使用CiscoWorks Monitoring Center for Security配置IDS警報指令碼的電子郵件通知

目錄

簡介

Security Monitor能夠在觸發事件規則時傳送電子郵件通知。可以在電子郵件通知中使用的內建變數不包括諸如特徵碼ID、警報的源和目標等內容。本文檔提供了一些說明，您可以使用這些說明來配置安全監視器，以便在電子郵件通知消息中包括這些變數（以及更多變數）。

必要條件

需求

本文件沒有特定需求。

採用元件

本文件所述內容不限於特定軟體和硬體版本。但是，請務必根據您的環境中運行的感測器版本使用適當的Perl指令碼。

慣例

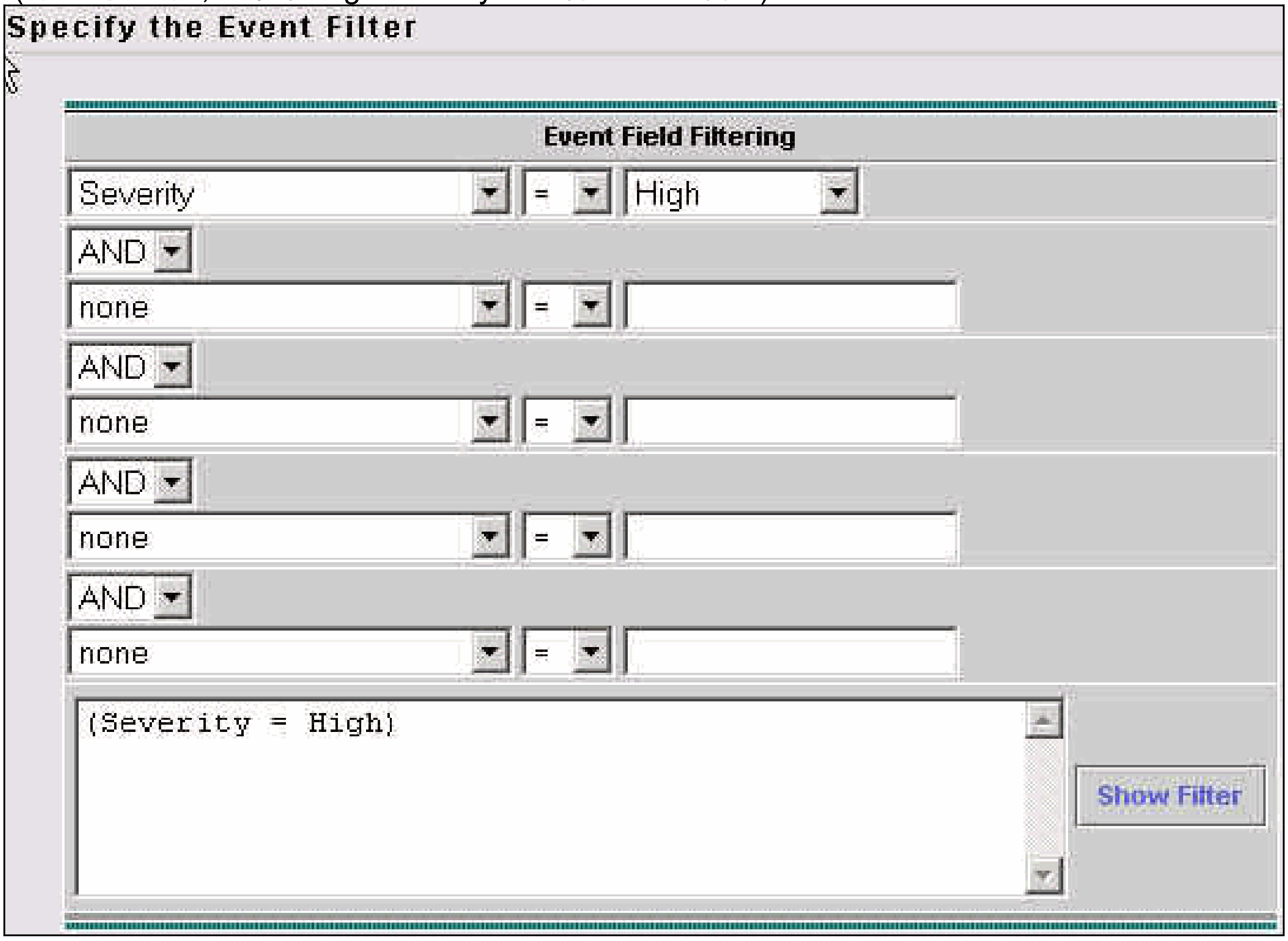
請參閱思科技術提示慣例以瞭解更多有關文件慣例的資訊。

電子郵件通知配置過程

使用此過程可以配置電子郵件通知。

附註： 若要將電子郵件傳送到正確的電子郵件地址，請確保更改指令碼中的電子郵件地址。

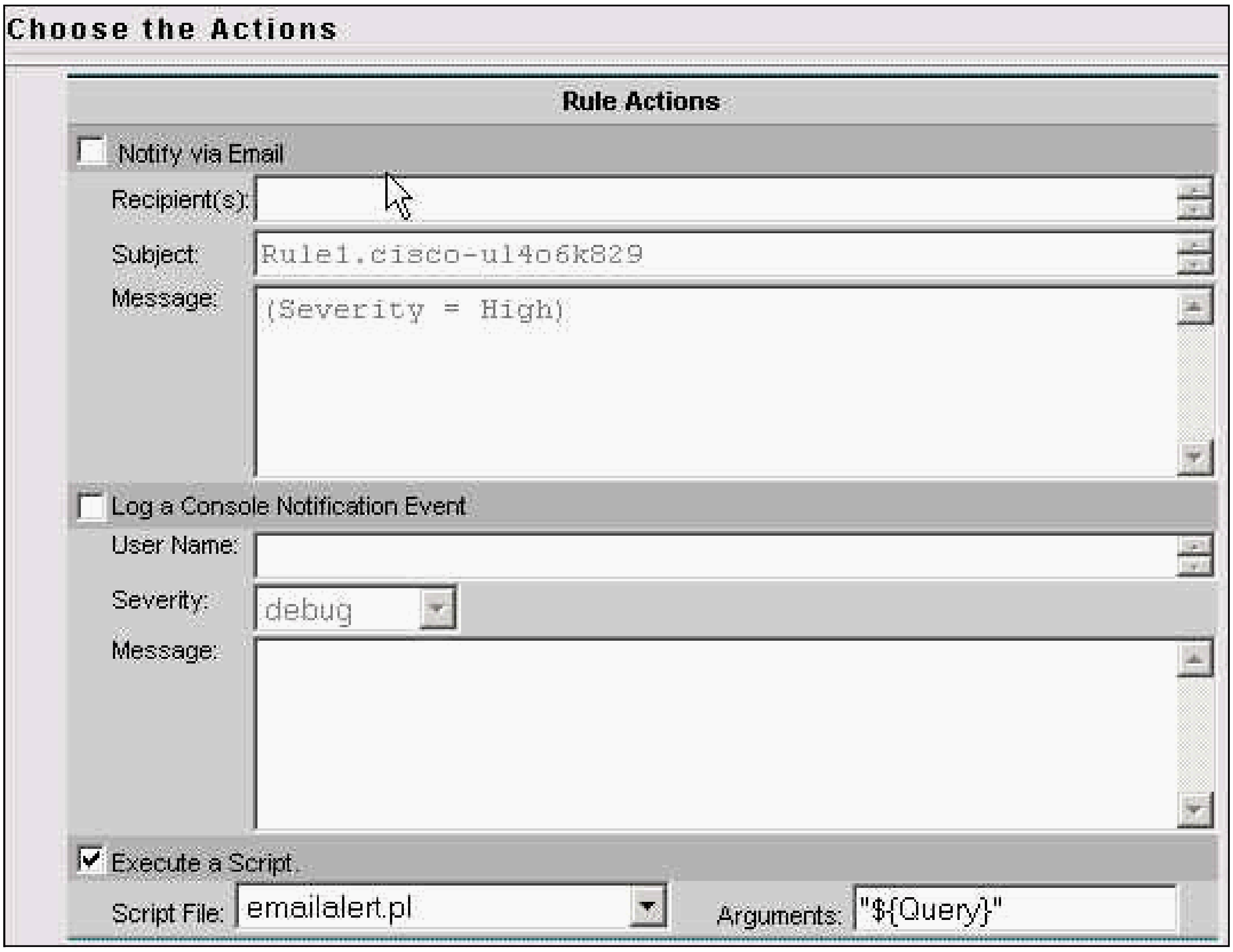
1. 將其中一個指令碼複製到VPN/安全管理解決方案(VMS)伺服器上的$BASE\CSCOpx\MDC\etc\ids\scripts目錄中。這樣，您就可以在定義事件規則時稍後選擇它。將指令碼另存為**emailalert.pl**。**附註：** 如果使用其他名稱，請確保在這些步驟中定義的事件規則中引用該名稱。對於3.x版感測器，請使用3.x感測器指令碼對於4.x版感測器，請使用4.x感測器指令碼對於5.x版感測器，請使用5.x感測器指令碼如果您有感測器版本的組合，思科建議您進行升級，以便它們都處於相同的版本級別。這是因為在任何時刻只能運行其中一個指令碼。
2. 指令碼包含用於解釋每個部分和任何所需輸入的註釋。具體來說，請將`$EmailRcpt`變數（靠近檔案頂部）修改為接收警報的人員的電子郵件地址。
3. 在安全監視器內定義事件規則以呼叫新的Perl指令碼。在Security Monitor首頁面中，選擇**Admin** > **Event Rules**，然後新增新事件。
4. 在Specify the Event Filter（指定事件過濾器）視窗中，新增要觸發電子郵件警報的過濾器（在此示例中，為任何High severity alert傳送電子郵件）。



