

Spirit^{IT} eXSite

Complete automation solution for crude oil ticketing



Front-end user manual

Measurement made easy

Spirit^{IT} eXSite interfaces

Introduction

Spirit^{IT} eXSite is specifically made to automate and regulate the movement of crude oil from the production area to gathering facilities and oil terminals.

This document describes the front end use and configuration of Spirit^{IT} eXSite.

For more information

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Contents

eXSite	3
Configuration steps	5
Main Interface	6
Sites	8
Site details	8
Rack details.....	8
Assignment details.....	10
Customers	11
Transporters	12
Drivers	13
Lease groups	14
Leases	15
Tickets	16
Mailing lists	18
Editing mailing lists	18
Report history	20
Report generation	21
Step 1: period selection.....	21
Step 2: report selection	21
Step 3: option selection.....	22
Step 4: summary	22
Step 5: results.....	23
User management	24
System dashboard	25
Configure reports	26
Model & Terminology	27
Bulk edit	29
Drivers.....	29
Leases	30

SPIRIT^{IT} EXSITE

Spirit^{IT} eXSite is specifically made to automate and regulate the movement of crude oil from the production area to gathering facilities and oil terminals. Field run and LACT tickets are almost instantly available to the back office and can automatically be made available to different users and user groups (for example a customer). There are three different levels at which Spirit^{IT} eXSite can be operated: at the loading racks over a touch screen, at the site control system, and over the Frontend web interface¹. An overview of these levels is given in Figure 1.

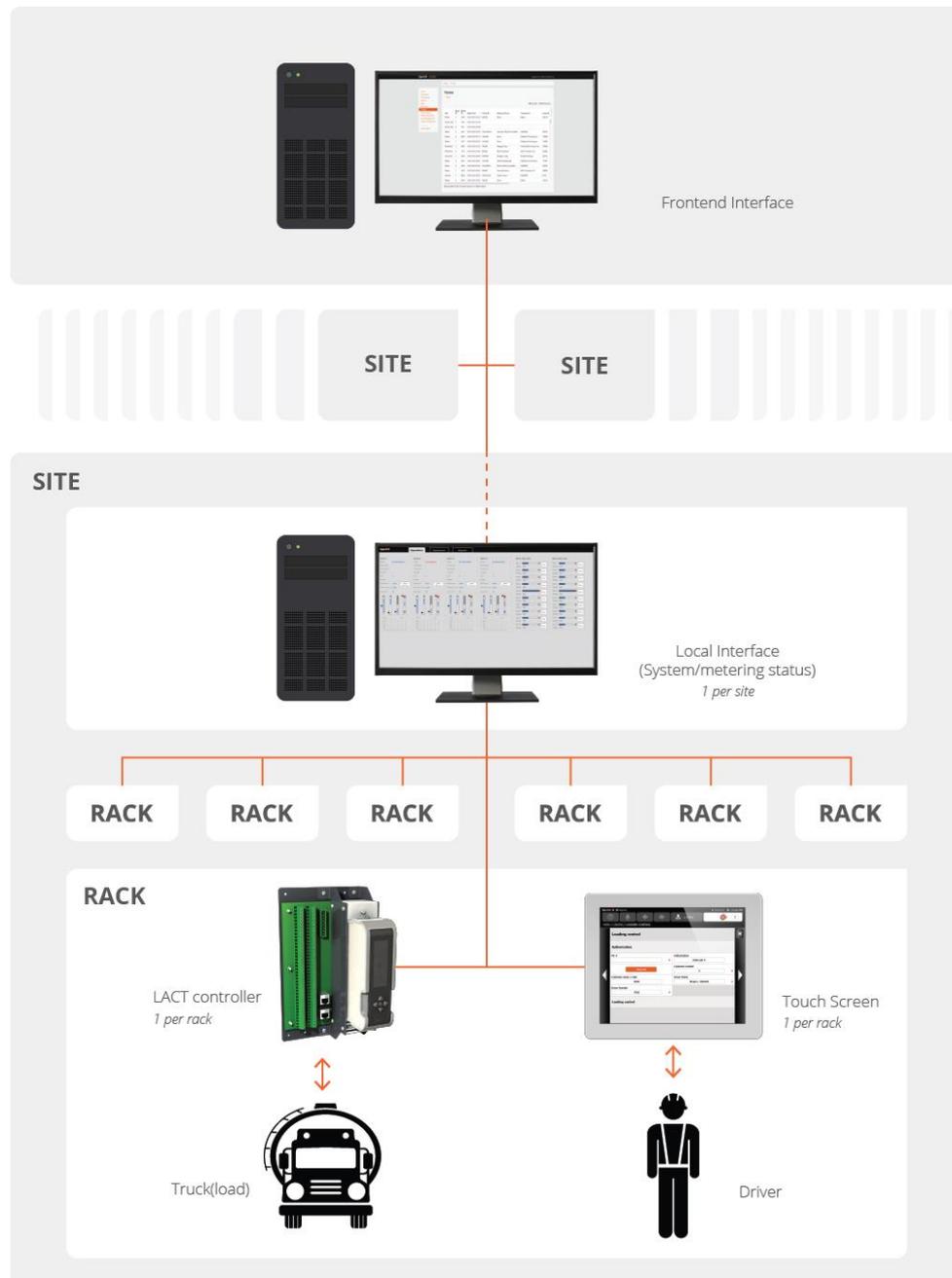


Figure 1: Components of Spirit^{IT} eXSite

¹ An additional interface exists on the level of the Frontend: the Backend interface. The latter interface is used to setup and maintain the overall system, but is not meant for system operation.

The steps of the crude ticketing process in which Spirit^{IT} eXSite is involved are:

- ✓ *LACT truck driver arrives at site, enters pin + ticket info, starts load*
- ✓ *Ticket is generated at end of load, both printed locally and sent over the telecommunications links*
- ✓ *Daily (and Monthly) reports are created with the tickets of that period and sent out*
- ✓ *Site administrators (and optionally Customers and Transporters) can login to the web site and view and download their tickets and reports*
- ✓ *Site administrators can monitor specific alarms and communication errors using the web-based Dashboard*

This document focusses on the Frontend, in which the necessary definitions and relations are set up in order to get the system ready for operation. For example, transporters and their truck drivers need to be defined.

In Figure 1 multiple sites are shown below the Frontend interface. Please note that this holds for Spirit^{IT} eXSite Corp edition. There is another edition called Spirit^{IT} eXSite Local. The latter can be used for one site only. For the Frontend, this is the only difference.

The terminology and relations used within Spirit^{IT} eXSite mimic the real world situations as much as possible. Please refer to chapter 'Model & Terminology'.

CONFIGURATION STEPS

The Frontend can be used to configure and maintain the components and configure the necessary relations. For example, which transporter a driver works for. Note that depending on the installation and product, some of the model components may not be applicable.

Furthermore, the Frontend can be used for reports (configuration, generation, reviewing) as well as maintenance of mailing lists to which reports can be sent to.

Typically, while using the Spirit^{IT} eXSite Frontend, the workflow consists of two parts: definition and maintaining/monitoring. The former can mainly be done by site administrators only, whereas for maintenance parts some items are available to other user types as well.

