

MICROSOFT  
SEARCH  
POST - Mortem  
2004

HOCR70A-040103



## **Post-Mortem** for Email Search

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HOCR70A-040104

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## **Overview**

A grand jury of the United States District Court for the district of Columbia has issued three subpoenas dated January 22, 2004 commanding production of certain EOP documents for the investigation including electronic documents within Records Management.

This document will outline Microsoft's support during this critical time, lessons learned and recommendations.

## Problem Description and Outline of work performed

In January 2004 the White House Chief of Staff relayed instructions from the Counsel's office to search and provide documents that may be related to the Justice Department's investigation.

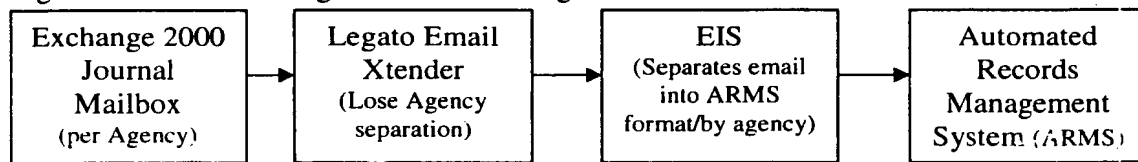
This section will outline Microsoft's involvement in assisting EOP as various requirements and needs were presented.

### Issue #1

#### *Problem Description:*

The reason it was difficult to fulfill the Justice Department's request for e-mail matching a set criteria is the Archival Solution (ARMS) was initially designed for Lotus Notes and there is no current mechanism to transfer Exchange email into ARMS. The initial proposed solution was to move journaled email in Exchange into Legato Email XTender. In order to format data into a compatible ARMS format, EIS was custom developed to transform and transfer data from Legato into ARMS (see Figure 1 below). This is not yet a stable and consistent solution to transfer data from Exchange into ARMS. EIS currently fails to consistently move data from Legato to ARMS and it is not architected to handle to amount of email traffic generated within Exchange each day.

Figure 1: Records Management for Exchange data



This is a critical issue because each time there is a subpoena EOP is at risk of not meeting the deadline. EOP's Architecture and Engineering group is working on an end-to-end archival solution that will replace ARMS within the next year.

#### *Solution/Recommendations:*

Our recommendation is to move off of ARMS onto a COTS archival system as per the initiative within A&E. Until a product is selected and the information is migrated from ARMS, a temporary solution must be implemented.

Microsoft was able to perform a code review on a section of EIS code. The code review summary is in the appendix.

Our developers found 492 problems in a section of 1000+ lines of code: 429 critical severity issues and 58 medium severity issues. Although it was a code review for a subsection of EIS, these findings should be consistent throughout the entire EIS code.

Due to the number of issues found within the EIS, Microsoft recommends the following for an interim solution.

1. For a complete COTS solution, we recommend exploring the use of BizTalk 2004.

or

2. We recommend having an experienced developer code a tool to move and format email from Legato Email XTender to ARMS. As a part of the code development cycle, we would recommend a code review by a Microsoft Application Developer Consultant.

## Issue #2

### *Problem Description:*

On 2/5/04, the EOPRM server's drives crashed and caused the server to bluescreen at bootup.

### *Solution:*

██████████ notified Microsoft of the situation. We then worked with ██████████, ██████████ and ██████████ on recovering the public folder database where the query results were held. The solution provided was a complete rebuild of EOPRM to a new server and then the recovery of the Exchange databases.

### *Lessons Learned:*

There was an Exchange database backup but it was two weeks old. If we were unable to access the databases on the bad drives, two weeks worth of query results could have been lost.

### *Recommendations:*

- Identify the team that is accountable for the Messaging servers. Verify the team is staffed with an appropriate number of engineers and management
  - Consistently meet to discuss status of identified metrics
  - Develop and work to fulfill a SLA (Service Level Agreement) that would define the acceptable amount of downtime and data loss.
- Develop a backup strategy that meets the SLA
- Perform fire drills
  - Ensure the processes in place are effective and applicable
  - Test Backups
  - Ensure SLA is met
  - Identify Areas for Improvement
  - Team reviews results and adjust processes respectively

**Issue #3***Problem Description:*

Searching very large journal mailboxes through Outlook XP on production servers is slow and does not provide a complete set of results.

*Background:*

In October 2003, a similar subpoena from General Counsel was issued. At the time because EIS was not functional, all journaled email was downloaded to PSTs, sorted by agency and date. The Microsoft team was able to develop a utility called FindIt to search through the large store of PST data.

In October 2003, the process of moving the Exchange journaled data to PST changed and all journaled email was left to accumulate in the journal mailboxes. There were 11 journal mailboxes on 4 servers separated by agency.

*Lessons Learned:*

The Microsoft team learned of the process change on February 10<sup>th</sup>, 2004 when we were notified of the issue with searching the very large journal mailboxes. The Premier team immediately escalated these issues to CPR (critical problem resolution) and the Exchange Product Group. The Microsoft Exchange Product Group has not tested all of the effects of having very large mailboxes but was able to tell us that the number of items in a mailbox relates exponentially to the speed of mailbox accessibility. Microsoft Exchange was designed to effectively service numerous mailboxes within a mailbox store.

Exchange Server uses fault-tolerant, transaction-based databases to store messages and other mail related information, optimized to quickly store and retrieve many messages (tens of thousands) simultaneously from many different folders and mailboxes.

Exchange Server databases are based on the JET format, which uses log files to track and maintain information. Microsoft JET is an advanced 32-bit multithreaded database engine that combines speed and performance with other advanced features to enhance transaction-based processing capabilities. Everything in ESE Databases is based on a B+-tree.

271987 XADM: Overview of Exchange Server Database Architecture and Database  
<http://support.microsoft.com/?id=271987>

Because very large, flat-folder structure mailboxes have never been tested, one benchmark to utilize would be the maximum number of items allowed within a PST. According to Knowledge Base Article 159163, A PST file can accept 16,384 folders of up to 16,384 items in a folder.

159163 XCLN: Exchange Client PST Limitations  
<http://support.microsoft.com/?id=159163>

Additional issues with exceptionally sized mailboxes:

1. Size of Mailbox Store Database
  - a. The size of the journal mailbox will increase the size of the mailbox store it resides within. Currently, the journal mailboxes reside on production servers within various users' mailbox stores. The WHO journal mailbox.

on [REDACTED] is approximately 50GB in size. It resides within a mailbox store that also houses other White House Office (WHO) users. A mailbox store database is comprised of two files. In this instance, both files come together to equal almost 190GB in size. This is a critical issue. If something happened that would require a restore of the database, it could take over 2 days to restore.

- b. In order to reduce the physical size of an Exchange database, you must defragment your Exchange database offline. The defragmentation option makes used storage contiguous, eliminates unused storage, and compacts the database to reduce the database's size. This is done by using the Eseutil utility which copies database records from the original database to a new database, deletes or renames the original database, and renames the new database to match the name of the original. This requires free disk space equal to 110 percent of the size of the database that you want to process. For a database that is 190GB in size, approximately 210GB of free space would be needed to perform an offline defragmentation.  
328804 How to Defragment Exchange Databases  
<http://support.microsoft.com/?id=328804>

2. Performance – When accessing an exceptionally large mailbox, extreme performance degradation will be noticed from users accessing mailboxes on the same store/server.

*Recommendations:*

1. Move all mailboxes but the WHO Journal mailbox from this store to another, preferably to a store that resides on a different disk partition. Then archive the messages in the WHO Journal mailbox and retire this store.

or

2. Archive the messages in the WHO Journal mailbox. Then run a defrag against the store, adding another partition to provide the required 110% free space if necessary. This solution requires downtime which may not be suitable in the EOP environment.

#### **Issue #4**

*Problem Description:*

Printing the 27,920 e-mails that comprised a query result set in a specific format is not a native feature of Outlook.

*Solution:*

We imported the 27,920 messages that made up the result set into a Microsoft Access database using the Exchange/Outlook Wizard. Then we created a custom report including page numbers and dates in the bottom right and left of each page respectively and added a blank numbered page between each email by adding about a pages length of blank space after each message. Finally we printed the custom report in groups of 5,000 pages so not to overload the print server. During this process we encountered different



issues, such as total page number calculation errors and high page number reference errors, but were able to overcome them to the satisfaction of the Council.

*Recommendations:*

1. Implement an archiving solution that contains the functionality of all hard & soft copy data requirements.
- or
2. If the full functionality of an archiving system is yet to be realized, develop a team to accomplish the goals below.
    - Team will discuss and determine the clear and static requirements.
    - Team will brainstorm multiple solution possibilities and weigh them against each other.
    - Team will then choose the best possible solution to meet the requirements.
    - The final solution will then be tested and validated against the requirements and presented to the team for final sign-off.

## **Issue #5**

*Problem Description:*

Develop a utility that can accomplish the following tasks against the query result set:

- Determine how many messages have attachments.
- Determine the total number of attachments in all messages.
- Strip attachments from all messages and leave a notepad attachment that says the attachment has been stripped.
- Print out a list of all the messages similar to Outlook's standard message list view.

*Solution:*

We developed a script that completed these tasks. It stripped all attachments from all messages in the query result set while maintaining a running tally of the number of messages that had attachments and the total number of messages stripped. It also added a note to the beginning of any message an attachment was stripped from indicating at least one attachment had been removed from the message. To print the list of all messages in the query result set we created another Microsoft Access report.

*Recommendations:*

Develop a team to accomplish the goals below.

- Team will discuss and determine the clear and static requirements.
- Team will brainstorm multiple solution possibilities and weigh them against each other.
- Team will then choose the best possible solution to meet the requirements.
- The final solution will then be tested and validated against the requirements and presented to the team for final sign-off.

## Appendix

***CodeReview Summary***  
***Project Name: EisAcm***  
**02.11.2004**

Performed and Compiled by:  
[REDACTED]  
Microsoft Application Developer Consultant

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**Summary of Counts**

<b>Summary Type</b>	<b>Count</b>
Total Lines (including blank lines)	1,947
Code Only Lines	1,056
Comment Only Lines	556
Code with Comments	35
Total Lines Checked	1,091

---

**Summary of Problems \***

<b>Type</b> <b>Names</b>	<b>Problems</b> <b>Total</b>	<b>Severity</b>			
		<b>High</b>	<b>Medium</b>	<b>Low</b>	<b>Note</b>
<i>Year 2000</i>	3	3	0	0	0
<i>Logic</i>	10	3	2	0	5
<i>Performance</i>	71	57	14	0	0
Portability	1	0	1	0	0
Usability	0	0	0	0	0
Windows API	0	0	0	0	0
<i>User Defined</i>	23	23	0	0	0
Language	0	0	0	0	0
Component Object Model	0	0	0	0	0
Database	0	0	0	0	0
Internationalization	128	128	0	0	0
Microsoft Transaction Manager	0	0	0	0	0
Microsoft Message Queue	0	0	0	0	0
WebClasses	0	0	0	0	0
Design Time Properties	0	0	0	0	0
Project Properties	4	3	1	0	0
Standards	73	33	40	0	0
Naming Conventions	179	179	0	0	0
<b>Totals</b>	<b>492</b>	<b>429</b>	<b>58</b>	<b>0</b>	<b>5</b>

**EOP EisAcm Code Review Metrics Report**

-----  
Complexity: 2  
Module: ARMSConversion  
Bad Fix: 5  
Procedure: ConvertWinToVMS  
Understanding: simple

-----  
Complexity: 11  
Module: ARMSConversion  
Bad Fix: 10  
Procedure: MoveToQueue  
Understanding: moderate

-----  
Complexity: 5  
Module: ARMSConversion  
Bad Fix: 5  
Procedure: GetNextARMSPath  
Understanding: simple to moderate

-----  
Complexity: 2  
Module: ARMSConversion  
Bad Fix: 5  
Procedure: GetFilename  
Understanding: simple

-----  
Complexity: 3  
Module: ARMSConversion  
Bad Fix: 5  
Procedure: GetAgency  
Understanding: simple

-----  
Complexity: 1  
Module: ARMSConversion  
Bad Fix: 5  
Procedure: FormatUser  
Understanding: simple

-----  
Complexity: 5  
Module: ARMSConversion  
Bad Fix: 5  
Procedure: ExpandDistList  
Understanding: simple to moderate

-----  
Complexity: 3  
Module: ARMSConversion  
Bad Fix: 5

Procedure: GetEmailAddress  
Understanding: simple

-----  
Complexity: 23  
Module: ARMSConversion  
Bad Fix: 20  
Procedure: BuildHeaderFile  
Understanding: high

-----  
Complexity: 34  
Module: ARMSConversion  
Bad Fix: 30  
Procedure: ConvertMessage  
Understanding: very high

-----  
Complexity: 11  
Module: ARMSConversion  
Bad Fix: 10  
Procedure: ServiceStatus  
Understanding: moderate

-----  
Complexity: 1  
Module: ARMSConversion  
Bad Fix: 5  
Procedure: WaitForProcess  
Understanding: simple

-----  
Complexity: 5  
Module: ARMSConversion  
Bad Fix: 5  
Procedure: MoveMessage  
Understanding: simple to moderate

-----  
Complexity: 22  
Module: ARMSConversion  
Bad Fix: 20  
Procedure: MonitorQueue  
Understanding: high

-----  
Complexity: 7  
Module: ARMSConversion  
Bad Fix: 5  
Procedure: PurgeMessages  
Understanding: simple to moderate

-----  
Complexity: 1  
Module: ARMSConversion  
Bad Fix: 5

Procedure: SetEXTimer  
Understanding: simple

-----  
Complexity: 1  
Module: ARMSConversion  
Bad Fix: 5  
Procedure: SetACMTimer  
Understanding: simple  
-----

