

iEventMonitor

Version 6.00

As of February 2022



**Kisco Systems, LLC
54 Danbury Road, #439
Ridgefield, CT 06877**

Phone: (518) 897-5002
E-mail: Sales@Kisco.com
WWW: <http://www.kisco.com>
Customer Support: <http://www.kisco.com/iem/support>

© 2015-2022 Kisco Systems, LLC

Table Of Contents

| | |
|---|-----------|
| Introduction | <u>1</u> |
| Overview | <u>1</u> |
| Quick Start | <u>2</u> |
| What's New in Release 6 | <u>3</u> |
| What Was New in Release 5 | <u>3</u> |
| What Was New in Release 4 | <u>4</u> |
| Note For Customers Upgrading from Release 2 | <u>4</u> |
| Off-Shift Default Notification Feature | <u>5</u> |
| Installation and Security | <u>6</u> |
| Kisco Software Support | <u>6</u> |
| World Wide Web Support | <u>7</u> |
| The Master Menu | <u>8</u> |
| iEventMonitor Automatic Restart Feature | <u>9</u> |
| Work With iEventMonitor Tasks | <u>10</u> |
| Send An Alert | <u>12</u> |
| Start a Message Que Monitor | <u>14</u> |
| User Exit Program Feature | <u>17</u> |
| Suppressing Duplicate Message Queue Alerts | <u>18</u> |
| Responding To Error Messages | <u>19</u> |
| Stop a Message Que Monitor | <u>21</u> |
| Maintain Message ID Exceptions | <u>22</u> |
| Maintain Message Overrides | <u>24</u> |
| File Monitors | <u>27</u> |
| Display Activity Log | <u>30</u> |
| Watch Functions | <u>31</u> |
| Message ID Watch | <u>34</u> |
| Watch Task Exit Program Option | <u>36</u> |
| ASP % Watch Function | <u>38</u> |
| Job Watch Function | <u>41</u> |
| Job Queue Watch | <u>45</u> |
| Utilization Monitor | <u>48</u> |
| User Profile Watch | <u>50</u> |
| Mutex-Wait Watch | <u>53</u> |
| Output Queue Watch | <u>55</u> |
| Lock Wait Watch | <u>57</u> |
| Excluding Jobs From Lock Wait Watch | <u>58</u> |
| Network Functions | <u>60</u> |
| Maintain Network Locations | <u>61</u> |
| Start Network Watch | <u>63</u> |
| Connection Watch | <u>65</u> |
| Audit Functions | <u>69</u> |
| The AUDIT Menu | <u>70</u> |
| Starting an Audit Monitor | <u>72</u> |
| Stopping an Audit Monitor | <u>74</u> |
| Tracking Command Line Use | <u>75</u> |
| Finding More Details for an Audit Event | <u>78</u> |
| Installation and Configuration | <u>80</u> |
| Installation from Media | <u>80</u> |
| iEventMonitor Removal | <u>81</u> |
| Release Upgrade Installation | <u>81</u> |
| Installation from Internet | <u>81</u> |

| | |
|--------------------------------------|--------------------|
| SMTP Port# Variable | 81 |
| IEM Respond Configuration | 82 |
| The Install Menu | 85 |
| Display installation status | 87 |
| Change installation status | 88 |
| Permanent installation | 89 |
| Print additional documentation | 89 |
| Check Version Information | 89 |
| Install Kisco PTF Package | 90 |
| Work With Authorized Users | 91 |
| iEventMonitor Default Values | 93 |
| Send Test Email Message | 97 |
| SIEM Feed Option | 98 |
| Optional Activity Trace | 98 |
| SETALT Command | 99 |

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 alert 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 much, much more.

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**.

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)
- optional ability to respond to error messages remotely, included with the software
- 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) or file opens
- 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.

Quick Start

If you are familiar with the IBM i OS and most IBM i software, you can get iEventMonitor up and running successfully using the following steps. Detailed documentation on each of the iEventMonitor features and functions follows for more specific details.

Step 1: Install the software using the instructions provided with the software and documentation download.

Step 2: At the end of the install process, the IEMSET command will be prompted. Before you leave this command, make sure that you enter the following parameters:

| | |
|---------|--|
| DFTID | Enter a valid email address where you want alerts to be sent. This will be used as a default address in all of the features. |
| SUPTID | Enter a valid email address. For alerts, this will be the address that can be used to reply to an alert. |
| SUPTEXT | Enter a text description. This will show up on an email alert as the sender of the email |
| DFTSUBJ | Enter a text description to be used as the alert email Subject. |

The other defaults can be used for now. You can use the HELP key (F1) to get a description of each of the settings here. You can always come back to these settings using option #9 on the INSTALL menu.

Step 3: To verify that the email configuration is working correctly, run option #9 on the INSTALL menu to send a test email. If you find any problems, you will find some tips about typical issues with iEventMonitor email at the following link:

<http://www.kisco.com/emailconfig.htm>

Step 4: Most customers want to monitor the QSYSOPR message queue for error messages that need to be dealt with. The message queue monitor feature uses the IBM i OS watch feature. This depends on having the QUSRWRK subsystem active. Run the following command on your system to verify that this subsystem is active:

```
WRKACTJOB SBS(QUSRWRK)
```

If the subsystem is not active, it should be started.

Step 5: Go to the MASTER menu and run option #2 to start a message queue monitor for QSYSOPR. We recommend that you start with the severity filter set to 50. When just starting out, you can use the other default values.

At this point, you can continue to explore other monitors and watches once the above are working to your satisfaction.

If you have specific questions, you may find a quick answer at the following “Frequently Asked Questions” section of our support website for iEventMonitor:

<http://www.kisco.com/iem/support/iemfaq.htm>

What's New in Release 6

The following features and capabilities have been added to iEventMonitor with Release 6:

- The user profile logon/off watch has been enhanced to let you hide the user profile being watched from system users.
- A new alert escalation option has been added to the message queue monitor feature that lets you issued reminder alerts to a wider audience than your standard alert addresses.
- The Watch Task feature has been enhanced to let you watch for specific message Ids in the System History Log.
- All monitor and watch features now allow for an alternate alert subject text that can be unique to each task when it is started.
- When printing the Activity Log, you can now specify selection criteria to only show selected dates or a date range.
- The message queue monitor has been changed to suppress duplicate alerts issued within a given period of time. Initially, this is set to 5 minutes. See the documentation for more details.
- Five additional security audit codes have been added to the Audit Monitor feature including AD (Auditing changes), AX (Row and column access control), DS (DST password reset), EV (System environment variables) and ST (Use of service tools)
- The ASP Watch for specific storage levels has been modified with a reminder option if the over limit condition is not resolved within a given period of time.
- A specific message ID for a given job can be suppressed even if it qualifies for an alert.

What Was New in Release 5

The following features and capabilities were added to iEventMonitor with Release 5 which became available in May 2020. Many of these features were added after then:

- Prior to Release 5, the only way for customers to respond to error messages was by accessing your system remotely and responding to the messages. With Release 5, following proper configuration for an Apache HTTP server instance, a link will now be added to message queue monitor alerts that call for a response. When the link is followed, you will be able to view the full joblog and also respond to the error message. Before using this feature, check the “Installation and Configuration” section of this manual to see the additional configuration work needed to activate this feature on your system.
- A new test function was added to the INSTALL menu to use when testing the IEM Respond feature.
- A new “Text Friendly” option has been added in the WEBSET settings to make the IEM Respond feature easier to work with when alerting via text message.
- The reminder option on the Message Queue Monitor feature has been extended to up to 240 minutes.
- A new SETALT command has been added to allow a temporary switch to the Alternate Alert address for alerts.
- A new Connection Watch feature was added to monitor for servers connecting to your IBM i server.
- An optional SIEM Feed was added for the Message Queue Monitor alerts.
- A new file monitor option was added to alert you when a file has been opened.
- A new Audit Monitor feature was added to control how the monitor starts.
- A remote support feature was added to allow you to send diagnostic information to Kisco Systems.
- From the Task Review display, you can now show the log activity for the selected function.
- A new option to the Audit Monitor for command usage allows the alert to format the

attachment in CSV format.

- The Message Queue Monitor function has been completely re-engineered to improve performance and guarantee complete alert processing.
- A possible issue for customers using security auditing for *JOBBAS or *JOBDA information has been resolved with a workaround. Details about this issue and the workaround can be found here: <http://www.kisco.com/iem/support/iejobset.htm>
- A new Job Watch feature lets you report when an active job is put on hold
- The Watch option can now be used to issue an alert on a specific message ID in combination with a text string in the message.
- The Output Queue Watch will now give you the option to include spool files that are on hold in your queue count.
- The Output Queue Watch also now lets you specify and alternate alert subject text
- The Job Queue Watch now lets you watch *ALL (or GENERIC*) job queues in a given library with a single watch task.

What Was New in Release 4

The following features and capabilities were added to iEventMonitor with Release 4 which became available in June 2019. Many of these features were added after then:

- 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.
- 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 job number 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.
- 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.

Note For Customers Upgrading from Release 2

If you had iEventMonitor Release 2 or earlier installed and you are using the Watch Task feature with the Autostart option, this note applies to you. If you on a later release or you are not using this feature, you can skip this section.

Release 3 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, replace them with the STRIEM or ENDIEM commands.

Off-Shift Default Notification Feature

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 (parameter 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 “Prime Shift Start Time” and “Prime Shift End Time” fields on the IEMSET command.
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 “Off-Shift Days” field provided on the IEMSET command. If you want all days considered the same, use the special value of *NON (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.

Notification to the alternate address can also be manually controlled by the SETALT command. See the topic on this command in the Installation and Configuration section of this manual.

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. iEventManager can be installed from distribution media supplied by Kisco Systems or from a download file from the Internet. The initial installation will allow iEventManager 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 iEventManager, you must send your payment to Kisco Systems. At that time, Kisco must know the serial number for your system and the partition number where you have iEventManager 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 iEventManager and will permanently activate the software on your system. The password and certification instructions will be provided in writing by email.

Kisco Software Support

Kisco 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 |
| Mail: | Kisco Systems, LLC 54 Danbury Road, #439 Ridgefield, CT 06877 |

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 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.

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 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 iEventManager 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:

```
ADDLIB IEMLIB
GO MASTER
```

The main iEventManager menu appears as follows:

The screenshot shows a terminal window titled "C - 2:5250 Display" with a menu titled "MASTER Menu" and "iEventManager Menu". The menu lists 15 options, each with a corresponding command in the right margin. The options are:

| Option | Command |
|-----------------------------------|--------------------------|
| 1. Work With iEventManager Tasks | WRKIEM |
| 2. Start a Message Que Monitor | STRIEMON |
| 3. Stop a Message Que Monitor | ENDIEMON |
| 5. Maintain Message ID Exceptions | |
| 6. Maintain Message Overrides | |
| 7. Send an Alert | SNDALERT |
| 8. Work With File Monitors | WRKFILMON |
| 9. Display Activity Log | WRKIEMLOG |
| 10. To Watch Menu | 20-To Audit Monitor Menu |
| 15. To Network Menu | 30-To Install Menu |

At the bottom of the menu, it says "(c) 2015-2022 Kisco Systems LLC". The terminal prompt is "Selection or command ==>" with a cursor pointing to the first option.

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. Work With iEventManager Tasks | Displays all iEventManager tasks that are currently configured along with current status information. |
| 2. Start a Message Que Monitor | Start a message queue monitor session |
| 3. Stop a Message Que Monitor | End an active message queue monitor |

- | | | |
|-----|--------------------------------|---|
| 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. | Send an Alert | Can be used to manually send an alert message |
| 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 iEventManager starting with those issued most recently. |
| 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.

iEventManager Automatic Restart Feature

Whenever you start a monitor or watch task in iEventManager, 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 from the appropriate menu option. 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 #1 on the MASTER menu includes function keys you can use to end or start the tasks in iEventManager that are present in the task log.

Work With iEventMonitor Tasks

When you select option #1 from the MASTER menu, or run the WRKIEM command, the following display will be shown:

```

E - 3:5250 Display
File Edit View Communication Actions Window Help
-----
                        Maintain Autostart Tasks
                        Start at Watch Name
                        KISC08
                        12/22/20 14:44:18

Type options, press Enter.
1=Start   2=Change   3=End     4=Delete   5=Display   9=Log
Ta Task   Watch         Current
Opt sk  Descriptn  Name       Status     Notification Addr  Message Queue  Ntfy
-----
  AM Audit Mon. AFMONIT   Active    *DFTID
  AM Audit Mon. CPMONIT   Active    *DFTID
  AM Audit Mon. PWMONIT   Active    *DFTID
  AM Audit Mon. SOMONIT   Active    *DFTID
  AM Audit Mon. SVMONIT   Active    *DFTID
  AS ASP% Watch ASPLVL1001 Active    *DFTID
  AS ASP% Watch ASPLVL2001 Active    *DFTID
  AS ASP% Watch ASPWTCH001 Active    *DFTID
  CN Conn Watch CNNWATCH   Active    *DFTID
  JQ Jobq Watch QBATCH    Active    *DFTID
  JW Job Watch  QTFTP*    Active    *DFTID
  LW LCKW Watch *ALL      Active    *DFTID
  MQ Msgque Mon QSYSMSG   Active    *DFTID
  MQ Msgque Mon QSYSOPR   Active    *DFTID

F3=Exit   F5=Refresh   F6=Start ALL   F7=End ALL   F9=Print
More...
M0 + E
09/078

```

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 an 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.
- 5 Displays the settings in use. You do not need to stop the function to use this option.
- 9 Displays the iEventMonitor activity log entries for this function.

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

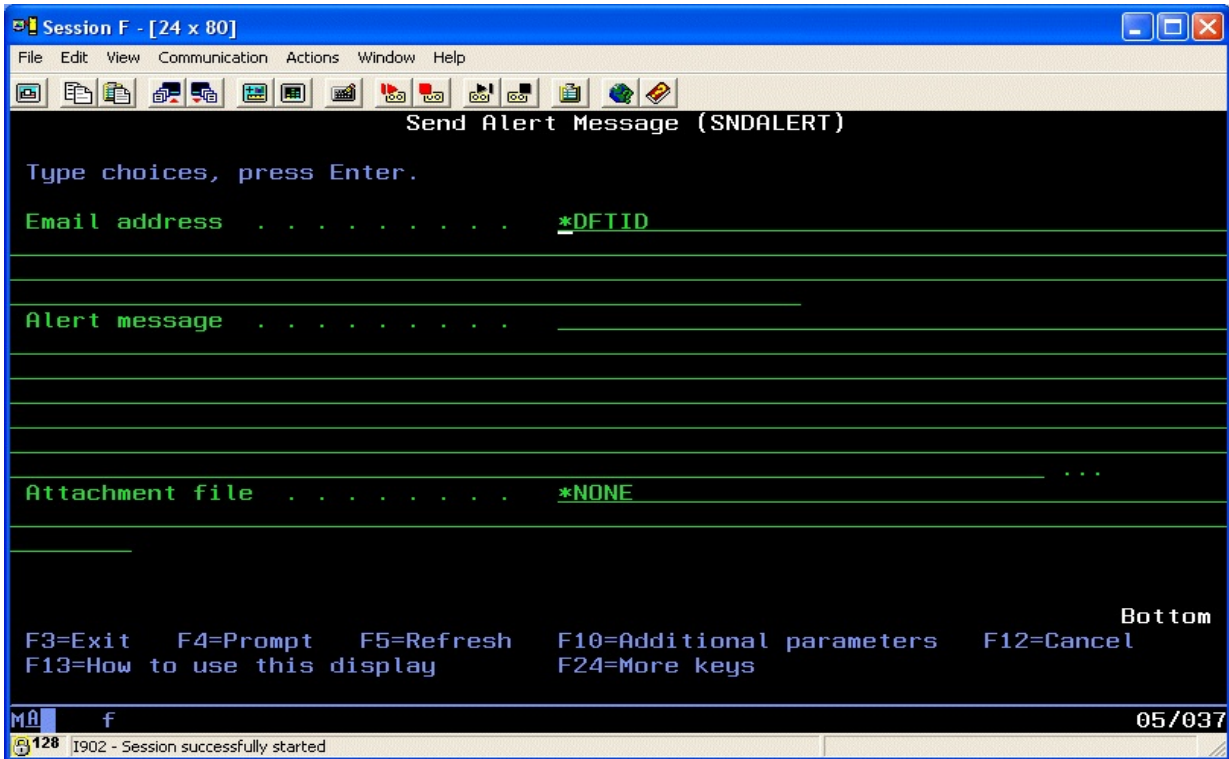
using the STRIEM command.

- 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.

Send An Alert

When you select menu option #7 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 iEventManager 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:

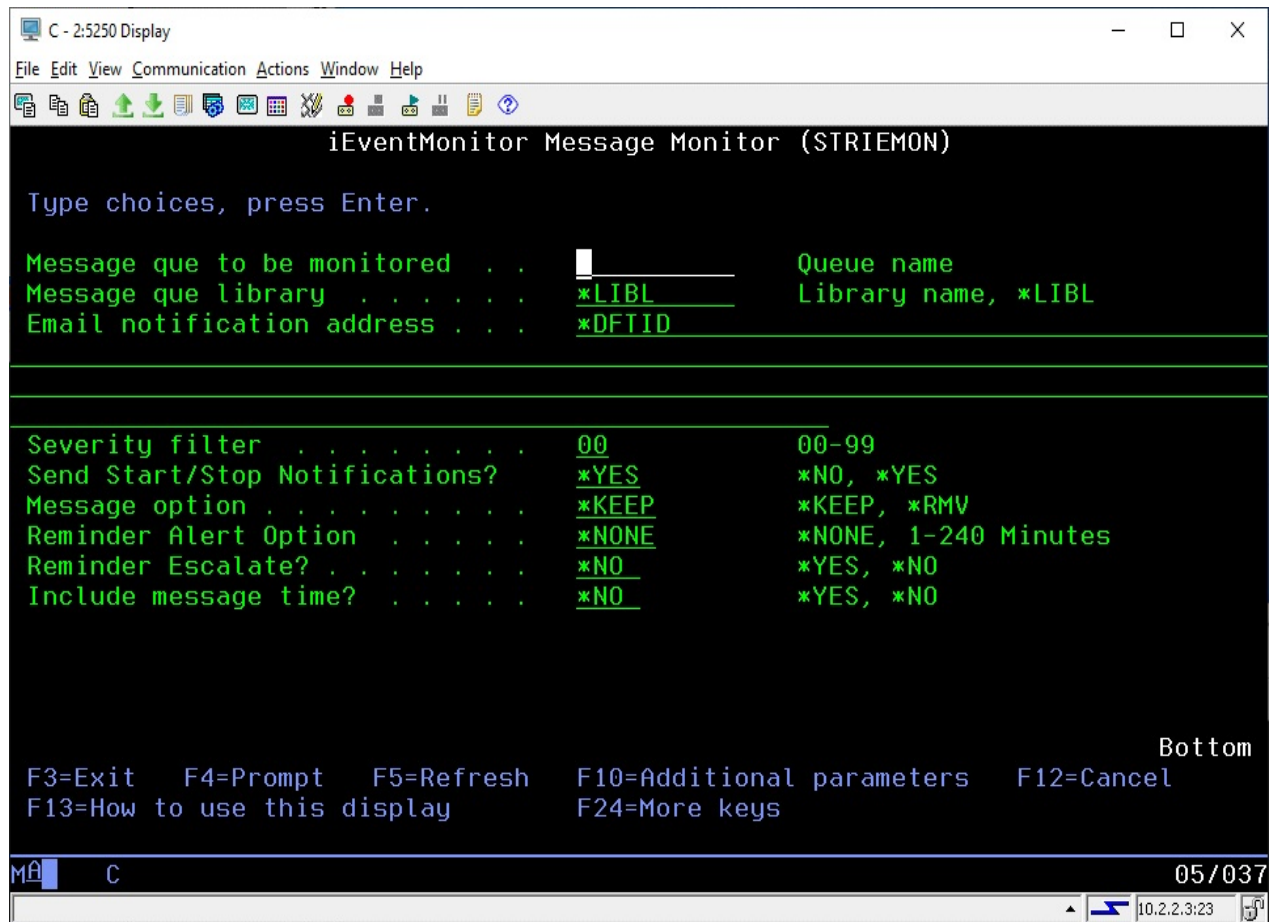
/tmp/myfile.txt

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:



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 50. 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 alert 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.

