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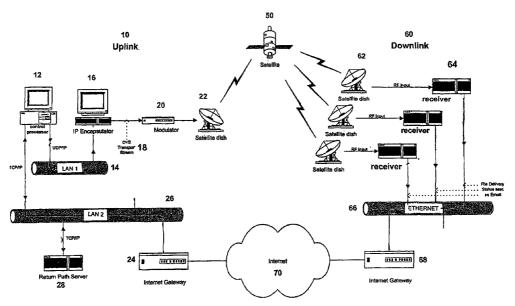
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(54) Title: ERROR CORRECTION APPARATUS AND METHOD



(57) Abstract: A system, method and data structure for error correction for use in the transmission of content data distribution networks uses a compressed memory, for example a bitmap, to identify portions of transmitted content data files where transmission errors have occurred. The error memory, is used to generate an error status report that is returned to a transmission controller via a low bandwidth back channel, for example the Internet. The information in multiple error status reports is aggregated by the control system of the transmitter and used to re-transmit those portions of previously transmitted content data files that were not properly received due to error. By re-transmitting only the data packets of the transmitted content data files that contain errors, overall transmission speed is increased and bandwidth usage is conserved.



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Minimum documentation searched (classification system followed by classification symbols) U.S.: 714/758.000, 748, 749			
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C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where	appropriate of the relevant persons	Delever to Art Av
X	US 5,727,002 A (MILLER et al) 10 March 1998	- see the entire document	Relevant to claim No.
	10 11 11 11 11 11 11 11 11 11 11 11 11 1	see the chine document.	10 - 22 and 27 - 30
Α	US 5,553,083 A (MILLR) - see the entire document.		1 - 30
	TAG 5 554 554 A CONTRACTOR		
A	US 5,754,754 A (DUDLEY et al) 19 May 1998 - see the entire document.		1 - 30
Α	US 6,115,749 A (GOLESTANI et al) 05 Septemb	per 2000 - see the entire docment	1 - 30
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