For the definition phase, the following needs to be configured in order to get started:

- ✓ *Customers companies that own the offloaded product;*
- ✓ *Transporters and their drivers – trucking companies and their employees that haul the product from a local gathering unit to the LACT site*
- ✓ *Sites, Racks and Sampling pots – for the LACT stations*
- ✓ *(Optional) Lease groups and leases – for tighter control of hauled product's source wells*
- ✓ *Relations between the above (e.g. which transporter's drivers can offload at which rack)*

From the above definitions and relations, when arriving at a Site the driver will be verified to whether or not they are allowed to offload at a certain rack. If allowed, the corresponding sampling pot will be filled. Note that the actual verification as well as the sampling pot selection signal is executed at the flow computer level, based on the relations defined in the Frontend.

Drivers can now start offloading their product, and tickets will be created and polled. In order to start generating and mailing reports, and allowing people to view and retrieve this data, the following needs to be configured:

- ✓ *Customer/Transporter users and their access rights;*
- ✓ *Mailing lists;*

The mailing lists define which reports need to be sent to which customer, transporter, etc. Once the system has been configured and is running, depending on the access rights and user type, one can do the following:

- ✓ *maintain the definitions and relations (change/add/delete where applicable);*
- ✓ *monitor system and site(s) health status;*
- ✓ *browse, download, and print generated tickets containing the exact data as printed on the actual ticket;*
- ✓ *browse and download previously generated reports;*
- ✓ *maintain report types grouped by site, customer, or transporter;*
- ✓ *maintain customer/transporter specific users and their access rights;*
- ✓ *maintain mailing lists to which various reports can be sent.*

The above describes a typical workflow in practice. Note, however, that the setup of this document is not tied to this typical workflow. Instead, it follows the order of the elements as they appear in the Frontend interface for a user with top level access rights.

MAIN INTERFACE

The Frontend (web interface) of Spirit^{IT} eXSite can be reached using a web browser. Google Chrome is recommended. Simply browse to the IP-address or hostname of the server running the Spirit^{IT} eXSite software.

For Spirit^{IT} eXSite Corporate, this will typically be the hostname of the Public server, given by your system administrator. For Spirit^{IT} eXSite Local, you will typically run the browser on the Spirit^{IT} eXSite Local server itself, so you can use 'localhost' for the hostname.

In case you were not previously logged in, the landing page will look like the screenshot given in Figure 2.

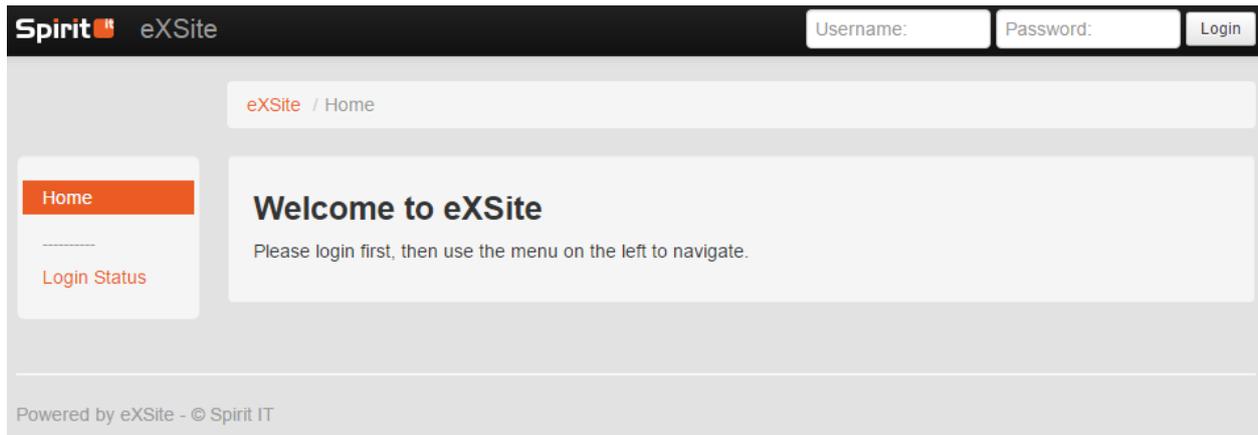


Figure 2: Spirit^{IT} eXSite Frontend landing page display

After you login by specifying the username and corresponding password and pressing the 'Login' button, the screen will look like given in Figure 3.

Note that the menu on the left contains items that may not be visible to you. The items that are visible depend on your user rights and installation configuration.

Each page in the Spirit^{IT} eXSite Frontend has the same layout. The currently logged in user name is always displayed in the top right corner. You can log out at any time by clicking on the 'Sign out' message next to the user name.

The main display content consists of a main menu on the left hand side, a navigation overview on the top and a content panel in the main area.

The pages and functionality behind each of the menu items are described in more detail in the remainder of this document.