1-240

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.

Reminder Escalate?

When set to *YES and a reminder alert is issued, in addition to the default alert notification addresses, another set of alert addresses will also be used. Before using this, make sure that the "Escalation Notification Addrs" setting is updated in the IEMSET settings (option 9 on the INSTALL menu).

When set to *YES, any reminder alerts will be issued to the escalation addresses specified in the IEMSET parameter in addition to the default notification addresses already set.

Include message time?

Choose one of the following values:

- *NO The message time from the message queue entry will not be 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/jjjjjjjj

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 message |
| 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 it 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 program is specified, iEventManager 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. iEventManager 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.

Suppressing Duplicate Message Queue Alerts

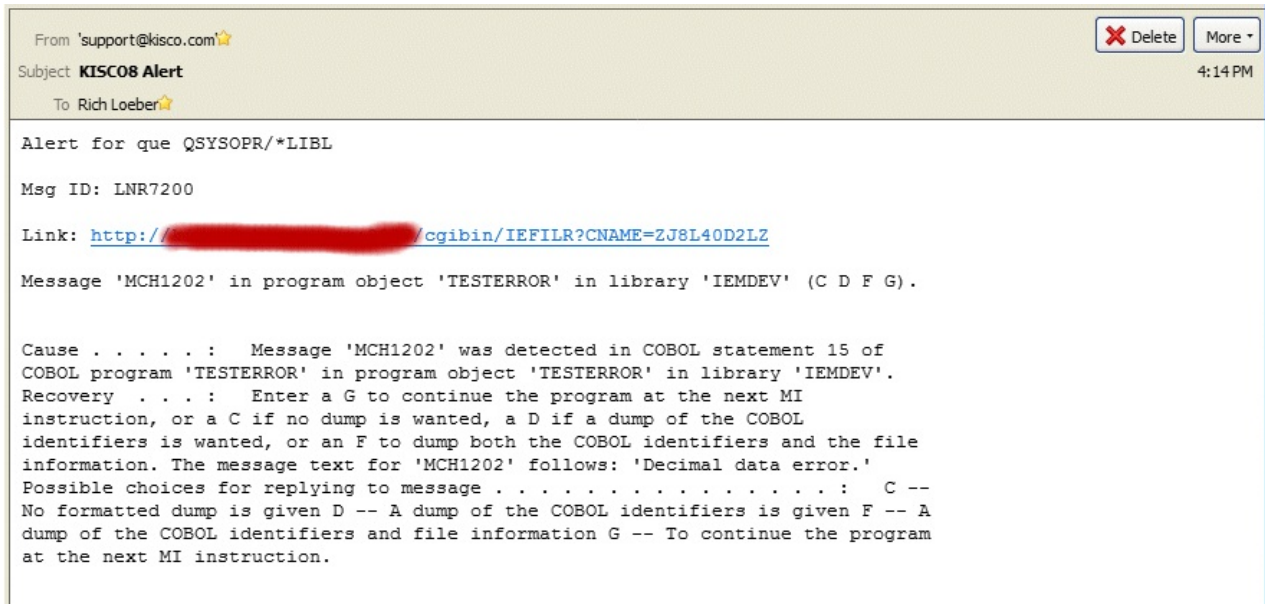
An active application on your system could get into a looping condition issuing identical messages to your monitored message queue in a very high volume over a short period of time. This could, in turn, result in iEventManager clogging your email system with unnecessary duplicate alerts. To avoid this situation, the message queue monitor will suppress such duplicate alerts within a given time period. When the software is initially installed, this default setting will be set to five minutes. The setting can be controlled from the IEMSET command default settings (option 9 on the INSTALL menu). Changing the setting to zero minutes will turn the suppression feature off.

Responding To Error Messages

Starting with Release 5 of iEventManager, you can use the product to respond to error messages. Some additional installation and configuration work is required before you can use this feature. Please review the appropriate instructions in the “Installation and Configuration” section of this documentation.

When this feature is activated, an HTTP server instance named IEVENTMON will be active on your system. If a message is received at a message queue that calls for a response, an HTTP link will be included in the alert issued from iEventManager. When you follow this link, either from an email message or a text message, a web page will be shown that will provide details about the error message.

A typical email message might look like this:



When you follow the link, a page like this will be shown to you:



On this web page, you can click on the “View Joblog” to see the joblog for the error message. This may be important to view before you answer the message. Once you have decided what the proper response for the message is, just enter it in the box at the bottom of the page and press the Send button. The message will be answered on your system.

If a problem occurs while processing your message response, you may receive an error feedback display. Errors that can occur include:

- This link is no longer available for use - indicates that the link has already been cleared from the system. All links are cleared on your system whenever iEventManager is restarted using the STRIEM command.
- Blank reply not processed - the message answer was left blank.
- Reply not processed, already answered - the message was answered already by a local source on your system.
- Reply not processed, message now gone - the message is no longer available to be answered.
- Your error respond session has encountered an internal error - indicates an internal error of some kind. If this happens, contact Kisco Systems.

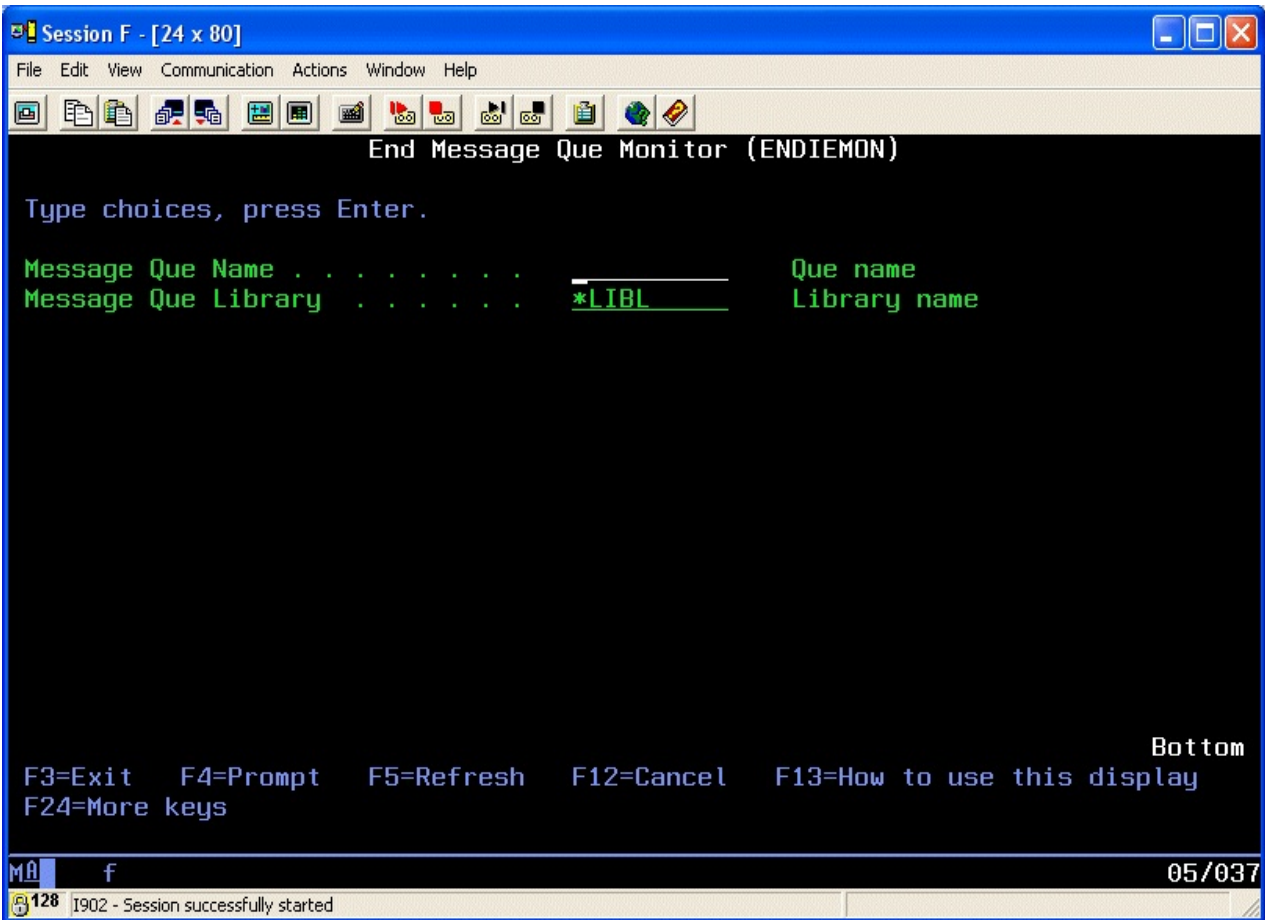
Note: If you want to respond to an error message based on a text message to your cell phone, this is possible with certain conditions taken into effect. Keep in mind that the amount of information included in a text is limited to a fixed number of characters for most text services. To limit the number of characters on the text, please consider the following:

- In the IEMSET settings (option #9 on the INSTALL menu), keep the text entries for the following setting as short as possible:
 - Change the “Text Friendly Alerts?” setting to *YES
 - Support Name Description
 - Default Alert Subject
 - IEM Browser Respond IP
- Also in the IEMSET settings, specify *NO for Include Job Info in Alert?
- When you start the message queue monitor, specify *NO for Include message time?

These steps will result in a shorter text message and provide you with a useable link to follow. When you do follow the link, all of the information about the error, including the joblog, will be available.

Stop a Message Que Monitor

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



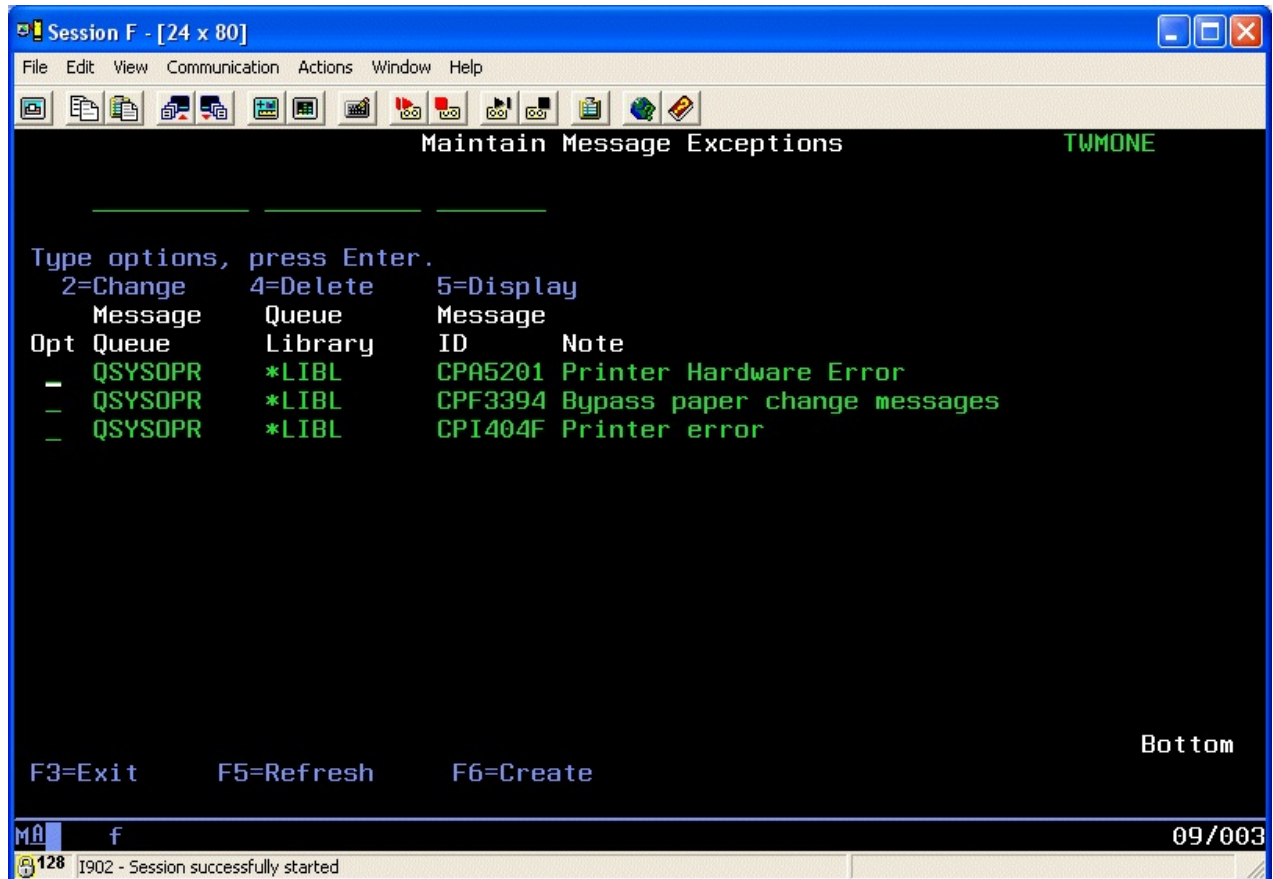
Enter the parameters as follows:

| | |
|---------------------|--|
| 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.

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:

```

E - 3:5250 Display
File Edit View Communication Actions Window Help
ADD          Maintain Message Exceptions          KISC08
                                                    12/24/20 11:51:38

Type information, press Enter.
Message Queue . . .  Severity: --
Queue Library . . . *LIBL
Message ID . . . 
Note . . . 
Date Added . . . 2020-12-24
Added By . . . IEMONITOR

F3=Exit      F5=Refresh      F12=Cancel

MA + E                                             06/021

```

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

iEventManager 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 iEventManager 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 iEventManager to either always alert messages that match or never alert messages that match.

When iEventManager 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:

```

C - 2:5250 Display
File Edit View Communication Actions Window Help
Maintain Monitor Overrides
KISC01
2/08/22 12:34:52

Type options, press Enter.
  2=Change   4=Delete   5=Display
Message     Queue      Over  Override  Message Over
Opt Queue   Library    Type  Set       ID      Cd  Override Description
_  QSYSOPR  *LIBL     *JOB  DAILYSAVE *ALL   A  For testing
_  RICH     *LIBL     *TIME FAD9001  *ALL   T

F3=Exit    F5=Refresh  F6=Create

Bottom
MA C
03/006
10.2.2.3:23

```

To create a new override, use the F6 function key. When you do, the following detail screen will be displayed:

```

C - 2:5250 Display
File Edit View Communication Actions Window Help
ADD                               Maintain Monitor Overrides                               KISCO1
                                                                              2/08/22 12:36:44

Type information, press Enter.
Message Queue . . . . . _____
Queue Library . . . . . *LIBL *LIBL, Library name
Override Type . . . . . _____ *JOB, *USER, *PGM or *TIME
Override Set . . . . . _____
Message ID . . . . . *ALL Message ID or *ALL
Override Code . . . . . _ A=Always/C=Combined/T=Time/X=Exclude
Override Description . . _____
Delay Minutes . . . . . 1-1440
Date Added . . . . . 2022-02-08
Added By . . . . . QSECOFR

F3=Exit      F5=Refresh      F12=Cancel

M C                               06/027
10.2.2.3:23

```

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: *USER: The override set is a user profile *JOB: The override set is a job name *PGM: The override set is a program name *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. |
| Message ID | Enter the value *ALL for most entries. If you want to override a specific message ID handling for a given job (Override Type *JOB), then you can enter that message ID here. For example, if you want to suppress just a given error message from a job, you can do that here. To suppress all messages from a given job, use the *ALL value. |
| 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. |

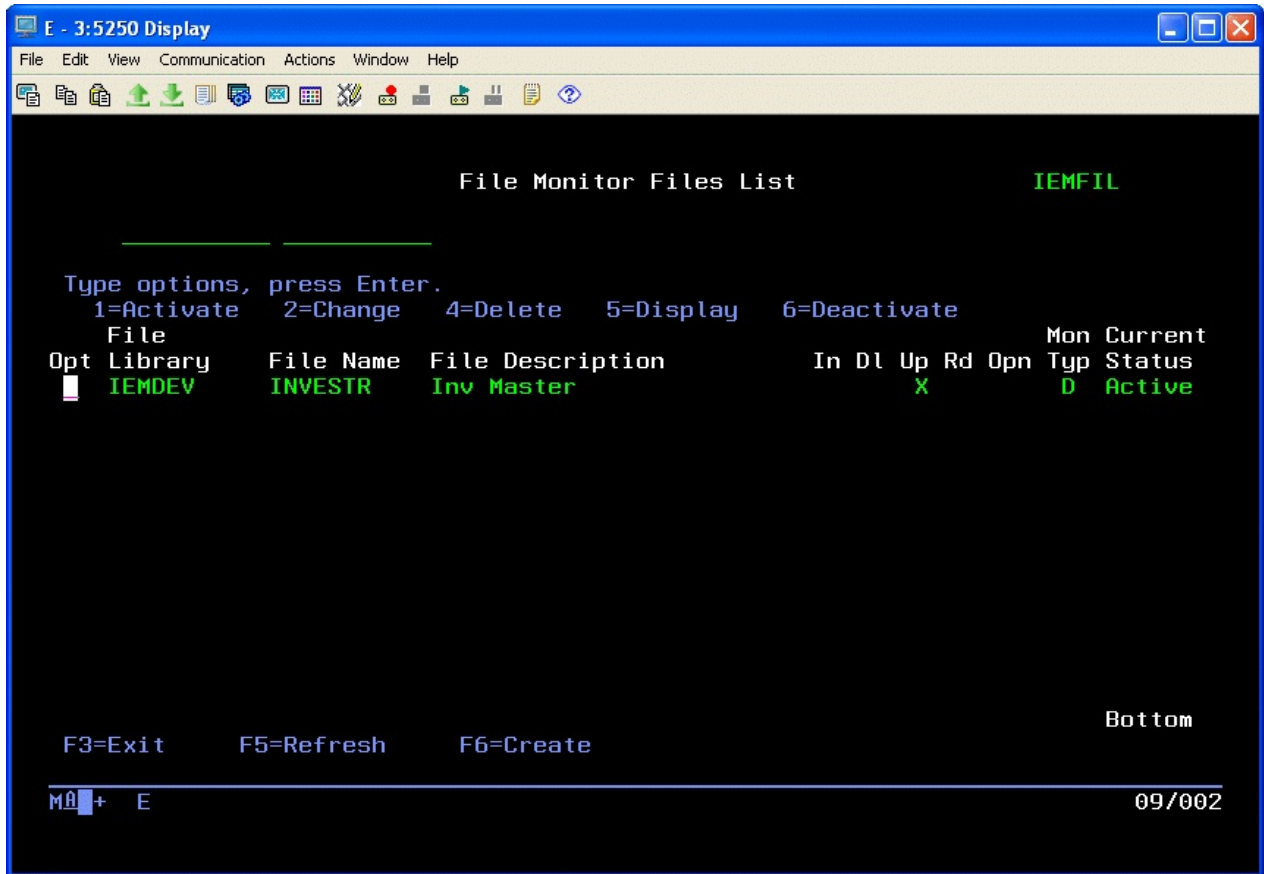
Note: Using Override Code C, you can get all messages issued for a job, user or program, but still suppress specific messages that you are not interested in seeing, like paper changes or printer alignment.

