



US 20230231807A1

(19) **United States**(12) **Patent Application Publication**
KAWATA et al.(10) **Pub. No.: US 2023/0231807 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **DEVICE, METHOD, SYSTEM AND
PROGRAM FOR DISTRIBUTING TRAFFIC****Publication Classification**(71) Applicant: **NIPPON TELEGRAPH AND
TELEPHONE CORPORATION,**
Tokyo (JP)(72) Inventors: **Hideo KAWATA,** Musashino-shi,
Tokyo (JP); **Nobuhiro SHIBATA,**
Musashino-shi, Tokyo (JP); **Keisuke
YAMAGATA,** Musashino-shi, Tokyo
(JP); **Shinichi YOSHIHARA,**
Musashino-shi, Tokyo (JP)(73) Assignee: **NIPPON TELEGRAPH AND
TELEPHONE CORPORATION,**
Tokyo (JP)(21) Appl. No.: **17/928,753**(22) PCT Filed: **Jun. 5, 2020**(86) PCT No.: **PCT/JP2020/022270**

§ 371 (c)(1),

(2) Date: **Nov. 30, 2022**(51) **Int. Cl.****H04L 45/00** (2006.01)**H04L 45/02** (2006.01)**H04L 45/18** (2006.01)(52) **U.S. Cl.**CPC **H04L 45/66** (2013.01); **H04L 45/02**
(2013.01); **H04L 45/18** (2013.01)

(57)

ABSTRACT

The disclosure has an object to allow local expansion without causing any loop. The disclosure is a system to which two nodes respectively belonging to different ring networks are connected, wherein the two nodes are connected to each other using a predetermined customized port, upon receipt of a predetermined unicast frame, one of the two nodes transmits the frame to another of the two nodes using the customized port, upon receipt of the predetermined unicast frame from the customized port, the other of the two nodes forwards the unicast frame, and upon receipt of a frame different from the predetermined unicast frame from the customized port, the other of the two nodes discards the frame.