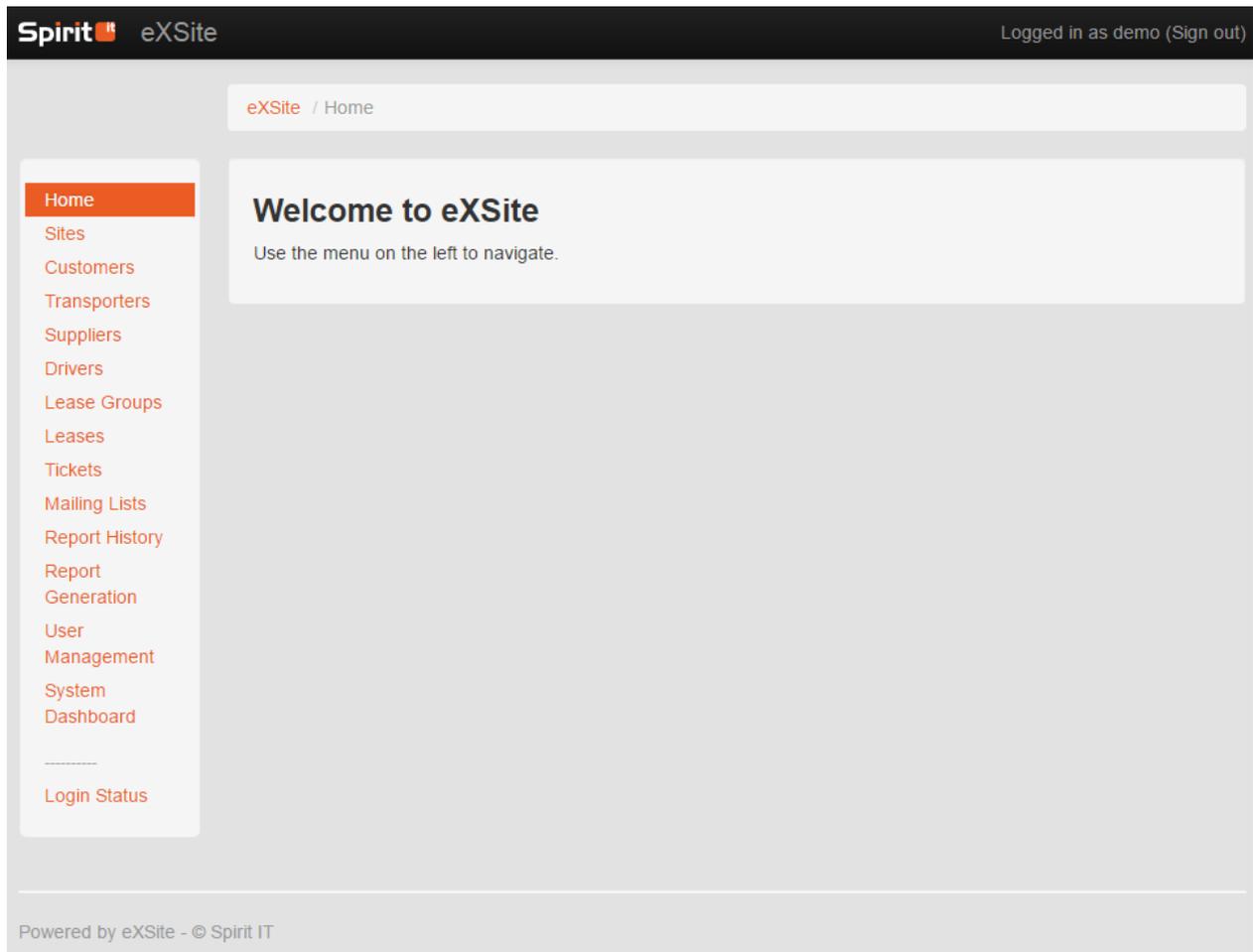


Figure 3: Spirit^{IT} eXSite Frontend landing page display after login

SITES

This page lists all available LACT sites (for Spirit[™] eXSite Local, there will be only one), and allows to define and configure their racks and sampling pot assignments. An example of the sites display is given in Figure 4.

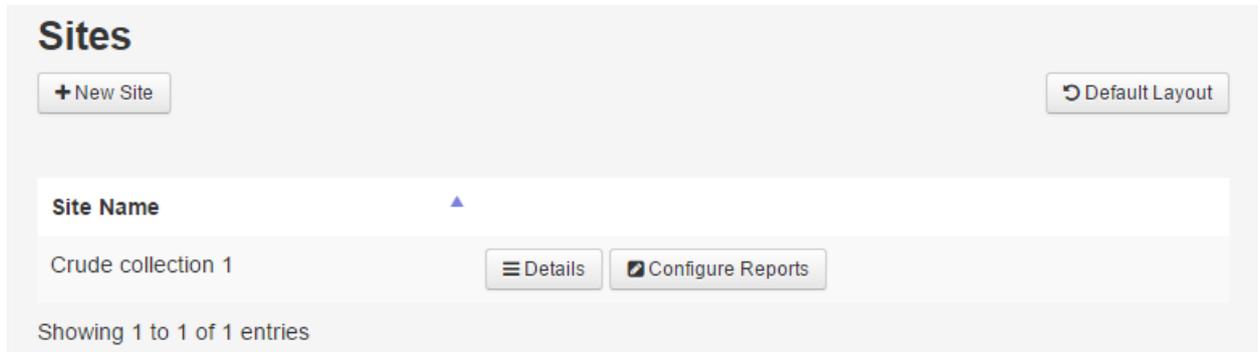


Figure 4: Sites display

Setting up the relations works in a top down approach: racks can only be defined when zoomed in on a certain site, whereas pot assignments can only be done when zoomed in on a certain rack.

New sites can be added by pressing the 'New Site' button. You will then be prompted to enter a name for the site. Note that adding new sites requires actions in the Backend as well; appropriate sites will already have been configured for you, so it is unlikely that you will use this button.

In the bottom section an overview of currently defined sites is given. For each site, one can zoom in by pressing the 'Details' button. Reports can be configured by pressing the 'Configure Reports' button. The latter will be discussed separately in chapter 'Configure reports'.

Site details

An example of the site details display is given in Figure 5. The display consists of three sections:

- ✓ **Site details**
Indication of the site name, a button to edit this name and a button to delete the site as a whole (including all the underlying relations).
- ✓ **Racks**
Maintenance section for the racks. New racks can be added by pressing the 'Add Rack' button. You will then be prompted to indicate the rack number, the rack's flow computer's IP address, and customer for this rack. The rack numbers need to be unique per site, so start with 1 and increment the number for each rack. Note that the Customer field is required, so at least one customer needs to be defined already (refer to the 'Customers' menu chapter). Also, please note that only one customer can be assigned to a rack.

To zoom in into a rack's definition, click the 'Details' button located next to it.
- ✓ **Events**
Overview of events that have occurred on the site (e.g. a limit alarm), with applicable details.

Rack details

An example of the rack details display is given in Figure 6. The display consists of two sections:

Site details

Site Name Crude collection 1

[Edit](#) [Delete](#)

Racks

[+ Add Rack](#) [Default Layout](#)

Rack Number	Flow-X IP address	Customer	
1	10.0.20.116	Customer ABC	Details

Showing 1 to 1 of 1 entries

Events

Category	Message	Location	Timestamp
	<i>No events</i>		

Figure 5: Site details display

[↑ Back to Site](#)

Rack

Rack Number 1

Customer Customer ABC

Flow-X IP address 10.0.20.116

[Edit](#) [Delete](#)

Pot Assignments

[+ Add Assignment](#) [Default Layout](#)

Pot	Transporter Name	Lease Group Name	
3	Joe's Oil trucking		Details

Showing 1 to 1 of 1 entries

Figure 6: Rack details display

✓ *Rack*

Indication of the rack details (number, customer, and flow computer IP address), a button to edit these details and a button to delete the rack as a whole (including the underlying relations).

✓ *Pot assignments*

Configuration of the pot assignments. New assignments can be added by pressing the 'Add Assignment' button. You will then be prompted to indicate the pot number (needs to be unique for this rack), one or more transporters and, if applicable, optionally one or more Lease Groups. Note that for transporters, one or more transporters have to be defined already (refer to the explanation concerning the 'Transporters' main menu). Likewise, in case Lease Groups are selected, one or more Lease Groups have to be defined already (refer to the explanation concerning the 'Lease groups' main menu).

Selecting/deselecting multiple entries for transporters and/or Lease Groups can be achieved by holding the 'CTRL' button while clicking the desired entry/entries.

In order to zoom in into a pot assignment, you can click the 'Details' button located next to it.

Assignment details

The assignment details list the selected pot assignment details (number, transporter(s), and, optionally, lease group(s)), as well as a button to edit these details and a button to delete the pot assignment as a whole.

CUSTOMERS

This display lists all available customers, and allows defining e.g. which reports they will receive. An example of the customers display is shown in Figure 7.

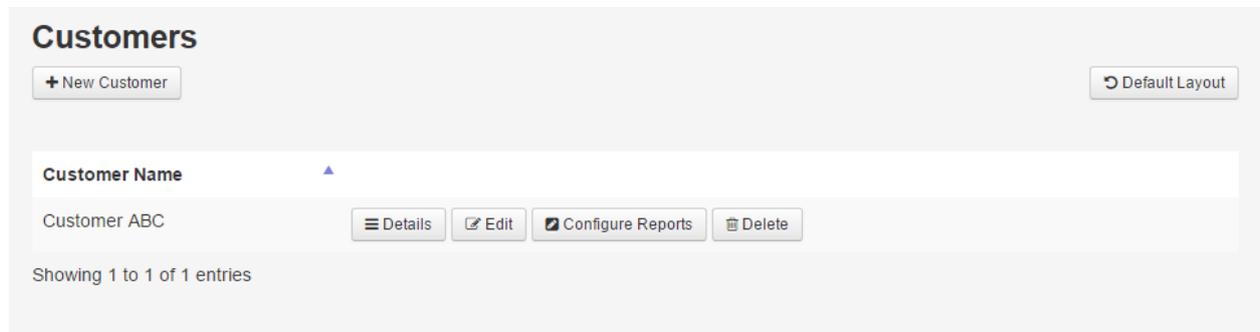


Figure 7: Customers display

New customers can be added by pressing the 'New Customer' button on the top. You will be prompted to enter a customer name.