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, iEventManager 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, file opens or 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:

```

E - 3:5250 Display
File Edit View Communication Actions Window Help
[Icons]

ADD File Monitor Files List IEMFIL

Type information, press Enter.
File Library . . . . .
File Name . . . . .
File Description . . . . .
Monitor Type . . . . . D=Detail/S=Summary
Summary Threshold Level . . . . . Report summary after nth event
Insert . . . . . X=Notify when records added
Delete . . . . . X=Notify when records delete
Update . . . . . X=Notify when records updated
Read . . . . . X=Notify when records read
Open . . . . . X=Notify any access - Must be used alone
Email Address . . *DFTID

Only check between times . . . . . and . . . . . Blank checks all times
Check all day on . . . . . Sat: _ Sun: _ X Notify on Sat/Sun as selected

F3=Exit F5=Refresh F12=Cancel

M0 + E 04/029

```

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, iEventManager will issue an alert. S: Summary level monitor. iEventManager 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.

Open Enter X if you want to monitor for the file being opened. When you use this option, the following additional restrictions apply:

- It can be the only option specified. Insert, Delete, Update and Read must all be blank.
- The Monitor Type must be set to S
- The Summary Threshold must be set to zero

You will receive a file alert whenever a user accesses the file. The alert will not be repeated until either of the following conditions occur:

- A different user accesses the file.
- The same user accesses the file after the date has changed.

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 iEventManager 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 iEventManager on this system will be displayed starting with alerts from the current day.

```

E - 3:5250 Display
File Edit View Communication Actions Window Help
[Toolbar icons]

Display History Log                                DSPLOG

Date/Time Stamp: 
                YYYYMMDDHHMMSSNNNNNN
Type options, press Enter.
5=Display Details
Opt  Date      Time      --- Task ---- Alert Text
--  --
  08/23/19 08:32:15 UW User watch QSECOFR is logged on now at KISCO81
  08/23/19 08:32:32 UW User watch QSECOFR is logged on now at KISCO82
  08/23/19 08:32:40 UW User watch QSECOFR is logged on now at KISCO83
  08/23/19 09:01:44 UW User watch QSECOFR is logged on now at KISCO84

F3=Exit      F5=Refresh      F6=Print List      F9=Purge
Bottom

M + E                                03/019

```

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

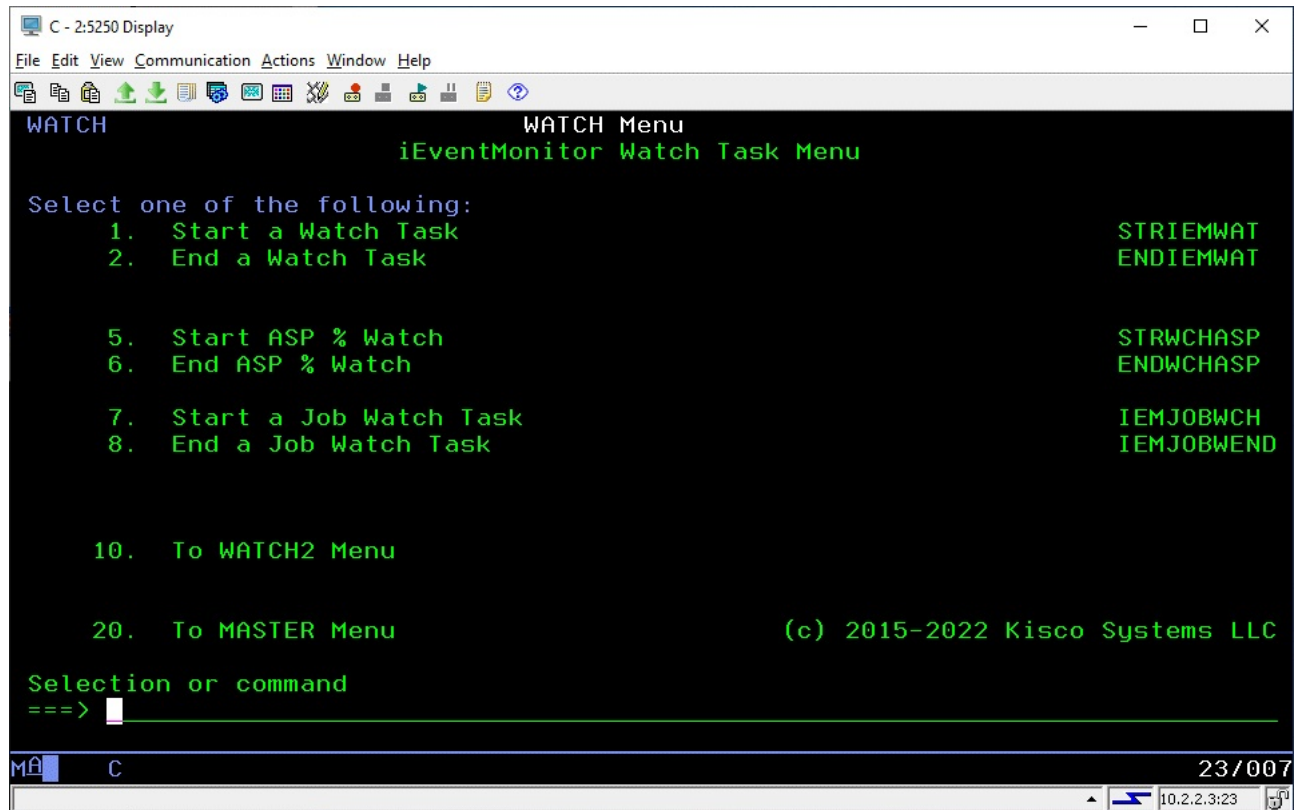
You can list the contents of the log using the F6 function key. When you use the list function, a prompt display will let you either print all entries or a selection of entries.

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

iEventManager 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 watch for a specific message ID on a message queue or in the System History Log |
| 2. End a Watch Task | End a message queue watch previously started |
| 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:

```

C - 2:5250 Display
File Edit View Communication Actions Window Help
WATCH2
WATCH2 Menu
iEventManager Watch2 Task Menu

Select one of the following:
  1. Start a Job Queue Watch           STRWCHJQ
  2. End a Job Queue Watch             ENDWCHJQ
  3. Start a Utilization Monitor       STRIEMUTIL
  4. End a Utilization Monitor         ENDIEMUTIL
  5. Start User Profile Watch          STRUSRWCH
  6. End User Profile Watch            ENDUSRWCH
  7. Start MTXW Watch                 IEMMTXWCH
  8. End MTXW Watch                   IEMMTXWEND
  9. Start Output Queue Watch         STRWCHOQ
 10. End Output Queue Watch           ENDWCHOQ
 11. Start Lock Wait Watch            IEMLCKWCH
 12. End Lock Wait Watch              IEMLCKWEND

20. To MASTER Menu                    (c) 2015-2022 Kisco Systems LLC

Selection or command
==>
  
```

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.

Message ID Watch

iEventManager contains a feature that will allow you to set watches for specific message IDs arriving at any message queue you want to watch or in the System History Log. 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. This is also the only way to watch for a message on the System History Log.

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

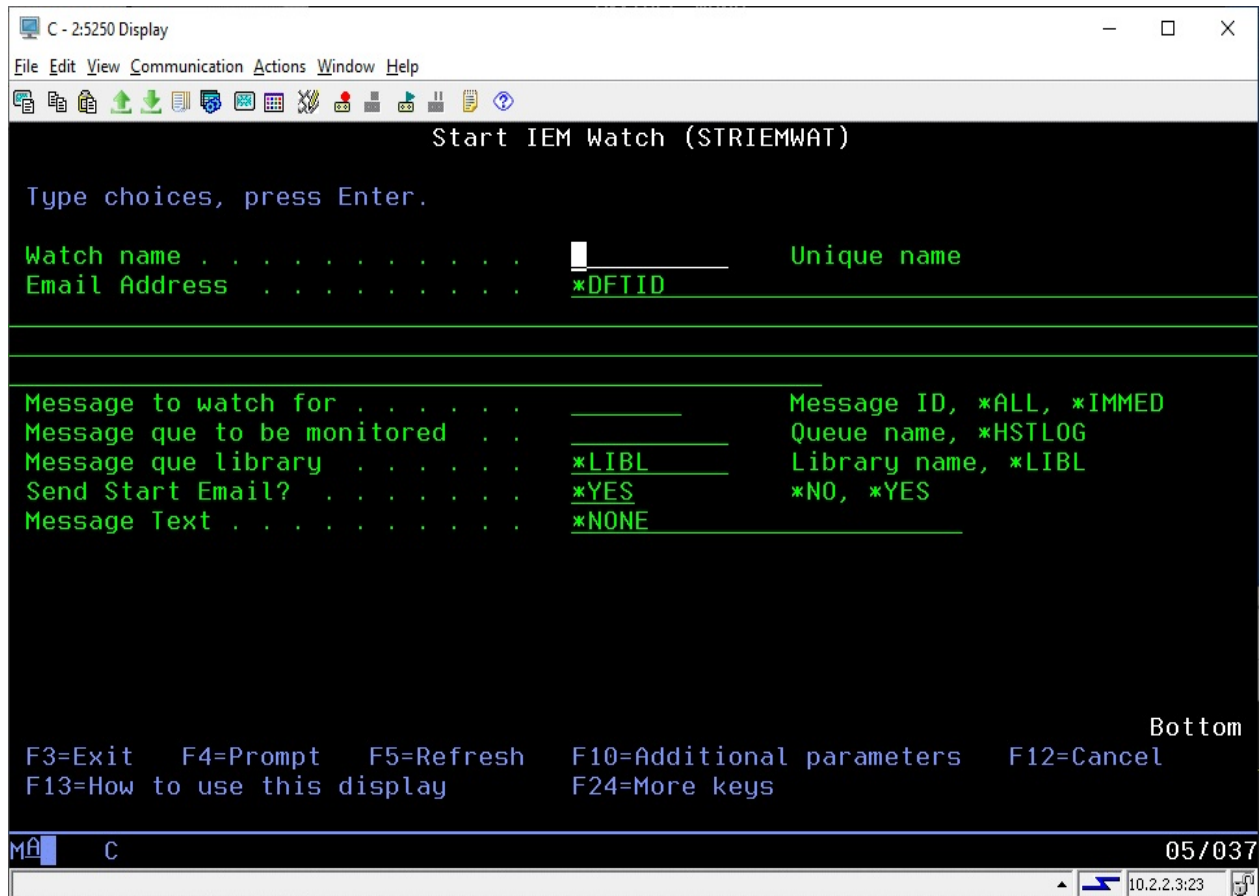
You can set a single watch or multiple watches using this feature. It will let you monitor the system operator message queue at the same time that you have the iEventManager message queue monitor function active. You can also set watches for any other message queue in your system including user profile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

From the WATCH menu, you can start a watch, end a watch.

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 iEventManager system. At any time, you can view the names of the active watches by running option #1 from the WATCH menu by checking the WT (Watch Task) entries. 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:



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 iEventManager 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.

*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.

You can watch for a specific message in the System History Log by using the special value *HSTLOG. When you use this option, you must be watching for a specific message ID and you cannot specify a Message Text selection.

QUELIB

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

NOTIFY

Leave the default value *YES if you want iEventManager 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 searching 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.

Using the F10 function key, additional parameters will be shown:

ETITLE

iEventManager will issue an alert with the default subject text if you leave this set to *DFT. If you want a unique alert subject text used, enter that value here and it will be used if an alert is issued.

See below for the Exit Program options that are also shown.

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 library where it is stored on your system. You can use the *LIBL value if the library 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.

ASP % Watch Function

Option #5 on the WATCH menu can be used to start up to three special watch functions that will 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 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:

```

C - 2:5250 Display
File Edit View Communication Actions Window Help
Start ASP Use Watch (STRWCHASP)

Type choices, press Enter.

Aux Storage Pool Number . . . . . 001          001-255 (001=System)
Email Address . . . . . *DFTID

-----

Check interval . . . . . 15          Minutes
Percentage change . . . . . 5          % difference
Watch type . . . . . *INT          *INT, *LVL1, *LVL2
Alert On . . . . . *BOTH          *BOTH, *INCR, *DECR

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

MA C 05/037
10.2.2.3:23

```

Fill in the parameters as follows:

Aux Storage Pool
Number

Enter the ASP number that you want to watch. ASP number 001 is the default system ASP. This value must be entered as a 3 digit number in the range of 001 - 255. If you are setting an ASP Watch, we recommend that you always include ASP #001 which is the system ASP. ASP numbers greater than 032 are iASP's

(Independent ASPs).

| | |
|-------------------|--|
| Email address | <p>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 iEventManager will use the value specified as the “Default Email Address” on the IEMSET command (option #9 on the INSTALL menu).</p> <p>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.</p> |
| Check interval | <p>Enter the interval in minutes. This tells iEventManager how frequently you want the system to check the current status of the ASP (disc) utilization.</p> |
| Percentage change | <p>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.</p> <p>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) to 70 and the *LVL2 to 85.</p> |
| Watch type | <p>Select one the the following. Only one watch of each type can be started:</p> <p>*INT An Interval Watch will be started.</p> <p>*LVL1 The first Level Watch will be started.</p> <p>*LVL2 The second Level Watch will be started.</p> |
| Alert On | <p>This option controls how the *INT watch type works.</p> <p>Choose one of the following values:</p> <p>*INCR Whenever the disc utilization increases by the given percentage, an alert will be issued.</p> <p>*DECR Whenever the disc utilization decreases by the given percentage, an alert will be issued.</p> <p>*BOTH Whenever the disc utilization either increases or decreases</p> |

Using the F10 function key will display an additional parameters as follows:

- | | |
|--------------------|---|
| Level Reminder | When using the *LVL1 or *LVL2 Watch Type, you can ask iEventManager to send a reminder alert if the over level condition is not corrected after a period of time. If you do not want a reminder, leave this set to zero. Otherwise, enter the number of minutes before you want a reminder alert issued if the over limit situation has not been resolved. When using this option, keep in mind that the INTERVAL setting will still control how often the level is checked. So, if you have the INTERVAL set to 15 minutes and the LREMIND set to 25 minutes, the watch will check every 15 minutes. |
| Alert Subject Text | iEventManager will issue an alert with the default subject text if you leave this set to *DFT. If you want a unique alert subject text used, enter that value here and it will be used if an alert is issued. |

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.

Job Watch Function

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:

```

C - 2:5250 Display
File Edit View Communication Actions Window Help
iEventMonitor Job Watch (IEMJOBWCH)

Type choices, press Enter.

Job Name To Watch . . . . .
User Profile . . . . .
Watch Option . . . . . *ONEND
Check Interval . . . . . 15
Reminder Interval . . . . . 0
Run Time Check . . . . . 0
Notification address . . . . . *DFTID

Name or GENERIC*
User Profile or *ALL
*ONEND, *ONSTART, *BOTH...
Seconds 1-9999
Minutes, 0-60
Minutes, 0-1440

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

C 05/037

```

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 by using the ENDIEM command or with the IEMJOBWEND command.

Note: When you use the *STRSTP option, an additional parameter will be prompted. See “Alert if on Hold?” below.

