monitor will be configured in "Inactive" status. No file monitoring actions will be taken until you activate the monitor.

To active a monitor that you have configured, locate it in the list of monitors and place a '1' next to it in the option (Opt) column and press the ENTER key. This will activate the monitor and start tracking activity immediately.

To stop a monitor that is active, find it in the list and place a '6' next to is in the option column and press the ENTER key. This will stop all file monitor activity immediately.

Display Activity Log

When you select option #9 on the MASTER menu or use the WRKIEMLOG command, a list of alerts that have been issued by iEventMonitor on this system will be displayed starting with alerts from the current day.



To view the details about a specific alert, put a 5 next to it and press ENTER.

You can list the contents of the log using the F6 function key.

The F9 function key will allow you to purge the contents of the log of all entries prior to a given date. The purge process can also be performed using the DSPLOGPRG command.

Watch Functions

iEventMonitor contains a number of specific watch features that will monitor for specific situations and events on your system.  The Watch menus control these functions and looks like this:

WATCH Menu:
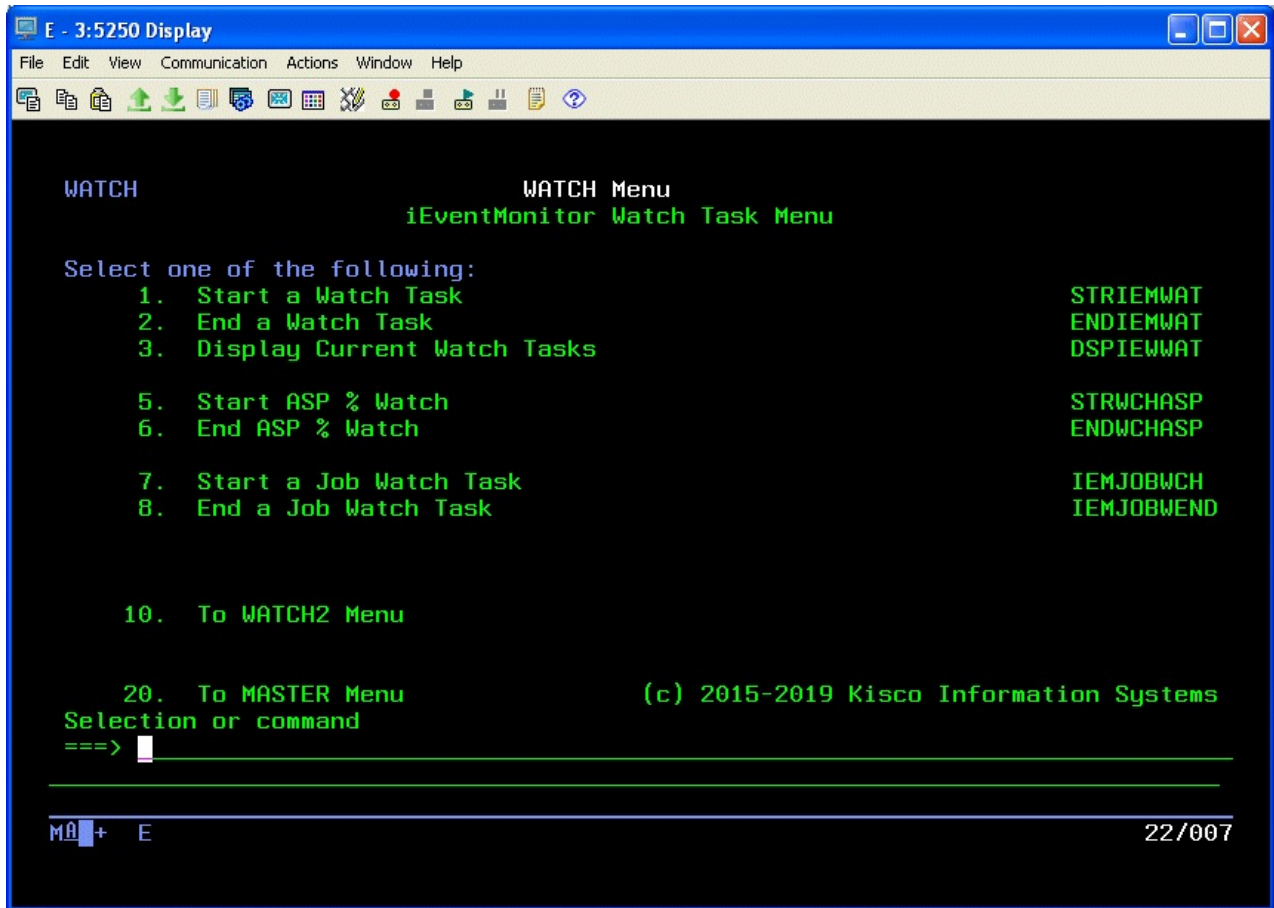


The options on this menu are as follows:

1. Start a Watch Task              Start a message queue watch for a specific message ID

2. End a Watch Task                End a message queue watch previously started

3. Display Current Watch Tasks     Display all active watch tasks from option #1

5. Start ASP % Watch               Start a watch for significant storage level changes

6. End ASP % Watch                 End a storage level watch

7. Start a Job Watch Task          Start a watch for a specific or a generic* job name

8. End a Job Watch Task            End a job watch

10.  To WATCH2 Menu   Transfer to the WATCH2 menu for additional Watch functions.

20.  To MASTER Menu   Return to the MASTER menu

Additional Watch Tasks are on the WATCH2 Menu:

The options on this menu are as follows:



1.  Start a Job Queue Watch   Start a task to watch a specific job queue to see if it gets backed up with jobs not starting or gets put on hold

2.  End a Job Queue Watch   End a job queue watch task

3.  Start a Utilization Monitor   Start a watch for a specific subsystem looking for jobs with very high CPU utilization

4.  End a Utilization Monitor   End a CPU Utilization Monitor

5.  Start User Profile Watch   Start a watch looking for a specific user profile logging on to your system with a terminal session.

6.  End User Profile Watch   End a user profile watch

| | |
|---|---|
| 7.  Start MTXW Watch | Start a watch looking for jobs entering MTXW status. |
| 8.  End MTXW Watch | End a MTXW watch. |
| 9.  Start Output Queue Watch | Start and output queue watch. |
| 10. End Output Queue Watch | End an output queue watch. |
| 11. Start Lock Wait Watch | Start a Lock-Wait watch (LCKW) |
| 12. End Lock Wait Watch | End a Lock-Wait watch. |
| 20. To MASTER Menu | Return to the MASTER iEventMonitor menu |

Each of these functions is described in the following sections of this documentation.

Using Message ID Watch

iEventMonitor contains a feature that will allow you to set watches for specific message IDs arriving a any message queue you want to watch.  This watch function is different from the message queue monitor feature in that the watch will check for a specific message ID regardless of the message severity level whereas the monitor looks at all messages that have a severity code at a selected level or higher.

You can also set a watch to look for a specific text string appearing in a message posted to a message queue.

You can set a single watch or multiple watches using this feature.  It will let you monitor the system operator message queue at the same time that you have the iEventMonitor message queue monitor function active.  You can also set watches for any other message queue in your system including user profile message queues.

From the WATCH menu, you can start a watch, end a watch and display the names of all active watches currently running on your system.

Each watch that runs on your system must be assigned a unique 10 character name.  As a watch task is started, it is logged into the iEventMonitor system.  At any time, you can view the names of the active watches by running option #3 from the WATCH menu.  To start a new watch task, use option #1 on the WATCH menu.  To end a watch task, use option #2.

When you start a new Watch task, select option #1 from the WATCH menu.  The following screen will be displayed:

The STRIEMWAT command will be prompted, you can enter the command parameters as follows:

```
E - 3:5250 Display                                                    _ □ X
File  Edit  View  Communication  Actions  Window  Help

                      Start IEM Watch (STRIEMWAT)

  Type choices, press Enter.

  Watch name . . . . . . . . . . .   _____        Unique name
  Email Address  . . . . . . . . .  *DFTID_____


  _____
  Message to watch for . . . . . .   _____         Message ID, *ALL, *IMMED
  Message que to be monitored  . .   _____       Queue name
  Message que library  . . . . . .  *LIBL_____       Library name, *LIBL
  Send Start Email?  . . . . . . .  *YES             *NO, *YES
  Message Text . . . . . . . . . .  *NONE_____

                                                                    Bottom
  F3=Exit    F4=Prompt    F5=Refresh    F10=Additional parameters    F12=Cancel
  F13=How to use this display          F24=More keys

MA + E                                                            05/037
                                              kisco8.kisco.com:992    128
```

| | |
|---|---|
| WNAME | This must be a unique watch event name.  You can set multiple watches, but each one must have a unique name.  You will need to know this name when you want to end the watch event at a later time. |
| EMAIL | Enter an email address, user profile or a combination of values.  Separate the values by a semi-colon character (';').  If you use the special value *DFTID, then iEventMonitor will use the value specified as the "Default Email Address" on the IEMSET command (option #9 on the INSTALL menu). |
| | When specifying a user profile, precede it with the # character.  For example, if you want to send a notification to the QSECOFR profile, enter it as #QSECOFR.  When a user profile is used, the software will check to see if the user is signed onto your system and a break message will be sent to |

each session located.

| | |
|---|---|
| MSGID | Enter the message ID that you want to monitor for with this watch task. |

If you want to search for a text string in a message, this value must be set to one of the following values:

*ALL          Search all messages posted to the message queue

*IMMED    Search just the immediate messages that are posted to the message queue

QUE          Enter the name of the message queue that you want to monitor the message ID entered.

QUELIB      Enter the name of the library where the message queue is located.

NOTIFY      Leave the default value *YES if you want iEventMonitor to issue an alert reporting that this watch task is being activated.  Change it to *NO if you do not want the alert to be issued.

MSGTEXT    If you are not search for a specific text string, leave this set to *NONE.

If you are searching for a text string, enter the string here.  Keep in mind that the string is case sensitive and uses embedded blanks.

To end a watch task, just use option #2 on the WATCH menu and enter the same WNAME parameter value that you used when you started the task.  Keep in mind that ending the watch using option #2 on the WATCH menu will also remove the watch from automatic restart processing.


Watch Task Exit Program Option

The Watch Task includes an optional exit program interface.  To access the additional parameters needed for this feature, press the F10 key and you will see the following additional options:

XPGM         If you want to call your own exit program during watch processing, enter the name of the program here.  When the watch is satisfied, the program will be called passing a single parameter that contains information about the message issued.  The amount of information is determined by the setting of the XLEVEL parameter (see below).  If you are not using an exit program, then the special value of *NONE should be used.

XLIB          If you are calling your own exit program, enter the  name of the libary where it is stored on your system.  You can use the *LIBL value if the libary is in the system user library list.

XALERT        This value controls whether iEventMonitor will send out an alert when you have specified an exit program.

Choose one of the following values:

*NO   - No alerts will be issued.
*YES  - Alerts will be issued as normal.

XLEVEL          Choose the level of exit data that you want passed to your exit program.

Chose one of the following values:

*STD  The single parameter with a length value of 7 will be passed.  It will contain the message ID value.

*ADV  A single parameter of 1024 characters will be passed which represents the full message detail available from the message ID being watched for.  This can be used for a variety of user  objectives. The full message data stream is included.

<u>Using ASP % Watch Function</u>

Option #5 on the WATCH menu can be used to start up to three special watch functions that will let you monitor disc space utilization changes.  The ASP % (Auxilliary Storage Pool) represents the amount of disc space that has been used.  On the IBM i system, if this percentage reaches 100%, the system can abnormally terminate all processing, so it is critical that you know when this percentage is making unplanned changes.

The Interval ASP Watch function will start a job that will periodically check on the ASP % for your system and when it changes by a rate that you set, an alert will be issued advising you of the change and reporting the new current ASP % rate for you.  This will let you react well in advance of a catastrophic event on your system.  Alternately you start one or two Level ASP Watch Functions that will issue alerts when the ASP% exceeds specific given levels.

To start any ASP Watch functions, select option #5 on the WATCH menu or issue the STRWCHASP command in the IEMLIB library.  The following display shows the options you will need to set when starting this feature:



Fill in the parameters as follows:

| | |
|---|---|
| Aux Storage Pool Number | Enter the ASP number that you want to watch.  ASP number 01 is the default system ASP.  This value must be entered as a 2 digit number in the range of 01 - 32.  If you are setting an ASP Watch, we recommend that you always include ASP #01. |

| | |
|---|---|
| Email address | Enter an email address, user profile or a combination of values. Separate the values by a semi-colon character (';'). If you use the special value *DFTID, then iEventMonitor will use the value specified as the "Default Email Address" on the IEMSET command (option #9 on the INSTALL menu). |
| | When specifying a user profile, precede it with the # character. For example, if you want to send a notification to the QSECOFR profile, enter it as #QSECOFR. When a user profile is used, the software will check to see if the user is signed onto your system and a break message will be sent to each session located. |
| Check interval | Enter the interval in minutes. This tells iEventMonitor how frequently you want the system to check the current status of the ASP (disc) utilization. |
| Percentage change | For an Interval Watch, enter the percentage change that you want to be notified about. The default value is 5%. Using this value, when the utilization on the ASP increases or decreases by 5%, a notice will be issued. If you need to react to a problem on your system, this should provide you with some advance warning. |
| | For a Level Watch, set the specific ASP% level you want an alert issued for. For example, if you want an alert when the ASP% reaches 70% and another when it reaches 85%, set the *LVL1 (see below) with 70 and the *LVL2 with 85. |
| Watch type | Select one the the following. Only one watch of each type can be started: |

|  |  |  |
|---|---|---|
| | *INT | An Interval Watch will be started. |
| | *LVL1 | The first Level Watch will be started. |
| | *LVL2 | The second Level Watch will be started. |

| | |
|---|---|
| Alert On | This option controls how the *INT watch type works. |
| | Choose one of the following values: |

|  |  |  |
|---|---|---|
| | *INCR | Whenever the disc utilization increases by the given percentage, an alert will be issued. |
| | *DECR | Whenever the disc utilization decreases by the given percentage, an alert will be issued. |
| | *BOTH | Whenever the disc utilization either increases or decreases |

When you start an ASP Watch function, it will set a flag within the software indicating that the function is active. Once this flag is set, it is available for automatic restart after an IPL or an ENDIEM command.

<u>Using Job Watch Function</u>

iEventMonitor includes options for you to watch specific jobs on your system.  The option lets you be notified when a job starts on your system, when a job ends or both.  You can watch a specific job name started by a specific user profile or you can watch for a job name that you specify using a GENERIC* reference.  For example, if you want to make sure that the FTP server stays active on your system, you can set a watch for the job name QTFTP* ending and, if the FTP server stops running for any reason, you will receive an alert from iEventMonitor.

The functions are included on the WATCH menu in library IEMLIB.  The following menu options control the feature:

       7.  Start a Job Watch Task         IEMJOBWCH
       8.  End a Job Watch Task          IEMJOBWEND

Option 7 (command IEMJOBWCH) will start a job watch task and option 8 (command IEMJOBWEND) will cause an active watch to stop.

