
# Version 4.0 Software Upgrade

## Building the Best Requires a Solid Foundation

With an ever greater number of malicious threats targeting any sized company, the need for increased security is paramount. Since its founding in 2004, Digital Alert Systems has built its products using a Linux core foundation. Now, to better protect our customers' network security, we must install a newer version of the operating system. While upgrading the operating system doesn't provide obvious new EAS features or functions, it does something of critical importance for all users: It creates a more secure and solid foundation for continued development and assures customers can receive security patches and updates even more efficiently — which in turn protects the device and the overall network.

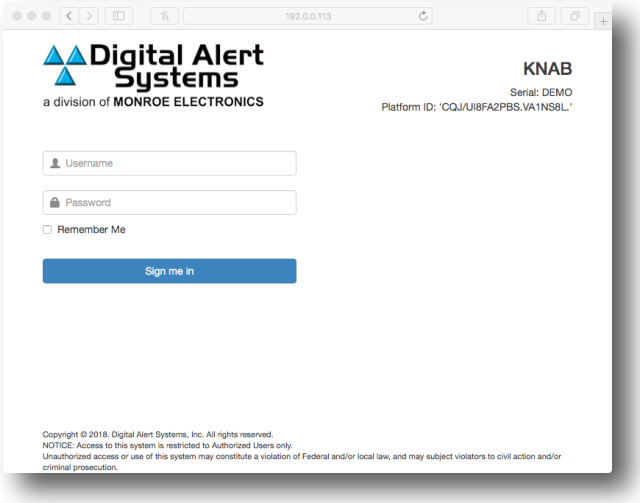
Focusing development resources on the future, not on making changes or patches to older systems, is an important part of our ability to deliver the new and exciting features and functions customers continue requesting. Therefore, this OS upgrade becomes the basis for all future developments. Older systems will continue to operate, but development on those systems will cease. Instead, additions to functionality or compliance will proceed only with Version 4.0 and higher, and only users of Version 4.0 and higher will receive new features or updates.

Version 4.0 (and beyond) is the path to the future, so come along!


## Modern User Interface and Other Improvements

As we said, Version 4.0 is the springboard for all new development, including the beginning of substantial changes to the user interface. Some changes will be included in the initial release, with several more updates to follow.

While previous versions supported web browsers all the way back to Netscape, the new version is designed to leverage the latest web technologies. In this way, we can make great strides in supporting our customers through a better interface that runs on any current browser. We know there's always room for improvement, so we will continue to adapt Version 4.0 to bring more to our users.



