

Sage Alerting Systems Digital ENDEC model 3644 Validation of CAP alerts

In an FCC rule change that became effective on August 12, 2019, EAS participants are required to configure their equipment to reject alerts with invalid digital signatures.

11.56(c) – “EAS Participants shall configure their systems to reject all CAP-formatted EAS messages that include an invalid digital signature.”

The ENDEC has had this capability since 2011, and the default configuration for the IPAWS server is to reject alerts with bad signatures.

On April 26, 2021 the weekly RWT from FEMA sent on the IPAWS feed contained an invalid digital signature. A correctly configured ENDEC should not have logged that RWT in the alert log. If your ENDEC **did** log the April 26, 2021 FEMA RWT, here are three reasons why, and what you should do about it.

- 1) If the alert arrived via CAP, then you almost certainly have the signature validation settings set to allow bad signatures. You want to have the default settings for the IPAWS server on the CAP tab, which are Enable Polling, Enforce CAP 1.2, Verify Signature, and Require Signature checked; and No SSL Check and Accept Bad Signature NOT checked.

The screenshot shows the configuration interface for CAP servers. At the top, there is a navigation bar with tabs: Config, CGEN, Device, Levels, Digital Audio, MHZ Sub Alert, Monitor, MSRP, Relay, RWT, Internal, Incoming Filter, Outgoing Header, Local Area, New Events, New Locations, Network, Email/FTP, CAP, and Peripheral. The 'CAP' tab is selected.

The main configuration area is titled 'CAP Server' and contains the following fields and controls:

- Select CAP Server:** A dropdown menu with 'ipaws' selected. Buttons for 'Add new server', 'Delete this server', and 'Save this CAP server' are present.
- Server Name:** Text input field containing 'ipaws'.
- Server Type:** Dropdown menu with 'IPAWS OPEN' selected.
- Server Base URL:** Text input field containing 'apps.fema.gov'.
- User Name:** Text input field.
- Password:** Text input field.
- Poll rate (seconds):** Text input field containing '30'.
- Signature Validation Settings:**
 - Enable Polling
 - Enforce CAP 1.2
 - Verify Signature
 - Require Signature
 - No SSL check
 - Accept Bad Signature

To the right of the main configuration area is a section titled 'Settings for all CAP Servers' with a 'Language Tag' text input field.

- 2) If the alert arrived via some other CAP source, such as a CAP satellite feed, then you need to check the ENDEC's settings for that CAP server as well.

- 3) If the alert arrived via an analog input, then an upstream device may be misconfigured. There are some 3rd party devices that will receive a CAP message and output the analog legacy EAS format as audio. Some stations in some states will have that device connected to an ENDEC audio input. If that device is configured to pass CAP messages with validation errors to the analog output, then that device needs to be reconfigured.

If you need to make a change to your CAP settings, edit your current settings file to match the settings shown above for the IPAWS server, and for any server that receives CAP alerts from IPAWS (such as a GSS satellite feed). For each, make the change and click Save this CAP server. Then save the file and upload it to the ENDEC with the “restore settings” button on the ENDEC’s web interface.