**EOP-EisAcm Code Review Problems Report**-----  
Compile with Symbolic Debug Info Set to False*Severity: High*Module: \*\*\* Line: 0  
Procedure: Category: User Defined  
Source Line:-----  
Optimize for Fast Code compiler directive set*Severity: High*Module: \*\*\* Line: 0  
Procedure: Category: Project Properties  
Source Line:-----  
Project has no help file defined*Severity: High*Module: \*\*\* Line: 0  
Procedure: Category: Project Properties  
Source Line:-----  
NoAliasing compiler directive not set*Severity: High*Module: \*\*\* Line: 0  
Procedure: Category: Project Properties  
Source Line:-----  
Unattended Execution Property Not Set*Severity: Medium*Module: \*\*\* Line: 0  
Procedure: Category: Project Properties  
Source Line:

S

-----  
Option Compare Text Not Found*Severity: High*Module: ARMSConversion Line: 0  
Procedure: Declaration Category: Internationalization  
Source Line:-----  
Literal, hard-coded, string found in code*Severity: High*Module: ARMSConversion Line: 2075  
Procedure: ConvertWinToVMS Category: Internationalization  
Source Line: Do While Left(sWin, 1) = "\"-----  
Right() variant function found*Severity: High*Module: ARMSConversion Line: 2076  
Procedure: ConvertWinToVMS Category: Performance

Source Line:                   sWin = Right(sWin, Len(sWin) - 1)

-----  
Right() variant function found

Severity: High

Module: ARMSConversion                   Line: 2080  
Procedure: ConvertWinToVMS               Category: Performance  
Source Line:                   sWin = Right(sWin, Len(sWin) - InStr(1, sWin, "\"))

-----  
Left() variant function found

Severity: High

Module: ARMSConversion                   Line: 2083  
Procedure: ConvertWinToVMS               Category: Performance  
Source Line:                   sShare = Left(sWin, InStr(1, sWin, "\") - 1)

-----  
Right() variant function found

Severity: High

Module: ARMSConversion                   Line: 2084  
Procedure: ConvertWinToVMS               Category: Performance  
Source Line:                   sWin = Right(sWin, Len(sWin) - InStr(1, sWin, "\"))

-----  
Right() variant function found

Severity: High

Module: ARMSConversion                   Line: 2087  
Procedure: ConvertWinToVMS               Category: Performance  
Source Line:                   sFilename = Right(sWin, Len(sWin) - InStrRev(sWin, "\"))

-----  
Left() variant function found

Severity: High

Module: ARMSConversion                   Line: 2089  
Procedure: ConvertWinToVMS               Category: Performance  
Source Line:                   sWin = Left(sWin, InStrRev(sWin, "\") - 1)

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion                   Line: 2095  
Procedure: ConvertWinToVMS               Category: Internationalization  
Source Line:                   ConvertWinToVMS = sShare & ":[\" & sDir & "]" &  
sFilename

-----  
Structured error handler not found

Severity: High

Module: ARMSConversion                   Line: 2069  
Procedure: ConvertWinToVMS               Category: Standards  
Source Line:

-----  
Creating an Instance of a Class

Severity: High

Module: ARMSConversion                   Line: 1921



Procedure: MoveToQueue Category: User Defined  
 Source Line: Dim objFSO As New Scripting.FileSystemObject

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1940  
 Procedure: MoveToQueue Category: Internationalization  
 Source Line: Const DUPE\_PATH As String = "\dupe"

-----  
 User defined type with string member found

Severity: Medium

Module: ARMSConversion Line: 1940  
 Procedure: MoveToQueue Category: Logic  
 Source Line: Const DUPE\_PATH As String = "\dupe"

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1946  
 Procedure: MoveToQueue Category: Internationalization  
 Source Line: Open sWorkDir & sFilename & ".HDR" For Binary As  
 #lHandle

-----  
 String() variant function found

Severity: High

Module: ARMSConversion Line: 1953  
 Procedure: MoveToQueue Category: Performance  
 Source Line: sSender = String(iTagLength, " ")

-----  
 String() variant function found

Severity: High

Module: ARMSConversion Line: 1971  
 Procedure: MoveToQueue Category: Performance  
 Source Line: sSubject = String(iTagLength, " ")

-----  
 String() variant function found

Severity: High

Module: ARMSConversion Line: 1977  
 Procedure: MoveToQueue Category: Performance  
 Source Line: sSendTime = String(16, " ")

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1979  
 Procedure: MoveToQueue Category: Internationalization  
 Source Line: sSendTime = Left\$(sSendTime, 4) & "-" &  
 Mid\$(sSendTime, 5, 2) & "-" & Mid\$(sSendTime, 7, 2) & " " &  
 Mid\$(sSendTime, 9, 2) & ":" & Mid\$(sSendTime, 11, 2) & ":" &  
 Mid\$(sSendTime, 13, 2)

Statement too deeply nested

**Severity: High**

Module: ARMSConversion Line: 1979  
 Procedure: MoveToQueue Category: Standards  
 Source Line: sSendTime = Left\$(sSendTime, 4) & "-" &  
 Mid\$(sSendTime, 5, 2) & "-" & Mid\$(sSendTime, 7, 2) & " " &  
 Mid\$(sSendTime, 9, 2) & ":" & Mid\$(sSendTime, 11, 2) & ":" &  
 Mid\$(sSendTime, 13, 2)

-----  
 Format() variant function found

**Severity: High**

Module: ARMSConversion Line: 1980  
 Procedure: MoveToQueue Category: Performance  
 Source Line: dtSendTime = Format(sSendTime, "mm/dd/yyyy  
 hh:mm:ss")

-----  
 Format( ) Function Found

**Severity: High**

Module: ARMSConversion Line: 1980  
 Procedure: MoveToQueue Category: Internationalization  
 Source Line: dtSendTime = Format(sSendTime, "mm/dd/yyyy  
 hh:mm:ss")

-----  
 String() variant function found

**Severity: High**

Module: ARMSConversion Line: 1983  
 Procedure: MoveToQueue Category: Performance  
 Source Line: sARMSPath = String(256, " ")

-----  
 Literal, hard-coded, string found in code

**Severity: High**

Module: ARMSConversion Line: 1989  
 Procedure: MoveToQueue Category: Internationalization  
 Source Line: If Right\$(sQueuePath, 1) <> "\" Then

-----  
 Literal, hard-coded, string found in code

**Severity: High**

Module: ARMSConversion Line: 1990  
 Procedure: MoveToQueue Category: Internationalization  
 Source Line: sQueuePath = sQueuePath & "\"

-----  
 Literal, hard-coded, string found in code

**Severity: High**

Module: ARMSConversion Line: 1996  
 Procedure: MoveToQueue Category: Internationalization  
 Source Line: If Right\$(sWorkDir, 1) <> "\" Then

-----  
 Literal, hard-coded, string found in code

**Severity: High**

Module: ARMSConversion Line: 1997  
 Procedure: MoveToQueue Category: Internationalization

Source Line: sWorkDir = sWorkDir & "\"

-----  
Dir variant function found

Severity: High

Module: ARMSConversion Line: 2001  
Procedure: MoveToQueue Category: Performance  
Source Line: sFile = Dir(sWorkDir & sFilename & "\*\*.\*")

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 2002  
Procedure: MoveToQueue Category: Internationalization  
Source Line: Do While sFile <> ""

-----  
Dir variant function found

Severity: High

Module: ARMSConversion Line: 2004  
Procedure: MoveToQueue Category: Performance  
Source Line: sFile = Dir()

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 2010  
Procedure: MoveToQueue Category: Internationalization  
Source Line: sQueuePath = App.Path & DUPE\_PATH & "\" &  
sARMSPath

-----  
Dir variant function found

Severity: High

Module: ARMSConversion Line: 2013  
Procedure: MoveToQueue Category: Performance  
Source Line: If Dir(App.Path & DUPE\_PATH, vbDirectory) = ""  
Then

-----  
Test for empty string found

Severity: High

Module: ARMSConversion Line: 2013  
Procedure: MoveToQueue Category: Performance  
Source Line: If Dir(App.Path & DUPE\_PATH, vbDirectory) = ""  
Then

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 2013  
Procedure: MoveToQueue Category: Internationalization  
Source Line: If Dir(App.Path & DUPE\_PATH, vbDirectory) = ""  
Then

Dir variant function found  
Severity: High  
Module: ARMSConversion Line: 2017  
Procedure: MoveToQueue Category: Performance  
Source Line: If Dir(sQueuePath, vbDirectory) = "" Then

-----

Test for empty string found  
Severity: High  
Module: ARMSConversion Line: 2017  
Procedure: MoveToQueue Category: Performance  
Source Line: If Dir(sQueuePath, vbDirectory) = "" Then

-----

Literal, hard-coded, string found in code  
Severity: High  
Module: ARMSConversion Line: 2017  
Procedure: MoveToQueue Category: Internationalization  
Source Line: If Dir(sQueuePath, vbDirectory) = "" Then

-----

Dir variant function found  
Severity: High  
Module: ARMSConversion Line: 2022  
Procedure: MoveToQueue Category: Performance  
Source Line: If Dir(sQueuePath, vbDirectory) = "" Then

-----

Test for empty string found  
Severity: High  
Module: ARMSConversion Line: 2022  
Procedure: MoveToQueue Category: Performance  
Source Line: If Dir(sQueuePath, vbDirectory) = "" Then

-----

Literal, hard-coded, string found in code  
Severity: High  
Module: ARMSConversion Line: 2022  
Procedure: MoveToQueue Category: Internationalization  
Source Line: If Dir(sQueuePath, vbDirectory) = "" Then

-----

Dir variant function found  
Severity: High  
Module: ARMSConversion Line: 2032  
Procedure: MoveToQueue Category: Performance  
Source Line: If Dir(sQueuePath, vbDirectory) = "" Then

-----

Test for empty string found  
Severity: High  
Module: ARMSConversion Line: 2032  
Procedure: MoveToQueue Category: Performance  
Source Line: If Dir(sQueuePath, vbDirectory) = "" Then

-----

Literal, hard-coded, string found in code

*Severity: High*  
 Module: ARMSConversion Line: 2032  
 Procedure: MoveToQueue Category: Internationalization  
 Source Line: If Dir(sQueuePath, vbDirectory) = "" Then

-----  
 Possible premature exit found

*Severity: Medium*  
 Module: ARMSConversion Line: 2040  
 Procedure: MoveToQueue Category: Standards  
 Source Line: Exit Sub

-----  
 Possible premature exit found

*Severity: Medium*  
 Module: ARMSConversion Line: 2050  
 Procedure: MoveToQueue Category: Standards  
 Source Line: Exit Sub

-----  
*Objects not released appropriately or not as soon as possible*

*Severity: High*  
 Module: ARMSConversion Line: 1914  
 Procedure: MoveToQueue Category: User Defined  
 Source Line: Exit Sub

-----  
 Literal, hard-coded, string found in code

*Severity: High*  
 Module: ARMSConversion Line: 1860  
 Procedure: GetNextARMSPath Category: Internationalization  
 Source Line: If Right\$(sHeaderPath, 1) = "\" Then

-----  
 Literal, hard-coded, string found in code

*Severity: High*  
 Module: ARMSConversion Line: 1863  
 Procedure: GetNextARMSPath Category: Internationalization  
 Source Line: If Right\$(sMessagePath, 1) = "\" Then

-----  
 Literal, hard-coded, string found in code

*Severity: High*  
 Module: ARMSConversion Line: 1866  
 Procedure: GetNextARMSPath Category: Internationalization  
 Source Line: If Right\$(sAttachPath, 1) = "\" Then

-----  
 Possible literal string concatenation found

*Severity: High*  
 Module: ARMSConversion Line: 1870  
 Procedure: GetNextARMSPath Category: Performance  
 Source Line: sHeader = "\\" & sARMSServer & "\" & sARMSShare &  
 "\" & sHeaderPath & "\" & "d" & sDirectoryID & "\"

Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1870  
Procedure: GetNextARMSPath Category: Internationalization  
Source Line: sHeader = "\\\" & sARMSServer & "\" & sARMSShare &  
\" & sHeaderPath & "\" & \"d\" & sDirectoryID & "\"

-----  
Possible literal string concatenation found

Severity: High

Module: ARMSConversion Line: 1871  
Procedure: GetNextARMSPath Category: Performance  
Source Line: sMessage = "\\\" & sARMSServer & "\" & sARMSShare &  
\" & sMessagePath & "\" & \"d\" & sDirectoryID & "\"

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1871  
Procedure: GetNextARMSPath Category: Internationalization  
Source Line: sMessage = "\\\" & sARMSServer & "\" & sARMSShare &  
\" & sMessagePath & "\" & \"d\" & sDirectoryID & "\"

-----  
Possible literal string concatenation found

Severity: High

Module: ARMSConversion Line: 1872  
Procedure: GetNextARMSPath Category: Performance  
Source Line: sAttach = "\\\" & sARMSServer & "\" & sARMSShare &  
\" & sAttachPath & "\" & \"d\" & sDirectoryID & "\"

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1805  
Procedure: GetFilename Category: Internationalization  
Source Line: sCurrentMessageID = "000000"

-----  
Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 1810  
Procedure: GetFilename Category: Standards  
Source Line: Exit Function

-----  
Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 1819  
Procedure: GetFilename Category: Standards  
Source Line: Exit Function

-----  
Objects not released appropriately or not as soon as possible

Severity: High

Module: ARMSConversion Line: 1787  
Procedure: GetFilename Category: User Defined

Source Line: Exit Function

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1629  
 Procedure: GetAgency Category: Internationalization  
 Source Line: GetAgency = "UNKNOWN"

-----  
 Right() variant function found

Severity: High

Module: ARMSConversion Line: 1632  
 Procedure: GetAgency Category: Performance  
 Source Line: sSuffix = Right(sUserEmail, Len(sUserEmail) -  
 InStr(1, sUserEmail, "@"))

