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(19) **United States**(12) **Patent Application Publication**  
**Gopalarathnam**(10) **Pub. No.: US 2023/0231906 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **MECHANISM TO IDENTIFY LINK DOWN REASONS****H04L 41/12** (2006.01)**H04L 67/1087** (2006.01)(71) Applicant: **NVIDIA Corporation**, Santa Clara, CA (US)(52) **U.S. Cl.**CPC ..... **H04L 67/1055** (2013.01); **H04L 67/1057** (2013.01); **H04L 41/0654** (2013.01); **H04L 41/12** (2013.01); **H04L 67/1091** (2013.01)(72) Inventor: **Sudharsan Dhamal Gopalarathnam**, Bothell, WA (US)

(57)

**ABSTRACT**(21) Appl. No.: **18/091,185**(22) Filed: **Dec. 29, 2022****Related U.S. Application Data**

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Methods, systems, and devices are provided herein for a mechanism to identify link down reasons. As described herein, a first port of a first peer device may be determined to have unexpectedly changed to a port down state. Subsequently, a topology file may be referenced to identify a second port of a second peer device with which the first peer device is intended to have a link if not for the first port being in a port down state. In some examples, port settings of the first port may be compared with port settings of the second port. If a port setting for the first port mismatches an associated port setting for the second port, an alert message may be transmitted to a network administrator indicating this mismatch as a possible reason for the first port being in the port down state.

