

Extraxi aaa-reports!

Web Reporting User Guide

Extraxi aaa-reports!.....	1
Web Reporting User Guide	1
Introduction.....	2
System Requirements.....	3
IIS 7 Specific Requirements	3
Installation.....	3
Confirming Successful Installation.....	4
Configuring Security.....	4
Performance Considerations.....	4
Configuring Viewable Attributes	5
Using the aaa-reports! Web Interface.....	6
Logon.....	6
Step 1: Choose the Datasource	7
Step 2: Enter Search Criteria & Included Report Columns	8
Step 3: Review Matching Records	9
Step 4: Display Matching Records	10
Troubleshooting	11
IIS v6.....	11
IIS v7.....	11

Introduction

The aaa-reports! enterprise web reporting package is a standalone ASP.NET application that provides basic filter searching and tabular display of data (held in the aaa-reports! database) using just a web browser. As a result users from anywhere in the organisation can filter, view and export data (PDF and CSV) without requiring remote access (eg Terminal Services) to the Windows server hosting the main aaa-reports! application. The web report interface is multi-user and is not affected by scheduled imports and report batch execution inside the main aaa-reports! server application.

In addition to using Windows security for authentication purposes, users can be further authorised such that only specifically named groups may have access to the report interface.

aaa-reports! web report generator

Step 1: Choose datasource...
 Datasource: Failed Attempts

Step 2: Enter search criteria and select report columns (use SHIFT/CTRL+click to select multiple)

Attribute	Condition	Value
AAA Server	Contains	ACS_1
Authen-Failure-Code	Is Not Empty	
	Contains	
	Contains	
	Contains	
		2008-10-19
		2008-10-22

Report Columns (max 20)

- Date
- Time
- AAA Server
- Network Device Group
- Access Device
- NAS-IP-Address
- Group-Name
- User-Name
- Caller-ID
- Message-Type

Rows Per Page: 20

aaa-reports! web reporting search page

System Requirements

aaa-reports! web uses the following components which must all be installed first:

- Microsoft Windows Server 2003 SP2, Windows Server 2008
- IIS version 6 or later with the "Default Web Site" enabled
- Microsoft .net v2 or later
- Extraxi aaa-reports! enterprise v1.0 or later
- Web browser: IE7, Safari v3, Chrome
- Administrator's group account to perform installation

The aaa-reports! enterprise installer includes the .net v2 framework (32 bit version) and so unless the server is 64bit there is no need to manually download and install .net. Windows Server 2008 will already have .net v3 installed.

IMPORTANT NOTE FOR x64 USERS: IIS cannot run both 32 and 64 bit apps concurrently. If you are already using 64bit web apps you must install the web reports on a different server.

IIS 7 Specific Requirements

When deploying to a server with IIS v7.0 the following optional IIS features are required (Section / Feature):

- Asp.net
- Security / Windows Authentication
- Management Tools / Management Scripts and Tools
- IIS 6.0 Management Compatibility / IIS 6 Metabase Compatibility

Installation

Once you have downloaded the aaa-reports! web reports setup you are ready to install. When using Terminal Services this **should always** be performed from the Control Panel Add/Remove Programs applet to ensure the installation is successful.

During the install process the following IIS configuration changes will be made automatically to enable the web application:

- Asp.net registration. This will ensure asp.net has been installed correctly onto IIS and correct the situation where IIS was installed after .net. (IIS 6 only)
- Asp.net web service extension enablement. This will allow asp.net applications to be executed on the IIS server. (IIS 6 only)
- Virtual web folder creation. A virtual web folder for aaa-reports! will be created – this houses the reporting application itself. The physical location will be the one chosen at the start of the install process and does not need to be located under the typical `C:\inetpub\wwwroot` folder
- IIS reset.

Refer to the Confirming Successful Installation section to check the install status and if you encounter any problems please see the Troubleshooting section at the end of this guide.

Confirming Successful Installation

To confirm the install was successful launch the *Internet Information Services (IIS) Manager* and locate the Default Web Site entry. Under the Default Web Site there will be an entry for aaa-reports! Using right-click + Properties will allow you to inspect the web site configuration.

Clicking the *Directory Security* tab then selecting the Edit option in the *Authentication and access control* section will display a dialog window. Confirm that *Enable Anonymous access* is unchecked and *Integrated Windows Authentication* is checked.

On the server itself, opening a web browser to <http://localhost/aaa-reports> should prompt the user to enter their Windows username and password.