-----  
 Trim() variant function found

Severity: High

Module: ARMSConversion Line: 1633  
 Procedure: GetAgency Category: Performance  
 Source Line: sSuffix = LCase(Trim(sSuffix))

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1653  
 Procedure: GetAgency Category: Internationalization  
 Source Line: adoConn.Execute "insert into UnknownAddress  
 values ('" & sUserEmail & "')"

-----  
 Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 1734  
 Procedure: GetAgency Category: Standards  
 Source Line: Exit Function

-----  
 Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 1743  
 Procedure: GetAgency Category: Standards  
 Source Line: Exit Function

-----  
 Objects not released appropriately or not as soon as possible

Severity: High

Module: ARMSConversion Line: 1608  
 Procedure: GetAgency Category: User Defined  
 Source Line: Set adoConn = New ADODB.Connection

-----  
 Objects not released appropriately or not as soon as possible

Severity: High

Module: ARMSConversion Line: 1608

Procedure: GetAgency Category: User Defined  
Source Line: Exit Function

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1575  
Procedure: FormatUser Category: Internationalization  
Source Line: FormatUser = sUsername & " ( " & sUserEmail & " [ "  
& sAgencyInfo & " ] )"

-----  
For Each loop found

Severity: Medium

Module: ARMSConversion Line: 1537  
Procedure: ExpandDistList Category: Performance  
Source Line: For Each objMember In objMembers

-----  
Possible recursion found

Severity: High

Module: ARMSConversion Line: 1539  
Procedure: ExpandDistList Category: Logic  
Source Line: Call ExpandDistList(objMember,  
asUserName(), asUserEmail(), lIndex, True)

-----  
Objects not released appropriately or not as soon as possible

Severity: High

Module: ARMSConversion Line: 1516  
Procedure: ExpandDistList Category: User Defined  
Source Line: Set objMembers = objRecipient.Members

-----  
Objects not released appropriately or not as soon as possible

Severity: High

Module: ARMSConversion Line: 1516  
Procedure: ExpandDistList Category: User Defined  
Source Line: Exit Sub

-----  
Structured error handler not found

Severity: High

Module: ARMSConversion Line: 1516  
Procedure: ExpandDistList Category: Standards  
Source Line:

-----  
Trim() variant function found

Severity: High

Module: ARMSConversion Line: 1483  
Procedure: GetEmailAddress Category: Performance  
Source Line: sRecipientEmail =  
Trim(objRecipient.Fields(PR SMTP\_ADDRESS))



```
Dim [object] As Object found
  Severity: Medium
Module: ARMSConversion                      Line: 1145
Procedure: BuildHeaderFile                  Category: Performance
Source Line: Dim objUtils As Object
-----
Dim [object] As Object found
  Severity: Medium
Module: ARMSConversion                      Line: 1156
Procedure: BuildHeaderFile                  Category: Performance
Source Line: Dim objRecipient As Object
-----
Possible late binding found
  Severity: Note
Module: ARMSConversion                      Line: 1203
Procedure: BuildHeaderFile                  Category: Logic
Source Line: Set objUtils = CreateObject("Redemption.MAPIUtils")
-----
Literal, hard-coded, string found in code
  Severity: High
Module: ARMSConversion                      Line: 1206
Procedure: BuildHeaderFile                  Category: Internationalization
Source Line: Open sWorkDir & sFilename & ".HDR" For Binary As
#lHandle
-----
Literal, hard-coded, string found in code
  Severity: High
Module: ARMSConversion                      Line: 1213
Procedure: BuildHeaderFile                  Category: Internationalization
Source Line: sHostMsgFilename = sMessage & sFilename & ".MSG"
-----
Statement concatenation found
  Severity: High
Module: ARMSConversion                      Line: 1222
Procedure: BuildHeaderFile                  Category: Standards
Source Line: Case TIME_ZONE_ID_DAYLIGHT:
-----
Statement concatenation found
  Severity: High
Module: ARMSConversion                      Line: 1224
Procedure: BuildHeaderFile                  Category: Standards
Source Line: Case Else:
-----
LCase() variant function found
  Severity: High
Module: ARMSConversion                      Line: 1256
Procedure: BuildHeaderFile                  Category: Performance
Source Line: sMsgType = LCase(sMsgType)
-----
```

Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1257  
 Procedure: BuildHeaderFile Category: Internationalization  
 Source Line: If sMsgType = "ipm.note" Then

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1259  
 Procedure: BuildHeaderFile Category: Internationalization  
 Source Line: ElseIf sMsgType = "report.ipm.note.dr" Then

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1261  
 Procedure: BuildHeaderFile Category: Internationalization  
 Source Line: ElseIf sMsgType = "report.ipm.note.ndr" Then

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1263  
 Procedure: BuildHeaderFile Category: Internationalization  
 Source Line: ElseIf sMsgType = "report.ipm.note.iprn" Then

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1265  
 Procedure: BuildHeaderFile Category: Internationalization  
 Source Line: ElseIf sMsgType = "ipm.appointment" Then

-----  
 Goto found

Severity: High

Module: ARMSConversion Line: 1369  
 Procedure: BuildHeaderFile Category: Standards  
 Source Line: GoTo NEXT\_LOOP

-----  
 For loop uses UBound()

Severity: High

Module: ARMSConversion Line: 1413  
 Procedure: BuildHeaderFile Category: Performance  
 Source Line: For iAttach = LBound(sAttachments) To  
 UBound(sAttachments)

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1414  
 Procedure: BuildHeaderFile Category: Internationalization  
 Source Line: If sAttachments(iAttach) <> "" Then

Statement too deeply nested

**Severity: High**

Module: ARMSConversion Line: 1415  
 Procedure: BuildHeaderFile Category: Standards  
 Source Line: sAttachFilename = sAttach &  
 Right\$(sAttachments(iAttach), Len(sAttachments(iAttach)) -  
 InStrRev(sAttachments(iAttach), "\"))

-----  
 Literal, hard-coded, string found in code

**Severity: High**

Module: ARMSConversion Line: 1433  
 Procedure: BuildHeaderFile Category: Internationalization  
 Source Line: Put #lHandle, , "DONE"

-----  
 Possible premature exit found

**Severity: Medium**

Module: ARMSConversion Line: 1447  
 Procedure: BuildHeaderFile Category: Standards  
 Source Line: Exit Sub

-----  
 Creating an Instance of a Class

**Severity: High**

Module: ARMSConversion Line: 706  
 Procedure: ConvertMessage Category: User Defined  
 Source Line: Dim objFSO As New FileSystemObject

-----  
 Dim [object] As Object found

**Severity: Medium**

Module: ARMSConversion Line: 725  
 Procedure: ConvertMessage Category: Performance  
 Source Line: Dim objMsg As Object

-----  
 Literal, hard-coded, string found in code

**Severity: High**

Module: ARMSConversion Line: 736  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: Const QUEUE\_MIRROR As String = "\WQ\"

-----  
 User defined type with string member found

**Severity: Medium**

Module: ARMSConversion Line: 736  
 Procedure: ConvertMessage Category: Logic  
 Source Line: Const QUEUE\_MIRROR As String = "\WQ\"

-----  
 Literal, hard-coded, string found in code

**Severity: High**

Module: ARMSConversion Line: 741  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: If  
 LCase(Trim(m\_oUtility.GetConfigValue("SaveOriginal"))) = "true" Then

Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 749  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: If sAuditStatus <> "Running" Then

Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1872  
 Procedure: GetNextARMSPath Category: Internationalization  
 Source Line: sAttach = "\\\" & sARMSServer & "\" & sARMSShare &  
 "\" & sAttachPath & "\" & "d" & sDirectoryID & "\"

Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1877  
 Procedure: GetNextARMSPath Category: Internationalization  
 Source Line: sDirectoryID = "0"

Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 1883  
 Procedure: GetNextARMSPath Category: Standards  
 Source Line: Exit Function

Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 1892  
 Procedure: GetNextARMSPath Category: Standards  
 Source Line: Exit Function

Objects not released appropriately or not as soon as possible

Severity: High

Module: ARMSConversion Line: 1843  
 Procedure: GetNextARMSPath Category: User Defined  
 Source Line: Exit Function

Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1800  
 Procedure: GetFilename Category: Internationalization  
 Source Line: GetFilename = sArmsServerName & sArmsHostNumber &  
 "0" & sCurrentMessageID

LCase() variant function found

Severity: High

Module: ARMSConversion Line: 1633  
 Procedure: GetAgency Category: Performance  
 Source Line: sSuffix = LCase(Trim(sSuffix))

Possible literal string concatenation found

*Severity: High*

Module: ARMSConversion Line: 1646  
 Procedure: GetAgency Category: Performance  
 Source Line: adoConn.Open "Driver={SQL Server};" & "Server=" &  
 sSQLServer & ";" & "Database=" & sDBName & ";" & "Uid=" & sUID  
 & ";" & "Pwd=" & sPWD

Literal, hard-coded, string found in code

*Severity: High*

Module: ARMSConversion Line: 1646  
 Procedure: GetAgency Category: Internationalization  
 Source Line: adoConn.Open "Driver={SQL Server};" & "Server=" &  
 sSQLServer & ";" & "Database=" & sDBName & ";" & "Uid=" & sUID  
 & ";" & "Pwd=" & sPWD

Literal, hard-coded, string found in code

*Severity: High*

Module: ARMSConversion Line: 1648  
 Procedure: GetAgency Category: Internationalization  
 Source Line: Set adoRecSet = adoConn.Execute("SELECT Agency FROM  
 AgencyLookup WHERE EmailSuffix='" & sSuffix & "'")

Literal, hard-coded, string found in code

*Severity: High*

Module: ARMSConversion Line: 1652  
 Procedure: GetAgency Category: Internationalization  
 Source Line: ElseIf Right(sSuffix, 7) = "eop.gov" Then

Possible premature exit found

*Severity: Medium*

Module: ARMSConversion Line: 1577  
 Procedure: FormatUser Category: Standards  
 Source Line: Exit Function

Possible premature exit found

*Severity: Medium*

Module: ARMSConversion Line: 1586  
 Procedure: FormatUser Category: Standards  
 Source Line: Exit Function

*Objects not released appropriately or not as soon as possible*

*Severity: High*

Module: ARMSConversion Line: 1569  
 Procedure: FormatUser Category: User Defined  
 Source Line: Exit Function

Dim [object] As Object found

*Severity: Medium*

Module: ARMSConversion Line: 1516  
 Procedure: ExpandDistList Category: Performance  
 Source Line: Dim objMembers As Object



-----  
 Trim() variant function found  
*Severity: High*  
 Module: ARMSConversion Line: 1490  
 Procedure: GetEmailAddress Category: Performance  
 Source Line: sRecipientEmail =  
 Trim(objRecipient.Fields(PR\_ORGEMAILADDR))  
 -----

-----  
 Structured error handler not found  
*Severity: High*  
 Module: ARMSConversion Line: 1474  
 Procedure: GetEmailAddress Category: Standards  
 Source Line:  
 -----

-----  
 DateAdd function found  
*Severity: High*  
 Module: ARMSConversion Line: 1234  
 Procedure: BuildHeaderFile Category: Year 2000  
 Source Line: dtMsgSentTime = DateAdd("h", -(lBias),  
 dtMsgSentTime) ' Adjust time zone  
 -----

-----  
 Format() variant function found  
*Severity: High*  
 Module: ARMSConversion Line: 1237  
 Procedure: BuildHeaderFile Category: Performance  
 Source Line: sMsgTime = Format(dtMsgSentTime, "YYYYMMDDHHNNSS")  
 & "00"  
 -----

-----  
 Literal, hard-coded, string found in code  
*Severity: High*  
 Module: ARMSConversion Line: 1237  
 Procedure: BuildHeaderFile Category: Internationalization  
 Source Line: sMsgTime = Format(dtMsgSentTime, "YYYYMMDDHHNNSS")  
 & "00"  
 -----

-----  
 Format( ) Function Found  
*Severity: High*  
 Module: ARMSConversion Line: 1237  
 Procedure: BuildHeaderFile Category: Internationalization  
 Source Line: sMsgTime = Format(dtMsgSentTime, "YYYYMMDDHHNNSS")  
 & "00"  
 -----

-----  
 Literal, hard-coded, string found in code  
*Severity: High*  
 Module: ARMSConversion Line: 1242  
 Procedure: BuildHeaderFile Category: Internationalization  
 Source Line: Put #lHandle, , "F"  
 -----

Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1246  
Procedure: BuildHeaderFile Category: Internationalization  
Source Line: Put #lHandle, , "E"

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1267  
Procedure: BuildHeaderFile Category: Internationalization  
Source Line: ElseIf sMsgType = "ipm.task" Then

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1290  
Procedure: BuildHeaderFile Category: Internationalization  
Source Line: If sType = "SMTP" Then

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 1292  
Procedure: BuildHeaderFile Category: Internationalization  
Source Line: ElseIf sType = "EX" Then

-----  
For Each loop found

Severity: Medium

Module: ARMSConversion Line: 1319  
Procedure: BuildHeaderFile Category: Performance  
Source Line: For Each objRecipient In objSafeItem.Recipients

-----  
For loop uses UBound()

Severity: High

Module: ARMSConversion Line: 1331  
Procedure: BuildHeaderFile Category: Performance  
Source Line: For iDL = LBound(asUserName) To  
UBound(asUserName)

-----  
For loop uses UBound()

Severity: High

Module: ARMSConversion Line: 1367  
Procedure: BuildHeaderFile Category: Performance  
Source Line: For iTOCCIdx = LBound(asTOCCUsers) To  
UBound(asTOCCUsers)

-----  
Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 1456  
Procedure: BuildHeaderFile Category: Standards  
Source Line: Exit Sub



*Objects not released appropriately or not as soon as possible*

*Severity: High*

Module: ARMSConversion Line: 1138  
 Procedure: BuildHeaderFile Category: User Defined  
 Source Line: Exit Sub

-----  
 Dim [object] As Object found

Severity: Medium

Module: ARMSConversion Line: 684  
 Procedure: ConvertMessage Category: Performance  
 Source Line: Dim objSafeItem As Object

-----  
 Dim [object] As Object found

Severity: Medium

Module: ARMSConversion Line: 685  
 Procedure: ConvertMessage Category: Performance  
 Source Line: Dim objItem As Object

-----  
 Dim [object] As Object found

Severity: Medium

Module: ARMSConversion Line: 686  
 Procedure: ConvertMessage Category: Performance  
 Source Line: Dim objOL As Object

-----  
 Dim [object] As Object found

Severity: Medium

Module: ARMSConversion Line: 687  
 Procedure: ConvertMessage Category: Performance  
 Source Line: Dim objNS As Object

-----  
 Dim [object] As Object found

Severity: Medium

Module: ARMSConversion Line: 690  
 Procedure: ConvertMessage Category: Performance  
 Source Line: Dim objUtils As Object

-----  
 Statement concatenation found

Severity: High

Module: ARMSConversion Line: 752  
 Procedure: ConvertMessage Category: Standards  
 Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "",  
 "EIS: Audit service not running", "Error: Processing Halted."  
 & vbNewLine & vbNewLine & "EIS cannot process messages because  
 the Audit service is not running on the EIS server.")

