

# ACE VISION

From Automatic Meter Reading  
To Network and Individual Management



## User Guide version 7.5.1

The screenshot displays the ACE VISION web interface. At the top left is the Itron logo with the tagline "Return to home page" and "Knowledge to Shape Your Future". At the top right, there are navigation icons and the text "LOGIN admin PROFILE Admin".

The left sidebar contains a navigation menu with the following categories:

- ACE Vision
- Administration
  - > Communication media configuration
  - > Users configuration
  - > Data Base
  - > Preferences
- Installed base configuration
  - > Customer management
  - > Meter points
  - > Groups
  - > Summations
  - > Calendars
- Installed base management
  - > Task management
  - > Data Management
  - > Reports
- Data collection
  - > Revenue protection
  - > Dashboard

The main content area is titled "ACE-VISION : Welcome" and features four columns of categorized links:

- Administration**
  - Communication media configuration
    - > Connections
    - > Serial ports
  - Users configuration
    - > User profiles
    - > User accounts
  - Data Base
    - > Back-up
  - Preferences
- Installed base configuration**
  - Customer management
    - > Clients
    - > Customers groups
  - Meter points
  - Groups
  - Summations
  - Calendars
- Installed base management**
  - Task management
    - > Meter points
    - > Groups
    - > Summations
    - > Publishing
  - Data Management
    - > Meter points
    - > Summations
  - Reports
    - > Pending tasks
    - > Tasks results
    - > Failure
- Data collection**
  - Revenue protection
    - > Meters in Stop Mode
    - > Installed base status
  - Dashboard
    - > Widgets

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# 1. INTRODUCTION:

- ▶ **ACE VISION** is an automatic meter reading (AMR) software solution which has been developed by Itron to provide a competitive data collection solution that is particularly suited to management of medium sized (several thousand meter points) industrial meter parks. Its user interface is based on web publishing technology providing a simple user friendly interface.
- ▶ This user guide covers use of ACE Vision in conjunction with ACE 6000, SL7000 (int'l and DTM) and ACE 8000 Meters. This guide does not include meter configuration guidance.

## 1.1. REQUIREMENTS

### 1.1.1. System Compatibility

Ace Vision is compatible with the following operating systems:

- Windows XP Pro SP3
- Windows Vista (32 and 64 bit)
- Windows 7 (32 and 64 bit)
- Windows 2008 (32 and 64 bit)

### 1.1.2. Meter Compatibility

Ace Vision supports the following Itron commercial and Industrial meters:

- ACE6000 (All versions to v4.10)
- SL7000 (All version from v2.x to v7.31)
- IEC7 DTM (all versions to v9.23)
- ACE8000 (All versions)

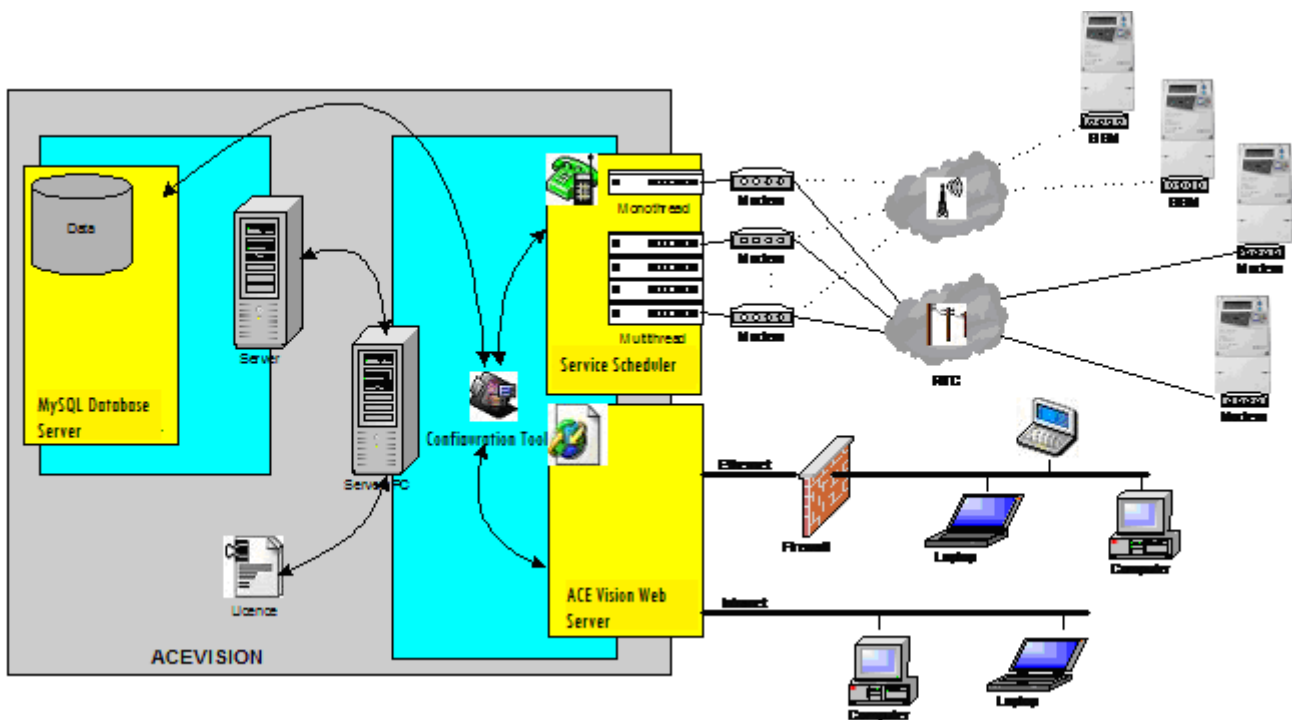
### 1.1.3. Communication

- ▶ ACE Vision can be connected via local port or over a distribute architecture network using the following methods
  - PSTN modem
  - GSM
  - GPRS
  - Ethernet Network
  - Laptop ( using ACE-VISION Mobile LT1.1)
  - HHU ( using ACE-VISION Mobile 1.1 )

## 1.2. SYSTEM ARCHITECTURE

















► Ace Vision software is composed of:

- An IIS Web Server: ACE Vision application for editing and display of data.
- Windows Service Scheduler: communications and data export sequencer (capable of managing up to 8 communication paths simultaneously).
- MySQL database server (does not require a licence)
- ACE Vision Configuration Tool: For the initialisation of the various servers.



### 1.3. ACE VISION ICONS

The following icons are used in ACE Vision and this user guide:

	Return to the previous menu (without saving)
	Apply
	Edit
	Copy
	Delete
	Create
	Add
	Delete
	XML format
	CSV format
	PDF format
	Calendar
	Next
	Previous
*	Mandatory field
	Summation (addition)
	Summation (subtraction)

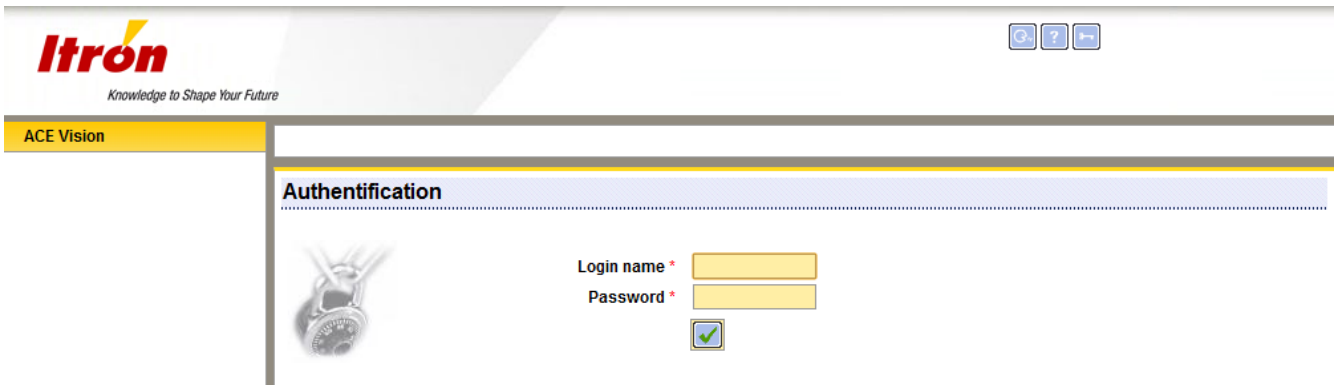
## 2. SOFTWARE ADMINISTRATION

*This Section provides a detailed guide to all operations that can be performed by the administrator.*

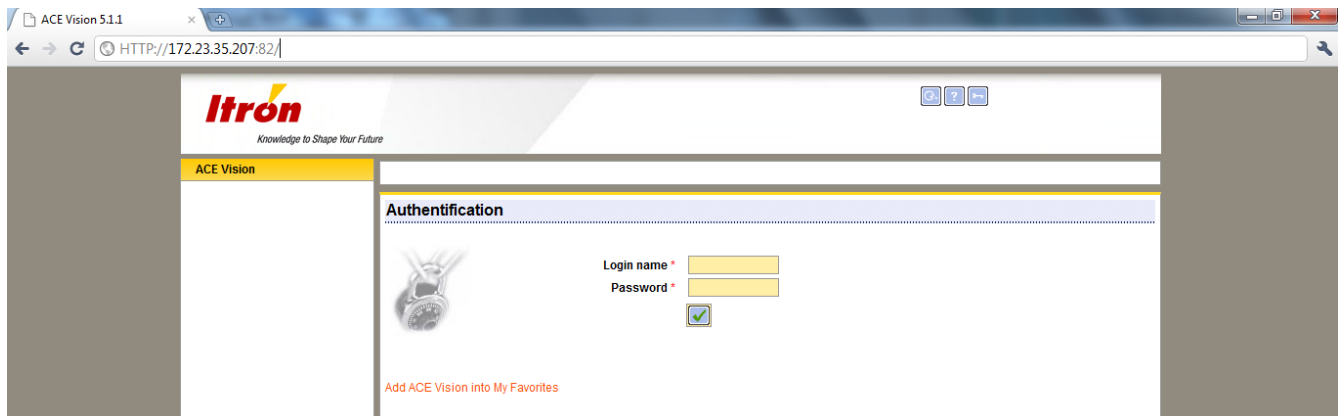
A default **Administrator** user account is automatically created on installation of ACE Vision. This account can be used to create and manage all other user accounts that may be required to operate the software.

### 2.1. LOGIN

- ▶ Once the software is installed, an ACE Vision icon appears on the desktop. Click on the icon and the following screen appears:

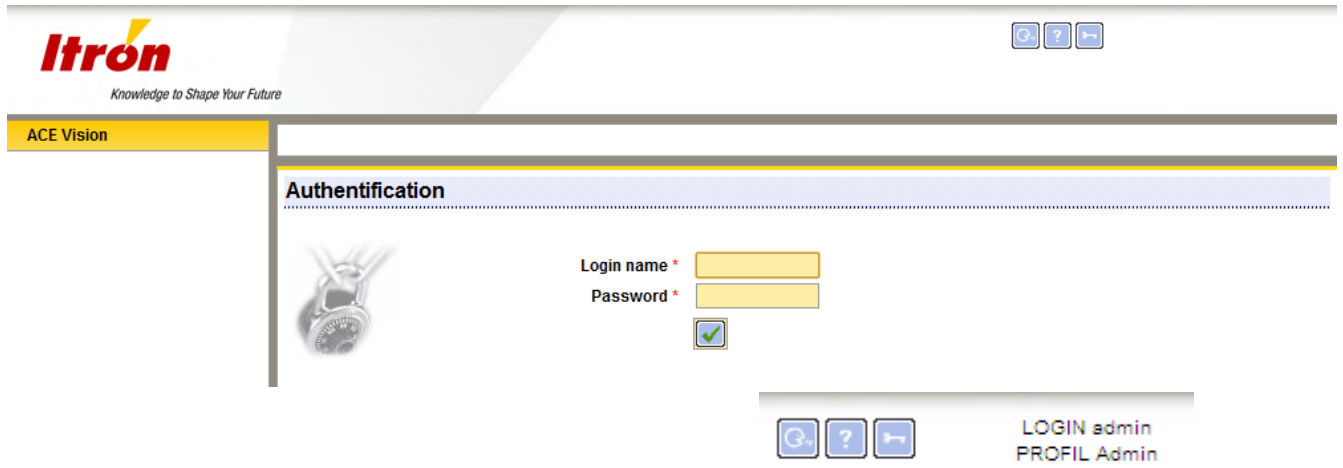


- ▶ To login remotely to a host server, open Internet Explorer and enter the IP address of the host in the URL:








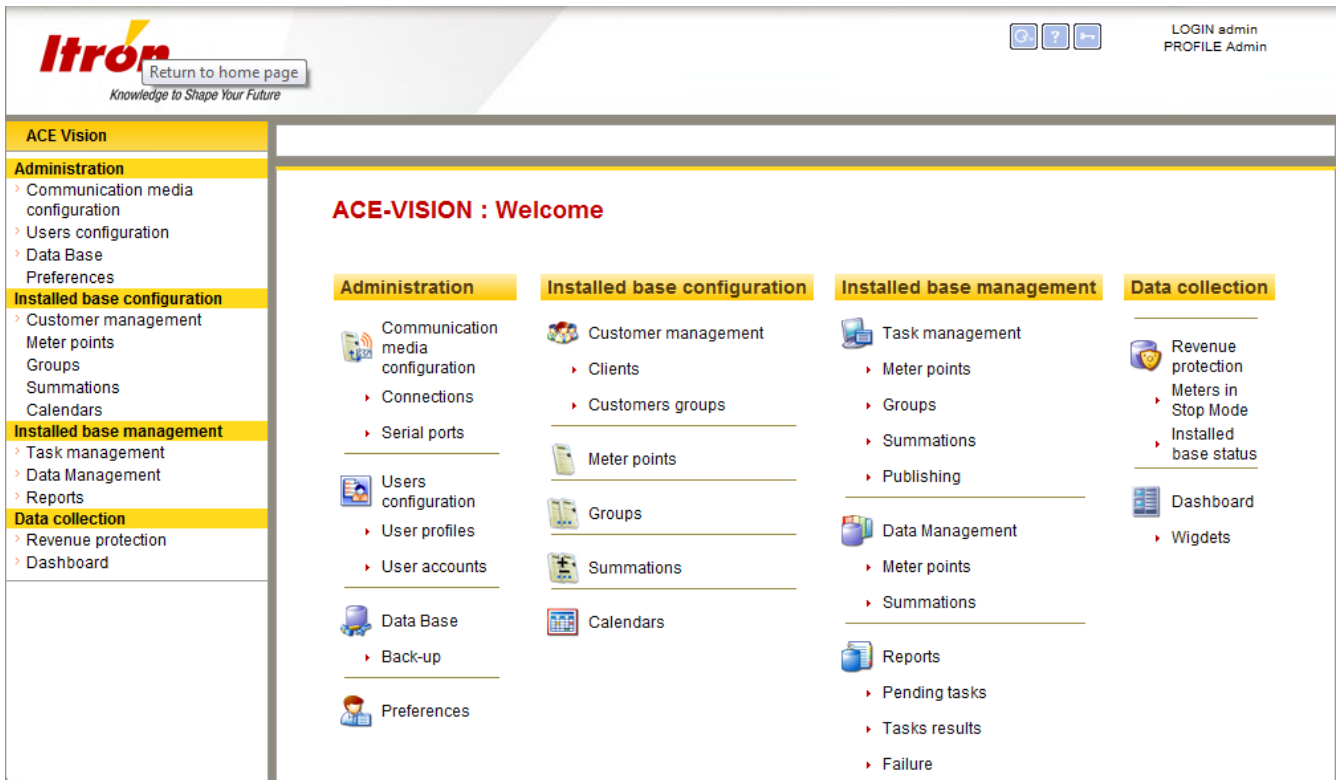
- ▶ **Log in as administrator:** Enter the Login name (**admin**) and the password (**admin**).



- ↻ The username and its corresponding profile are now displayed to the top right of the screen.
- ↻ To the left three icons are displayed:

-  : Contact Itron Support Services
-  : Display software and communication configuration details
-  : Log in/Log out

➤ Once logged in as administrator, all features available to the administrator are displayed on the welcome screen.



➤ From this welcome screen, actions available to the administrator can be accessed in two ways:

- 1) Using the sidebar – the sidebar is always displayed on the left of the screen.
- 2) Selecting the action directly from the welcome page (the main screen).

