



US005592470A

United States Patent [19]**Rudrapatna et al.**[11] **Patent Number:** **5,592,470**[45] **Date of Patent:** **Jan. 7, 1997**[54] **BROADBAND WIRELESS SYSTEM AND NETWORK ARCHITECTURE PROVIDING BROADBAND/NARROWBAND SERVICE WITH OPTIMAL STATIC AND DYNAMIC BANDWIDTH/CHANNEL ALLOCATION**[75] Inventors: **Ashok N. Rudrapatna**, Basking Ridge; **Gopal K. Jaisingh**, Montville; **Robert R. Miller, II**, Morris Township, Morris County; **Jesse E. Russell**, Piscataway; **Robert E. Schroeder**, Morris Township, Morris County, all of N.J.[73] Assignee: **AT&T**, Holmdel, N.J.[21] Appl. No.: **361,355**[22] Filed: **Dec. 21, 1994**[51] Int. Cl.⁶ **H04J 3/26; H04L 5/22**[52] U.S. Cl. **370/320; 348/7; 348/12; 348/13; 375/200; 370/468; 370/477; 370/907**

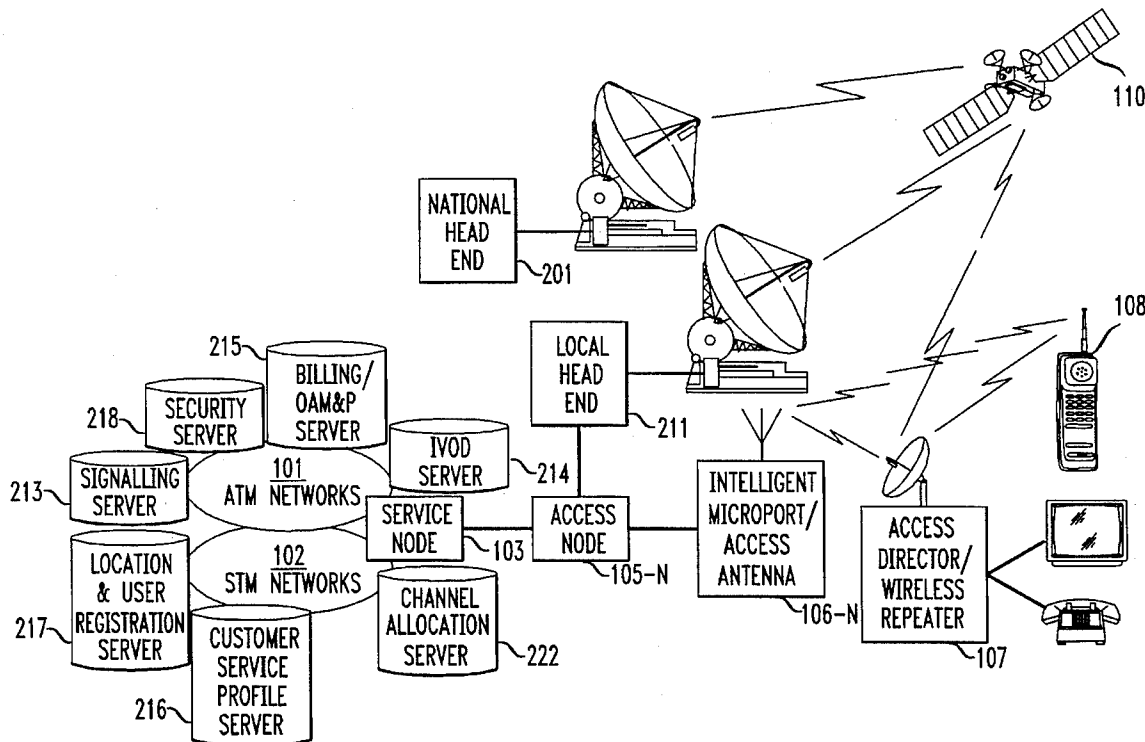
[58] Field of Search 370/18, 26, 32, 370/35, 38, 45, 50, 91, 85.13, 85.14, 95.1, 95.3, 118, 60, 60.1, 94.1, 94.2; 375/200, 201, 202, 205, 211, 212; 348/6, 7, 12, 13, 5.5