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 752  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "",  
 "EIS: Audit service not running", "Error: Processing Halted.")

& vbNewLine & vbNewLine & "EIS cannot process messages because the Audit service is not running on the EIS server.")

-----  
Possible premature exit found

Severity: Medium  
Module: ARMSConversion Line: 753  
Procedure: ConvertMessage Category: Standards  
Source Line: Exit Sub

-----  
Test for empty string found

Severity: High  
Module: ARMSConversion Line: 758  
Procedure: ConvertMessage Category: Performance  
Source Line: If sWorkDir = "" Then

-----  
Literal, hard-coded, string found in code

Severity: High  
Module: ARMSConversion Line: 758  
Procedure: ConvertMessage Category: Internationalization  
Source Line: If sWorkDir = "" Then

-----  
Possible premature exit found

Severity: Medium  
Module: ARMSConversion Line: 760  
Procedure: ConvertMessage Category: Standards  
Source Line: Exit Sub

-----  
Literal, hard-coded, string found in code

Severity: High  
Module: ARMSConversion Line: 763  
Procedure: ConvertMessage Category: Internationalization  
Source Line: If Right\$(sWorkDir, 1) <> "\" Then

-----  
Literal, hard-coded, string found in code

Severity: High  
Module: ARMSConversion Line: 764  
Procedure: ConvertMessage Category: Internationalization  
Source Line: sWorkDir = sWorkDir & "\"

-----  
For Each loop found

Severity: Medium  
Module: ARMSConversion Line: 770  
Procedure: ConvertMessage Category: Performance  
Source Line: For Each objFldr In objFldrs

-----  
Dir variant function found

Severity: High  
Module: ARMSConversion Line: 775  
Procedure: ConvertMessage Category: Performance



Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 892  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: objItem.MessageClass = "IPM.Note"

-----  
 Possible late binding found

Severity: Note

Module: ARMSConversion Line: 895  
 Procedure: ConvertMessage Category: Logic  
 Source Line: Set objSafeItem =  
 CreateObject("Redemption.SafeMailItem")

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 907  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: If sMsgBody <> "" Then

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 909  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sFormattedBody = ""

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 932  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sMsgBody = ""

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 943  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: If LCase(objSafeItem.MessageClass) =  
 "report.ipm.note.ipnrn" Then

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 946  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sFormattedBody = sFormattedBody & "  
 Subject: " & Right(objSafeItem.Subject,  
 Len(objSafeItem.Subject) - 6) & vbCrLf

-----  
 Statement concatenation found

Severity: High

Module: ARMSConversion Line: 950  
 Procedure: ConvertMessage Category: Standards  
 Source Line: Case TIME\_ZONE\_ID\_DAYLIGHT:

-----  
Statement concatenation found

Severity: High

Module: ARMSConversion Line: 952  
Procedure: ConvertMessage Category: Standards  
Source Line: Case Else:

-----  
DateAdd function found

Severity: High

Module: ARMSConversion Line: 961  
Procedure: ConvertMessage Category: Year 2000  
Source Line: dtMsgSentTime = DateAdd("h", -(lBias),  
dtMsgSentTime)

-----  
Format() variant function found

Severity: High

Module: ARMSConversion Line: 962  
Procedure: ConvertMessage Category: Performance  
Source Line: sMsgTime = Format(dtMsgSentTime,  
"MM/DD/YYYY HH:NN:SS")

-----  
Format( ) Function Found

Severity: High

Module: ARMSConversion Line: 962  
Procedure: ConvertMessage Category: Internationalization  
Source Line: sMsgTime = Format(dtMsgSentTime,  
"MM/DD/YYYY HH:NN:SS")

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 975  
Procedure: ConvertMessage Category: Internationalization  
Source Line: Open sWorkDir & sFilename & ".MSG" For  
Output As #iFnum

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 979  
Procedure: ConvertMessage Category: Internationalization  
Source Line: sExt = "001"

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 990  
Procedure: ConvertMessage Category: Internationalization  
Source Line: sAttachExt = ""

-----  
Left() variant function found

Severity: High

Module: ARMSConversion Line: 995  
 Procedure: ConvertMessage Category: Performance  
 Source Line: sAttachExt = Left(sAttachExt, 4)

-----  
 Mid() variant function found  
 Severity: High

Module: ARMSConversion Line: 999  
 Procedure: ConvertMessage Category: Performance  
 Source Line: sTemp = Mid(sAttachExt, iCounter1, 1)

-----  
 Mid Statement Found

Severity: High  
 Module: ARMSConversion Line: 999  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sTemp = Mid(sAttachExt, iCounter1, 1)

-----  
 Literal, hard-coded, string found in code

Severity: High  
 Module: ARMSConversion Line: 1026  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sAttachments(0) = sWorkDir & sFilename  
 & "\_MSG" & ".000"

-----  
 Literal, hard-coded, string found in code

Severity: High  
 Module: ARMSConversion Line: 1028  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sAttachments(0) = "" '\*\*\*\*\*'

-----  
 Literal, hard-coded, string found in code

Severity: High  
 Module: ARMSConversion Line: 1050  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: If Right\$(sSuccessFolder, 1) <> "\" Then

-----  
 Literal, hard-coded, string found in code

Severity: High  
 Module: ARMSConversion Line: 1051  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sSuccessFolder = sSuccessFolder & "\"

-----  
 Literal, hard-coded, string found in code

Severity: High  
 Module: ARMSConversion Line: 1055  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sEXContainer = Left\$(sEXContainer,  
 Len(sEXContainer) - 4) & ".OLD"

---

*On Error Resume Next found**Severity: High*

Module: ARMSConversion Line: 1058  
Procedure: ConvertMessage Category: Standards  
Source Line: On Error Resume Next

---

---

*Literal, hard-coded, string found in code**Severity: High*

Module: ARMSConversion Line: 1094  
Procedure: ConvertMessage Category: Internationalization  
Source Line: m\_sErrorDescription = "Error creating Outlook  
application. Please ensure the service has adequate logon/security  
rights."

---

---

*Literal, hard-coded, string found in code**Severity: High*

Module: ARMSConversion Line: 1095  
Procedure: ConvertMessage Category: Internationalization  
Source Line: m\_sErrorSource = "EIS"

---

---

*Possible premature exit found**Severity: Medium*

Module: ARMSConversion Line: 1098  
Procedure: ConvertMessage Category: Standards  
Source Line: Exit Sub

---

---

*Literal, hard-coded, string found in code**Severity: High*

Module: ARMSConversion Line: 1101  
Procedure: ConvertMessage Category: Internationalization  
Source Line: m\_lErrorNumber = "20040"

---

---

*Literal, hard-coded, string found in code**Severity: High*

Module: ARMSConversion Line: 1102  
Procedure: ConvertMessage Category: Internationalization  
Source Line: m\_sErrorDescription = "Unable to open Outlook.  
Ensure a default profile exists."

---

---

*Literal, hard-coded, string found in code**Severity: High*

Module: ARMSConversion Line: 1103  
Procedure: ConvertMessage Category: Internationalization  
Source Line: m\_sErrorSource = "EIS"

---

---

*Literal, hard-coded, string found in code**Severity: High*

Module: ARMSConversion Line: 624  
Procedure: ServiceStatus Category: Internationalization  
Source Line: ServiceStatus = "Stopped"

---

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 626  
 Procedure: ServiceStatus Category: Internationalization  
 Source Line: ServiceStatus = "Start Pending"

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 628  
 Procedure: ServiceStatus Category: Internationalization  
 Source Line: ServiceStatus = "Stop Pending"

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 630  
 Procedure: ServiceStatus Category: Internationalization  
 Source Line: ServiceStatus = "Running"

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 632  
 Procedure: ServiceStatus Category: Internationalization  
 Source Line: ServiceStatus = "Continue Pending"

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 634  
 Procedure: ServiceStatus Category: Internationalization  
 Source Line: ServiceStatus = "Pause Pending"

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 775  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: If Dir(App.Path & QUEUE\_MIRROR, vbDirectory) = ""  
 Then

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 782  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: Kill App.Path & QUEUE\_MIRROR & ".\*"

-----  
 Statement concatenation found

Severity: High

Module: ARMSConversion Line: 797  
 Procedure: ConvertMessage Category: Standards  
 Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "",  
 "EIS: Not enough disk space available", "Error: Processing



Halted." & vbNewLine & vbNewLine & "EIS cannot process messages because there is not enough disk space available on the EIS server.")

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 797  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "", "EIS: Not enough disk space available", "Error: Processing Halted." & vbNewLine & vbNewLine & "EIS cannot process messages because there is not enough disk space available on the EIS server.")

-----  
 Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 798  
 Procedure: ConvertMessage Category: Standards  
 Source Line: Exit Sub

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 847  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: If (GetAttr(sWorkDir & sCurrDirList(iCurrDir) & "\" & sCurrentFile) And vbDirectory <> vbDirectory Then

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 848  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: If UCase\$(Right\$(sCurrentFile, 4)) = ".MSG" Then

-----  
 Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 863  
 Procedure: ConvertMessage Category: Standards  
 Source Line: Exit Sub

-----  
 Possible late binding found

Severity: Note

Module: ARMSConversion Line: 868  
 Procedure: ConvertMessage Category: Logic  
 Source Line: Set objOL = CreateObject("Outlook.Application")

-----  
 For loop uses UBound()

Severity: High

Module: ARMSConversion Line: 877  
 Procedure: ConvertMessage Category: Performance  
 Source Line: For iFile = LBound(sFileList) To UBound(sFileList)

-----  
 Literal, hard-coded, string found in code

*Severity: High*

Module: ARMSConversion Line: 878  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sMsgFile = sWorkDir &  
 sCurrDirList(iCurrDir) & "\" & sFileList(iFile)

-----  
 Literal, hard-coded, string found in code

*Severity: High*

Module: ARMSConversion Line: 944  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sFormattedBody = "Your message" &  
 vbNewLine & vbNewLine

-----  
 Statement concatenation found

*Severity: High*

Module: ARMSConversion Line: 945  
 Procedure: ConvertMessage Category: Standards  
 Source Line: sFormattedBody = sFormattedBody & "  
 To: " & objSafeItem.SenderName & vbNewLine

-----  
 Literal, hard-coded, string found in code

*Severity: High*

Module: ARMSConversion Line: 945  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sFormattedBody = sFormattedBody & "  
 To: " & objSafeItem.SenderName & vbNewLine

-----  
 Right() variant function found

*Severity: High*

Module: ARMSConversion Line: 946  
 Procedure: ConvertMessage Category: Performance  
 Source Line: sFormattedBody = sFormattedBody & "  
 Subject: " & Right(objSafeItem.Subject,  
 Len(objSafeItem.Subject) - 6) & vbNewLine

-----  
 Statement concatenation found

*Severity: High*

Module: ARMSConversion Line: 946  
 Procedure: ConvertMessage Category: Standards  
 Source Line: sFormattedBody = sFormattedBody & "  
 Subject: " & Right(objSafeItem.Subject,  
 Len(objSafeItem.Subject) - 6) & vbNewLine

-----  
 Statement concatenation found

*Severity: High*

Module: ARMSConversion Line: 963  
 Procedure: ConvertMessage Category: Standards  
 Source Line: sFormattedBody = sFormattedBody & "  
 Sent: " & sMsgTime & vbNewLine & vbNewLine

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 963  
Procedure: ConvertMessage Category: Internationalization  
Source Line: sFormattedBody = sFormattedBody & "  
Sent: " & sMsgTime & vbNewLine & vbNewLine

-----  
DateAdd function found

Severity: High

Module: ARMSConversion Line: 966  
Procedure: ConvertMessage Category: Year 2000  
Source Line: dtMsgSentTime = DateAdd("h", -(lBias),  
dtMsgSentTime) ' Adjust time zone

-----  
Format() variant function found

Severity: High

Module: ARMSConversion Line: 969  
Procedure: ConvertMessage Category: Performance  
Source Line: sMsgTime = Format(dtMsgSentTime,  
"MM/DD/YYYY HH:NN:SS")

-----  
Format( ) Function Found

Severity: High

Module: ARMSConversion Line: 969  
Procedure: ConvertMessage Category: Internationalization  
Source Line: sMsgTime = Format(dtMsgSentTime,  
"MM/DD/YYYY HH:NN:SS")