**Note:** To return to this welcome page at any time, click on the **Itron** icon at the top left of the screen.

➤ The actions available on the welcome page will differ according to the profile of the user. These functions can be added or removed by the administrator.

## 2.2. CONNECTIONS

- ▶ Select **Communication media configuration - Connections** to configure the method of communication between the remote reading station and the meter (modem, optical head or direct connection).

The screenshot shows the Itron ACE Vision 'Connections' configuration page. On the left is a navigation menu with categories like Administration, Installed base configuration, and Data collection. The main area displays a 'List of' connections table with columns for 'Type' and 'Name'. Three configuration windows are overlaid on the interface, each corresponding to a different connection type: 'Modem', 'Optical IR probe', and 'Direct connection'. Each window contains specific settings such as connection speed, dial prefix, and initialization strings. Red arrows indicate the flow from the list to the configuration windows.

There are 4 communication types available:

- Modem
- Modem TAPI
- Direct Connection (via RS232)
- Optical Head

Select the desired connection type and click on the Edit button.

A window appears allowing the input of the relevant settings for the communication type selected. The edited connection type can then be associated to a serial port.

**Note:** Modem and Modem TAPI connections include a **Modem SMS** setting. Select this to enable the sending of SMS messages.

## 2.3. SERIAL PORTS

- ▶ This menu allows the administrator to associate serial ports to each connection type.

The screenshot shows the Itron ACE Vision web interface. The top header includes the Itron logo and the tagline "Knowledge to Shape Your Future". On the right, there are navigation icons and user information: "LOGIN admin" and "PROFILE Admin".

The left sidebar contains the following navigation menus:

- ACE Vision**
- Administration**
  - Communication media configuration
  - Connections
  - Serial ports**
  - Mobile terminals
  - Users configuration
  - Database
  - Preferences
- Installed base configuration**
  - Client management
  - Meter points
  - Groups
  - Summations
  - Dynamic summations
  - Energy monitoring
  - Calendars
  - Network topology
- Installed base management**
  - Task management
  - Data management
  - Reports
- Data collection**
  - Network management
  - Revenue protection
  - Dashboard

The main content area is titled "Serial ports" and features an "Edit" button. Below the button is a "Communication ports list" table:

Port ID	Modem Type
COM 1	Wavecom Fastrack GSM
COM 10	Modem Olitec
COM 11	Modem Olitec
COM 12	Non allocated
COM 13	Non allocated
COM 3	Non allocated
COM 9	olitec USB V2

An inset window, titled "Communication ports list", shows the same data but with each modem type in a dropdown menu, indicating that the configuration is being edited.

## 2.4. **MOBILE TERMINALS**

- ▶ See Ace-VISION Mobile User guide

## 2.5. CLIENTS

- ▶ Select **Customer management - Clients** to create, copy, edit and remove clients.

*Note: The administrator account has access to all clients by default.*

The screenshot illustrates the Itron ACE Vision interface for client management. The main window shows a 'List of clients' table with the following data:

Client	Contract number	Telephone	Email
<input type="checkbox"/> Régie du sud	12345678		
<input type="checkbox"/> RTE			
<input type="checkbox"/> Test			

The 'Client name' form on the right includes fields for Client name, Client contract number, Phone number, Address, Email, and Comments. Below the main window, three smaller windows show the configuration for a client named 'Régie du sud':

**Add Client:** Shows the 'Add' button and the 'Client name' form.

**Edit Client:** Shows the 'Edit' button and a table of alarm configurations:

Recipient	Type of alarm notification	Alarm	Meters in stop	Energy monitoring	Probability of energy	Check configuration
Régie du sud	Email : support.rds@rds.fr	●	●	●	●	●
Régie du sud	SMS : 0645678934	●	●	●	●	●

**Alarm Configuration:** Shows the 'Alarm' tab with a table of alarm configurations:

Recipient	Type of alarm notification	Alarm	Meters in stop	Energy monitoring	Probability of energy	Check configuration
Régie du sud	Email	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Régie du sud	SMS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

⚡ The **Client** menu lists all client details (name, contract number, telephone number, address, Email and comments). A client can manage one or more meters. The client is billed for all meters attached to the client name. Un client peut gérer un ou plusieurs compteurs, c'est à lui que l'on facture. The client must have a unique name in the database

⚡ The **Client** menu lists all client details (name, contract number, telephone number, address, Email and comments). A client can manage one or more meters. The client is billed for all meters attached to the client name. The client must have a unique name in the database.

- The **Create a login name automatically** setting can be selected to automatically create a new user that is associated to this client. When a user is created using this method, the **Client name** is used as the **user name** and also as the user **password**.
- A customer who has access to the notification management menu can receive an SMS or Email message sent from ACE Vision.
- The **Alarm** tab is used to define the manner of the notification (recipient, notification format: Email/SMS, Notification type: Alarm / Meter in stop / energy monitoring / probability of energy / check configuration).

## 2.6. CUSTOMER GROUPS

- ▶ Select **Customer management – Customer groups** to define customer (client) groups. This feature allows the administrator to create, modify, copy and delete customer groups. The administrator has access to all customer groups by default.

The screenshot displays the ACE Vision web application interface for managing customer groups. The top navigation bar includes the Itron logo and the user profile 'LOGIN admin PROFILE Admin'. The left sidebar contains a menu with categories: Administration, Installed base configuration, Installed base management, and Data collection. The 'Customers groups' page is active, showing a table with one group: 'Groupe clients 1'. A yellow 'Add' button is positioned above the table. Below the table is a form for creating a new group, with a 'Name of customer group' field and an 'Advanced search' section for filtering clients by name and contract number. A 'Select Clients' button is highlighted in yellow. A 'customer selection' dialog is open, showing a list of clients with checkboxes and contract numbers. The dialog includes a search bar and pagination controls.

## 2.7. USER ACCOUNT CREATION

- ▶ Log in as administrator and select **Users configuration – User accounts** to configure users. Before a user can log in to ACE Vision, the user account must first be created in the database.

The screenshot displays the ACE Vision web interface. The top navigation bar includes the Itron logo and the tagline "Knowledge to Shape Your Future". The user is logged in as "admin" with the profile "Admin". The left sidebar shows the "Administration" menu, with "User accounts" selected. The main content area is titled "User accounts" and contains a table of existing users. A yellow box labeled "Add" is positioned above the table, with a red line connecting it to the "Add" button in the modal form.

User name	Client	User profile type
Actaris	Itron	Operator
ameot	All clients	Operator
ardhuin	Itron	Operator
callain	Itron	Operator
chabot	Itron	Analyst
Default User	Itron	Analyst
desmazeau	Itron	Operator
dorin	All clients	Operator
erenaudet	Itron	Operator
fcolonnier	All clients	Operator
gchanedeau	Itron	Analyst
GUEST	Itron	Operator
huet	Itron	Analyst
ita	Itron	Analyst
jchauvin	All clients	Operator
jcornet	Itron	Operator
jimplantiveault	Itron	Operator
KANITH	Itron	Operator
kite	Itron	Operator
Iamraoui	All clients	Operator
Laurent	All clients	Operator
Manu	All clients	Operator
martin	All clients	Analyst
nel	Itron	Operator
nmornet	Itron	Operator
opérateur	Itron	Analyst

The modal form for adding a new user includes the following fields:

- User name \*
- Customer type (radio buttons for "A customer", "A group of customer", "All clients")
- User profile type (dropdown menu, currently set to "Opérateur")
- Email
- Telephone number (SMS)
- Password \*
- Password confirmation \*

- ▶ By default there are 3 user levels: **Administrator**, **Operator** and **Analyst**. Actions available to each of these profiles can be edited by the administrator via the **User profiles** menu. The administrator can also create new user profiles with varying levels of access.

⚡ User access can be associated to a client, a group of clients or to all clients.

⚡ A user is always assigned a user type. The users access levels are defined by the user type applied.

⚡ Insert an Email address, mobile telephone number (for SMS) and password to complete the addition of a new user.

⚡ Once verified, the newly created user appears in the User List.



## 2.8. USER PROFILES

- ▶ Select **Users configuration – User profiles** to define the actions available to each user type. There are 2 predefined user profiles: «**Operator** » and «**Analyst** ».

↺ The names of the 2 predefined user profiles can be changed.

↺ Extra user profiles can be created.

↺ User profiles can be completely removed, as long as they are not associated with any user accounts.

The screenshot displays the 'User profiles' configuration page in ACE Vision. The left sidebar contains a navigation menu with categories like Administration, Installed base configuration, and Data collection. The main area shows a table titled 'List of user profiles' with columns for 'Functionality', 'Operator', 'Analyst', 'Configurer', 'User', and 'Test'. Each cell in the table contains a green circle with a checkmark or a red circle with a minus sign. Two yellow boxes labeled 'Edit' and 'Add' are overlaid on the interface, with red arrows pointing to the 'Operator' and 'User' columns respectively. Below the main table, a detailed view of the 'Access to scheduled exports' row is shown, with columns for 'Export tasks', 'Access to immediate exports', and 'Access to scheduled exports', each containing a checkmark.

Functionality	Operator	Analyst	Configurer	User	Test
Notification management	✓	✗	✓	✗	✓
Meters and groups management	✓	✗	✓	✗	✓
Summations management	✓	✗	✓	✗	✓
Calendars and rates management	✓	✗	✓	✗	✓
Data customisation management	✓	✗	✓	✗	✓
Reading tasks management	✓	✗	✗	✓	✓
Clock setting	✓	✗	✗	✓	✓
End of billing	✓	✗	✗	✓	✓
Start measurement	✓	✗	✗	✓	✓
Configuration programming	✓	✗	✗	✓	✓
Probability of energy	✓	✗	✓	✓	✗
Check configuration	✓	✗	✓	✗	✓
Export tasks management	✓	✗	✓	✗	✓
Access to immediate exports	✓	✓	✓	✗	✓
Access to scheduled exports	✓	✓	✓	✗	✓
Access to alarms as a whole	✓	✗	✓	✗	✓
Mobile terminals	✓	✗	✓	✗	✓

Export tasks	Access to immediate exports	Access to scheduled exports
programming	✓	✗
Probability of energy	✓	✗
Check configuration	✓	✗
Export tasks management	✓	✗
Access to immediate exports	✓	✓
Access to scheduled exports	✓	✓

**Notification Management:** Allows users to receive Email or SMS alarm messages sent from meters.

**Meters and Groups Management:** Allows users to create a meter or a meter group.

**Summations Management:** Allows users to create a virtual meter as an algebraic sum of several meters and view the resulting load profiles.

**Calendars and rate management:** Allows users to create a rate structure and add this into the load profile.

**Data Customisation Management:** Allows a user to customise instantaneous data (Instantaneous Power, Power factor, RMS Max, Neutral, Phase angle).

**Reading Tasks Management:** Allows reading tasks (e.g. read load profile, read billing data).

**Clock Setting:** Allows users to synchronise the meter time with PC time.

**End of Billing:** Allows users to generate an EOB (End of Billing).

**Start management:** Allows users start measurement in a meter.

**Configuration management:** Allows users to change meter configurations.

**Probability of Energy:** Allows users to verify the coherence of energies (Total Active Import) contained in an EOB.

**Configuration Programming:** Allows users to access the configuration comparison feature. A reference meter configuration exported from AIMS\_PRO or ACE Pilot can be compared with the meter configuration read by ACE Vision.

**Export tasks management:** Users can create tasks to export remote reading data.

**Access to immediate exports:** Allows users to manually export meter data to file.

**Access to scheduled exports:** Allows users to view load profile data that has been previously exported.

**Access to alarms as a whole:** Allows users have access to all alarms.

**Mobile Terminals:** Allows the management of Hand Held Units.

## 2.9. MODIFICATION FOLLOW UP

The modifications in the system are tracked into the data base : are concerned all the writing actions ( creation, modification, deletion). The reading actions are not stored.

The display of the modification follow up could be accessed through the menu Administration->DataBase->Modification follow up.

A modification is described with the following information

- User name ( login name)
- Date and time of modification
- Action ( creation / modification / deletion )
- Concerned object ( connection, serial port, meters, user profile, user account, preferences, customer, HHU/ laptop, summation, groups of meters, groups of customers, calendar, energy monitoring, tasks management, reset of meters statistics, widgets)

The display of the events of modification could be reduced to a certain period of time (default value 24 hours), and filtered on objects, action, and users.

All those modifications could be exported in CSV file.

An option of 'settings.xml' called NbLogUpdateResults allows to limit the number of events displayed in the web site. The default value is 1000.

This list of events could be backed up ( xml format), from the configuration tools, with the same process as for the meters .

## 2.10. DATA BASE OF CITIES

In order to associate a meter to a city, a database of cities could be imported into ACE-VISION. The creation of the list or importation of the list should be done through the menu Administration->DataBase->Cities.

The default list is empty. The list could be edited (creation, modification, deletion of all or part of the list).

A city could be deleted only if not associated to any meters.

If the database is imported, the importation file should be in CSV format, according the following structure :

Column number	Information
Column 1	City name
Column 2	Postcode

The separator should be the < ; > character ( semi-column) .

Name should be in capital letters, no dash ( but space )

Example :

```
CityName;Postcode;  
L ABERGEMENT CLEMENCIAT;01400;  
L ABERGEMENT DE VAREY;01640;  
AMAREINS;01090;  
AMBERIEU EN BUGY;01500;  
AMBERIEUX EN DOMBES1330;
```

## 2.11. BACK UP / RESTORE

- ▶ Log in as administrator and select **Data Base - Back up** to perform data back up and restore tasks.

The screenshot shows the Itron ACE Vision web interface. The left sidebar contains a navigation menu with categories like Administration, Installed base configuration, and Data collection. The main content area has a 'Backup' tab selected. A table titled 'List of back-up tasks scheduled' shows a task for '23/02/2011 07:00' with a 'Week' period. A red arrow points from the 'Backup' icon in the top left to the configuration form below. The configuration form has fields for 'Immediate' (checked), 'Frequency' (set to 'Once'), 'Hourly constraints' (unchecked), and 'Information'.

**Backup:** Reinstallation of a database image file.

- ⚡ A backup file can either be created immediately or at a programmable date and time. The frequency of the backup can be chosen from the selection illustrated below.

Frequency:

- Once
- Once
- Every N hours
- Every N days
- Every N weeks
- Every N months
- Every year

- ⚡ Using the configuration tool, a regular rolling backup can be defined. The number of backup files (1 to 100) must be defined. The most recent backup replaces the oldest when capacity is reached (e.g. if 100 backup files are allowed, the 101st backup will replace the first.)

**Restore:** The contents of the backup file are loaded into the database. Any data previously present in the database is erased and no longer available.