To start a job watch, select option 7 from the WATCH menu or use the command named IEMJOBWCH in library IEMLIB.  You will be prompted with the following:



Enter the parameters as follows:

       Job Name To Watch           Enter the specific job name that you want to watch or enter a

Generic* job name ending with an asterisk characters ('*'). The watch task will as look for job names that qualify based on this name.

**Note:** If you start a GENERIC* job watch, be aware that the notification email will only be sent when there are no longer any jobs running that match the GENERIC* job name used. If you have several jobs running under a similar name and one ends but not all, you will not be notified.

User Profile

Enter the specific user profile that started the job you want to watch or use the special value of *ALL to check for the job running under any user profile.

Watch Option

Choose one of the two options offered:

*ONEND     Use this option to send an alert when the specified job has ended. This assumes that the task is currently running.

*ONSTART   Use this option when you want an alert sent with the specified job starts.

*BOTH      Use this option to send an alert when the specified job starts and then again when it ends.

*STRSTP    When you use this option, the job watch will check to see if the specified job (or jobs) is running. If it is currently running, then it will issue an alert when it ends. If it is currently not running, then an alert will be issued when it starts. In either case, the job watch will then stay active to report again if the job ends or starts. The only way to end this job watch is with the IEMJOBWEND command.

*LRUN      The job watch will note when a job starts and then only issue an alert when the Run Time Check minutes have been exceeded. At that point, an alert will be issued indicating that the job is running longer than expected. If you specify *LRUN, then the Run Time Check value cannot be set to zero.

Check Interval

Enter how frequently you want to check for the job starting or ending, in seconds.

Reminder Interval

This setting is only valid on a Job Watch where the *STRSTP option is being used.

Enter the number of minutes that you want to lapse before a reminder alert is sent when the job being watched has

stopped but not restarted yet.  If you enter the value of zero, then no reminder alerts will be issued.

Notification address

Enter the email address that you want use for alert notification when the job starts or ends.  If you use the special value *DFTID, then the default value specified on the IEMSET command will be used.

Run Time Check

This setting is only valid on a Job Watch where the *STRSTP or *LRUN option is being used along with a specific job name and a specific user profile.

Enter the number of minutes that you want to lapse before a reminder alert is sent if the job in question starts and then does not end.  This value should be your expected run time.  The alert will advise you that the job is running longer than expected.

A value of zero means that no alert will be issued.

Using the F10 function key will open one additional optional field for your use as follows:

Alert Subject Text

The message queue monitor allows you to use an alternate alert subject when reporting message queue alerts.  To use the standard subject, just leave the special value *DFT in place.

To use an alternate subject text, enter up to 64 characters in this field.  The field also supports three optional macro fields as follows:

| | |
|---|---|
| &SYSNAME | The system name will be used |
| &JOB_NAMEX | The job name that issued the message will be used |
| &JOBNO | The job number that issued the message will be used if available. |

**Note**: For the macros to work, they must be coded EXACTLY as shown in all upper case characters.

To end an active job watch, use option 8 on the WATCH menu or prompt the IEMJOBWEND command.  Enter the job name, user and watch option exactly the way you did when the watch was started.  This will cause the job watch task the end immediately without sending any alert notification.  Ending a watch with the IEMJOBWEND command will also remove the watch from automatic restart processing.

Using Job Queue Watch

For some customers, it is important that the job queues not get backed up with batch jobs that are not getting run. iEventMonitor allows you to set a watch on any job queue in the system. Once set, if the watched job queue exceeds the threshold of jobs waiting to run that you specify, an alert will be sent advising you of a potential issue. You can also be alerted when the job queue is placed on hold.

To start a job queue watch, select option #1 on the WATCH2 menu or use the STRWCHJQ command. The following will be displayed:

```
Session F - [24 x 80]                                              _ □ X
File  Edit  View  Communication  Actions  Window  Help

 ▣  ▤▤  ▦▦  ▣▣  ▣  ▣▣  ▣▣  ▣  ▣ ◈
                    Start JobQ Watch (STRWCHJQ)

 Type choices, press Enter.

 Job Queue Watch Name . . . . . .    _____     Unique name
 Job Que to monitor . . . . . . .    QBATCH        NAME
 Job Que Library  . . . . . . . .    *LIBL         Library name, *LIBL
 Email address  . . . . . . . . .    *DFTID
 _____

 _____

 Check interval . . . . . . . . .    15            Minutes
 Job count threshold  . . . . . .    25            # jobs
 Alert if on hold?  . . . . . . .    *NO           *NO, *YES




                                                                  Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel   F13=How to use this display
 F24=More keys

MA    f                                                          05/037
128  I902 - Session successfully started
```

Enter the parameters as follows:

| | |
|---|---|
| Job Queue Watch Name | Enter a unique name that will be assigned to this job queue watch task. This name will be used as part of the watch job name with the letters "IW" added before it. It will also be used when ending the job queue watch. |
| Job Que to monitor | Enter the name of the job queue that you want to monitor. The job queue must be in the library list. |
| Email address | Enter the email address that you want use for alert notification messages. If you use the special value *DFTID, |

then the default value specified on the IEMSET command will be used.

To specify a user profile, preceed the profile with the # character. For example, to notify QSECOFR,enter the value #QSECOFR. When an alert is processed, the software will check to see if the user profile is logged into a terminal session and then send them a break message alert.

Check interval          Enter a value, in minutes, that indicates how frequently you want to check the job queue stack. The default value is 15 minutes but you can specify as low as 1 and as high as 999, but 15 minutes is a good setting to start with.

Job count threshold     Enter the number of jobs that you want to be advised about. When the job queue contains more than this number of jobs that are waiting to be run, an alert will be generated. This alert will be repeated at each check interval until either the monitor is stopped or the number of jobs waiting to run returns to a lower level.

Alert if on hold?       This value controls whether iEventMonitor will send out advisory alerts when this job queue is placed on hold.

Choose one of the following values:

*NO     No job queue on hold alerts will be issued.

*YES    An alert will be issued when this job queue is placed on hold. The alerts will continue until the job queue is released.

When you start the Job Queue Watch, it will run in the IEMONITOR subsystem.

To end a job queue watch, use option #2 from the WATCH2 menu or run the ENDWCHJQ command. This will end the function normally. When ending a job queue watch, make sure that you use the same unique job queue watch name that you used when it was started. If you end a job queue watch using the ENDWCHJQ command, it will also be removed from automatic restart processing.

Using Utilization Monitor

iEventMontior includes a Utilization Monitor feature.  Using this feature, you can monitor interactive subsystems, such as QINTER, for jobs that are using too much CPU capacity.  High use of CPU can be an indication of a runaway job or an application that is poorly designed.

To use this new feature, two options appear on the WATCH2 menu.  Option #3 will start a utilization monitor and option #4 will end a utilization monitor.

When you start a Utilization Monitor, the following will be displayed:



Fill in the parameters as follows:

| | |
|---|---|
| Email notification address | Enter the notification address or addresses that you want to alert.  If you use the *DFTID default value, then the standard notification values will be used from the IEMSET command. |
| Subsystem | Enter the sub-system name that you want to watch.  The default value of QINTER will watch jobs running in the system default interactive subsystem.  Kisco does not recommend using this feature to monitor jobs in a batch processing subsystem.  To monitor total system utilization, use the special value of *ALL. |

| | |
|---|---|
| Check interval | Enter a value is seconds.  The monitor will check for excess utilization every specified interval. |
| Utilization threshold | Enter the utilization threshold value that you want the monitor to check.  This is expressed as a percentage of the CPU utilization for the job. |

With this monitor running, jobs in the specified subsystem (or all jobs if you used the *ALL option) will be checked at each interval break.  If any jobs are showing CPU utilization in excess of the threshold value entered, an alert will be generated.  If the situation persists, additional alerts will continue to be reported until either the monitor is stopped or the utilization issue is resolved.

To stop an active utilization monitor, select menu option #4 on the WATCH2 menu. You will be prompted for the name of the subsystem.  When you press ENTER, the active utilization monitor will be stopped.  When you use this option to stop a utilization monitor, it will also be removed from automatic restart processing.

<u>Using User Profile Watch</u>

The User Profile Watch feature will let you track user profile use for interactive sessions.  When a user profile watch is started, it will report when a user profile is used for an interactive signon process or a signoff process.  The watch will stay active and continue watching for signon and signoff activity.

The User Profile Watch function appears on the WATCH2 menu.  Option 5 on the menu will start a user profile watch and option 6 can be used to end it.  The startup display is as follows:

```
 E - 3:5250 Display                                                  _ □ ✕
File  Edit  View  Communication  Actions  Window  Help


                    Start A User Profile Watch (STRUSRWCH)

    Type choices, press Enter.

    User Profile To Watch  . . . . .    █            Name
    Report Initial Status? . . . . .    *NO          *NO, *YES
    Alert Shift  . . . . . . . . . .    *ALL         *ALL, *PRI, *OFF
    Email notification address . . .    *DFTID
    _____

    _____
    _____
    _____




                                                                    Bottom
    F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
    F24=More keys

 MA + E                                                            05/037
```
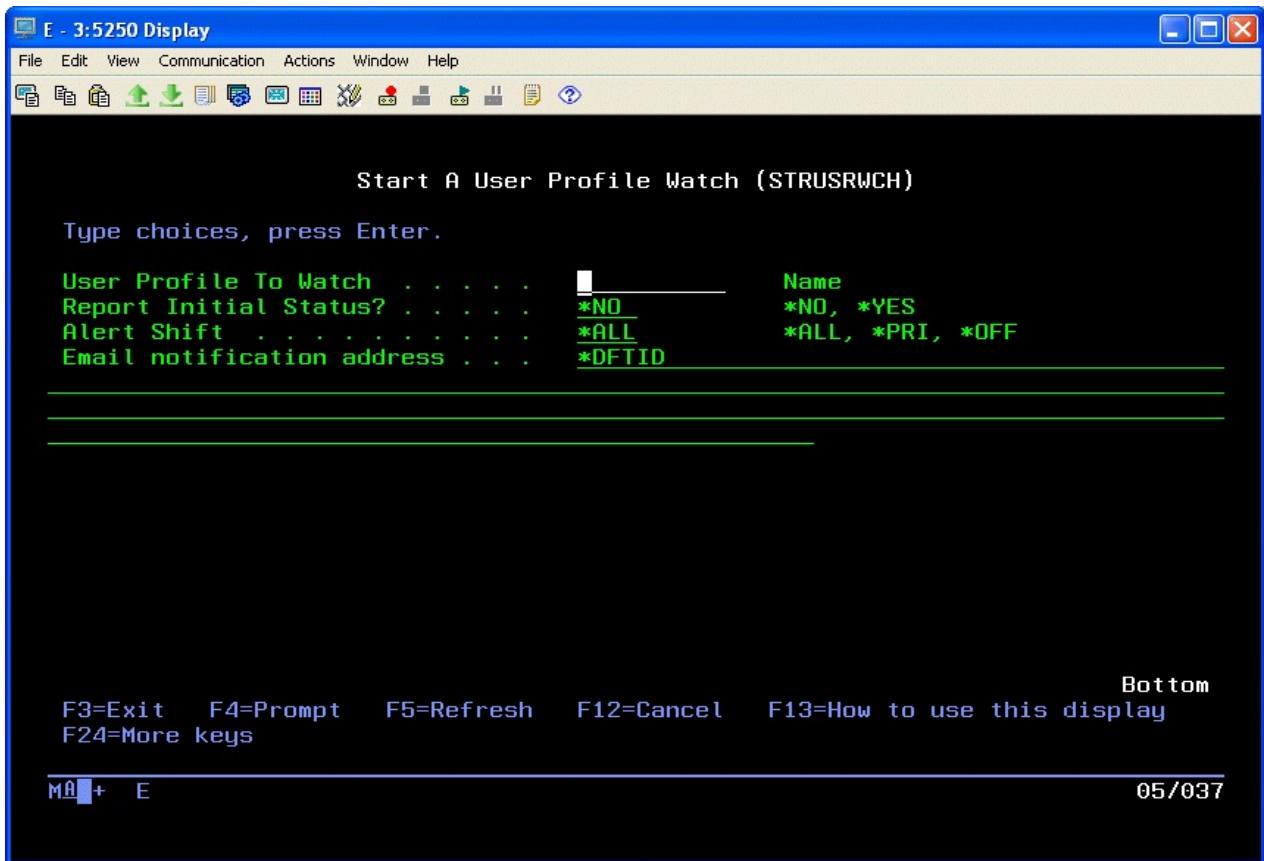
The options are as follows:

> User Profile To Watch        Enter the name of the user profile that you want to track.

> Report Initial Status?       Controls the initial status reporting for the specified user profile.
>
> Choose one of the following values:
>
> *NO   The current status of the user profile sessions will not be alerted.
>
> *YES  At startup, the current status of the user profile sessions will be issued as an alert.

Alert Shift                Controls whether alerts are issued all the time or only during prime or off-prime shift times.

Choose one of the following values:

*ALL   Alerts will be issued regardless of the shift time.

*PRI   Alerts will only be issued when the occur during the time period identified as prime shift.

*OFF   Alerts will only be issued when the occur during the time period identified as off shift.

Note that shift times and days of the week are controlled from the IEMSET command setting.  See option #9 on the INSTALL menu.

Email notification address   Enter the notification address or addresses that you want to alert.  If you use the *DFTID default value, then the standard notification values will be used from the IEMSET command.

To specify a user profile, preceed the profile with the # character.  For example, to notify QSECOFR, enter the value #QSECOFR.  When an alert is processed, the software will check to see if the user profile is logged into a terminal session and then send them a break message alert.

You can stack multiple addresses in this field as long as they are separated by a semi-colon (';') character.

Once a user profile watch has been started, whenever the user profile is used for an interactive logon or whenever an interactive session for the user ends, an alert will be generated.

To end a user profile watch, use option #6 on the WATCH2 menu and just specify the user profile name to be stopped.

Using Mutex-Wait Watch

This feature that will watch for Mutex Wait status (MTXW) to be reported for a specified job running for a specific user profile. Once the task has reported MTXW status for a full interval specified, then an alert will be issued. This feature is implemented on the WATCH2 menu as options 7 and 8.

