



# CorreLog®

## Security Correlation Server Quick Installation Guide

This guide provides brief information on how to install the CorreLog Server system on a Microsoft Windows platform. This information can also be found in Section 2 of the "CorreLog Sigma Web Framework User Manual", and Section 2 of the "CorreLog Security Correlation Server User Reference Manual", both of which are included as part of the standard installation package.

The CorreLog Server is usually delivered as a self-extracting WinZip file, either downloaded from the Internet, or delivered on a CDROM. This guide applies to all versions of the program.

### Server System Installation Requirements

CorreLog Server is specifically designed for fast and easy installation. The system does not scatter DLL or other files into system directories. All files reside in the CorreLog root directory, by default the directory C:\CorreLog. Specific system requirements of the CorreLog Framework system are described below.

- **Operating System.** The system can be installed on Windows XP, Vista, Windows 7 as well as Windows NT 200X systems. CorreLog does not require Java, or .NET to be installed on the platform.
- **Disk Space.** The CorreLog Server software, by itself, has a small footprint of less than 20 Mbytes, but the actual disk space may vary depending upon the particular applications installed (or which might later be installed) as part of the framework. A 500 GB high performance disk is typical for most production systems.
- **CPU Requirements.** CorreLog makes variable use of CPU. It can often co-exist with other server components and applications. The CPU usage

of the CorreLog program may range from 20% to much higher, depending on the message load. For high volume systems, a dual core CPU is recommended. CorreLog is a 32-bit application, but can run on 64-bit machines.

- **Memory Requirements.** CorreLog can run in as little as 512 Kbytes of memory, but 2 to 4 GB of main memory is recommended for a production system, especially under high message loading.
- **TCP Connectivity.** The system is a web server and web-based application. It cannot be installed on a platform that does not have TCP connectivity. For best results the host platform should have a permanent IP address, and DNS services.
- **TCP Service Ports.** The system requires control of a single TCP service port, normally port 80, but possibly any other port selected by the user, during the install process. The installer attempts to auto-detect a free service port. Port blocking and virus protection programs (in particular McAfee Virus Scan) may interfere with this.
- **UDP Service Ports.** The system requires a single UDP service port: port 514 is used for listening for Syslog messages. Optionally, port 162 is used for listening for SNMP Trap messages (if the SNMP Trap receiver adapter is installed.) These two service ports should be free at the time of installation, or the program will not operate properly.

*In the absence of any other requirements, CorreLog recommends a Windows 2008 Server with 500 GB of disk space, 32-bit dual core CPU, 4 GB of main memory, a high performance NIC. A static IP address for the CorreLog Server platform is required for all production implementations.*

## Required And Optional Default Service Ports

The following table summarizes all the service ports that can be used by the system. The administrator should verify that firewalls permit communication between the agent and the manager. Note that not all the various port numbers below are required (and depend upon specific options not used or installed at your site.)

TCP	80	HTTP Server	Used at the CorreLog Server to listen for Web Browser requests. (Required.)
TCP	443	Secure HTTP	Used at the CorreLog Server to listen for HTTPS requests. (Optional.)
UDP	514	Syslog Receiver	Used at the CorreLog Server to listen for Syslog messages. (Required.)
UDP	162	SNMP Trap Receiver	Used at the CorreLog Server to listen to SNMP traps. (Optional.)
TCP	55514	Remote Agent Config	Used at the CorreLog Windows Agent to listen for remote configuration requests. (Optional but recommended.)
TCP	51462	Tunnel Receiver	Used at the CorreLog Server to listen for tunneled messages from agents. (Optional.)

## Software Installation Procedure

1. Obtain the signed CorreLog installation package, in self-extracting WinZip format. This file will be named "co-n-n-n.exe". This package can be downloaded from the web, or obtained from an installation CDROM.
2. Login to the target Windows platform with an "Administrator" type login.
3. Disable any firewall and virus scanning software during the installation. The Syslog port number (UDP port 514) and the SNMP Trap port number (UDP port 162) should be available for use.
4. Execute the self-extracting WinZip file, and extract files to the target directory, by default the directory "C:\CorreLog".

*Note – The "co-n-n-n.exe" package can be used to install a new site, or upgrade an existing site to the latest version. If you are upgrading an existing site, you must first stop the "CorreLog Framework Service" before extracting files, and the target directory should be the location of the existing CorreLog Server directory. When upgrading, your existing configuration files are preserved.*

5. When the self-extracting WinZip file completes, the CorreLog Server setup wizard automatically starts. The setup wizard is depicted below.



