# CALIDUS EPOD Overview

Aptean Ltd

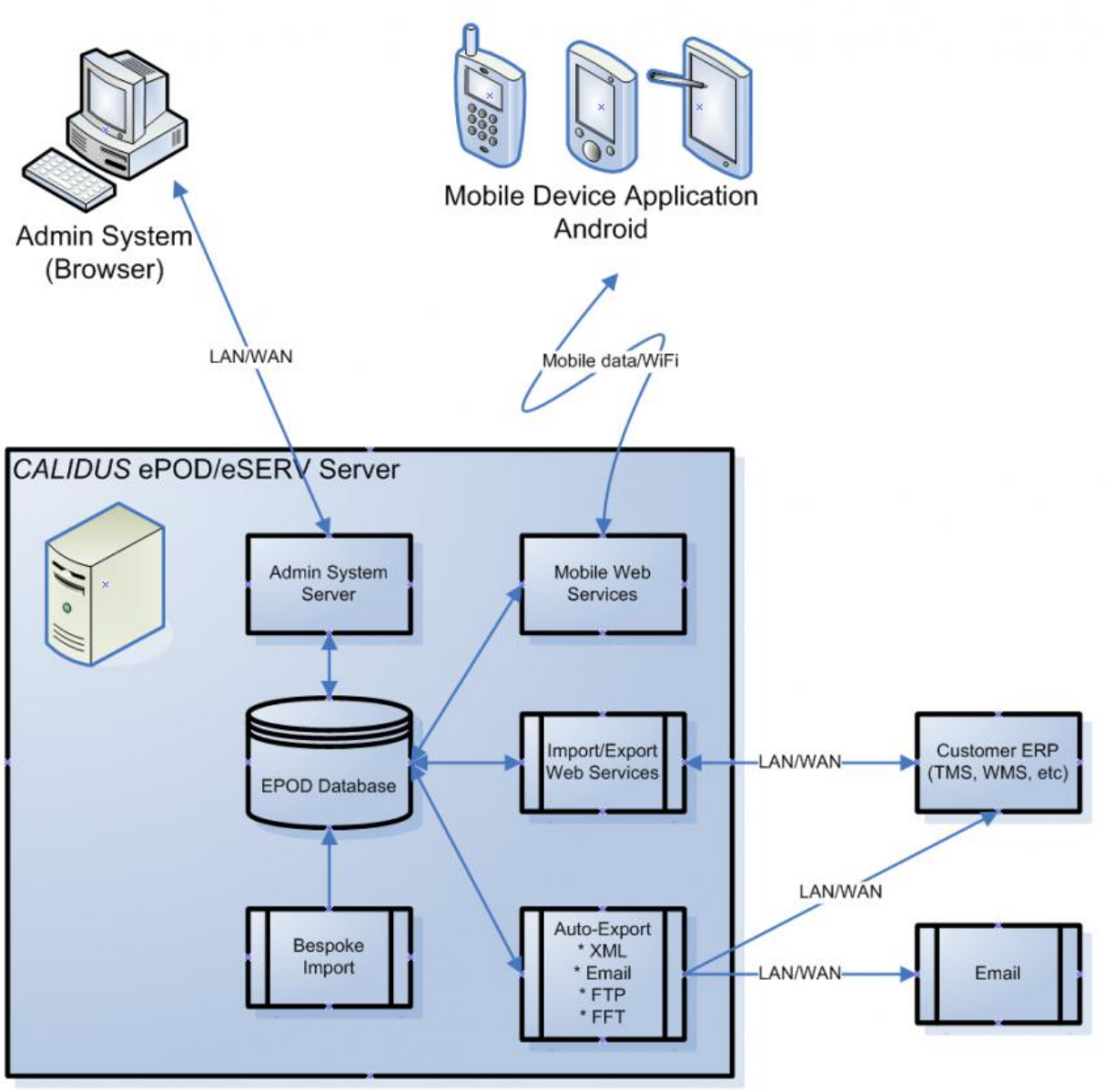
# Contents

# 1 CALIDUS EPOD Overview

The *CALIDUS* ePOD/eSERV system provides functionality to handle the process of Proof of Delivery/Collection/Service electronically. The system aids this process by providing both a management interface and a client application for use completing tasks. The system supports three job types at this point which encompass the functionality to complete many more tasks with them. At this point the system can be used to complete and record Deliveries, Collections and Services.