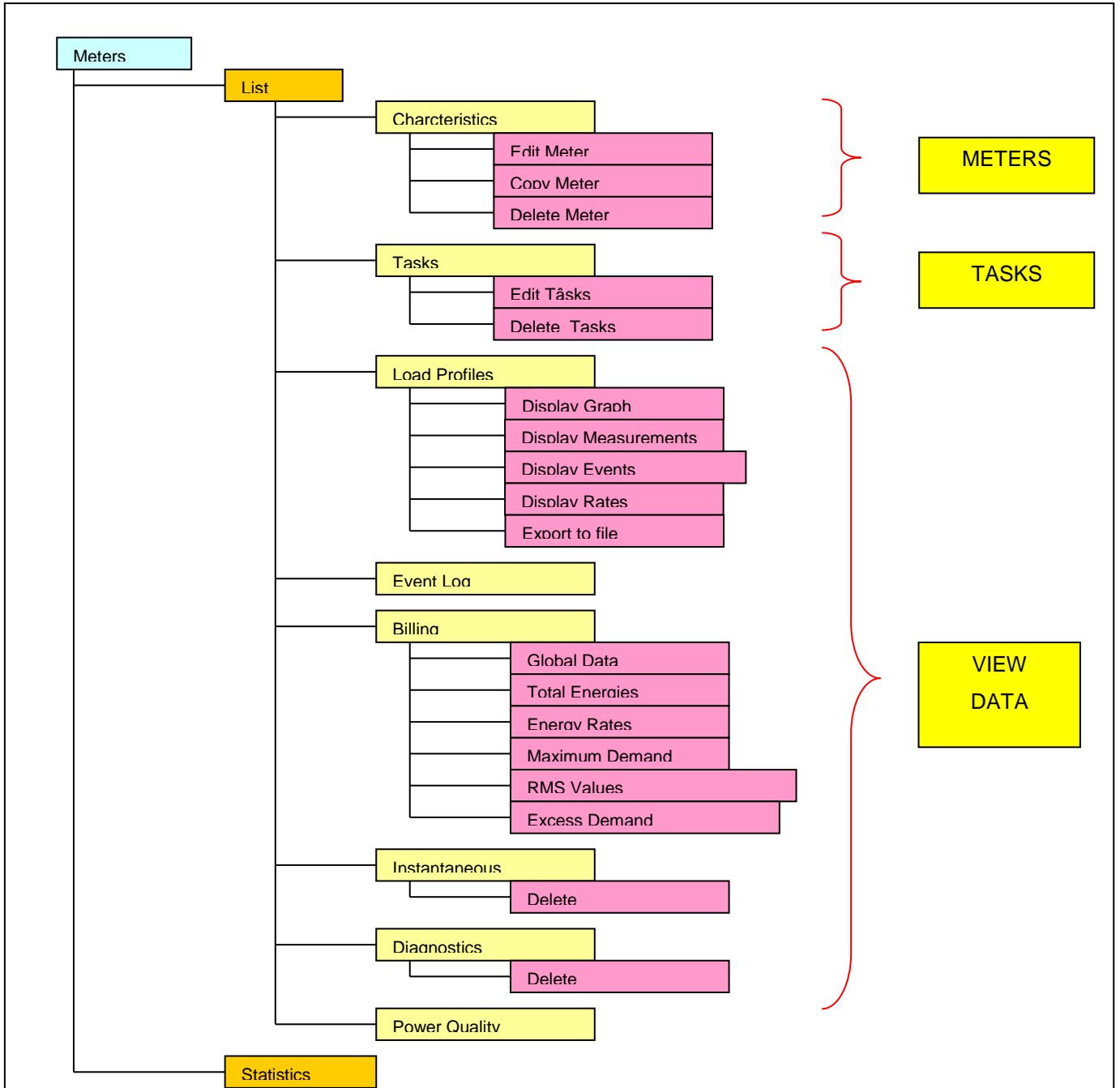
➤ Data restore is carried out by selecting the required restore file from the displayed list :

Backup		Restore	
<b>List of back-up files to restore</b>			
Date	Size	Information	
13/03/2011 21:09	132 452 Ko	rees	
23/02/2011 07:20	49 541 Ko		
22/02/2011 16:04	132 427 Ko		
16/02/2011 09:56	132 158 Ko		
11/02/2011 16:31	131 073 Ko		
02/02/2011 07:00	131 072 Ko		

## 3. USING ACE VISION

### 3.1. METER POINTS

Note: meter points are often referred to simply as meters in ACE Vision and this user guide.



The **Meter Points** feature is one of the most important in ACE Vision. From this menu, the meter database and remote meter reading tasks associated to each meter are generated. This is also the menu to use to view the remote reading data. The diagram above illustrates the different options available from the **Meter point** menu.

Select the **List** tab to display a list of all meters that already exist in the database.

Select the **Statistics** tab to view a set of communications statistics of the meters in the database.

## 3.2. COMMUNICATION STATISTICS

- ▶ Select **Meter Points**, then select the **Statistics** tab to view statistics of all meters. Click on a column title to sort the meters in rising order. The contents of the final column can be selected via a drop down list:

The screenshot shows the Itron ACE VISION web interface. The top left features the Itron logo and the tagline "Knowledge to Shape Your Future". The top right shows user information: "LOGIN admin" and "PROFILE Admin". The main content area is titled "Meters statistics (Last meters update : 11/02/2011 16:24)". Below this is an "Advanced search" section with input fields for "Serial number", "Client", and "Location", and a search button. A summary line states "Number of meters with error at the time of their last communication : 8 / 77 (10 %)" and "Filtered values 77 / 77". A table displays meter data with columns: "Serial number", "Last success", "Last error", "Last status", "Tasks count", "Success", and "Client". The "Client" column has a dropdown menu open, showing options: "Client", "Location", "Type and firmware", "Connection type", "Start dates statistics", "Last error message", "ADI success", and "Average attempts".

Serial number	Last success	Last error	Last status	Tasks count	Success	Client
00HT0543				0		
00HT0558				0		
00HT0585				0		
00HT0627				0		
00HT0685				0		Itron
01295430				0		Itron
01295466				0		Itron
10002060				0		Itron



### 3.3. CREATING METER POINTS

- ▶ Select **Task Management- Meter Points** to create a new meter.

**Note:** The creation of meter points is only available to users if enabled in the user account by the administrator. If not enabled, the creation icon will not appear on the screen.

**Itron**  
Knowledge to Shape Your Future

LOGIN admin  
PROFILE Admin

ACE Vision

List Statistics

List of meters (Last meters update : 11/02/2011 16:24)

Advanced search

Serial number Client Location

Filtered values 77 / 77

Serial number	Client	Location	Type and firmware	Connection type
00HT0543	Itron	Karachi - Hotel Ayesha	SL 7000 IEC5 (5.11)	All GSM modems
00HT0558	Itron	Karachi - Irfan steel	SL 7000 IEC5 (5.11)	All GSM modems
00HT0585	Itron	Karachi - Peoples fundation	SL 7000 IEC5 (5.11)	All GSM modems
00HT0627	Itron	Karachi - Faizan steel	SL 7000 IEC5 (5.11)	All GSM modems
00HT0685	Itron	Karachi - RS steel	SL 7000 IEC5 (5.11)	All GSM modems
01295430	Itron	HUNGARY	SL 7000 IEC4 (4.56)	All GSM modems
01295466	Itron	HONGRIE	SL 7000 IEC4 (4.56)	Modem Olitec
10002060	Itron	ACTARIS Chasseneuil (OLD CPT0)	SL 7000 IEC3 (3.51)	All non-GSM modems
10800046	Itron	Bureau JMP	SL 7000 IEC5 (5.46)	All GSM modems

Counting point information

Client \* - [dropdown] +

Location [text input]

Address [text input]

Postcode / City \* [text input] - [dropdown]

GPS latitude [text input]

GPS longitude [text input]

Installation date [calendar icon]

Comments [text input]

Technical definition

Technical aspects

Serial number \* [text input]

Meter type \* - [dropdown]

Type a password for modifying the previous one

Password Electricity Reader \* [text input]

Password Laboratory [text input]

First initial LP data collection depth (in days) \* 31 [text input]

Number of EOB data set to be read at first collection \* 2 [text input]

Attached file [file selection button] Aucun fichier choisi

Communications setup

Type of connection \* - [dropdown]

Mobile terminal [dropdown]

Advanced features

Notification message [text input]

Energy monitoring - [dropdown]

The settings listed below are used to enter the characteristics of each meter.

**Note:** Fields mark with a \* must be completed.

## Meter Point

**Client:** Customer to which the meter belongs.

**Localisation:** Identify the placement of the meter.

**Address:** Physical location of meter point

**Latitude (GPS):**

**Longitude (GPS):**

**PostCode :** if the list of city is not empty, it is proposed to fill the postcode of the city Then the name of city is filled automacally.

**Installation Date:**

**Comments:** Any further information related to a meter can be added here

## Technical Definition

### ➤ Technical Aspects

**Serial Number:** ACE Vision systematically checks the serial number of a meter before commencing remote reading.

**Meter Type:** ACE6000, SL7000, ACE8000

**Firmware Version:** Meter firmware type

**Electricity Reader Password:**

**Laboratory Password:** This is only required if configuration task creation is enabled.

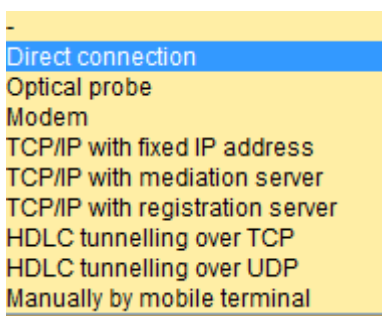
**First initial LP data collection depth (in days):** (31 by default)

**Number of EOB data set to be read at first collection:** (2 by default)

**Attached File:** Any data file can be associated to the meter (e.g. graphs and characteristics of meter installation)

### ➤ Communication Setup

**Connection Types:** chosen from the following list:



#### 1) **Direct Connection or Optical Probe:**

**Connection Name:** Chosen from the connection list previously created.

**Physical Address:** Physical address of meter (17 by default)

2) **Modem :**

**Connection Name:** Chosen from the direct connection list previously created.

**Telephone number:** Telephone number of modem connected to meter point

**Physical Address:** Physical address of meter (17 by default)

**Modem CLO:** Tick the box if connected to a CLO modem.

3) **TCP/IP with fixed IP address direct** (*Ethernet sparklet modem is connected to the meter*):

**IP Address:** IP address of Ethernet modem connected to meter

**Client IP Port:** Port used by the modem (703 by default)

4) **TCP/IP with mediation server** (*Ethernet sparklet modem is connected to the meter*):

**IP Address:** IP Address of mediation server

**Server IP Port:** IP Port used by the server (10703 by default)

5) **TCP/IP with registration server** (*Ethernet sparklet modem is connected to the meter*):

**IP Address:** IP Address of registration server

**Client IP Port:** Port used by the modem (703 by default)

**Server IP Port:** IP Port used by the server (10703 by default)

6) **HDLC tunnelling over TCP**

**Physical Address:** Physical address of meter (17 by default)

**IP Address:** IP address of modem / device connected to the meter

**Client IP Port:** IP Port used by modem / device connected to the meter (703 by default)

7) **HDLC tunnelling over UDP**

**Physical Address:** Physical address of meter (17 by default)

**IP Address:** IP address of modem / device connected to the meter

**Port IP Client:** IP Port used by modem / device connected to the meter (703 by default)

8) **Manually by mobile terminal:**

**Mobile Terminal:** ID and name of mobile terminal used

## Network topology

Network topology

Level / Substation / OUT \*

In the meter definition screen, a meter could be linked to a outgoing line of a substation (if some are defined). It should be defined :

- Substation level
- Substation name
- Outgoing lines

## Advanced Functions

**Notification message:** Message added to the start of an SMS or Email message

**Energy Monitoring:** Select the energy type to be monitored.

*Note: Once created, the meter is added to the list of meter points in the database.*

### 3.3.1. Network topology

#### 3.3.1.1. Definition of substation level

The first step of the definition of network topology is the creation of the substation levels. In ACE-VISION, up to 6 levels could be created, the level 1 being the higher one.

This is accessible through menu Installed Base configuration->Network Topology->Substations levels. One level could be suppressed only if no meters are associated to him.



Substation level definition (from higher to lower)		
Substation level 1	<input type="text" value="LV-MV"/>	<input type="button" value="X"/>
Substation level 2	<input type="text" value="MV-LV"/>	<input type="button" value="X"/>
Substation level 3	<input type="text"/>	<input type="button" value="X"/>





### 3.3.1.2. Definition of substations

Then the substations could be defined from the menu Installed Base Configuration-> Network Topology -> Substation.

Informations	
Name *	<input type="text"/>
Level of substation *	<input type="text" value="-"/>
Address	<input type="text"/>
Postcode / City	<input type="text" value="-"/>
Latitude	<input type="text"/>
Longitude	<input type="text"/>
INs	
No IN selected	
OUTs	
No OUT selected	

A substation is defined with:

- Its name
- Its substation level (from the pre-defined list)
- Its address
- Its post code
- Its latitude and the longitude
- A list of Incoming lines could be defined (of course, this list could be empty at the higher level). Each incoming line is linked to an outgoing line of the upper level, allowing to get the complete definition of the network.
- A list of outgoing lines. Each outgoing line ( OUT) is identified by
  - o Its name
  - o Its maximum capacity (kVA ou MVA)
  - o Its nominal voltage (kV)

INs						
						
Higher level substation    OUT						
1	<input type="text" value="-"/>	<input type="text" value="-"/>				
OUTs						
						
Name	Power	Voltage	Number of associated meters	Number of associated IN	Number of associated dynamic summations	
<input type="text"/>	<input type="text"/>	<input type="text" value="kW"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	
						

Only the field with (\*) are mandatory – the others are optional

The substation management is the same as the one for the meters. Creation, modification, duplication, deletion features are available.

Deletion of a substation is possible only if no other substation is linked to it.

### 3.4. METER POINT ACTIONS

The actions in this section appear once a meter has been selected from the meter point list.

#### 3.4.1. Meter Characteristics

- ▶ Select **Meter points**, then the **Characteristics** tab to view the characteristics of a meter.

The screenshot displays the ACE VISION web interface. The top header features the Itron logo with the tagline "Knowledge to Shape Your Future" and user information: "LOGIN admin PROFILE Admin". The navigation menu on the left is organized into sections: ACE Vision, Administration, Installed base configuration, Installed base management, and Data collection. The main content area has a tabbed interface with "Characteristics" selected. The "Meter : 36004247" page shows the following details:

Counting point information	
Client	Itron
Location	ACTARIS Chasseneuil (CPT5)
Address	1, AVENUE DES TEMPS MODERNES 86360 CHASSENEUIL FRANCE
GPS localisation	<a href="#">Link to geographical GPS map URL</a>
Comments	MEASURES CONSUMPTION FROM B3 BUILDING, EXCEPTING FACTORY. IS CONNECTED TO LAN VIA ETHERNET ILAN100 MODULE FROM CONNECTONE

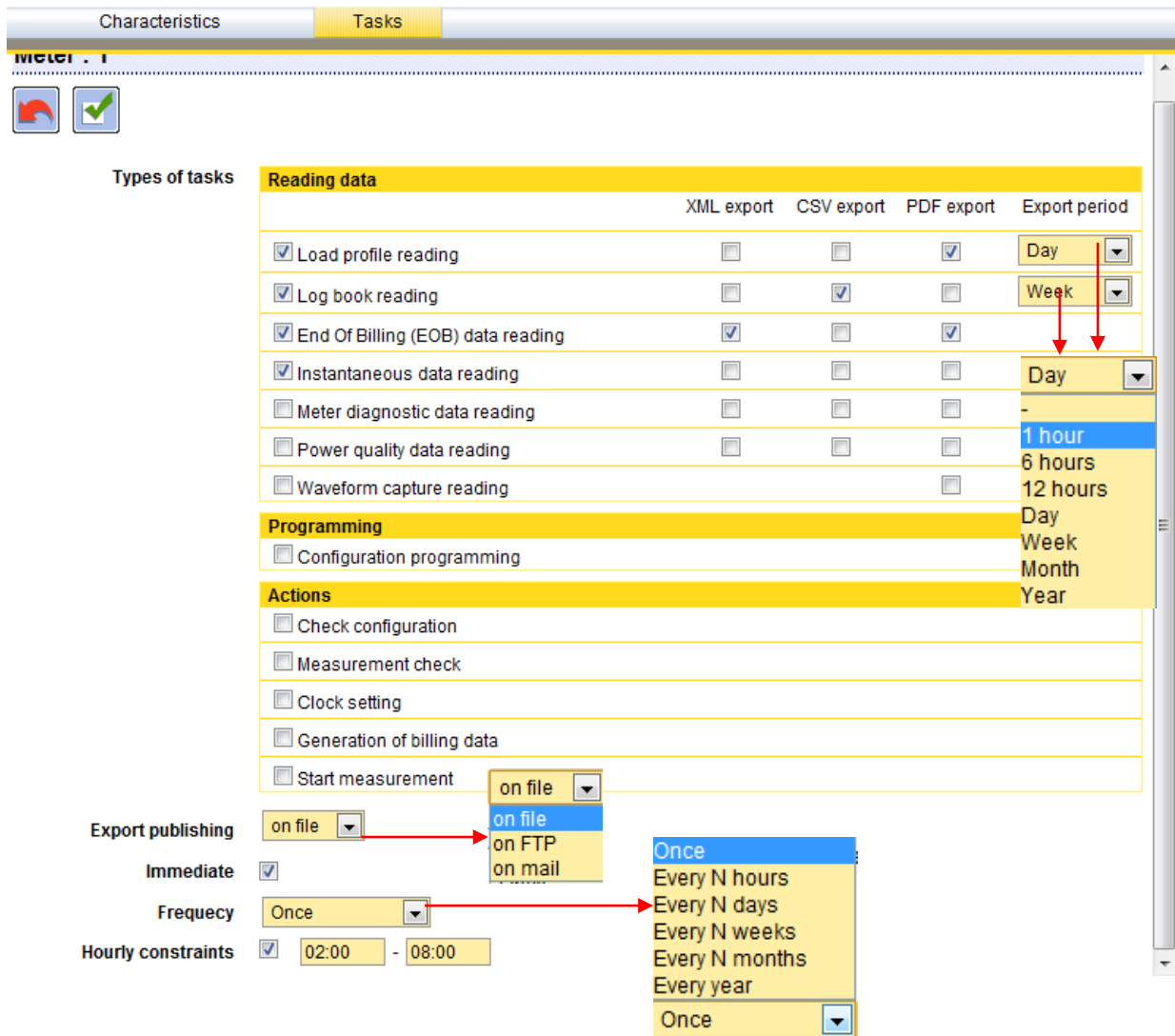
Technical definition	
Technical aspects	
Serial number	36004247
Meter type	SL 7000
Firmware version	IEC4 (4.40)

Communications setup	
Type of connection	TCP/IP with registration server
IP address	CHA-D8246
Client IP port	703
Server IP port	10703

### 3.4.2. Meter Tasks

▶ Select the Tasks tab to view programming and/or remote reading operations. A task can be performed immediately or scheduled and activated once or at regular intervals, within or outside a specified time slot.