To start a Mutex Wait Watch, run option 7 or use the IEMMTXWCH command. The following screen will be prompted:
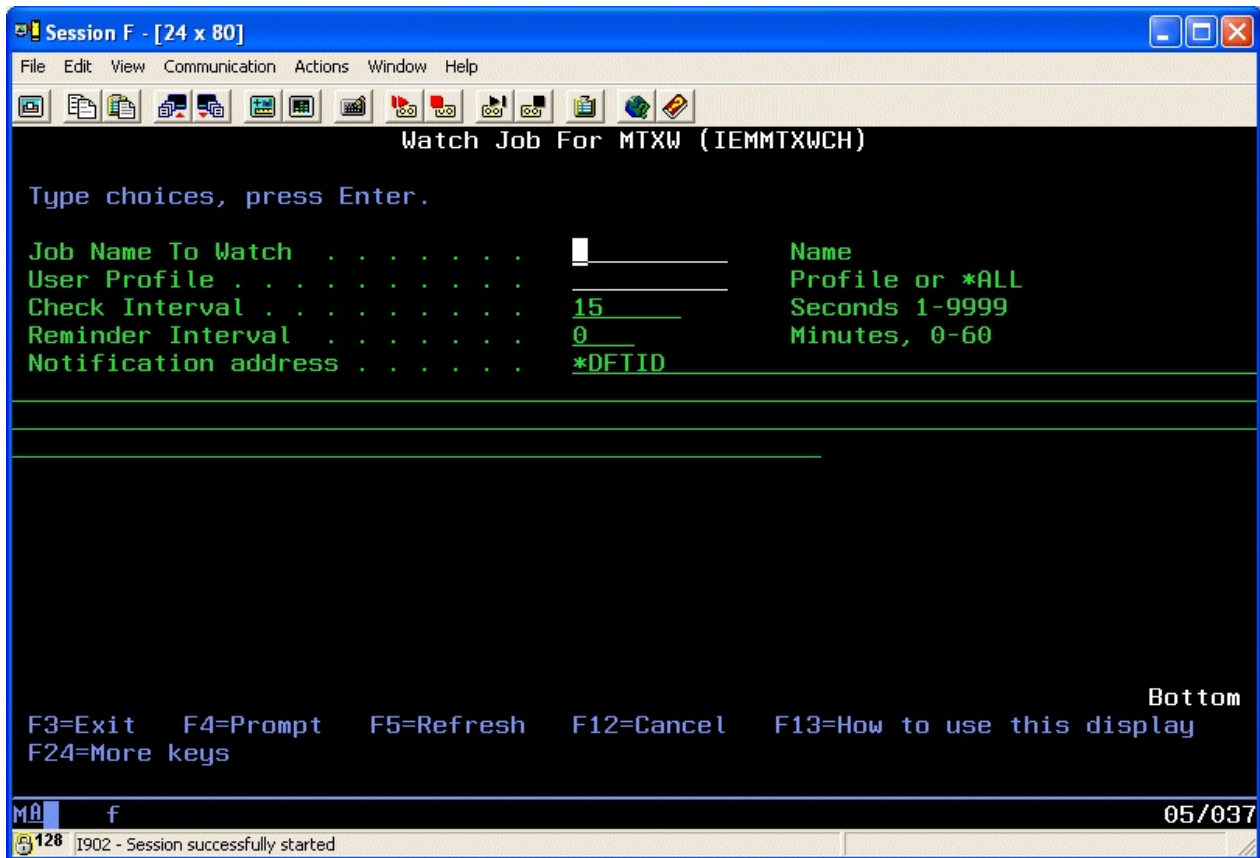


Enter the parameters as follows:

| | |
|---|---|
| Job Name To Watch | Enter the specific job name that you want to watch. If there are multiple jobs with the same name, all of them will be watched. |
| User Profile | Enter the specific user profile that started the job you want to watch. If you want to watch all instances of the requested job name, use the special value of **\*ALL**. |
| Check Interval | Enter how frequently you want to check for the job showing the MTXW status, in seconds. The default value of 15 seconds is a good starting point. |
| Reminder Interval | Enter the number of minutes that you want to lapse before a |

reminder alert is sent after an initial alert has been issued. If you enter the value of zero, then no reminder alerts will be issued.

Notification address                Enter the email address that you want use for alert notification when the MTXW statys is found. If you use the special value *DFTID, when the default value specified on the IEMSET command will be used.

To specify a user profile, preceed the profile with the # character. For example, to notify QSECOFR, enter the value #QSECOFR. When an alert is processed, the software will check to see if the user profile is logged into a terminal session and then send them a break message alert.

To start the MTXW watch, press ENTER when all parameters have been set. Whenever a requested job enters MTXW status, iEventMonitor will note that and then check again at the next requested interval. If it remains in MTXW status, then an alert will be issued. If a reminder is specified, then reminder alerts will be issued with the frequency specified on that setting.

Whan a Mutex Wait Watch job is started, it will be logged into the list of iEventMonitor tasks (option 7 on the MASTER menu). Once this has been done, then the STRIEM and ENDIEM commands can be used to start and end this task along with all other listed iEventMonitor tasks.

To end a Mutex Wait watch, use option 8 on the WATCH2 menu or you can use the IEMMTXWEND command. The parameters on this command are as follows:

Job Name To Watch                Use the exact same value that was used to start the MTXW watch

User Profile                Use the exact same value that was used to start the MTXW watch

When the Mutex Wait watch is ended using the menu option or command, it is removed from the list of iEventMonitor tasks and is no longer started or ended using the STRIEM/ENDIEM commands.

Using Output Queue Watch

iEventMonitor can watch an output queue for unprocessed spool files in ready status.  When the number of spool files exceeds a threshold value that you set when the watch is started, an alert will be issued.

To start an output queue watch, run option 9 from the WATCH2 menu or just issue the STRWCHOQ command.  The following prompt will be shown:
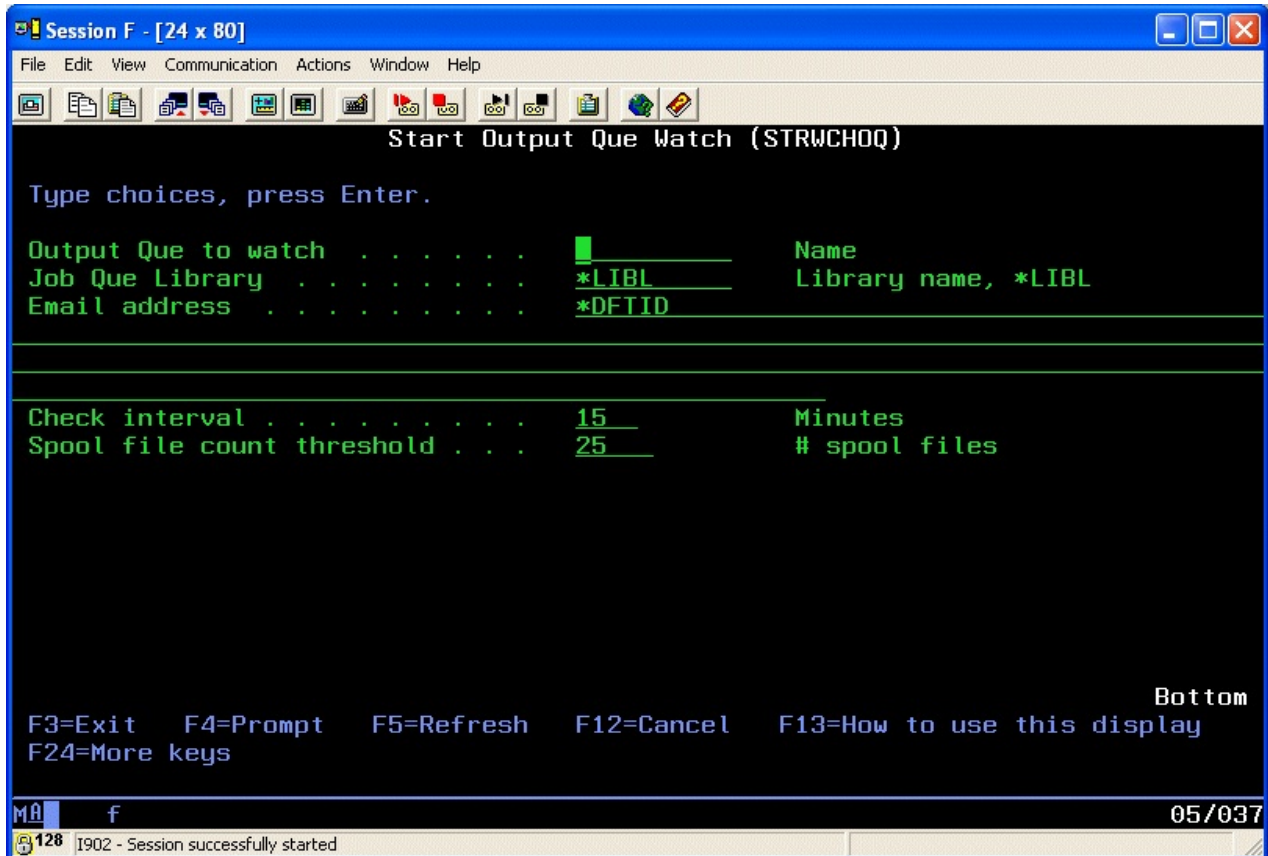


Enter the parameters as follows:

| | |
|---|---|
| Output Que to watch | Enter the name of the output queue that you want to watch. |
| Job Que Library | Enter the name of library where the output queue is located. |
| Email address | Enter the email address that you want use for alert notification messages. If you use the special value *DFTID, then the default value specified on the IEMSET command will be used. |
| | To specify a user profile, preceed the profile with the # character.  For example, to notify QSECOFR, enter the value #QSECOFR.  When an alert is processed, the software will check to see if the user profile is logged into a terminal session and then send them a break message alert. |

Check interval

Enter a value, in minutes, that indicates how frequently you want to check the output queue.  The default value is 15 minutes but you can specify as low as 1 and as high as 999, but 15 minutes is a good setting to start with.

Spool file count threshold

Enter the spool file threshold that you want checked.  When the number of spool files in ready status waiting to be processed exceeds this value during a check cycle, then an alert will be issued.

Press ENTER to start the output queue watch.  Whenever the number of spool files waiting to be processed exceeds the level that you set, an alert will be issued.  This can be helpful with an output queue where the printer should always be active or for an output queue that is being monitored automatically for output email processing or spool file conversion processing.  When spool files start to stack up, iEventMonitor will alert you.

To stop an output queue watch, use option 10 on the WATCH2 menu and enter the name of the output queue.

Note that when you end the output que Watch task from the menu or using the command, it will be removed from the list of iEventMonitor tasks and will no longer be available for the STRIEM and ENDIEM process.

<u>Using Lock Wait Watch</u>

This feature that will watch for Lock Wait status (LCKW) to be reported for a job running for the indicated type and user profile. Once the task has reported LCKW status for a full interval specified, then an alert will be issued. This feature is implemented on the WATCH2 menu as options 11 and 12.

To start a Lock Wait Watch, run option 11 or use the IEMLCKWCH command. The following screen will be prompted:

```
Session F - [24 x 80]
File  Edit  View  Communication  Actions  Window  Help

                        Watch Job For LCKW (IEMLCKWCH)

 Type choices, press Enter.

 Job Types To Watch . . . . . . .   *INT         *INT, *BAT, *ALL
 User Profile . . . . . . . . . .   _____    Profile or *ALL
 Check Interval . . . . . . . .     15           Seconds 1-9999
 Reminder Interval  . . . . . . .   5            Minutes, 0-60
 Notification address . . . . . .   *DFTID




                                                                    Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys

MA    f                                                             05/037
128  I902 - Session successfully started
```
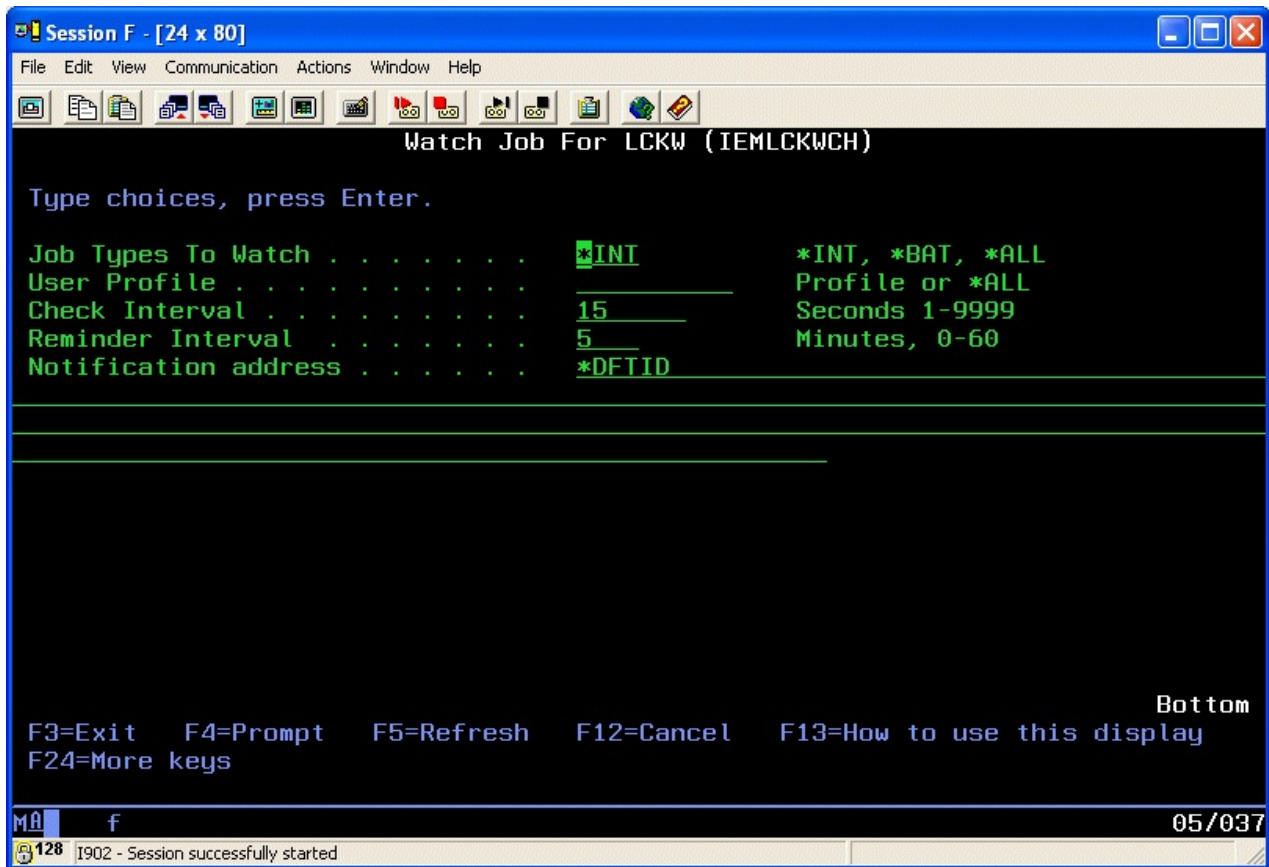
Fill in the parameters as follows:

|  |  |
|---|---|
| Job Types To Watch | Indicates the type of jobs to be watched on your system. |
|  | Choose one of the following values: |
|  | *INT   Just check for lock waits on interactive jobs. |
|  | *BAT  Just check for lock waits on batch jobs. |
|  | *ALL  Check for lock waits on all jobs. |
| User Profile | You can check for lock waits for a specific user profile or *ALL user profiles. |

| | |
|---|---|
| Check Interval | Enter how frequently you want to check for jobs in lock wait status, expressed in seconds. |
| Reminder Interval | Enter the number of minutes that you want to lapse before a reminder alert is sent after an initial alert has been issued. If you enter the value of zero, then a reminder will be sent for each INTERVAL value seconds that you have set in the previous parameter setting. |
| Notification address | Enter the email address that you want use for alert notification when a lock wait is found. If you use the special value *DFTID, then the default value specified on the IEMSET command will be used.<br><br>To specify a user profile, preceed the profile with the # character. For example, to notify QSECOFR, enter the value #QSECOFR. When an alert is processed, the software will check to see if the user profile is logged into a terminal session and then send them a break message alert. |

Once a task has been found to be in LCKW status, the watch will wait for the period of time specified by the REMIND parameter and then check again. If the job persists in LCKW status, it will issue the alert again. This will continue until the LCKW status is resolved. If a reminder setting of zero is used, the reminder alerts will be issued for every check interval.