Severity = High
AND
none =
AND
none =
AND
none =
AND
none =

(Severity = High)

5. 在「選擇操作」視窗中，選中執行指令碼的框並從下拉框中選擇指令碼名稱。
6. 在「引數」部分中，輸入**「${Query}」，如**此處所示。**注意：**此輸入內容必須完全按此處方式輸入，包括雙引號。它也區分大小寫。


Choose the Actions

Rule Actions

- [ ] Notify via Email
  - Recipient(s):
  - Subject: Rule1.cisco-ul4o6k829
  - Message: (Severity = High)
- [ ] Log a Console Notification Event
  - User Name:
  - Severity: debug
  - Message:
- [✓] Execute a Script
  - Script File: emailalert.pl
  - Arguments: "${Query}"

7. 收到事件過濾器（在本例中為高嚴重性警報）中定義的警報時，將使用${Query}emailalert.pl包含有關警報的更多資訊。該指令碼解析所有單獨的欄位，並使用名為「blat」的程式向終端使用者傳送電子郵件。
8. Blat是一個免費電子郵件程式，在Windows系統上使用，用於傳送來自批處理檔案或Perl指令碼的電子郵件。它包含在$BASE\CSCOpx\bin目錄下，作為VMS安裝的一部分。若要驗證路徑設定，請在VMS伺服器上開啟命令提示符視窗，然後鍵入**blat**。如果收到`File not found`錯誤，請將blat.exe檔案複製到winnt\system32目錄中，或者找到該檔案並從其所在的目錄中將其開啟。若要安裝此程式，請運行：