⚡ Tasks can be set to read and export data, to configure a meter point and perform meter actions.

⚡ Tasks can be executed immediately or at a fixed date. Tasks can be performed one time only or at regular intervals.

⚡ A time slot can be defined (hourly constraints), with tasks only being performed within this time slot.

#### 3.4.2.1. Reading Tasks and Data Export

▶ Reading tasks can be set to read the following meter data:

- Load Profile Data

- Log Book Data
  - Billing (EOB) Data
  - Instantaneous Data
  - Meter Diagnostic Data
  - Power Quality Data
- ▶ Reading Tasks can also be used to export data in XML, CSV or PDF format.
  - ▶ For load profile and logbook data export, the export period must be defined. The data exported is the last complete data set applicable to the defined period available (e.g. if the period selected is **Day**, the preceding day's data is exported).
  - ▶ Data exported for billing (EOB), instantaneous, diagnostic and power quality data is the latest data available in the meter at the moment of task execution.
  - ▶ The exported data can be published to local file, Email or via FTP.

#### 3.4.2.2. Configuration Programming

- ▶ The configuration programming task can be used to load a pre-existing configuration (created in AIMS\_PRO (v5.35.3 or higher) or ACE Pilot) in XML format (The file is digitally signed).

***Note:** In order to create a configuration programming task, the client COSEM password **Laboratory** must be defined in the meter characteristics.*

#### 3.4.2.3. Actions

- ▶ The following actions can be created as tasks:
  - Check configuration: To compare a reference configuration with the configuration read by ACE Vision
  - Measurement check: To check if meter is in Start or Stop mode
  - Clock setting
  - Generation of billing data: To perform an EOB reset.
  - Start measurement: To leave Stop mode

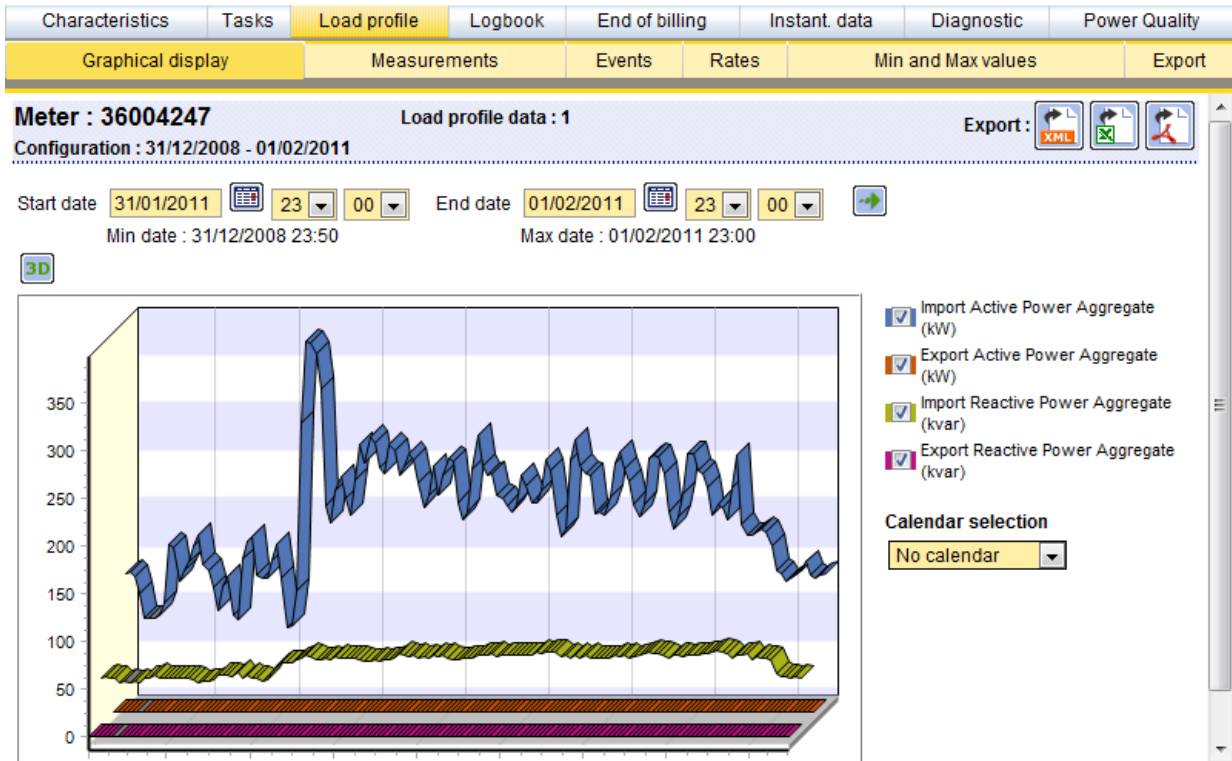
- ▶ If check configuration is selected, a reference configuration must be uploaded.

***Note:** If generation of billing data is selected, no other action or data reading operation can be selected in the task and the task may be performed once only.*



### 3.4.3. Load Profiles

▶ Load profile data can be displayed in graphic form (in 2D or 3D). The viewing period can be altered, but must lie within the configuration period.



▶ The **Measurements** tab displays load profile data in table form (date and time and aggregate power value for each selected channel).

Channel	Label	Unit
1	Import Active Power Aggregate	kW
2	Export Active Power Aggregate	kW
3	Import Reactive Power Aggregate	kvar
4	Export Reactive Power Aggregate	kvar

Date	1	2	3	4
31/01/2011 23:10	132	0	48	0
31/01/2011 23:20	134	0	50	0
31/01/2011 23:30	129	0	49	0
31/01/2011 23:40	111	0	49	0
31/01/2011 23:50	86	0	43	0
01/02/2011 00:00	85	0	45	0
01/02/2011 00:10	86	0	44	0
01/02/2011 00:20	88	0	45	0
01/02/2011 00:30	102	0	43	0
01/02/2011 00:40	164	0	49	0

▶ The **Events** tab displays all events that have occurred during the integration period.

The screenshot shows the 'Events' tab selected in the 'Load profile' section. The interface includes a top navigation bar with tabs: Characteristics, Tasks, Load profile, Logbook, End of billing, Instant. data, Diagnostic, and Power Quality. Below this is a sub-navigation bar with: Graphical display, Measurements, Events, Rates, Min and Max values, and Export. The main content area displays:

- Meter : 36004247** and **Load profile data : 1**
- Configuration : 31/12/2008 - 01/02/2011**
- Export icons for XML, Excel, and PDF.
- Start date: 31/01/2011 23:00, End date: 01/02/2011 23:00. Min date: 31/12/2008 23:50, Max date: 01/02/2011 23:00.
- List of events** section with a checkbox for 'Hide events of type "New date"'. A table shows one event:
 

Event	Interval
New date	Interval start : 01/02/2011 00:00:00

▶ The **Rates** tab can be used to add a pre-defined rate calendar to the load profile data.

The screenshot shows the 'Rates' tab selected in the 'Load profile' section. The interface includes a top navigation bar with tabs: Characteristics, Tasks, Load profile, Logbook, End of billing, Instant. data, Diagnostic, and Power Quality. Below this is a sub-navigation bar with: Graphical display, Measurements, Events, Rates, Min and Max values, and Export. The main content area displays:

- Meter : 36004247** and **Load profile data : 1**
- Configuration : 31/12/2008 - 01/02/2011**
- Export icons for XML, Excel, and PDF.
- Start date: 31/01/2011 23:00, End date: 01/02/2011 23:00. Min date: 31/12/2008 23:50, Max date: 01/02/2011 23:00.
- Calendar selection** dropdown menu set to 'No calendar'.
- Channel selection** section with checkboxes for:
  - Import Active Power Aggregate (kW)
  - Export Active Power Aggregate (kW)
  - Import Reactive Power Aggregate (kvar)
  - Export Reactive Power Aggregate (kvar)
- Apply** button.

► The **Min and Max Values** tab displays the 5 lowest and 5 highest values of each measurement channel over the selected period.



► Select the **Export** menu to export the load profile data to file.

### 3.4.4. Logbook


Select **Logbook** to view all meter events over the selected period.

In the above example, three event types are identified between 18/12/2010 and 19/12/2010. To view further detail of the timings of these events, select one or more from the list and click on **Apply**.

All events are listed in chronological order.

Click on a column title to sort the data in rising  or descending  order.

E.g. by **Type of Event**:

Type of event 	Parameter	Identifier	Date and time
Communication success	CUSTOM COMM	16015	18/12/2010 23:03:53
Communication success	CUSTOM COMM	16022	19/12/2010 23:03:32
Day profile change	Index Number : 1	16006	18/12/2010 09:00:00
Day profile change	Index Number : 1	16010	18/12/2010 18:00:00
Day profile change	Index Number : 2	16004	18/12/2010 06:00:00
Day profile change	Index Number : 2	16008	18/12/2010 11:00:00
Day profile change	Index Number : 2	16012	18/12/2010 20:00:00
Day profile change	Index Number : 3	16013	18/12/2010 22:00:00

### 3.4.5. Billing Data

- ▶ After an EOB reset, the following data is stored in the meter:  
**Global data, Total energy, Energy rate registers, Maximum demands, RMS Max and Excess demand.**
- ▶ The **end of billing** menu displays a list of all EOBs from the selected meter.

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
<b>Meter : 36004247</b>							
List of end of billing (EOB) data read							
EOB Reset number	Date	Source of EOB					
39	01/02/2011 02:00	Internally scheduled					
38	01/01/2011 02:00	Internally scheduled					
37	01/12/2010 14:45	Via push-button					
36	01/12/2010 02:00	Internally scheduled					
35	01/11/2010 02:00	Internally scheduled					
34	01/10/2010 02:00	Internally scheduled					
33	01/09/2010 02:00	Internally scheduled					
32	01/08/2010 02:00	Internally scheduled					
31	01/07/2010 02:00	Internally scheduled					
30	01/06/2010 02:00	Internally scheduled					
29	01/05/2010 02:00	Internally scheduled					
28	01/04/2010 02:00	Internally scheduled					
27	01/03/2010 02:00	Internally scheduled					
26	01/02/2010 02:00	Internally scheduled					
25	01/01/2010 02:00	Internally scheduled					
24	01/12/2009 02:00	Internally scheduled					
23	01/11/2009 02:00	Internally scheduled					
22	01/10/2009 02:00	Internally scheduled					
21	01/09/2009 02:00	Internally scheduled					
20	01/08/2009 02:00	Internally scheduled					
19	01/07/2009 02:00	Internally scheduled					
18	01/06/2009 02:00	Internally scheduled					
17	01/05/2009 02:00	Internally scheduled					
16	01/04/2009 02:00	Internally scheduled					
15	01/03/2009 02:00	Internally scheduled					

Select one of the EOBs to display detailed billing data. The menu bar indicates the different data types available. All EOB data, including the data presently displayed can be exported to file:

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Global data	Total energy	Energy rate registers	Maximum demands	RMS Max	Excess demand	
<b>Meter : 36004247</b>							
EOB reset date : 01/02/2011 02:00		Source of the EOB reset : Internally scheduled			Export total :		
Number of EOB resets : 39		Number of days : 31			XML		
Total working time : 329week 2day 14hour		Working time read on the : 01/02/2011 23:05:29			PDF		
Export :					Excel		

Menu Bar

#### 3.4.5.1. Customisation

- ▶ Ace Vision allows the user to customise the display of billing data (this customisation is performed by selecting **Preferences – Customisation of End of Billing (EOB) data**). Once created the customised data is viewed under the **End of billing - Customisation** tab.
- ▶ The customised data is viewed on a single screen according to billing data type.




### 3.4.5.2. Global Data




▶ Select **End of Billing - Global Data** to view global end of billing data.

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Global data	Total energy	Energy rate registers	Maximum demands	RMS Max	Excess demand	

**Meter : 36004247**

EOB reset date : 01/02/2011 02:00      Source of the EOB reset : Internally scheduled  
 Number of EOB resets : 39      Number of days : 31  
 Total working time : 329week 2day 14hour      Working time read on the : 01/02/2011 23:05:29

Export total :   

Export :   

Description	Value	Unit	Date
Minimum Power Factor	0,724		08/01/2011 20:20:00
Average Power Factor	0,8966		
Minimum Frequency	49,9	Hz	01/01/2011 02:01:21
Maximum Frequency	50,2	Hz	25/01/2011 07:03:19
Minimum Temperature	33	°C	02/01/2011 15:57:20
Maximum Temperature	40	°C	08/01/2011 11:03:37
Import Active Power Aggregate	155.568	W	
Export Active Power Aggregate	0	W	
Import Reactive Power Aggregate	47.504	var	
Export Reactive Power Aggregate	0	var	




### 3.4.5.3. Total Energy




▶ Select **End of billing - Total Energy** tab to view total energy values for an EOB.

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Global data	Total energy	Energy rate registers	Maximum demands	RMS Max	Excess demand	

**Meter : 36004247**

EOB reset date : 01/02/2011 02:00      Source of the EOB reset : Internally scheduled  
 Number of EOB resets : 39      Number of days : 31  
 Total working time : 329week 2day 14hour      Working time read on the : 01/02/2011 23:05:29

Export total :   

Export :   

Description	Value	Unit
L1 Active Plus	1.401.223	kWh
L2 Active Plus	1.021.857	kWh
L3 Active Plus	1.415.462	kWh
Sum LI Active Plus	3.838.543	kWh
L1 Active Minus	0	kWh
L2 Active Minus	0	kWh
L3 Active Minus	0	kWh
Sum LI Active Minus	0	kWh
L1 Reactive Plus	650.650	kvarh
L2 Reactive Plus	520.473	kvarh
L3 Reactive Plus	681.635	kvarh
Sum LI Reactive Plus	1.852.759	kvarh
L1 Reactive Minus	0	kvarh
L2 Reactive Minus	0	kvarh
L3 Reactive Minus	0	kvarh
Sum LI Reactive Minus	0	kvarh
L1 Reactive Q1	650.650	kvarh
L2 Reactive Q1	520.473	kvarh
L3 Reactive Q1	681.635	kvarh




### 3.4.5.4. Energy Rate Registers




- ▶ Select **End of Billing - Energy rate registers** to view EOB energy rate registers values.

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Global data	Total energy	Energy rate registers	Maximum demands	RMS Max	Excess demand	

**Meter : 36004247**

EOB reset date : 01/02/2011 02:00      Source of the EOB reset : Internally scheduled  
 Number of EOB resets : 39      Number of days : 31  
 Total working time : 329week 2day 14hour      Working time read on the : 01/02/2011 23:05:29

Export total :   

Export :   

Description	Value	Unit	Working time
Sum LI Active Plus Rate 1	179.838	kWh	6week 5day 19hour 52min 3sec
Sum LI Active Plus Rate 2	2.199.063	kWh	87week 6day 19hour 47min 50sec
Sum LI Active Plus Rate 3	1.459.641	kWh	71week 1day 23hour 24min 23sec
Sum LI Active Plus Rate 4	0	kWh	0sec
Sum LI Reactive Plus Rate 1	64.814	kvarh	6week 5day 19hour 52min 3sec
Sum LI Reactive Plus Rate 2	1.112.904	kvarh	87week 6day 19hour 47min 50sec
Sum LI Reactive Plus Rate 3	675.040	kvarh	71week 1day 23hour 24min 23sec
Sum LI Reactive Plus Rate 4	0	kvarh	0sec
Sum LI Reactive Minus Rate 1	0	kvarh	6week 5day 19hour 52min 3sec
Sum LI Reactive Minus Rate 2	0	kvarh	87week 6day 19hour 47min 50sec
Sum LI Reactive Minus Rate 3	0	kvarh	71week 1day 23hour 24min 23sec
Sum LI Reactive Minus Rate 4	0	kvarh	0sec




### 3.4.5.5. Maximum Demands




- ▶ Select **End of billing - Maximum demands** to display maximum demand details.