6. Follow the wizard prompts. You can usually use all defaults during the installation. When the installation dialog finishes, the "CO-syslog.exe" and program will be running on the platform, awaiting messages.

No other steps are needed to install the program.

*To insure proper installation of the program, the user should close all windows, and temporarily disable any port blocking or virus scan software on the system. Any errors, detected during the installation process, stop further progress of the installation program with an error dialog that should be addressed prior to the continued execution of the program. Reboot, after installation, is not required.*

## **Logging Into the System**

To login to the CorreLog system, the user clicks the CorreLog desktop shortcut to launch a web browser. (Note that the desktop shortcut appears ONLY on the desktop of the specific user that installed the software.)

As an alternative, the user launches a web browser on any machine that has access to the CorreLog Server, and then enters the URL of the program. (This URL includes the port number, if other than the standard port 80.)

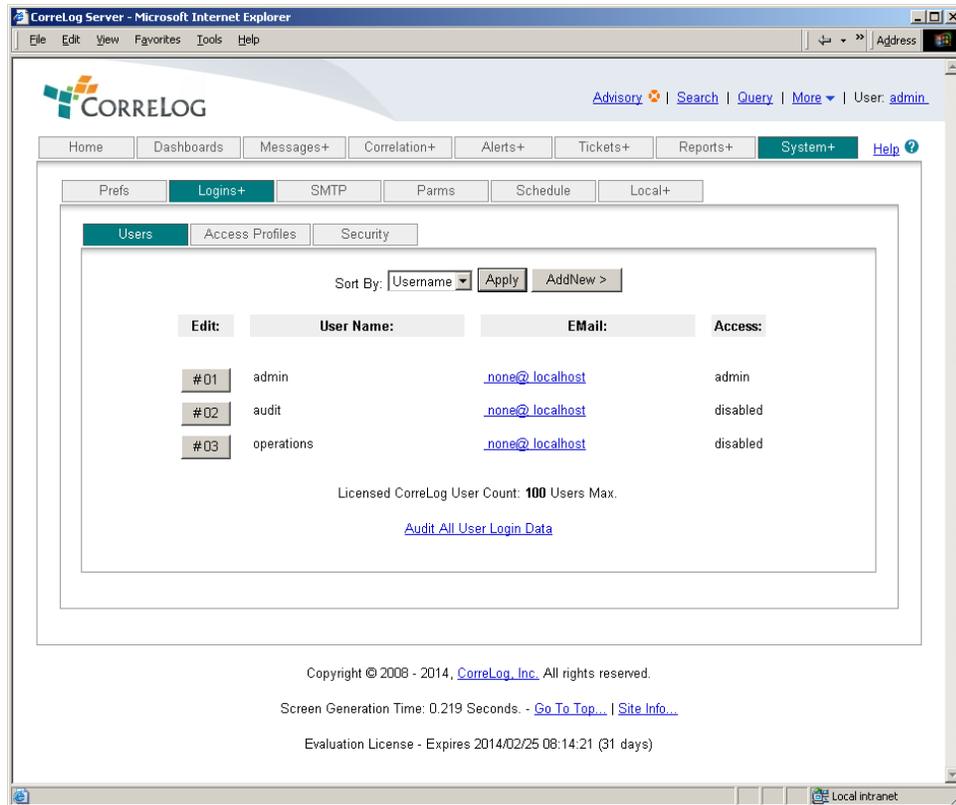
To access the CorreLog Server, the user's web browser may require special configuration, via the "Tools > Internet Options > Connections > LAN Settings > Advanced" dialog in order to access the Internet Explorer "Proxy Settings" dialog.

The default username and password for the system is username "admin", password "admin". The user should enter this value into the HTTP authentication dialog of the browser. This will permit access to the "Home" screen of the CorreLog Server system, and other screens.

## **Modifying the CorreLog System Password**

If internal security is a concern at your site, one of the first activities after installation of the software should be to modify the program login and password. The procedure for adding and modifying program logins is as follows:

1. At a web browser, access the CorreLog system URL, and login to the CorreLog web interface, as described previously.
2. After successful logon to CorreLog, click on the "System" tab, and then click the "Logins" tab to access. Initially, this screen has several user logins, which include the usernames "admin" and "operations". This screen is depicted below.



3. On the "Logins" screen, click the "AddNew" button to add a new user login. On the AddNew screen, enter a new username, password, and other information, and then click "Commit" to save the data.

*The operator should make careful note of the new password to prevent the possibility of being locked out of the system. CorreLog does not provide any easy mechanism for recovering a lost password. See the next section for additional notes.*

4. To modify or delete an existing login, click the "# Edit" button next to the target login to be modified.

Additional notes on login configuration and permissions can be found in Section 3 of the "CorreLog Sigma Web Framework User Reference Manual", included as part of the standard installation package.