*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 | <p>This setting is only valid on a Job Watch where the *STRSTP option is being used.</p> <p>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.</p> |
| Notification address | <p>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.</p> |
| Run Time Check | <p>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.</p> <p>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.</p> <p>A value of zero means that no alert will be issued.</p> |

If you specify the *STRSTP option, the following additional parameter will be prompted:

| | |
|-------------------|--|
| Alert if on Hold? | <p>This option lets iEventMonitor issue an alert when the watched job is put on hold. This option is only available when the *STRSTP Watch Option is used and the job name being watched is not GENERIC*.</p> <p>Enter one of the following options:</p> <p>*NO No alerts will be issued when the watched job is put on hold.</p> <p>*YES If the watched job is held, an alert will be issued. If it is subsequently released and then held again, a new alert will be issued.</p> |
|-------------------|--|

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

| | |
|--------------------|---|
| Alert Subject Text | <p>The job watch allows you to use an alternate alert subject when reporting alerts. To use the standard subject, just leave the special value *DFT in place.</p> <p>To use an alternate subject text, enter up to 64 characters in this field. The field also supports three optional macro fields as follows:</p> <p>&SYSNAME The system name will be used</p> |
|--------------------|---|

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

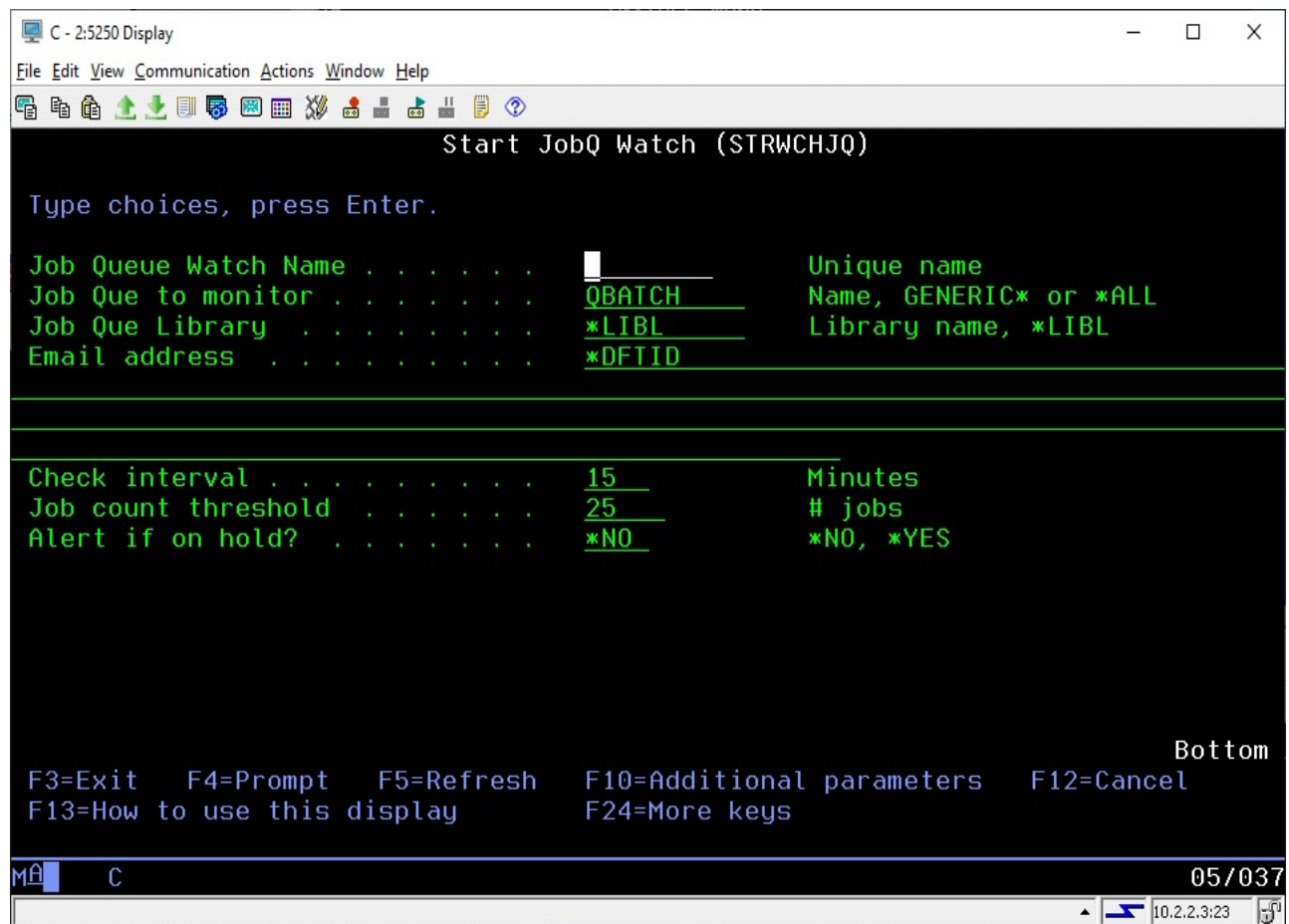
Note: For the macros to work, they must be coded EXACTLY as shown in all upper case characters.

The job watch will end whenever the ENDIEM command is run. It can also be ended from the list of active tasks when you run option #1 on the MASTER menu. To end an active job watch and remove it from the list of tasks, 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 to end immediately without sending any alert notification.

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. iEventManager 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:



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 or one of the following special values: |
| | <p>*ALL All job queues in the specified library will be watched. A specific library name must be used when *ALL is specified.</p> |
| | <p>GENERIC* All job queues in the specified library with names that start with specified string will be watched. A specific library name must be used when *ALL is specified.</p> |
| | <p>When either of the special values is used, each job queue that qualifies will be watched. When ever any of these queues has an alert condition detected, an alert will be issued.</p> |
| Job Que Library | Enter the name of the library where the queue is located. The special value *LIBL will use all libraries in the current session library list. |
| Email address | <p>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.</p> |
| | <p>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.</p> |
| 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 iEventManager will send out advisory alerts when this job queue is placed on hold. |
| | Choose one of the following values: |
| | <p>*NO No job queue on hold alerts will be issued.</p> |
| | <p>*YES An alert will be issued when this job queue is placed on hold. The alerts will continue until the job queue is released.</p> |

Using the F10 function key will display an additional parameter as follows:

Alert Subject Text iEventMonitor will issue an alert with the default subject text if you leave this set to *DFT. If you want a unique alert subject text used, enter that value here and it will be used if an alert is issued.

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

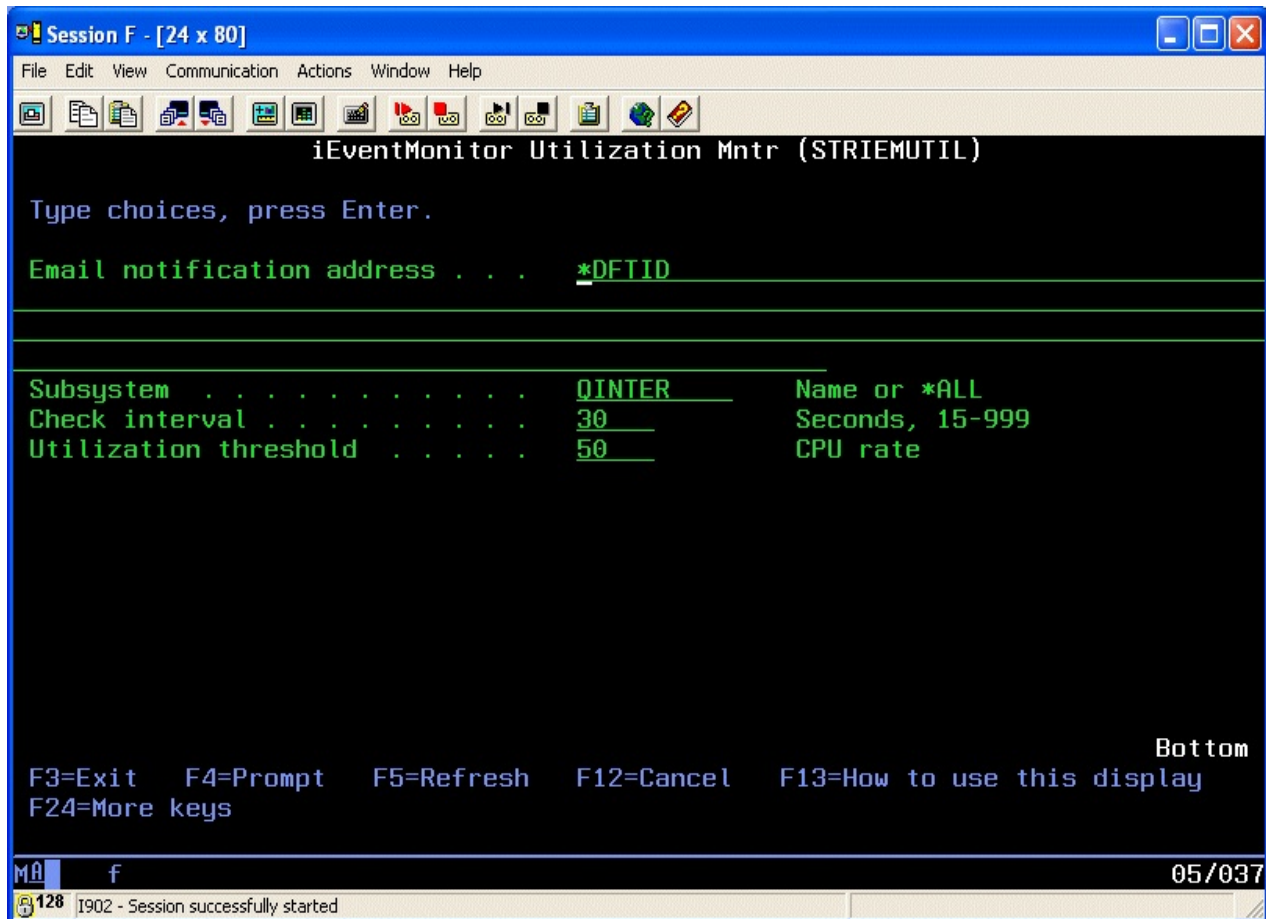
The Job Queue Watch will end whenever the ENDIEM command is run. It can also be ended from the list of active tasks when you run option #1 on the MASTER menu. To end an active job watch and remove it from the list of tasks, use option 2 on the WATCH2 menu or prompt the ENDWCHJQ command. This will cause the watch task to end immediately without sending any alert notification.

Utilization Monitor

iEventMonitor 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 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 in 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. |

Using the F10 function key will display an additional parameter as follows:

| | |
|--------------------|---|
| Alert Subject Text | iEventManager will issue an alert with the default subject text if you leave this set to *DFT. If you want a unique alert subject text used, enter that value here and it will be used if an alert is issued. |
|--------------------|---|

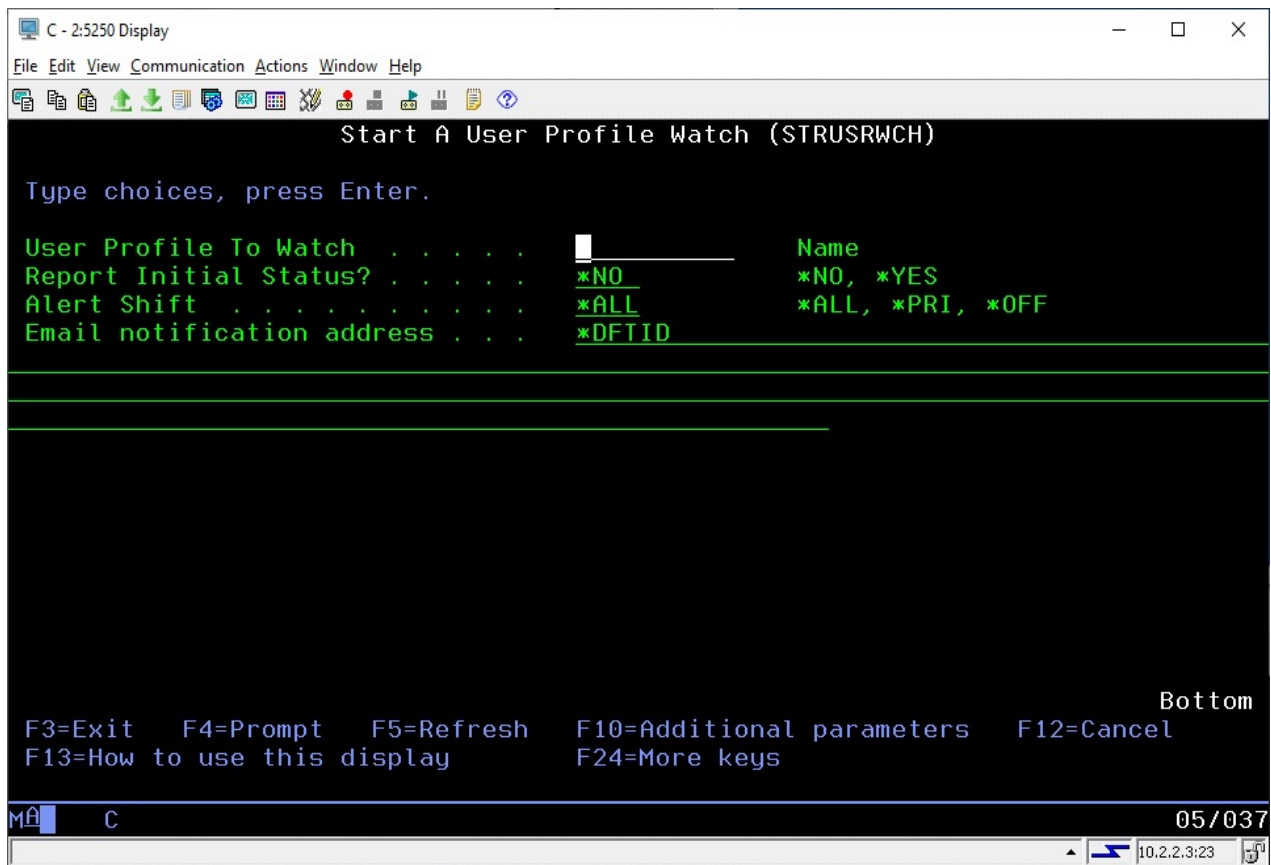
With this monitor running, jobs in the specified subsystem (or all jobs if you used the *ALL option) will be checked at each interval break. If any jobs are showing CPU utilization in excess of the threshold value entered, an alert will be generated. If the situation persists, additional alerts will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

The utilization monitor will end whenever the ENDIEM command is run. It can also be ended from the list of active tasks when you run option #1 on the MASTER menu. To end an active job watch and remove it from the list of tasks, use option 4 on the WATCH2 menu or prompt the ENDIEMUTIL command.

User Profile Watch

The User Profile Watch feature will let you track user profile use for interactive sessions. When a user profile watch is started, it will alert 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:



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 they occur during the time period identified as prime shift.

*OFF Alerts will only be issued when they 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, 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.

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

There are two optional parameters that you can access using the F10 function key as follows:

Watch name

Earlier versions of iEventManager used a job name that included the user profile when they were active. This has been changed to provide you with the following options:

*USER The job that iEventManager uses for this user profile watch will run with a job name of the user profile being watched.

*GEN The job that iEventManager uses for this user profile watch will run with a generated job name in the form of UWnnnnnn where nnnnnn is a sequential number assigned by the software at each job start. Each time the watch is started, a different job name will be used.

Name The job that iEventManager uses for this user profile watch will run with a job name entered here.

Alert Subject Text

iEventManager will issue an alert with the default subject text

if you leave this set to *DFT. If you want a unique alert subject text used, enter that value here and it will be used if an alert is issued.

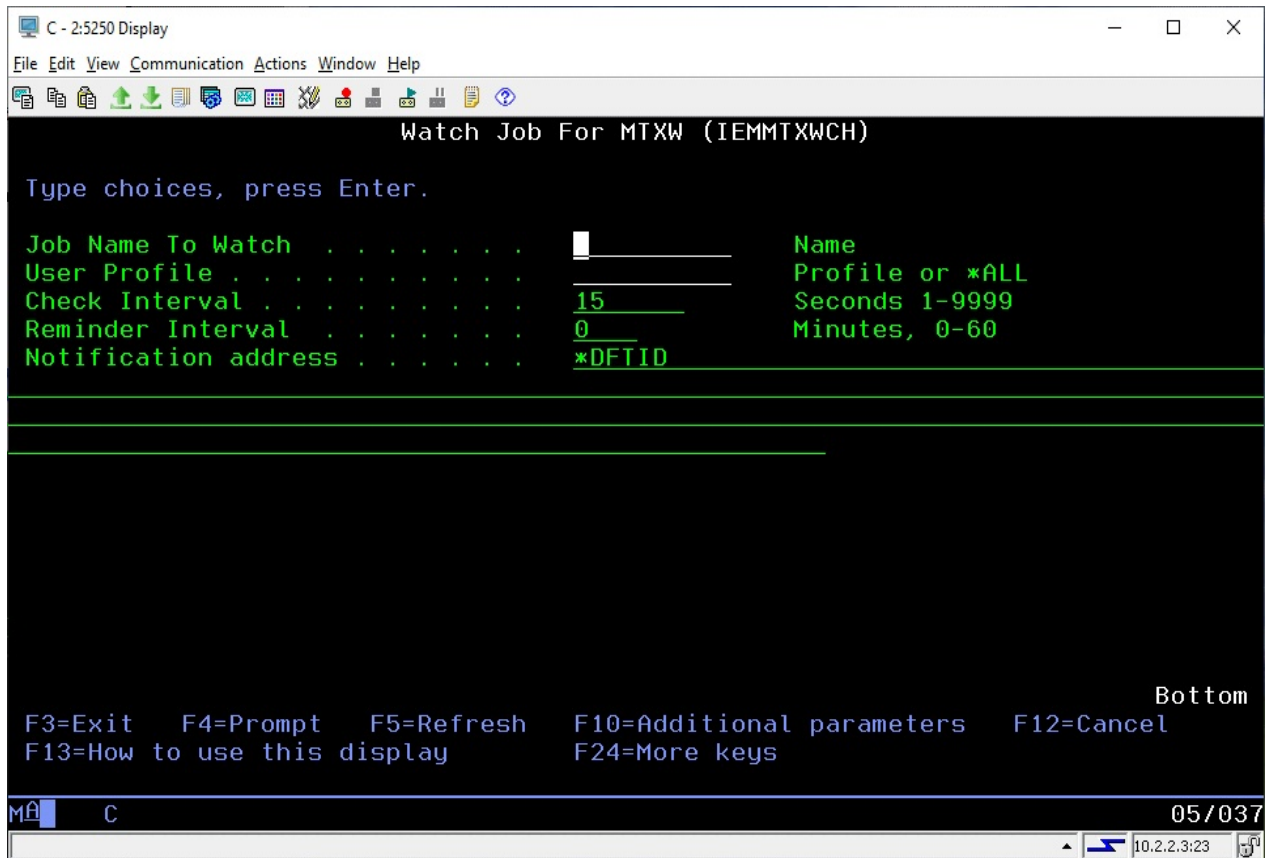
Once a user profile watch has been started, whenever the user profile is used for an interactive logon or whenever an interactive session for the user ends, an alert will be generated.

The watch will end whenever the ENDIEM command is run. It can also be ended from the list of active tasks when you run option #1 on the MASTER menu. To end an active watch and remove it from the list of tasks, use option 6 on the WATCH2 menu or prompt the ENDUSRWCH command.