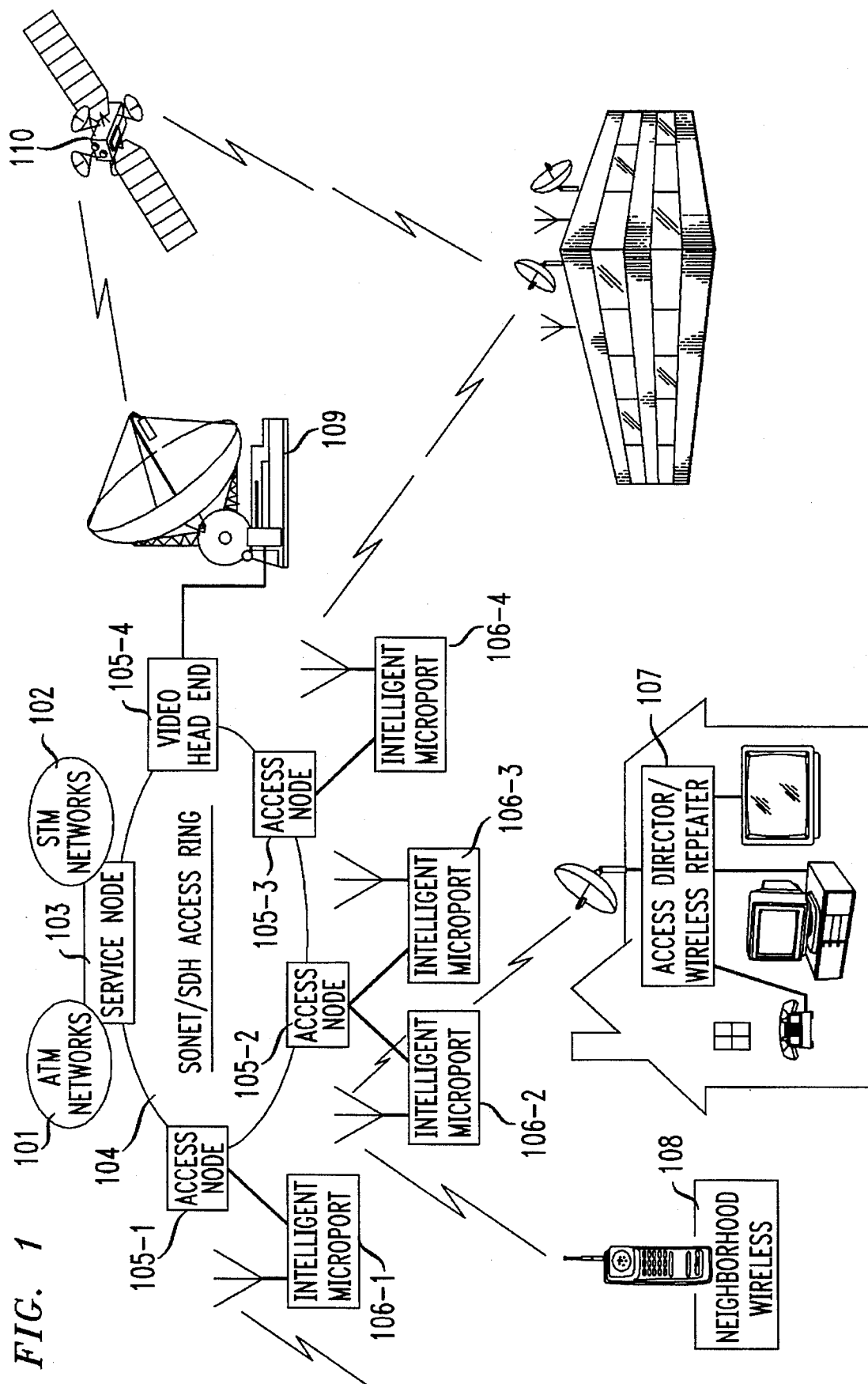
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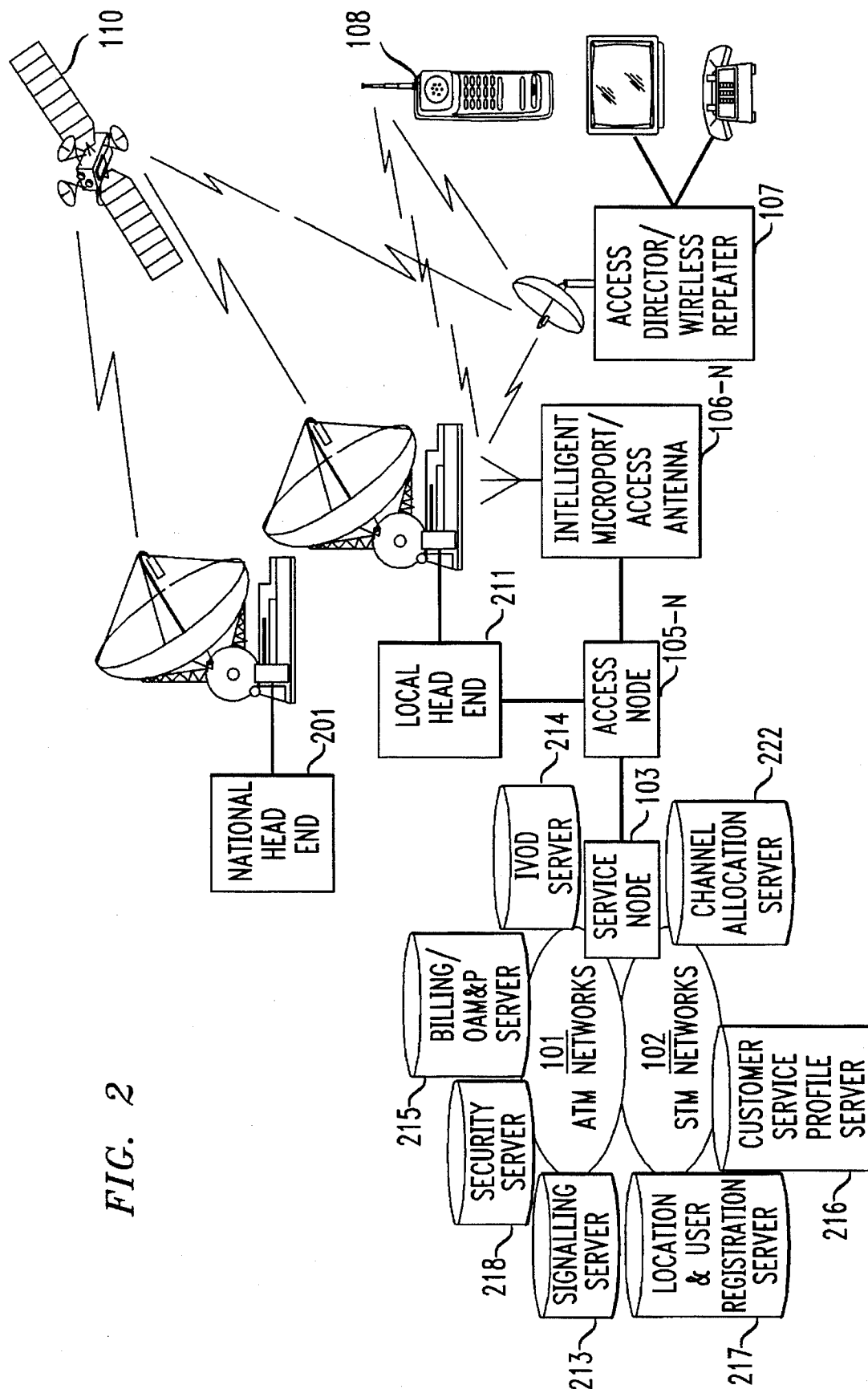
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5,442,659 8/1995 Bauchot et al. 375/202*Primary Examiner*—Alpus H. Hsu*Assistant Examiner*—Ricky Q. Ngo*Attorney, Agent, or Firm*—A. G. Steinmetz[57] **ABSTRACT**