   ```
   blat -install
   ```

   安裝此程式後，即完成安裝。

指令碼

以下是設定程式的步驟1中所述的指令碼：

- 3.x感測器指令碼
- 4.x感測器指令碼
- 5.x感測器指令碼

3.x感測器指令碼

此指令碼用於3.x版感測器。

3.x感測器

```
#!/usr/bin/perl
#********************************************************
****************
#
# FILE NAME : emailalert.pl
#
# DESCRIPTION : This file is a perl script that will be
executed as an
# action when an IDS-MC Event Rule triggers, and will
send an
# email to $EmailRcpt with additional alert parameters
(similar to
# the functionality available with CSPM notifications)
#
# NOTE:   this script only works with 3.x sensors,
alarms from 4.0
#         sensors are stored differently and cannot be
represented
#         in a similar format.
#
# NOTE:   check the "system" command in the script for
the correct
#         format depending on whether you're using
IDSMC/SecMon
#         v1.0 or v1.1, you may need the "-on" command-
line option.
#
# NOTE :  This script takes the ${Query} keyword from
the
#         triggered rule, extracts the set of alarms
that caused
#         the rule to trigger. It then reads the last
alarm of
#         this set, parses the individual alarm fields,
and
#         calls the legacy script with the same set of
command
#         line arguments as CSPM.
#
# The calling sequence of this script must be of the
form:
#
#         emailalert.pl "${Query}"
#
# Where:
#
#         "${Query}" - this is the query keyword
dynamically
#         output by the rule when it triggers.
#         It MUST be wrapped in double quotes when
specifying it in the Arguments
#         box on the Rule Actions panel.
#
#
#********************************************************
****************
```

```
##
## The following are the only two variables that need
changing. $TempIDSFile can be any
## filename (doesn't have to exist), just make sure the
directory that you specify
## exists. Make sure to use 2 backslashes for each
directory, the first backslash is
## so the Perl interpretor doesn't error on the
pathname.
##
## $EmailRcpt is the person that is going to receive the
email notifications. Also
## make sure you escape the @ symbol by putting a
backslash in front of it, otherwise
## you'll get a Perl syntax error.
##
$TempIDSFile = "c:\\temp\\idsalert.txt";
$EmailRcpt = "nobody\@cisco.com";

##
## pull out command line arg
##

$whereClause = $ARGV[0];

##
## extract all the alarms matching search expression
##

$tmpFile = "alarms.out";

## The following line will extract alarms from 1.0
IDSMC/SecMon database, if
## using 1.1 comment out the line below and un-comment
the other system line
## below it.

## V1.0 IDSMC/SecMon version
system("IdsAlarms -s\"$whereClause\" -f\"$tmpFile\"");

## V1.1 IDSMC/SecMon version.
## system("IdsAlarms -on -s\"$whereClause\" -
f\"$tmpFile\"");
##

# open matching alarm output

if (!open(ALARM_FILE, $tmpFile)) {
    print "Could not open ", $tmpFile, "\n";
    exit -1;
}

# read to last line

while (<ALARM_FILE>) {
    $line = $_;
}

# clean up

close(ALARM_FILE);
unlink($tmpFile);

##
```

```
## split last line into fields
##

@fields = split(/,/, $line);

$eventType = @fields[0];
$recordId = @fields[1];
$gmtTimestamp = 0; # need gmt time_t
$localTimestamp = 0; # need local time_t
$localDate = @fields[4];
$localTime = @fields[5];
$appId = @fields[6];
$hostId = @fields[7];
$orgId = @fields[8];
$srcDirection = @fields[9];
$destDirection = @fields[10];
$severity = @fields[11];
$sigId = @fields[12];
$subSigId = @fields[13];
$protocol = "TCP/IP";
$srcAddr = @fields[15];
$destAddr = @fields[16];
$srcPort = @fields[17];
$destPort = @fields[18];
$routerAddr = @fields[19];
$contextString = @fields[20];


## Open temp file to write alert data into,

open(OUT,">$TempIDSFile") || warn "Unable to open output
file!\n";

## Now write your email notification message. You're
writing the following into
## the temporary file for the moment, but this will then
be emailed. Use the format:
##
## print (OUT "Your text with any variable name from the
list above \n");
##
## Again, make sure you escape special characters with a
backslash (note the : in between $sigId
## and $subSigId has a backslash in front of it)

print(OUT "\n");
print(OUT "Received severity $severity alert at
$localDate $localTime\n");
print(OUT "Signature ID $sigId\:$subSigId from $srcAddr
to $destAddr\n");
print(OUT "$contextString");
close(OUT);

## then call "blat" to send contents of that file in the
body of an email message.
## Blat is a freeware email program for WinNT/95, it
comes with VMS in the
## $BASE\CSCOpx\bin directory, make sure you install it
first by running:
##
## blat -install <SMTP server address> <source email
address>
##
## For more help on blat, just type "blat" at the
```

```
command prompt on your VMS system (make
## sure it's in your path (feel free to move the
executable to c:\winnt\system32 BEFORE
## you run the install, that'll make sure your system
can always find it).

system ("blat \"$TempIDSFile\" -t \"$EmailRcpt\" -s
\"Received IDS alert\"");
```

