

# 1394PWG Transport Protocol Proposal Comparison

March 3, 1998

Revision 1.0

This document compares the protocols that have been proposed as solutions to the transport stack requirements of the 1394 Printer Working Group for a comprehensive printing solution for the 1394 interface. This analysis is ongoing and will change as we discover new information and evolve the proposals.

The detailed descriptions of the transport stack requirements are contained in the 1394PWG document titled "Client Requirements for Our Thick Transport Stack". It can be found on the PWG web-site at <http://www.pwg.org>

Color Key
OK, requirement satisfied by proposal
Needs investigation or requirement is not a "Must"
Needs to be specified
Proposal doesn't satisfy requirement
Requirement not to be considered

## Proposals under primary consideration

These proposals are being actively worked on or investigated as part of the 1394 PWG effort.

	1284.4 over DFA	SBP-2 Single Login	SBP-2 Cross Login	HPT
<b>Owner</b> • Validates entries in table • Advances the proposal	Brian Batchelder Larry Stein	Greg Shue Alan Berkema	Greg Shue Alan Berkema	Mr. Shimura
<b>Client Requirements</b>				
<b>Musts</b>				
<b>Connections</b>				
Multiple, concurrent	OK	OK	OK	OK
Bidirectional	OK	OK, requires task list completion & reorder	OK	OK
Independent	OK	OK	OK	OK
Symmetrical (either side can open connection)	OK	OK, requires targiator	OK	OK, requires targiator for first connection
<b>Data Transfer</b>				
In-order	Needs to be added	OK	OK	OK
Byte stream	OK	OK	OK	OK
Datagrams	OK	OK	OK	OK
<b>Directory service</b>	OK	OK, FDS	OK, FDS	OK
<b>Transient link interruptions</b>	Needs to be added	OK	OK	Needs to be added
<b>Wants</b>				
<b>Connectionless</b>	No	No	No	No
<b>Multi-casting</b>	No	No	No	No
<b>Data tagging</b>	OK	OK	OK	Could be added
<b>Fair Access</b>	OK	OK	OK	OK
<b>Quality of Service</b>	No	Could add isochronous	Could add isochronous	Could add isochronous
<b>Operate across bridges</b>	TBD	TBD	TBD	TBD

	1284.4 over DFA	SBP-2 Single Login	SBP-2 Cross Login	HPT
<b>Internal Requirements</b>				
<b>Musts</b>				
<b>Independence</b>				
Data	OK	OK	OK	OK
Application	OK	OK	OK	OK
O/S	OK	OK	OK	OK
<b>Allows other protocol stacks</b>	OK	OK	OK	OK
<b>Efficient data transmission</b>	Crediting overhead?	OK	OK	OK
<b>Wants</b>				
<b>Bus-independent transport</b>	OK	No	No	No
<b>Re-use existing protocols</b>	OK, 1284.4	OK, SBP-2	OK, SBP-2	OK, SBP-2
<b>Status</b>				
<b>NT 5.0 O/S Support</b>	No .4/DFA implementation	Need changes to SBP-2 implementation	Need changes to SBP-2 implementation	Needs out-of-order execution
<b>Win 95/98 O/S Support</b>	No .4/DFA implementation	No SBP-2 implementation	No SBP-2 implementation	Need HPT/SBP-2 implementation
<b>Mac O/S support</b>				
<b>H/W Cost (H/W, RAM, ROM)</b>	Not to be considered	Not to be considered	Not to be considered	Not to be considered
<b>Development Cost</b>	Not to be considered	Not to be considered	Not to be considered	Not to be considered

### Proposals under secondary consideration

These proposals are being under investigation as part of the 1394 PWG effort, or they are interesting proposals that the 1394 PWG wishes to continue monitoring.

	AV/C (FCP)	DPP Transport	TCP/IP-1394
<b>Owner</b> • Validates entries in table • Advances the proposal	Stephen Holmstead	TBD	Randy Turner
<b>Client Requirements</b>			
<b>Musts</b>			
<b>Connections</b>			
Multiple, concurrent	No?	OK	OK
Bidirectional	No?	OK	OK
Independent	No?	OK	OK
Symmetrical (either side can open connection)		OK	OK
<b>Data Transfer</b>			
In-order		OK	OK
Byte stream		OK	OK
Datagrams		OK	OK
<b>Directory service</b>		FDS	OK, requires higher protocol (e.g. SLP)

	AV/C (FCP)	DPP Transport	TCP/IP-1394
Transient link interruptions		2 seconds	OK
<b>Wants</b>			
Connectionless		No	OK
Multi-casting		No	OK
Data tagging		?	OK
Fair Access		OK	OK
Quality of Service		Supports isochronous	OK (IP QOS), no isochronous
Operate across bridges		?	Expected to be addressed
<b>Internal Requirements</b>			
<b>Musts</b>			
<b>Independence</b>			
Data		OK	OK
Application		OK	OK
O/S		OK	OK
Allows other protocol stacks		OK	OK
Efficient data transmission		OK	OK
<b>Wants</b>			
Bus-independent transport		No	OK
Re-use existing protocols		No	OK
<b>Status</b>			
NT 5.0 O/S Support		No	TCP, but no IP-1394 planned
Win 95/98 O/S Support		No	TCP, but no IP-1394 planned
Mac O/S support			OK
H/W Cost (H/W, RAM, ROM)	Not to be considered	Not to be considered	Not to be considered
Development Cost	Not to be considered	Not to be considered	Not to be considered