



US 20230232437A1

(19) **United States**(12) **Patent Application Publication**  
**Johnson et al.**(10) **Pub. No.: US 2023/0232437 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **SATELLITE NETWORK SERVICE SHARING****Publication Classification**(71) Applicant: **Viasat Inc.**, Carlsbad, CA (US)(72) Inventors: **Corey Ryan Johnson**, San Diego, CA (US); **Brian T. Sleight**, Carlsbad, CA (US); **Thomas Duncan Lookabaugh**, Coronado, CA (US); **James Esserman**, La Jolla, CA (US); **William F. Sullivan**, Carlsbad, CA (US); **Meherwan Polad**, San Diego, CA (US)(51) **Int. Cl.****H04W 72/50** (2006.01)**H04B 7/204** (2006.01)**H04W 8/04** (2006.01)**H04L 47/2483** (2006.01)**H04L 47/2491** (2006.01)**H04W 84/06** (2006.01)**H04B 7/185** (2006.01)(52) **U.S. Cl.**CPC ..... **H04W 72/535** (2023.01); **H04B 7/2041** (2013.01); **H04W 8/04** (2013.01); **H04L 47/2483** (2013.01); **H04L 47/2491** (2013.01); **H04W 84/06** (2013.01); **H04B 7/18595** (2013.01)(21) Appl. No.: **18/098,294**(22) Filed: **Jan. 18, 2023****Related U.S. Application Data**

- (63) Continuation of application No. 17/219,465, filed on Mar. 31, 2021, now Pat. No. 11,589,370, which is a continuation of application No. 16/434,036, filed on Jun. 6, 2019, now Pat. No. 10,999,860, which is a continuation of application No. 15/943,444, filed on Apr. 2, 2018, now Pat. No. 10,368,364, which is a continuation of application No. 15/440,275, filed on Feb. 23, 2017, now Pat. No. 9,942,913, which is a continuation of application No. 15/238,410, filed on Aug. 16, 2016, now Pat. No. 9,622,259, which is a continuation of application No. 14/216,003, filed on Mar. 17, 2014, now Pat. No. 9,455,777.
- (60) Provisional application No. 61/799,216, filed on Mar. 15, 2013.

(57)

**ABSTRACT**

Methods, systems, and devices are described for providing network access services to mobile users via multi-user network access terminals over a multi-beam satellite system. Quality-of-service (QoS) is controlled for the mobile devices at a per-user level according to user-specific traffic policies. Mobile users may be provisioned on the satellite system according to a set of traffic policies based on their service level agreement (SLA). System resources of the satellite may be allocated to mobile users based on the demand of each mobile user and the set of traffic policies associated with each mobile user, regardless of which multi-user network access terminal is used to access the system. Dynamic multiplexing of traffic from fixed terminals and mobile users on the same satellite beam can take advantage of statistical multiplexing of large numbers of users and on different usage patterns between fixed terminals and mobile users.