All previously defined customers are listed. For each of them, you can view/edit the details by pressing the corresponding buttons located next to them. Furthermore, a customer (and all underlying relations) can be deleted via the 'Delete' button located next to it. Finally, reports can be configured for this customer via the 'Configure Reports' button. This will be discussed separately in chapter 'Configure reports'.

TRANSPORTERS

This display lists all available transporters, and allows defining e.g. which reports they will receive. An example of the transporters display is shown in Figure 8.

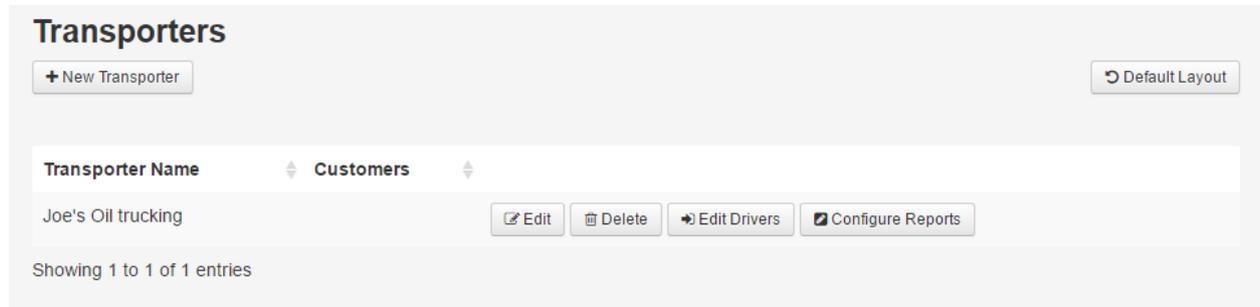


Figure 8: Transporters display

New transporters can be added by pressing the 'New Transporter' button on the top. You will be prompted to enter a transporter name and select one or more customers for which the transporter drives. Note that at least one customer needs to be defined already (refer to the explanation concerning the 'Customers' main menu).

Selecting/deselecting multiple entries for customers can be achieved by holding the 'CTRL' button while clicking the desired entry/entries.

All previously defined transporters are listed. For each of them, you can edit the details by pressing the 'Edit' button located next to the transporter's entry. Likewise, a transporter can be deleted via the corresponding 'Delete' button. Furthermore, the drivers can be edited. This will be discussed separately in the 'Drivers' section of chapter 'Bulk edit'. Finally, reports can be configured for this transporter via the 'Configure Reports' button. This will be discussed separately in chapter 'Configure reports'.

Some customers have their own transporting department. If this is the case, you will still need to define the corresponding transporter entry, since Spirit^{IT} eXSite does not automatically get aware of such a situation. While Spirit^{IT} eXSite allows for the same customer and transporter names, for clarity reasons (e.g. for filtering reports), however, you may want to use separate names. E.g. "Joe's Oil Company" as the customer name and "Joe's Oil Company Transport" as the transporter name.

DRIVERS

This display lists all available drivers. An example of the drivers display is shown in Figure 9.

Driver Name	Driver Number	Pin Code	Transporter	
John Doe		1234	Joe's Oil trucking	Edit Delete
John Doe		2345	Mike's Trucking	Edit Delete

Showing 1 to 2 of 2 entries

Figure 9: Drivers display

New drivers can be added by pressing the 'New Driver' button. You will be prompted to enter a driver's name, number (optional), a pin code and a transporter. The pin code is used to identify the driver across the whole Spirit^{IT} eXSite system and, as such, needs to be unique. Driver names only need to be unique within one Transporter Company. In case you need to add multiple drivers with the same name to the same transporter, it is recommended to use their middle initial (e.g. "John H Doe" and "John T Doe").

The driver number is an optional field that can be used for reference.

Note: for the driver name and especially pin code field, it is recommended to use alphanumeric characters and space characters only. Also note that space characters are part of the name. As such, "John Doe" and "John Doe" will be treated as two different names. Also, be careful when copy/pasting from other applications. Some applications will auto-format a character into a special character. For example, a user may enter a hyphen "-" in a driver's name, and Microsoft Word may auto-format it into the dash special character "–".

All previously defined drivers are listed. For each of them, you can edit the details by pressing the 'Edit' button located next to the driver's entry. Likewise, a driver can be deleted via the corresponding button. Since this list can be quite extensive, you can apply filtering on the driver name and/or PIN fields (it is possible to enter only a part of the name or pin code).

Typically, you will use this page for a quick check or minor additions/changes concerning one or a few drivers only. In case you need to add/remove/change a whole set of drivers for a transporter, please refer to the 'Drivers' section of chapter 'Bulk edit'.

Note: in case you accidentally deleted a driver, adding a new driver with the same details does not restore references to the original driver's tickets. Each time a new driver is added, even if the driver's details are identical, a new record is created.

LEASE GROUPS

This display lists all available lease groups. An example of the lease groups display is shown in Figure 10.

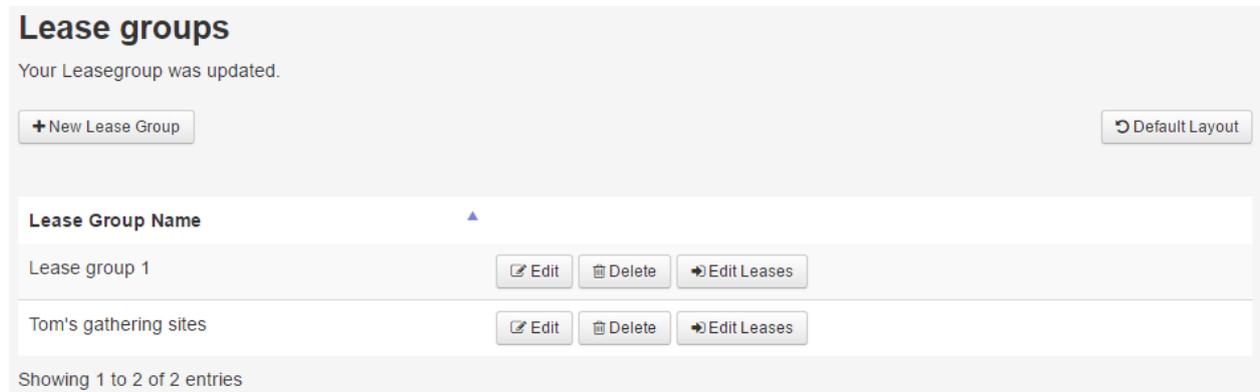


Figure 10: Lease groups display

New lease groups can be added by pressing the 'New Lease Group' button on the top. You will be prompted to enter a lease group name.

