Pelmorex Communications

National Alert Aggregation & Dissemination System

Wireless Public Alerting

Information Guide version 1.0

May 5th, 2017

Introduction

Overview

The National Alert Aggregation and Dissemination (NAAD) System collects public alerting messages from Authorized Government Agencies (AGA) and makes them available to Last Mile Distributors (LMD) such as radio and television stations, as well as cable and satellite TV companies for display to Canadians, thereby helping forewarn the Canadian public of any imminent danger related to persons or property.

NAADS Contact Information

For wireless service providers requiring technical assistance on how to connect to the NAAD System gateway or for any other information pertinent to the national implementation of wireless public alerting, please contact:

> Martin Belanger, Director, Public Alerting
> mbelanger@pelmorex.com
> Phone: 905-829-1159 ext. 1411
> Mobile: 416-716-3835

The Service Desk is the Single Point of Contact (SPOC) for all NAAD System users. The Service Desk analyst can be reached 24/7 by email at Support-PublicAlerting@Pelmorex.com.

Resources for Wireless Service Providers

Pelmorex has created a public alerting website, https://alerts.pelmorex.com, where wireless service providers can find additional information on the NAAD System and Wireless Public Alerting.

More specifically, the WPA section of our alerting website contains all links to publicly available documents such as:

- C-Interface version 1.3
  This document defines the network and application level interface between the NAAD System and the Cell Broadcast Systems of the WSP.
- Canadian Wireless Public Alerting Service (WPAS) LTE Mobile Device Behavior Specification (ATIS-0700021)
- SOREM Public Alerting Working Group Requirements for Wireless Public Alerting version 1.0

Furthermore, NAAD System policies and guidelines can be found at https://alerts.pelmorex.com/techinfo/.

Technical Information for Wireless Service Providers

The following section includes an overview description to help WSPs configure a connection to the NAAD System gateway.

Wireless Public Alerting System Overview

As specified in the WPAS Technical Reference Guide document prepared during the WPAS Project and authored by Tyler Cashion, issuing an emergency alert message over the Wireless Public Alerting Service (WPAS) requires the participation of three (3) operating entities; Government Alerting Authorities/Issuers, the National Alert Aggregation and Dissemination (NAAD) System and the Wireless Service Providers (WSP) who operate the Cell Broadcast Systems (CBS) that deliver the alert message to mobile subscribers in the geo-targeted area.

Alert Issuers log into the online Alert Issuer Interface that is hosted by the NAAD System. The interface first authenticates the Alert Issuer and their respective alerting jurisdiction. This remains unhanged and to maintain further consistency, the Alert Issuer Interface remains largely unchanged except for two new WPAS related benefits: Enhanced Geo-Targeting Accuracy and Alert Repetition.

Along with providing an expanded Alert Issuer Interface, the NAAD System has also been updated with a NAAD System WPAS Gateway. The WPAS Gateway facilitates all communications across the WPAS Carrier Interface (WPAS C-Interface) with the WSP Gateways and Cell Broadcast System (CBS). More specifically, the NAAD System WPAS Gateway and the WSP Gateway manage the Wireless Public Alert Service Architecture for C-Interface, which includes the following:

- Physical Layer Interface;
- Network/Security Protocol;
- Application Layer Call Flows and;
- The architecture of the Wireless Public Alert Message (WPAM).

WSPs and/or their system vendors are encouraged to review the *WPAS C-Interface Specification version 1.3* to fully understand all the details pertaining to this interface. Maintaining a robust and highly available interconnection between the NAAD System WPAS Gateway and the WSP Gateway is paramount to maintaining the integrity of WPAS.

Connection to the NAAD System

NAADS will maintain redundant WPA Gateways with each of the Wireless Service Providers (WSPs). Communication on the Gateways will be established over secure VPN connections with IP Security (IPSec) protocol.

All messages over the gateways will be exchanged using XML protocol over HTTP.

Multiple Gateways will be established to facilitate redundant connections between NAADS and the WSPs for fault tolerance.
- For each WSP, Pelmorex will provide four IP addresses. Two of these IP addresses will be active at any one time
- Each IP will require a key for connection.

- Each WSP will provide a profile for Gateway A and Gateway B connections.
- A key will be required for the connection to the WSPs gateways

- Only connections from these IPs will be accepted by NAADS.
- Maximum of two connections will be active at any one time.

- The IPs and Keys between Pelmorex and each WSP will be exchanged in a secure manner to be discussed separately.

Flow of Alert Messages

The following provides an overview of the message exchange between the NAAD System and WSPs.

Details are provided in the WPA C-Interface Specification v1.3 document.

1. Alert (Initiated by NAADS)
   - Transmitted from the NAAD System upon the first instance of the Broadcast Immediate (BI) message

2. Update (Initiated by NAADS)
   - An update to a previously issued Alert or Update message

3. Cancel (Initiated by NAADS)
   - Cancellation of a previously issued Alert or Update message

4. WPAS Test (Initiated by NAADS)
   - Test the WSP Gateway and the Infrastructure as dictated by SOREM

5. Link Test (Can be initiated by either NAADS or WSP)
   - Test message to check the availability of the NAADS and the WSP Gateways

6. Ack (Can be generated by either NAADS or WSP)
   - The reply to the receipt of a WPAM message containing no errors

7. Error (Can be generated by either NAADS or WSP)
   - The reply to the receipt of a WPAM message containing errors

8. Transmission Control – Cease (Initiated by the WSP)
   - Sent by the WSP Gateway to indicate to the NAAD System to stop transmission of messages

9. Transmission Control – Resume (Initiated by the WSP)
   - Sent by the WSP Gateway to indicate to the NAAD System to resume transmission of messages

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