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 970  
Procedure: ConvertMessage Category: Internationalization  
Source Line: sFormattedBody = sFormattedBody & "was  
read on " & sMsgTime

-----  
Asc function found

Severity: High

Module: ARMSConversion Line: 1000  
Procedure: ConvertMessage Category: Logic  
Source Line: iTemp = Asc(sTemp)

-----  
Left() variant function found

Severity: High

Module: ARMSConversion Line: 1002  
Procedure: ConvertMessage Category: Performance  
Source Line: sAttachExt = Left(sAttachExt, iCounter1 - 1) &  
Replace(sAttachExt, sTemp, "", iCounter1)

Literal, hard-coded, string found in code

**Severity: High**

Module: ARMSConversion Line: 1010  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line:  
 objSafeItem.Attachments.Item(i).SaveAsFile (sWorkDir & sFilename & "\_"  
 & sAttachExt & "." & sExt)

-----  
 Literal, hard-coded, string found in code

**Severity: High**

Module: ARMSConversion Line: 1014  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: sAttachments(i) = sWorkDir & sFilename  
 & "\_" & sAttachExt & "." & sExt

-----  
 Literal, hard-coded, string found in code

**Severity: High**

Module: ARMSConversion Line: 1025  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: objSafeItem.SaveAs sWorkDir & sFilename  
 & "\_MSG" & ".000", 3

-----  
 Possible literal string concatenation found

**Severity: High**

Module: ARMSConversion Line: 1026  
 Procedure: ConvertMessage Category: Performance  
 Source Line: sAttachments(0) = sWorkDir & sFilename  
 & "\_MSG" & ".000"

-----  
 For loop uses UBound()

**Severity: High**

Module: ARMSConversion Line: 1070  
 Procedure: ConvertMessage Category: Performance  
 Source Line: For iMirrorQueue = LBound(sMirrorQueue) To  
 UBound(sMirrorQueue)

-----  
 For Each loop found

**Severity: Medium**

Module: ARMSConversion Line: 1077  
 Procedure: ConvertMessage Category: Performance  
 Source Line: For Each objFldr In objFldrs

-----  
 Possible premature exit found

**Severity: Medium**

Module: ARMSConversion Line: 1081  
 Procedure: ConvertMessage Category: Standards  
 Source Line: Exit Sub

-----  
 Literal, hard-coded, string found in code

**Severity: High**

Module: ARMSConversion Line: 1089  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: Call m\_oErrorHandler.FormatErrorMsg(m\_lErrorNumber,  
 "Line " & Erl & ". " & m\_sErrorDescription, m\_sErrorSource,  
 "ARMSConversion - ConvertMessage")

-----  
 Possible premature exit found  
 Severity: Medium

Module: ARMSConversion Line: 1090  
 Procedure: ConvertMessage Category: Standards  
 Source Line: Exit Sub

-----  
 Literal, hard-coded, string found in code  
 Severity: High

Module: ARMSConversion Line: 1093  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: m\_lErrorNumber = "20025"

-----  
 Possible premature exit found  
 Severity: Medium

Module: ARMSConversion Line: 1106  
 Procedure: ConvertMessage Category: Standards  
 Source Line: Exit Sub

-----  
 Literal, hard-coded, string found in code  
 Severity: High

Module: ARMSConversion Line: 1109  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: m\_lErrorNumber = "20060"

-----  
 Literal, hard-coded, string found in code  
 Severity: High

Module: ARMSConversion Line: 1110  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: m\_sErrorDescription = "Unable to save attachment  
 file. File skipped. " & sFilename

-----  
 Literal, hard-coded, string found in code  
 Severity: High

Module: ARMSConversion Line: 1111  
 Procedure: ConvertMessage Category: Internationalization  
 Source Line: m\_sErrorSource = "EIS"

-----  
 Procedure has more than 250 code lines; counted 314  
 Severity: High

Module: ARMSConversion Line: 673  
 Procedure: ConvertMessage Category: Standards  
 Source Line:

Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 615  
Procedure: ServiceStatus Category: Internationalization  
Source Line: ServiceStatus = ""

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 636  
Procedure: ServiceStatus Category: Internationalization  
Source Line: ServiceStatus = "Paused"

-----  
Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 644  
Procedure: ServiceStatus Category: Standards  
Source Line: Exit Function

-----  
Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 653  
Procedure: ServiceStatus Category: Standards  
Source Line: Exit Function

-----  
Objects not released appropriately or not as soon as possible

Severity: High

Module: ARMSConversion Line: 608  
Procedure: ServiceStatus Category: User Defined  
Source Line: Exit Function

-----  
Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 579  
Procedure: WaitForProcess Category: Standards  
Source Line: Exit Function

-----  
Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 588  
Procedure: WaitForProcess Category: Standards  
Source Line: Exit Function

-----  
Objects not released appropriately or not as soon as possible

Severity: High

Module: ARMSConversion Line: 568  
Procedure: WaitForProcess Category: User Defined  
Source Line: Exit Function

## Creating an Instance of a Class

Severity: High

Module: ARMSConversion Line: 497  
 Procedure: MoveMessage Category: User Defined  
 Source Line: Dim objFSO As New FileSystemObject

-----  
Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 510  
 Procedure: MoveMessage Category: Standards  
 Source Line: Exit Sub

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 514  
 Procedure: MoveMessage Category: Internationalization  
 Source Line: If Right\$(sDirectory, 1) <> "\" Then

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 515  
 Procedure: MoveMessage Category: Internationalization  
 Source Line: sDirectory = sDirectory & "\"

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 519  
 Procedure: MoveMessage Category: Internationalization  
 Source Line: If Right\$(sCopyPath, 1) <> "\" Then

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 520  
 Procedure: MoveMessage Category: Internationalization  
 Source Line: sCopyPath = sCopyPath & "\"

-----  
Dir variant function found

Severity: High

Module: ARMSConversion Line: 530  
 Procedure: MoveMessage Category: Performance  
 Source Line: If Dir(sCopyPath & sDirName, vbDirectory) = "" Then

-----  
Dim line with multiple variables used anywhere in

Severity: Note

Module: ARMSConversion Line: 301  
 Procedure: MonitorQueue Category: Logic  
 Source Line: Dim iIndx As Integer, iDirIndx As Integer, iHDRIndx  
 As Integer

Literal, hard-coded, string found in code

*Severity: High*

Module: ARMSConversion Line: 317  
 Procedure: MonitorQueue Category: Internationalization  
 Source Line: If Right\$(sStartDir, 1) <> "\" Then ' check if dir  
 string includes trailing slash

-----  
 Literal, hard-coded, string found in code

*Severity: High*

Module: ARMSConversion Line: 318  
 Procedure: MonitorQueue Category: Internationalization  
 Source Line: sStartDir = sStartDir & "\"

-----  
 Literal, hard-coded, string found in code

*Severity: High*

Module: ARMSConversion Line: 329  
 Procedure: MonitorQueue Category: Internationalization  
 Source Line: sPathDirList(iDir) = sStartDir &  
 sCurrentDir & "\"

-----  
 Possible premature exit found

*Severity: Medium*

Module: ARMSConversion Line: 339  
 Procedure: MonitorQueue Category: Standards  
 Source Line: Exit Sub

-----  
 For loop uses UBound()

*Severity: High*

Module: ARMSConversion Line: 343  
 Procedure: MonitorQueue Category: Performance  
 Source Line: For iDirIndx = LBound(sPathDirList) To  
 UBound(sPathDirList)

-----  
 Literal, hard-coded, string found in code

*Severity: High*

Module: ARMSConversion Line: 385  
 Procedure: MonitorQueue Category: Internationalization  
 Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "", "EIS:  
 ARMS server currently unavailable", "Error:  
 Cannot copy messages" & vbNewLine \_

-----  
 Possible premature exit found

*Severity: Medium*

Module: ARMSConversion Line: 386  
 Procedure: MonitorQueue Category: Standards  
 Source Line: Exit Sub

-----  
 For loop uses UBound()

*Severity: High*

Module: ARMSConversion Line: 413  
 Procedure: MonitorQueue Category: Performance



Source Line: For iIndx = LBound(sFileList) To  
UBound(sFileList)

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 418  
Procedure: MonitorQueue Category: Internationalization  
Source Line: If UCase\$(Right\$(sFileList(iIndx), 4)) <> ".HDR" \_

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 420  
Procedure: MonitorQueue Category: Internationalization  
Source Line: If m\_oUtility.CopyFileToARMS(sAttachPath & "\" &  
sCurrDirList(iDirIndx),  
sPathDirList(iDirIndx) & sFileList(iIndx)) = False Then

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 443  
Procedure: MonitorQueue Category: Internationalization  
Source Line: If  
m\_oUtility.CopyFileToARMS(sHeaderPath & "\" & sCurrDirList(iDirIndx),  
sPathDirList(iDirIndx) &  
sHDRFilename & ".HDR") = False Then

-----  
Statement concatenation found

Severity: High

Module: ARMSConversion Line: 446  
Procedure: MonitorQueue Category: Standards  
Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "", "EIS:  
Cannot copy to ARMS server", "Error: Cannot  
copy messages" & vbNewLine \_

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 446  
Procedure: MonitorQueue Category: Internationalization  
Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "", "EIS:  
Cannot copy to ARMS server", "Error: Cannot  
copy messages" & vbNewLine \_

-----  
Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 453  
Procedure: MonitorQueue Category: Internationalization  
Source Line: Kill sPathDirList(iDirIndx) &  
sHDRFilename & "\*\*.\*"

-----  
Possible premature exit found

Severity: Medium

Module: ARMSConversion Line: 464  
Procedure: MonitorQueue Category: Standards  
Source Line: Exit Sub

-----  
 Literal, hard-coded, string found in code  
 Severity: High  
 Module: ARMSConversion Line: 240  
 Procedure: PurgeMessages Category: Internationalization  
 Source Line: Set objFile = objFSO.GetFile(sCurrdir & "\" & sFile)

-----  
 Possible premature exit found  
 Severity: Medium  
 Module: ARMSConversion Line: 255  
 Procedure: PurgeMessages Category: Standards  
 Source Line: Exit Sub

-----  
 Possible premature exit found  
 Severity: Medium  
 Module: ARMSConversion Line: 264  
 Procedure: PurgeMessages Category: Standards  
 Source Line: Exit Sub

-----  
 Objects not released appropriately or not as soon as possible  
 Severity: High  
 Module: ARMSConversion Line: 206  
 Procedure: PurgeMessages Category: User Defined  
 Source Line: Set objFile = objFSO.GetFile(sCurrdir & "\" & sFile)

-----  
 Objects not released appropriately or not as soon as possible  
 Severity: High  
 Module: ARMSConversion Line: 206  
 Procedure: PurgeMessages Category: User Defined  
 Source Line: Exit Sub

-----  
 Possible premature exit found  
 Severity: Medium  
 Module: ARMSConversion Line: 176  
 Procedure: SetEXTimer Category: Standards  
 Source Line: Exit Sub

-----  
 Possible premature exit found  
 Severity: Medium  
 Module: ARMSConversion Line: 185  
 Procedure: SetEXTimer Category: Standards  
 Source Line: Exit Sub

-----  
 Objects not released appropriately or not as soon as possible  
 Severity: High  
 Module: ARMSConversion Line: 166  
 Procedure: SetEXTimer Category: User Defined  
 Source Line: Exit Sub

-----  
Possible premature exit found

Severity: Medium  
Module: ARMSConversion Line: 138  
Procedure: SetACMTimer Category: Standards  
Source Line: Exit Sub

-----  
Possible premature exit found

Severity: Medium  
Module: ARMSConversion Line: 147  
Procedure: SetACMTimer Category: Standards  
Source Line: Exit Sub

-----  
*Objects not released appropriately or not as soon as possible*

Severity: High  
Module: ARMSConversion Line: 128  
Procedure: SetACMTimer Category: User Defined  
Source Line: Exit Sub

-----  
The procedure MonitorQueue was never called

Severity: High  
Module: ARMSConversion Line: 284  
Procedure: MonitorQueue Category: Standards  
Source Line: Public Sub MonitorQueue()

-----  
The procedure SetEXTimer was never called

Severity: High  
Module: ARMSConversion Line: 165  
Procedure: SetEXTimer Category: Standards  
Source Line: Public Sub SetEXTimer()

-----  
The procedure GetAgency was never called

Severity: High  
Module: ARMSConversion Line: 1607  
Procedure: GetAgency Category: Standards  
Source Line: Public Function GetAgency(ByVal sUserEmail As String)  
As String

-----  
Test for empty string found

Severity: High  
Module: ARMSConversion Line: 530  
Procedure: MoveMessage Category: Performance  
Source Line: If Dir(sCopyPath & sDirName, vbDirectory) = "" Then

-----  
Literal, hard-coded, string found in code

Severity: High  
Module: ARMSConversion Line: 530  
Procedure: MoveMessage Category: Internationalization  
Source Line: If Dir(sCopyPath & sDirName, vbDirectory) = "" Then

-----  
Possible premature exit found  
Severity: Medium  
Module: ARMSConversion Line: 538  
Procedure: MoveMessage Category: Standards  
Source Line: Exit Sub

-----  
Possible premature exit found  
Severity: Medium  
Module: ARMSConversion Line: 547  
Procedure: MoveMessage Category: Standards  
Source Line: Exit Sub

-----  
Objects not released appropriately or not as soon as possible  
Severity: High  
Module: ARMSConversion Line: 496  
Procedure: MoveMessage Category: User Defined  
Source Line: Exit Sub

-----  
Dim line with multiple variables used anywhere in  
Severity: Note  
Module: ARMSConversion Line: 300  
Procedure: MonitorQueue Category: Logic  
Source Line: Dim i As Integer, iDir As Integer, iHDR As Integer