For each of the listed lease groups, you can edit the details by pressing the 'Edit' button located next to that lease group's entry. Likewise, a lease group can be deleted via the corresponding 'Delete' button. Furthermore, the leases that make up the lease group can be edited. This will be discussed separately in the 'Leases' section of chapter 'Bulk edit'.

LEASES

This display lists all available leases. An example of the leases display is shown in Figure 11.

Lease Name	Lease Number	Lease ID Code	Lease Group	
Lease site 2		424	Tom's gathering sites	Edit Delete
Lease site 1		456	Tom's gathering sites	Edit Delete

Showing 1 to 2 of 2 entries

Figure 11: Leases display

New leases can be added by pressing the 'New Lease' button. You will be prompted to enter the lease's name, number (optional), ID code and a lease group to which the lease belongs. The Lease ID Code is used to identify the lease across the whole Spirit^{IT} eXSite system and, as such, needs to be unique. At the same time the lease name needs to be unique as well. The lease number is an optional field that can be used for reference.

All previously defined leases are listed. For each of them, you can edit the details by pressing the 'Edit' button located next to the lease's entry. Likewise, a lease can be deleted via the corresponding button. Since this list can be quite extensive, you can apply filtering on the lease name and/or ID code fields (it is possible to enter only a part of the name or lease ID code).

Typically, you will use this page for a quick check or minor additions/changes concerning one or a few leases only. In case you need to add/remove/change a whole set of leases for Lease Group, please refer to the 'Leases' section of chapter 'Bulk edit'.

TICKETS

This display lists all generated tickets containing LACT related data. An example of the tickets display is shown in Figure 12.

Tickets

[Filters](#)

Download Default Layout

Site	Rack Nr.	Batch Nr.	Batch End	Ticket Nr.	Delivery Driver	Lease Name	IV Batch	NSV Batch	Temperature	BS&W	API 60F
1	2		03-23-2016 09:49	a		driver	0	0	0	0	0

Showing 1 to 1 of 1 entries

Details

Figure 12: Tickets display

Typically, a ticket contains more columns than can be displayed. Selecting the columns to display and/or hide can be done by clicking the button on the right hand side of the ticket table's header.

The 'Details' button beside a ticket lets the interface zoom in on that particular ticket. From this view the ticket can be printed as well.

Browsing all generated tickets can be cumbersome after a while, when a lot of tickets have been generated. In order to aid in browsing, several filters have been pre-configured. These filters are shown when the 'Filters' hyperlink is clicked. In Figure 13 the preconfigured ticket filters are shown.

Tickets

[Filters](#)

Site and Rack Filter

Ticket and Lease Filter

Transporter and Driver Filter

Advanced Filter

Download Default Layout

Figure 13: Preconfigured ticket filters

The last filter, 'Advanced Filter', is a user configurable filter where filter conditions for individual fields can be specified, like shown in Figure 14.

Tickets

Filters

Site and Rack Filter

Ticket and Lease Filter

Transporter and Driver Filter

Advanced Filter

Enabled	Property Name	Operator	Comparison Value
<input type="checkbox"/>	Batch Start	equals	<input type="text"/> 
<input type="checkbox"/>	Batch End	equals	<input type="text"/> 
<input type="checkbox"/>	Rack Nr.	equals	<input type="text"/>
<input type="checkbox"/>	Batch Nr.	equals	<input type="text"/>

Figure 14: Advanced filtering allows for specifying filter conditions on individual fields

MAILING LISTS

This display lists all mailing lists. An example of the mailing lists display is shown in Figure 15.

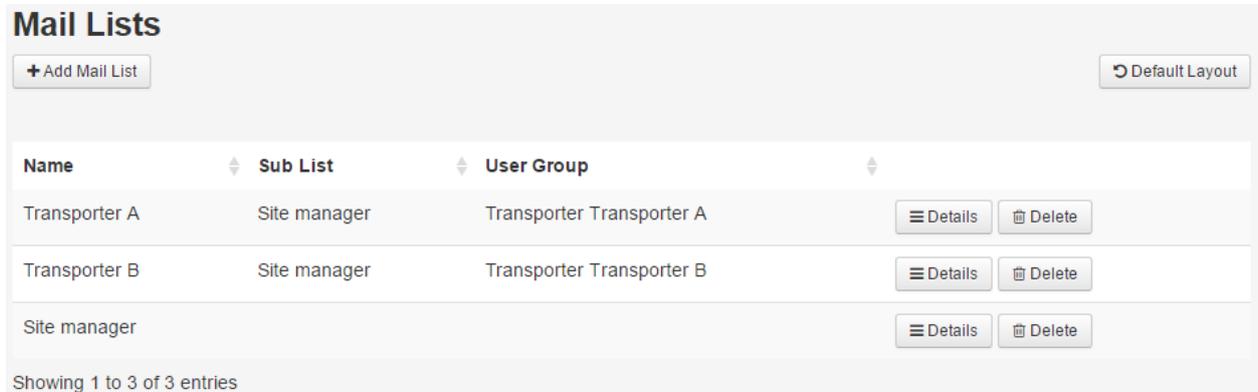


Figure 15: Mailing lists display

New mailing lists can be added by pressing the 'Add Mail List' button.

The display lists all defined mailing lists. For each of them, details can be viewed and edited by pressing the 'Details' button located next to the mailing list's entry. A display as shown in Figure 16 will then be shown. Likewise, the mailing list can be deleted via the corresponding 'Delete' button.

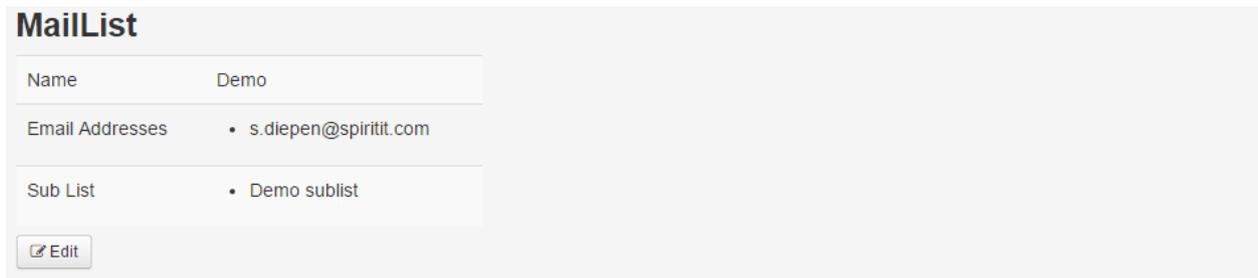


Figure 16: Mailing list details

Editing mailing lists

An example of the new/edit display is shown in Figure 17.

Note that the recipients can be defined by supplying email addresses and/or selecting previously defined (sub) lists. Sub lists allow you to effectively add groups of email addresses to a new mailing list.

For example, there may be separate email lists for Transporter A and Transporter B. While they will get their respective reports, the managers for the Site may also want to have a copy of those reports. In this case you would add the Managers mailing list as a sub list to each of the transporters' mailing lists. Please note that the relations described in this example are also shown in the screenshot in Figure 15.

Email addresses need to be entered on a one-per-line basis. Selecting/deselecting multiple entries for sub lists can be achieved by holding the 'CTRL' button while clicking the desired entry/entries.