4.x感測器指令碼

對4.x版感測器使用此指令碼。

4.x感測器

```
#!/usr/bin/perluse
Time::Local;#*******************************************
****************************
#
# FILE NAME : emailalert.pl
#
# DESCRIPTION : This file is a perl script that will be
executed as an
# action when an IDS-MC Event Rule triggers, and will
send an
# email to $EmailRcpt with additional alert parameters
(similar to
# the functionality available with CSPM notifications)
#
# NOTE: this script only works with 4.x sensors. It will
# not work with 3.x sensors.
#
# NOTES : This script takes the ${Query} keyword from
the
# triggered rule, extracts the set of alarms that caused
# the rule to trigger. It then reads the last alarm of
# this set, parses the individual alarm fields, and
# calls the legacy script with the same set of command
# line arguments as CSPM.
#
# The calling sequence of this script must be of the
form:
#
# emailalert.pl "${Query}"
#
# Where:
#
# "${Query}" - this is the query keyword dynamically
# output by the rule when it triggers.
# It MUST be wrapped in double quotes
# when specifying it in the Arguments
# box on the Rule Actions panel.
#
#
#********************************************************
****************
##
## The following are the only two variables that need
changing. $TempIDSFile can be any
## filename (doesn't have to exist), just make sure the
directory that you specify
```

```
## exists. Make sure to use 2 backslashes for each
directory, the first backslash is
## so the Perl interpretor doesn't error on the
pathname.
##
## $EmailRcpt is the person that is going to receive the
email notifications. Also
## make sure you escape the @ symbol by putting a
backslash in front of it, otherwise
## you'll get a Perl syntax error.
##

$TempIDSFile = "c:\\temp\\idsalert.txt";
$EmailRcpt = "yourname\@yourcompany.com";

# subroutine to add leading 0's to any date variable
that's less than 10.
sub add_zero {
my ($var) = @_;
if ($var < 10) {
$var = "0" .$var
}
return $var;
}

# subroutine to find one or more IP addresses within an
XML tag (we can have multiple
# victims and/or attackers in one alert now).
sub find_addresses {
my ($var) = @_;
my @addresses = ();
if (m/$var/) {
$raw = $&;
while ($raw =~ m/(\d{1,3}\.){3}\d{1,3}/) {
push @addresses,$&;
$raw = $';
}
$var = join(', ',@addresses);
return $var;
}
}

# pull out command line arg

$whereClause = $ARGV[0];

# extract all the alarms matching search expression

$tmpFile = "alarms.out";

# Extract the XML alert/event out of the database.

system("IdsAlarms -s\"$whereClause\" -f\"$tmpFile\"");

# open matching alarm output

if (!open(ALARM_FILE, $tmpFile)) {
print "Could not open $tmpFile\n";
exit -1;
}

# read to last line

while (<ALARM_FILE>) {
```

```
chomp $_;
push @logfile,$_;
}

# clean up

close(ALARM_FILE);
unlink($tmpFile);

# Open temp file to write alert data into,

open(OUT,">$TempIDSFile");

# split XML output into fields

$oneline = join('',@logfile);
$oneline =~ s/\<\/events\>//g;
$oneline =~ s/\<\/evAlert\>/\<\/evAlert\>,/g;
@items = split(/,/,$oneline);

# If you want to see the actual database query result in
the email, un-comment out the
# line below (useful for troubleshooting):
# print(OUT "$oneline\n");

# Loop until there's no more alerts

foreach (@items) {

if (m/\<hostId\>(.*)\<\/hostId\>/) {
$hostid = $1;
}

if (m/severity="(.*?)"/) {
$sev = $1;
}

if (m/Zone\=".*"\>(.*)\<\/time\>/) {
$t = $1;
if ($t =~ m/(.*)(\d{9})/) {
($sec,$min,$hour,$mday,$mon,$year,$wday,$yday,$isdst) =
localtime($1);

# Year is reported from 1900 onwards (eg. 2003 is 103).
$year = $year + 1900;

# Months start at 0 (January = 0, February = 1, etc), so
add 1.
$mon = $mon + 1;

$mon = add_zero ($mon);
$mday = add_zero ($mday);
$hour = add_zero ($hour);
$min = add_zero ($min);
$sec = add_zero ($sec);
}
}

if (m/sigName="(.*?)"/) {
$SigName = $1;
}

if (m/sigId="(.*?)"/) {
$SigID = $1;
}

if (m/subSigId="(.*?)"/) {
$SubSig = $1;
}

$attackerstring = "\<attacker.*\<\/attacker";
if ($attackerstring = find_addresses ($attackerstring))
{
}

$victimstring = "\<victim.*\<\/victim";
if ($victimstring = find_addresses ($victimstring)) {
}

if (m/\<alertDetails\>(.*)\<\/alertDetails\>/) {
$AlertDetails = $1;
}

@actions = ();
if (m/\<actions\>(.*)\<\/actions\>/) {
$rawaction = $1;
while ($rawaction =~ m/\<(\w*?)\>(.*?)\</) {
$rawaction = $';
if ($2 eq "true") {
push @actions,$1;
}
}
if (@actions) {
$actiontaken = join(', ',@actions);
}
}
else {
$actiontaken = "None";
}

## Now write your email notification message. You're
writing the following into
## the temporary file for the moment, but this will then
be emailed.
##
## Again, make sure you escape special characters with a
backslash (note the : between
## the SigID and the SubSig).
##
## Put your VMS servers IP address in the NSDB: line
below to get a direct link
## to the signature details within the email.

print(OUT "\n$hostid reported a $sev severity alert at
$hour:$min:$sec on $mon/$mday/$year\n");
print(OUT "Signature: $SigName \($SigID\:$SubSig\)\n");
print(OUT "Attacker: $attackerstring ---> Victim:
$victimstring\n");
print(OUT "Alert details: $AlertDetails \n");
print(OUT "Actions taken: $actiontaken \n");
print(OUT "NSDB: https\://<your VMS server IP
address>/vms/nsdb/html/expsig_$SigID.html\n\n");
print(OUT "-------------------------------------------
-------\n");

}

close(OUT);
```

```
## Now call "blat" to send contents of the file in the
body of an email message.
## Blat is a freeware email program for WinNT/95, it
comes with VMS in the
## $BASE\CSCOpx\bin directory, make sure you install it
first by running:
##
## blat -install <SMTP server address> <source email
address>
##
## For more help on blat, just type "blat" at the
command prompt on your VMS system (make
## sure it's in your path (feel free to move the
executable to c:\winnt\system32 BEFORE
## you run the install, that'll make sure your system
can always find it).

system ("blat \"$TempIDSFile\" -t \"$EmailRcpt\" -s
\"Received IDS alert\"");
```