-----  
Test for empty string found  
Severity: High  
Module: ARMSConversion Line: 348  
Procedure: MonitorQueue Category: Performance  
Source Line: If sCurrHDRFile = "" Then

-----  
Literal, hard-coded, string found in code  
Severity: High  
Module: ARMSConversion Line: 348  
Procedure: MonitorQueue Category: Internationalization  
Source Line: If sCurrHDRFile = "" Then

-----  
Goto found  
Severity: High  
Module: ARMSConversion Line: 349  
Procedure: MonitorQueue Category: Standards  
Source Line: GoTo NextLoop

-----  
Literal, hard-coded, string found in code  
Severity: High  
Module: ARMSConversion Line: 360  
Procedure: MonitorQueue Category: Internationalization  
Source Line: If UCase\$(Right\$(sCurrHDRFile, 4)) =  
".HDR" Then

-----  
 For loop uses UBound()

Severity: High

Module: ARMSConversion Line: 373  
 Procedure: MonitorQueue Category: Performance  
 Source Line: For iHDRIndx = LBound(sHDRList) To  
 UBound(sHDRList)

-----  
 Statement concatenation found

Severity: High

Module: ARMSConversion Line: 385  
 Procedure: MonitorQueue Category: Standards  
 Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "", "EIS:  
 ARMS server currently unavailable", "Error:  
 Cannot copy messages" & vbNewLine \_

-----  
 Statement concatenation found

Severity: High

Module: ARMSConversion Line: 423  
 Procedure: MonitorQueue Category: Standards  
 Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "",  
 "EIS: Cannot copy to ARMS server",  
 "Error: Cannot copy messages" & vbNewLine \_

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 423  
 Procedure: MonitorQueue Category: Internationalization  
 Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "",  
 "EIS: Cannot copy to ARMS server",  
 "Error: Cannot copy messages" & vbNewLine \_

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 433  
 Procedure: MonitorQueue Category: Internationalization  
 Source Line: If  
 m\_oUtility.CopyFileToARMS(sMessagePath & "\" & sCurrDirList(iDirIndx),  
 sPathDirList(iDirIndx) &  
 sHDRFilename & ".MSG") = False Then

-----  
 Statement concatenation found

Severity: High

Module: ARMSConversion Line: 436  
 Procedure: MonitorQueue Category: Standards  
 Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "", "EIS:  
 Cannot copy to ARMS server", "Error: Cannot  
 copy messages" & vbNewLine \_

-----  
 Literal, hard-coded, string found in code

Severity: High

Module: ARMSConversion Line: 436  
 Procedure: MonitorQueue Category: Internationalization  
 Source Line: Call m\_oUtility.SendEmail(sAdminEmail, "", "", "EIS:  
 Cannot copy to ARMS server", "Error: Cannot  
 copy messages" & vbNewLine \_

-----  
**Objects not released appropriately or not as soon as possible**  
**Severity: High**

Module: ARMSConversion Line: 285  
 Procedure: MonitorQueue Category: User Defined  
 Source Line: Exit Sub

-----  
**Creating an Instance of a Class**

**Severity: High**  
 Module: ARMSConversion Line: 211  
 Procedure: PurgeMessages Category: User Defined  
 Source Line: Dim colDirList As New Collection ' holds  
 collection of directories

-----  
**User-defined New Collection found**

**Severity: High**  
 Module: ARMSConversion Line: 211  
 Procedure: PurgeMessages Category: Logic  
 Source Line: Dim colDirList As New Collection ' holds  
 collection of directories

-----  
**Creating an Instance of a Class**

**Severity: High**  
 Module: ARMSConversion Line: 213  
 Procedure: PurgeMessages Category: User Defined  
 Source Line: Dim objFSO As New Scripting.FileSystemObject

-----  
**Literal, hard-coded, string found in code**

**Severity: High**  
 Module: ARMSConversion Line: 225  
 Procedure: PurgeMessages Category: Internationalization  
 Source Line: If Right\$(sStartDir, 1) <> "\" Then sStartDir =  
 sStartDir & "\"

-----  
**Literal, hard-coded, string found in code**

**Severity: High**  
 Module: ARMSConversion Line: 237  
 Procedure: PurgeMessages Category: Internationalization  
 Source Line: colDirList.Add sCurrdir & sFile & "\"

-----  
**The procedure GetTimeZoneInformation was never called**

**Severity: High**  
 Module: ARMSConversion Line: 34  
 Procedure: GetTimeZoneInformation Category: Standards  
 Source Line: Private Declare Function GetTimeZoneInformation Lib  
 "kernel32" (lpTimeZoneInformation As TIME\_ZONE\_INFORMATION) As  
 Long

-----  
**The procedure PurgeMessages was never called**

**Severity: High**  
 Module: ARMSConversion Line: 205

Procedure: PurgeMessages Category: Standards  
Source Line: Public Sub PurgeMessages()

-----  
The procedure ConvertWinToVMS was never called

Severity: High

Module: ARMSConversion Line: 2068  
Procedure: ConvertWinToVMS Category: Standards  
Source Line: Public Function ConvertWinToVMS(ByVal sWin As String)  
As String

-----  
The procedure ConvertMessage was never called

Severity: High

Module: ARMSConversion Line: 672  
Procedure: ConvertMessage Category: Standards  
Source Line: Public Sub ConvertMessage(ByVal sEXContainerFile As  
String)

-----  
The procedure GetFilename was never called

Severity: High

Module: ARMSConversion Line: 1786  
Procedure: GetFilename Category: Standards  
Source Line: Public Function GetFilename() As String

-----  
The procedure SetACMTimer was never called

Severity: High

Module: ARMSConversion Line: 127  
Procedure: SetACMTimer Category: Standards  
Source Line: Public Sub SetACMTimer()

-----  
The procedure GetEmailAddress was never called

Severity: High

Module: ARMSConversion Line: 1473  
Procedure: GetEmailAddress Category: Standards  
Source Line: Public Function GetEmailAddress(ByVal objRecipient As  
Object) As String

**EisAcm Code Review Naming Report**

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: ConvertWinToVMS  
 strShare  
 Line Number: 2070 Scope: Local  
 Source Line: Dim sShare As String

Current Name: sShare  
 Recomend Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: ConvertWinToVMS  
 strDir  
 Line Number: 2071 Scope: Local  
 Source Line: Dim sDir As String

Current Name: sDir  
 Recomend Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sFilename  
 Procedure: ConvertWinToVMS  
 strFilename  
 Line Number: 2072 Scope: Local  
 Source Line: Dim sFilename As String

Current Name:  
 Recomend Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 strSender  
 Line Number: 1914 Scope: Local  
 Source Line: Dim sSender As String

Current Name: sSender  
 Recomend Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 strSubject  
 Line Number: 1915 Scope: Local  
 Source Line: Dim sSubject As String

Current Name: sSubject  
 Recomend Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sSendTime  
 Procedure: MoveToQueue  
 strSendTime

Current Name:  
 Recomend Name:



Line Number: 1916 Scope: Local  
Source Line: Dim sSendTime As String

Used:

-----  
Data Type: Date  
Module: ARMSConversion  
dtSendTime  
Procedure: MoveToQueue  
dtmSendTime  
Line Number: 1917 Scope: Local  
Source Line: Dim dtSendTime As Date

Current Name:

Recommended Name:

Used:

-----  
Data Type: String  
Module: ARMSConversion  
sARMSPath  
Procedure: MoveToQueue  
strARMSPath  
Line Number: 1918 Scope: Local  
Source Line: Dim sARMSPath As String

Current Name:

Recommended Name:

Used:

-----  
Data Type: String  
Module: ARMSConversion  
sQueuePath  
Procedure: MoveToQueue  
strQueuePath  
Line Number: 1919 Scope: Local  
Source Line: Dim sQueuePath As String

Current Name:

Recommended Name:

Used:

-----  
Data Type: Long  
Module: ARMSConversion  
lMessageSize  
Procedure: MoveToQueue  
lngMessageSize  
Line Number: 1920 Scope: Local  
Source Line: Dim lMessageSize As Long

Current Name:

Recommended Name:

Used:

-----  
Data Type: String  
Module: ARMSConversion  
Procedure: MoveToQueue  
strFile  
Line Number: 1922 Scope: Local  
Source Line: Dim sFile As String

Current Name: sFile

Recommended Name:

Used:

-----  
Data Type: Integer  
Module: ARMSConversion

Current Name: iFnum

Procedure: MoveToQueue  
 intFnum  
 Line Number: 1923 Scope: Local  
 Source Line: Dim iFnum As Integer

Recommended Name:

Used: No

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 strHeader  
 Line Number: 1924 Scope: Local  
 Source Line: Dim sHeader As String

Current Name: sHeader  
Recommended Name:

Used: No

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 intLoc  
 Line Number: 1925 Scope: Local  
 Source Line: Dim iLoc As Integer

Current Name: iLoc  
Recommended Name:

Used: No

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 intLen  
 Line Number: 1926 Scope: Local  
 Source Line: Dim iLen As Integer

Current Name: iLen  
Recommended Name:

Used: No

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 intTagLen  
 Line Number: 1927 Scope: Local  
 Source Line: Dim iTagLen As Integer

Current Name: iTagLen  
Recommended Name:

Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 intl  
 Line Number: 1928 Scope: Local  
 Source Line: Dim i As Integer

Current Name: i  
Recommended Name:

Used:

-----  
 Data Type: Boolean  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 blnDone  
 Line Number: 1929 Scope: Local

Current Name: bDone  
Recommended Name:

Used: No

Source Line: Dim bDone As Boolean

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 intLenLoc  
 Line Number: 1930 Scope: Local  
 Source Line: Dim iLenLoc As Integer

Current Name: iLenLoc  
 Recommended Name:

Used: No

-----  
 Data Type: Long  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 lngHandle  
 Line Number: 1931 Scope: Local  
 Source Line: Dim lHandle As Long

Current Name: lHandle  
 Recommended Name:

Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 intTagID  
 Line Number: 1932 Scope: Local  
 Source Line: Dim iTagID As Integer

Current Name: iTagID  
 Recommended Name:

Used: No

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 iTagLength  
 Procedure: MoveToQueue  
 intTagLength  
 Line Number: 1933 Scope: Local  
 Source Line: Dim iTagLength As Integer

Current Name:

Recommended Name:

Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 intPos  
 Line Number: 1934 Scope: Local  
 Source Line: Dim iPos As Integer

Current Name: iPos  
 Recommended Name:

Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 intBeg  
 Line Number: 1936 Scope: Local  
 Source Line: Dim iBeg As Integer

Current Name: iBeg  
 Recommended Name:

Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 intEnd  
 Line Number: 1937                    Scope: Local  
 Source Line:     Dim iEnd As Integer

Current Name: iEnd  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MoveToQueue  
 intAddrLen  
 Line Number: 1938                    Scope: Local  
 Source Line:     Dim iAddrLen As Integer

Current Name: iAddrLen  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sDirectoryID  
 Procedure: GetNextARMSPath  
 strDirectoryID  
 Line Number: 1843                    Scope: Local  
 Source Line:     Dim sDirectoryID As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sHeaderPath  
 Procedure: GetNextARMSPath  
 strHeaderPath  
 Line Number: 1844                    Scope: Local  
 Source Line:     Dim sHeaderPath As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sMessagePath  
 Procedure: GetNextARMSPath  
 strMessagePath  
 Line Number: 1845                    Scope: Local  
 Source Line:     Dim sMessagePath As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sAttachPath  
 Procedure: GetNextARMSPath  
 strAttachPath  
 Line Number: 1846                    Scope: Local  
 Source Line:     Dim sAttachPath As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sARMSServer  
 Procedure: GetNextARMSPath  
 strARMSServer  
 Line Number: 1847                    Scope: Local  
 Source Line:     Dim sARMSServer As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sARMSShare  
 Procedure: GetNextARMSPath  
 strARMSShare  
 Line Number: 1848                    Scope: Local  
 Source Line:     Dim sARMSShare As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sArmsServerName  
 Procedure: GetFilename  
 strArmsServerName  
 Line Number: 1787                    Scope: Local  
 Source Line:     Dim sArmsServerName As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sArmsHostNumber  
 Procedure: GetFilename  
 strArmsHostNumber  
 Line Number: 1788                    Scope: Local  
 Source Line:     Dim sArmsHostNumber As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sCurrentMessageID  
 Procedure: GetFilename  
 strCurrentMessageID  
 Line Number: 1789                    Scope: Local  
 Source Line:     Dim sCurrentMessageID As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: GetFilename  
 intLen  
 Line Number: 1790                    Scope: Local  
 Source Line:     Dim iLen As Integer

Current Name: iLen  
 Recommended Name:  
Used: No

-----  
 Data Type: String  
 Module: ARMSConversion  
 sDBName  
 Procedure: GetAgency  
 strDBName  
 Line Number: 1621                    Scope: Local  
 Source Line:     Dim sDBName As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sSQLServer  
 Procedure: GetAgency  
 strSQLServer  
 Line Number: 1622                    Scope: Local  
 Source Line:     Dim sSQLServer As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: GetAgency  
 strUID  
 Line Number: 1623                    Scope: Local  
 Source Line:     Dim sUID As String

Current Name: sUID  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: GetAgency  
 strPWD  
 Line Number: 1624                    Scope: Local  
 Source Line:     Dim sPWD As String

Current Name: sPWD  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: GetAgency  
 strSuffix  
 Line Number: 1625                    Scope: Local  
 Source Line:     Dim sSuffix As String

Current Name: sSuffix  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sAgencyInfo  
 Procedure: FormatUser  
 strAgencyInfo  
 Line Number: 1569                    Scope: Local

Current Name:  
 Recommended Name:  
 Used:

Source Line: Dim sAgencyInfo As String

-----  
Data Type: Long  
Module: ARMSConversion  
Procedure: ExpandDistList  
IngTemp  
Line Number: 1518 Scope: Local  
Source Line: Dim iTemp As Long

