ERRATA for

IAgent 2.3.2

(both Solaris/SPARC and RedHat/X86 releases)

Version 1.1
04 November 2003

These errata notes are provided as a supplement to the IAgent documentation set.

The errata notes document additions and changes to the functionality of the software including notes on related problems or potential problems. Also documented are a number of outstanding recorded defects along with brief descriptions (and successful workarounds, if available) of the more serious of these.

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1. Gen_csr Errata

RANDFILE setting

The gen_csr program requires a reasonable random number (or entropy) file. The file is usually set to:

```
$HOME/.rnd
```

and can be changed by either:

Modifying the RANDFILE value in the `request.cnf` file (setting it to something like this):

```
RANDFILE = =/full/path/to/filename
```

or

Setting the RANDFILE variable to point to another file. (if using **ksh**):

```
export RANDFILE=/full/path/to/filename
```

(if using **sh**):

```
RANDFILE=/full/path/to/filename; export $RANDFILE
```

And lastly (if using **csh**):

```
setenv RANDFILE /full/path/to/filename
```

You can fill such a file by following the following "recipe":
Start the `prngd` process manually. Type the following commands:

```
cd /opt/iagent
./bin/prngd -c ./prngd.conf -s ./prngd-seed /tmp/entropy &
```

Then fill your random (entropy) file with pseudo-random number entropy. Use the following command (this is all on one line):

```
perl prngd_test.pl | grep -v entropy | grep -v prngd >
/full/path/to/filename
```

This will fill your random (entropy) file with the necessary data for proper operation of `gen_csr`, which may now be used.

Default DES key encryption

The use of the **-nodes** option is <u>required, not optional</u> during CSR creation for any key to be used with the IAgent system. Typically this problem is seen when the IAgent system is started and the user is then prompted for a DES pass phrase for the local private key. This is a problem since IAgent doesn't know about or know what to do about a DES pass phrase. Keys with DES pass phrases (encrypted) will not work in an automated environment, like IAgent's. The new `gen_csr` command line would look something like this:

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```
./tools/gen_csr -keyout newkey.pem -reqout newreq/pem -nodes
```

Fortunately the pass phrase can be removed with the **openssl** tool (available for Win32 on our web site http://www.lymeware.com/download_fw.html). The original pass phrase used during CSR generation will be needed. See the OpenSSL RSA manual page for specific instructions.

2. IAgent Design Limitations and Workarounds

EDI Message size limitations

IAgent currently has a 128K (131,072 byte) message size limitation, for sending EDI and receiving EDI messages from ILECs. Different ILECs have different maximum sizes for EDI and also send different messages if returned EDI is too large (this is usually only the case of Customer Service Inquiry (CSI) responses with 300+ lines). This limitation is carried through to the internal message formats supported for the **Pipe**, **Socket**, and **Tibco**[tm] Interfaces. This limitation will be expanded in the future.

Primary Ethernet use and limitations

IAgent identifies the local Trading Partner by querying the primary Ethernet interface (eth0, le0, or hme0). It also uses the same primary interface IP address in the license file (license.dat). Other Ethernet interfaces are supported and can support IA traffic.

3. Additional Error and Troubleshooting

Specific Error Message, Causes and Resolutions

This section lists specific error messages found in customer testing, together with brief descriptions, possible further actions to continue troubleshoot and successful workarounds, if available.

LICENSE ERROR:(*NN*): Cannot validate the license file (/opt/iagent/license.dat). Cannot continue.

License validation errors have multiple numeric codes (NN) which identify specific conditions. This error may occur for many reasons, including:

- The hosted of the machine does not match the hosted in the license file,
- The IP address of the primary interface of the machine does not match the IP address in the license file,
- The IAgent version does not match the version in the license file (the IAgent version can be displayed using the –V command option),
- The machine date is newer than the expiration date of the license file,
- The license file contains embedded CR/LF characters (IAgent expects to encounter only LF so be careful when importing via FTP or SCP), or
- The license file is missing, corrupted or unreadable (perhaps due to file permissions?).

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The license file (`/opt/iagent/license.dat`) is an ASCII text file and human readable. If none of the above error conditions pertain to your system then please contact your IAgent support engineer for a new license.

ERROR: Error on line 0 of the Trading Partner configuration file (tpartner.conf)

This error may occur if the `tpartner.conf` file is missing from the `/opt/iagent` directory or is unreadable (either due to content/corruption or file permissions, which should be 644 or -rw-r--r--). The filename may be set in the IAgent configuration file (`iagent.conf`) using the -t option. The default filename is `tpartner.conf`.

ERROR: Error on line 0 of the IAgent configuration file (iagent.conf)

This error may occur if the `iagent.conf` file is missing from the `/opt/iagent` directory or is unreadable (either due to content/corruption or file permissions, which should be 644 or -rw-r--r--). The default filename is `iagent.conf`.

Socket /tmp/entropy already used by another process

This error is usually caused by starting the *`prngd`* process multiple times without stopping it each time prior to the next start. The S99iagent startup script does have a "restart" command, which will stop both the IAgent processes and the *`prngd`* process prior to attempting to start them. This should be used if there is any question as to prior IAgent processes still running.

Certificate Verification: Error (7): certificate signature failure

This error is printed in the *iagent.log* and *iagent.err* log files if the –**d (debug)** option is defined on the command line or in the *iagent.conf* configuration file. This is **not** an error and the message should be ignored.

ld.so.1: /opt/iagent/bin/iagent: fatal: librv.so: open failed: No such file or directory

The librv.so is the Tibco 5.3 rv shared library. These messages are usually caused by one of two situations. Either Tibco is not installed (as per the IAgent User's Guide) or the LD_LIBRARY_FLAG has not been set (as is required and described in the Tibco Install Manual). The full version of IAgent supports all four Integration API interfaces and therefore **requires** Tibco to be installed and licensed prior to IAgent use. Tibco can be found at (www.tibco.com) and the licensing at (www.rv.tibco.com). The step-down (non-Tibco) version of the IAgent product is available from your distributor and should be used if Tibco is not installed..

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hipri_trans.log and server_trans.log IP addresses are reversed

The IP address in the Hi Priority and Standard Port server transaction logs (**hipri_trans.log** and **server_trans.log**) is being displayed reversed. The address is being displayed as DDD.CCC.BBB.AAA and should be displayed as AAA.BBB.CCC.DDD (e.g. so a vlid IP address of 192.168.0.1 will be incorrectly displayed as 1.0.168.192 in the log files). This error does not affect routing or require any change to the Trading Partner configuration file (tpartner.conf).

Additional Troubleshooting Actions

Something that should be done during troubleshooting is to periodically (especially right before a "start" and after a "stop" command) run the following command (to view the running IAgent processes):