Whan a Lock Wait Watch job is started, it will be logged into the list of iEventMonitor tasks (option 7 on the MASTER menu). Once this has been done, then the STRIEM and ENDIEM commands can be used to start and end this task along with all other listed iEventMonitor tasks.

To end a Lock Wait Monitor, use option 12 on the WATCH2 menu or you can use the IEMLCKWEND command.

Excluding Jobs From Lock Wait Watch

Some customers using this watch report that lock waits occur regularly on their system and they are expected, so they would like to have the ability to ignore certain lock wait alerts. iEventMonitor can now ignore lock wait alerts issued for certain specific jobnames. This ignore feature has a capacity for specifying up to 20 jobnames to be ignored.

To activate this feature, you need to create a special data area in the iEventMonitor application library. You can create the data area using the following command:

    CRTDTAARA DTAARA(IEMLIB/LCKWOK) TYPE(*CHAR) LEN(200) VALUE(' ')
    TEXT('Optional Lock-Wait Ignore List')

Once the data area has been created, you can specify up to 20 jobnames that you want iEventMonitor to ignore for lock wait alerts. The jobnames are stored every 10 characters in the data area. Do not leave any 10 character slot blank as the process will stop checking once it finds a 10 character slot that is blank. The entries do not need to be in any particular sequence.

After the data area has been created and populated with jobnames, then the next time the lock wait watch starts on your system, any ock wait conditions that happen in a job that is in the data area will be ignored for alert posting purposes.

Network Functions

iEventMonitor includes a feature to watch network connections to your IBM i system.  A Network Watch will periodically test the connection to a remote system to make sure that it is active.  If the connection goes inactive or there are problems detected on the connection, an alert will be issued.

The NETWATCH menu supports this feature:

```
E - 3:5250 Display
File  Edit  View  Communication  Actions  Window  Help


  NETWATCH                        NETWATCH Menu
                        iEventMonitor Network Watch Menu

  Select one of the following:
      1.   Maintain Network Locations                          WRKNETW
      2.   Start Network Watch                                 STRNETW
      3.   End Network Watch                                   ENDNETW









     10.   To MASTER Menu
                                      (c) 2015-2020 Kisco Information Systems
  Selection or command
  ===>

  MA  +  E                                                            22/007
```
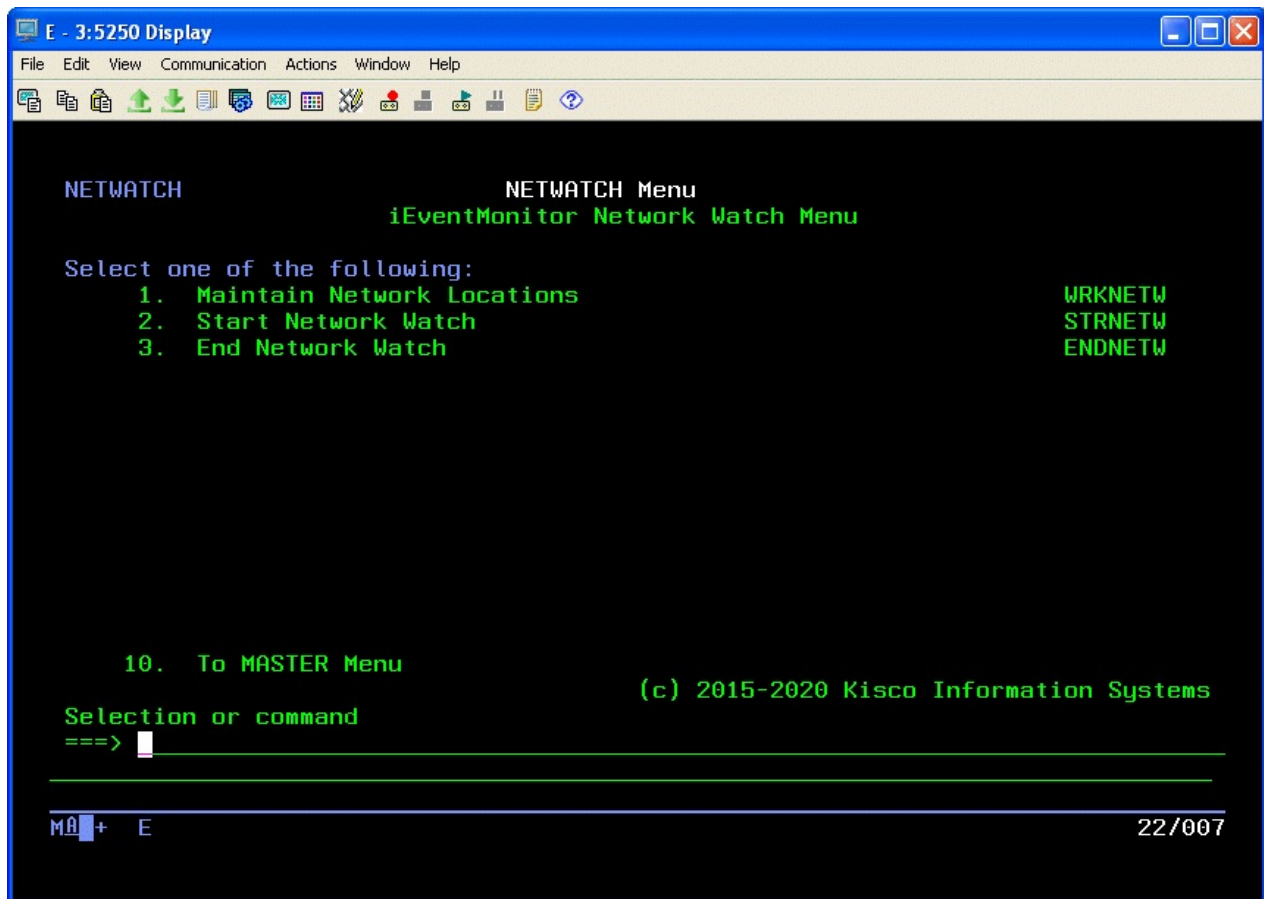
The menu options are as follows:

| | |
|---|---|
| Maintain Network Locations | Maintain a list of network locations that can be used for monitoring. |
| Start Network Watch | Starts a Network Watch for a registered locations. |
| End Network Watch | Ends a Network Watch previously started. |

Each of these menu options is discussed in this section of the user's guide.

Maintain Network Locations

Before a network location can be watched, it has to be defined to iEventMonitor.  Using option #1, you can create a record for each network address that you want to be able to watch.  When you start option #1, the following screen will be displayed:
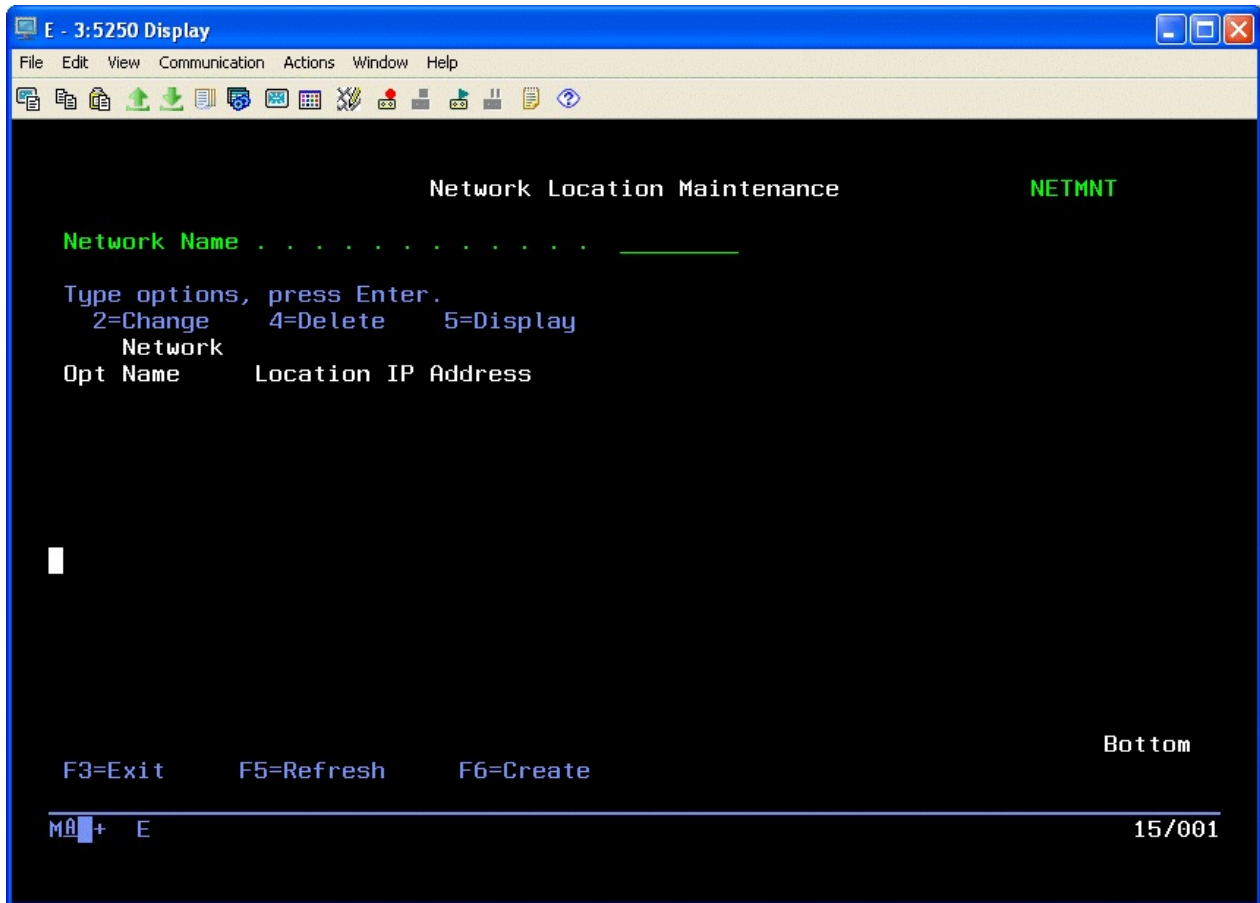


Use the F6 function key to add a new entry to the list of network connections to be monitored.
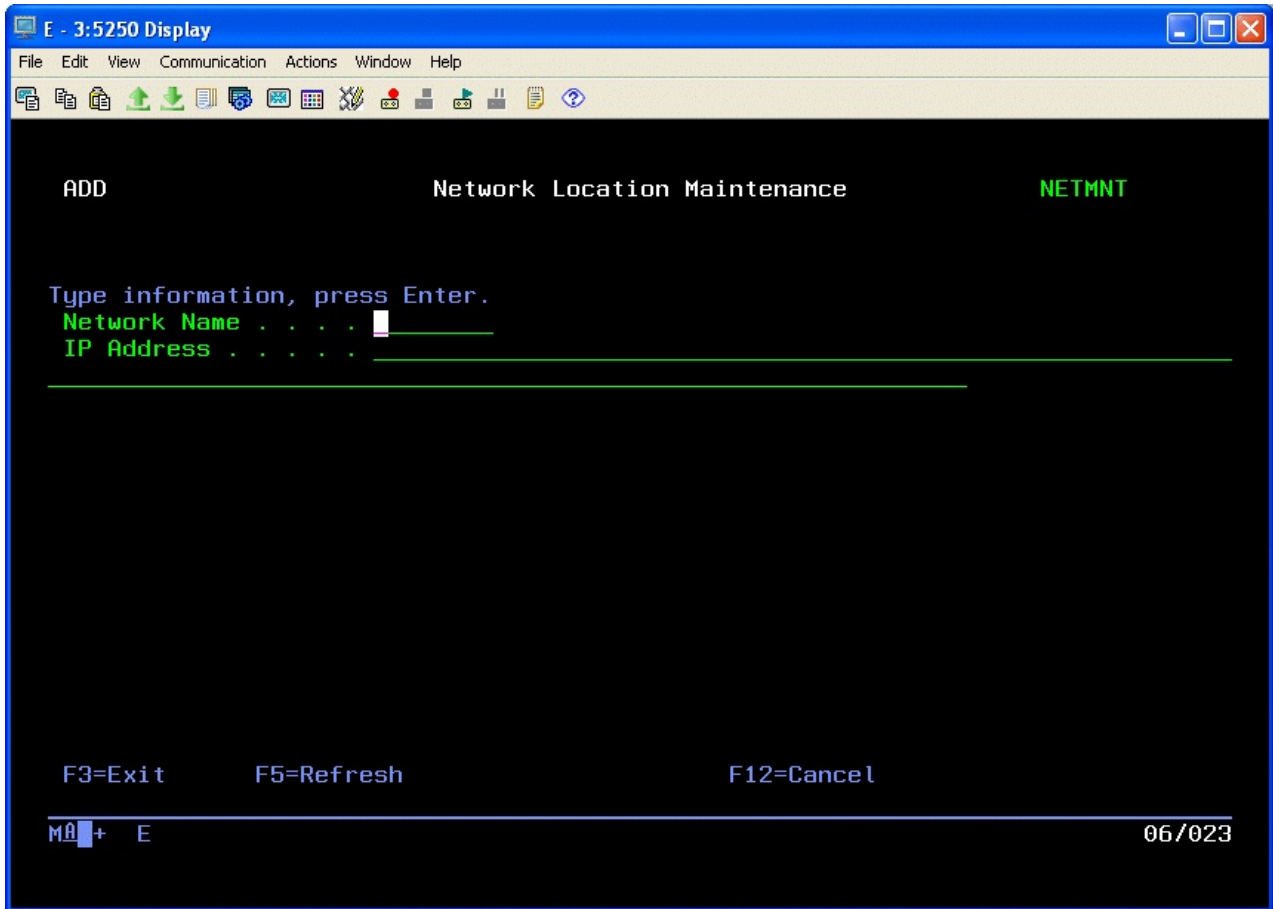
When you add a record to the Network Location file, you assign a short, 8 character, name to the location and then associate that with a specific IP address. The IP address can be either a numeric address such as "10.1.2.3" or a named address such as companyname.com.

Enter the values as follows:

Network Name      Enter the unique 8 character name you have assigned to the network location to be monitored.

IP Address      Enter the IP address to be monitored.