A wireless broadband communication system architecture is structured to provide an array of narrowband and broadband services to an end user on demand. The bandwidth of delivery is dynamically adjusted to deliver and satisfy service requirements by utilizing the appropriate bandwidth on demand. Bandwidth-on-demand is provided in accord with the invention by rearranging spectrum allocations so that a particular band spectrum is convertibly used to accomplish different purposes depending on present allocations and active applications of the system. The communications system is designed to utilize wireless communication for end point delivery to both fixed and portable terminals. The system supplies basic telephone service, wireless ISDN service, wireless data service, wireless multimedia service and various other wireless broadband service including types of interactive and broadcast video.

28 Claims, 8 Drawing Sheets





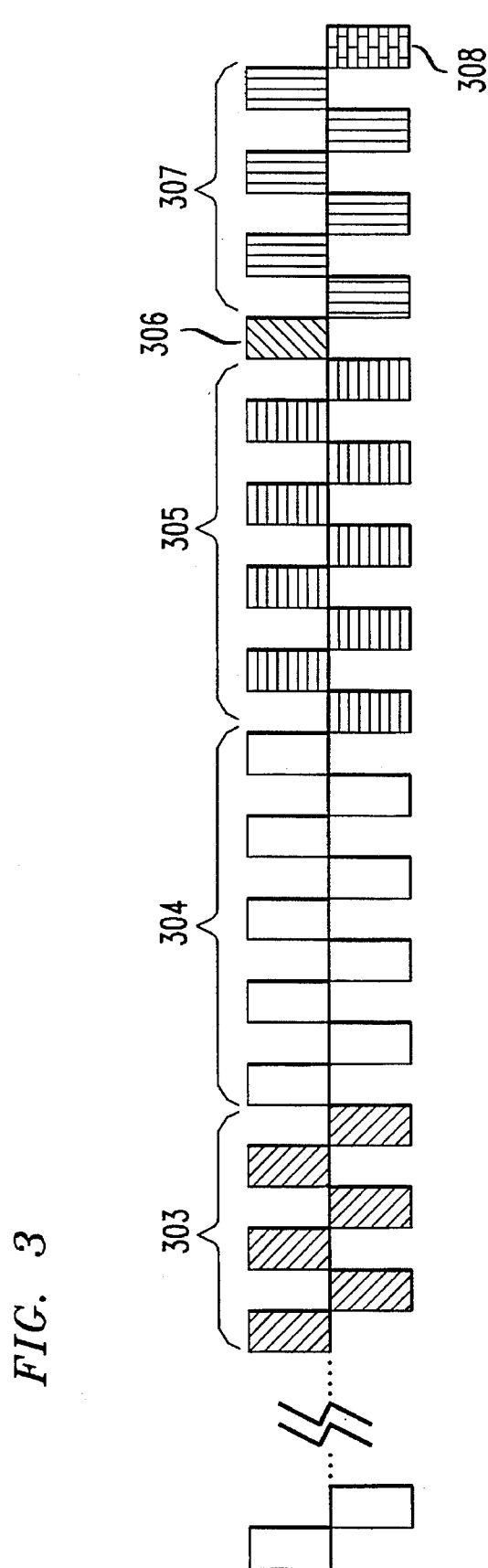
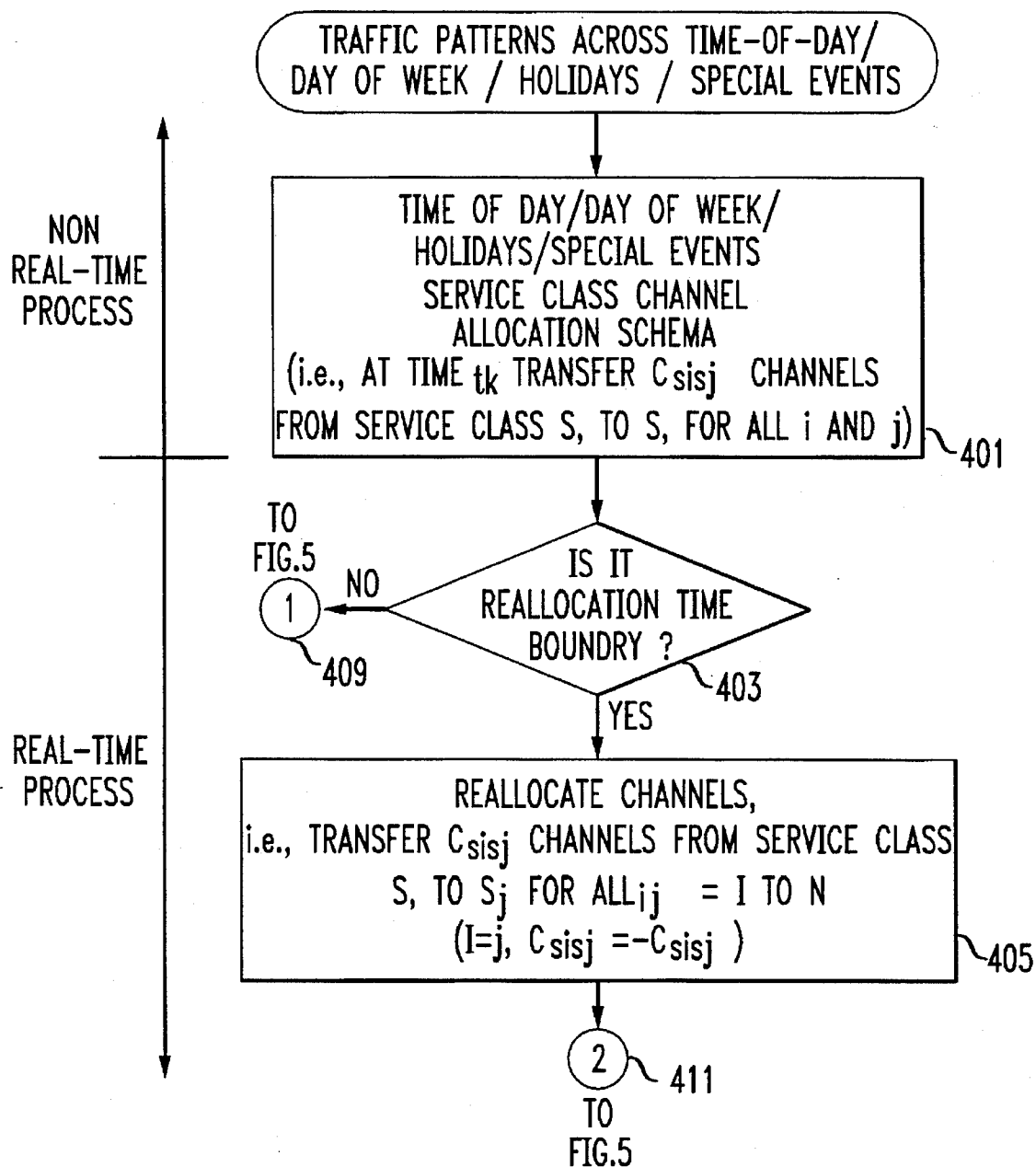


FIG. 4





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