Configuring Security

The aaa-reports! web application is secured via Windows Integrated Authentication. Users with accounts local to the server or in any domain that the server can authenticate to may gain access.

For authorisation purposes it is possible to configure a list of Windows groups that are permitted to access the report pages. In the installation folder (specified during setup) the file *ViewAllReportsRights.xml* contains the authorised group list:

```
<?xml version="1.0" encoding="utf-8" ?>

<Right>
  <StaticDataRow Role="BUILTIN\Administrators" />
  <StaticDataRow Role="YOUR_DOMAIN\YOUR_GROUP" />
</Right>
```

By default only the local Administrators group has authorised access. Any number of Windows groups can be added to the rights file and changes are applied as soon as the file is saved.

Unauthorised users are re-directed to an access denied page (*accessdenied.html*). This file can be customised to change the message content, for example to add contact details of the system administrator.

Performance Considerations

Being IIS based aaa-reports! web reporting is inherently multi-user and will therefore slow down considerably if several users are running complex or large reports simultaneously.

The application will try to prevent users from executing reports that contain many millions of rows by displaying a warning whenever the row count is higher than 10,000 records. However users may choose to ignore such warnings and continue to display reports that could potentially make IIS run very slowly for other users and hosted sub-webs.

Configuring Viewable Attributes

Cisco Secure ACS allows for custom attribute names (either as RADIUS Vendor Specific Attributes or ACS User Defined Fields) and therefore the aaa-reports! product itself also allows for the addition of custom attributes.

aaa-reports! web reporting uses an attribute dictionary file (*aaareportsdict.xls*) that defines a number of datasources including raw ACS logs and other query based views. For each the attribute names and types are defined in the .xls dictionary.

Attributes such as the ACS "User Field 2", "User Field3" etc can be renamed appropriately to match the display names within Cisco Secure ACS.

The default date format used is yyyy/MM/dd but can be changed to any legal format. For more information refer to [http://msdn.microsoft.com/en-us/library/73ctwf33\(VS.71\).aspx](http://msdn.microsoft.com/en-us/library/73ctwf33(VS.71).aspx)

The Query column defines whether an attribute may be used for filtering. Note that Date & Time are set to FALSE as they have their own hard coded filter controls.

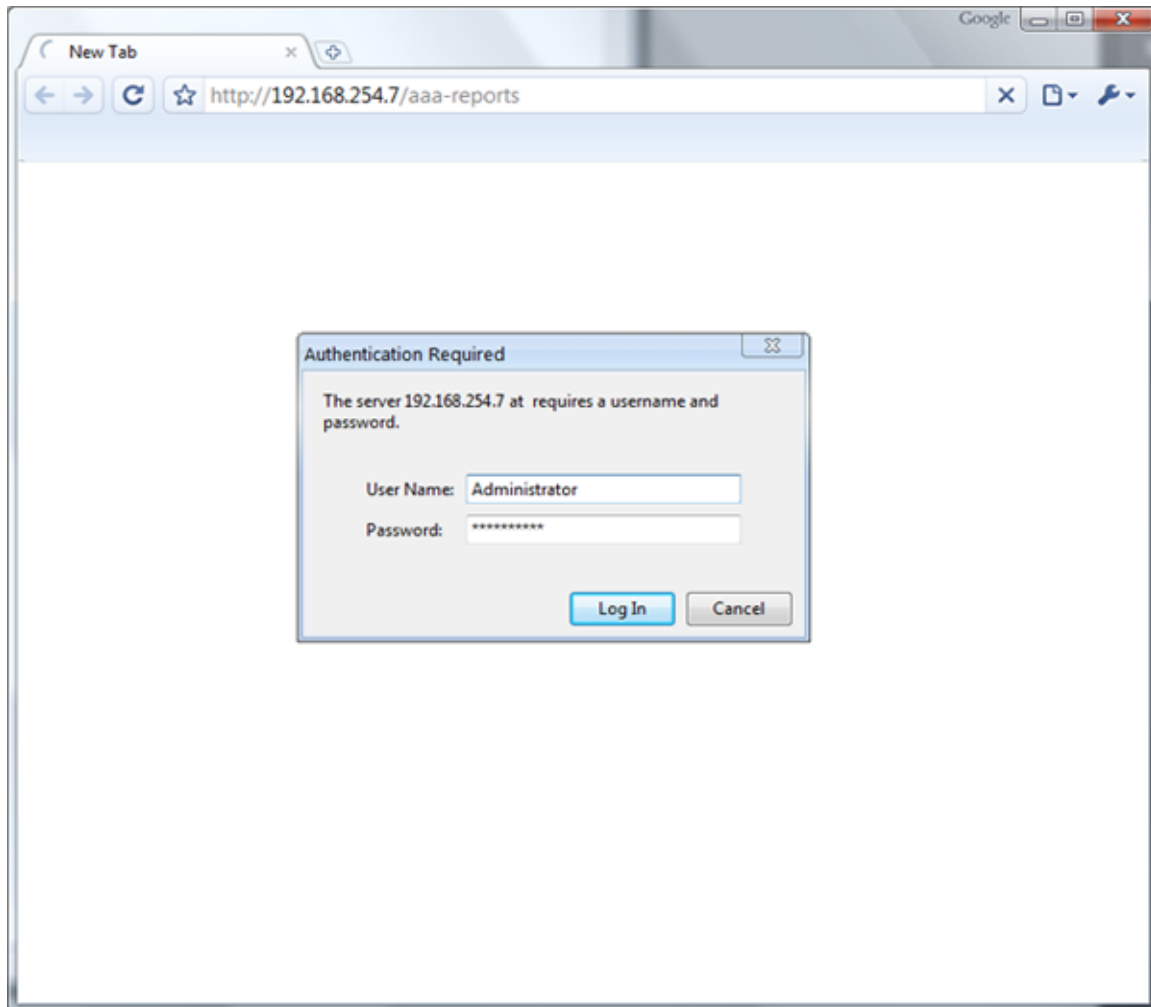
For most scenarios the default content of the dictionary .xls will work fine and no editing will be required.