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Global data	Total energy	Energy rate registers	Maximum demands	RMS Max	Excess demand	

**Meter : 36004247**

EOB reset date : 01/02/2011 02:00      Source of the EOB reset : Internally scheduled  
 Number of EOB resets : 39      Number of days : 31  
 Total working time : 329week 2day 14hour      Working time read on the : 01/02/2011 23:05:29

Export total :   

Export :   

Group	Description	Value	Unit	Date
<b>1</b>	<b>Sum LI Active Plus Max 1 Rate 1</b>			
	Peak 1	275	kW	31/01/2011 10:30:00
	Peak 2	275	kW	31/01/2011 09:30:00
	Peak 3	267	kW	03/01/2011 09:30:00
	Peak 4	264	kW	03/01/2011 20:00:00
	Peak 5	262	kW	31/01/2011 18:40:00
	Cumulative	3.187	kW	
<b>2</b>	<b>Sum LI Active Plus Max 1 Rate 2</b>			
	Peak 1	292	kW	28/01/2011 07:20:00
	Peak 2	291	kW	31/01/2011 06:20:00
	Peak 3	289	kW	31/01/2011 06:10:00
	Peak 4	284	kW	31/01/2011 06:30:00
	Peak 5	283	kW	31/01/2011 07:10:00
	Cumulative	5.282	kW	
<b>3</b>	<b>Sum LI Active Plus Max 1 Rate 3</b>			
	Peak 1	389	kW	20/01/2011 05:30:00
	Peak 2	385	kW	20/01/2011 05:20:00
	Peak 3	377	kW	20/01/2011 05:40:00
	Peak 4	373	kW	26/01/2011 05:30:00






### 3.4.5.6. RMS Max




- ▶ End of billing - RMS Max displays RMS Max values.

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant data	Diagnostic	Power Quality
Customisation	Global data	Total energy	Energy rate registers	Maximum demands	RMS Max	Excess demand	

**Meter : 36004247**

EOB reset date : 01/02/2011 02:00      Source of the EOB reset : Internally scheduled  
 Number of EOB resets : 39      Number of days : 31  
 Total working time : 329week 2day 14hour      Working time read on the : 01/02/2011 23:05:29

Export total :   

Export :   

Description	Value	Unit	Date
L1 Current Max 1	4,15	A	20/01/2011 05:38:32
L2 Current Max 1	3,95	A	20/01/2011 05:29:32
L3 Current Max 1	4,17	A	20/01/2011 05:29:32
L1 Voltage Max 1	239,1	V	15/01/2011 21:20:24
L2 Voltage Max 1	239,3	V	06/01/2011 20:44:58
L3 Voltage Max 1	238,8	V	15/01/2011 21:20:24




### 3.4.5.7. Excess Demand




- ▶ Select **End of billing - Excess demand** to display excess demand details.

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant data	Diagnostic	Power Quality
Customisation	Global data	Total energy	Energy rate registers	Maximum demands	RMS Max	Excess demand	

**Meter : 36004247**

EOB reset date : 01/02/2011 02:00      Source of the EOB reset : Internally scheduled  
 Number of EOB resets : 39      Number of days : 31  
 Total working time : 329week 2day 14hour      Working time read on the : 01/02/2011 23:05:29

Export total :   

Export :   

Description	Threshold	Occurrence	Duration	Magnitude	Excess
Sum LI Active Plus Over Threshold Rate 1	960 kW	0	0 min	0 kW	0 kWh
Sum LI Active Plus Over Threshold Rate 2	960 kW	0	0 min	0 kW	0 kWh
Sum LI Active Plus Over Threshold Rate 3	960 kW	0	0 min	0 kW	0 kWh
Sum LI Active Plus Over Threshold Rate 4	960 kW	0	0 min	0 kW	0 kWh
Sum LI Active Plus Over Threshold Rate 5	960 kW	0	0 min	0 kW	0 kWh



### 3.4.6. Instantaneous Data

- ▶ The **Instant. data** tab provides instant data to the last second. Instantaneous data consists of:  
**Instantaneous power, Power factor, RMS Value, Neutral and Phase angle.**
- ▶ Select **Instant. Data** to display a list of all instantaneous data available from the selected meter.

The screenshot shows the 'Instant. data' tab selected in a navigation menu. Below the menu, the meter ID '36004247' is displayed. An 'Advanced search' section includes a 'Date' input field with a green checkmark icon. Below this, a status bar indicates 'Filtered values 844 / 844' and 'Page 1 / 106'. A table lists data points with a 'Date and time' column and a checkbox for each row. The data points are as follows:

Date and time
<input type="checkbox"/> 01/02/2011 23:00:50
<input type="checkbox"/> 31/01/2011 23:00:55
<input type="checkbox"/> 30/01/2011 23:00:52
<input type="checkbox"/> 29/01/2011 23:00:54
<input type="checkbox"/> 28/01/2011 23:00:54
<input type="checkbox"/> 27/01/2011 23:00:55
<input type="checkbox"/> 26/01/2011 23:00:55
<input type="checkbox"/> 25/01/2011 23:00:54

↻ Select a time from the instantaneous data list to display detailed data for that given moment. A menu bar indicates the instantaneous data types available.





This screenshot shows the detailed data view for the selected time. The 'Date : 01/02/2011 23:00:50' is highlighted with a red box. Below the date, an 'Export' section contains icons for XML, a checkmark, and a PDF. A 'Menu Bar' is shown below the main content area, with a red arrow pointing to it from a red box labeled 'Menu Bar'. The menu bar includes options: Customisation, Total energy, Energy rate registers, Instant. power, Power factor, RMS value, Neutral, and Phase angle.

### 3.4.6.1. Customisation




- ▶ Ace Vision allows the user (subject to administrative rights) to customise the display of instantaneous data (this customisation is performed by selecting **Preferences - Customisation of Instantaneous data**. Once created the customised data is viewed under the **Instant Data. - Customisation** tab.
- ▶ Customised data is displayed on a single screen by instantaneous data type.

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Total energy	Energy rate registers	Instant. power	Power factor	RMS value	Neutral	Phase angle

**Meter : 36004247**  **Export total :**   

Date : 01/02/2011 23:00:50

Export :   

Total energy	Value	Unit
Sum LI Active Plus	3.842.870	kWh
Sum LI Active Minus	0	kWh
Sum LI Reactive Plus	1.854.162	kvarh
Sum LI Reactive Minus	0	kvarh

Instant. power	Value	Unit
Import Active Power Aggregate	93.536	W
Export Active Power Aggregate	0	W
Import Reactive Power Aggregate	49.488	var
Export Reactive Power Aggregate	0	var

Power factor	Value	Unit
Average Power Factor	0,9083	





  

RMS value	Value	Unit
L1 Current	1,081	A
L1 Voltage	233,9	V




### 3.4.6.2. Total Energy

- ▶ Instantaneous total energy values can be displayed by selecting **Instant data. - Total energy.**

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Total energy	Energy rate registers	Instant. power	Power factor	RMS value	Neutral	Phase angle

**Meter : 36004247**  Export total:   

Date : 01/02/2011 23:00:50





Export:   

Description	Value	Unit
L1 Active Plus	1.402.732	kWh
L2 Active Plus	1.023.197	kWh
L3 Active Plus	1.416.941	kWh
Sum LI Active Plus	3.842.870	kWh
L1 Active Minus	0	kWh
L2 Active Minus	0	kWh
L3 Active Minus	0	kWh
Sum LI Active Minus	0	kWh
L1 Reactive Plus	651.116	kvarh
L2 Reactive Plus	520.918	kvarh
L3 Reactive Plus	682.128	kvarh
Sum LI Reactive Plus	1.854.162	kvarh
L1 Reactive Minus	0	kvarh
L2 Reactive Minus	0	kvarh
L3 Reactive Minus	0	kvarh
Sum LI Reactive Minus	0	kvarh
L1 Reactive Q1	651.116	kvarh
L2 Reactive Q1	520.918	kvarh
L3 Reactive Q1	682.128	kvarh
Sum LI Reactive Q1	1.854.162	kvarh
L1 Reactive Q2	0	kvarh




### 3.4.6.3. Energy Rate Registers

- ▶ Select **Instant data. - Energy rate registers** to view instantaneous values

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Total energy	Energy rate registers	Instant. power	Power factor	RMS value	Neutral	Phase angle

**Meter : 36004247**  Export total:   

Date : 01/02/2011 23:00:50





Export:   

Description	Value	Unit	Working time
Sum LI Active Plus Rate 1	180.737	kWh	6week 5day 19hour 52min 3sec
Sum LI Active Plus Rate 2	2.201.663	kWh	87week 6day 19hour 47min 50sec
Sum LI Active Plus Rate 3	1.460.470	kWh	71week 1day 23hour 20min 47sec
Sum LI Active Plus Rate 4	0	kWh	0sec
Sum LI Reactive Plus Rate 1	65.102	kvarh	6week 5day 19hour 52min 3sec
Sum LI Reactive Plus Rate 2	1.113.757	kvarh	87week 6day 19hour 47min 50sec
Sum LI Reactive Plus Rate 3	675.302	kvarh	71week 1day 23hour 20min 47sec
Sum LI Reactive Plus Rate 4	0	kvarh	0sec
Sum LI Reactive Minus Rate 1	0	kvarh	6week 5day 19hour 52min 3sec
Sum LI Reactive Minus Rate 2	0	kvarh	87week 6day 19hour 47min 50sec
Sum LI Reactive Minus Rate 3	0	kvarh	71week 1day 23hour 20min 47sec
Sum LI Reactive Minus Rate 4	0	kvarh	0sec




### 3.4.6.4. Instantaneous Power

▶ Select **Instant data. - Instant. power** to display instantaneous power details.

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Total energy	Energy rate registers	Instant. power	Power factor	RMS value	Neutral	Phase angle

**Meter : 36004247**  Export total :   

Date : 01/02/2011 23:00:50





Export :   

Description	Value	Unit
L1 Active Plus	32.592	W
L2 Active Plus	26.544	W
L3 Active Plus	34.400	W
Import Active Power Aggregate	93.536	W
L1 Active Minus	0	W
L2 Active Minus	0	W
L3 Active Minus	0	W
Export Active Power Aggregate	0	W
L1 Reactive Plus	16.192	var
L2 Reactive Plus	15.904	var
L3 Reactive Plus	17.168	var
Import Reactive Power Aggregate	49.488	var
L1 Reactive Minus	0	var
L2 Reactive Minus	0	var
L3 Reactive Minus	0	var
Export Reactive Power Aggregate	0	var
Sum LI Reactive Q1	49.488	var
Sum LI Reactive Q2	0	var
Sum LI Reactive Q3	0	var
Sum LI Reactive Q4	0	var
L1 Apparent Plus	36.384	VA




### 3.4.6.5. Power Factor

▶ **Instant data. – Power Factor** displays power factor for each phase (phase1, 2 and 3) and average power factor.

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Total energy	Energy rate registers	Instant. power	Power factor	RMS value	Neutral	Phase angle

**Meter : 36004247**  Export total :   

Date : 01/02/2011 23:00:50





Export :   

Description	Value	Unit
L1 Power Factor	0,917	
L2 Power Factor	0,8907	
L3 Power Factor	0,9144	
Average Power Factor	0,9083	




### 3.4.6.6. RMS Value

► Select **Instant data. - RMS Value** to display instantaneous voltage and current per phase.

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Total energy	Energy rate registers	Instant. power	Power factor	RMS value	Neutral	Phase angle

**Meter : 36004247**  Export total:   

Date : 01/02/2011 23:00:50





Export:   

Description	Value	Unit
L1 Current	1,081	A
L2 Current	0,932	A
L3 Current	1,141	A
L1 Voltage	233,9	V
L2 Voltage	234,2	V
L3 Voltage	233,8	V




### 3.4.6.7. Neutral

► Select **Instant data. – Neutral** to display instantaneous current and voltage of neutral

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Customisation	Total energy	Energy rate registers	Instant. power	Power factor	RMS value	Neutral	Phase angle

**Meter : 36004247**  Export total:   

Date : 01/02/2011 23:00:50

Export:   

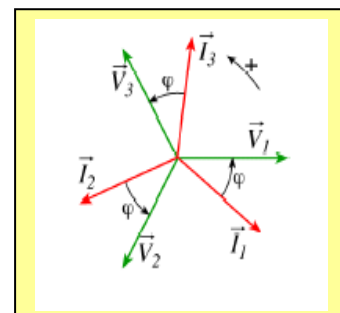
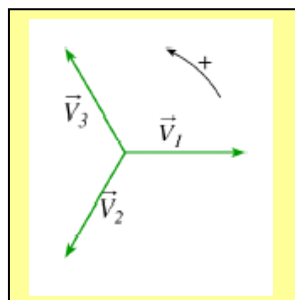
Description	Value	Unit
L0 Current	0,206	A
L0 Voltage	3,3	V

### 3.4.6.8. Phase Angle

► Phase Angle

voltage/voltage

and voltage/ current



**Meter : 36004247**

Date : 01/02/2011 23:00:50



Export total :   

Export :   

Description	Value	Unit
Angles I(L1) To U(L1)	25,8	°
Angles I(L2) To U(L2)	29,9	°
Angles I(L3) To U(L3)	25,8	°
Angles U(L2) To U(L1)	119,5	°
Angles U(L1) To U(L3)	119,7	°
Angles U(L3) To U(L2)	120,8	°

### 3.4.7. Diagnostics

▶ Each meter reading provides time-stamped diagnostic records.

The screenshot shows a web interface with a navigation bar at the top containing tabs: Characteristics, Tasks, Load profile, Logbook, End of billing, Instant. data, Diagnostic (highlighted), and Power Quality. Below the navigation bar are two sections: 'Status word' and 'Field info'. The main content area is titled 'Meter : 36004247' and 'List of meter diagnostic data'. It features an 'Advanced search' section with a 'Date' input field and a checkmark icon. Below this, it shows 'Filtered values 858 / 858' and 'Page 1 / 108'. A table lists diagnostic records with columns for 'Date and time' and a checkbox. The entry for '30/01/2011 23:00:40' is highlighted with a red box, and a red arrow points from it to the detailed view below.

<input type="checkbox"/> Date and time
<input type="checkbox"/> 01/02/2011 23:00:41
<input type="checkbox"/> 31/01/2011 23:00:47
<input type="checkbox"/> 30/01/2011 23:00:40
<input type="checkbox"/> 29/01/2011 23:00:47
<input type="checkbox"/> 28/01/2011 23:00:44
<input type="checkbox"/> 27/01/2011 23:00:46
<input type="checkbox"/> 26/01/2011 23:00:45
<input type="checkbox"/> 25/01/2011 23:00:44

↻ Select a date and time from the list to view if fatal and non fatal alarms were activated during the selected period.

The screenshot shows the detailed diagnostic view for meter 36004247. The navigation bar is the same as in the previous screenshot. The main content area is titled 'Meter : 36004247' and 'Date : 30/01/2011 23:00:40'. Below this, there are 'Export' options for XML, CSV, and PDF. The status is displayed as 'Fatal alarms : No fatal alarm recorded' and 'Non fatal alarms : No non fatal alarm recorded'. A red arrow from the previous screenshot points to the 'Date : 30/01/2011 23:00:40' text.

Export:

Fatal alarms : No fatal alarm recorded

Non fatal alarms : No non fatal alarm recorded

### 3.4.7.1. Field Information

The **Diagnostics - Field Information** tab provides information relative to HHU (mobile terminal connections).




