



**Inova Solutions**  
A Geomant Company

# LightLink Product Profile

Life Safety XML

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© 2021 Inova Solutions, Inc., a Geomant Company  
971 2nd ST S.E.  
Charlottesville, VA 22902  
434.817.8000  
[www.inovasolutions.com](http://www.inovasolutions.com)

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## 1. Introduction to Inova Solutions

Inova Solutions is a global provider of real-time visual reporting. Through the innovative use of technology, we help organizations communicate more quickly and more effectively.

Emergency communication is more important than ever before. Inova LightLink® is a notification system that displays real-time emergency messages on energy-efficient digital signs. Emergency managers at college campuses, government facilities, and office buildings of all sizes have found Inova LightLink to be a preferred solution for their visual alerting needs.

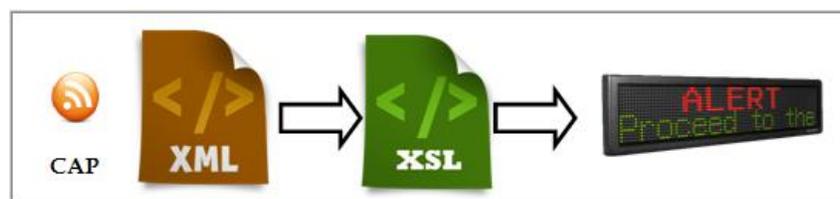
Emergency messaging, local news and weather feeds, or a synchronized time and date display allow Inova LightLink to add value by displaying actionable information throughout a facility in real-time. Visual displays fill an important gap in many buildings' emergency notification strategies by reaching groups in captive spaces and in areas where cell phone use or text messaging may not be permitted. The displays are also effective because instructional information can be quickly and easily relayed on the signs.

Inova LightLink, the powerful middleware from Inova Solutions, securely displays emergency messages, informational messages, or the current date and time on Inova OnAlert LED signs. LightLink allows displays to be grouped so different messages can be sent to individual Inova OnAlert displays, groups of displays, or the entire network of displays. Four message priority levels are included to ensure the most critical message is always displayed. With additional software, LightLink can also deliver messages to LCD or plasma screens and computer desktops.

### 1.1. Executive Summary

The Life Safety XML Data Source enables LightLink to retrieve an extensive array of information from most XML sources. It can read a variety of XML formats, including CAP (Common Alert Protocol) and RSS.

XML data from an internet feed or file system is converted in a form that can be read by Inova wallboards or other output devices using an XML transform file. XSL transform files are provided by Inova Solutions.



**Figure 1 - XML data is converted for Inova wallboards**

**XML**, or *Extensible Markup Language*, is a language designed to describe formatted data documents containing which can be accessed by external applications, such as LightLink.

**RSS**, or *Really Simple Syndication*, is an XML format for delivery of dynamic web content. RSS is used by online publishers to inform readers through real-time updates of news, weather, emergency notifications, and other information.

**CAP**, or *Common Alert Protocol*, is a general format for exchanging all-hazard emergency alerts and public warnings over all kinds of networks. CAP allows a consistent warning message to be disseminated simultaneously over many different warning systems, thus increasing warning effectiveness while simplifying the warning task. CAP also facilitates the detection of emerging patterns in local warnings of various kinds, such as those that might indicate an undetected hazard or hostile act. CAP provides a template for effective warning messages based on best practices identified in academic research and real-world experience. (Source: <http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.html>).

**XSL**, or *Extensible Stylesheet Language*, offers a flexible way to add style and formatting to raw data so that the information appears in the most useful form.

## 2. Data Fields

This connector can access any fields available via a well-formed XML document or URL.

## 3. Features

### 3.1. Overview

The Inova Life Safety XML Data Source has two methods available for collecting XML data:

- **File-based:** used for offline content, such as data or text from external applications.
- **URL-based:** used for Internet content, such as an RSS feed.

### 3.2. File-based XML

Many emergency notification systems can write or export XML data files, which can then be accessed directly by LightLink. These files can be housed locally or on a network file server. Once the XML file has been created and placed in the desired location, LightLink can access the contents of the file using the Inova XML Data Source Manager. The data is processed and becomes available for use in LightLink Output Devices, such as LED wallboards or Desktop Presenter applications.

### 3.3. URL-based XML

RSS feeds are often accessed using a *Universal Resource Locator* (URL), pointing to a web server on the Internet or corporate intranet. The LightLink XML Data Source Manager retrieves the XML/RSS file, processes the text or numerical data, and makes it available for use on any LightLink display.

### 3.4. Configuration

There are several configuration features available in the LightLink XML Data Source:

- Specifying the XML file location or URL.
- Choosing an XML transformation.
- Controlling data items and text entries.
- Setting the sampling or refresh rate.