	A	B	C	D	E
1	Log	Table	Name	Type	Query
2	Admin Audit	viewDEFAULT_ADMIN_AUDIT	Date	yyy/MM/dd	FALSE
3	Admin Audit	viewDEFAULT_ADMIN_AUDIT	Time	Medium Time	FALSE
4	Admin Audit	viewDEFAULT_ADMIN_AUDIT	AAA Server	Expanded Spaces	TRUE
5	Admin Audit	viewDEFAULT_ADMIN_AUDIT	Name	Expanded Spaces	TRUE
6	Admin Audit	viewDEFAULT_ADMIN_AUDIT	Browser IP	Expanded Spaces	TRUE
7	Admin Audit	viewDEFAULT_ADMIN_AUDIT	Message	Expanded Spaces	TRUE
8	Failed Attempts	viewDEFAULT_FAILED_ATMPS	Date	yyy/MM/dd	FALSE
9	Failed Attempts	viewDEFAULT_FAILED_ATMPS	Time	Medium Time	FALSE
10	Failed Attempts	viewDEFAULT_FAILED_ATMPS	AAA Server	Expanded Spaces	TRUE
11	Failed Attempts	viewDEFAULT_FAILED_ATMPS	Network Device Group	Expanded Spaces	TRUE
12	Failed Attempts	viewDEFAULT_FAILED_ATMPS	Access Device	Expanded Spaces	TRUE
13	Failed Attempts	viewDEFAULT_FAILED_ATMPS	NAS-IP-Address	Expanded Spaces	TRUE
14	Failed Attempts	viewDEFAULT_FAILED_ATMPS	Group-Name	Expanded Spaces	TRUE
15	Failed Attempts	viewDEFAULT_FAILED_ATMPS	User-Name	Expanded Spaces	TRUE
16	Failed Attempts	viewDEFAULT_FAILED_ATMPS	Caller-ID	Expanded Spaces	TRUE
17	Failed Attempts	viewDEFAULT_FAILED_ATMPS	Message-Type	Expanded Spaces	TRUE

Using the aaa-reports! Web Interface

Logon

To access the aaa-reports! web reporting interface enter the following URL into your browser: `http://<server ip address>/aaa-reports` and then enter your username and password.



aaa-reports! web reporting logon

Provided the user credentials are authenticated and the user's windows group is authorised the query wizard page will be displayed.

Step 1: Choose the Datasource

The first step is to select one of the available datasources. In v1.0 there is a datasource for each of the major Cisco Secure ACS log types.

Logged On As "CORE2-SRV03\Administrator"
Ver 0.1.0005

aaa-reports! web report generator

Step 1: Choose datasource...