## Recovering The Administrative Password

CorreLog employs secure passwords that cannot be detected by the administrator. If the administrator forgets his or her password, there exists no simple way of recovering this value. The administrator must have a native login to the Windows server executing CorreLog to repair this condition.

If the only administrative password for the system has been lost or forgotten, the administrator must re-initialize the entire CorreLog password database by manually re-installing two files, as follows:

1. On the CorreLog Server, first backup the "CorreLog\apache\password.dat" file, and then copy the "CorreLog\apache\install\password.dat" to the above location, overwriting the existing "password.dat" file.
2. On the CorreLog Server, first backup the "CorreLog\config\pass.cnf" file, and then copy the "CorreLog\apache\install\pass.cnf" file to the above location, overwriting the existing "pass.cnf" file.

After executing the above two steps, the user may log into the system using the username "admin", password "admin". The administrator can then recreate the password database. Note that the above procedure affects ONLY the password database, and all other configuration data (and message data) is retained without modification.

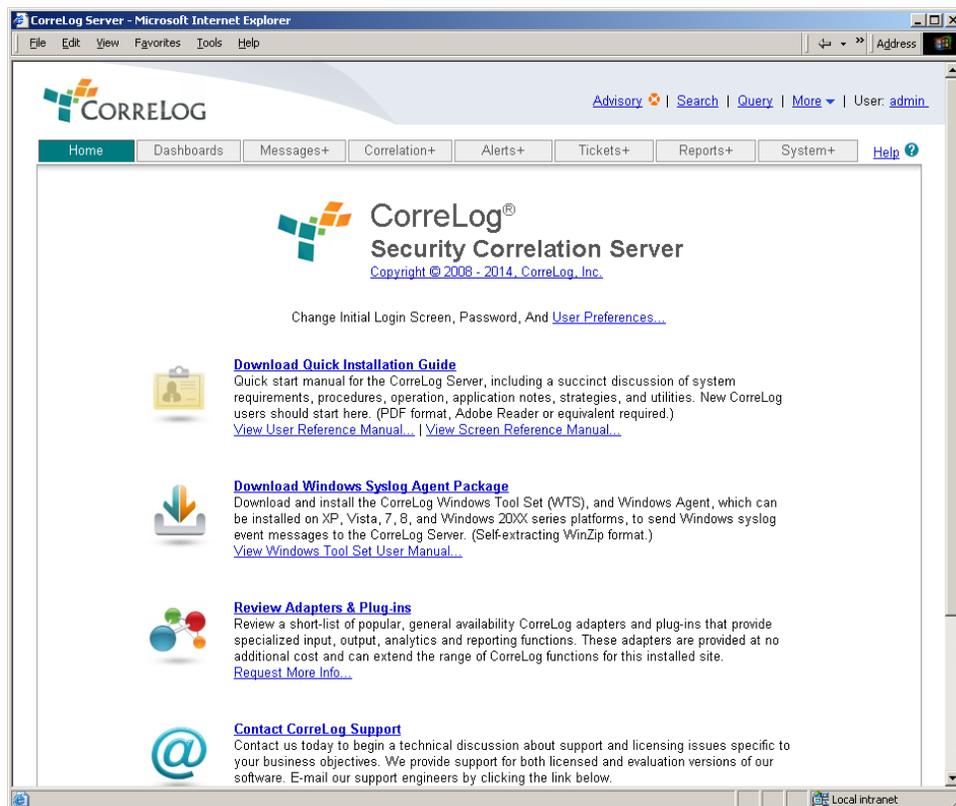
Note that, in some situations, the backed up copies of "password.dat" and "pass.cnf" (saved as part of the above instructions) may be recoverable by CorreLog support. (Contact CorreLog support for more information.)

# Installing the CorreLog Windows Agent And WTS

The CorreLog Windows Agent and Windows Tool Set (WTS) is a standard part of the CorreLog server package. It can be installed on any Microsoft Windows platform to add Syslog capability to that system. The program uses minimal CPU and disk space. No special authorization file is required.

The WTS may be downloaded directly from the "Home" screen of the CorreLog system, after login to the CorreLog server, and installed as follows:

1. Login to the Windows platform upon which to install the CorreLog WTS software. (This is the target platform where the agent will be installed.)
2. On the target platform, run a web browser, and connect to the CorreLog system running at your site. Login to the CorreLog Server web interface to access the "Home" screen, depicted below.