Mutex-Wait Watch

This feature 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.

Using the F10 function key will display an additional parameter as follows:

Alert Subject Text iEventMonitor will issue an alert with the default subject text if you leave this set to *DFT. If you want a unique alert subject text used, enter that value here and it will be used if an alert is issued.

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 1 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.

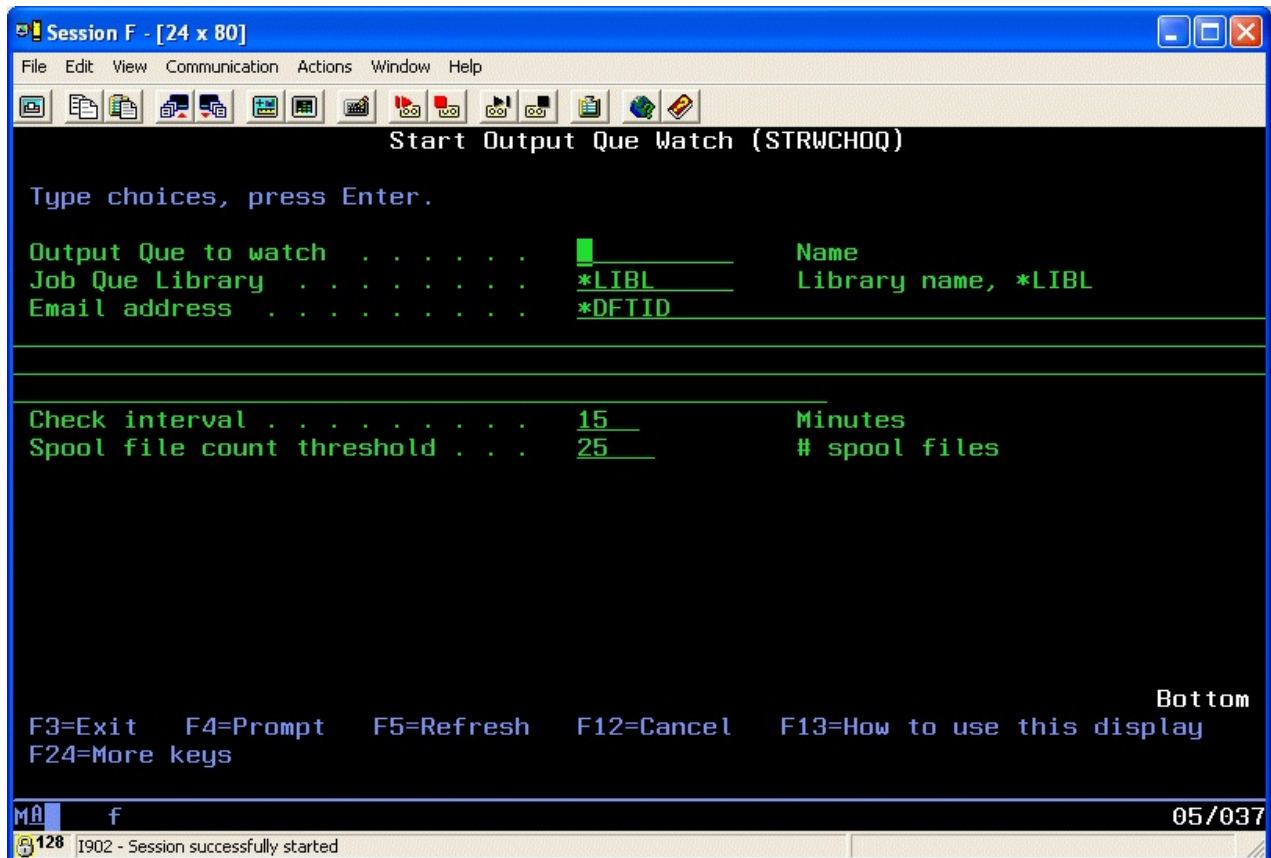
The watch will end whenever the ENDIEM command is run. It can also be ended from the list of active tasks when you run option #1 on the MASTER menu. To end an active watch and remove it from the list of tasks, use option 6 on the WATCH2 menu or prompt the IEMMTXWEND command. The parameters on this command 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 |

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, 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.

| | |
|----------------------------|--|
| 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. |

There are two optional additional parameters available. To access these additional settings, press the F10 key and the following will be prompted:

| | |
|--------------------|--|
| Include Holds? | The default value of *NO will exclude reports that are on hold in the output queue from being counted. By changing this to *YES, reports that are on hold will be included along with those that are ready to print. |
| Alert Subject Text | iEventManager will issue an alert with the default subject text if you leave this set to *DFT. If you want a unique alert subject text used, enter that value here and it will be used if an alert is issued. |

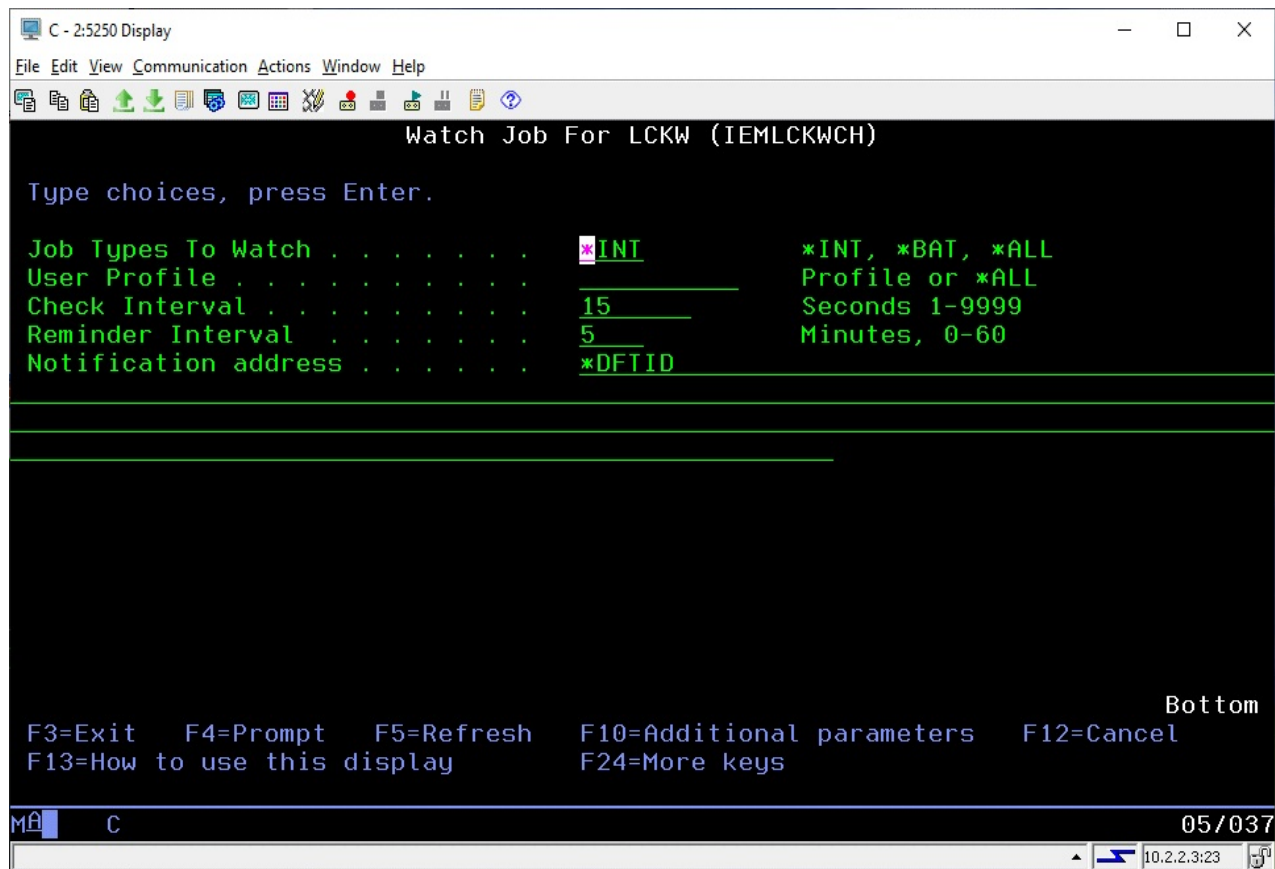
Press ENTER to start the output queue watch. Whenever the number of spool files waiting to be processed exceeds the level that you set, an alert will be issued. This can be helpful with an output queue where the printer should always be active or for an output queue that is being monitored automatically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

The watch will end whenever the ENDIEM command is run. It can also be ended from the list of active tasks when you run option #1 on the MASTER menu. To end an active watch and remove it from the list of tasks, use option 10 on the WATCH2 menu or prompt the ENDWCHOQ command.

Lock Wait Watch

This feature watches 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 IEMMLCKWCH command. The following screen will be prompted:



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. 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. |

Using the F10 function key will display an additional parameter as follows:

| | |
|--------------------|---|
| Alert Subject Text | iEventMonitor will issue an alert with the default subject text if you leave this set to *DFT. If you want a unique alert subject text used, enter that value here and it will be used if an alert is issued. |
|--------------------|---|

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.

When 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.