The User Group field enables employees of a transporter or customer to review generated reports (in addition to viewing their ticket data). For example, suppose Transporter A is created as a transporter. Then, a mailing list to be defined for them (e.g. also called "Transporter A"). In that list, select "Transporter A" as a group to allow any users of that group to be able to view any reports that were sent to this list. Then, on the Transporters page, click the 'Configure Reports' button, select the reports to generate, and select the list that was just defined.

Edit Mail List

Name (required)

Email Addresses

One email address per line

Sub List

A

User Group

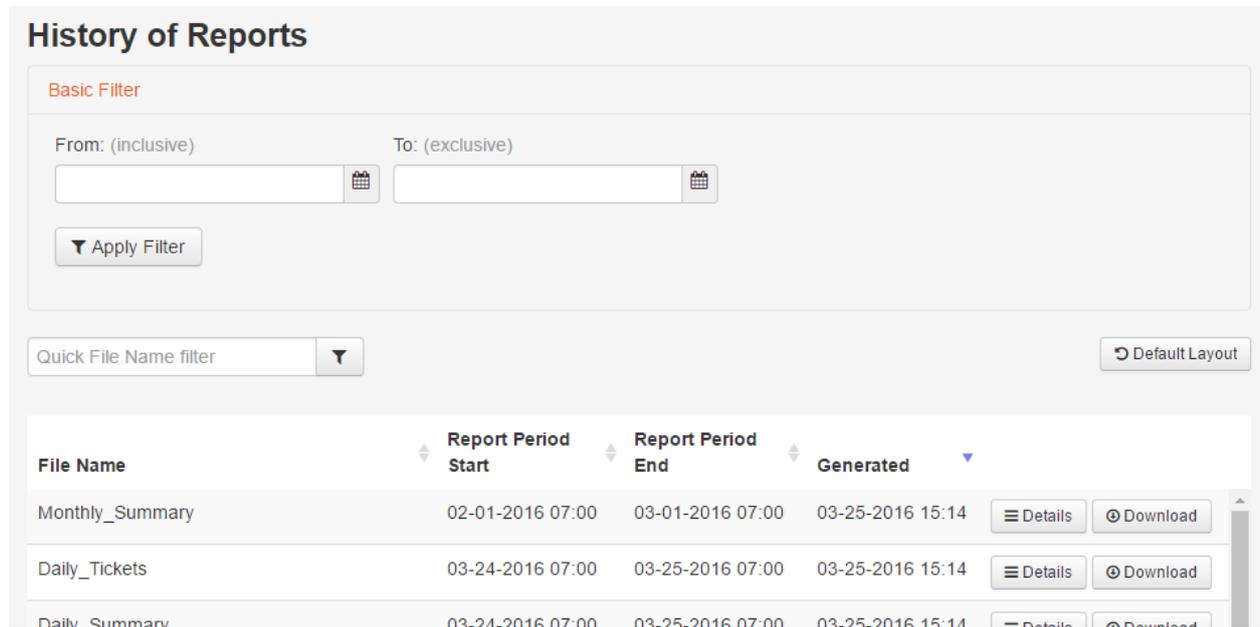
Group that can see Report History

▼

Figure 17: New/edit mailing list display

REPORT HISTORY

This display lists all generated reports leases. An example of the report history display is shown in Figure 18.



The screenshot displays the 'History of Reports' interface. At the top, there is a 'Basic Filter' section with two date input fields: 'From: (inclusive)' and 'To: (exclusive)'. Below these is an 'Apply Filter' button. A 'Quick File Name filter' is located on the left, and a 'Default Layout' button is on the right. The main content is a table with the following columns: 'File Name', 'Report Period Start', 'Report Period End', and 'Generated'. Each row includes 'Details' and 'Download' buttons.

File Name	Report Period Start	Report Period End	Generated	
Monthly_Summary	02-01-2016 07:00	03-01-2016 07:00	03-25-2016 15:14	Details Download
Daily_Tickets	03-24-2016 07:00	03-25-2016 07:00	03-25-2016 15:14	Details Download
Daily_Summary	03-24-2016 07:00	03-25-2016 07:00	03-25-2016 15:14	Details Download

Figure 18: Report history display

Reports can be downloaded as CSV files. In order to aid in searching, date (from – to) and name filters are available.

REPORT GENERATION

The report (re)generation wizard can be used for manually generating and/or emailing reports. This could be for a custom time period and/or to a specific mailing list or even one or more specific email addresses with a custom message.

Additionally, this functionality can be used to regenerate (or e.g. just re-send) automatic reports. This is useful when an original report doesn't contain all the data, e.g. because of a communication failure at the time the report was generated.

The report generation is defined in a stepwise manner.

Step 1: period selection

One can define the report period. For a 'Custom Time Range' the period needs to be defined like shown in Figure 19.

Generate report: Choose period (step 1 of 5)

Report Type
 Custom Time Range

Report Period:
 Choose the date range of the report
 YYYY/MM/DD HH:mm - YYYY/M

FROM: 2016/03/14
 TO: 2016/03/14

Apply Cancel

0 : 00

0 : 00

Figure 19: Report generation custom time range

For one of the standard reports ('Daily', 'Month', 'Daily Cumulative') the date on which the automatic report should have been generated, needs to be defined.

Step 2: report selection

The reports to be generated need to be selected (multiple entries can be selected simultaneously). Depending on which reports have been configured (refer to section 'Configure reports'), the list to choose from will contain customer, transporter, and/or site specific reports. Any defined custom reports are listed as well (custom reports can only be defined in the Backend, which is out of scope for this manual). A screenshot of the second step is shown in Figure 20.

Which entries are shown, depend on what you have selected in the first step as well. For example, if the 'Monthly' period was selected, only customer/transporter/site/custom reports that are defined for that period are listed. Note, however, that for 'Custom Time Range' all customers, transporters, sites and custom reports are shown. Eventually, this option will generate a report that resembles a daily report, containing all ticket entries falling within the specified range.



Figure 20: Report generation select reports

Step 3: option selection

For the report generation, there are three options that can be set, like shown in the screenshot in Figure 21.

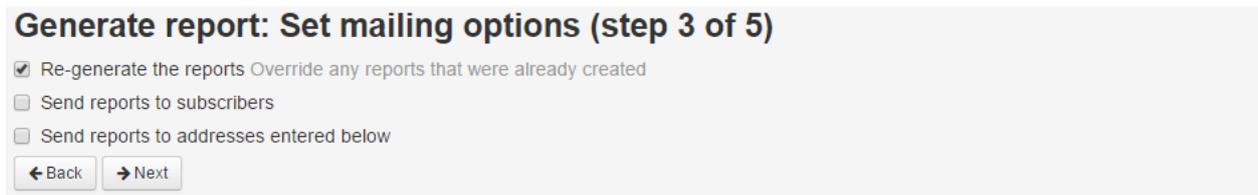


Figure 21: Report generation option selection

- ✓ *Re-generate the reports*
Reports will be generated.
- ✓ *Send reports to subscribers*
Reports will be resent to the groups/addresses that have subscribed to this report.
- ✓ *Send reports to addresses entered below*
An email will be sent to additional email addresses.

Once either of the latter two options is selected, additional input fields for specifying a custom subject and message will appear. If nothing is specified in these fields, the original value will be used.

Furthermore, when the last option is selected, an additional input field appears in which email addresses can be specified. As with editing the mailing list, email addresses need to be specified one per line (refer to section 'Editing mailing lists' of chapter 'Mailing lists').

