

# Lighthouse

## Powerful remote management and monitoring for your Marina automation environment

Lighthouse extends Marina's functionality to business users, operational staff and engineers both inside and outside your broadcast facility. It offers control, monitoring, media management, and system configuration tools via an array of Widgets on configurable web-based dashboards.

Designed for PCs, tablet and mobile devices, and built on the latest JavaScript and HTML5 technology, Lighthouse incorporates its own node.js web server. It works with all mainstream HTML5-enabled browsers, and incorporates the latest TLS encryption for complete security. User-based permissions ensure that your mission-critical information is protected within the web environment.

Lighthouse can span multiple Marina systems which may be running different software versions and be operating at different frame rates. Users can configure their own layouts according to their roles, or range of roles, and switch between multiple dashboards at the click of a mouse.

**Lighthouse transforms your Marina user experience.**

## KEY BENEFITS

- Delivers operational efficiencies to service providers and multi-channel installations, by offering consolidated views of multiple Marina systems which can:
  - be geographically separate
  - have mixed frame rates
  - run different software versions
- Adds value for service providers' customers, giving them visibility and optionally control of their own channels.
- Leverages the latest web technologies to deliver market-leading user-focussed innovation around a mature Marina core.
- Enables secure operational and engineering interaction with Marina from remote access points
- Offers up mission-critical information beyond the secure automation LAN, enabling fast response from users in the office environment.



# WIDGETS

Lighthouse functionality is offered through user-configured widgets which are selected from a widget directory and grouped together on dashboards. Any dashboard can be shared between users and groups of users, and can also be displayed as a 'wallboard' which removes unnecessary browser real estate for optimised delivery to a multiviewer.



## Monitoring by Exception

### Channel Exception Monitor

Provides a consolidated view of all playlist errors which are detected across all or selected channels, across multiple Marina systems. Displays event errors in configurable order of priority, with the ability to dismiss or snooze alarms. Examples include: *missing media*, *timing errors*, *invalid metadata*

*RAM, database health, changeover status, server capacity, transfer queue size*

### Automation Stats

Each stat provides a specific counter or timer, with the ability to look across multiple channels and systems. Examples include: *Missing Media Count*, *Next Missing*, *Next Live*, *Next Live Duration*

### Playlist Validation Summary

Delivers an interactive live view of all errors from all channels – or only those channels which have errors – within a single Marina system.

### System Exception Monitor

Gives a consolidated view of system errors which are detected across all or selected Marina systems, such as: *node health*, *host*



## Transmission Management

### Channel Viewer

Gives the user a monitoring read-only grid view of a Marina playlist, without edit or control privileges. The Lighthouse view is independent from the Marina view, even though they look simultaneously at the same playlist.

shown in the Marina client playlist UI.

Exclusive edit mode privileges in Marina are honoured by Lighthouse. Examples of control functions include: *load / append / save a schedule*, *cue / play / skip events*, *metadata edit*

### Channel Controller

Offers simple editing tasks and playlist manipulation for a specified channel. When a playlist is being controlled through Lighthouse, an indication is also

### Channel Timeline

Gives a view of one or multiple playout timelines across multiple channels, and spanning multiple systems. Event metadata and validation status is displayed in a dynamic scrolling bar view.



### Proxy Viewer

Displays a configurable selection of IP streaming outputs from Dolphin integrated channel devices under Marina control. These may be geographically separate, and each stream can be labelled by the user for ease of identification.



## Media Management

### Automation Job Viewer

Gives a read-only view of Marina automation jobs, displaying transfers and deletions in a dynamic-update grid with sort and filter controls.

### Media Usage Viewer

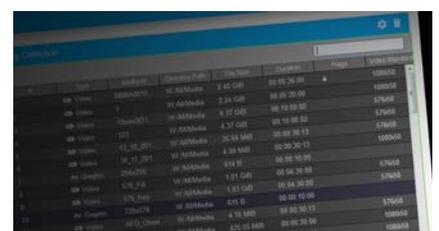
Delivers a view of media that is in use in playlists across multiple systems, displaying which media is being used in which playlist at what time.

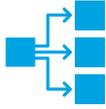
### Browse Markup

Enables the operator to stream video from storage in a player with simple transport controls, allowing them to review a clip and create or edit segment data.

### Marina Media View

Offers a read only view of all the media within a selected Marina system, including Dolphin media. Multiple Widgets can be used to look at the databases across multiple systems.





## Resource Management

### Ingest Timeline

Gives a compact timeline view of planned ingests across one or many Marina systems, offering the ability to edit ingest start times and durations with an intuitive drag and drop interface. Shows dynamic allocation of ingest resources to each ingest job and displays any conflicts.

### Encoder Timeline

Displays an encoder-centric timeline view across one or many Marina systems, indicating the dynamic allocation of ingest jobs to specific encoder resources.

### Conflict Viewer

Highlights ingest resource scheduling conflicts, where more ingests are scheduled than can be achieved with the encoder resources available. Enables the operator to identify and deal with conflicts as early as possible by displaying each issue in a prioritised list.



## Virtualisation

As Pebble's product portfolio expands into the virtual world, Lighthouse offers a series of interfaces which deliver configuration and deployment functionality for Orca virtual channels, including:

### Channel Designer

Offers offline editing of Dolphin and Orca pipelines, and enables the end user to create and edit templates for different types of software-defined channels using drag and drop graphical tools.

### Channel Editor

Delivers live editing of pipelines, enabling software-defined channels to be reconfigured 'on the fly' by simply moving connections on a graphical UI using drag and drop.