The monitor will end whenever the ENDIEM command is run. It can also be ended from the list of active tasks when you run option #1 on the MASTER menu. To end an active watch and remove it from the list of tasks, use option 12 on the WATCH2 menu or prompt 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')
```

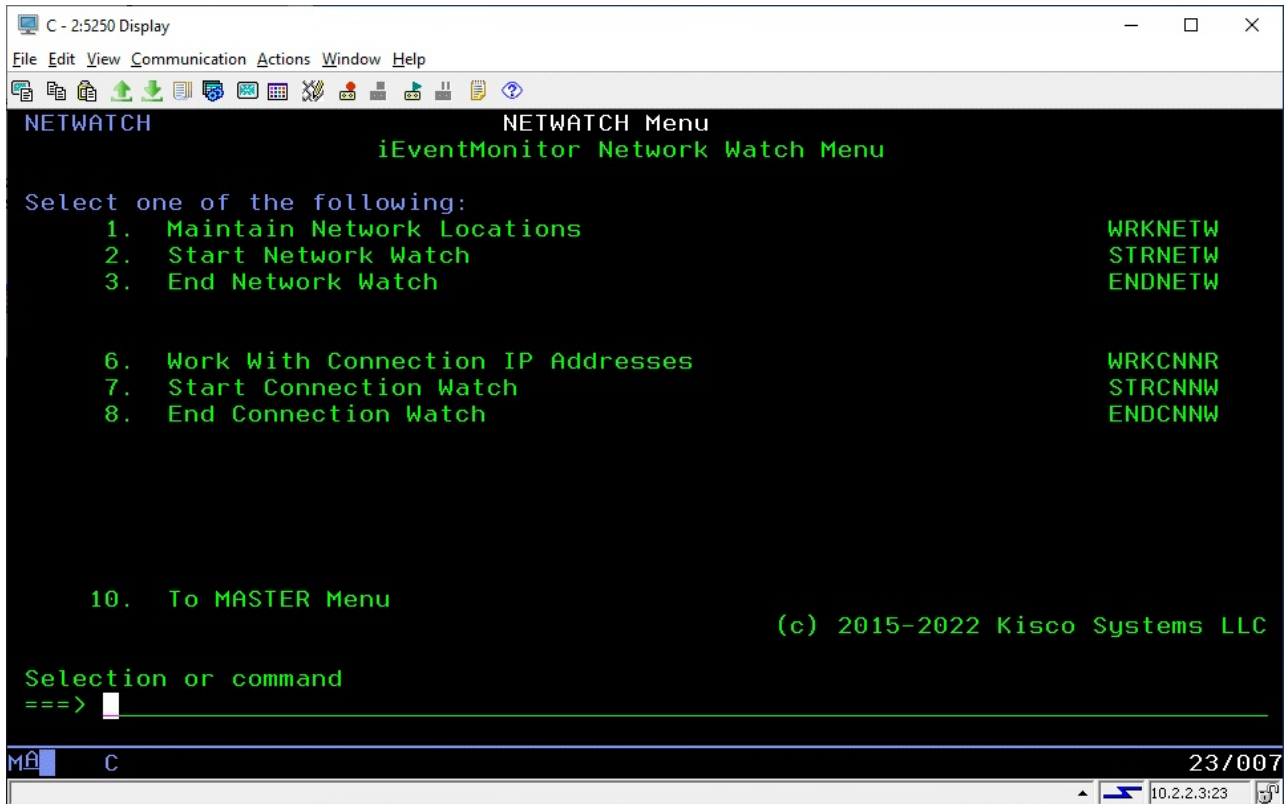
Once the data area has been created, you can specify up to 20 jobnames that you want iEventMonitor to ignore for lock wait alerts. The jobnames are stored every 10 characters in the data area. Do not leave any 10 character slot blank as the process will stop checking once it finds a 10 character slot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

Network Functions

iEventManager 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:



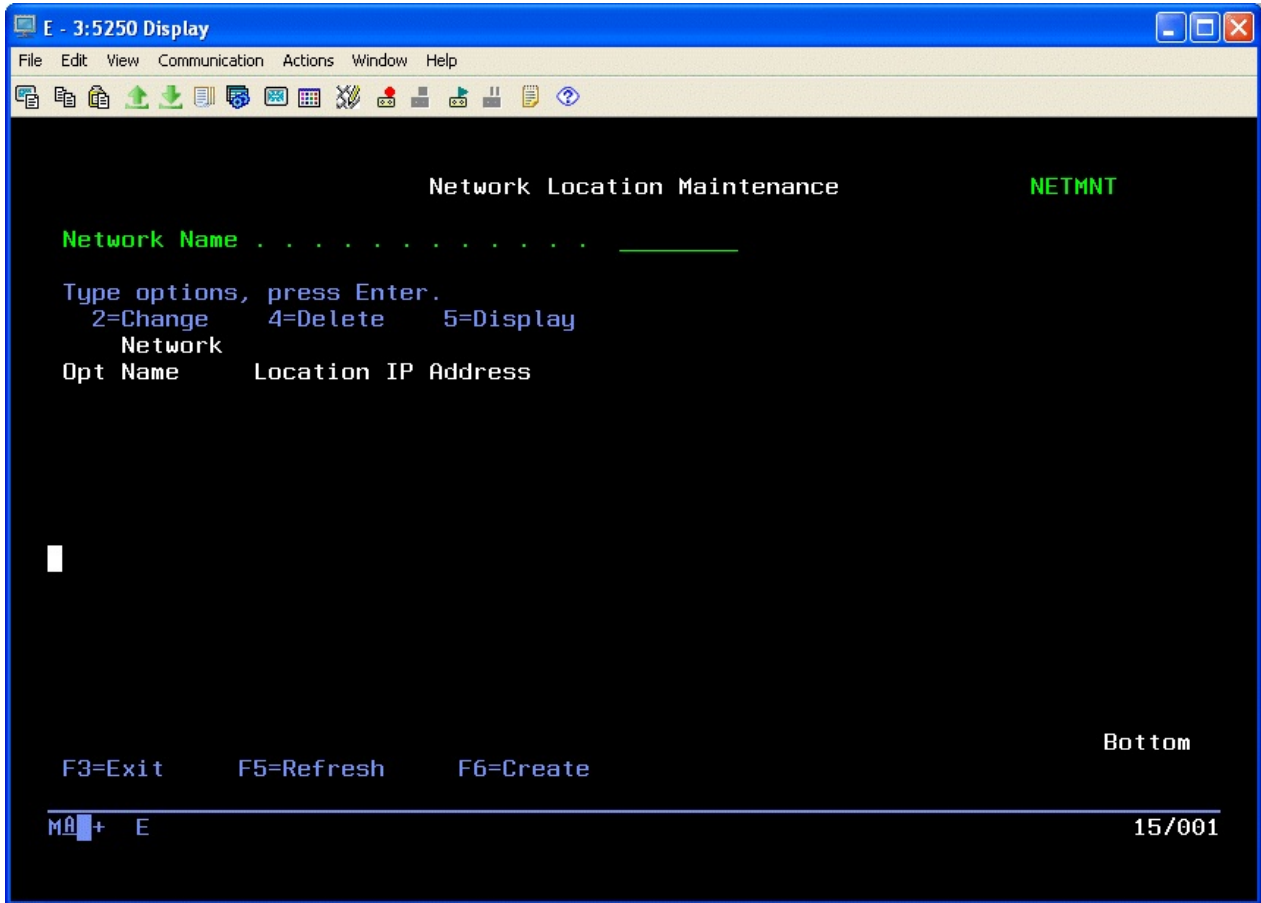
The menu options are as follows:

- | | |
|--------------------------------------|---|
| 1. Maintain Network Locations | Maintain a list of network locations that can be used for monitoring. |
| 2. Start Network Watch | Starts a Network Watch for a registered locations. |
| 3. End Network Watch | Ends a Network Watch previously started. |
| 6. Work With Connection IP Addresses | Work with valid connection IP addresses |
| 7. Start Connection Watch | Start the Connection Watch feature |
| 8. End Connection Watch | End the Connection Watch feature |

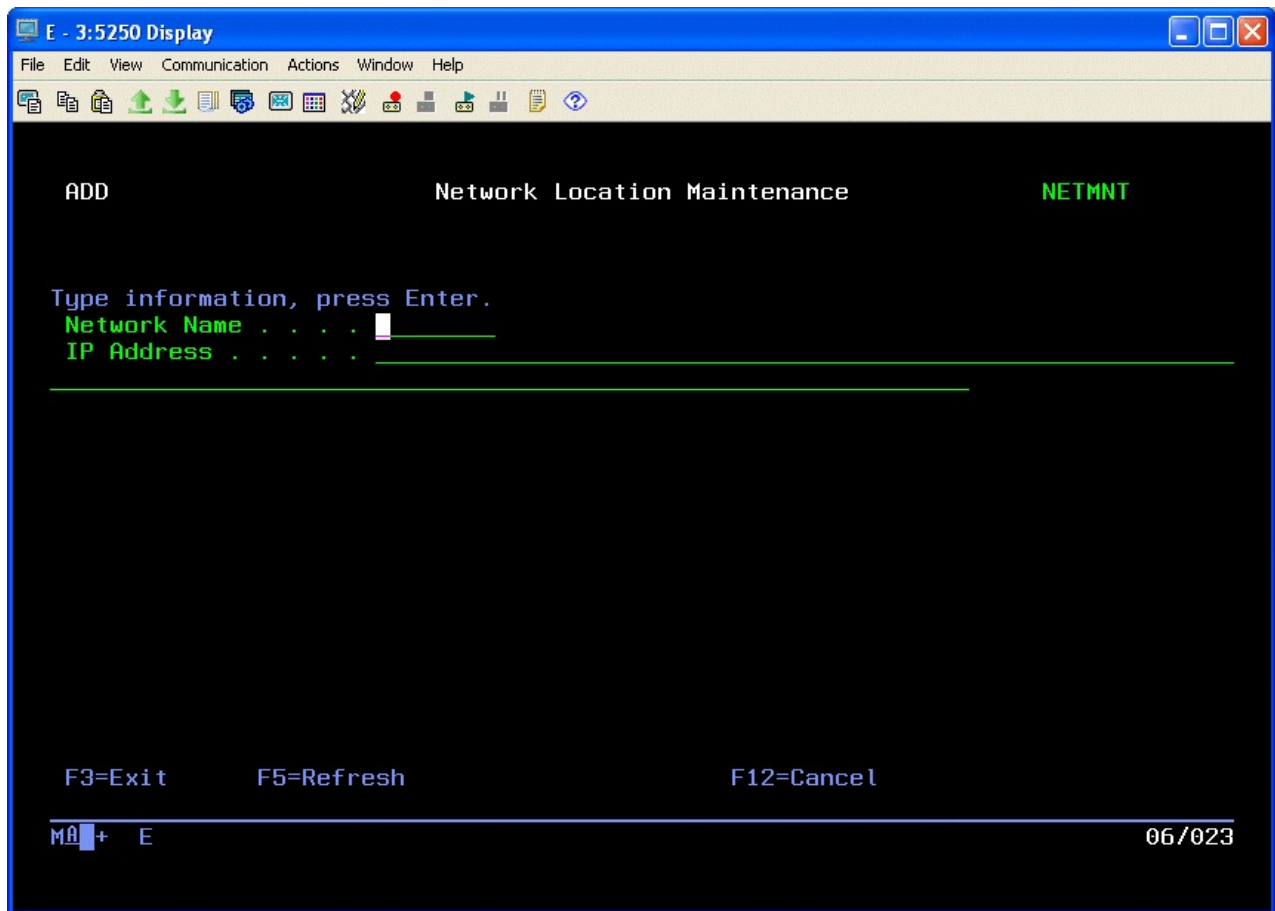
Each of these menu options is discussed in this section of the user's guide.

Maintain Network Locations

Before a network location can be watched, it has to be defined to iEventManager. 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.

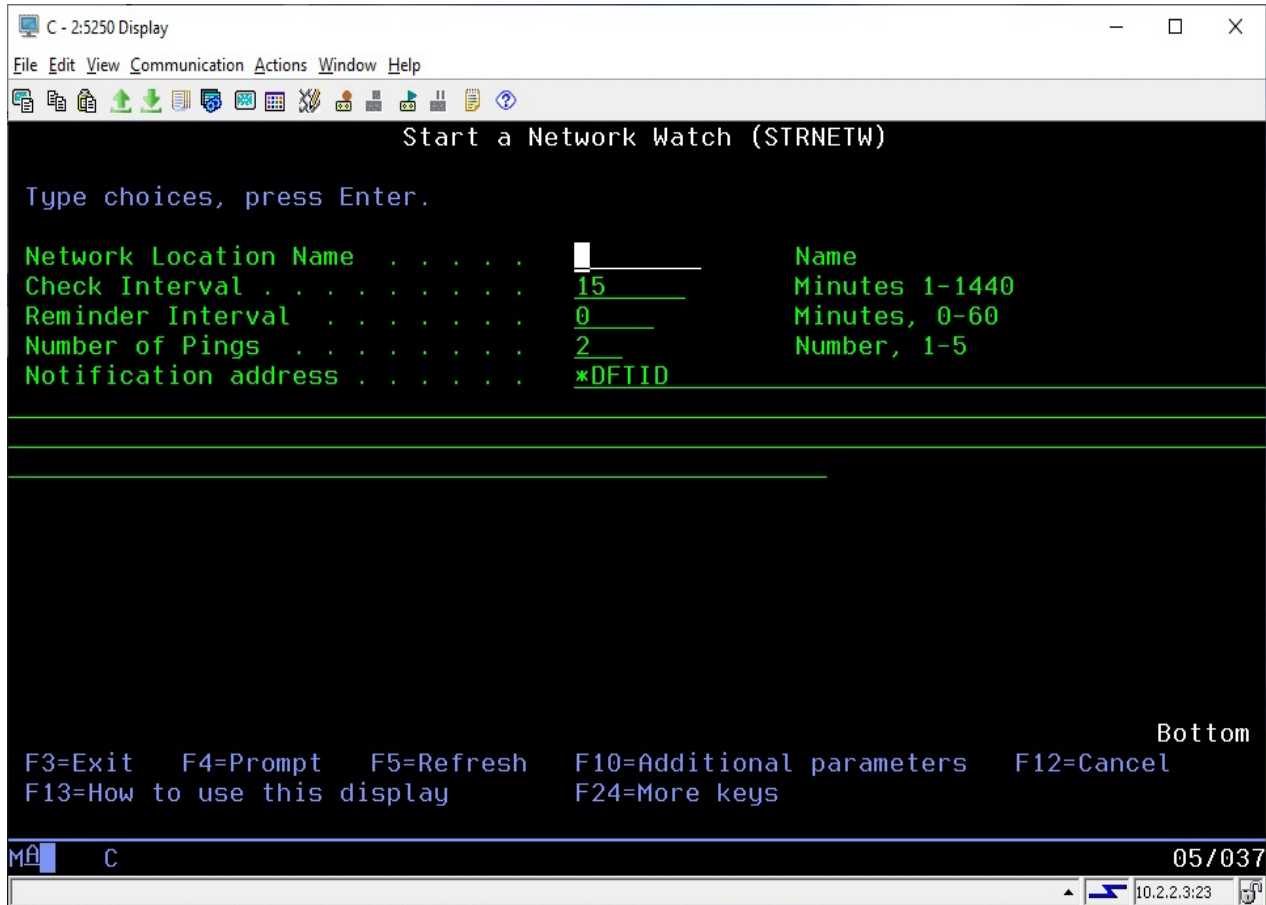
Enter the values as follows:

- | | |
|--------------|--|
| 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 it using option #2 or the STRNETW command. The parameters for this command are as follows:



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 iEventManager 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 iEventManager 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.

Using the F10 function key will display an additional parameter as follows:

Alert Subject Text iEventMonitor will issue an alert with the default subject text if you leave this set to *DFT. If you want a unique alert subject text used, enter that value here and it will be used if an alert is issued.

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.

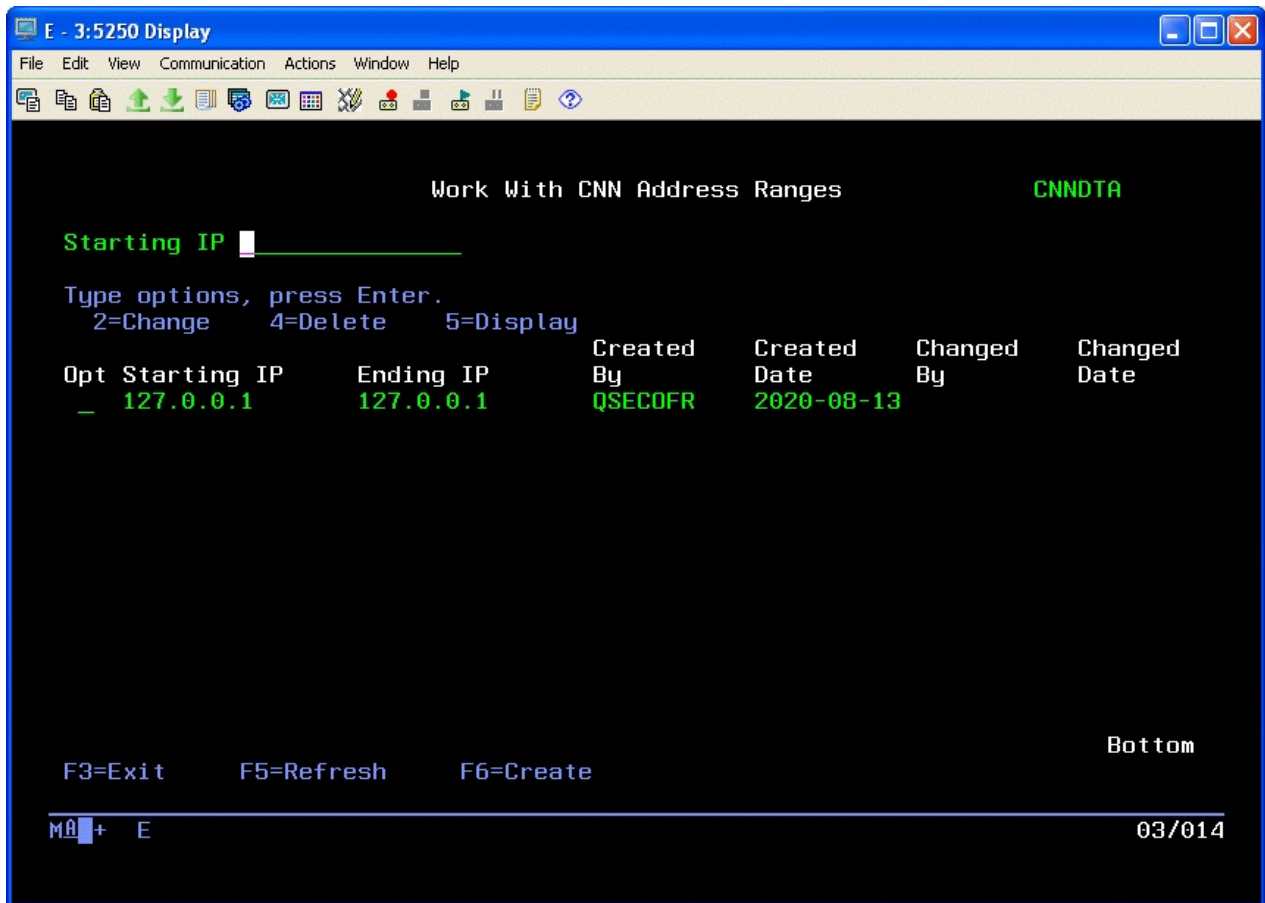
Running option #3 on the NETWATCH menu will stop the Network Watch and also remove it from the WRKIEM list of monitors and watches.

Connection Watch

iEventManager includes a feature that lets you watch for "foreign" systems connecting to your system via network connections. It allows you to define the specific IP addresses that are allowed to connect and only issues alerts when a system not authorized tries to establish a connection.

The Connection Watch includes an optional Exit Program feature. Using this exit program, you can code your own program to deal with questionable network connection attempts. There are no parameters in the call to your exit program, but when it starts running, a physical database file will be present in the QTEMP library named UTIL30F. This file will contain one record for each IP address included in the current alert. Your exit program can take any additional actions you may want to take including cancelling the connection using the ENDTCPN command. You will find a source physical file name QSAMPLE in the application library IEMLIB that contains a sample program named CNNEXIT that you can use to see how your own exit program might be implemented. We recommend that you develop and store your exit program in a library other than IEMLIB as a future upgrade from Kisco could wipe your program from the system.

Option #6 on the NETWATCH menu will let you maintain a list of IP addresses that you recognize as being legitimate for your system. When start this option, the following display will appear:



When the Connection Watch runs, it will check the active external connections to your system against this list and ignore any that are included in the list.

recommend that you use the *SUMMARY option when first starting to work with the Connection Watch feature.

*DETAIL

A separate alert notice will be issued for each questionable connection found when the Connection Watch runs. If none are found, no alert will be issued.

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 iEventManager 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.

When you press the F10 key, you will see the following three additional parameters:

Alert Subject Text

iEventManager will issue an alert with the default subject text if you leave this set to *DFT. If you want a unique alert subject text used, enter that value here and it will be used if an alert is issued.

Exit program

If you want to call your own exit program during alert processing, enter the name of the program here. When a Connection Watch alert is issued, your program will be called for any additional processing that you may want to do. When the exit program is called, a database file will be available in the QTEMP library for the program session. The file will be named UTIL30F. This file will contain one record for each IP address included in the current alert. Your exit program can take any additional actions you may want to take including cancelling the connection using the ENDTCPCNN command. You will find a source physical file name QSAMPLE in the application library IEMLIB that contains a sample program named CNNEXT that you can use to see how your own exit program might be implemented. We recommend that you develop and store your exit program in a library other than IEMLIB as a future upgrade from Kisco could wipe your program from the system.

| | |
|----------------------|--|
| | If you do not want to call an exit program, use the default value of *NONE. |
| Exit program library | If you are using an exit program, enter the name of the library where your exit program is stored. |
| Send alerts | When you use an exit program, you can use this option to suppress the alerts issued automatically by iEventMonitor. This could be done to allow your exit program to decide whether or not the alert needs to be issued. |

Once you have started the Connection Watch, you can monitor it using option #1 on the MASTER menu. It will be the CN type entry. From there you can stop it, change the settings and restart it. As long as it appears in this list, it will start whenever you run the STRIEM command and it will end using the ENDIEM command. If you want to end the Connection Watch and remove it from the list, you can use option #8 on the NETWATCH menu. Running this option will stop the current Connection Watch and delete from the list of active tasks.

Audit Functions

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.

iEventMonitor can issue alerts for the following audit events on your system:

| <u>Audit Code</u> | <u>Description</u> |
|-------------------|---|
| AD | Audit changes |
| AF | Authority failures |
| AX | Row and column access control |
| CD | Command line use for registered user profiles |
| CP | User profiles changed, created or restored |
| DS | DST password reset |
| EV | System environment variables |
| OW | Object ownership changes |
| PS | Profile swaps |
| PW | Invalid passwords |
| SO | Server security user information actions |
| ST | Use of service tools |
| 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*)
```

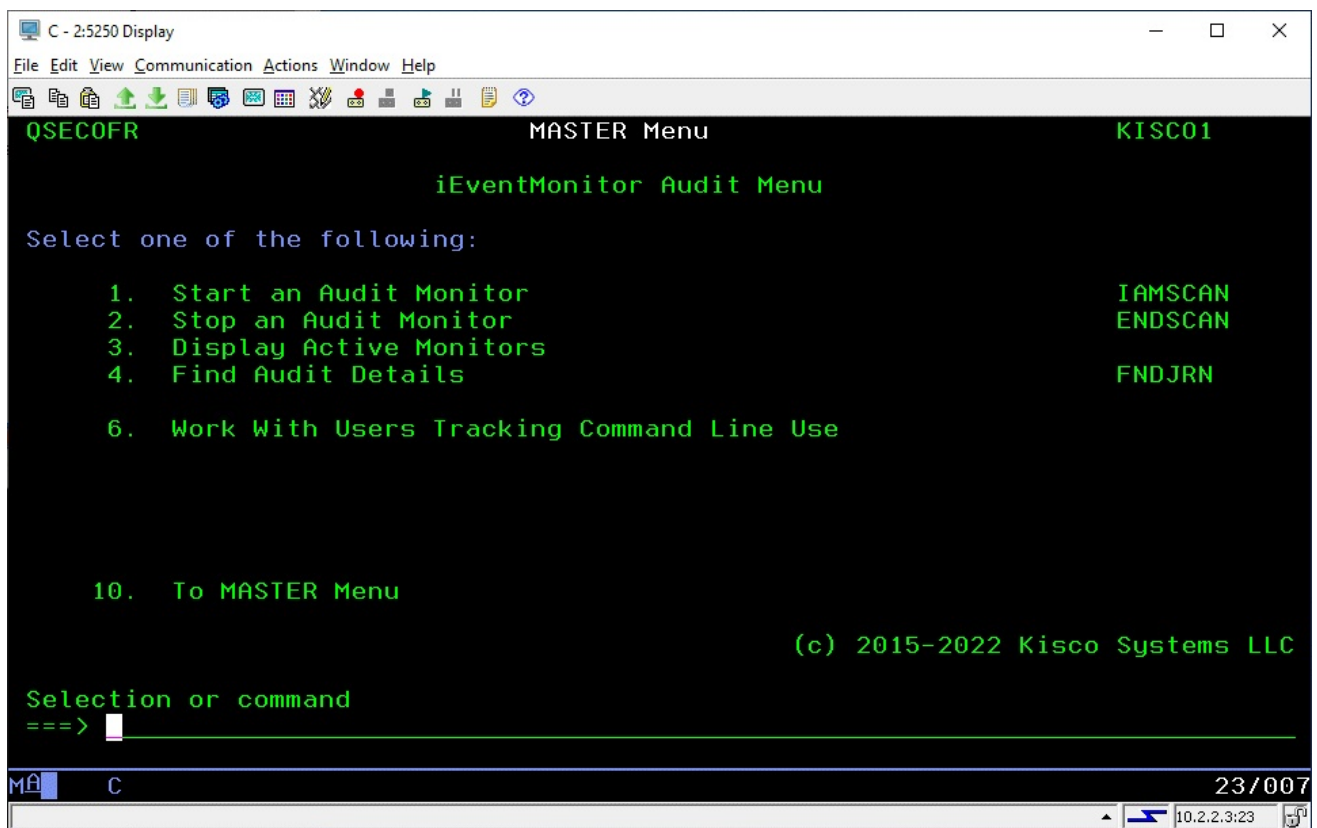

This will display the system values that are used to control audit journals. Under the QAUDCTL system value, you must have the setting of *AUDLVL set. In the QAUDLVL system value, you should have a minimum of the *AUTFAIL and *SECURITY settings. If you want to track object deletes using iEventManager, 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 iEventManager for reporting on events, only the most recent receiver or two will be used. Unless you need the older receivers for other purposes, then they can be periodically removed from your system. You can check to see if there are journal receivers to be deleted using this command:

```
WRKOBJ OBJ(QGPL/AUD*)
```

The AUDIT Menu

The AUDIT menu controls all of the iEventManager 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 iEventManager 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 iEventManager.
6. Work With Users Tracking
 Command Line Use Register and un-register user profiles for command line 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:

```

C - 2:5250 Display
File Edit View Communication Actions Window Help
Type choices, press Enter.
Audit Code . . . . . AE          AD, AF, AX, CD, CP, DO, DS...
Minutes . . . . . 15           2-1440
Email notification address . . . *DFTID

Start option . . . . . *RESTART *RESTART, *RESUME
Attachment format . . . . . *TXT   *TXT, *CSV (CD Only)

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

Bottom
Mâ C                                05/037
10.2.2.3:23

```

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, 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. |
| Start option | Controls how the monitor treats the startup process. |

Choose on of the following values

*RESTART When the Audit Scan starts, it will reset the process and start reporting new events as they occur following the startup.

