Bandwidth Monitor for IIS 6

1. Software Disclaimer

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2. Features

- Near Real-Time logging of IIS Bandwidth usage
- Track usage (bytes and hits) PER WEBSITE
- Requires almost no configuration
- Minimal impact on system performance
- Rock-solid stability
- Generated data is ready to be used in reports
- Clustering - Compile data from multiple web servers into one database
- Automatically disable or generate emails for websites that exceed their monthly limit
- Compatible with Microsoft SQL Server 2000 or MySQL 4.1

3. System Requirements

Windows Server 2003 (CDO must be installed)
.NET Framework 1.1
MS SQL Server 2000 or MySQL 4.1 (for logging)
IIS6
Administrator Privileges on the Server

4. Installation

Installation for the beta release is not fully automated. All the files necessary for installation are contained within the ZIP file. Extract the files to the location of your choice and follow the instructions in this section.

4.1. ZIP File Manifest

File	Usage
iisbm.exe	Executable
iisbm.reg	Registry keys
mssql.sql	Scripts for generating tables (SQL Server)
mysql.sql	Scripts for generating tables (MySQL 4.1)
install.bat	Installation script for application
uninstall.bat	Uninstallation script for application
*.asp, iisbm.css	Sample reports and supporting files
changelog.txt	A list of changes in this version

4.2. Setup the Database

The files MSSQL.sql and MYSQL.sql contain the scripts necessary to generate the database tables used by this application for SQL Server 2000 and MySQL 4.1, respectively. MSSQL.sql also contains additional stored procedures used for log maintenance and report generation. For SQL Server 2000, execute the scripts through Query Analyzer or via osql on the database of your choice. For MySQL 4.1, execute the scripts through whatever interface available to you.

For any database, create a user that has at least SELECT and INSERT rights to 3 IISBM tables— IISBM_hit, IISBM_log, and IISBM_config. If you plan on using bandwidth.asp to manage the bandwidth restrictions for sites, then the user must have DELETE and UPDATE rights on IISBM_config.

For SQL Server 2000, if you plan on executing the Stored Procedure iisbm_condense_log then this user must also have DELETE privileges on IISBM_hit.

While it's not recommended, you can use the System Administrator account. But beware, waeIISbm stores the account password in plain text in the registry. For this reason we recommend making an account whose sole purpose is to allow addition of new log entries.

Once the 3 tables, the user, and the stored procedures are created, the database is ready to begin logging.

4.3. Install the Registry Keys

Registry keys are needed to provide database and mail server authentication information for the application. The keys will be automatically created by iisbmtst.exe when it is executed from the command line. Do this before attempted to run install.bat.

The following key will automatically be generated:

HKEY_LOCAL_MACHINE\SOFTWARE\WAETech\IIS Bandwidth Monitor

Underneath this key, fourteen values will be created that hold information used with authenticating to the database, send mail, and managing the performance of the software..

4.4. Configure the Registry Settings

Once the keys and values are added to the registry, you will need to update the values to reflect your database. You can either use the config.asp script file to change the settings, or change them directly using regedit.

The values you must update are under the following key:

HKEY_LOCAL_MACHINE\SOFTWARE\WAETech\IIS Bandwidth Monitor

AdminEmail – Set this string to the email of the administrator responsible for the system. If non-empty, then this email will receive copies of all records inserted into the table IISBM_log via email. This includes notifications regarding sites being disabled due to overusage and some error messages.

DatabaseHost – Set this string value to the name/ip of the database server. If the database is running on the same machine that this application is running, keep the value as "(local)".

DatabaseName – Set this string value to the name of the database in which the log information is deposited.

DatabasePassword – Set this string value to the password for the user that has access to the 3 IISBM tables.

DatabasePort – Set this string value to the port number used to access the database.

DatabaseType – Set this string value to the type of database being used. Currently, the following values are supported: "SQL Server", "MySQL". Make sure that this string is set exactly to the values. This value is case sensitive.

DatabaseUsername – Set this string value to the username of the user that has access to the 3 IISBM tables.

RefreshInterval – Set this DWORD value to the number of ms between updates to the log. The default value is 300000, which represents 5 minutes.