5.x感測器指令碼

將此指令碼用於5.x版感測器。

5.x感測器

```
#!/usr/bin/perl
use Time::Local;

#*******************************************************
****************
#
#  FILE NAME   : emailalertv5.pl
#
#  DESCRIPTION : This file is a perl script that will be
executed as an
#                action when an IDS-MC Event Rule
triggers, and will send an
#                email to $EmailRcpt with additional
alert parameters (similar to
#                the functionality available with CSPM
notifications)
#
#                NOTE: this script only works with 5.x
sensors.
#
#  NOTES       : This script takes the ${Query} keyword
from the
#                triggered rule, extracts the set of
alarms that caused
#                the rule to trigger.  It then reads the
last alarm of
#                this set, parses the individual alarm
fields, and
#                calls the legacy script with the same
set of command
#                line arguments as CSPM.
#
#                The calling sequence of this script
must be of the form:
```

```
#
#                emailalert.pl "${Query}"
#
#                Where:
#
#                   "${Query}"  - this is the query
keyword dynamically
#                                 output by the rule
when it triggers.
#                                 It MUST be wrapped in
double quotes
#                                 when specifying it in
the Arguments
#                                 box on the Rule
Actions panel.
#
#
#*******************************************************
****************
##
## The following are the only two variables that need
changing.  $TempIDSFile can be any
## filename (doesn't have to exist), just make sure the
directory that you specify
## exists.  Make sure to use 2 backslashes for each
directory, the first backslash is
## so the Perl interpretor doesn't error on the
pathname.
##
## $EmailRcpt is the person that is going to receive the
email notifications.  Also
## make sure you escape the @ symbol by putting a
backslash in front of it, otherwise
## you'll get a Perl syntax error.
##

$TempIDSFile = "c:\\temp\\idsalert.txt";
$EmailRcpt = "gfullage\@cisco.com";

# subroutine to add leading 0's to any date variable
that's less than 10.
sub add_zero {
  my ($var) = @_;
  if ($var < 10) {
      $var = "0" .$var
  }
  return $var;
}

# subroutine to find one or more IP addresses within an
XML tag (we can have multiple
# victims and/or attackers in one alert now).
sub find_addresses {
  my ($var) = @_;
  my @addresses = ();
  if (m/$var/) {
      $raw = $&;
      while ($raw =~ m/(\d{1,3}\.){3}\d{1,3}/) {
          push @addresses,$&;
          $raw = $';
      }
      $var = join(', ',@addresses);
      return $var;
  }
```

```
}

# pull out command line arg

$whereClause = $ARGV[0];

# extract all the alarms matching search expression

$tmpFile = "alarms.out";

# Extract the XML alert/event  out of the database.

system("IdsAlarms -os -s\"$whereClause\" -
f\"$tmpFile\"");

# open matching alarm output

if (!open(ALARM_FILE, $tmpFile)) {
  print "Could not open $tmpFile\n";
  exit -1;
}

# read to last line

while (<ALARM_FILE>) {
   chomp $_;
   push @logfile,$_;
}

# clean up

close(ALARM_FILE);
unlink($tmpFile);

# Open temp file to write alert data into,

open(OUT,">$TempIDSFile");

# split XML output into fields

$oneline = join('',@logfile);
$oneline =~ s/\<\/sd\:events\>//g;
$oneline =~
s/\<\/sd\:evIdsAlert\>/\<\/sd\:evIdsAlert\>,/g;
@items = split(/,/,$oneline);

# If you want to see the actual database query result in
the email, un-comment out the