Datasource Admin Audit

- Admin Audit
- Failed Attempts
- Passed Authentications
- RADIUS Accounting
- TACACS+ Accounting
- TACACS+ Admin

Selecting the desired the datasource will automatically display the next step.

Step 2: Enter Search Criteria & Included Report Columns

Having selected a datasource the next task is to specify any search criteria to be applied to the report. Up to five criteria may be entered by choosing the desired attribute name (eg AAA Server) then the condition (eg Equals, Not Equals etc) and finally the value you wish to search for.

When finished selecting the report criteria select which columns should be included in the report using the multi-select list *Report Columns*. You can select multiple entries by using both SHIFT and CTRL + mouseclick. The default number of rows on each report page is 20 but this can be changed up to a maximum of 99.

Finally enter the date range required for the report and click on *Search Records*. Note that for some datasources (such as the ACS Database Users) a date range is not displayed.

Logged On As "CORE2-SRV03\Administrator" Ver 0.1.0005

aaa-reports! web report generator

Step 1: Choose datasource...
 Datasource: Admin Audit

Step 2: Enter search criteria and select report columns (use SHIFT/CTRL+click to select multiple)

Attribute	Condition	Value
Name	Does Not Contain	csvsync
	Contains	
	Contains	
AAA Server Name	Contains	
Browser IP	Contains	
Message	Contains	

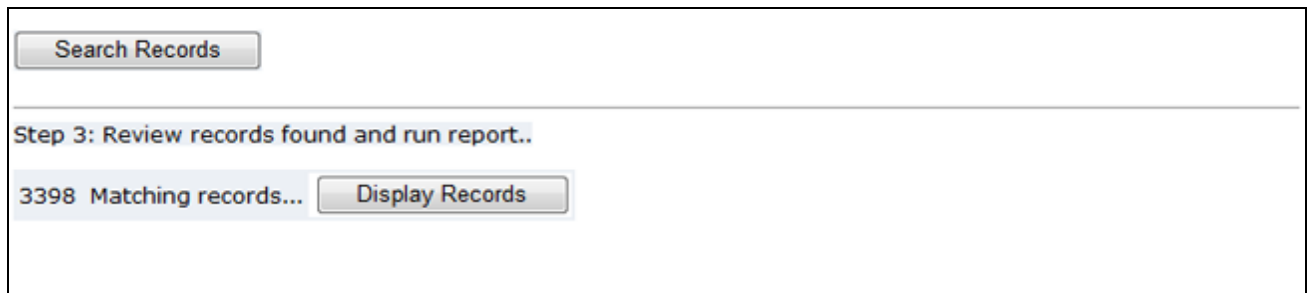
Report Columns (max 20):
 Date
 Time
 AAA Server Name
 Browser IP
 Message

Start Date (YYYY-MM-DD): 2006-10-19
 End Date: 2008-10-22
 Rows Per Page: 20

Step 3: Review Matching Records

After entering the criteria and clicking on the *Search Records* button the database is searched for matching records and the number of matches is displayed. At this point you can either display the matching records or go back to change the search criteria – perhaps to narrow down the search and then reduce the number of matching records.

To move on and display the recordset click *Display Records*.



Search Records

Step 3: Review records found and run report..

3398 Matching records... Display Records

Why Display Only the Number of Matching Records?

The reason we do this is simple – fetching many millions of rows from the database into the web server takes a very long time and can cause problems with running out of memory, whereas a query to simply count the number of matching records returns much faster.

On a system with many millions of records we figure its best to narrow your search down to a manageable number of results first and only then try to display them.

Step 4: Display Matching Records

When you click Display Records the matching rows are displayed in your browser. The length of time taken will depend on the server hardware specification, the number of rows in the database and the complexity of the search criteria.

Once displayed there are page forward/backwards controls plus PDF and CSV export options. Clicking on any of the column headings will re-sort the data on that column.

Clicking *Refine Search Criteria* will return to the previous page and allow you to tweak or even replace the previous selections.