Delay – Set this DWORD value to regulate the impact on CPU utilization during each update of the log. Setting the value lower increases the amount of load on the CPU. The default value is 50. Increasing this value beyond 500 has no greater effect than increasing it to exactly 500.

InstallationDirectory – Set this string to the path in which the software is installed. For example, "C:\Program Files\WAE Tech\IISBM". Exclude the trailing slash. Setting this value will ensure that future releases of the software that include an automated installer will place the files in the proper folder.

SmtpServer – Set this string value to the IP address or the host name of the mail server used to send outbound emails.

SmtpPort – Set this DWORD value to the port number to use when sending mail via the mail server indicated by the SmtpServer value. This is typically 25.

SmtpUsername – Set this string value to the username used for authentication to send mail using the mail server indicated by the SmtpServer value. Leave this value blank if not authentication is required.
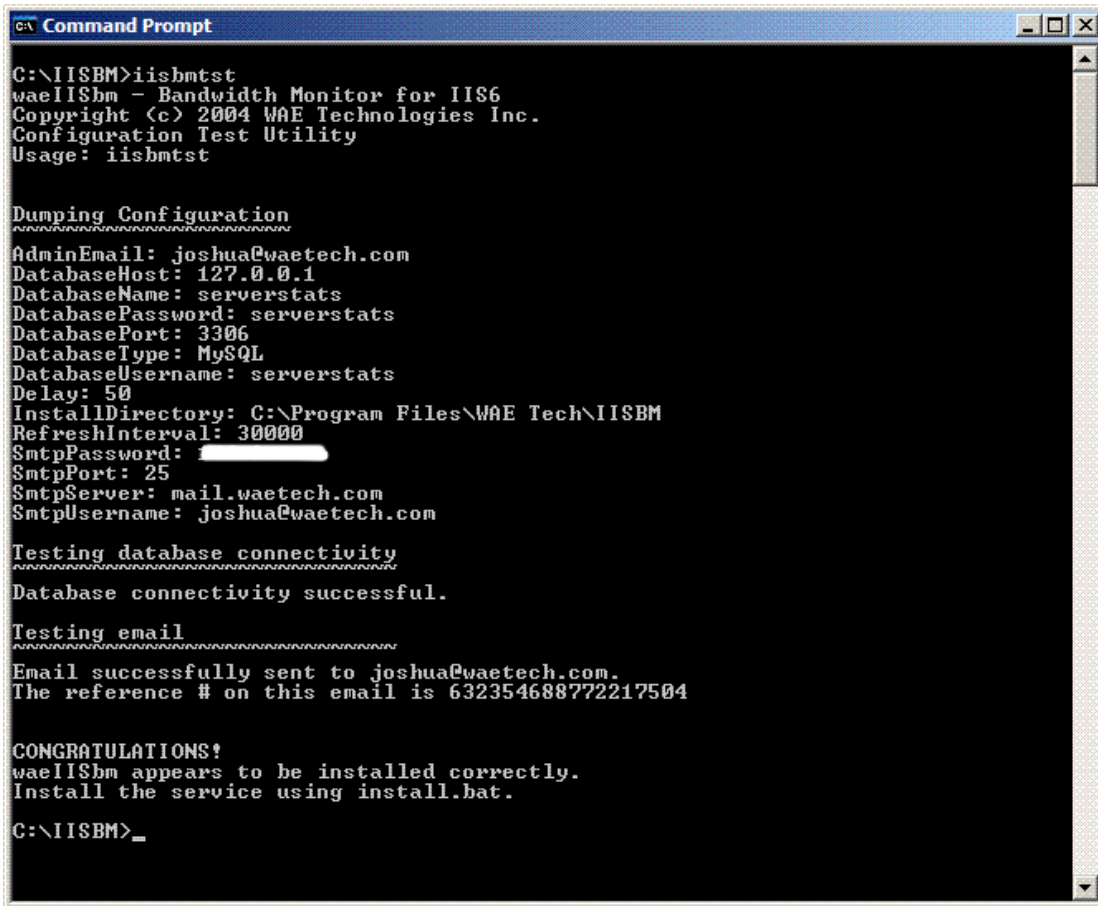
SmtpPassword – Set this string value to the password used for authentication to send mail using the mail server indicated by the SmtpServer value. This value has no effect if the SmtpUsername is blank.

