US 20230231785A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2023/0231785 A1**

Kumar et al. (43) **Pub. Date: Jul. 20, 2023**

(54) **APPLICATION SERVICE LEVEL EXPECTATION HEALTH AND PERFORMANCE**

(71) Applicant: **Juniper Networks, Inc.**, Sunnyvale, CA (US)

(72) Inventors: **Prashant Kumar**, Cupertino, CA (US); **Jisheng Wang**, Palo Alto, CA (US); **Gorakhanath Kathare**, Bangalore (IN); **Yogesh B.G.**, Bengaluru (IN); **Kaushik Adesh Agrawal**, Chelmsford, MA (US); **Jie C Jiang**, San Jose, CA (US); **Scott A. McCulley**, Burlington, MA (US); **Greg Schrock**, Billerica, MA (US)

(21) Appl. No.: **18/155,658**

(22) Filed: **Jan. 17, 2023**

Related U.S. Application Data

(60) Provisional application No. 63/267,139, filed on Jan. 25, 2022.

(30) **Foreign Application Priority Data**

Jan. 17, 2022 (IN) 202241002581

Publication Classification

(51) **Int. Cl.**

H04L 43/0817 (2006.01)
H04L 43/067 (2006.01)
H04L 41/0631 (2006.01)

(52) **U.S. Cl.**

CPC ***H04L 43/0817*** (2013.01); ***H04L 43/067*** (2013.01); ***H04L 41/0631*** (2013.01)

(57) **ABSTRACT**

Techniques are described for monitoring application performance in a computer network. For example, a network management system (NMS) includes a memory storing path data received from a plurality of network devices, the path data reported by each network device of the plurality of network devices for one or more logical paths of a physical interface from the given network device over a wide area network (WAN). Additionally, the NMS may include processing circuitry in communication with the memory and configured to: determine, based on the path data, one or more application health assessments for one or more applications, wherein the one or more application health assessments are associated with one or more application time periods for a site, and in response to determining at least one failure state, output a notification including identification of a root cause of the at least one failure state.