ABSTRACT

COMMUNICATION METHOD AND APPARATUS FOR AN INDUSTRIAL CONTROL SYSTEM

A communication method 100 for an industrial control system (ICS) is disclosed. The communication method 100 includes the step of receiving network packets that are being sent to an address in the ICS. The network packets carry critical payloads 1000 and non-critical payloads 1100. The communication method 100 further includes selectively capturing a critical network packet 1000. The critical network packet 1000 is identified based on a predefined list of critical payloads capable of controlling a physical state of the ICS. The communication method 100 further includes generating a signature Sigk{p} 1300 from the critical network packet 1000 using a signing algorithm and transmitting a combined network packet 1200 that includes the critical network packet 1000 and the signature to the address. The communication method 100 further includes receiving the combined network packet 1200 at the address, and verifying the integrity of the critical network packet 1000 by authenticating the signature 1300 using a verification algorithm.

FIGURE 1