### 3.4.8. Power Quality Data




► There are three types of power quality data: Swells, Sags and Cuts. Only data from the last remote reading are displayed. A menu bar related to the three power quality types is provided:

#### 3.4.8.1. Swells

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Swells		Sags			Cuts		

**Meter : 36004247**  
Date : 01/02/2011 23:03:48

Export total:   

Export:   

**Summary**

	Phase 1	Phase 2	Phase 3
Minimum duration	0.07sec	4week 4hour 11min 24.89sec	4week 4hour 11min 24.89sec
Date	02/02/1992 19:12:11	23/11/2007 14:59:56	23/11/2007 14:59:56
Maximum duration	4week 4hour 11min 24.89sec	4week 4hour 11min 24.89sec	4week 4hour 11min 24.89sec
Date	23/11/2007 14:59:56	23/11/2007 14:59:56	23/11/2007 14:59:56
Total duration	4week 4hour 11min 24.96sec	4week 4hour 11min 24.89sec	4week 4hour 11min 24.89sec
Occurrences	2	1	1




**Historical data**




Phase	Duration	Magnitude	Date	Log Book ID
3	4week 4hour 11min 24.89sec	230,3 V	23/11/2007 14:59:56	34371
2	4week 4hour 11min 24.89sec	231,8 V	23/11/2007 14:59:56	34370
1	4week 4hour 11min 24.89sec	230,7 V	23/11/2007 14:59:56	34369

#### 3.4.8.2. Sags

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Swells		Sags			Cuts		

**Meter : 36004247**  
Date : 01/02/2011 23:03:48

Export total:   

Export:   

**Summary**







	Phase 1	Phase 2	Phase 3
Minimum duration	0.03sec	0.03sec	0.03sec
Date	10/08/2010 04:44:53	10/08/2010 04:44:53	10/08/2010 04:44:53
Maximum duration	41.82sec	31.83sec	41.86sec
Date	10/08/2010 04:58:12	10/08/2010 17:29:07	10/08/2010 04:58:12
Total duration	8min 32.38sec	7min 51.43sec	8min 31.97sec
Occurrences	148	146	159

**Historical data**

Phase	Duration	Magnitude	Date	Log Book ID
3	0.08sec	N/A	11/09/2010 07:02:52	14972
2	0.08sec	N/A	11/09/2010 07:02:52	14971
3	0.12sec	N/A	27/08/2010 09:07:17	14781
2	0.12sec	N/A	27/08/2010 09:07:17	14780
1	0.12sec	N/A	27/08/2010 09:07:17	14779
3	0.16sec	114,4 V	27/08/2010 09:03:49	14775
2	0.16sec	115,1 V	27/08/2010 09:03:49	14774
1	0.16sec	116 V	27/08/2010 09:03:49	14773
3	0.16sec	156,3 V	27/08/2010 09:03:09	14769
2	0.16sec	155 V	27/08/2010 09:03:09	14768
1	0.16sec	156,9 V	27/08/2010 09:03:09	14767



### 3.4.8.3. Cuts

Characteristics	Tasks	Load profile	Logbook	End of billing	Instant. data	Diagnostic	Power Quality
Swells		Sags			Cuts		
<b>Meter : 36004247</b>							Export total:   
Date : 01/02/2011 23:03:48							
Export:   							
<b>Summary</b>							
	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>				
<b>Minimum duration</b>	0.04sec	0.04sec	0.04sec				
<b>Date</b>	14/06/2007 09:00:38	14/06/2007 09:00:38	14/06/2007 09:00:38				
<b>Maximum duration</b>	1week 1day 8hour 22min 15.01sec	2week 3day 4hour 20min 14.36sec	2week 3day 4hour 51min 32.24sec				
<b>Date</b>	31/01/1992 01:23:57	16/10/2004 15:07:04	16/10/2004 15:07:04				
<b>Total duration</b>	2week 1day 19hour 52min 34.04sec	3week 15hour 14min 55.75sec	3week 15hour 46min 13.07sec				
<b>Occurrences</b>	95	97	101				
<b>Historical data</b>							
<b>Phase</b>	<b>Duration</b>	<b>Magnitude</b>	<b>Date</b>	<b>Log Book ID</b>			
3	0.04sec	N/A	22/08/2010 04:32:51	14723			
2	0.04sec	N/A	22/08/2010 04:32:51	14722			
1	0.04sec	N/A	22/08/2010 04:32:51	14720			
3	50min 38.05sec	0 V	12/08/2010 15:46:29	14634			
2	50min 38.05sec	0 V	12/08/2010 15:46:29	14633			
1	50min 38.33sec	0 V	12/08/2010 15:46:29	14631			
2	0.04sec	N/A	12/08/2010 14:55:51	14621			
3	10.04sec	0 V	11/08/2010 09:16:43	14242			
2	10.04sec	0 V	11/08/2010 09:16:43	14241			
1	10.04sec	0 V	11/08/2010 09:16:43	14239			
3	2min 1.05sec	0 V	03/07/2010 02:48:29	12357			

### 3.5. METER GROUPS

- ▶ ACE Vision allows the creation and definition of groups of meters. Each group must have a name and a group may contain meters of different types (e.g. ACE6000 and SL7000 etc)
- ▶ Select **Installed base management – Groups** to display a list of already existing groups.

**ACE Vision** Knowledge to Shape Your Future

LOGIN admin  
PROFILE Admin

ACE Vision Groups

**Administration**

- > Communication media configuration
- > Users configuration
- > Data Base
- Preferences

**Installed base configuration**

- > Customer management
- Meter points
- Groups**
- Summations
- Energy monitoring
- Calendars

**Installed base management**

- > Task management
- > Data Management
  - Meter points
  - Summations
- > Reports

**Data collection**

- > Revenue protection
- > Dashboard

Group name	Meter type	Client
Chasseneuil (CPT0-6)	All types	Itron
<b>Chasseneuil (CPT1-3)</b>	SL 7000	Itron
Chasseneuil (CPT5-6)	SL 7000	Itron
MDF	SL 7000	MDP
pakistan	All types	All clients
Test	SL 7000	Itron
TNE	All types	All clients

**Group : Chasseneuil (CPT1-3)** id : 9

Client Itron  
Meter type SL 7000

**Advanced search**

Serial number  Location

**Group meters list**

Filtered values 3 / 3 Page 1 / 1

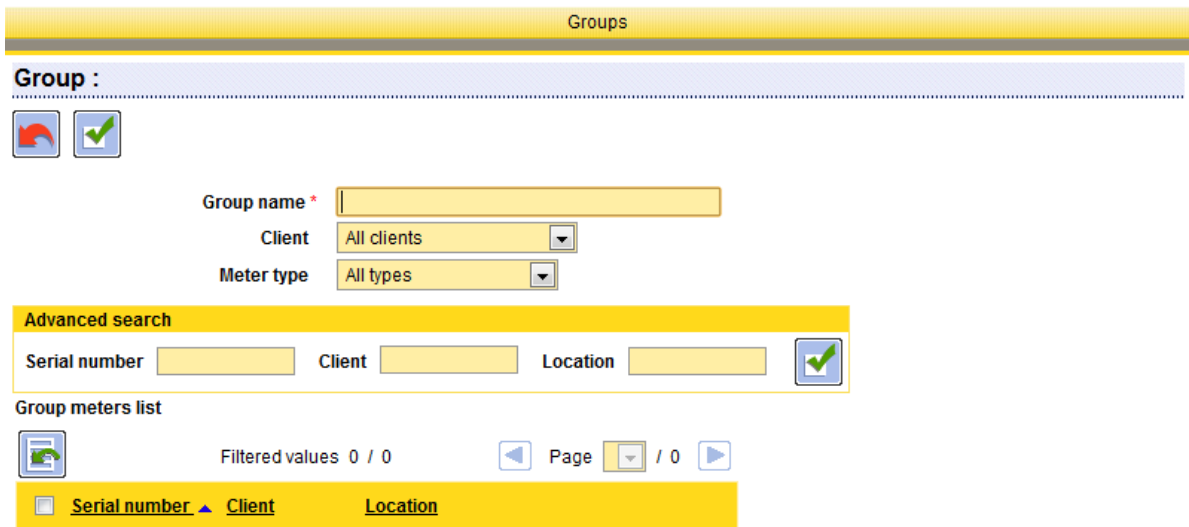
Serial number	Location
30001500	ACTARIS Chasseneuil (CPT1)
30001501	ACTARIS Chasseneuil (CPT2)
30001503	ACTARIS Chasseneuil (CPT3)

Meters in the group

Once a group is selected, **Characteristics** and **Tasks** tabs are displayed. The characteristics tab displays group details (client name, meter type and meter list). The task tab displays all tasks associated to the selected group.

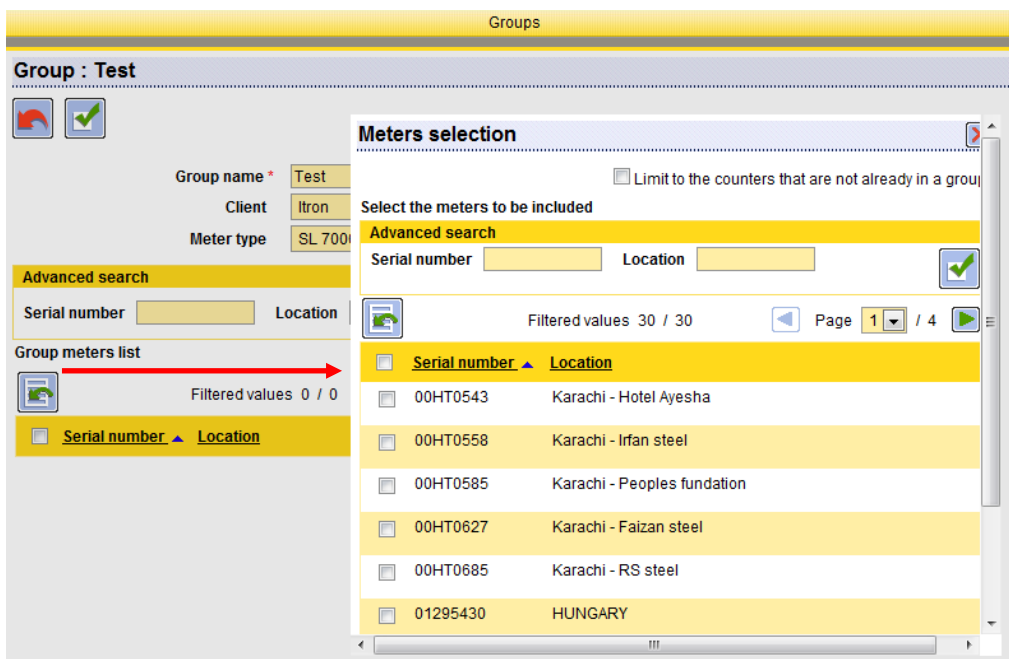
### 3.5.1. Create a Meter Group


Once a new group has been created, the following screen is displayed:

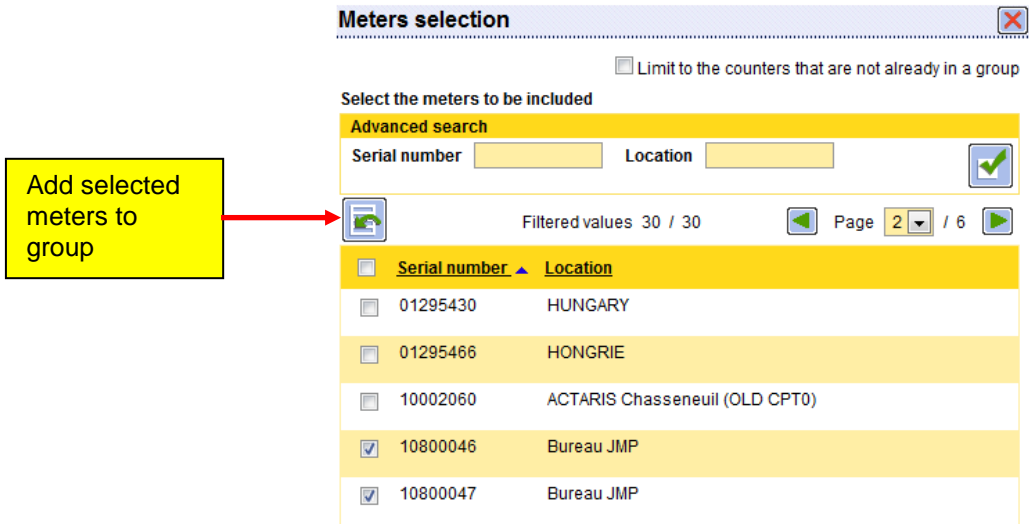


Enter a name for the group, along with the client and meter type(s).

Click on the  button under **Group meters list** to display a list of meters available to the selected client:



- It is possible to display only the meters that are not already associated to a group
- To select a meter tick the box. When all required meters have been selected, apply the selection by clicking .





**Meters selection**

Limit to the counters that are not already in a group


Select the meters to be included

Advanced search

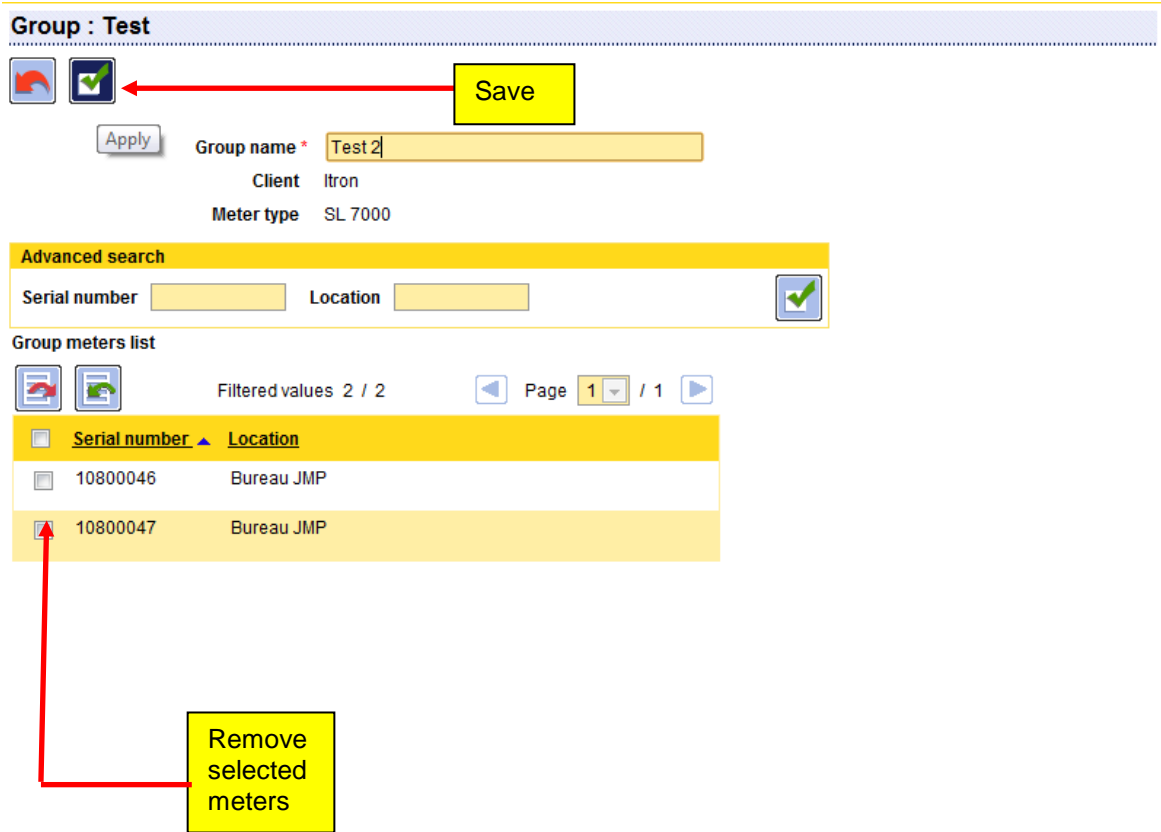
Serial number  Location  

 Filtered values 30 / 30 Page 2 / 6



<input type="checkbox"/>	Serial number	Location
<input type="checkbox"/>	01295430	HUNGARY
<input type="checkbox"/>	01295466	HONGRIE
<input type="checkbox"/>	10002060	ACTARIS Chasseneuil (OLD CPT0)
<input checked="" type="checkbox"/>	10800046	Bureau JMP
<input checked="" type="checkbox"/>	10800047	Bureau JMP

- Meters can be removed from a group by ticking the associated box and clicking the  button under **Groups meter list**.