### Channel Launcher

Enables IP channels to be fired up at the touch of a button, giving control of the multicast ID, port, PID and IP stream. It also handles the removal of channels, freeing up virtualised resources.



## Security

Lighthouse delivers secure remote access outside the automation LAN:

- Full HTTPS support with TLS encryption, both Marina to web server and web server to browser.
- Protection against brute-force password and username attacks.
- Secure password hashing.
- All communication between Marina and Lighthouse uses a proprietary API so

that all actions are validated – there is no direct communication between

- Lighthouse and the Marina database.
- Marina can be configured to refuse all actions over the Lighthouse API
- Interface, so that only monitoring is possible.
- Granular administrative permission control for users and groups, including separate view and edit rights for each Widget.



## Marina

Lighthouse is a wraparound layer to Marina's C++ core which brings additional benefits using a web-based development platform. It is not envisaged as a full replacement for the Marina client, which is powerful, configurable and designed to provide the full flexibility and granularity of control and engineering functions required by reactive channels.

It complements the functionality of the full client, adding:

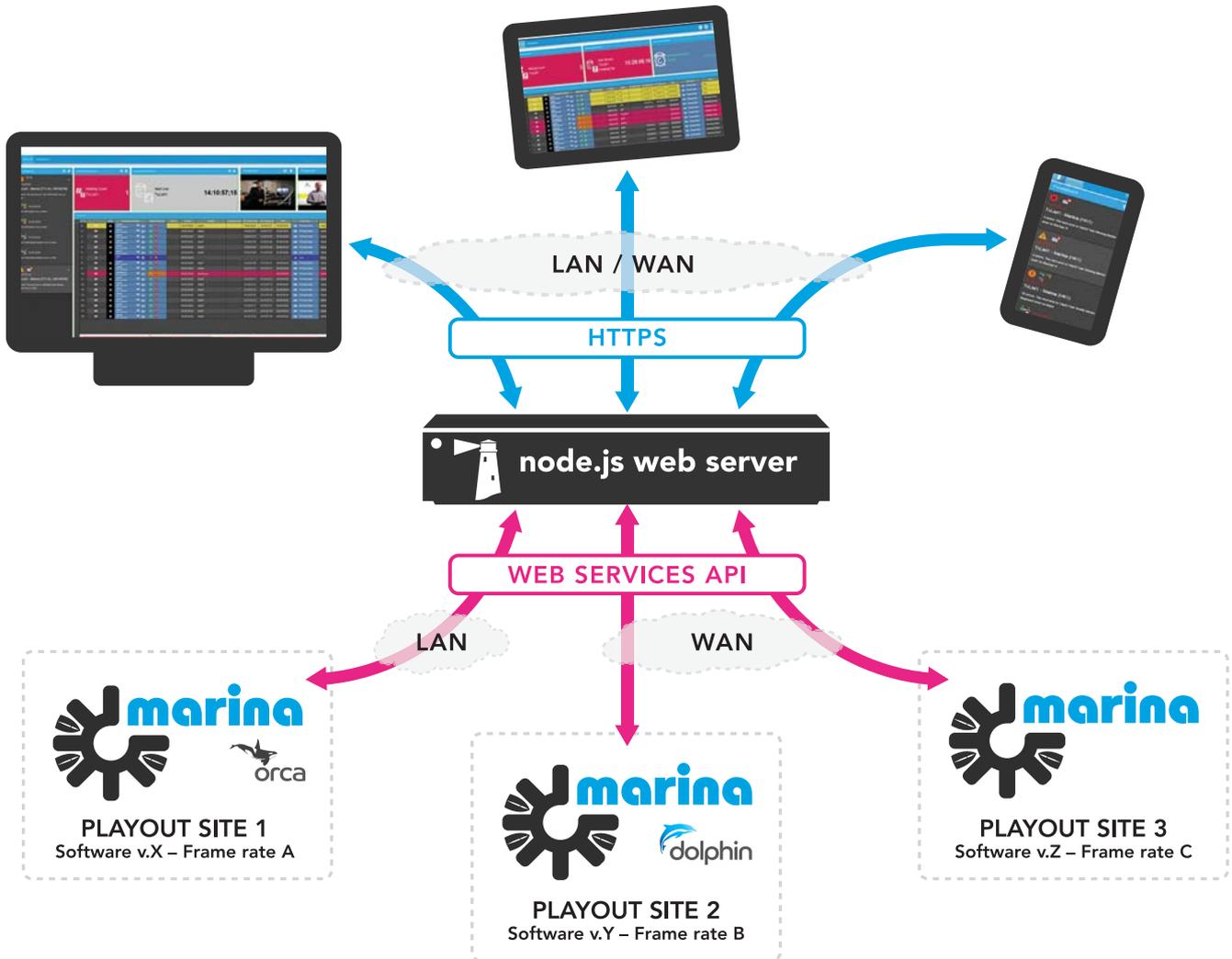
- Remote access both inside and outside the broadcast facility.
- Aggregated monitoring tools.
- Channel visibility across multiple platforms.



## Deployment

Lighthouse is deployed as a node.js webserver on a Linux operating system. Using Docker software containers and Rancher container orchestration, n+m redundancy and load balancing is offered in a highly scalable and easy-to-manage architecture. PBS can provide host

hardware, however many users prefer to deploy COTS server hardware, or implement Lighthouse as part of a virtualised infrastructure.



For more information contact [sales@pebble.tv](mailto:sales@pebble.tv) or visit [www.pebble.tv](http://www.pebble.tv)



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