# line below (useful for troubleshooting):
# print(OUT "$oneline\n");

# Loop until there's no more alerts

foreach (@items) {
  unless ($_ =~ /\<\/env\:Body\>/) {

    if (m/\<sd\:hostId\>(.*)\<\/sd\:hostId\>/) {
      $hostid = $1;
    }

    if (m/severity="(.*?)"/) {
      $sev = $1;
    }
    if (m/Zone\=".*"\>(.*)\<\/sd\:time\>/) {
      $t = $1;
      if ($t =~ m/(.*)(\d{9})/) {

($sec,$min,$hour,$mday,$mon,$year,$wday,$yday,$isdst) =
localtime($1);

        # Year is reported from 1900 onwards (eg. 2003
is 103).
        $year = $year + 1900;

        # Months start at 0 (January = 0, February = 1,
etc), so add 1.
        $mon = $mon + 1;

        $mon = add_zero ($mon);
  $mday = add_zero ($mday);
  $hour = add_zero ($hour);
  $min = add_zero ($min);
  $sec = add_zero ($sec);
      }
    }

    if (m/description="(.*?)"/) {
      $SigName = $1;
    }

    if (m/\ id="(.*?)"/) {
      $SigID = $1;
    }

    if (m/\<cid\:subsigId\>(.*)\<\/cid\:subsigId\>/) {
      $SubSig = $1;
    }

    if
(m/\<cid\:riskRatingValue\>(.*)\<\/cid\:riskRatingValue\
>/) {
      $RR = $1;
    }

    if (m/\<cid\:interface\>(.*)\<\/cid\:interface\>/) {
      $Intf = $1;
    }

    $attackerstring =
"\<sd\:attacker.*\<\/sd\:attacker";
    if ($attackerstring = find_addresses
($attackerstring)) {
    }

    $victimstring = "\<sd\:target.*\<\/sd\:target";
    if ($victimstring = find_addresses ($victimstring))
{
    }

    if
(m/\<cid\:alertDetails\>(.*)\<\/cid\:alertDetails\>/) {
      $AlertDetails = $1;
    }

    @actions = ();
    if (m/\<sd\:actions\>(.*)\<\/sd\:actions\>/) {
      $rawaction = $1;
      while ($rawaction =~ m/\<\w*?:(\w*?)\>(.*?)\</) {
         $rawaction = $';

         if ($2 eq "true") {
            push @actions,$1;
         }
      }
      if (@actions) {
        $actiontaken = join(', ',@actions);
      }
    }
    else {
        $actiontaken = "None";
      }

## Now write your email notification message. You're
writing the following into
## the temporary file for the moment, but this will then
be emailed.
##
## Again, make sure you escape special characters with a
backslash (note the : between
## the SigID and the SubSig).
##
## Put your VMS servers IP address in the NSDB: line
below to get a direct link
## to the signature details within the email.

    print(OUT "\n$hostid reported a $sev severity alert
at $hour:$min:$sec on $mon/$mday/$year\n");
    print(OUT "Signature: $SigName
\($SigID\:$SubSig\)\n");
    print(OUT "Attacker: $attackerstring  --->  Victim:
$victimstring\n");
    print(OUT "Alert details: $AlertDetails \n");
    print(OUT "Risk Rating: $RR,  Interface: $Intf \n");
    print(OUT "Actions taken: $actiontaken \n");
    print(OUT "NSDB: https\://sec-
srv/vms/nsdb/html/expsig_$SigID.html\n\n");
    print(OUT "-----------------------------------------
-----------\n");

   }
}

close(OUT);

## Now call "blat" to send contents of the file in the
body of an email message.
## Blat is a freeware email program for WinNT/95, it
comes with VMS in the
## $BASE\CSCOpx\bin directory, make sure you install it
first by running:
##
##     blat -install <SMTP server address> <source email
address>
##
## For more help on blat, just type "blat" at the
command prompt on your VMS system (make
## sure it's in your path (feel free to move the
executable to c:\winnt\system32 BEFORE
## you run the install, that'll make sure your system
can always find it).
```

```
system ("blat \"$TempIDSFile\" -t \"$EmailRcpt\" -s
\"Received IDS alert\"");
```

