

A connection manager which provides communications control in a server of a server client system permits a client node to establish rudimentary communications with a designated server port and then moves the connection to a communications port specific to the application running on the server. The specific communications port is then configured by the communications manager with the protocol drivers required by the client node. An application may be displayed in an HTML page. In one embodiment, the same data can be transmitted substantially simultaneously from an application executing on a server node to at least two client nodes. A server node in a client-server system may download and executes application written in interpretive languages on behalf of associated client nodes.

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 98/09879

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 H04L29/06

According to International Patent Classification(IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 548 726 A (PETTUS) 20 August 1996</p> <p>see abstract</p> <p>see column 2, line 30 - line 58</p> <p>see column 8, line 19 - line 63</p> <p>see column 10, line 11 - line 52</p> <p>see column 12, line 40 - line 67</p> <p>see column 13, line 18 - column 14, line 49</p> <p>see column 15, line 11 - line 22</p> <p>---</p> <p>-/--</p>	1,5,9



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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Int. .tional Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 499 343 A (PETTUS) 12 March 1996</p> <p>see abstract  see column 1, line 28 - line 53  see column 2, line 46 - column 3, line 11  see column 3, line 24 - line 52  see column 4, line 45 - line 67  see column 11, line 31 - line 56</p> <p>---</p>	<p>1,2,5,6,  9,13,18,  22,23,  25,27,  34,35,41</p>
A	<p>ADLER R M: "DISTRIBUTED COORDINATION  MODELS FOR CLIENT/SERVER COMPUTING"  COMPUTER,  vol. 28, no. 4, 1 April 1995, pages 14-22,  XP000507856  see page 17, right-hand column, line 27 -  line 62</p> <p>---</p>	<p>1-45</p>
A	<p>EP 0 732 834 A (SUN MICROSYSTEMS INC.)  18 September 1996  see page 2, line 25 - line 47  see page 3, line 35 - line 50  see page 4, line 48 - page 5, line 7  see page 5, line 30 - line 42  see page 6, line 26 - line 31</p> <p>---</p>	<p>1,2,5,6,  9</p>
A	<p>EP 0 483 576 A (IBM CORPORATION)  6 May 1992  see abstract  see column 6, line 15 - line 27  see column 10, line 45 - column 11, line 4  see column 11, line 45 - column 12, line 3</p> <p>-----</p>	<p>1-45</p>

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 98/09879

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5548726 A	20-08-1996	AU 6702494 A CA 2178583 A DE 69405405 D DE 69405405 T EP 0726004 A JP 9506725 T WO 9517062 A	03-07-1995 22-06-1995 09-10-1997 26-03-1998 14-08-1996 30-06-1997 22-06-1995
US 5499343 A	12-03-1996	AU 7094694 A WO 9517066 A	03-07-1995 22-06-1995
EP 732834 A	18-09-1996	CA 2171572 A JP 8272725 A	15-09-1996 18-10-1996
EP 483576 A	06-05-1992	US 5204947 A CA 2051180 A,C DE 69128605 D JP 2019557 C JP 4287116 A JP 7036147 B	20-04-1993 01-05-1992 12-02-1998 19-02-1996 12-10-1992 19-04-1995