*RESUME When the Audit Scan starts, it will pick up from where it was when it was last stopped.

Attachment Format Enter the format that you want for the audit alert detail attachment.

Choose from the following list:

*TXT The attachment will be a standard text file format.

*CSV The attachment will be a comma separated values file format. (Note that this is currently only valid for Audit Code CD.)

When you press the F10 key, you will see the following additional parameter:

Alert Subject Text

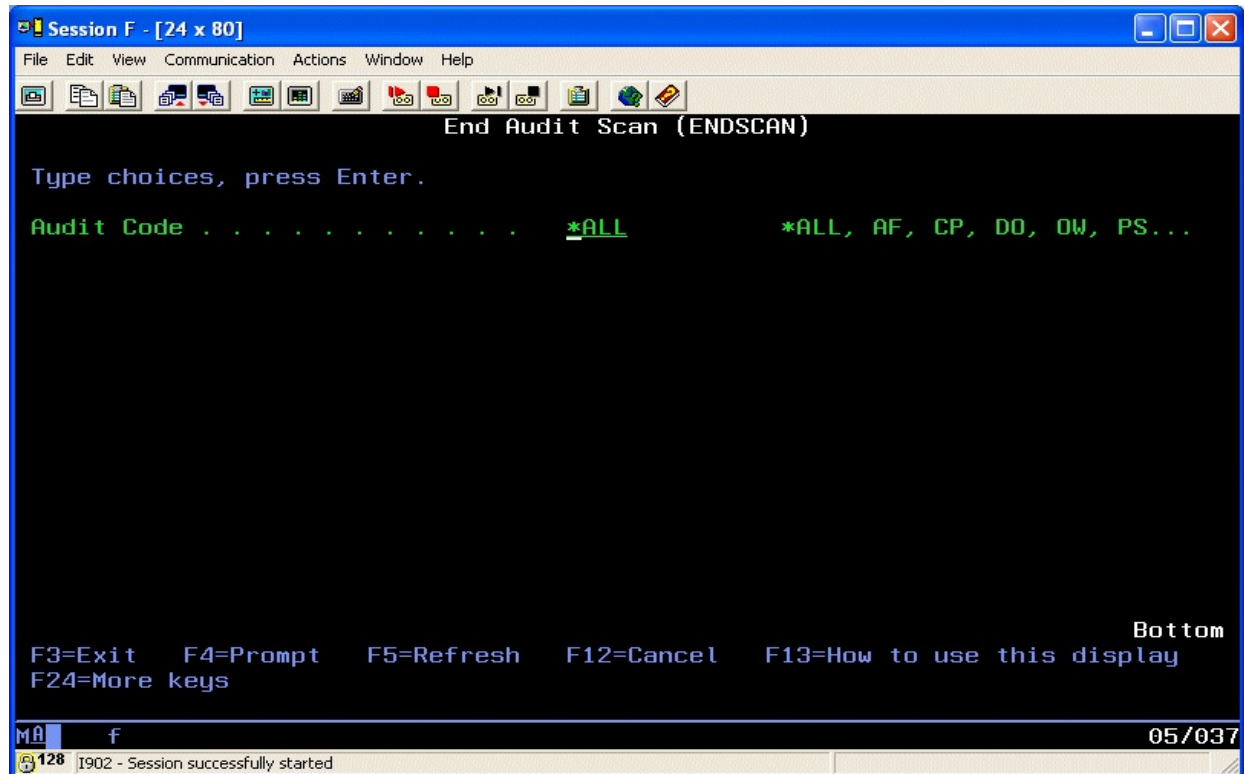
iEventManager will issue an alert with the default subject text if you leave this set to *DFT. If you want a unique alert subject text used, enter that value here and it will be used if an alert is issued.

Press ENTER and iEventManager will start your audit monitor. Every time period specified by the "Minutes" parameter, iEventManager 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.

Stopping an Audit Monitor

Once an audit monitor has been started, you can stop it using the ENDIEM command or from the WRKIEM list of tasks. This will keep the monitor on the task list and it will be restarted whenever the STRIEM startup process is run.

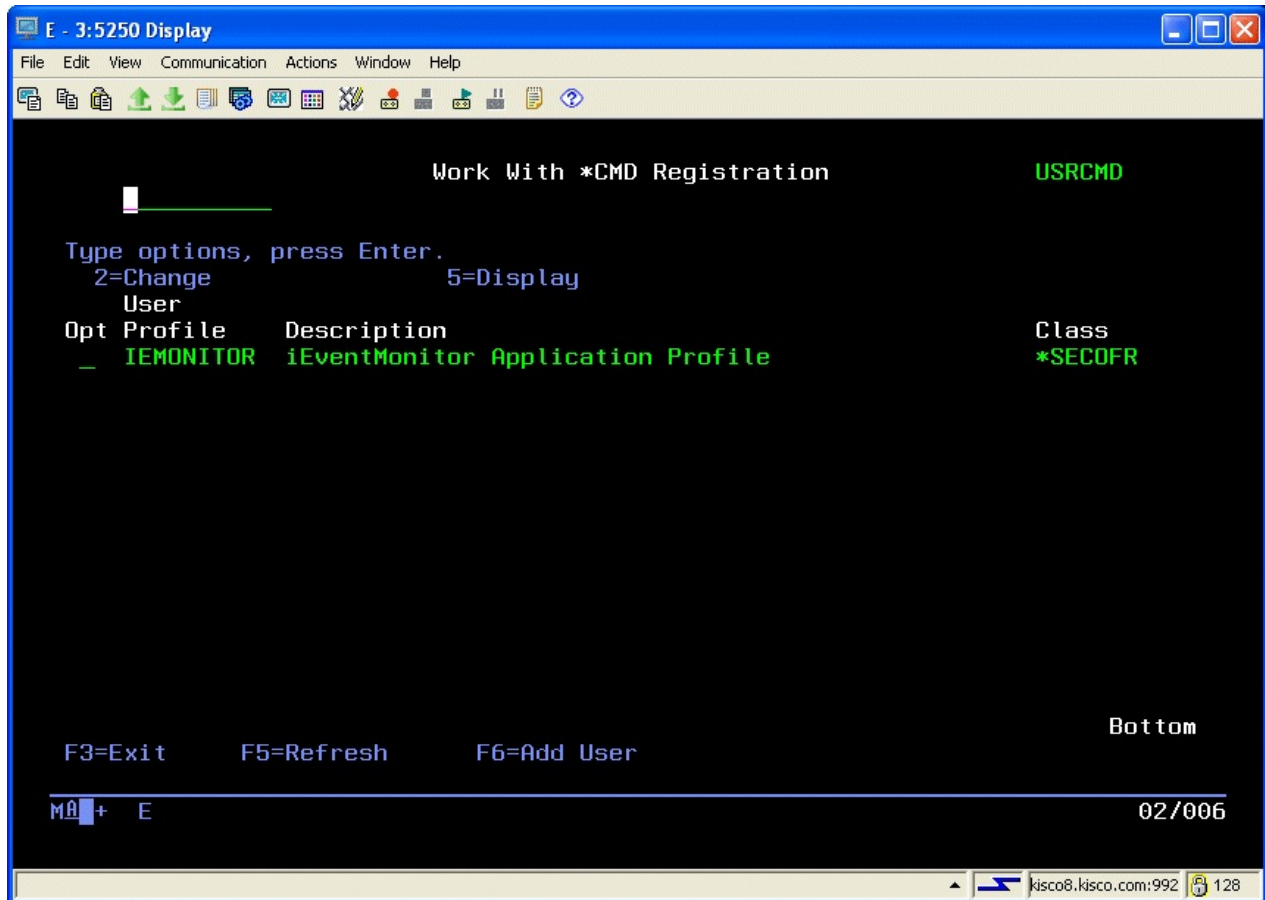
You can also choose to stop active audit monitors using the ENDSCAN command (option 2) will remove these Audit Monitors from automatic restart processing.



Tracking Command Line Use

The CD 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:

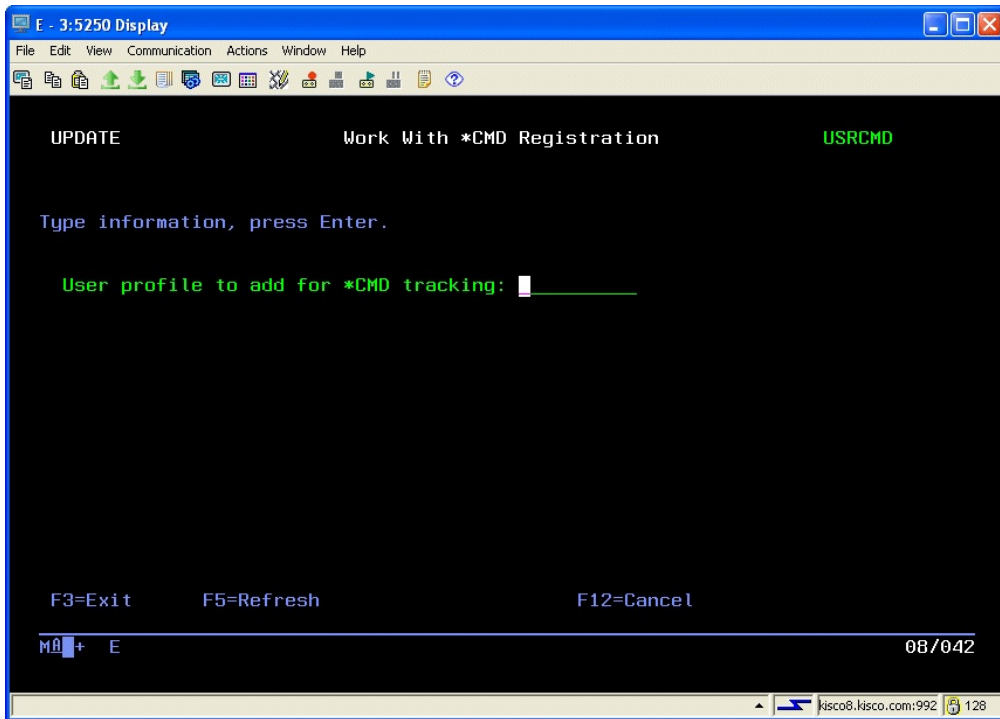


When you first start this option, any user profiles already registered for command line audit tracking will be shown. If no users are registered, the display will be empty.

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

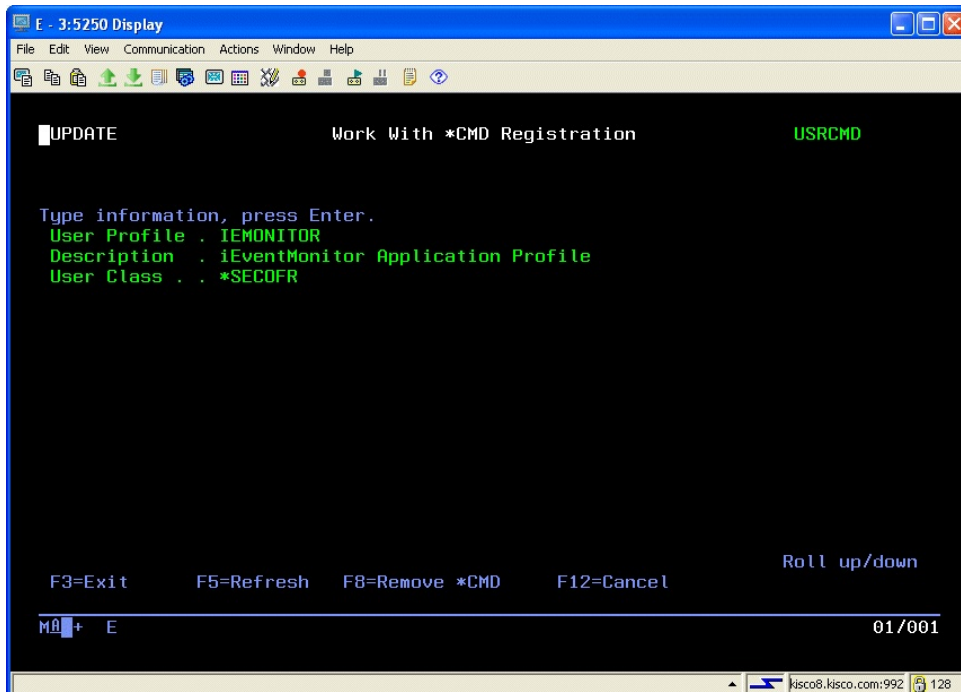
When you add a user profile to this list, all command line activity that uses a CL command, including commands used in called CL programs, will be tracked by iEventManager and reported as an alert at the specified interval with the audit watch. If you are registering a new user profile, CD tracking reporting will start the next time they sign on to the system.

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



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:

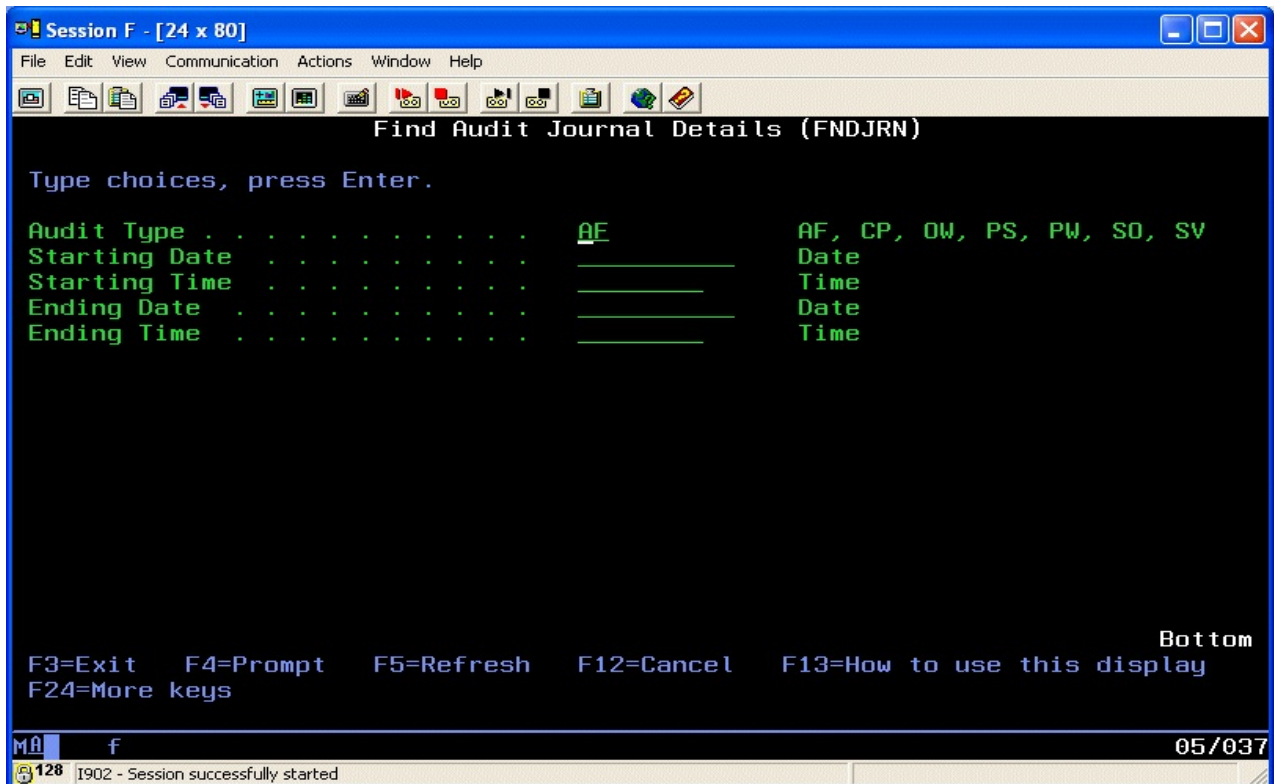


Confirm that the user profile shown is the one that you want to remove from the list. If it is correct, press the F8 key and the user profile will be removed from the list and the AUDIT menu will be re-displayed. Run option #6 on the AUDIT menu again to confirm that the user profile has been removed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

Installation and Configuration

Installation from Media

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

Note: If you are upgrading to iEventMonitor Release 3 or higher for the first time from Release 2, make sure you review the “Note For Customers Upgrading from Release 2” on page 5 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
 QVFOBJRST - 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 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 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.

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.

IEM Respond Configuration

For the IEM Respond feature of iEventMonitor to work, you will have to configure and activate a server instance for the Apache HTTP server on your IBM i.

The following checklist will have to be done to complete the configuration. The details will follow for each step.

- Step 1: Start the Apache Administrative server tool on your IBM i.
 - Step 2: Create a new HTTP server instance named IEVENTMON
 - Step 3: Install the HTTP Server objects for iEventMonitor
 - Step 4: Start the new IEventMonitor server instance
 - Step 5: Set IEMSET Parameters for IEM Respond
-

- Step 1: Start the Apache Administrative server tool on your IBM i.

To configure an Apache server instance, you must first start the Administration server instance for Apache. You can do this from a command line on your IBM i with the following command:

```
STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
```

The server may take a while to initialize, so wait a few minutes before starting up the configuration wizard in your browser. When you are ready, point your browser to the following web address:

<http://yoursystemi.com:2001/HTTPAdmin>

The system will prompt you for a user profile and password. Once that has been supplied, the Web Administration wizard that comes with your OS will be displayed.

- Step 2: Create a new HTTP server instance named IEventMonitor

After you sign on and get to the Web Administration page, navigate to the “Manage” tab and then the “HTTP Servers” tab below that. Under the “Common Tasks and Wizards”, select “Create HTTP Server”. For server name, you MUST specify the value “IEVENTMON”. The server description of “Kisco iEventMonitor Server” can also be used. Click on Next for all of the following displays taking all of the default options presented until you reach the “Create HTTP Server” panel with a “Finish” button at the bottom. Press the Finish button to complete creating the new server instance.

Step 3: Install the HTTP Server objects for iEventMonitor

On a terminal session where you are signed on as a security officer, go to the INSTALL menu in library IEMLIB by entering the following command:

```
GO IEMLIB/INSTALL
```

Run option #11 (Install HTTP Server Instance Objects) from this menu. This will install the HTTP server objects needed by iEventMonitor.