**Important:** Remember to save the selection before closing the screen.



**Group : Test**


  **Save**

Apply Group name \*



Client Itron

Meter type SL 7000

Advanced search

Serial number  Location  

Group meters list

  Filtered values 2 / 2 Page 1 / 1


<input type="checkbox"/>	Serial number	Location
<input type="checkbox"/>	10800046	Bureau JMP
<input checked="" type="checkbox"/>	10800047	Bureau JMP

**Remove selected meters**

### 3.5.2. Add Tasks to a Group

▶ Just as tasks can be added to individual meters, they can also be assigned to a group of meters

↗ List of tasks assigned to group **Chasseneuil (CPT0-6)**:

Characteristics		Tasks			
<b>Group : Chasseneuil (CPT0-6)</b>					
					
Task	Author	Date	Period	Hourly constraints	
Load profile export PDF (Day)					
Log book export PDF (Day)					
End Of Billing (EOB) data export PDF	admin	19/02/2011 11:30	Day		
Instantaneous data export PDF					
Meter diagnostic data export PDF					
Power quality data export PDF					
Waveform capture export PDF					
Measurement check					
Load profile reading					
Log book reading					
End Of Billing (EOB) data reading	admin	18/02/2011 23:00	Day		
Instantaneous data reading					
Meter diagnostic data reading					
Power quality data reading					
Waveform capture reading					

▶ As for a meter, to create group tasks, the user must:

- Select the type of tasks to perform
- Program the date and time of task execution

Characteristics		Tasks			
Types of tasks	<b>Reading data</b>				
		XML export	CSV export	PDF export	Export period
	<input checked="" type="checkbox"/> Load profile reading	LP1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Log book reading		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> End Of Billing (EOB) data reading		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Instantaneous data reading		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Meter diagnostic data reading		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Power quality data reading		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Waveform capture reading			<input type="checkbox"/>	
	<b>Programming</b>				
	<input type="checkbox"/> Configuration programming				
	<b>Actions</b>				
	<input type="checkbox"/> Check configuration				
	<input type="checkbox"/> Measurement check				
	<input type="checkbox"/> Clock setting				
<input type="checkbox"/> Generation of billing data					
<input type="checkbox"/> Start measurement					
Immediate	<input checked="" type="checkbox"/>				
Frequency	Once				

⇒ The settings are configured in the same way as for meter point tasks ([see Meter Tasks](#))

## 3.6. CALENDAR

▶ This menu allows the user to create calendars containing tariffication (time of use) periods.

↻ The first screen displays a list of existing calendars:

The screenshot shows the Itron ACE Vision web interface. The header includes the Itron logo and the tagline "Knowledge to Shape Your Future". The user is logged in as "admin" with the profile "Admin". The navigation menu on the left is expanded to show the "Calendars" option under "Installed base configuration". The main content area displays a table of existing calendars and an "Add" button.

Name	Client	Comments
aaaa	All clients	zzzz
Billing MV	Itron	
C23	Itron	Commercial tariff Poland
EM	All clients	
ENEL	All clients	Calendar test
Tarif MT	Itron	
Tarification ONE	Itron	
Test	Itron	
Tritarif	All clients	3 tarifs : Heure été - Heure pleine hiver et Heure creuse hiver

### 3.6.1. Calendar Creation (Step 1)

▶ A wizard is provided to help define the different constituents of the calendar (Rates, Day Profiles, Seasons, Special days, Weeks).

The screenshot shows the "Calendar wizard" form in the Itron ACE Vision web interface. The wizard is currently on the "1. Description" step. The form includes fields for Name, Client, and Comment.

**Calendar wizard** 1. Description 2. Rates 3. Day Profiles 4. Seasons 5. Special days 6. Weeks

Name \* Test guide

Client \* All clients

Comment

↻ Each calendar must be given a unique name. A calendar can be associated to all clients or a specific client chosen from the existing list. A comment field is available to describe the calendar (see example below):

**Calendar wizard** 1. Description 2. Rates 3. Day Profiles 4. Seasons 5. Special days 6. Weeks

Next

Name \* Three Rate

Client \* All clients

Comment 3 Rates:  
Summer Rate  
Day time winter rate  
Night time winter Rate

⇒ Once the description field has been completed click on the **Next** button to move on to the next section of the wizard (Rates).

### 3.6.2. Create Rates (Step 2)

▶ Define the rates to be added to the calendar by assigning names and colours. Click on the **Add** button, then **Next** to move to the next screen of the wizard.

Calendars

**Calendar wizard** 1. Description 2. Rates 3. Day Profiles 4. Seasons 5. Special days 6. Weeks

Add

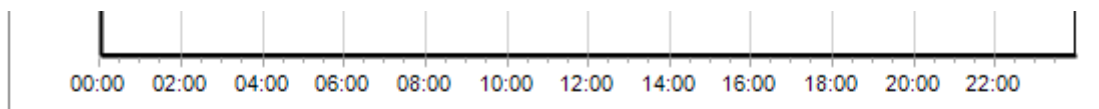
Summer |

Winter night |

Winter day |

### 3.6.3. Create Day Profiles (Step 3)

- ▶ Day profiles are defined in 2 steps:
- 1. Create and name a new daily profile.
  - 2. Define the period (cut off time of daily profile).



Day profile selection

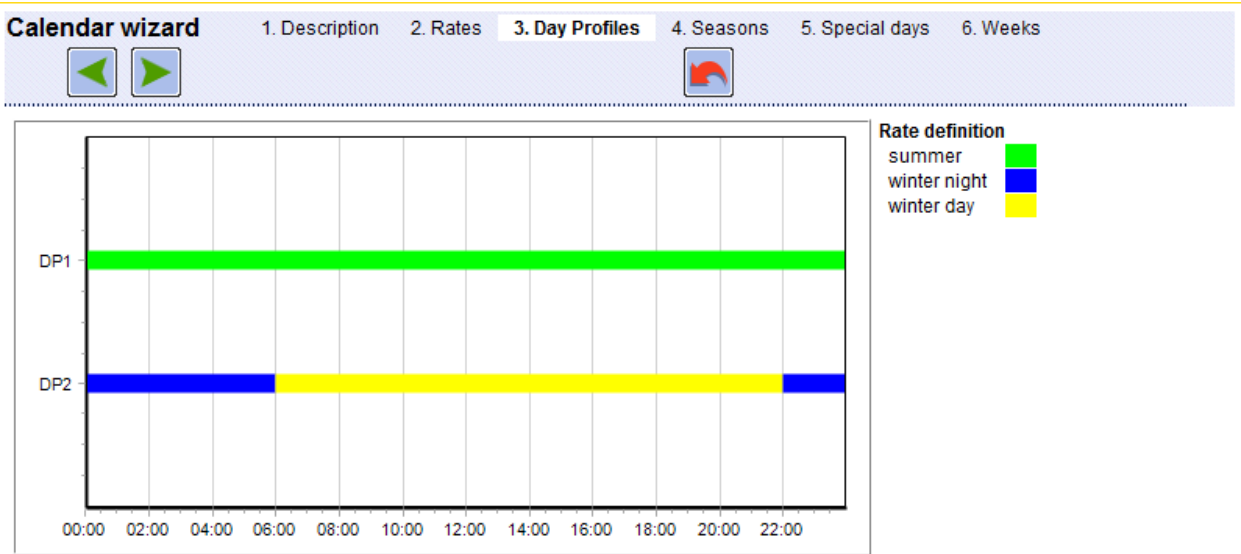
Modification of day profile

Name

---

Period

**Example:** DP1 (single rate from 00:00 to 24:00). DP2 (2 rates: winter night time rate from 00:00 to 06:00 and 22:00 to 24:00 and winter day rate from 06:00 to 22:00):



Day profile selection

Modification of day profile  
Name

Period

**Add**

Day profile selection    
New day profile  
Name

Day profile selection    
Modification of day profile  
Name     
Period

Add  
Name   
Start \*   
Rate \*

**Start:** input the start (hh:mm) of the selected rate

**Rate:** indicate the required rate



### 3.6.4. Create Seasons (Step 4)

▶ To create a season, the season must have a label and a start date. A season is valid until the day and month of the start of the next season (if more than 1 season exists).

**Example:** 2 seasons are created (Summer from 01-04 to 31-10 and Winter from 01-11 to 31-03)

The screenshot illustrates the '4. Seasons' step of the Calendar wizard. The top navigation bar includes steps: 1. Description, 2. Rates, 3. Day Profiles, 4. Seasons (active), 5. Special days, and 6. Weeks. Below the navigation bar, a table lists the seasons:

Date	Label
1 April	Summer
1 November	Winter

Yellow callout boxes with red arrows indicate the workflow: 'Add' points to the '+' icon, and 'Double-click to Edit' points to the 'Summer' row in the table. Below the table, the 'Edit' form is shown with the following fields:

- Label \*: Summer
- Day: 1
- Month: April

At the bottom of the form are three icons: a red arrow (back), a red X (cancel), and a green checkmark (confirm).

### 3.6.5. Create Special Days (Step 5)

- ▶ The calendar allows the creation of special days, to which day profiles can be associated.

**Example:** 01/01/11 is created as a special day with a DP1 day profile

**Calendar wizard** 1. Description 2. Rates 3. Day Profiles 4. Seasons 5. **Special days** 6. Weeks

**Add**

Day	Month	Year	Day profile
1	January	2011	DP1

**Edit (by double click)**

**Calendar wizard** 1. Description 2. Rates 3. Day Profiles 4. Seasons 5. **Special days** 6. Weeks

Day	Month	Year	Day profile
1	January	2011	DP1

Day: 1  
Month: January  
Year: 2011  
Day profile: DP1

Back Cancel Save

### 3.6.6. Create Weeks (Step 6)

- ▶ The final step of calendar creation is to add weekly profiles for the previously created seasons.

**Calendar wizard** 1. Description 2. Rates 3. Day Profiles 4. Seasons 5. Special days 6. **Weeks**

**Save Calendar**

Season	Date	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Summer	1 April	DP1	DP1	DP1	DP1	DP1	DP1	DP1
Winter	1 November	DP2	DP2	DP2	DP2	DP2	DP2	DP1

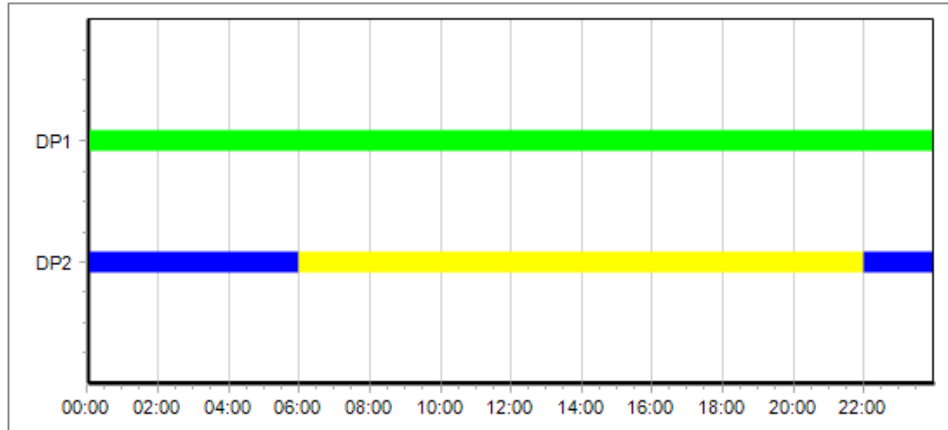
Once the final step is complete and the calendar has been applied, a summary calendar screen is displayed showing details of the calendar settings.

### three rates

three rates  
 summer  
 winter daytime  
 winter nighttime



### Day profile



#### Legend for rates

summer ■  
 winter night ■  
 winter day ■

### Special days

Day	Month	Year	Day profile
1	January	2011	DP1

### Association season / day profile

Season	Date	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Summer	1 April	DP1	DP1	DP1	DP1	DP1	DP1	DP1
Winter	1 November	DP2	DP2	DP2	DP2	DP2	DP2	DP1

**Note:** An existing calendar can be edited, deleted or copied as required.

### 3.7. SUMMATIONS

▶ ACE Vision allows users to carry out arithmetic operations on data. Select **Installed base management – Summations** to access a list of existing summations.



The screenshot shows the ACE Vision web interface. The header includes the Itron logo with the tagline "Knowledge to Shape Your Future" and user information: "LOGIN admin PROFILE Admin". The left navigation menu is expanded to "Summations". The main content area features a yellow "Add" button and a table titled "List of summations".

Summation name	Client
AES SONEL	Itron
Chasseneuil site CPT0 -CPT1 - CPT2 - CPT3	Itron
Chine	All clients
Cumulated consumption : [CPT1+CPT2+CPT4]	Itron
Delta consumption : [(CPT1+CPT2+CPT4) - CPT0]	Itron
Difference CPT0 - CPT4	Itron
ENEL	All clients
Summation_Test : [MDP1 + CPT2 - CPT1]	Itron
Test Sommmation	Itron
type sommation	All clients

### 3.7.1. Creating a Summation

- ▶ A summation is defined by its name, for all clients, or for a specific client chosen from the list.


**Summation : Test Summation**




Name of summation \*

Client


**Advanced search**

Serial number  Location  

**Summation meters list**


 **Add Meters** 0 / 0  Page  / 0 





<input type="checkbox"/>	<u>Serial number</u>	<u>Location</u>	<u>Summation type</u>
--------------------------	----------------------	-----------------	-----------------------

**Meters selection** 

Select the meters to be included

**Advanced search**



Serial number  Location  

  Filtered values 8 / 36  Page  / 2 

<input type="checkbox"/>	<u>Serial number</u>	<u>Location</u>
<input type="checkbox"/>	10002060	ACTARIS Chasseneuil (OLD CPT0)
<input type="checkbox"/>	30001500	ACTARIS Chasseneuil (CPT1)
<input type="checkbox"/>	30001501	ACTARIS Chasseneuil (CPT2)
<input type="checkbox"/>	30001503	ACTARIS Chasseneuil (CPT3)
<input type="checkbox"/>	36004247	ACTARIS Chasseneuil (CPT5)
<input type="checkbox"/>	36004248	ACTARIS Chasseneuil (CPT6)
<input type="checkbox"/>	36036106	ACTARIS Chasseneuil (CPT4)

↺ Meters can be further sorted according serial number and location.

↺ Available meters are displayed by page. To add meters to a summation, tick the meter's box

and apply the selection by clicking the addition button (  ) or the subtraction button (  ).

**Note:** All meters on a page can be selected or deselected at once by ticking the box to the left of the serial number column title.





: This button adds the values of the selected meter(s) to the other meter values included in the summation.



: This button subtracts the values of the selected meter(s) from the other meter values included in the summation.

The selected meters then appear in the **Summation meters list**, along with an indication of the designated summation type.


**Summation : Test Summation**

  Save





Name of summation \*






Client


**Advanced search**

Serial number  Location  

**Summation meters list**

  Filtered values 5 / 5 Page 1 / 1  



<input type="checkbox"/>	<u>Serial number</u>	<u>Location</u>	<u>Summation type</u>
<input type="checkbox"/>	10002060	ACTARIS Chasseneuil (OLD CPT0)	
<input type="checkbox"/>	30001500	ACTARIS Chasseneuil (CPT1)	
<input type="checkbox"/>	30001501	ACTARIS Chasseneuil (CPT2)	
<input type="checkbox"/>	30001503	ACTARIS Chasseneuil (CPT3)	
<input type="checkbox"/>	37000084	ACTARIS Chasseneuil (CPT0)	

Use the  button to remove selected meters from the summation.

### 3.7.2. Summation Characteristics

Select a summation from the list of existing summations to display its characteristics (meters included in summation and associated operations). Here it is possible to edit or delete summations.


**Summation : Test Summation**



Name of summation \*




Client Itron

**Advanced search**

Serial number  Location  

**Summation meters list**

  Filtered values 3 / 3 Page 1 / 1



<input type="checkbox"/>	Serial number	Location	Summation type
<input type="checkbox"/>	30001500	ACTARIS Chasseneuil (CPT1)	
<input type="checkbox"/>	30001501	ACTARIS Chasseneuil (CPT2)	
<input type="checkbox"/>	30001503	ACTARIS Chasseneuil (CPT3)	

### 3.7.3. Summation Tasks



► From the **Summations - Tasks** tab, a task can be created to produce an export file of the load profile resulting from a summation. The file can be exported in XML, CSV and PDF formats.

Characteristics **Tasks** Load profile

**Summation : Test Summation** id : 69


**Types of tasks**

	Reading data	XML export	CSV export	PDF export	Export period
Load profile export	<input type="text" value="on file"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="Day"/>
Export publishing	<input type="text" value="on file"/> 				
Immediate	<input checked="" type="checkbox"/>				
Frequency	<input type="text" value="Once"/> 				
Hourly constraints	<input checked="" type="checkbox"/> <input type="text" value="15:00"/> - <input type="text" value="16:00"/>				

**Export publishing dropdown:** on file, on FTP, on mail

**Frequency dropdown:** Once, Once, Every N hours, Every N days, Every N weeks, Every N months, Every year

**Export period dropdown:** -, 1 hour, 6 hours, 12 hours, Day, Week, Month, Year

►  An export period corresponding to the data range to be exported must be selected. The data exported is the last complete data set applicable to the defined period available (e.g. if the period selected is **Day**, the preceding day's data is exported).