3. On the CorreLog Server "Home" screen, click on the link "Download Windows Agent And Tool Set Here..." (towards the middle of the page) to download the CorreLog WTS software. (If you are using Windows Explorer or a compatible browser, you may click "Open" to execute the program.)

4. After downloading and executing the WTS package on the target Windows platform, the WinZip self-extractor starts. Extract files to the desired location, by default C:\CorreLog.
5. After files are extracted, the installer program automatically starts. The program requires a single argument, which is the location of the main CorreLog server that will receive Syslog messages.
6. Run the install wizard to completion. After the wizard finishes, the CorreLog System Message Service will be started. You do not have to reboot the platform. You should see a "Startup" message logged at the CorreLog server system, indicating that the remote process has successfully started.

Detailed documentation on the CorreLog WTS software, including how to further configure and refine the installation, is provided on the "Home" screen of the CorreLog Server System.

## **Configuring UNIX Syslog Messages**

Virtually all types and versions UNIX platforms, including (but not limited to) Linux, AIX, Solaris, and HP-UX systems, support the sending of Syslog messages to the CorreLog Server program. The Syslog protocol, documented in detail within Appendix B of the "CorreLog User Reference Manual", is originally a UNIX application protocol. Hence, it is common to find Syslog installed and running for any UNIX platform, unless the UNIX administrator has manually disabled or uninstalled this process.

The UNIX process that is responsible for sending Syslog messages is the "syslogd" daemon, which should be executing on the UNIX platform, and should be visible if the user issues a "ps" command. The root user can edit the "/etc/syslog.conf" file and insert directives indicating that the syslog process should send messages to a destination hostname or IP address.

*Small variations may exist depending upon the UNIX platform type and version. The specific methods of configuring Syslog for a particular UNIX platform are usually documented in the UNIX "man" pages of the platform. Type "man syslogd" and "man syslog.conf" at a UNIX platform shell prompt for information on the specific configuration for the UNIX Syslog process.*

## Configuring Linux and other BSD Type UNIX Systems

1. Log into the UNIX platform with a "root" type login, and edit the "/etc/syslog.conf" file with a text editor, such as the "vi" editor.
2. Append the following line to the bottom of the "/etc/syslog.conf" file.

```
*.*          @(ipaddr)
```

The value of (ipaddr) is the IP address of the CorreLog server program. The "\*" directive indicates that messages of facilities and all severities should be sent to the CorreLog server. (This value can be modified to limit the range of facilities and severities that are actually sent.)

3. When finished with the edits, stop and restart the "syslogd" process, such as with a "kill -HUP" command. You should see a "Startup" message logged at the CorreLog server system, indicating that the platform's "syslogd" process has successfully started.

## Configuring Solaris and other SYS5 Type UNIX Systems

1. Log into the UNIX platform with a "root" type login and edit the "/etc/hosts" file. Add the "correlog-server" name to the "/etc/hosts" file. (The syslog.conf file requires the use of a hostname rather than an IP address, and this is a necessary step.)
2. Edit the "/etc/syslog.conf" file, and append the following lines eight lines to bottom of the file. Make sure you use a tab to delimit fields, and not a space.

```
*.debug      @correlog-server
*.info       @correlog-server
*.notice     @correlog-server
*.warning    @correlog-server
*.err        @correlog-server
*.crit       @correlog-server
*.alert      @correlog-server
*.emerg      @correlog-server
```

3. When finished with the edits, stop and restart the "syslogd" process, such as with a "kill -HUP" command. You should see a "Startup" message logged at the CorreLog server system, indicating that the platform's "syslogd" process has successfully started.

## Configuring UNIX Syslog-NG Systems

CorreLog supports Syslog-NG protocol over UDP exactly the same as ordinary Syslog. (Generally, there is no significant difference between the actual message protocols, but only in the details of their implementation.)

The configuration of Syslog-NG is somewhat system dependent. Various versions of the Syslog-NG implementation exist, each with different types of configuration data and specific configuration file directives. The basic procedure may vary depending upon a particular implementation, but the general steps to configure Syslog-NG are as follows:

1. Log into the UNIX platform with a "root" type login, and edit the "/etc/syslog-ng/syslog-ng.conf" file with a text editor, such as the "vi" editor. (The precise location of the file may be something else, depending upon the particular Syslog-NG implementation.)
2. Append the following lines to the bottom of the configuration file:

```
source s_correlog_all {
    internal();
    unix-dgram("/dev/log");
    file("/proc/kmsg" log_prefix("kernel:"));
};
destination s_correlog_dest {
    udp("X.X.X.X" port(514));
};
log {
    source(s_correlog_all);
    destination(s_correlog_dest);
};
```

The value of "X.X.X.X" above is the IP address of the CorreLog server program, in standard dot notation. Note that the string is quoted such as `udp "1.1.1.1" port(514)`.