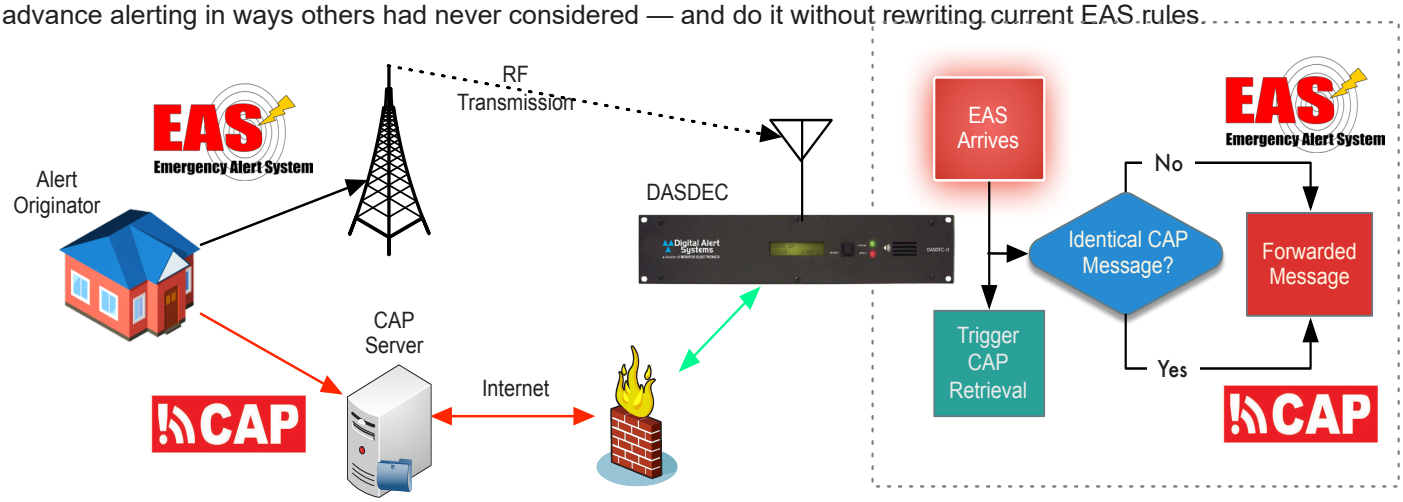

New Version 4.0 login screen. You might not notice them here, but there are a number of security features included in this new design.

## Triggered CAP Polling™ -- Getting the Most Information From Any Alert

The Common Alerting Protocol (CAP) ideal is to provide more complete alert information, including not only more complete text, but also first-generation audio. For that reason, when an alert is sent as both Emergency Alert System (EAS) and CAP, it's typically better — even preferable — to use the CAP version.

The only problem with using CAP is that, due to the polling nature of IPAWS, the EAS message might arrive before the CAP message, and in an emergency-messaging race, the first message in wins. Although the CAP message might contain more information, it gets discarded as a duplicate. If only there were a way to prioritize the CAP message, then everyone would win. Well, now there is, and we call it Triggered CAP Polling™.

Monroe has long been a proponent of CAP messaging and the concept behind Triggered CAP Polling. In fact, we proposed the idea within the EAS/CAP Industry Group (ECIG) in 2010 and formally to the FCC in 2016. We wanted to advance alerting in ways others had never considered — and do it without rewriting current EAS rules.




Triggered CAP Polling™ checks for CAP message and replaces EAS if identical message exists. Otherwise it uses the original EAS.

The idea is simple: If a non-national* EAS alert arrives, it triggers the DASDEC™/One-Net™ to immediately and successively poll IPAWS and seek a CAP version of the same alert, bypassing the standard polling cycle. If the same alert is available in a CAP format, the system automatically processes the CAP version and dequeues the EAS alert. So now stations and consumers benefit from a more comprehensive and detailed alert with first-generation audio afforded by the CAP message. Just look at the Amber Alert comparisons of an EAS and CAP message. Which would you rather send? Coupling Triggered CAP Polling with our exclusive Alert Agent™make an even more powerful tool. Each alert node can selectively use Triggered CAP Polling, so that if a critical emergency message arrives, it can be forwarded without checking for an identical CAP message. Also, the amount of time allowed for checking the CAP server can be adjusted at the node level, keeping everything under complete control.

| EAS Message | CAP Message |
|---|---|
| *A civil authority has issued A CHILD ABDUCTION EMERGENCY for the following counties or areas: Colorado; at 9:21 PM on JUN 7, 2018 Effective until 12:21 AM JUN 8, 2018.* | *A civil authority has issued A CHILD ABDUCTION EMERGENCY for the following counties or areas: Colorado; at 9:21 PM on JUN 7, 2018 Effective until 12:21 AM JUN 8, 2018. Message from IPAWSCAP. THIS IS THE COLORADO BUREAU OF INVESTIGATION WITH AN AMBER CHILD ABDUCTION ALERT . WE HAVE RECEIVED THIS IMPORTANT ANNOUNCEMENT REGARDING AN ABDUCTED CHILD IN THORNTON. COLORADO. THE THORNTON POLICE DEPARTMENT IS SEARCHING FOR TWO YEAR OLD MARCY MAYS LAST SEEN NEAR ONE HUNDRED THIRTY SIX AVENUE AND HOLLY STREET IN THORNTON, COLORADO ABOUT NOON TODAY. MARCY IS DESCRIBED AS A WHITE FEMALE, TWO FEET FOUR INCHES TALL AND WEIGHS TWENTY SEVEN POUNDS. SHE HAS BROWN EYES AND BROWN HAIR AND USUALLY WEARS PIGTAILS. INVESTIGATORS BELIEVE MARCY MAY HAVE BEEN TAKEN BY REBECCA MAYS, FIVE FEET FIVE INCHES TALL AND ONE HUNDRED FIFTY TWO POUNDS WITH BROWN HAIR AND BROWN AND MAY BE TRAVELING IN A TWO THOUSAND TWELVE BLACK NISSAN ALTIMA WITH COLORADO LICENSE PLATE F R Q 4 5 6. IF YOU HAVE ANY INFORMATION REGARDING THIS ABDUCTION, IMMEDIATELY CALL 9 1 1.* |

**Actual Amber Alert examples showing EAS and CAP messages for the same alert. (names have been changed for privacy)**

This all happens without any FCC rules or configuration changes, and it works because it's a DASDEC.

