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(54) Title: SYSTEM AND METHOD FOR DYNAMIC TIME AND BANDWIDTH ALLOCATION

(57) Abstract

The present invention comprises a control system developed to efficiently share one or more satellite transponders or links among multiple satellite uplinking earth stations. The control system uses a terrestrial communications link, such as the Internet, to control access to the transponder or satellite links. Communications over this link may employ a TCP/IP protocol to connect the requesting uplinking earth stations with a centralized controller. The centralized controller may employ an algorithm to automate the process of gaining access to the satellite resources via terrestrial link. The control system (also referred to herein as the master arbitration server) for each transponder is placed in a centralized location, where it is accessible to all uplinking earth stations. It accepts requests via a terrestrial link to share a satellite transponder. All uplink stations that are requesting access to the satellite resources are identified such as by an IP address in the case of the Internet terrestrial link. Each satellite resource is identified by an authorization message generated by the master arbitration server. Requests are processed in a centralized location and result in channel assignments specified in terms of scheduled transmission start time, end time, frequency, and bandwidth, as well as other parameters for that satellite resource. An authorizing message is transmitted back to the uplink station when access is granted containing the resource grant specifications. A satellite resource may be granted in either a batch (continuous) or time division multiple access modes, as requested. Advantageously, the control system of the present invention can be applied to analog video, high–speed data, or other satellite transmissions.