Admin Audit Search Results				
<input style="border: 1px solid gray;" type="button" value=" <- Refine Search Criteria "/>				
<input type="button" value="PDF"/> <input type="button" value="CSV"/>				
« ⏪ Page <input type="text" value="1"/> of 5 ⏩ »				
Row	Date	Time	Message	Name
1	2007/04/01	12:05:09 AM	Administration session started	csvsync
2	2007/04/01	12:05:14 AM	Administration session finished	csvsync
3	2007/04/01	12:05:14 AM	Automation Download `Reports & Activity - `Administration Audit 2007-03-31.csv report	csvsync
4	2007/04/01	12:05:14 AM	Automation Download `Reports & Activity - `Administration Audit.csv report	csvsync
5	2007/04/01	12:05:15 AM	Automation Download `Reports & Activity - `Failed Attempts active.csv report	csvsync
6	2007/04/01	12:05:15 AM	Administration session started	csvsync
7	2007/04/01	12:05:16 AM	Automation Download `Reports & Activity - `Failed Attempts 2007-03-31.csv report	csvsync
8	2007/04/01	12:05:28 AM	Administration session finished	csvsync
9	2007/04/01	12:05:28 AM	Administration session started	csvsync
10	2007/04/01	12:05:33 AM	Automation Download `Reports & Activity - `RADIUS Accounting 2007-03-31.csv report	csvsync
11	2007/04/01	12:05:33 AM	Automation Download `Reports & Activity - `RADIUS Accounting active.csv report	csvsync
12	2007/04/01	12:05:34 AM	Administration session finished	csvsync
13	2007/04/01	12:05:34 AM	Administration session finished	csvsync
14	2007/04/01	12:05:34 AM	Administration session started	csvsync
15	2007/04/01	12:05:35 AM	Administration session started	csvsync
16	2007/04/01	12:05:40 AM	Automation Download `Reports & Activity - `TACACS+ Accounting 2007-03-31.csv report	csvsync
17	2007/04/01	12:05:40 AM	Automation Download `Reports & Activity - `TACACS+ Accounting active.csv report	csvsync
18	2007/04/01	12:05:41 AM	Administration session started	csvsync
19	2007/04/01	12:05:42 AM	Administration session finished	csvsync
20	2007/04/01	12:05:45 AM	Automation Download `Reports & Activity - `Tacacs+ Administration 2007-03-31.csv report	csvsync

Troubleshooting

The web-reports install script attempts to create the IIS metabase configuration regardless of which version of IIS (6.0 or 7.0) and operating system (Windows Server 2003, 2008, 32 or 64 bit) however sometimes problems can arise. If the web-reports application does not appear to work the steps below can be used to aid diagnosis.

IIS v6

Using the IIS v6 Management Application verify that:

1. The *Default Web Site* is present with the *aaa-reports* virtual web site underneath.
2. In the *Web Service Extensions* section, *ASP.NET v2.0.50727* should be enabled. On x64 servers this should be *ASP.NET v2.0.50727 (32-bit)*
3. On x64 servers, in the *Application Pools* section the setting *Enable 32bit Apps* should be enabled for the *DefaultThreadPool*. Unfortunately there is no way to see (in the IIS GUI) that this setting has been enabled so use the following command to manually set it: `cscript %systemdrive%\Inetpub\AdminScripts\adsutil.vbs set W3SVC/AppPools/Enable32BitAppOnWin64 true`
4. The *NETWORK_SERVICE* user has full access rights to the physical folder holding the *aaa-reports* web application
5. That *Anonymous Access* is disabled and *Integrated Windows Authentication* is enabled. (*Default Web Site* → *aaa-reports* → *properties* → *Authentication and Access Control*)

IIS v7

Verify that the following IIS features are installed and enabled. On Server 2008 this is done using the *Initial Configuration Tasks* wizard.

- Asp.net
- Security / Windows Authentication
- Management Tools / Management Scripts and Tools
- IIS 6.0 Management Compatibility / IIS 6 Metabase Compatibility

If any of the above features were missing they should be added and the web reports installer ran again. If the problem still occurs use the IIS7 Management Application to verify that

1. The *Default Web Site* is present with the *aaa-reports* virtual web site underneath
2. The *aaa-reports* site has the *Classic .NET AppPool* assigned (*Advanced Properties*)
3. The *aaa-reports* site has *Windows Authentication* enabled and *Anonymous Authentication* disabled (under *Authentication*)
4. On x64 servers the *Classic .NET AppPool* should have the *Enable 32bit Apps* setting enabled (under *Application Pools* → *Advanced Properties*)
5. The *NETWORK_SERVICE* user has full access rights to the physical folder holding the *aaa-reports* web application

In any case of a missing feature/setting IIS should be re-started before attempting the use the web reports application. If the application is displayed in the browser, but an error message is encountered when submitting the query form, diagnostic information is available by clicking the *Debug This Page* link. The content of the debug page can then be forwarded to the Extraxi support team.