Please note that updates to the registry settings will not take effect until the IIS Bandwidth Monitor service is restarted.

If you wish to use the ASP file config.asp to manage these settings, you must grant privileges—to the account under which the config.asp file will be run—for full control over these registry keys. Unless IIS is running under an other-than-default user context, then this means that the IUSR and/or IWAM accounts may need "Full Control" over the registry keys. You can grant these privileges just to this branch of the registry using regedit.

4.5 Testing the Configuration

The application iisbmtst.exe is used to ensure that the configuration is correct. Once the registry values are set, run this program from the command prompt. The output will look like this if the settings are correct:

Illustration 1 Successfull output from iisbmtst.exe

4.5.1. Troubleshooting the Configuration

FAILURE IN DUMPING CONFIGURATION

Make sure the registry keys are set up exactly as they appear in the .reg file included with the package. Missing a value pair is the only way for this section to fail.

FAILURE IN TESTING DATABASE CONNECTIVITY

Check the settings carefully. If the error message indicates a failure to connect, make sure the DatabaseHost, DatabasePort, DatabaseUsername, DatabasePassword, and DatabaseName are all correct. Ensure that firewalls are not blocking traffic.

If the error message indicates a failure of the queries themselves, check that the database table are established correctly.

FAILURE IN TESTING EMAIL

Failure in this section will usually result in an apparent hang of the application. Simply press Ctrl-Z to abort the application. Double-check that SmtpServer, SmtpPort, SmtpUsername, and SmtpPassword are all correct. Ensure that firewalls are not blocking traffic.

4.6. Install the Service

The application must be installed as a service. Windows Server 2003 comes with an application called InstallUtil.exe that is used to install the service IIS Bandwidth Monitor. Make sure the path to this application is set in the PATH environment variable. Generally, this application can be found in C:\WINDOWS\Microsoft.NET\Framework\v1.0.3705\ or C:\WINDOWS\Microsoft.NET\Framework\v1.1.4322\.

The batch file "install.bat" automates the installation process by setting the PATH environment to include both of these paths. If the installation fails, check that the path to InstallUtil.exe is one of these two paths. If not, update "install.bat" accordingly.

Please note that the reported footprint of the service within Task Manager is not entirely accurate. waeIISbm was built using the .NET Framework and therefore needs to load a few CRL's. These CRL's give the appearance that the application takes up more memory than it actually does. It is not uncommon for the application to appear to use over 20,000k of memory, though in reality it uses much less.

5. Usage

5.1. Setting Bandwidth Limitations

The list of which sites to limit is stored in the IISBM_config table. Only those websites needing bandwidth restriction need to have records in this table. The websites are referenced by common name, so in a clustered environment a single website hosted by multiple web servers must have the same name in IIS. If all the names match for a single website, then every instance of the website on every webserver will stop when the aggregate bandwidth for all instances exceeds the limitation.

5.2. Sample Reports and Configuration Files

The eight (8) ASP files included with the distribution (all ASP files other than config.asp and bandwidth.asp) are intended to serve as examples of reports that can be generated off the data collected by wae*IISbm*. Feel free to modify any of the reports to suit your needs as they are provided as examples only, and may not necessarily work under all conditions. You may choose to begin your exploration of these reports by opening up the REPORTS.ASP file.

The configuration utility, config.asp, may be used to change the settings once the program is installed. In order to run properly, it must be run under a context that has privileges to modify the registry.

5.3. Data Maintenance

You may condense the log file by using the included stored procedure iisbm_condense_log. It summarizes the log file by condensing all log lines for a given website within the dates supplied for the given interval. It accepts 3 parameters:

Parameter	Type	Optional
date_start	datetime	Yes, if null then all dates are assumed
date_end	datetime	Yes, if null then all dates are assumed
interval	varchar	No, accepted values are "daily" and "hourly"