When you create an entry, the IP address will be validated. If the address cannot be validated, the entry cannot be completed.

Start Network Watch

Once a location has been added to the Network Location file, you can then start a monitor for i using option #2 or the STRNETW command. The parameters for this command are as follows:

```
E - 3:5250 Display                                                    [_][□][X]
File  Edit  View  Communication  Actions  Window  Help


                        Start a Network Watch (STRNETW)

     Type choices, press Enter.

     Network Location Name  . . . . .    ▮_____      Name
     Check Interval . . . . . . . . .    15____       Minutes 1-1440
     Reminder Interval  . . . . . . .    0___         Minutes, 0-60
     Number of Pings  . . . . . . . .    2__          Number, 1-5
     Notification address . . . . . .    *DFTID_____
     _____
     _____
     _____





                                                                      Bottom
     F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
     F24=More keys

    MA + E                                                            05/037
```
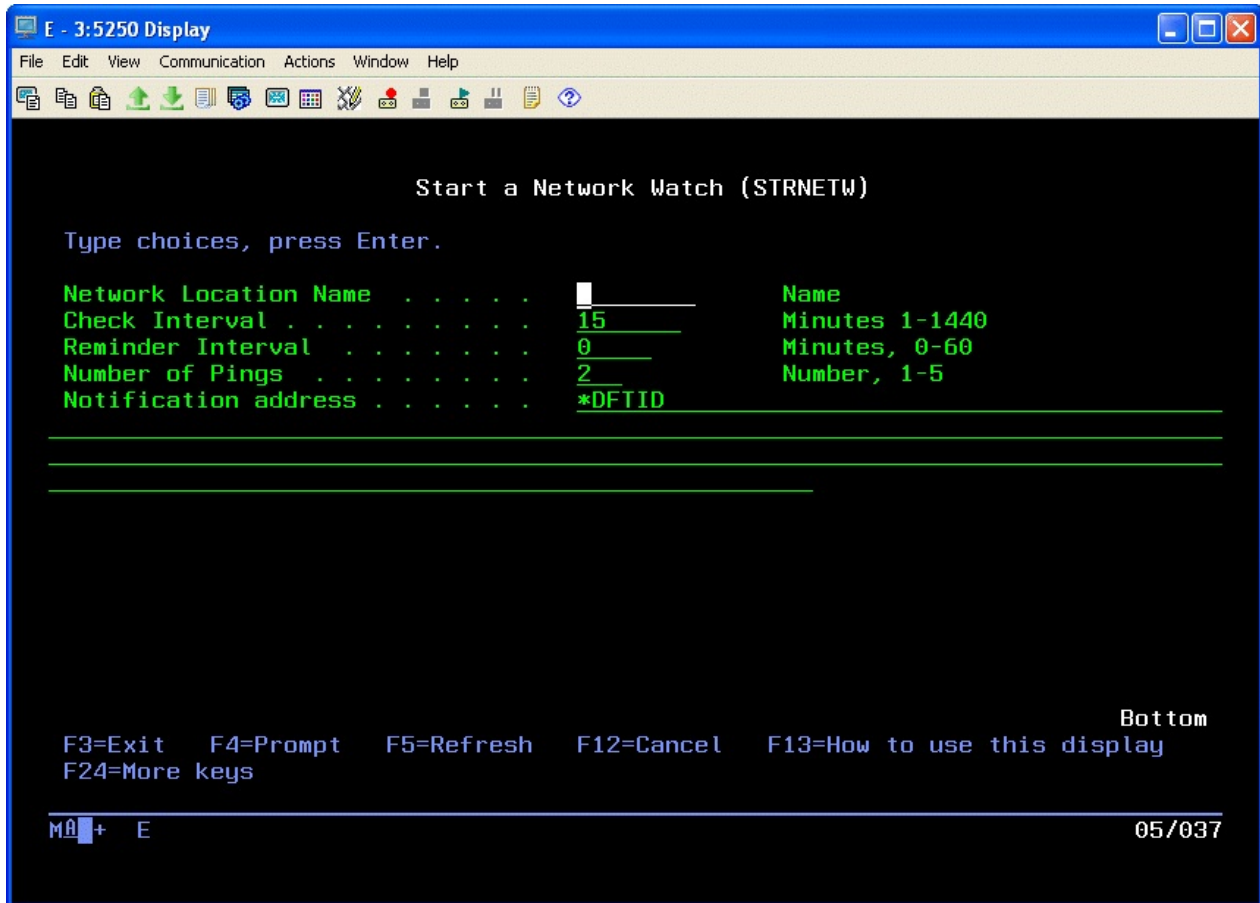
Fill in the parameters as follows:

| | |
|---|---|
| Network Location Name | Enter the 8 character network name that was created in the Network Locations list using option #1 on the NETWATCH menu. A Network Watch can only be run for a location established on this list. |
| Check Interval | Enter how frequently you want iEventMonitor to check the network connection in minutes. |
| Reminder Interval | If you want delayed reminders issued when a problem is found, enter that delay time here in minutes. An entry of zero will cause the alerts to be re-issued based on the INTERVAL setting. |
| Number of Pings | Enter the number of remote pings that you want iEventMonitor to use when checking the network connection. We recommend a minimum setting of at least 2. |

Notification address    Enter the email address that you want use for alert notification when a connection problem is found.  If you use the special value *DFTID, then the default value specified on the IEMSET command will be used.

To specify a user profile, precede the profile with the # character.  For example, to notify QSECOFR, enter the value #QSECOFR.  When an alert is processed, the software will check to see if the user profile is logged into a terminal session and then send them a break message alert.

After you start the Network Watch, the IP address will be tested immediately.  If it passes, then it will be re-tested following each Check Interval time period.  If a problem is found, an alert will be issued.  If the Reminder Interval is left as zero, then each subsequent Check Interval will also issue an alert until the network connection resumes working normally.  If you want to delay subsequent alerts, use the Reminder Interval setting.  For example, you can check a location every 15 minutes (Check Interval = 15), but if a problem is found, only issue a subsequent alert once an hour (Reminder Interval = 60).

Once a Network Watch has been set, you can end it without removing it using the ENDIEM command.  It will be automatically restarted the next time you use the STRIEM command.  You can also manage the Network Watch using the WRKIEM (option #1 on the MASTER menu) function.

Running option #3 on the NETWATCH menu will stop the Network Watch and also remove it from the WRKIEM list of monitors and watches.

<u>Audit Functions</u>

iEventMonitor has the ability to monitor your system for audit events getting logged to the system security audit journal.  You can set up audit monitors for one or more of specific audit events.  For each audit monitor, you can also specify how frequently you want the check for the audit journal entries.

The IBM i/OS contains extensive audit logging capabilities for security related events on your system.  Before you can start checking for these events, the system audit function needs to be activated.  In fact, it may already be active on your system.  To test this, just run the following command from the command line:

DSPJRN JRN(QAUDJRN)

If information is displayed on the screen, then the system audit journal already exists on your system.  If not, it needs to be created.  You can do this by running the following two commands from the command line:

CRTJRNRCV  JRNRCV(QGPL/AUDRCV0001) THRESHOLD(100000)
     AUT(*EXCLUDE)  TEXT('Auditing Journal Receiver')

CRTJRN  JRN(QSYS/QAUDJRN) JRNRCV(QGPL/AUDRCV0001)
     MNGRCV(*SYSTEM) DLTRCV(*NO) AUT(*EXCLUDE)
     TEXT('Auditing Journal')

This process will create the initial journal receiver and then the associated journal.

Once you have either verified that the system security journal exists or you have created it, then you will need to activate the journal features that you are interested in tracking using iEventMonitor.

As of this release, iEventMonitor can issue alerts for the following audit events on your system:

| <u>Audit Code</u> | <u>Description</u> |
| --- | --- |
| AF | Authority failures |
| CD | Command line use for registered user profiles |
| CP | User profiles changed, created or restored |
| OW | Object ownership changes |
| PS | Profile swaps |
| PW | Invalid passwords |
| SO | Server security user information actions |
| SV | System value changes |

To make sure that the items above are correctly captured in the security audit journal, certain system values need to be set.  Use the following command to display the specific system values that you will need to work with:

WRKSYSVAL SYSVAL(QAUD*)

This will display the system values that are use to control audit journals.  Under the QAUDCTL system value, you must have the setting of *AUDLVL set.  In the QAUDLVL system value, you should have a minimum of the *AUTFAIL and *SECURITY settings.  If you want to track object deletes using iEventMonitor, you will also have to add the *DELETE setting.

If you are new to using the system security audit journal, keep in mind that as the journal receivers fill up, they are periodically detached and a new journal receiver is created. Over time, these receivers may end up taking up a lot of space on your system. If you are running iEventMonitor for reporting on events, only the most recent receiver or two will be used. Unless you need the older receivers for other purposes, then can be periodically removed from your system.

## The AUDIT Menu

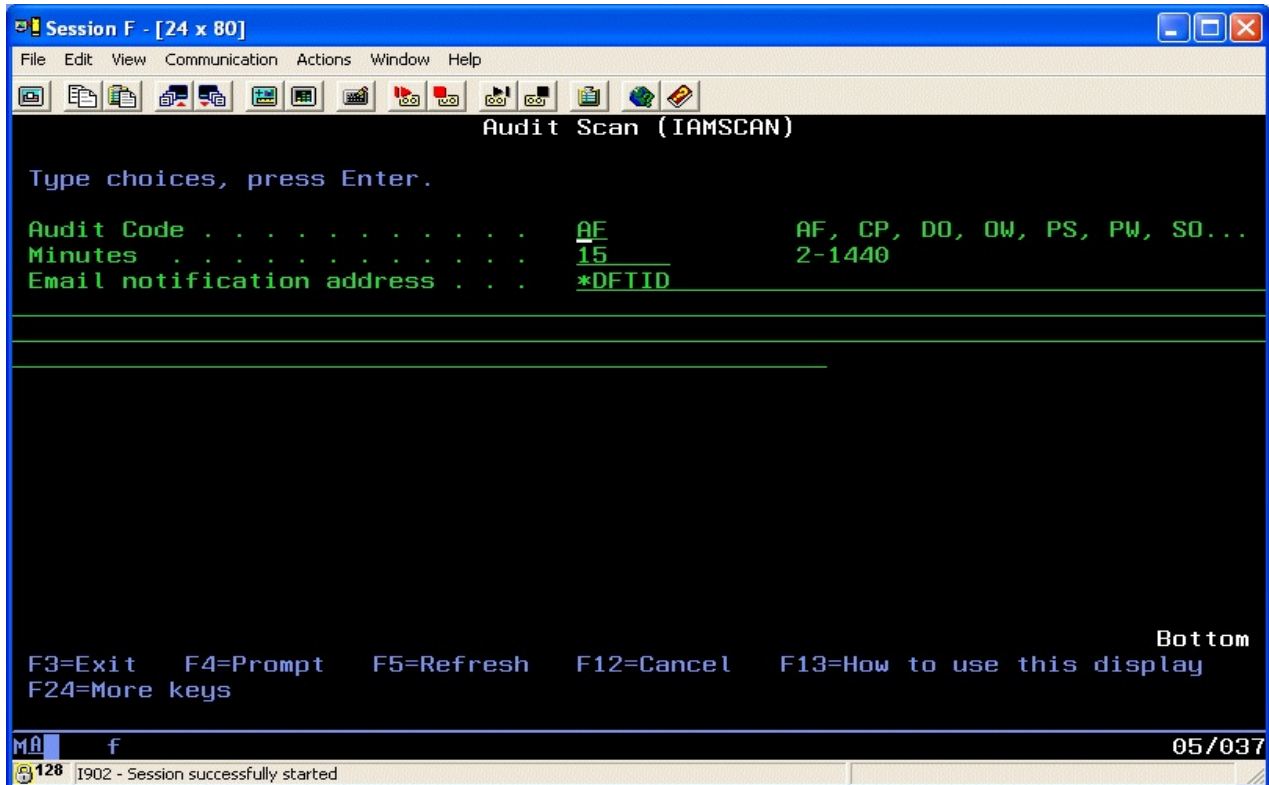The AUDIT menu controls all of the iEventMonitor audit functions:
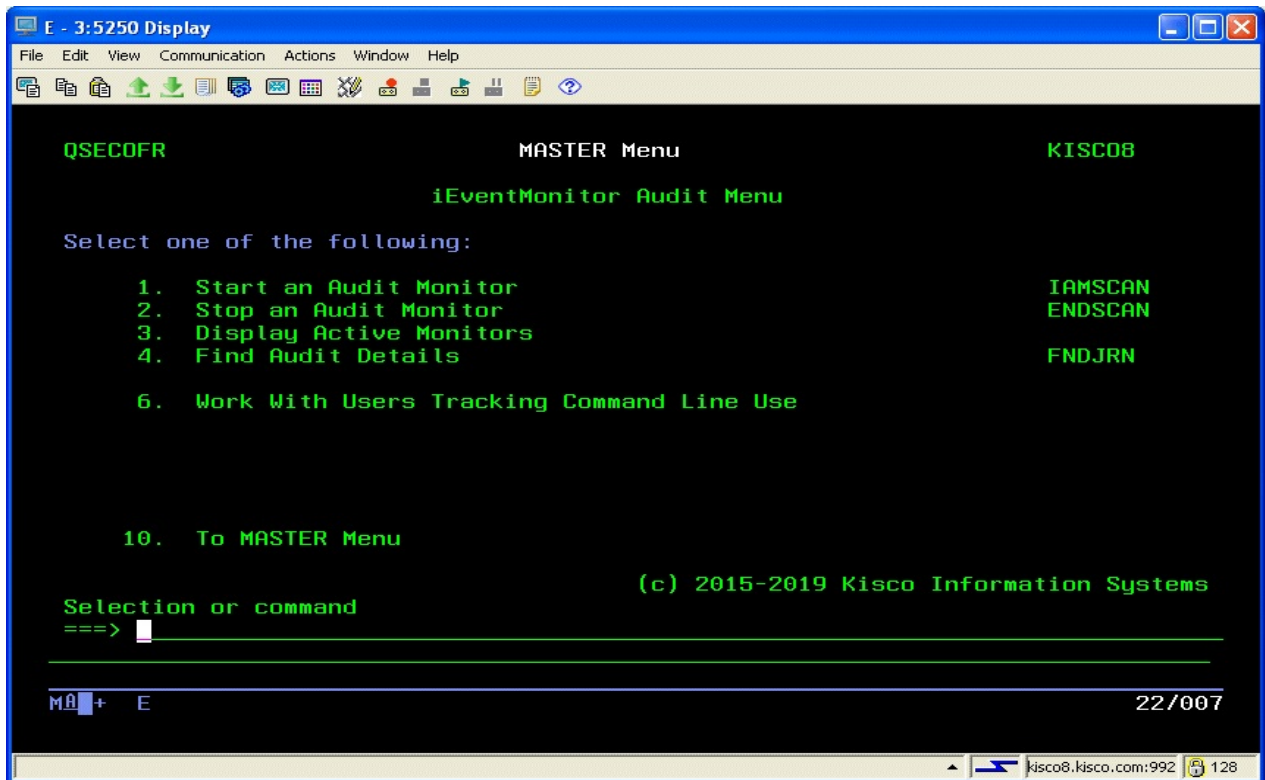


The options on the menu are as follows:

1. Start an Audit Monitor        Starts a specific system security audit monitor task

2. Stop an Audit Monitor        Stops a previously started security audit monitor. Can also be used to stop all active audit monitors at once.