* All event codes except the EAN and NPT are considered "non-national"

## ATSC 3.0 Advanced Emergency Alert (AEA) Message Generation (AEA-MF/AEAT)

The adoption of ATSC 3.0 as the next television standard paves the way for a new generation of advanced alerting information distribution to consumers. The new Advanced Emergency Alert (AEA) standard, pioneered by Monroe Electronics/Digital Alert Systems and adopted as part of the ATSC 3.0 specifications, provides a specialized broadcast messaging format that leverages the next-generation capabilities of ATSC 3.0 and is portable across systems and national boundaries.

With its unprecedented knowledge of the overall public alert and warning systems used throughout the world, Monroe Electronics proposed a new messaging format for advanced emergency alerting using the new ATSC standard. The AEA feature will enable a vastly improved user experience for TV viewers when it comes to emergency alerts, whether they're watching through receivers on fixed screens, mobile phones, or portable devices such as tablets or vehicle-mounted displays. Furthermore, the feature allows broadcasters to be more than just a conduit for EAS messages; it gives them an opportunity to engage with their viewers with more information than before and do so without aggressively taking over the complete view experience. AEA communicates its information behind the scenes, then provides a small notification on the display, which the viewer can select to see more information. Because it is not as disruptive as traditional EAS messages, the AEA can provide information such as school or road closings with a subtle awareness that users can activate or ignore.

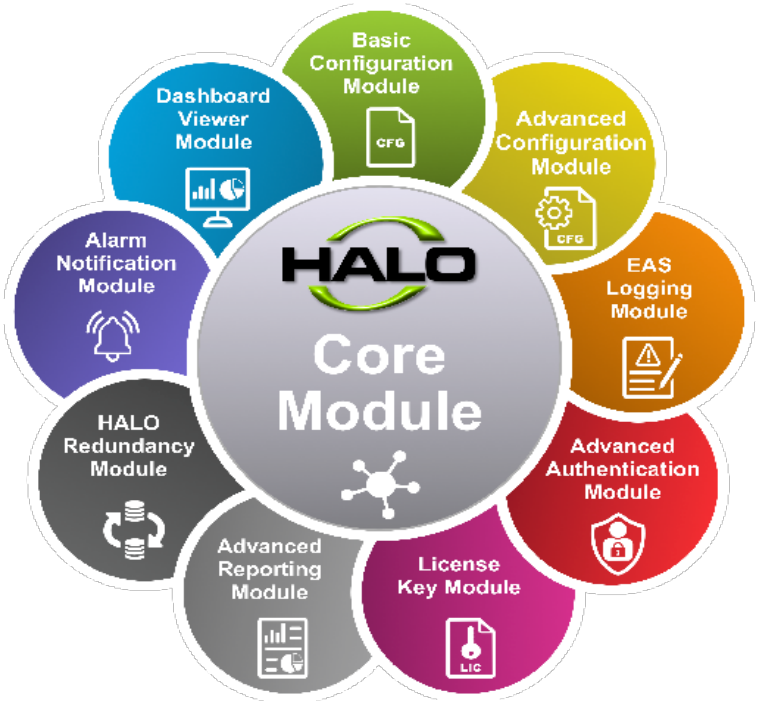
The AEA functionality is a further extension of DASDEC's unique EAS-Net™ suite of communication protocols. With the EAS-Net AEA feature enabled, the DASDEC processes all the alert information as it normally would. Then, upon forwarding an event, it creates the AEA-compliant AEA-Table datagram as a special .XML formatted message, which gets transferred to the proper ATSC 3.0 downstream equipment for inclusion in the transmission stream.

