



US 20230231764A1

(19) **United States**  
(12) **Patent Application Publication** (10) **Pub. No.: US 2023/0231764 A1**  
**IONESCU et al.** (43) **Pub. Date: Jul. 20, 2023**

(54) **APPARATUSES, COMPUTER-IMPLEMENTED METHODS, AND COMPUTER PROGRAM PRODUCTS FOR IMPROVED SELECTION AND PROVISION OF OPERATIONAL SUPPORT DATA OBJECTS**

(52) **U.S. Cl.**  
**CPC** ..... *H04L 41/0677* (2013.01); *G06Q 30/016* (2013.01); *H04L 12/2803* (2013.01); *H04L 41/0613* (2013.01)

(71) Applicant: **Assurant, Inc.**, New York, NY (US)  
(72) Inventors: **Mircea IONESCU**, Wooster, OH (US); **Patrick Scott MCLAUGHLIN**, Westlake, OH (US); **Karni JASROTIA**, Westlake, OH (US)  
(21) Appl. No.: **17/692,919**  
(22) Filed: **Mar. 11, 2022**

**Related U.S. Application Data**

(60) Provisional application No. 63/266,222, filed on Dec. 30, 2021.

**Publication Classification**

(51) **Int. Cl.**  
*H04L 41/0677* (2006.01)  
*H04L 41/0604* (2006.01)  
*G06Q 30/00* (2006.01)  
*H04L 12/28* (2006.01)

(57) **ABSTRACT**

Embodiments of the present disclosure provide for predicted operational support data object selection and provision functionality. Predicted operational support data object(s) may be selected and provided to address particular malfunction classification(s) affecting networked device(s) on a dynamic home communications network. Some embodiments include identifying, in real-time, a device identification data set associated with a networked device set communicable with the dynamic home communications network; retrieving a device activity data set associated with the networked device set; applying a malfunction classification data model to the device activity data set to select the predicted operational support data object from the device operational support management repository; and outputting the predicted operational support data object to a client device in communication with the dynamic home communications network. The malfunction classification data model is trained based on training data, external aggregated activity data, and malfunction device history data.