3. Display Active Monitors        Displays active iEventMonitor tasks including the audit monitors. Audit monitors will display with a job named of XXMONIT where the XX will be the specific audit code selected with the monitor was started.

4. Find Audit Details        Used to drill down and find more details about a specific audit event that was reported by iEventMonitor.

6. Work With Users Tracking        Register and un-register user profiles for command line Command Line Use        use tracking purposes.

Starting an Audit Monitor

To start an audit monitor task, select menu option #1 from the AUDIT menu or you can use the use the IAMSCAN command in library IEMLIB.  The following will be displayed:



Enter the parameters as follows:

| | |
|---|---|
| Audit Code | Select the two character audit code that you want to track using iEventMonitor.  You can use the HELP key (or F1 key) to see an explanation for each code. |
| Minutes | Enter a numeric value between 2 and 1440.  This will be the time delay between tests for the monitored audit information.  For example, if you choose a value of 2 minutes, then iAuditMonitor will check for the specified audit code every 2 minutes.  A value of 1440 will cause the audit event to be checked once per day. |
| Email | Enter the email address that you want use for alert notification when an audit event is found.  If you use the special value *DFTID, them the default value specified on the IEMSET command will be used. |
| | To specify a user profile, preceed the profile with the # character.  For example, to notify QSECOFR, enter the value #QSECOFR.  When an alert is processed, the software will check to see if the user profile is logged into a terminal session and then send them a break message alert. |

Press ENTER and iEventMonitor will start your audit monitor. Every time period specified by the "Minutes" parameter, iEventMonitor will check for the specified audit events in the system audit journal. If any are found, an email will be generated and sent to the default email list active on the IEMSET command (option #9 on the INSTALL menu). If no events are identified, no alert notice will be sent.

<u>Stoping an Audit Monitor</u>

Once and audit monitor has been started, you can stop is by selecting option #2 on the AUDIT menu or by using the ENDSCAN command:



To end a specific audit monitor, use the same Audit Code that was used when the monitor was started. You can also choose to stop all active audit monitors by using a single command with the *ALL option. Using the ENDSCAN command will remove these Audit Monitors from automatic restart processing.

Tracking Command Line Use

The CD option audit tracking option will monitor command line use for user profiles that are registered in the iSeries OS.  Option 6 on the AUDIT menu lets you see which user profiles are currently configured for command line tracking.  It will also let you add a user profile or remove a user profile from the list.

When you start menu option #6, the following display will appear:
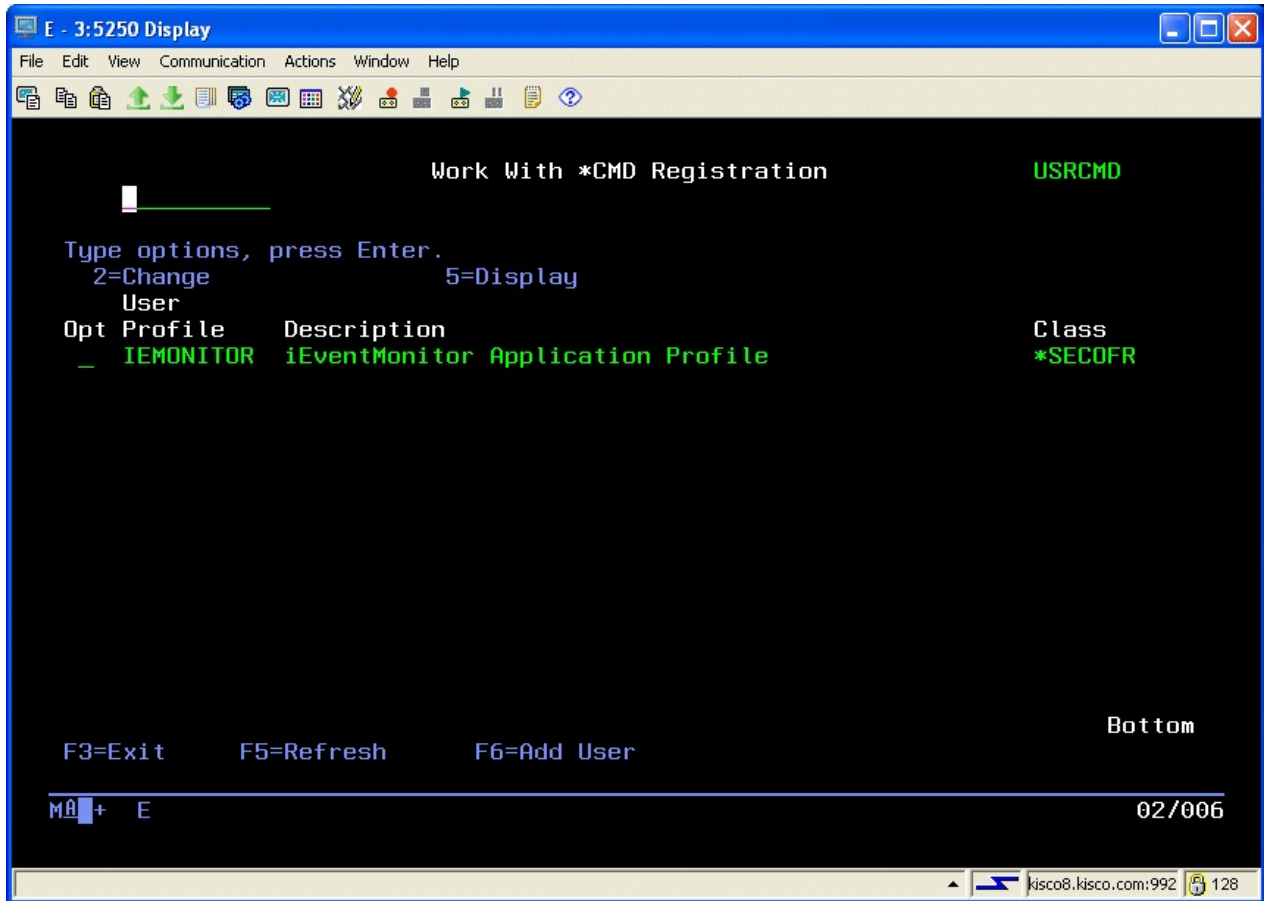


When you first start this option, any user profiles already registered for command line audit tracking will be shown.  If no users are registered, the display will be empty.

Note that this information is all stored in the iSeries OS and not in iEventMonitor.

When you add a user profile to this list, all command line activity that uses a CL command, including commands used in called CL programs, will be tracked by iEventMonitor and reported as an alert at the specified interval with the audit watch.

To add a new user profile to the list, yse the F6 function key.  The following screen will be displayed:

```
  E - 3:5250 Display                                                    _ □ X
File  Edit  View  Communication  Actions  Window  Help


  UPDATE                    Work With *CMD Registration              USRCMD



 Type information, press Enter.


   User profile to add for *CMD tracking: █_____










   F3=Exit       F5=Refresh                      F12=Cancel
 MA +  E                                                         08/042
```
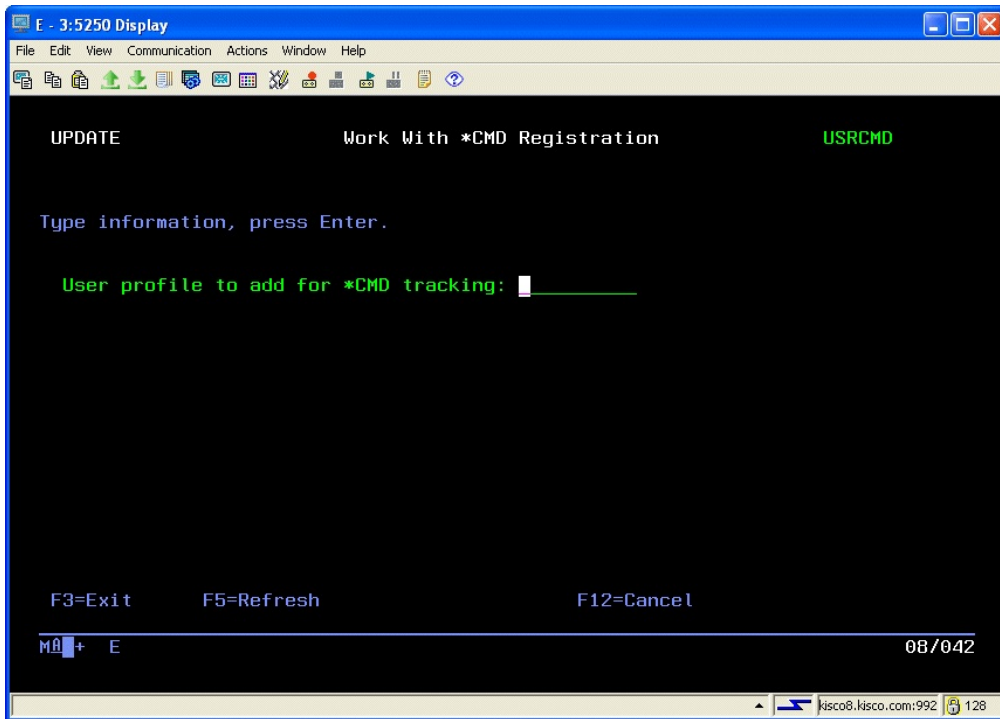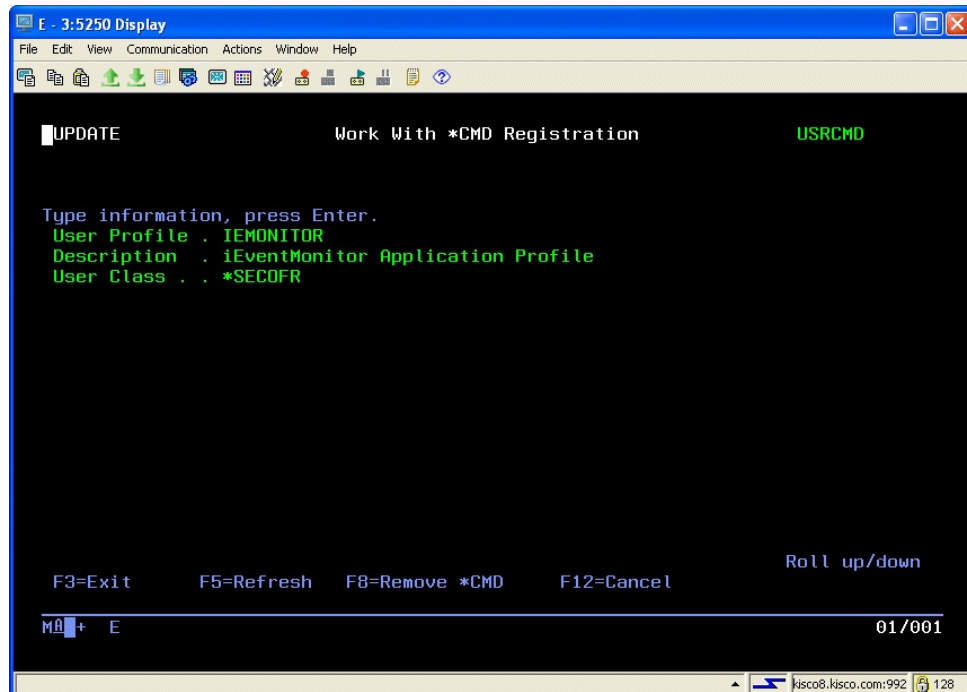
Enter the user profile you want to register and press ENTER.  You will then be returned to the AUDIT menu.  Run option #6 again to confirm that the user profile is now registered.

To remove a registration, place a 2 (Change) next to the user profile and press ENTER.  The following will be displayed:

```
  E - 3:5250 Display                                                    _ □ X
File  Edit  View  Communication  Actions  Window  Help


 █UPDATE                    Work With *CMD Registration              USRCMD



 Type information, press Enter.
   User Profile . IEMONITOR
   Description  . iEventMonitor Application Profile
   User Class . . *SECOFR










                                              Roll up/down
   F3=Exit       F5=Refresh     F8=Remove *CMD     F12=Cancel
 MA +  E                                                         01/001
```

Confirm that the user profile shown is the one that you want to remove from the list.  If it is correct, press the F8 key and the user profile will be removed from the list and the AUDIT menu will be re-displayed.  Run option #6 on the AUDIT menu again to confirm that the user profile has been removed from the list.

Finding More Details for an Audit Event

When an audit monitor reports an event, or a series of events, a report is attached to the email that is sent. In most cases, the exact nature of the event is apparent from the information reported with the email. In some cases, however, you may want to research more and see all of the information reported in the security journal.

To find and display the details for a specific event, use option #4 on the AUDIT menu or you can also use the FNDJRN command:
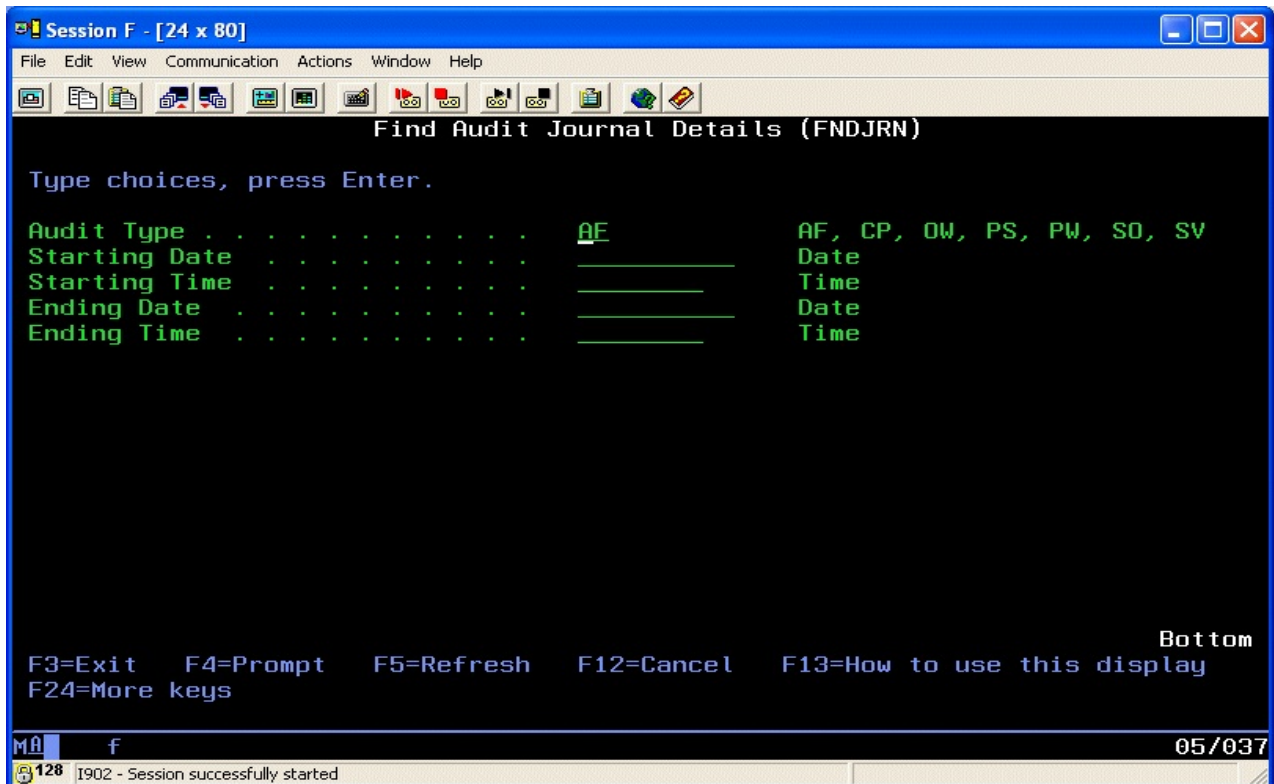


Fill in the parameters as follows:

Audit Type    Enter the code for the event that you are tracking with this inquiry

Starting Date   To zero in on the event on the system audit journal, enter the date that was reported with the event by iEventMonitor. If you leave the starting date blank, all matching events will be shown

Starting Time   Enter the time that you want to start the display with. If you leave this blank, all events from the starting date will be shown.