Step 4: summary

A summary is presented of all the items that have been selected in the previous steps. An example is shown in screenshot in Figure 22.

After pressing the 'Generate' button, the reports will be generated and, if applicable, emailed.

Generate report: Confirm generation options (step 4 of 5)

Please confirm the following configuration for generating reports

Report Start	06/01/2016 - 15:54
Report End	06/01/2016 - 15:54
Regenerate reports	Yes
Reports to be generated	<ul style="list-style-type: none">• Customer<ul style="list-style-type: none">◦ Customer ABC
Send reports to subscribers	No
Send reports to following additional addresses	
Subject	<i>Original Subject</i>
Message	<i>Original Message</i>

Figure 22: Report generation summary

Step 5: results

The report generation has been executed using the selected options. Feedback is given on the result of the actions taken by the system, like shown in the screenshot in Figure 23.

Generate report: Results (step 5 of 5)

Success
Successfully generated 2 reports for Customer ABC tickets - Daily tickets for Customer ABC

Restart with previous data Restart from scratch

Figure 23: Report generation results

From here, report generation can be restarted with the previously selected items preset, or with all input fields cleared.

USER MANAGEMENT

This display lists all available users. An example of the user management display is shown in Figure 24.

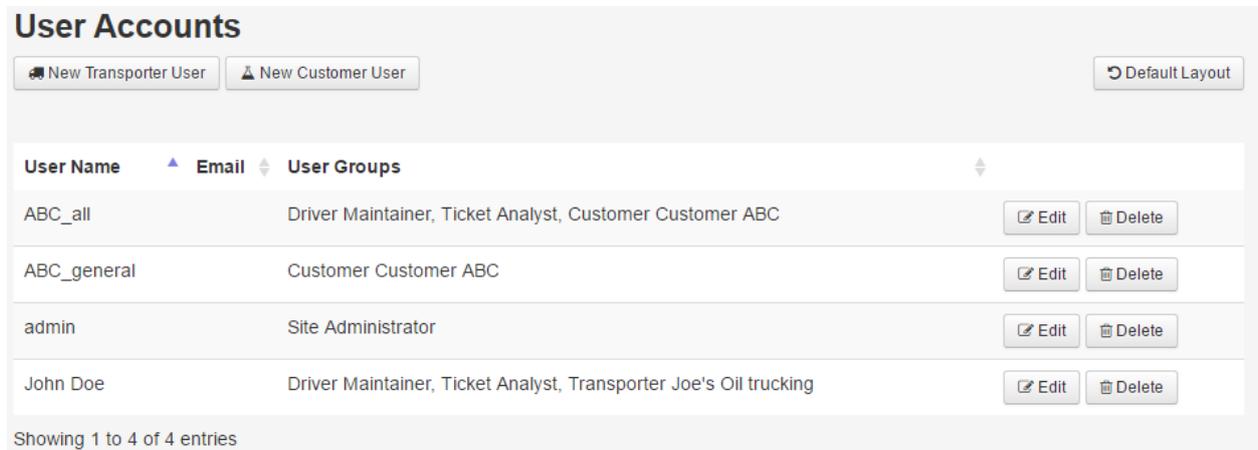


Figure 24: User management display

New users can be added by either pressing the 'New Transporter User' or the 'New Customer User' button on the top². You will be prompted to enter a unique user name and corresponding password (plus verification). Depending on what was selected, a transporter or customer needs to be selected as well.

Optionally, an email address can be specified. The specified email address will be used to help the user reset his/her password in case the user forgot his/her password (passwords can't be reset via the user management overview). Also, additional roles can optionally be selected. Typically, two types of roles are defined: driver maintainer and ticket analyst. The former will allow a user to make changes to the driver list of a transporter, whereas the latter allows a user to review tickets and generated reports.

² As can be seen in the screenshot, a user group 'Site Administrator' is present as well. Users cannot be added to this group via the Frontend.

SYSTEM DASHBOARD

This display shows system and site(s) health information. An example of the system dashboard display is shown in Figure 25.



The screenshot shows a dashboard with the following components:

- Dashboard** header with a green status box: "No alarms active (11:44:17)".
- System Health** section with a table:

Name	Status
None	OK

- Sites Health** section with a table:

Name	Status	Action
Moonshine	OK	Details
Oaktown	OK	Details

Figure 25: System dashboard display

The display will periodically and automatically refresh itself. The last update time can be seen in the top-right corner.

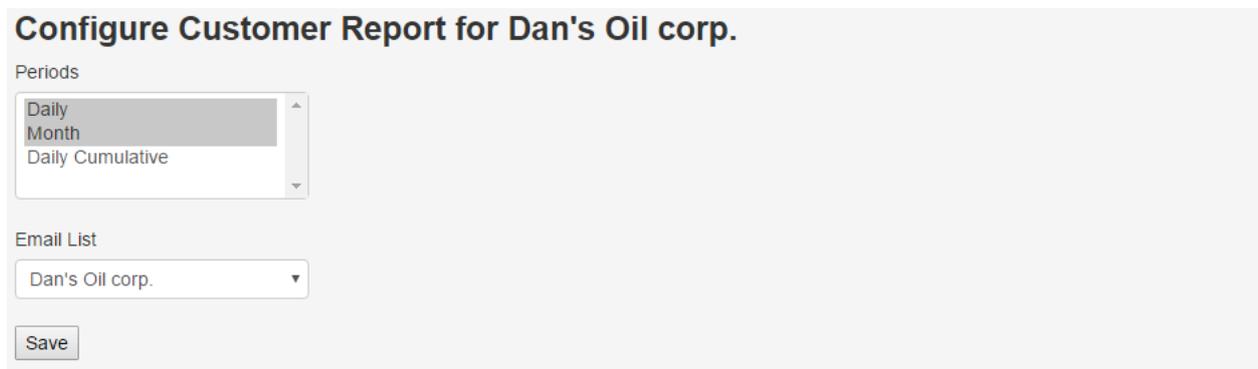
The system dashboard contains two sections: System Health and Sites Health. The System Health section shows the status and any alarms of the Spirit^{IT} eXSite Corporate system. The Sites Health section shows the status and alarms for each of the configured sites. Additionally, when clicking through to a site's details, it is possible to view certain live values from that site. Note, however, that such live values need to be configured when that site is installed into the Spirit^{IT} eXSite. As mentioned before, this requires actions in (and thus access to) the Backend interface as well.

CONFIGURE REPORTS

By default, Spirit^{IT} eXSite will contain period reports that contain aggregated ticket data for three different types of periods³:

- ✓ *Daily*
Day period running from 7 AM one day to 7 AM the next day
- ✓ *Monthly*
Month period running from 7AM on the first day of a month until 7 AM on the first day of the succeeding month.
- ✓ *Daily cumulative*
Month to date period running from 7 AM on the first day of a month until the 7 AM of the current day.

Reports can easily be configured for three types of entities: sites, customers, and transporters. The basic configuration for all entity types is similar and looks like the screenshot given in Figure 26.



Configure Customer Report for Dan's Oil corp.

Periods

Daily
Month
Daily Cumulative

Email List

Dan's Oil corp.