### 3.5. Transformations

XML Style Sheets (XSL) are transformation files used to apply a different structure to an XML document. In LightLink, transforms are used to convert a raw XML document into a format that can be read and grouped by LightLink; transforms can also be used to modify the text. This can include concatenation, reorganization, or deletion of unwanted text from the document.

```

3  <xsl:stylesheet
4  xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
5  version="1.0">
6  <xsl:output method="text" />
7  <xsl:strip-space elements="*" />
8
9  <xsl:template match="rss/channel">
10 <xsl:apply-templates select="item"/>
11 </xsl:template>
12
13 <xsl:template match="item">
14   Name: Title
15   Value: <xsl:value-of select="title" />
16   Name: Description
17   Value: <xsl:value-of select="description" />
18   Name: Location
19   Value: <xsl:value-of select="location" />
20 </xsl:template>
21
22 </xsl:stylesheet>

```

Figure 2 - Example XSL Transformation File

## 4. Implementation Examples

### 4.1. CAP Formatted XML Integration

The Inova-provided `cap_all.xsl` style sheet is applied to CAP formatted XML files or feeds to extract any of the information that can be included in CAP XML file, as defined by the XML Schema.

More information on the Elements available can be found at <http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.html>

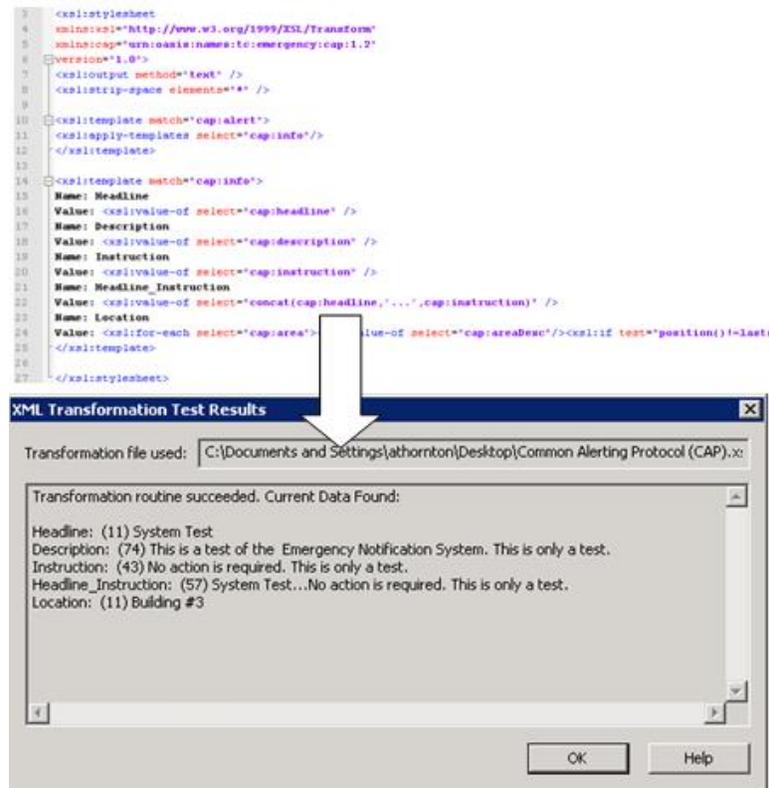
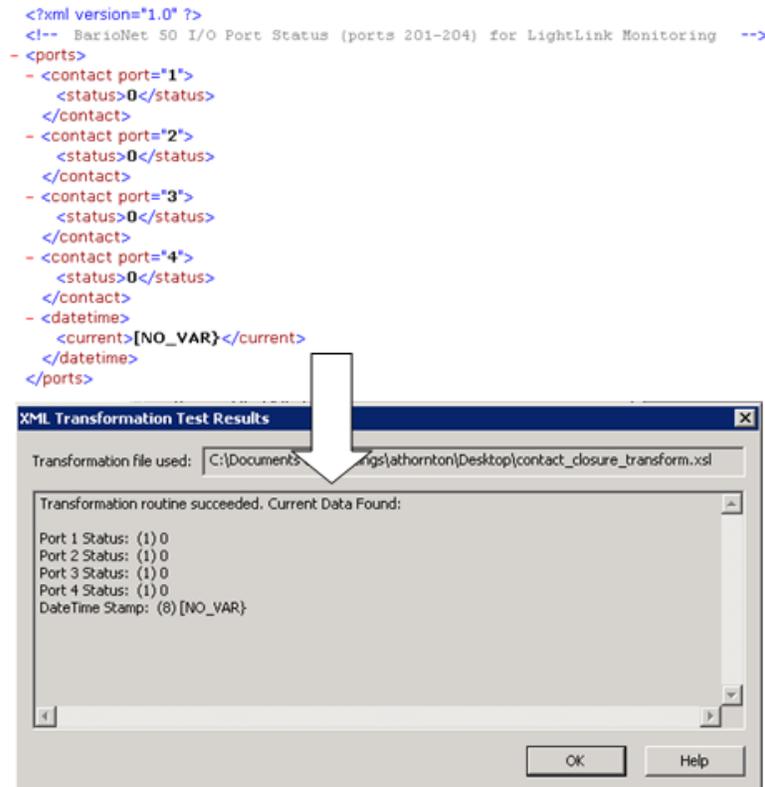