Ending Date   To limit the amount of information displayed, enter the same date as the starting date.

Ending Time   You can also limit the amount of information displayed by specifying an ending time

When you find the specific audit record that you are looking for, you may have to refer to IBM security journal documentation to fully understand the information displayed.  If you have difficulty with this, feel free to contact support at Kisco Information Systems for additional help.

<u>Installation and Configuration</u>

<u>Installation from Media</u>

You can install iEventMonitor from CD by following these easy instructions:

**Note**: If you are upgrading to iEventMonitor Release 3 for the first time from Release 2, make sure you review the "Note For Customers Upgrading from Release 2" on page 2 of this user's guide.

1.  Sign on using the QSECOFR user profile.

2.  Check the following system values.  They should be set as indicated here.  If they are not, note the current settings then change them to these settings:

    QALWOBJRST - *ALL
    QVFYOBJRST - value 3 or lower
    QFRCCVNRST - value 0

    **Note**: If you have to change any of these system values, make note of the original setting and make sure that you set them back to the original setting immediately following this installation process.

3.  Place the installation CD in your system's CD reader and key the following command:

    **LODRUN DEV(xxxx)**

    where xxxx is the name of your CD drive (normally "OPT01").

4.  During installation, iEventMonitor does the following:

    ● Checks to see if this is a new install or an update install.
    ● Creates a user profile named IEventMonitor.  It is created with no password and in *DISABLED status.
    ● Creates an authorization list named IEMONITOR which is used to secure all objects in the application
    ● For update installs, the old iEventMonitor program library is saved in library IEMLIBOLD and history information  is transferred to the newly installed library.
    ● For new installs, the software is initialized for the free 30 days trial period.
    ● Additional documentation is printed which covers topics that have been added or changed since this user documentation manual was last printed.

5.  When the command finishes, the iEventMonitor Master Menu will be displayed.

6.  If you changed any system values at step #2, reset them back to their original values now.

7.  On an initial software install, option #9 on the INSTALL menu MUST BE RUN.  The email addresses on that display must be set before you use the software.

8.  Also on an initial software install, option #8 on the INSTALL menu MUST BE RUN.  In order for specific users to have access to use iEventMonitor, they must be given permission here.  Review the related section of this manual about security for more details.

When the procedure finishes, your copy of iEventMonitor will be successfully installed for your

thirty day trial period. At the end of the trial period, iEventMonitor will cease functioning until either an extension password or a permanent password is entered. The additional documentation printed during the installation covers features and functions that have been added or changed since your copy of the manual was released. Before using iEventMonitor, please review this manual and the additional documentation in detail.

If you upgraded from an earlier release of iEventMonitor, you may delete the library named IEMLIBOLD created during the installation after you are certain that the new release is working to your satisfaction. Kisco recommends keeping the IEMLIBOLD library on your system for a period of at least two weeks.

Before you start using iEventMonitor for the first time, we recommend a full review of the documentation plus a review of the default values setup. This is done using the IEMSET command from the INSTALL menu (option #9). These values should be set the way you want before you start using the product.

___

iEventMonitor Removal

Removing iEventMonitor may happen when doing a license transfer to a different system or when you have decided not to go ahead with a purchase following a free trial.

Before you remove iEventMonitor from your system you must first run option #15 on the INSTALL menu (Remove Message Handling Exit Program). Once this has been done, then the application library name IEMLIB can be safely removed and the software will be removed.

___

Release Upgrade Installation

When Kisco Information Systems completes work on a new Release of iEventMonitor, you will be notified of the availability for the new release. New releases are normally shipped via the Internet but on request, Kisco can ship a fresh install CD.

To install an upgrade from media received from Kisco Information Systems, follow the instructions provided along with the upgrade install media.

___

Installation from Internet

We recommend that you use the install instructions from the iEventMonitor Download web page. After you download the install file from the website, print the Download page and use it for reference while completing the installation.

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SMTP Port# Variable

iEventMonitor allows you to specify a non-standard port number for SMTP when sending alerts by email. If your system uses port 25 (which is a standard industry practice and applies to most installations), then you do not need to do anything.

If you want to use a different SMTP port number, it is stored in the data area named IEMCONTROL in the IEMLIB library.  The value is in positions 796-800 and is expressed in hexadecimal.  You can use the following command to make changes:

  CHGDTAARA DTAARA(IEMLIB/IEMCONTROL (796 5)) VALUE(X'0000000019')

Note: the above command sets the SMTP port# to 25, the default value.

The Install Menu

When you select item 20 from the MASTER menu, the installation menu is displayed as follows:



Menu items perform the following functions.  Each function is discussed in greater detail later in this document:

1. Run initial install procedure -     Do not use this option unless directed to do so by Kisco Support staff.  This option is automatically run during normal install processing.

2. Display installation status -     Displays a screen showing the current installation status for the software.

3. Change installation status -     Displays the current software installation status and allows for changes to be made.

4. Print documentation -     Prints this documentation manual to the default print device.

5. Check Version Information -     Displays information about the specific version of iEventMonitor that is installed on your system.

6. Purge iEventMonitor Activity Log Lets you purge the activity log using the DSPLOGPRG command.

7. Install Kisco PTF package -    Allows you to process a corrective PTF package received from Kisco for program fixes.

8.  Work With Authorized Users -    Allows you to maintain which user profiles are allowed to use the iEventMonitor product features.

9. Set iEventMonitor Values    Lets you set up default settings for iEventMonitor.

10. Send Test Email Message    Sends a test email message to the email address that you provide.  Used when getting email notification configured.

15. Remove Message Handling Exit Program

    Only used when removing iEventMonitor from your system. **DO NOT USE** at any other time.  This option makes sure that the exit program using for message queue reminders is no registered in the IBM i OS exit registration.

20. To MASTER Menu -    Will display the iEventMonitor MASTER menu.


Details on each of these menu options are covered in the following sections of this documentation.

Display installation status

At any time, you can check the current installation status of your copy of iEventMonitor by selecting this menu option. You must be signed on with security authority of QSECOFR or equivalent. The following screen will be displayed:



The message at the center of the screen indicates your current installation status. You should also check the Sec. expire date for an expired trial period. iEventMonitor may still show as installed on a trial basis but, if the trial is expired, it will no longer function.

The following are the possible status messages that can appear on this display:

| Message | Explanation |
|---|---|
| Z-001 NOT INSTALLED | Trial installation not started |
| Z-002 TRIAL EXPIRED | Trial period has ended |
| Z-003 PERMANENTLY INSTALLED | Software is permanently installed |
| Z-004 INSTALLED ON TRIAL | Software is installed on trial |
| Z-005 PASSWORD NOT ACCEPTED | Password keyed is not valid |
| Z-006 WRONG LIBRARY | Programs must run from our library |
| Z-007 PLEASE RUN TRIAL INSTALL | Must have trial install before perm. |
| Z-008 INVALID INSTALL REQUEST | Must be P or T |
| Z-009 INVALID SECURITY (REC#6) | Call Kisco |
| Z-010 INVALID SECURITY (NO ZZ) | Call Kisco |
| Z-011 INVALID SECURITY (HASH.) | Call Kisco |

Change installation status

To make changes to your installation status, use this menu option.  The changes processed can include both a trial period extension and permanent installation.  You must be signed on with QSECOFR security authority or equivalent.  When you select this option, the following screen is displayed:



```
Session F - [24 x 80]

File   Edit   View   Communication   Actions   Window   Help

        Free Trial -- Dynamic Software Security -- INSTALLATION Procedure


        Installation for       IEMLIB        Developer ID code   KISCO

                                             Current Library     IEMLIB
        Machine serial number    78FEDEW     Sec.serial number    78FEDEW
                                             Sec.install date.   170622
        Machine run date....     180228      Sec.expire date..   999999
                                             Sec partition....   001

           Security Status PERMANENTLY INSTALLED....Z-003


        Please enter:

        Type of install .....   _           T for trial, or P for permanent

        Install password ....   ,,,,,,,     Blank for trial, or permanent password
        New expire date......   ,,,,,,,     Blank for trial, or 999999 for permanent

        Cm3,7-Return to menu         HELP              ENTER-process installation

                                        Free Trial (c)1990, 1992 Monahon
MA      f                                                              17/031
128  I902 - Session successfully started
```

Trial extension

To extend a trial period, contact Kisco Information Systems and request an extension.  We will provide you with an extension password and new expiration date.  On the above screen, enter the following:

| | |
|---|---|
| Type of install | Enter 'T' for trial |
| Install password | Enter all six digits of the extension password provided, including any leading zeros |
| New expire date | Enter the new expiration date in the format YYMMDD (ie: Jan 12, 2014 would be 140112) |
| User count | Enter the number of users that you are authorized for from Kisco |

When the parameter fields have been completed, press enter to reactivate your software.

## Permanent installation

To permanently install your software package, use the permanent password provided by Kisco Information Systems following receipt of payment.  On the above screen, enter the following:

| | |
|---|---|
| Type of install | Enter 'P' for permanent |
| Install password | Enter all six digits of the extension password provided, including any leading zeros |
| New expire date | Enter all 9's (ie: 999999) |
| User count | Enter the number of users that you are authorized for from Kisco |

When the parameter fields have been completed, press enter.  Your software is now permanently installed.

## Print additional documentation

At any time, you can reproduce the additional documentation by using this menu option.  A full copy of the additional documentation topics will be printed.

## Check Version Information

This menu option will display the current release level and PTF information for your version of iEventMonitor.  The developer may need to verify this when working with you on a support issue.

Install Kisco PTF Package

iEventMonitor supports distribution of program updates remotely via the Internet.  When programs in iEventMonitor are updated or program fixes are required, Kisco Information Systems can send the updates directly to you via the Internet.  If needed, we will send E-mail to you with an attached PC file.  This file, when loaded into a folder on your system, can be used to post program updates and changes to your copy of iEventMonitor.

When you receive a PTF update package from Kisco, you will be given an eight character PTF Package Name.  To load and apply the PTF to your system, follow these steps:

| Step# | Instructions |
|---|---|
| 1. | Create a folder on your system named KISCO.  You can do this with the following command:<br><br>CRTFLR FLR(KISCO)<br><br>Note: This folder only has to be created the first time you install a PTF.  If you have other software products from Kisco Information Systems, they all use this same folder. |
| 2. | From a PC that is attached to your system, move the PTF Package file that you received from Kisco into this folder.  If you are not familiar with this process, please check the following URL at the Kisco website for specific instructions:<br><br>http://www.kisco.com/pctoflr.htm |
| 3. | Sign on to any terminal or terminal session as QSECOFR or equivalent. |
| 4. | Make sure that no iEventMonitor functions are in use and that no users are logged into any iEventMonitor menu. |
| 5. | Run option #7 from the INSTALL menu. |
| 6. | The command will prompt for two values.  The first is the name of the iEventMonitor application library and should not be changed.  The second parameter must contain the eight character name of the PTF Package File.  When both parameters are set, press ENTER and the PTFs will be loaded and applied to your copy of iEventMonitor. |
| 7. | All Kisco PTFs are loaded so that the prior version of any program objects is saved.  This will allow for the effects of a PTF to be reversed at a later time should a defect be identified in the PTF.  This can only be done via direct instruction from a Kisco support representative. |

During the PTF installation process, one or two printouts will be created.  The first of these will be the PTF Cover Letter Documentation.  The second is optional and, if printed, will be a fresh update of the additional documentation topics for all iEventMonitor changes.  Kisco recommends that you read both documents before starting to use iEventMonitor again.

Work With Authorized Users

When iEventMonitor is initially installed, it can only be used by a user profile with *ALLOBJ authority (such as QSECOFR).  To grant access to use iEventMonitor to users who do not have *ALLOBJ authority, use option #8 on the INSTALL menu or use the WRKIRMUSR command:
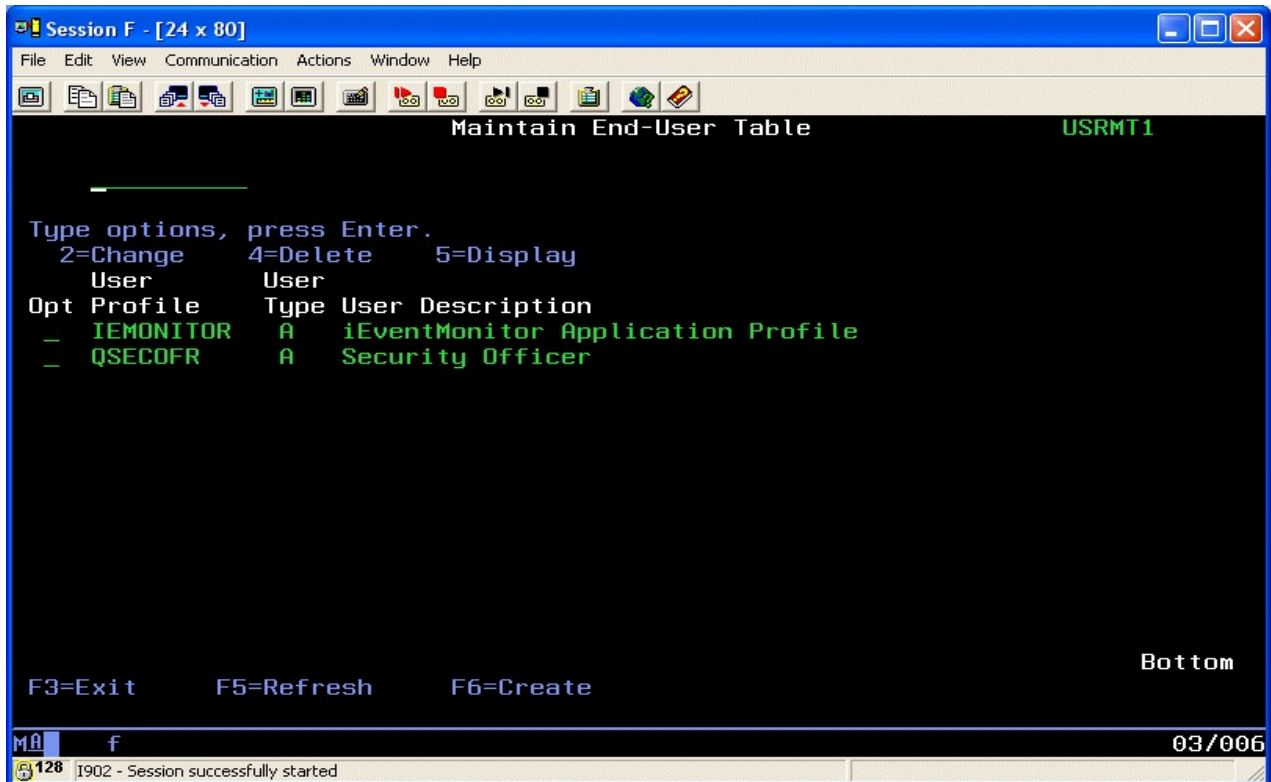


As shipped from Kisco Information Systems, the user profiles QSECOFR and IEMONITOR are automatically granted access to use iEventMonitor.  Do not remove either of these entries.