Step 4: Start the new iEventMonitor server instance

Start the newly created server instance. You can do this from the Web Administration page or from your command line. If you do this from the command line, issue the following:

```
STRTCPSVR SERVER(*HTTP) HTTPSVR(IEVENTMON)
```

The server instance will now be active. You can now test the server instance by going to your browser and entering the following URL to bring up the test page:

<http://yoursystemi.com:8077>

A test page like this will be displayed:



iEventMonitor Configuration Test

WELCOME & CONGRATULATIONS!

Your iEventMonitor Respond server instance is working.

At this point, the server instance is ready for use.

Step 5: Set IEMSET Parameters for IEM Respond

Before you can use the IEM Respond feature, several settings must be updated in the IEMSET command (option #9 on the INSTALL menu) as follows:

- | | |
|--------------------------|---|
| IEM Respond Active? | This must be set to *YES. |
| IEM Respond Page Heading | This allows you to customize the browser display heading for your installation. |
| IEM Browser Respond IP | Sets the HTTP address used for your browser session. |

Refer to the documentation for option #9 (IEMSET) on the INSTALL menu contained in the following section of this user's guide.

The Install Menu

When you select item 30 from the MASTER menu, the installation menu is displayed as follows:

```

C - 2:5250 Display
File Edit View Communication Actions Window Help
INSTALL Menu
1. Run initial install procedure
2. Display installation status
3. Change installation status
4. Print documentation
5. Check Version Information
6. Purge iEventManager Activity Log      DSPLOGPRG
7. Process Kisco PTF Package
8. Work With Authorized Users          WRKIEMUSR
9. Set iEventManager Default Values    IEMSET
10. Send Test Email Message            SNDALERTT
11. Install HTTP Server Instance Objects WWWINST
12. Test Error for IEM Respond
15. Remove Message Handling Exit Program
16. Generate SIEM Feed                 IEMLOGEX
17. Send Diagnostic Info to Kisco      SNDIAGF
20. To MASTER Menu                    (c) 2015-2022 Kisco Systems LLC
===>

```

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 the documentation changes since this manual was last updated. |
| 5. Check Version Information - | Displays information about the specific version of iEventManager that is installed on your system. |
| 6. Purge iEventManager 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.
 11. Install HTTP Server Instance Objects Installs the IEM Respond feature server objects on your system. Only needs to be run once.
 12. Test Error for IEM Respond Submits a job to QBATCH which will force an error message that requires a response. This can be used when setting up the IEM Respond feature for your testing process.
 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 not registered in the IBM i OS exit registration.
 16. Generate SIEM Feed Used to generate the optional SIEM Feed file for SIEM integration.
 17. Send Diagnostic Info to Kisco Collects diagnostic information about iEventMonitor on your system and emails it to Kisco Systems for analysis purpose. You should only use this option as directed by Kisco support staff.
 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:

```

C - 2:5250 Display
File Edit View Communication Actions Window Help
Software Security

Installation for      IEMLIB      Developer ID code  KISCO
Machine serial number 785D4C0    Current Library    IEMLIB
                      Sec.serial number 785D4C0
                      Sec.install date. 211221
Machine run date.... 220217      Sec.expire date.. 999999
                      Sec.partition.... 002

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

M&  C  17/031
10.2.2.3:23

```

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. This date is shown in the form YYMMDD.

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

| <u>Message</u> | <u>Explanation</u> |
|--------------------------------|--------------------------------------|
| 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:

```

C - 2:5250 Display
File Edit View Communication Actions Window Help
Software Security

Installation for      IEMLIB      Developer ID code  KISCO
Machine serial number 785D4C0    Current Library    IEMLIB
Sec.serial number    785D4C0
Sec.install date     211221
Machine run date.... 220217      Sec.expire date..  999999
Sec.partition....   002

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

M C 17/031
10.2.2.3:23

```

Trial extension

To extend a trial period, contact Kisco 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, 2021 would be 210112) |
| 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 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. Kisco may need to verify this when working with you on a support issue.

Install Kisco PTF Package

iEventMonitor supports distribution of program updates remotely by email attachments. When programs in iEventMonitor are updated or program fixes are required, Kisco Systems can send the updates directly to you. 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:

CRTFLR FLR(KISCO)

Note: This folder only has to be created the first time you install a PTF. If you have other software products from Kisco 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:

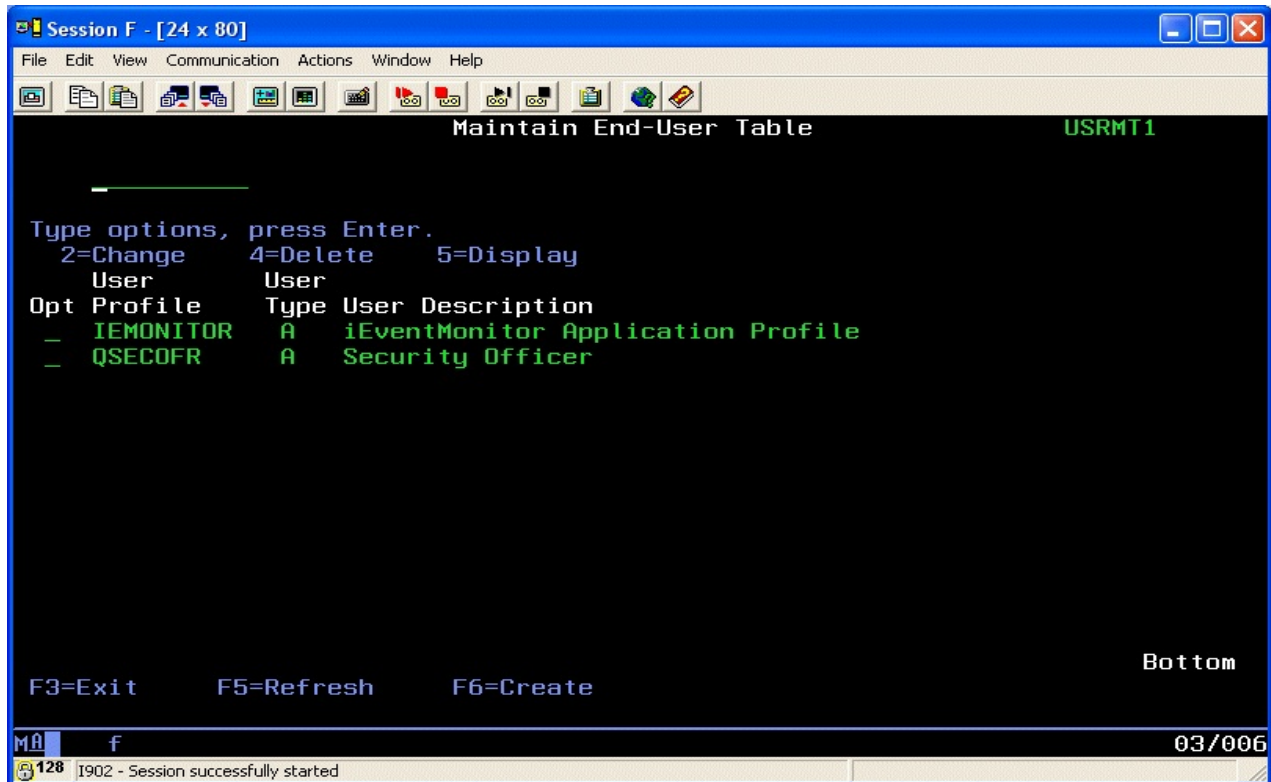
<http://www.kisco.com/pctoflr.htm>

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 PTF updates 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.

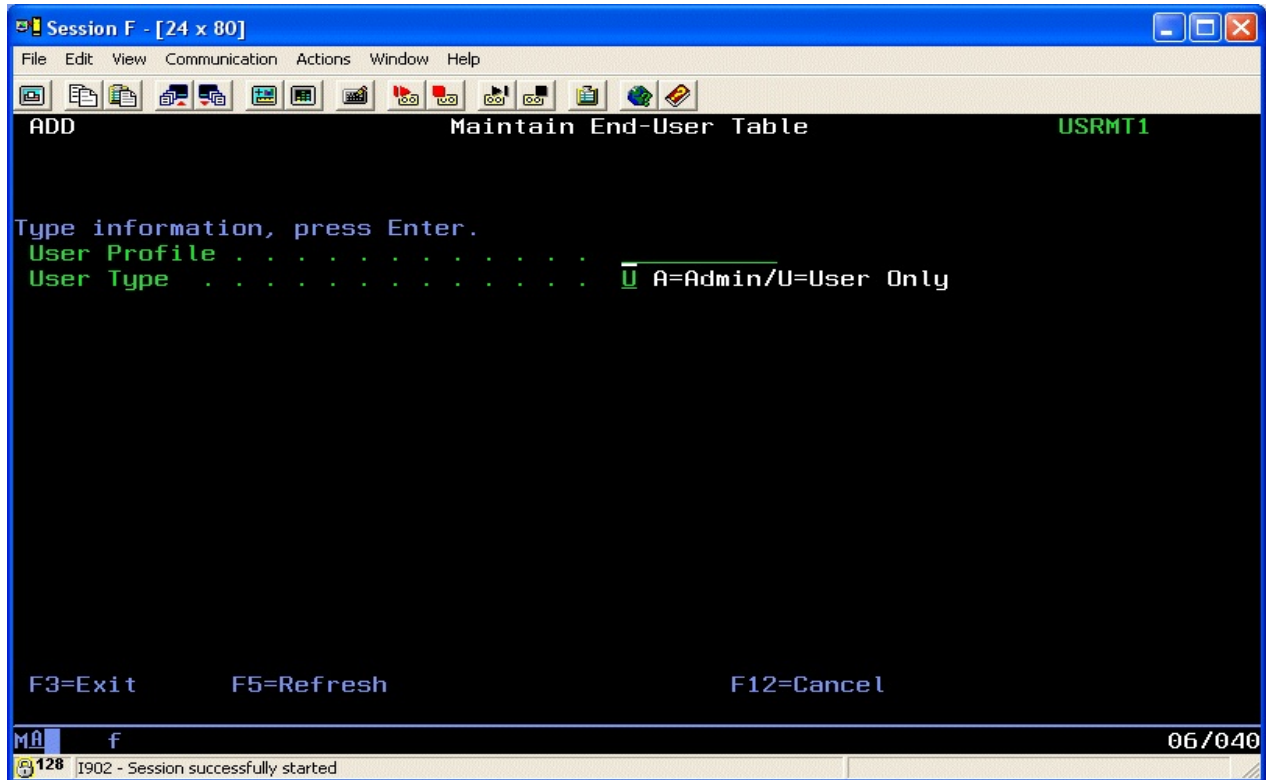
Work With Authorized Users

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 WRKIEMUSR command:



As shipped from Kisco 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:



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 iEventManager software product. |
| User Type U | Is a user. All functions of iEventManager are available to them except for option #8 on the INSTALL menu. |

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

iEventMonitor Default Values

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

```

C - 2:5250 Display
File Edit View Communication Actions Window Help
Set iEventMonitor Values (IEMSET)

Type choices, press Enter.

Message Que Read Delay . . . . . > 10           Seconds (01-30)
Prime Shift Start Time . . . . . > 0           0000-2400
Prime Shift End Time . . . . . > 0           0000-2400
Include Job Info in Alert? . . . . > *YES       *YES, *NO
IEM Respond Active? . . . . . > *YES       *YES, *NO
Text Friendly Alerts? . . . . . > *YES       *YES, *NO
Duplicate Alert Suppression . . . . > 005       Minutes - 000-060
Default Notification Address . . . . > rich@kisco.com

Alternate Notification Address > *NONE

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

Mâ C 05/037

```

Set these parameters as follows:

| | |
|----------------------------|---|
| Message Que Read Delay | This value is no longer used by iEventMonitor. |
| 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.

IEM Respond Active?

Tells iEventMonitor whether or not the IEM Respond feature has been activated on your system. When initially installed, this defaults to ***NO**. Once you have completed the additional configuration steps as outlined in this user's guide, you can set this to ***YES** to enable the feature. **DO NOT set this to *YES until you are sure that you are ready.**

Text Friendly Alerts?

Choose one of the following values:

***NO** If you are not using the IEM Respond feature, leave this set to ***NO**.

***YES** If you are using the IEM Respond feature and you are issuing alerts to text destination addresses, this option will cause the alerts that require a response to be formatted better for those receiving the alert by text.

Duplicate Alert Suppression

This option controls suppression of duplicate message queue monitor alerts issued within a short period of time. It can be used to make sure that your email stream issued from your IBM i systems does not get clogged if an application error gets into a looping condition.

This setting is in minutes and the default value is set to 5. If an identical message is issued by the same user profile within the given period of time, only the first instance will result in an alert being issued.

Changing this value to zero will turn this feature off for your system.

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, 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.

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

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

| | |
|--------------------------|--|
| 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. |
| 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. |
| IEM Respond Page Heading | This is used as a web page heading when the IEM Respond feature is active for your installation. |
| IEM Browser Respond IP | This is your system web address to be used for the IEM Respond feature. |

An example might look like this:

<http://yoursystemi.com:8077>

Note that the port reference of 8077 must be included. You can also specify a numeric IP address like the following example:

<http://10.1.2.3:8077>

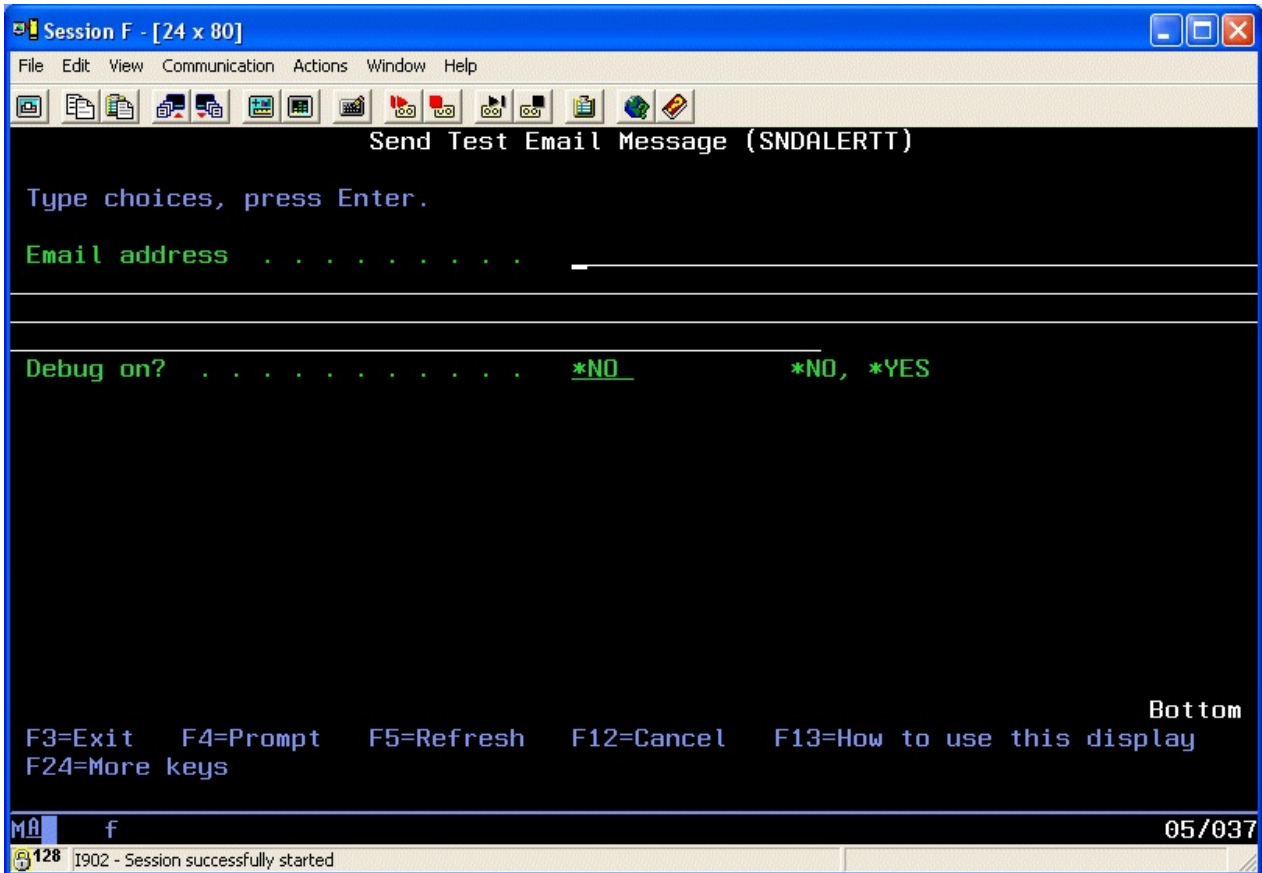
Off-Shift Days

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 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.

If you are having problems with email processing, check the following web page at our website for tips and suggestions:

<http://www.kisco.com/emailconfig.htm>

SIEM Feed Option

iEventMonitor includes an optional feature that lets you generate a feed to an external Security Information and Event Management (SIEM) system. The feed is formatted using the IBM LEEF 2.0 standard. This update for SIEM will process all messages from any monitored message queue.

To generate the feed file, a new option has been added to the INSTALL menu. Option #15 (or using the IEMLOGEX command) will create a new feed file with all new events since the last time it was run. The first time it is run, it will pick up events logged since the PTF (or version update) was installed.

When the option runs, it will create a new file each time. The file will be named "iem_siem_nnnnn.txt" and will be located in the "/tmp" path in the IFS. The nnnnn in the file name will be a sequential number starting with "00001". If you prefer to have the file generated with a different name or in a different IFS path, contact Kisco Systems for instructions on how to make this change.

Each SIEM feed record will include standard LEEF 2.0 header fields along with standard src, usrName, devTime and devTimeFormat fields. Two custom event keys have been added which are msgID and msgText.

Kisco Systems is planning future enhancements to this feature that will also include SIEM feed records from the various security audit functions available on the AUDIT menu. Watch for future updates to iEventMonitor with these enhancements.

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('')
```

SETALT Command

iEventMonitor includes a command, SETALT (Set Alternate Address On/Off). This command can be used to temporarily switch all alert notifications from iEventMonitor to use the Alternate Notification Address for alerts. When you first install the software, it will be set to *OFF status.

You can use this command to switch alerts to your alternate addresses for special circumstances that fall outside of the range of shift times and off-shift days. For example, if your support staff has a meeting during the day and you want backup staff to handle any alerts.

To use the command, simply prompt the SETALT command in library IEMLIB. There is a single parameter of either *OFF or *ON. If you turn the feature *ON, it is the customer's responsibility to turn it back *OFF when your circumstances return to normal.