Current Name: iTemp  
Recommended Name:

Used: No

-----  
Data Type: String  
Module: ARMSConversion  
Procedure: GetEmailAddress  
strType  
Line Number: 1474 Scope: Local  
Source Line: Dim sType As String

Current Name: sType  
Recommended Name:

Used: No

-----  
Data Type: String  
Module: ARMSConversion  
sRecipientEmail  
Procedure: GetEmailAddress  
strRecipientEmail  
Line Number: 1475 Scope: Local  
Source Line: Dim sRecipientEmail As String

Current Name:

Recommended Name:

Used:

-----  
Data Type: String  
Module: ARMSConversion  
sHeaderString  
Procedure: BuildHeaderFile  
strHeaderString  
Line Number: 1139 Scope: Local  
Source Line: Dim sHeaderString As String

Current Name:

Recommended Name:

Used: No

-----  
Data Type: String  
Module: ARMSConversion  
Procedure: BuildHeaderFile  
strHeader  
Line Number: 1140 Scope: Local  
Source Line: Dim sHeader As String

Current Name: sHeader  
Recommended Name:

Used: No

-----  
Data Type: String  
Module: ARMSConversion  
sMessage  
Procedure: BuildHeaderFile  
strMessage  
Line Number: 1141 Scope: Local

Current Name:

Recommended Name:

Used:

Source Line: Dim sMessage As String

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: BuildHeaderFile  
 strAttach  
 Line Number: 1142 Scope: Local  
 Source Line: Dim sAttach As String

Current Name: sAttach  
 Recommended Name:  
 Used:

-----  
 Data Type: Date  
 Module: ARMSConversion  
 dtMsgSentTime  
 Procedure: BuildHeaderFile  
 dtmMsgSentTime  
 Line Number: 1146 Scope: Local  
 Source Line: Dim dtMsgSentTime As Date

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sMsgType  
 Procedure: BuildHeaderFile  
 strMsgType  
 Line Number: 1147 Scope: Local  
 Source Line: Dim sMsgType As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sFromUser  
 Procedure: BuildHeaderFile  
 strFromUser  
 Line Number: 1148 Scope: Local  
 Source Line: Dim sFromUser As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sFromUserEmail  
 Procedure: BuildHeaderFile  
 strFromUserEmail  
 Line Number: 1149 Scope: Local  
 Source Line: Dim sFromUserEmail As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sFromUserString

Current Name:



Procedure: BuildHeaderFile  
strFromUserString  
Line Number: 1150 Scope: Local  
Source Line: Dim sFromUserString As String

Recommended Name:  
Used:

-----  
Data Type: String  
Module: ARMSConversion  
sMsgHeader  
Procedure: BuildHeaderFile  
strMsgHeader  
Line Number: 1151 Scope: Local  
Source Line: Dim sMsgHeader As String

Current Name:  
Recommended Name:  
Used: No

-----  
Data Type: String  
Module: ARMSConversion  
Procedure: BuildHeaderFile  
strSubject  
Line Number: 1152 Scope: Local  
Source Line: Dim sSubject As String

Current Name: sSubject  
Recommended Name:  
Used:

-----  
Data Type: String  
Module: ARMSConversion  
sRecipientEmail  
Procedure: BuildHeaderFile  
strRecipientEmail  
Line Number: 1153 Scope: Local  
Source Line: Dim sRecipientEmail As String

Current Name:  
Recommended Name:  
Used: No

-----  
Data Type: String  
Module: ARMSConversion  
sRecipientName  
Procedure: BuildHeaderFile  
strRecipientName  
Line Number: 1154 Scope: Local  
Source Line: Dim sRecipientName As String

Current Name:  
Recommended Name:  
Used:

-----  
Data Type: String  
Module: ARMSConversion  
sUserString  
Procedure: BuildHeaderFile  
strUserString  
Line Number: 1155 Scope: Local  
Source Line: Dim sUserString As String

Current Name:  
Recommended Name:  
Used:

-----  
Data Type: String

Module: ARMSConversion  
 Procedure: BuildHeaderFile  
 strType  
 Line Number: 1158 Scope: Local  
 Source Line: Dim sType As String

Current Name: sType  
 Recommended Name:  
 Used:

-----  
 Data Type: Long  
 Module: ARMSConversion  
 IRecipType  
 Procedure: BuildHeaderFile  
 lngRecipType  
 Line Number: 1159 Scope: Local  
 Source Line: Dim IRecipType As Long

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: BuildHeaderFile  
 intAttach  
 Line Number: 1160 Scope: Local  
 Source Line: Dim iAttach As Integer

Current Name: iAttach  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sAttachFilename  
 Procedure: BuildHeaderFile  
 strAttachFilename  
 Line Number: 1161 Scope: Local  
 Source Line: Dim sAttachFilename As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Long  
 Module: ARMSConversion  
 IHeaderLength  
 Procedure: BuildHeaderFile  
 lngHeaderLength  
 Line Number: 1162 Scope: Local  
 Source Line: Dim IHeaderLength As Long

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Long  
 Module: ARMSConversion  
 Procedure: BuildHeaderFile  
 lngBias  
 Line Number: 1164 Scope: Local  
 Source Line: Dim IBias As Long

Current Name: IBias  
 Recommended Name:  
 Used: ' current timezone offset

-----  
 Data Type: Long  
 Module: ARMSConversion

Current Name: IHandle

Procedure: BuildHeaderFile  
 lngHandle  
 Line Number: 1165 Scope: Local  
 Source Line: Dim lHandle As Long

Recommended Name:

Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sMsgTime  
 Procedure: BuildHeaderFile  
 strMsgTime  
 Line Number: 1166 Scope: Local  
 Source Line: Dim sMsgTime As String

Current Name:

Recommended Name:

Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 iSourceType  
 Procedure: BuildHeaderFile  
 intSourceType  
 Line Number: 1167 Scope: Local  
 Source Line: Dim iSourceType As Integer

Current Name:

Recommended Name:

Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sBCCUser  
 Procedure: BuildHeaderFile  
 strBCCUser  
 Line Number: 1178 Scope: Local  
 Source Line: Dim sBCCUser As String

Current Name:

Recommended Name:

Used: No

-----  
 Data Type: Variant  
 Module: ARMSConversion  
 asTOCCUsers  
 Procedure: BuildHeaderFile  
 vntTOCCUsers  
 Line Number: 1179 Scope: Local  
 Source Line: Dim asTOCCUsers() As String

Current Name:

Recommended Name:

Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: BuildHeaderFile  
 intTOCC  
 Line Number: 1180 Scope: Local  
 Source Line: Dim iTOCC As Integer

Current Name: iTOCC

Recommended Name:

Used:

-----  
 Data Type: Integer

Module: ARMSConversion  
 iTOCCIdx  
 Procedure: BuildHeaderFile  
 intTOCCIdx  
 Line Number: 1181 Scope: Local  
 Source Line: Dim iTOCCIdx As Integer

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sArmsMessageWidth  
 Procedure: ConvertMessage  
 strArmsMessageWidth  
 Line Number: 673 Scope: Local  
 Source Line: Dim sArmsMessageWidth As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sFilename  
 Procedure: ConvertMessage  
 strFilename  
 Line Number: 674 Scope: Local  
 Source Line: Dim sFilename As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 strExt  
 Line Number: 675 Scope: Local  
 Source Line: Dim sExt As String

Current Name: sExt  
 Recommended Name:  
 Used:

-----  
 Data Type: Variant  
 Module: ARMSConversion  
 sAttachments  
 Procedure: ConvertMessage  
 vntAttachments  
 Line Number: 676 Scope: Local  
 Source Line: Dim sAttachments() As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sMsgBody  
 Procedure: ConvertMessage  
 strMsgBody  
 Line Number: 677 Scope: Local  
 Source Line: Dim sMsgBody As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sFormattedBody  
 Procedure: ConvertMessage  
 strFormattedBody  
 Line Number: 678                    Scope: Local  
 Source Line:     Dim sFormattedBody As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Long  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 lngBodyLen  
 Line Number: 679                    Scope: Local  
 Source Line:     Dim lBodyLen As Long

Current Name: lBodyLen  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 iNumAttach  
 Procedure: ConvertMessage  
 intNumAttach  
 Line Number: 680                    Scope: Local  
 Source Line:     Dim iNumAttach As Integer

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Variant  
 Module: ARMSConversion  
 iBreakPoint  
 Procedure: ConvertMessage  
 vntBreakPoint  
 Line Number: 681                    Scope: Local  
 Source Line:     Dim iBreakPoint

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 intl  
 Line Number: 682                    Scope: Local  
 Source Line:     Dim i As Integer

Current Name: i  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 strWorkDir  
 Line Number: 683                    Scope: Local  
 Source Line:     Dim sWorkDir As String

Current Name: sWorkDir  
 Recommended Name:  
 Used:

-----  
 Data Type: Outlook.Attachment  
 Module: ARMSConversion  
 objMsgAttach  
 Procedure: ConvertMessage  
 Line Number: 688 Scope: Local  
 Source Line: Dim objMsgAttach As Outlook.Attachment

Current Name:  
 Recommended Name:  
Used: No

-----  
 Data Type: String  
 Module: ARMSConversion  
 sContainerPath  
 Procedure: ConvertMessage  
 strContainerPath  
 Line Number: 697 Scope: Local  
 Source Line: Dim sContainerPath As String

Current Name:  
 Recommended Name:  
Used: No

-----  
 Data Type: String  
 Module: ARMSConversion  
 sDriveLetter  
 Procedure: ConvertMessage  
 strDriveLetter  
 Line Number: 698 Scope: Local  
 Source Line: Dim sDriveLetter As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Long  
 Module: ARMSConversion  
 IContainerFileSize  
 Procedure: ConvertMessage  
 lngContainerFileSize  
 Line Number: 699 Scope: Local  
 Source Line: Dim IContainerFileSize As Long

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Long  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 lngRet  
 Line Number: 700 Scope: Local  
 Source Line: Dim IRet As Long

Current Name: IRet  
 Recommended Name:  
 Used:

-----  
 Data Type: Currency  
 Module: ARMSConversion  
 curTotalBytesUsed  
 Procedure: ConvertMessage  
 Line Number: 704 Scope: Local  
 Source Line: Dim curTotalBytesUsed As Currency

Current Name:  
 Recommended Name:  
Used: No

-----  
 Data Type: String  
 Module: ARMSConversion  
 sAttachExt  
 Procedure: ConvertMessage  
 strAttachExt  
 Line Number: 717 Scope: Local  
 Source Line: Dim sAttachExt As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sAdminEmail  
 Procedure: ConvertMessage  
 strAdminEmail  
 Line Number: 718 Scope: Local  
 Source Line: Dim sAdminEmail As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sAuditStatus  
 Procedure: ConvertMessage  
 strAuditStatus  
 Line Number: 719 Scope: Local  
 Source Line: Dim sAuditStatus As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sMirrorFile  
 Procedure: ConvertMessage  
 strMirrorFile  
 Line Number: 720 Scope: Local  
 Source Line: Dim sMirrorFile As String

Current Name:  
 Recommended Name:  
Used: No

-----  
 Data Type: Variant  
 Module: ARMSConversion  
 sMirrorQueue  
 Procedure: ConvertMessage  
 vntMirrorQueue  
 Line Number: 721 Scope: Local  
 Source Line: Dim sMirrorQueue() As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 intMirror  
 Line Number: 722 Scope: Local

Current Name: iMirror  
 Recommended Name:  
 Used:

Source Line: Dim iMirror As Integer

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 iMirrorQueue  
 Procedure: ConvertMessage  
 intMirrorQueue  
 Line Number: 723 Scope: Local  
 Source Line: Dim iMirrorQueue As Integer

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Boolean  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 blnOriginal  
 Line Number: 724 Scope: Local  
 Source Line: Dim fOriginal As Boolean

Current Name: fOriginal  
 Recommended Name:  
 Used:

-----  
 Data Type: Long  
 Module: ARMSConversion  
 lhSManager  
 Procedure: ServiceStatus  
 lngSManager  
 Line Number: 609 Scope: Local  
 Source Line: Dim lhSManager As Long

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Long  
 Module: ARMSConversion  
 Procedure: ServiceStatus  
 lngService  
 Line Number: 610 Scope: Local  
 Source Line: Dim lhService As Long

Current Name: lhService  
 Recommended Name:  
 Used:

-----  
 Data Type: Long  
 Module: ARMSConversion  
 lhServiceStatus  
 Procedure: ServiceStatus  
 lngServiceStatus  
 Line Number: 611 Scope: Local  
 Source Line: Dim lhServiceStatus As Long

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Long  
 Module: ARMSConversion  
 IProcHandle  
 Procedure: WaitForProcess  
 lngProcHandle

Current Name:  
 Recommended Name:



Line Number: 568 Scope: Local  
Source Line: Dim IProcHandle As Long

Used:

-----  
Data Type: String  
Module: ARMSConversion  
sCopyPath  
Procedure: MoveMessage  
strCopyPath  
Line Number: 496 Scope: Local  
Source Line: Dim sCopyPath As String

Current Name:

Recommended Name:

Used:

-----  
Data Type: File  
Module: ARMSConversion  
Procedure: MoveMessage  
Line Number: 498 Scope: Local  
Source Line: Dim objFile As File

Current Name: objFile

Recommended Name:

Used: No

-----  
Data Type: String  
Module: ARMSConversion  
sDirName  
Procedure: MoveMessage  
strDirName  
Line Number: 499 Scope: Local  
Source Line: Dim sDirName As String

Current Name:

Recommended Name:

Used:

-----  
Data Type: Integer  
Module: ARMSConversion  
Procedure: MoveMessage  
intLen  
Line Number: 500 Scope: Local  
Source Line: Dim iLen As Integer

