



(19) **United States**

(12) **Patent Application Publication**  
**Wang et al.**

(10) **Pub. No.: US 2024/0214219 A1**

(43) **Pub. Date: Jun. 27, 2024**

(54) **PREVENTING DATA MANIPULATION  
USING MULTIPLE AGGREGATION  
SERVERS**

**Publication Classification**

(51) **Int. Cl.**  
*H04L 9/32* (2006.01)  
*H04L 9/08* (2006.01)  
*H04L 9/14* (2006.01)  
(52) **U.S. Cl.**  
CPC ..... *H04L 9/3257* (2013.01); *H04L 9/0822*  
(2013.01); *H04L 9/0825* (2013.01); *H04L 9/14*  
(2013.01)

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(21) Appl. No.: **18/417,666**

(22) Filed: **Jan. 19, 2024**

**Related U.S. Application Data**

(63) Continuation of application No. 17/418,453, filed on  
Jun. 25, 2021, now Pat. No. 11,917,078, filed as  
application No. PCT/US2020/064632 on Dec. 11,  
2020.

**Foreign Application Priority Data**

Feb. 6, 2020 (IL) ..... 272516

(57) **ABSTRACT**

Methods, systems, and apparatus, including a method for determining network measurements. In some aspects, a method includes receiving, by a first aggregation server and from each of multiple client devices, encrypted impression data. A second aggregation server receives, from each of at least a portion of the multiple client devices, encrypted conversion data. The first aggregation server and the second aggregation server perform a multi-party computation process to decrypt the encrypted impression data and the encrypted conversion data. Each portion of decrypted impression data and each portion of decrypted conversion data is sent to a respective reporting system.

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