3. When finished with the edits, stop and restart the "syslogd-ng" process, such as with a "kill -HUP" command. You should see a "Startup" message logged at the CorreLog server system, followed by other messages.

Normally, the UDP protocol should be specified. In those special circumstances where the overhead of TCP connections is worth considering, the CO-trecv.exe program should be installed on the CorreLog platform, as discussed in the CorreLog User Manual.

## Configuring Cisco IOS and Catalyst Syslog Messages

Virtually all Cisco devices and Cisco operating systems include some form of Syslog capability, and can be configured to send messages to the CorreLog Server program. Due to the extensive variety of Cisco devices, the procedure to enable and configure Syslog is and configuration of Syslog needs to be assessed for each Cisco device type.

For a Cisco IOS type device, issue the following command sequence using a privileged login to the device:

```
logging on
no logging console
no logging monitor
logging (ipaddr)
logging trap debug
logging console debug
logging monitor debug
```

For a Cisco Catalyst type device, issue the following command sequence using a privileged login to the device:

```
set logging server enable
set logging server (ipaddr)
set logging level all 7
set logging server severity 7
```

In the above command sequences, the value of "(ipaddr)" should be replaced with the IP address of the CorreLog server. Note that the above procedure will need to be modified for Cisco PIX Firewall devices, Cisco CSS devices, Cisco WAP, and other specific models. The user must consult the specific documentation for the Cisco device and model number for an accurate procedure.

## Configuring Other Devices And Applications

The above procedures deal with only a few of the most common network devices, and are a small subset of the devices that CorreLog supports. Other popular devices supported by CorreLog include (but are not limited to) Juniper, Nortel, 3Com, Netscreen, Snort and others equipment and software vendors, all of which provide syslog capability with their produces.

On Windows platforms, the user can configure the Windows Agent log file monitor capability (documented in detail within the "CorreLog WTS Users Manual") to "tail" any arbitrary streaming log file. This provides special application for monitoring such applications as Windows VPN, and Windows IIS.

Additionally, many Windows applications can be configured to report status and error information to the Windows "Application" log, which is then relayed to CorreLog by the Windows Agent like any other event log message. These applications include IIS, MS Exchange, McAfee, Oracle, and MS SQL.

On UNIX platforms, the user can configure a simple Perl script to tail streaming log files, such as the Apache server logs. An example of such a Perl script is available under the "Resources" section of the CorreLog website. Additionally, the "cron" facility can be configured to send Syslog messages in response to certain periodic system tests configured by a "root" administrator.

Finally, note that CorreLog receives SNMP trap information in addition to Syslog information. The user can configure the SNMP agent of any capable device to send SNMP traps to the CorreLog server at port 162. These traps will appear as regular Syslog messages within CorreLog, and processed exactly like any other received message.

SNMP traps are (by default) assigned a facility of "Network" and are assigned a severity as dictated by the CorreLog SNMP Trap configuration file, documented in the CorreLog User Reference Manual. Refer to other CorreLog documentation for more specific and advanced configuration procedures related to SNMP traps.

## **Uninstalling the CorreLog Software**

The CorreLog Server and CorreLog WTS is uninstalled via the "Add / Remove Programs" Windows facility. (This is called the "Program Features" facility on Vista platforms.) The user navigates to this screen (via the Windows Control Panel) and clicks on the "CorreLog Framework" entry to execute the Uninstall program. The user follows the instructions of the dialog to uninstall the CorreLog Framework system.

Note that, unlike most uninstall programs, the CorreLog Framework files are left intact on the disk. Following the uninstall procedure, the user must physically remove these files, such as by dragging the CorreLog root directory to the Microsoft Windows "Recycle Bin". This extra step safeguards any accidental removal of data on the system.

After running the uninstall procedure, but before manually removing the CorreLog files manually, an administrator can re-execute the CorreLog setup wizard program to re-install the registry keys other configuration components, as described previously.

## For Additional Help And Information...

Detailed specifications regarding the CorreLog Server, add-on components, and resources are available from our corporate website. Test software may be downloaded for immediate evaluation. Additionally, CorreLog is pleased to support proof-of-concepts, and provide technology proposals and demonstrations on request.

CorreLog, Inc., a privately held corporation, has produced software and framework components used successfully by hundreds of government and private operations worldwide. We deliver security information and event management (SIEM) software, combined with deep correlation functions, and advanced security solutions. CorreLog markets its solutions directly and through partners.

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