驗證

目前沒有適用於此組態的驗證程序。

疑難排解

請按照以下說明對配置進行故障排除。

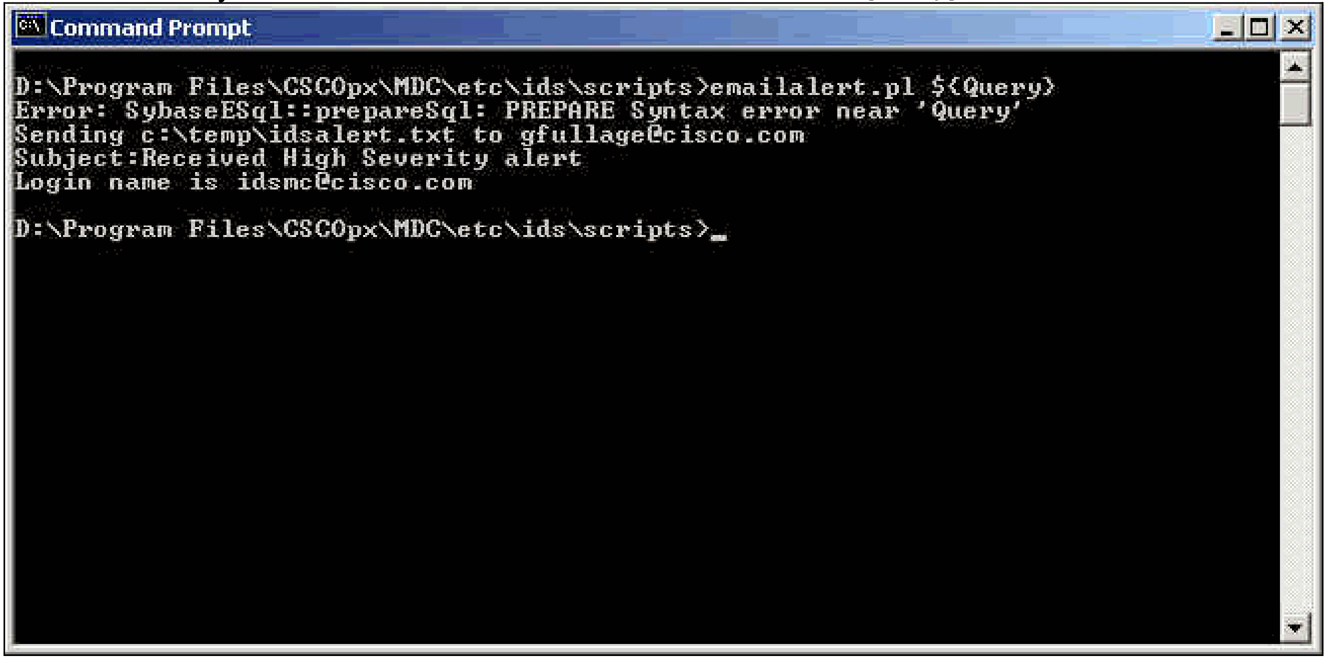
1. 在命令提示符下運行此命令，以檢查警報是否正常工作：

   blat

   <filename>VMS系統上任何文本檔案的完整路徑。如果電子郵件指令碼所指向的使用者在電子郵件正文中收到此檔案，則您知道此錯誤有效。
2. 如果在觸發警報後未收到任何電子郵件，請嘗試從命令提示符視窗運行Perl指令碼。這將突出顯示所有Perl或路徑型別問題。若要執行此操作，請開啟命令提示符並輸入：

   >cd Program Files/CSCOpx/MDC/etc/ids/scripts
   >emailalert.pl ${Query}

   您可能會收到Sybase錯誤，與本例類似。這是因為您傳遞的`${Query}`

   ```
   D:\Program Files\CSCOpx\MDC\etc\ids\scripts>emailalert.pl ${Query}
   Error: SybaseESql::prepareSql: PREPARE Syntax error near 'Query'
   Sending c:\temp\idsalert.txt to gfullage@cisco.com
   Subject:Received High Severity alert
   Login name is idsmc@cisco.com

   D:\Program Files\CSCOpx\MDC\etc\ids\scripts>_
   ```

   除了看到此錯誤外，指令碼還正確運行並傳送電子郵件。電子郵件正文中的所有警報引數均為空白。如果您收到任何Perl或路徑錯誤，則需要在傳送電子郵件之前修復這些錯誤。

相關資訊

- 思科安全入侵防禦支援頁面

- [技術支援與文件 - Cisco Systems]()