Figure 3 - CAP Formatted XML Integration

## 4.2. Contact Closure XML Integration

The Inova-provided `contact_closure.xml` style sheet is specifically built for the Barix 4 port or 8 port Contact Closure Device. It is used to monitor the status of a Fire Panel; when activated, it will automatically trigger messaging that has been set-up within LightLink.



**Figure 4 – Contact Closure Integration**

### 4.3. RSS Formatted XML Integration

The Inova-provided LS\_RSS.xsl style sheet is applied to RSS formatted XML files or feeds, and can be used to extract any information contained in a valid channel element (as specified here: <http://cyber.law.harvard.edu/rss/rss.html>).

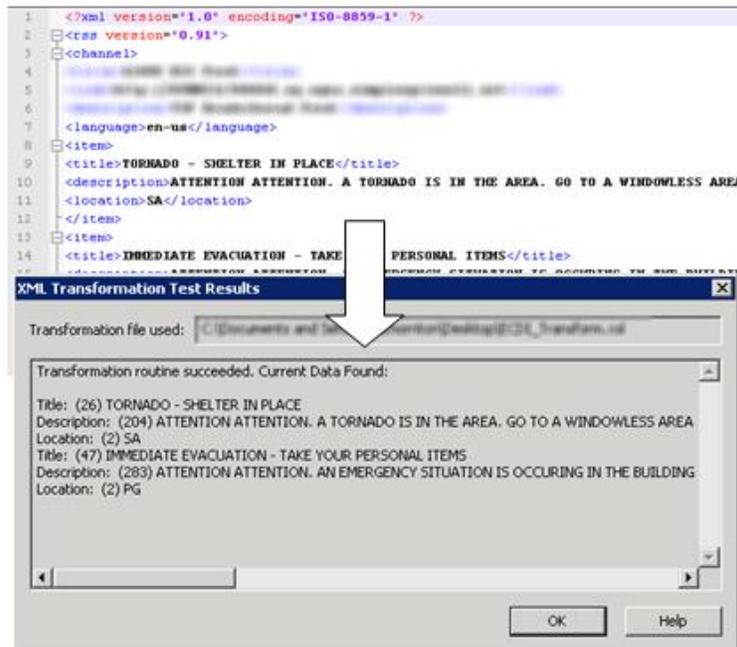


Figure 5 - RSS Formatted Integration

### 4.4. Custom XML Integration

Inova can create an XSL transform for other XML formats. A sample of the XML format will be required prior to project acceptance. Other items must also be considered:

- The XML file/feed must be accessible to the Inova Server.
- How do you want the message to expire? Will there be a timestamp in the XML file? Should the message always stop playing after a predetermined time period or will the XML feed auto-purge the content when the alert is no longer active?
- Is display grouping a requirement? If so, do you intend to pass the location or display group name through the XML feed?

An Inova Life Safety Representative can help you work through these questions and others. Please call or email for more information (1-800-637-1077, [LifeSafetySales@InovaSolutions.com](mailto:LifeSafetySales@InovaSolutions.com)).

## 5. Prerequisites

Prior to installation, the customer must:

- Provide the desired XML file or URL
  - If XML file, determine the location of the XML file and provide necessary access to that file.
  - If URL, ensure web access to the desired location.
- IT Assistance
  - IT Assistance dealing with any intervening firewalls or network connectivity problems.
  - LightLink system read access to the appropriate XML files in the case of a local XML file.
- Determine the desired refresh rate.

## 6. Product Specifications

### 6.1. Capacity & Limitations

The Life Safety XML Data Source supports up to 2000 data items per connection. The maximum length of an individual data item is 999 characters.

### 6.2. Compatibility

The Life Safety XML Data Source supports the following, as well as other custom XML formats:

- XML v1.0
- RSS v1.0, v2.0
- XSL v1.0, v2.0
- Atom v1.0
- CAP v1.2

### 6.3. Licensing

A single Life Safety XML Data Source license provides access to one (1) URL or XML file. For example, one license would provide access to:

- Example XML File: C:\Program Files\Inova Solutions\XML\life-safety.xml

Or

- Example XML URL: [http://inovasolutions.com/rss/life\\_safety.rss](http://inovasolutions.com/rss/life_safety.rss)