The software is broken into the following main areas:

- Admin.
- Mobile device application.
- Import/Export.
- Database.



## 1.1 Server

The *CALIDUS* ePOD system is hosted on a Windows Server. The minimum configuration is as follows:

- Dual Core 2.0+Ghz processor
- 100Gb Hard Disk Space
- 2Gb Memory
- Gb Ethernet Network

The recommended configuration differs with the number of users on the system and the quantity of data maintained over time. However, the following is a good medium-sized solution:

- Quad Core 2.0+Ghz processor
- 500Gb 7200+ Hard Disk Space (local SCSI RAID or SAN)
- 4Gb Memory
- Gb Ethernet Network

Required Software:

- Microsoft Windows Server (latest).
- Microsoft IIS (Web Services).
- Remote Support capability (Microsoft RDS over VPN recommended).
- Microsoft .NET Framework 4.8.
- Microsoft SQL Server database.

**Note:** The Express edition of Microsoft SQL Server can be used for the system, as no enterprise-level components are used. However, there are size and connection limitations of the Express product that may limit the number of users or the amount of data that can be comfortably stored over time. OBS Logistics recommends the Web Server edition, which removes size and connectivity limitations without the full Enterprise level costs or tools.

Optional Software:

- For emails to customers or exporting of data, an email server must be set up and the details provided.
- For bespoke importing from Microsoft Excel, this program must be installed on the server.

Required software configuration:

- Administrative user.
- 1-3 open ports for HTTP/SOAP traffic. More may be required for secure internet connections (HTTPS).
- Internet access (or local file download capability).

## 1.2 Admin

The *CALIDUS* ePOD administration software is a web-based application that handles all of the administrative side of the *CALIDUS* ePOD system.

The purpose of the application can be broken down into the following sections:

- To create and maintain reference data for the system:
  - **Codes** - used for the exception process when cancelling Jobs or changing collected/delivered items or products and for cross-reference data, for example, DU types, UOMs, etc.
  - **Service Products** - Products used during the Service processes.
  - **Service Activities** - Activities that can take place during a Service
  - **Vehicles** - including Vehicle Check information, last used by, last checked, last location, etc.
  - **Customers** - address information can be stored against customers for reuse, or job addresses maintained ad-hoc.
  - **Vehicle Products** - maintained levels of Van Stock and Site Stock.
- To create and maintain Configuration information for the system:
  - **Sites** - the basic grouping of jobs and loads. Multiple sites can be configured separately on the same system.
  - **Job Groups** - grouping Jobs of similar settings or customer groups together.
  - **Users** - both of the ePOD devices and Admin system itself, including the maintenance of which groups the user has access to view and amend. The Audit trail of communications from a device is also viewable.



    - **Import/Export** - configuration of automatic import and export processes, for 3rd-party configuration. Supports a generic XML interface and many bespoke interfaces through flat-file and FTP transfer. The Audit trail of transactions is also viewable. Please see the details of import and export in a later section.
- To create jobs of all types and group them together onto Loads (worklists), both singly and in bulk.
- To assign loads to users and vehicles.
- To upload data (loads, jobs and standing data) into the system from Excel files.
- To view and edit the jobs and loads created, including sequencing and consolidating jobs.
- To print or email a completion report in the configured style (POD, POC, Service/Work Report).
- To view images taken against jobs/items.
- To see basic user tracking information, if available.
- To view results of vehicle checks and provide resolution information.
- To view vehicle and site product levels.
- Service-specific functionality includes:
    - Service job screen with service-specific search criteria.