```
ps -ef | grep iagent | grep -v grep
```

This will display the number of respective IAgent processes running. A healthy system should show 5 IAgent processes (two clients, two servers, and the status process, all shown as `iagent`) and a single `prngd` process.

4. IAgent Startup Errata

The startup script/rc file was redirecting both `stdout` and (in error) `stderr` to `/dev/null`. This resulted in potential **loss** of error messages. Error messages prior to the start of the logging interface as not stored in `iagent.alert` or `iagent.err` log files but only displayed on `stderr` (the console).

To add the ability to run the IAgent system as a user other than root, the following steps need to be done:
1. change the owner of `/etc/rc2.d/S99iagent` to `root`
2. setuid on `S99iagent`

Any user will then be able to start/stop the IAgent system manually by typing:

```
/etc/rc2.d/S99iagent start
```
or
```
/etc/rc2.d/S99iagent restart
```
or
```
/etc/rc2.d/S99iagent stop
```


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5. Documentation Errata

The current IAgent Users Guide (2003-232-IAUG-0011) contains the following typos, errors, miss-statements and misleading information:

Page 6 – Under "Simple Integration is the Key" paragraph, the "Tibco TIN/Rendezvous message bus interface" text should be preceded with "(optionally)".

Page 42 - Page should be broken before PART 4.

Page 53 – The phrase "single atomic" should be removed. Socket messages (both inbound and outbound) are not limited to IP packet size limits.

Page 53 – The phrase "2 byte header" and "2 byte length header" in both the text and the Figure should be changed to "4 byte header" and "4 byte length header" as four bytes are now used to determine/transport the message length (of up to 128MB).

Page 61 – The code "read(SOCKET,$binary,2)" in Example 19 should be replaced with "read(SOCKET,$binary,4)" as four bytes are now used to determine/transport the message length (of up to 128MB).

Page 69 – The phrase "All failed transactions are" the text should be replaced with "All outbound failed transactions are".

Page 70 – The phrase "All invalid messages and receipts will" the text should be replaced with "All inbound invalid messages and receipts will".

Page 77 – Table 15 needs an additional row (as shown below)

512	Display Internal Debug Messages

Page 115 – This page may be removed/ignored.

6. Additional Tools

The current IAgent installation contains the following tools and utilities, for system administration and maintenance.

Provided Tools

debugia - startup script which invokes IAgent with full debugging enabled. This script also forces all stderr output into another auxiliary log file, iagent.err2.

pmloop – script used for monitoring state of IAgent system. Calls the **pm** script every N seconds.

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pm – (process monitor) script used for monitoring state of IAgent system. This script displays the number of input/output files (and their status), the transaction logs, error counts and the alert log.

Note that the **asn1dump** tool is not included in the IAgent delivery but can be obtained from the Lymeware web site (http://www.lymeware.com/download_fw.html).

External and Third-Party Tools

Additional useful tools (not included in the IAgent delivery) include:

OpenSSL – library and command line tool, which can create, convert & display CSRs, Keys, and X.509 Certificates. www.openssl.org

TCPdump – Allows dracking and display of TCP packets over network connections, very useful for tracing SSL protocol & TCP setup messages between trading partners.
www-nrg.ee.lbl.gov and www.tcpdump.org

SSLdump – A TCPdump-like tool, very useful for tracing SSL & TLS protocol messages between trading partners. www.rtfm.com

Ethereal – Another TCPdump-like tool, does not support SSL/TLS but easier to use than TCPdump. www.etheral.com

7. Submit Additional Problems

Additional problems or bug reports should be sent with detailed output (logs, files, and screen dumps) to bugs@lymeware.com for inclusion in future documentation releases.

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