*(Requires EAS-Net AEA license key)*

## HALO™ - Finally a Way to Manage EAS Devices From a Central Point!

Version 4.0 includes support for HALO – the world's first enterprise-level EAS management system.

The HALO communications link generates exclusive Healthbeat™ information, aggregating both critical operating and alert information into special messages that HALO compiles across multiple devices and for presentation to multiple users throughout an enterprise.




HALO is a genuine advancement in EAS/CAP management and answers the need for a highly specialized management system capable of overseeing all EAS encoder/decoders at a collective point. From here users can monitor the overall health of EAS equipment; manage and compare configuration settings; manage software updates; receive timely notifications regarding equipment status changes, configuration changes, and alerts; and generate accurate FCC compliance and inventory reports, thereby reducing errors and decreasing time spent on EAS-related matters.

To find out more about HALO visit www.digitalalertsystems.com/HALO/home.html.

*(Requires HALO-CLK license key)*

## PureCAP™ Plus

One of the unique features of the DASDEC is its ability to pass a CAP message — either modified as processed or in its original form — using a feature called PureCAP™.

Some applications, including the DASDEC's unique IPAWS emulation mode, use PureCAP for specialized processing, while other applications benefit from a combination of additional alert processing information and the raw CAP file.

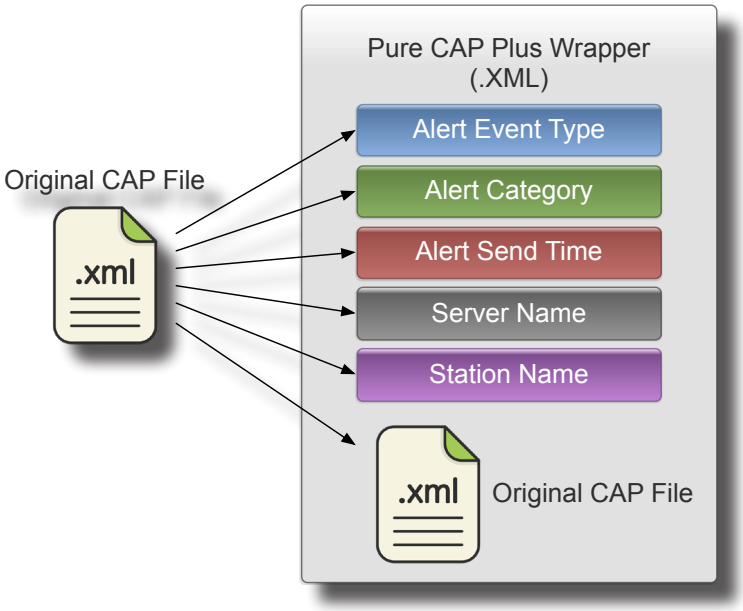
The new PureCAP Plus function creates an entirely new .xml file, essentially forming a wrapper with key elements extracted from the original CAP file, while still keeping the original CAP file completely intact and including it as another element.

While the PureCAP Plus .xml file does not follow standard CAP messaging conventions, the original CAP file, embodied within the wrapper, is a standard CAP-formatted message with no changes to its message formatting or original content. Therefore, it can be extracted and processed separately.

Using PureCAP Plus, developers and integrators can

leverage the decode and interface functions of the DASDEC, using it to grab CAP information and present the important metadata while keeping the original CAP file intact – all in the service of top presentation.

*(Requires EAS-Net PureCAP license key)*




Pure CAP Plus extracts information from a CAP file and creates a new .xml file which includes the original CAP file as one of the elements

## Over a 100 other improvements and additions ...

- Added the new "BLU" alert event code to support states and emergency managers seeking to include this special code in their requirements.
- Support for ALL international time zones – including those interesting half-hour offsets
- Incorporated latest version of EMnet™ package for Comlabs users
- Added new IPAWS Certificate Authority (CA) bundle
- Adopted new naming convention to easily identify earliest date of expiry for Certificate Authority (CA) bundles
- Increased debug logging information to quickly track and resolve issues
- Improved constant MPEG streaming player to significantly reduce CPU resources
- Expanded email string to allow more than 700 characters in the recipient list
- Improved GPO relay handling across group settings

... and many more!

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