OEMan Communications Requirements

version 1.0

1. Version

Version	Date	Details	Editer
1.0	31-January-2015	First version	Adam Tyler

2. Table of contents

1. Summary

This is the specification of the communications libraries that OEMan will use. It has been chosen to build on the protocol currently used by the OEMon project, and therefore will simplify the linking of the two.

2. Requirements

Communications will be using JSON over HTTP; the reliable, ordered and error-checked delivery of packets provided by TCP underlying HTTP, is important for the intended control use of the system.

For more details of the communications standard, see document OEMan communications specification

To allow confirmation of delivery of packets, error codes should be available if requested. This includes an error message system so we know what the error we are having is. A list of suggested error codes is provided below.

Status codes generated as part of the communications standard, should be available if requested.

The communications can also be encrypted if required; the specification for this encryption has not yet been specified. Any library made to allow communications for OEMan should allow encrypted and un-encrypted communications concurrently.

Any library made to allow communications for OEMan should be developed with simplicity of use in mind, for example a single command to read in data and a single command to write.

Any library made to allow communications for OEMan should be fully documented as to its use and implementation.

3. Suggested error codes

0 = Success
1 = Operation not permitted
2 = No such file or directory
3 = No such process
4 = Interrupted system call
5 = Input/output error
6 = No such device or address
7 = Argument list too long
8 = Exec format error
9 = Bad file descriptor
10 = No child processes
11 = Resource temporarily unavailable
12 = Cannot allocate memory
13 = Permission denied
14 = Bad address
15 = Block device required
16 = Device or resource busy
17 = File exists
18 = Invalid cross-device link
19 = No such device
20 = Not a directory
21 = Is a directory
22 = Invalid argument
23 = Too many open files in system
24 = Too many open files
25 = Inappropriate ioctl for device
26 = Text file busy
27 = File too large
28 = No space left on device
29 = Illegal seek
30 = Read-only file system
31 = Too many links
32 = Broken pipe
33 = Numerical argument out of domain
34 = Numerical result out of range
35 = Resource deadlock avoided
36 = File name too long
37 = No locks available
38 = Function not implemented
39 = Directory not empty
40 = Too many levels of symbolic links
41 = Unknown error 41
42 = No message of desired type
43 = Identifier removed
44 = Channel number out of range

45 = Level 2 not synchronized
46 = Level 3 halted
47 = Level 3 reset
48 = Link number out of range
49 = Protocol driver not attached
50 = No CSI structure available
51 = Level 2 halted
52 = Invalid exchange
53 = Invalid request descriptor
54 = Exchange full
55 = No anode
56 = Invalid request code
57 = Invalid slot
58 = Unknown error 58
59 = Bad font file format
60 = Device not a stream
61 = No data available
62 = Timer expired
63 = Out of streams resources
64 = Machine is not on the network
65 = Package not installed
66 = Object is remote
67 = Link has been severed
68 = Advertise error
69 = Srmount error
70 = Communication error on send
71 = Protocol error
72 = Multihop attempted
73 = RFS specific error
74 = Bad message
75 = Value too large for defined data type
76 = Name not unique on network
77 = File descriptor in bad state
78 = Remote address changed
79 = Can not access a needed shared library
80 = Accessing a corrupted shared library
81 = .lib section in a.out corrupted
82 = Attempting to link in too many shared libraries
83 = Cannot exec a shared library directly
84 = Invalid or incomplete multibyte or wide character
85 = Interrupted system call should be restarted
86 = Streams pipe error
87 = Too many users
88 = Socket operation on non-socket
89 = Destination address required
90 = Message too long
91 = Protocol wrong type for socket
92 = Protocol not available

93 = Protocol not supported
94 = Socket type not supported
95 = Operation not supported
96 = Protocol family not supported
97 = Address family not supported by protocol
98 = Address already in use
99 = Cannot assign requested address
100 = Network is down
101 = Network is unreachable
102 = Network dropped connection on reset
103 = Software caused connection abort
104 = Connection reset by peer
105 = No buffer space available
106 = Transport endpoint is already connected
107 = Transport endpoint is not connected
108 = Cannot send after transport endpoint shutdown
109 = Too many references: cannot splice
110 = Connection timed out
111 = Connection refused
112 = Host is down
113 = No route to host
114 = Operation already in progress
115 = Operation now in progress
116 = Stale NFS file handle
117 = Structure needs cleaning
118 = Not a XENIX named type file
119 = No XENIX semaphores available
120 = Is a named type file
121 = Remote I/O error
122 = Disk quota exceeded
123 = No medium found
124 = Wrong medium type