TIME-BASED PROCESSING OF MESSAGES ARRIVING FROM MULTIPLE GATEWAYS USING GATEWAY-BASED TIME PERIMETERS

ABSTRACT

Systems and methods are disclosed herein for performing a time-ordered operation on messages transmitted from multiple sources to a region of networked machines. In an embodiment, the system runs a software-based synchronization process to synchronize each of a plurality of gateways with a reference clock, where each gateway is a machine on a perimeter of the region of networked machines and is connected to receive messages from multiple sources. The system receives messages that enter the region through one of the gateways, where the gateway timestamps the message. The system then performs the time- ordered operation on the received messages in an order based on an absolute time of entry into the region, where the absolute time of entry is relative to the reference clock and is determined based on the timestamp from the gateway.

FIG. 3