Save

Figure 26: Customer report configuration display

One needs to specify one or more periods, as well as the target mailing list. Additionally, for a site report, a combination of one or more transporters can optionally be selected. Recipients configured via the mailing list will then receive one email per configured report(type), with separate reports per transporter attached.

Note: with this configuration, reports will be sent to the configured mailing list. To set up access for employees of e.g. Dan's Oil Corp to download these reports again, see chapter 'User management'.

³ Making changes to existing report types (including changes to the start-of-day) or creating new report types cannot be done via the Frontend. You will need to contact ABB in order to achieve this

MODEL & TERMINOLOGY

The model that is used inside Spirit^{IT} eXSite reflects the real situation and consists of the following components:

- ✓ **Site**
A confined area, like an oil gathering facility, where a number of LACT racks are located.
- ✓ **Customer**
A company that buys the crude oil delivered to one or more LACT racks.
- ✓ **Transporter**
A transporting company that hauls crude for one or more *customers*.
- ✓ **Driver**
A person driving the oil truck for a *transporter* and executing the offload at the facility.
- ✓ **Lease**
A reference to a lease site.
- ✓ **Lease group**
A group of *leases*, typically used to identify the set served by a single *driver*.
- ✓ **Rack**
A loading rack, which is also referred to as a LACT (Lease Automatic Custody Transfer).
- ✓ **Pot (assignment)**
Defines which *transporters* can offload at this rack, which sampling *pot* is used for a *transporter*. Additionally, a *pot assignment* can be used to restrict which *lease groups* are allowed to be offloaded to this *rack*.
- ✓ **Ticket**
Transaction data for a single offload; originally generated by the flow computer and transferred to Spirit^{IT} eXSite.
- ✓ **Report**
Combined total data of *tickets* for a specific period. Can be segregated on *site*, *customer*, and *transporter*.
- ✓ **Mailing list**
A set of one or more recipients to which *reports* can be emailed. Here a recipient is defined recursively: it can be an email address or a mailing list itself.

The following relations exist between the model components:

- ✓ **site** can have one or more **customers**;
- ✓ **customer** can make use of one or more **transporters**;
- ✓ **transporter** can drive for one or more **customers**;
- ✓ **transporter** has one or more **drivers**;
- ✓ **driver** drives for one **transporter**;
- ✓ **lease group** contains one or more **leases**;
- ✓ **lease** can only be assigned to one **lease group**;
- ✓ **site** can have one or more **racks**;
- ✓ **rack** must be assigned to one **customer**;
- ✓ **rack** can have one or more **pot assignments**;

- ✓ **pot assignment** holds for one or more **transporters**.
- ✓ **pot assignment** can have one or more **lease groups**

A *driver* will be assigned a unique identification. Once entered on a rack's flow computer, this is used by the system to determine whether or not he/she is allowed to offload at that rack.

Note that a driver needs to be mindful in case he/she works for a transporter that transports for multiple customers. It could be that there is a valid assignment for the transporter company, but he/she may be standing at a different customer's rack.

BULK EDIT

Adding all drivers and leases can for new transporters and lease groups, respectively, involves a lot of work. In order to simplify this process, Spirit^{IT} eXSite offers bulk editing. This chapter describes how to use this feature.

Drivers

An entire list of PIN codes and driver names for a transporter can be imported or updated at once using the 'Edit drivers' button found beside a transporter entry in the 'Transporters' display.

Figure 27: Driver bulk edit interface

In the screenshot in Figure 27, there is a TAB separating the PIN from the Driver's name. As a matter of fact, it suffices to have at least one space character separating the PIN and driver name.

As indicated in the screenshot in Figure 28, you can copy & paste the source data from an Excel workbook, as long as you copy two columns containing the PIN and driver name:

	A	B
1	PIN CODE	DRIVER NAME
2	1234	John Doe
3	4567	Jane Doe
4	8910	Doe Ray
5		

Figure 28: Create/edit list in Excel for import in Excel

When you paste the copied data into the form field, the TAB symbol will be inserted automatically.

Once you are done with the list, you can press the 'Import' button. Spirit^{IT} eXSite will then determine the minimal set of changes it needs to make to the existing list, and presents the results of this before actually applying them:

- ✓ *No changes compared to what was configured already*
- ✓ *Errors found*
The same page is shown, but now an error indicating what is wrong in the list (e.g. duplicate PIN entry) is shown as well (refer to chapter 'Drivers' for requirements on uniqueness).
- ✓ *Identified changes*
A list with identified changes (number of additions/removals/changes) to be applied is presented. In order to proceed, you need to press the 'Apply' button. After you do this, the original page will reload with the updated data.

The driver bulk edit functionality must not be used to change a single driver’s details. Instead, please edit the driver via the ‘Drivers’ display. In fact, changing a single driver’s details via this functionality may cause the existing driver record to be deleted, and a new one to be created. This will be shown as e.g. “1 driver deleted, 1 driver added” after pressing “Import”.

Leases

An entire list of Lease ID numbers and lease names for a Lease Group can be imported or updated at once using the ‘Edit leases’ button found beside a Lease Group entry in the ‘Lease groups’ display.

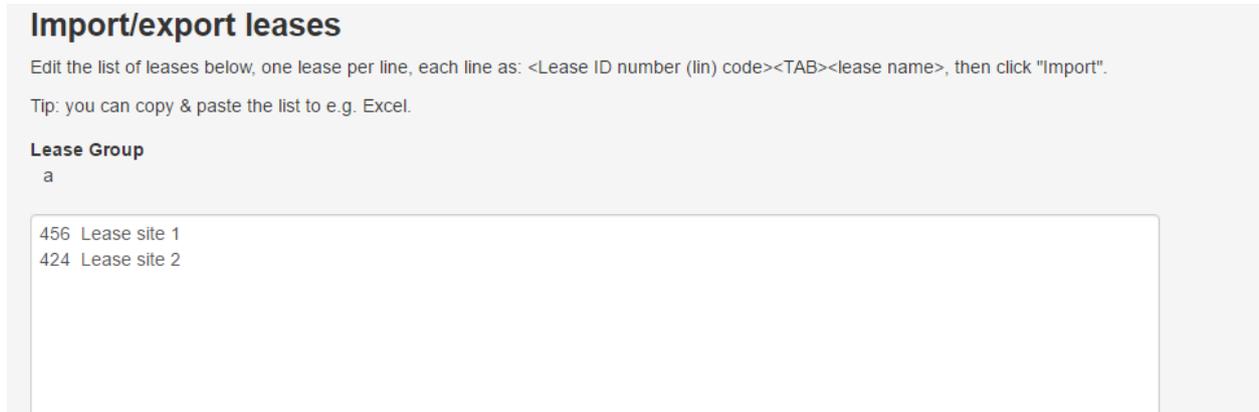


Figure 29: Lease bulk edit interface

In the screenshot in Figure 29, there is a TAB separating the Lease ID numbers from the lease names. As a matter of fact, it suffices to have at least one space character separating the Lease ID number and the lease name.

The lease bulk edit works exactly the same as the driver bulk edit (refer to chapter ‘Bulk edit’).

The lease bulk edit functionality must not be used to change a single lease’s details. Instead, please edit the lease via the ‘Leases’ display. In fact, changing a single lease’s details via this functionality may cause the existing lease record to be deleted, and a new one to be created. This will be shown as e.g. “1 lease deleted, 1 lease added” after pressing “Import”.

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