The system is built using Microsoft ASP.NET and is hosted on a Microsoft web server running Internet Information Services (IIS), backed by .NET 4.8.

The system is accessed through a standard web browser.

The system requires JavaScript to be allowed in web pages.

The system has been tested on multiple versions of:

- Microsoft Internet Explorer (8 and above).
- Mozilla Firefox (3 and above).
- Google Chrome (and Chromium-based browsers) *recommended.
- Opera.

The system is also confirmed externally as working with Apple Safari.

## 1.3 Mobile Application

The *CALIDUS* ePOD/eSERV mobile application handles all of the operational functionality for the C-ePOD system.

The system is available on the Android platform (Android version 4.1 and above).

The mobile app allows users to connect and receive load data, consisting of a load (worklist) and a series of associated jobs. It provides the functionality to process and complete these jobs electronically in the field. The mobile application allows processing of services, collections and deliveries. The mobile application is reliant on a network connection either mobile data or Wi-Fi to retrieve load data, but is not reliant on a connection to complete them, as once jobs are complete, data will be stored on the device until the next time the device has a connection and the application is running. Static data (such as site information) is stored locally - this is downloaded once during the login process, if a connection is present and the data requires updating.

Functionality supported includes:

- Logon:
    - Initial configuration.
    - Configuration screen.
    - Status data download (since last logon).
    - Download loads (Worklists).
    - Logon and load processing without connection.
    - Load assign by vehicle/user.
- Configurable vehicle defect checks.
- Barcode scanning (device-dependant).
- Job list (workload):
    - Customisable list on screen.
    - Show all jobs/outstanding jobs only.
    - Show load information.
    - Choose any job (re-sequence).
    - Refresh of current work-list (automatically and on-demand).
        - ◊ Show jobs updated/added/removed.
    - Show in progress job.
    - Metrics entry, at start and end of work list.



- Job details:
  - Show information of job:
    - Customer details (job, origin and final destination name and address, contact name, telephone, etc).
    - Instructions (enforced viewing).
    - Planned start/end date and time.
  - Allow call (from job contact information).
  - Allow navigation (software-dependant).
  - Allow SMS (from job contact information).
  - Cancel job.
  - Auto-refresh of job details if available.
  - Resequence checks.
  - Job start and job arrival time capture functionality.
  - Configurable job detail data capture through user-definable forms and fields (UDF).
  - Configurable job arrival data capture through UDF.
  - Configurable pre-job terms and conditions and data capture through UDF.
- Collection/Delivery:
  - Identify delivered items (Pallets, Containers, Products) by several methods:
    - Enter Container (i.e. Pallet, Trolley, Package) ID manually.
    - Scan container (through camera or integrated barcode scanner).
    - Enter by Grid (configurable).
  - Configurable list of container and product details.
  - Popup of further container and product details.
  - Collection/Delivery processing options:
    - Container-only.
    - Container and Product.
    - Loose products.
    - Ad-hoc collection and delivery of containers.
  - Forced positive action against Containers/Products (i.e. must scan, must cancel).
  - Configurable level of errors and warnings.
  - Configurable container and product data capture through UDF.
  - Change product quantity and cancellation of products and containers.
  - Product qty countdown through scanning barcodes.
  - Configurable job arrival data capture through UDF.
- Service:
  - Configurable processes:
    - Activities .
    - Configurable pre- and post-work checks though UDF.
    - Info - configurable key data for that service item, through UDF.
    - Installed/removed products (parts).
    - References entry (e.g. serial number capture, up to 4 with dialogue).
    - Diagnosis entry, plus configurable check box entry (up to 4, dependant on client), plus configurable data capture through UDF.
  - Validation on entered details.
  - Allow saving of details mid-job.
  - Different configurations per job type, product type, through UDF.
- Signature Capture:
  - Configurable customer signature.
  - Configurable engineer/driver signature.
  - Enter signatory.
  - Configurable T&Cs display.
  - Summary of actioned goods.
  - Enter signature and confirm.
  - Claused Delivery.
  - Unmanned delivery.
- Job Completion Photo:
  - Configurable entry of paper document or other job photo.
- Exception:
  - Multiple reason codes (job/detail).
  - Description of exception.
  - Take images, with comments.
  - Qty entry on product exception.
  - Configurable data capture for exceptions through UDF, dependent on reason code.
- General:
  - Orientation change.