Current Name: iLen

Recommended Name:

Used: No

-----  
Data Type: Integer  
Module: ARMSConversion  
Procedure: MoveMessage  
intLoc  
Line Number: 501 Scope: Local  
Source Line: Dim iLoc As Integer

Current Name: iLoc

Recommended Name:

Used: No

-----  
Data Type: Boolean  
Module: ARMSConversion  
bValidateARMS  
Procedure: MonitorQueue  
bInValidateARMS  
Line Number: 285 Scope: Local

Current Name:

Recommended Name:

Used:

Source Line: Dim bValidateARMS As Boolean

-----  
Data Type: Boolean

Module: ARMSConversion

bCopyFailure

Procedure: MonitorQueue

blnCopyFailure

Line Number: 286 Scope: Local

Source Line: Dim bCopyFailure As Boolean

Current Name:

Recommended Name:

Used:

-----  
Data Type: String

Module: ARMSConversion

sAttachPath

Procedure: MonitorQueue

strAttachPath

Line Number: 287 Scope: Local

Source Line: Dim sAttachPath As String ' holds attach path from config file

Current Name:

Recommended Name:

Used:

-----  
Data Type: String

Module: ARMSConversion

sMessagePath

Procedure: MonitorQueue

strMessagePath

Line Number: 288 Scope: Local

Source Line: Dim sMessagePath As String ' holds message path from config file

Current Name:

Recommended Name:

Used:

-----  
Data Type: String

Module: ARMSConversion

sHeaderPath

Procedure: MonitorQueue

strHeaderPath

Line Number: 289 Scope: Local

Source Line: Dim sHeaderPath As String ' holds header path from config file

Current Name:

Recommended Name:

Used:

-----  
Data Type: String

Module: ARMSConversion

sWaitingQueue

Procedure: MonitorQueue

strWaitingQueue

Line Number: 290 Scope: Local

Source Line: Dim sWaitingQueue As String ' holds waiting queue directory

Current Name:

Recommended Name:

Used:

-----  
Data Type: String

Module: ARMSConversion

Current Name: sStartDir

Procedure: MonitorQueue  
strStartDir

Recommended Name:

Line Number: 291 Scope: Local Used:  
Source Line: Dim sStartDir As String ' holds start directory

-----  
Data Type: String  
Module: ARMSConversion  
sHDRFilename  
Procedure: MonitorQueue  
strHDRFilename

Current Name:

Recommended Name:

Line Number: 292 Scope: Local Used:  
Source Line: Dim sHDRFilename As String ' holds HDR filename without  
extension

-----  
Data Type: Variant  
Module: ARMSConversion  
Procedure: MonitorQueue  
vntFileList

Current Name: sFileList

Recommended Name:

Line Number: 293 Scope: Local Used:  
Source Line: Dim sFileList() As String

-----  
Data Type: Variant  
Module: ARMSConversion  
sPathDirList  
Procedure: MonitorQueue  
vntPathDirList

Current Name:

Recommended Name:

Line Number: 294 Scope: Local Used:  
Source Line: Dim sPathDirList() As String

-----  
Data Type: Variant  
Module: ARMSConversion  
sCurrDirList  
Procedure: MonitorQueue  
vntCurrDirList

Current Name:

Recommended Name:

Line Number: 295 Scope: Local Used:  
Source Line: Dim sCurrDirList() As String

-----  
Data Type: Variant  
Module: ARMSConversion  
Procedure: MonitorQueue  
vntHDRList

Current Name: sHDRList

Recommended Name:

Line Number: 296 Scope: Local Used:  
Source Line: Dim sHDRList() As String

-----  
Data Type: Integer

Module: ARMSConversion  
 Procedure: BuildHeaderFile  
 intTagLen  
 Line Number: 1168 Scope: Local  
 Source Line: Dim iTagLen As Integer

Current Name: iTagLen  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: BuildHeaderFile  
 intTagID  
 Line Number: 1169 Scope: Local  
 Source Line: Dim iTagID As Integer

Current Name: iTagID  
 Recommended Name:  
Used: No

-----  
 Data Type: Variant  
 Module: ARMSConversion  
 asUserName  
 Procedure: BuildHeaderFile  
 vntUserName  
 Line Number: 1172 Scope: Local  
 Source Line: Dim asUserName() As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Variant  
 Module: ARMSConversion  
 asUserEmail  
 Procedure: BuildHeaderFile  
 vntUserEmail  
 Line Number: 1173 Scope: Local  
 Source Line: Dim asUserEmail() As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Long

-----  
 Module: ARMSConversion  
 Procedure: BuildHeaderFile  
 lngDLIndex  
 Line Number: 1174 Scope: Local  
 Source Line: Dim IDLIndex As Long

Current Name: IDLIndex  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: BuildHeaderFile  
 intDL  
 Line Number: 1175 Scope: Local  
 Source Line: Dim iDL As Integer

Current Name: iDL  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 iBCCUsers  
 Procedure: BuildHeaderFile  
 intBCCUsers  
 Line Number: 1176 Scope: Local  
 Source Line: Dim iBCCUsers As Integer

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sCustomBCC  
 Procedure: BuildHeaderFile  
 strCustomBCC  
 Line Number: 1177 Scope: Local  
 Source Line: Dim sCustomBCC As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 strEntryID  
 Line Number: 689 Scope: Local  
 Source Line: Dim sEntryID As String

Current Name: sEntryID  
 Recommended Name:  
 Used:

-----  
 Data Type: Object  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 Line Number: 690 Scope: Local  
 Source Line: Dim objUtils As Object

Current Name: objUtils  
 Recommended Name:  
Used: No

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 strMsgFile  
 Line Number: 691 Scope: Local  
 Source Line: Dim sMsgFile As String

Current Name: sMsgFile  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sUnpackUtilPath  
 Procedure: ConvertMessage  
 strUnpackUtilPath  
 Line Number: 692 Scope: Local  
 Source Line: Dim sUnpackUtilPath As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String

Module: ARMSConversion  
 sCurrentFile  
 Procedure: ConvertMessage  
 strCurrentFile  
 Line Number: 693 Scope: Local  
 Source Line: Dim sCurrentFile As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 intLst  
 Line Number: 694 Scope: Local  
 Source Line: Dim iLst As Integer

Current Name: iLst  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 intFile  
 Line Number: 695 Scope: Local  
 Source Line: Dim iFile As Integer

Current Name: iFile  
 Recommended Name:  
 Used:

-----  
 Data Type: Variant  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 vntFileList  
 Line Number: 696 Scope: Local  
 Source Line: Dim sFileList() As String

Current Name: sFileList  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sCurrentDir  
 Procedure: ConvertMessage  
 strCurrentDir  
 Line Number: 709 Scope: Local  
 Source Line: Dim sCurrentDir As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Variant  
 Module: ARMSConversion  
 sCurrDirList  
 Procedure: ConvertMessage  
 vntCurrDirList  
 Line Number: 710 Scope: Local  
 Source Line: Dim sCurrDirList() As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer

Module: ARMSConversion  
 Procedure: ConvertMessage  
 intDir  
 Line Number: 711 Scope: Local  
 Source Line: Dim iDir As Integer

Current Name: iDir  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 intCurrDir  
 Line Number: 712 Scope: Local  
 Source Line: Dim iCurrDir As Integer

Current Name: iCurrDir  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sSuccessFolder  
 Procedure: ConvertMessage  
 strSuccessFolder  
 Line Number: 713 Scope: Local  
 Source Line: Dim sSuccessFolder As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sEXContainer  
 Procedure: ConvertMessage  
 strEXContainer  
 Line Number: 714 Scope: Local  
 Source Line: Dim sEXContainer As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: ConvertMessage  
 intFnum  
 Line Number: 715 Scope: Local  
 Source Line: Dim iFnum As Integer

Current Name: iFnum  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sAttachName  
 Procedure: ConvertMessage  
 strAttachName  
 Line Number: 716 Scope: Local  
 Source Line: Dim sAttachName As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Long

Module: ARMSConversion	Current Name: IBias
Procedure: ConvertMessage	Recommended Name:
lngBias	
Line Number: 727	Scope: Local
Source Line: Dim IBias As Long	Used: ' current timezone offset

-----	
Data Type: String	
Module: ARMSConversion	Current Name:
sMsgTime	
Procedure: ConvertMessage	Recommended Name:
strMsgTime	
Line Number: 728	Scope: Local
Source Line: Dim sMsgTime As String	Used:

-----	
Data Type: Date	
Module: ARMSConversion	Current Name:
dtMsgSentTime	
Procedure: ConvertMessage	Recommended Name:
dtmMsgSentTime	
Line Number: 729	Scope: Local
Source Line: Dim dtMsgSentTime As Date	Used:

-----	
Data Type: Integer	
Module: ARMSConversion	Current Name:
iCounter1	
Procedure: ConvertMessage	Recommended Name:
intCounter1	
Line Number: 730	Scope: Local
Source Line: Dim iCounter1 As Integer	Used:

-----	
Data Type: Integer	
Module: ARMSConversion	Current Name: iTemp
Procedure: ConvertMessage	Recommended Name:
intTemp	
Line Number: 731	Scope: Local
Source Line: Dim iTemp As Integer	Used:

-----	
Data Type: String	
Module: ARMSConversion	Current Name: sTemp
Procedure: ConvertMessage	Recommended Name:
strTemp	
Line Number: 732	Scope: Local
Source Line: Dim sTemp As String	Used:

-----  
Data Type: SERVICE\_STATUS



Module: ARMSConversion  
 ServiceStat  
 Procedure: ServiceStatus  
 strServiceStat  
 Line Number: 608 Scope: Local  
 Source Line: Dim ServiceStat As SERVICE\_STATUS

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: MonitorQueue  
 strCurrFile  
 Line Number: 297 Scope: Local  
 Source Line: Dim sCurrFile As String

Current Name: sCurrFile  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sCurrHDRFile  
 Procedure: MonitorQueue  
 strCurrHDRFile  
 Line Number: 298 Scope: Local  
 Source Line: Dim sCurrHDRFile As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 sCurrentDir  
 Procedure: MonitorQueue  
 strCurrentDir  
 Line Number: 299 Scope: Local  
 Source Line: Dim sCurrentDir As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MonitorQueue  
 Line Number: 300 Scope: Local  
 Source Line: Dim i As Integer, iDir As Integer, iHDR As Integer

Current Name: i  
 Recommended Name: intl  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MonitorQueue  
 intDir  
 Line Number: 300 Scope: Local  
 Source Line: Dim i As Integer, iDir As Integer, iHDR As Integer

Current Name: iDir  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion

Current Name: iHDR

Procedure: MonitorQueue  
 intHDR  
 Line Number: 300 Scope: Local  
 Source Line: Dim i As Integer, iDir As Integer, iHDR As Integer

Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MonitorQueue  
 intIndx  
 Line Number: 301 Scope: Local  
 Source Line: Dim iIndx As Integer, iDirIndx As Integer, iHDRIndx As Integer

Current Name: iIndx  
 Recommended Name:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 Procedure: MonitorQueue  
 intDirIndx  
 Line Number: 301 Scope: Local  
 Source Line: Dim iIndx As Integer, iDirIndx As Integer, iHDRIndx As Integer

Current Name: iDirIndx  
 Recommended Name:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: PurgeMessages  
 strFile  
 Line Number: 212 Scope: Local  
 Source Line: Dim sFile As String

Current Name: sFile  
 Recommended Name:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: SetEXTimer  
 strEXProcessingInterval  
 Line Number: 166 Scope: Local  
 Source Line: Dim sEXProcessingInterval As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: String  
 Module: ARMSConversion  
 Procedure: SetACMTimer  
 strFileProcessingInterval  
 Line Number: 128 Scope: Local  
 Source Line: Dim sFileProcessingInterval As String

Current Name:  
 Recommended Name:  
 Used:

-----  
 Data Type: Integer  
 Module: ARMSConversion  
 iHDRIndx

Current Name:

Procedure: MonitorQueue	Recommended Name:
intHDRIndx	
Line Number: 301	Scope: Local
Source Line: Dim iIndx As Integer, iDirIndx As Integer, iHDRIndx As Integer	Used:

-----

Data Type: String	Current Name:
Module: ARMSConversion	
sAdminEmail	
Procedure: MonitorQueue	Recommended Name:
strAdminEmail	
Line Number: 302	Scope: Local
Source Line: Dim sAdminEmail As String	Used:

-----

Data Type: String	Current Name:
Module: ARMSConversion	
sSuccessFolder	
Procedure: PurgeMessages	Recommended Name:
strSuccessFolder	
Line Number: 206	Scope: Local
Source Line: Dim sSuccessFolder As String	Used: ' holds SuccessFolder setting

-----

Data Type: String	Current Name:
Module: ARMSConversion	
sRetainDuration	
Procedure: PurgeMessages	Recommended Name:
strRetainDuration	
Line Number: 207	Scope: Local
Source Line: Dim sRetainDuration As String	Used: ' holds SuccessRetainDuration setting

-----

Data Type: Date	Current Name:
Module: ARMSConversion	
dtModifyDate	
Procedure: PurgeMessages	Recommended Name:
dtmModifyDate	
Line Number: 208	Scope: Local
Source Line: Dim dtModifyDate As Date	Used:

-----

Data Type: String	Current Name: sCurrdir
Module: ARMSConversion	Recommended Name:
Procedure: PurgeMessages	
strCurrdir	
Line Number: 209	Scope: Local
Source Line: Dim sCurrdir As String	Used: ' holds path for directory search

-----

Data Type: String  
Module: ARMSConversion  
Procedure: PurgeMessages  
strStartDir

Current Name: sStartDir  
Recommended Name:

Line Number: 210                      Scope: Local                      Used:  
Source Line:     Dim sStartDir As String                      ' holds start directory

-----