To add a new user to the list of those who can use the software, select the F6 function key:



```
ADD                          Maintain End-User Table                    USRMT1


Type information, press Enter.
  User Profile . . . . . . . . . . . . .    _____
  User Type  . . . . . . . . . . . . . .    U A=Admin/U=User Only
```
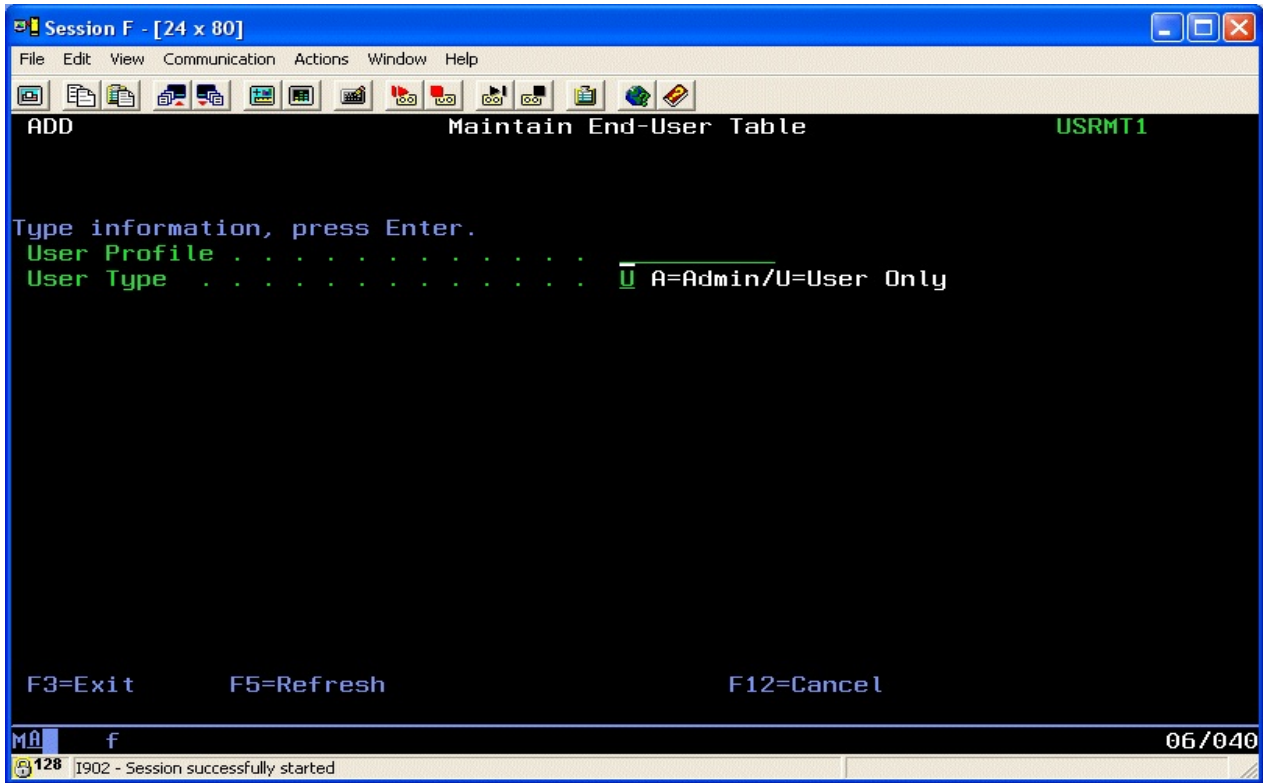
To authorize your additional user profile, enter the profile here.  You must also then specify the type of user you want them to be as follows:

| | |
|---|---|
| User Type A | Is an administrative user.  An admin user can use all functions and features of the iEventMonitor software product. |
| User Type U | Is a user.  All functions of iEventMonitor are available to them except for option #8 on the INSTALL menu. |

This allows you to let specific users use iEventMonitor, but restricts granting and removing this permission to just those user who are categorized as administrative users.

<u>iEventMonitor Default Values</u>

Choose menu option #9 from the INSTALL menu to set default values.  The following prompt will be displayed:

```
 E - 3:5250 Display
File  Edit  View  Communication  Actions  Window  Help


                    Set iEventMonitor Values (IEMSET)

    Type choices, press Enter.

    Message Que Read Delay . . . . . > 02           Seconds (01-30)
    Prime Shift Start Time . . . . . > 900          0000-2400
    Prime Shift End Time . . . . . . > 1700         0000-2400
    Include Job Info in Alert? . . . > *YES         *YES, *NO
    Default Notification Address . . > me@mycompany.com



    Alternate Notification Address   > *NONE



    Support Email Address   . . . . . > support@mycompany.com

    Support Name Description . . . . > 'ABC Company Support'

                                                            More...
    F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
    F24=More keys

   MA + E                                        ^            05/037
```

Set these parameters as follows:

| | |
|---|---|
| Message Que Read Delay | This is a value, in seconds, of the delay time between when iEventMonitor will check for a new message in the message queue.  You must select a value between 1 and 30 seconds. |
| Prime Shift Start Time | Defines your primary shift starting time expressed in 24 hour clock format (hhmm). |
| Prime Shift End Time | Defines your primary shift ending time expressed in 24 hour clock format (hhmm). |
| Include Job Info in Alert? | This option can add more information to each message queue monitor alert notification.  With this option activated, the job name, job number and user profile for the job issuing the message to the message queue will be included in the notification. |

Choose one of the following values:
*NO    No additional logging will be done.
*YES  The additional logging information will be posted to
       the joblog and to the system history log.

Default Notification Address  This is the email address field that will be used by
iEventMonitor whenever the special value *DFTID is used
for an alert.  Enter up to 200 characters in the field.  Enter an
email address, user profile or a combination of values.
Separate the values by a semi-colon character (';').

When specifying a user profile, precede it with the #
character.  For example, if you want to send a notification to
the QSECOFR profile, enter it as #QSECOFR.  When a user
profile is used, the software will check to see if the user is
signed onto your system and a break message will be sent to
each session located.

Alternate Notification Address   Enter the email address information that you want to use
for off-shift notifications locations.  You can stack multiple
addresses in the field as long as the total length does not
exceed 200 characters.  Separate the email addresses by a
semi-colon (';')  character.

To specify a user profile, preceed the profile with the #
character.  For example, to notify QSECOFR, enter the value
#QSECOFR.  When an alert is processed, the software will
check to see if the user profile is logged into a terminal
session and then send them a break message alert.

\

If you do not want to use the off-shift notification process,
enter the special value *NONE here.

Support Email Address  Enter a single email address.  This address will be used with
all alert emails as the "from" email and the "reply-to"
address.

Support Name Description  Enter a name description that you want to show up on the
email as the sender of your alert notices.

Press the roll-up key once to access additional parameters on the next screen panel as follows:

Default Alert Subject  Enter the standard email Subject text that you want used for
all alert notices.  If you are using iEventMonitor on multiple
systems or partitions, you might want to have each install use
a Subject that identifies the system that it is coming from.

**Note:**  If you use either the header or trailer option, additional text will be included
in all alerts.  If you are routing alert messages by text, this could result in
incomplete alert information when text size is limited by a cell carrier.

Optional Alert Header Text   Enter up to 80 characters that you want added as the first line header of every alert message that is issued.  If you use the special value of *NONE, no first line header will be included in the alert.

Optional Alert Trailer Text   Enter up to 80 characters that you want added as the last line trailer of every alert message that is issued.  If you use the special value of *NONE, no last line trailer will be included in the alert.

Off-Shift Days   If you are using the off-shift alternate notification feature and you want to define certain days of the week as off shift all day (such as Saturday and Sunday), enter those days here. You can enter up to 5 values.  Use the standard system values for the days of the week (*MON *TUE *WEB *THU *FRI *SAT *SUN).  If you do not want any days to be considered as off-shift all day, use the special value *NON for none.

**Note**: Before you can use email alerts in iEventMonitor, a test email must be successfully sent from your system using option #10 on the INSTALL menu.

Send Test Email Message

iEventMonitor sends alerts via email.  To check to make sure that the email transport mechanism is working on your system, an option is available on the INSTALL menu to send a test message by email.  To send a test email using iEventMonitor, select option #10 on the INSTALL menu.  The following prompt field will be shown:
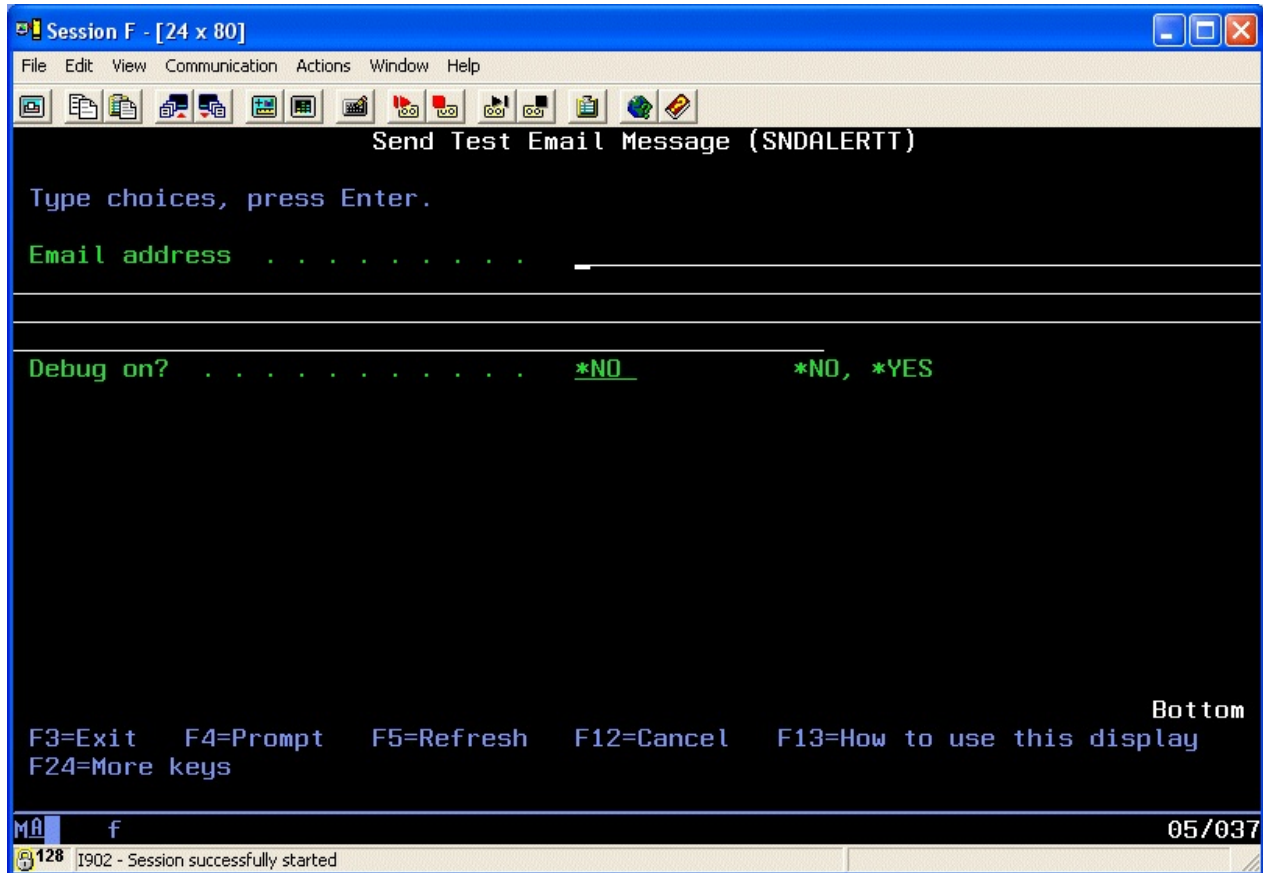


Enter a valid email address where you want to send the test and press ENTER.  During the initial processing of the request, several system configuration tests will be run to make sure that the basic email environment needed for iEventMonitor is valid.  Watch for these initial error messages.  Once those tests are completed, then the test email transmission will be done.

If the email gets delivered, then you know that the process is configured correctly and will work.  If no email arrives or if you get an error message, enter the following command:

    DSPJOBLOG

When the display comes up, press F10 and then F18.  This will display details from your session joblog that should contain diagnostic information about what may have failed.  If you need help with this, contact Kisco Information Systems.  Kisco may want to see the detailed joblog at this point.  You can generate a detailed joblog using the following command:

    DSPJOBLOG OUTPUT(*PRINT)

This will place the joblog in the output queue named QEZJOBLOG.  Kisco will want you to email this to them for review.

There is also a debug option.  If the joblog does not reveal the source of the issue, try repeating the test with the debug option set to *YES.  This will generate a short 2-3 page listing to you session output queue.  Review that listing for clues as to what might be causing your email delivery to fail.

Optional Activity Trace

iEventMonitor includes an option that will let you trace successful alerts created by iEventMonitor.  With the trace active, every successful alert issued by iEventMonitor will be noted in the joblog for the respective alert task with a copy of the trace being recorded in the system history log.  You can view entries in the system history log using the DSPLOG command from IBM.

To activate this option, just run the following command:

CHGDTAARA DTAARA(IEMLIB/IEMCONTROL (627 1)) VALUE('X')

To deactivate it once it has been started, run the following:

CHGDTAARA DTAARA(IEMLIB/IEMCONTROL (627 1)) VALUE(' ')