- Scrolling screens.
- GPS-Tagging.
- GPS-Tracking.

The mobile application system is written in a variety of languages, in Appcelerator Titanium, for all device configurations.

The mobile device communicates with the main system through web services, hosted by the main server. These web services are written in C#.NET.

## 1.4 Import/Export

Import of data into the system can be through several mechanisms:

- Web services - the standard interface
- Bespoke manual file upload, through CSV or Microsoft Excel file
- Bespoke automatic file upload, through CSV, XML or Microsoft Excel file

The web services are hosted as part of the main *CALIDUS* ePOD server, are written in Microsoft C#.NET and run as SOAP or HTML Web Services. Data is formatted in a strongly-typed XML file, validated by a full XSD. Data can be passed either as a string or as an XML object.

The data defined in this XSD can be modified by development for customers who require additional data sent to and from the *CALIDUS* ePOD system.

The bespoke automatic and manual file uploads are written on demand for customers who require it.

The standard Web Services import interface supports:

- Loads
- Jobs (stand-alone or within a Load)
  - Collections
  - Deliveries
    - Containers (Pallets, boxes, etc)
    - Products (both within containers and loose products)
  - Services
- Standing Data
  - Users
  - Vehicles
  - Service Products
  - Customers
  - Reason Codes

Export of data from the system can be through several mechanisms:

- Request of data from a Web Service.
- Auto-export of data.

The standard Web Services export interface supports:

- Loads, including all images.
- Jobs, including all images.
- POD/POC/Service reports (for consumers or document management systems).
- *CALIDUS* Portal track and trace application.
- 3rd-party tracking applications (for example, Palletforce, PalletTrack, Fortec, Hazchem, etc).

The system supports many exports, which may be routed to several consumers on job completion, such as:

- Carrier of the job.
- Owner of the job.
- Tracking systems.
- Document management systems.



Web Services are supplied for external systems to request information on loads and jobs, by ID or date since. The web services are hosted as part of the main *CALIDUS* ePOD server, are written in Microsoft C#.NET and run as SOAP or HTML Web Services. Response Data is formatted in a strongly-typed XML file, validated by a full XSD.

Standard requested data to export supports:

- Loads (including all Jobs underneath) by ID or date.
- Jobs by ID or date.
- Current vehicle information.

Auto-export of data can be configured to push the XML data automatically to the client system, via several mechanisms:

- Web service.
- Email.
- Flat-file copy, local, remote or FTP.

If configured as a web service, the auto-export process will connect to the defined web service and push the data to it in the XML format defined above. If configured as an Email address, the XML file will be emailed to the defined address.

This process can also (if configured) automatically produce and email Completion Documents (defined POD, POC or Service reports) to customers, on successful completion of a job.

The Auto-export process supports:

- Automatic emailing of completion reports to customers (if configured).
- Load (header or with all Job information).
- Jobs (Completed or Cancelled) with all details.
- Tracking systems.
- Other OBS Logistics products

The Auto-Export process is run as a scheduled task on the main *CALIDUS* ePOD server and are written in Microsoft C#.NET.

## 1.5 Database

The *CALIDUS* ePOD database holds:

- Load and Job data for the jobs in progress and completed.
- Captured signature data for completed loads.
- Image data for cancelled or amended lines.
- Image data for document capture.
- Standing Data (configuration and system data).
- Tracking data (location, user and system date and time).

The system uses Microsoft SQL Server 2018.