 The export file can be published by file (local), by FTP or by Email.

↻ Tasks can be executed immediately or at a fixed date. Tasks can be performed one time only or at regular intervals.

↻ A time slot can be defined (hourly constraints), with tasks only being performed within this time slot.

### 3.7.4. Summation Load Profile Calculation

▶ The **Load profile** tab displays the results of the summation on the load profile of the meters concerned.

For the summation to be valid, the concerned meters must respect the following rules:



- The meters must have a common range of data
- The meters must have a common recording interval period
- The meters must have common channels

Characteristics Tasks **Load profile**

**Summation : Test Summation**

1st load profile data set

Common range of data : from 01/01/2009 to 01/02/2011  
Common recording interval period : yes  
Number of common channels : 4

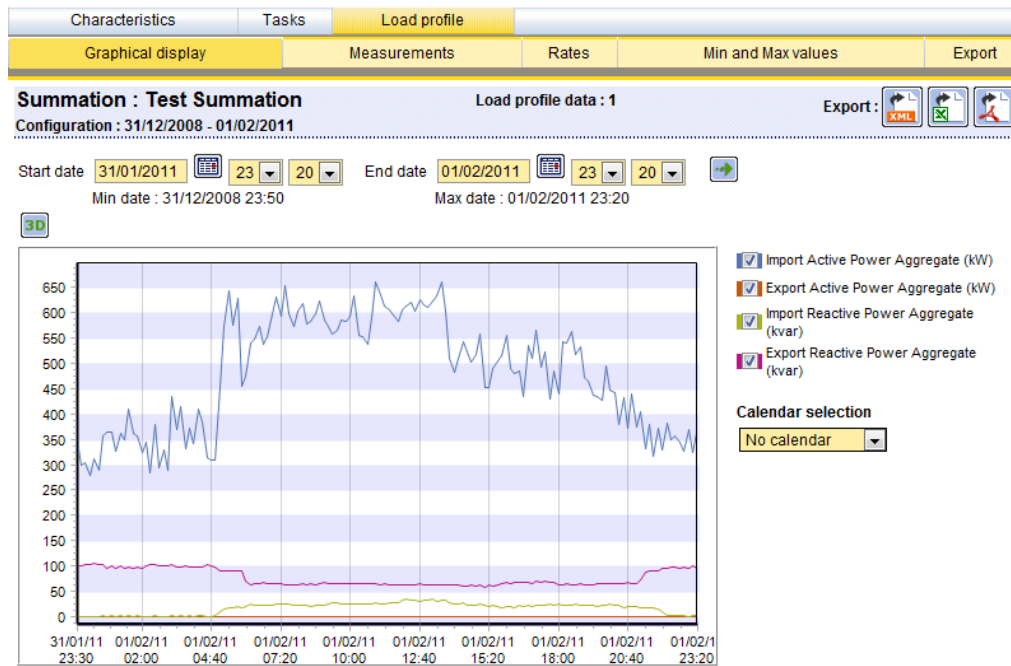
  **Apply and View Graph**


Meters details for the summation defined :

Serial number	Start	End	Recording interval	LP data set #1	LP data set #2
30001500	31/12/2008 23:50	01/02/2011 23:30	10	X	
30001501	31/12/2008 23:50	01/02/2011 23:20	10	X	
30001503	31/12/2008 23:50	01/02/2011 23:30	10	X	



### 3.7.4.1. View Summation Load Profile Graph






 This graph can be exported to file in PDF format and the associated data in XML or CSV format.


### 3.7.4.2. Measurements

► This menu provides all summation load profile data .Each line of the table includes a timestamp and the values for each of the energy channels selected.

Characteristics	Tasks	Load profile		
Graphical display	Measurements	Rates	Min and Max values	Export

**Summation : Test Summation** Load profile data : 1

Configuration : 31/12/2008 - 01/02/2011 Export:   

Start date    End date    

Min date : 31/12/2008 23:50 Max date : 01/02/2011 23:20

**List of selected channels**

Date	Label	Unit
1	Import Active Power Aggregate	kW
2	Export Active Power Aggregate	kW
3	Import Reactive Power Aggregate	kvar
4	Export Reactive Power Aggregate	kvar

**List of quantities**

Date	1	2	3	4
31/01/2011 23:30	347	0	2	101
31/01/2011 23:40	298	0	1	101
31/01/2011 23:50	305	0	1	103
01/02/2011 00:00	279	0	0	103
01/02/2011 00:10	311	0	1	105
01/02/2011 00:20	290	0	0	103
01/02/2011 00:30	357	0	2	104
01/02/2011 00:40	365	0	1	97
01/02/2011 00:50	364	0	3	102
01/02/2011 01:00	327	0	1	97
01/02/2011 01:10	361	0	2	101
01/02/2011 01:20	350	0	1	97
01/02/2011 01:30	408	0	3	99
01/02/2011 01:40	361	0	1	97
01/02/2011 01:50	356	0	3	99

↻ This data can be exported in XML or CSV format. The associated graph can be exported in PDF format.

### 3.7.4.3. Rates (Estimation of Energy Costs)

- ▶ Select the **Rates** tab to access an estimation of energy costs during the summation period (start date to end date). This simulation is done in relation to calendar choice and selected channels

↻ When the desired settings are applied (click **Apply**), the energy values for each rate (e.g. night rate, day rate) over the summation period are displayed. The user must therefore define energy cost per channel for each rate. Click on **Calculate** to display the total cost by rate.

Characteristics	Tasks	Load profile			
Graphical display	Measurements	Rates	Min and Max values	Export	

**Summation : Test Summation** Load profile data : 1  
 Configuration : 31/12/2008 - 01/02/2011

---

Start date    End date

Min date : 31/12/2008 23:50 Max date : 01/02/2011 23:20

**Calendar selection**

**Channel selection**

Import Active Power Aggregate (kW)

Export Active Power Aggregate (kW)

Import Reactive Power Aggregate (kvar)

Export Reactive Power Aggregate (kvar)

Rate	Nuit	Pointe	Jour	Total
Import Active Energy Aggregate (kWh)	2.989	0	8.461	11.450
Export Active Energy Aggregate (kWh)	0	0	0	0
Import Reactive Energy Aggregate (kvarh)	31	0	386	417
Export Reactive Energy Aggregate (kvarh)	785	0	1.063	1.848

Energy tariff	Nuit	Pointe	Jour	Total
Import Active Energy Aggregate (Cents/kWh)	<input type="text" value="1"/>	<input type="text" value="10"/>	<input type="text" value="5"/>	453 €
Export Active Energy Aggregate (Cents/kWh)	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	0 €
Import Reactive Energy Aggregate (Cents/kvarh)	<input type="text" value="1"/>	<input type="text" value="10"/>	<input type="text" value="5"/>	20 €
Export Reactive Energy Aggregate (Cents/kvarh)	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	0 €
<b>Total</b>	<b>30 €</b>	<b>0 €</b>	<b>442 €</b>	<b>473 €</b>

### 3.7.4.4. Minimum and Maximum Values

► This menu displays the 5 lowest and 5 highest measurement values for the previously selected energy channels over the summation period (start date to end date).

🔄 Click **Apply** to display the highest and lowest values.

**Summation : Test Summation** Load profile data : 1 Export:

Configuration : 31/12/2008 - 01/02/2011

Start date: 31/01/2011 23:20 End date: 01/02/2011 23:20  
 Min date : 31/12/2008 23:50 Max date : 01/02/2011 23:20

**Channel selection**

- Import Active Power Aggregate (kW)
- Export Active Power Aggregate (kW)
- Import Reactive Power Aggregate (kvar)
- Export Reactive Power Aggregate (kvar)

**Apply**

Channels	Values	Dates
Import Active Power Aggregate (kW)	Min	279 01/02/2011 00:00
		285 01/02/2011 02:20
		290 01/02/2011 03:00
		290 01/02/2011 00:20
		294 01/02/2011 02:40
	Max	659 01/02/2011 11:00
		659 01/02/2011 13:30
		651 01/02/2011 07:30
		643 01/02/2011 05:20
		635 01/02/2011 11:10
Export Active Power Aggregate (kW)	Min	0 01/02/2011 15:30
		0 01/02/2011 15:20
		0 01/02/2011 15:50
		0 01/02/2011 15:40
		0 01/02/2011 15:10
	Max	0 01/02/2011 07:20
		0 01/02/2011 07:30
		0 01/02/2011 07:00
		0 01/02/2011 07:10
		0 01/02/2011 07:40

🔄 This data can be exported to file in PDF format.

### 3.7.4.5. Export Summation Data

► Select the **Export** tab to download export files for the current summation. This feature requires the prior presence of summation measurement export files on the server.

**Summation : Test Summation** Load profile data : 1

Configuration : 31/12/2008 - 01/02/2011

**No export file.**

### 3.8. DYNAMIC SUMMATION



This dynamic summation is defined according several criteria. The scope of this summation is evolving along the time, and so there is no need to modify the summation as soon as meters are added or modified in the data base of ACE-VISION.

A dynamic summation is created through the menu Installed Base configuration -> Dynamic Summation. The tasks relevant to the dynamic summation are created through the menu Installed Base Management -> Tasks Management -> Dynamic summation.

Once defined, the dynamic summation is identical to a static summation.


Dynamic summations



**Dyn-sum1**

Name \* Dyn-sum1

Customer EDF SEI



Criteria type	Criteria value	
Meter type	ACE 6000	
-	-	

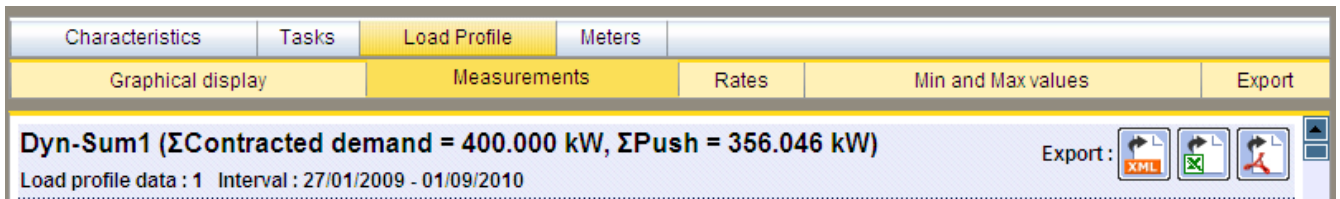
-

- Customer
- Group of customers
- Location
- Postcode
- Meter type
- Substation
- Substation / OUT
- Push mode
- Production type

A dynamic summation is defined with

- A name
- N criteria ( AND condition )
  - Customer ( all, one specific, or a group )
  - Location
  - Postcode ( city )
  - Meter type Type
  - Substation
  - Substation outgoing lines
  - Production type

In a dynamic summation, all meters are added (no subtraction possible )



Once the dynamic summation is defined, relevant load profile could be visualized, (tab Load Profile), meters that entered currently into the dynamic summation.

Dynamic summation data could be exported.

### 3.9. ENERGY MONITORING

▶ Select **Energy Monitoring** to view a list of existing monitoring tasks. Monitoring is used to perform checks after load profiles have been read to detect any active energy anomalies.

The screenshot shows the Itron ACE Vision web interface. The top header includes the Itron logo and the tagline 'Knowledge to Shape Your Future'. On the right, there are navigation icons and user information: 'LOGIN admin' and 'PROFILE Admin'. The left sidebar contains a navigation menu with the following sections:

- ACE Vision
- Administration
  - > Communication media configuration
  - > Users configuration
  - > Data Base Preferences
- Installed base configuration
  - > Customer management
  - Meter points
  - Groups
  - Summations
  - > Energy monitoring
  - Calendars
- Installed base management
  - > Task management
  - > Data Management
  - > Reports
- Data collection
  - > Revenue protection
  - > Dashboard

The main content area is titled 'Energy monitoring' and contains a table of active energy monitoring tasks. A yellow 'Add' button is positioned above the table, with a red line connecting it to a document icon. The table has the following structure:

Energy monitoring name	Energy	Schedules	Threshold	Alarm trigger	Consecutive values
Energie Active Import	Import Active Energy Aggregate		10 Wh	On bottom of the threshold	10
Test	Import Active Energy Phase 1		0 Wh	On bottom of the threshold	1

▶ To create a new monitoring task, the following details must be entered: name, energy to monitor, start and end time (if required as a time slot is only required for random production), a threshold along with an alarm trigger, the number of consecutive values and the meters to monitor.

## Active energy monitoring :

Monitor name \*

Energy \*

Start time

End time

Threshold \*  Wh

Alarm trigger \*

Number of consecutive values \*

List of meters included in the energy monitoring

Advanced search

Serial number  Client  Location

Filtered values 0 / 0 Page  / 0

<input type="checkbox"/>	Serial number	Client	Location
--------------------------	---------------	--------	----------

- ↻ An SMS or Email alert is automatically sent to specified users when an anomaly is detected.
- ↻ A regular report listing meters with anomalies is sent by Email to specified users.

### 3.10. PROBABILITY OF ENERGY

▶ This feature allows users to check the coherence of Total Active Import energy values contained in an EOB. Each time a new EOB is read in the meter, the difference between the sum of the three active energy imports for the three phases and the aggregate active import energy is calculated. If the difference is beyond the configured threshold (*threshold for energy probability check in ACE Vision configuration tool*) an alarm is activated.



### 3.11. PUBLISHING

▶ Use this feature to configure the sending of reports for Meters in stop mode, energy monitoring, probability of energy, configuration control and on some alarms checks (cover opening, magnet attack, voltage loss).

Select **Publishing - Tasks**.

The screenshot shows the Itron ACE Vision web interface. The top navigation bar includes the Itron logo and the text 'Knowledge to Shape Your Future'. The top right corner shows 'LOGIN admin' and 'PROFILE Admin'. The main content area is titled 'Tasks' and includes a sub-menu with 'Meters in stop (0)', 'Energy monitoring (0)', 'Probability of energy (1)', 'Check configuration (5)', and 'Installed base status'. A yellow 'Add' button is highlighted with a red arrow pointing to a table of 'Sending reports task list'.

Reports to send	Users recipients	Date	Period	Hourly constraints
Meters in stop	on mail : jmplantiveault, Laurent	28/02/2011 07:00	Week	
Probability of energy	on FTP	23/02/2011 14:29	1 hour	

Below the table is the 'Reports send task' configuration form. It includes a 'Reports' section with a 'Publishing' sub-section containing checkboxes for 'Meters in stop', 'Energy monitoring', 'Probability of energy', and 'Check configuration'. The 'Export publishing' section has a dropdown menu set to 'on file'. The 'Immediate' checkbox is checked. The 'Frequency' dropdown menu is set to 'Once', and a red arrow points to a dropdown menu showing options: 'Once', 'Once', 'Every N hours', 'Every N days', 'Every N weeks', 'Every N months', and 'Every year'. The 'Hourly constraints' checkbox is unchecked.

⚡ The export file can be published by file (local), by FTP or by Email.

⚡ Tasks can be executed immediately or at a fixed date. Tasks can be performed one time only or at regular intervals.

⚡ A time slot can be defined (hourly constraints), with tasks only being performed within this time slot.

## **3.12. DATA MANAGEMENT**

This module allows to visualize the data associated to meters, static and dynamic summations.

### **3.12.1. Meters**

Allows you to view:

- The list of meters,
- General information on these meters (identity card)
- Tasks performed on the meters,
- All data can be viewed,
- It is possible to restart one or more tasks.

### **3.12.2. Summations**

Allows you to view:

- The list of summations,
- The meters that are associated to these summations,
- The results of load profiles,
- It is possible to restart one or more tasks

## **3.13. REVENUE PROTECTION**

- ▶ This menu produces reports according to different controls and monitoring tasks put in place, it can also provide a report on the state of a meter park.
- ▶ Each report can be exported to PDF or XLS format (according to data type).

### **3.13.1. Meters in Stop Mode**

Select **Revenue Protection – Meters in stop**:

ACE Vision	Tasks	Meters in stop (0)	Energy monitoring (0)	Probability of energy (1)	Check configuration (5)	Installed base status
<b>Administration</b> <ul style="list-style-type: none"> <li>&gt; Communication media configuration</li> <li>&gt; Users configuration</li> <li>&gt; Data Base</li> <li>Preferences</li> </ul>						
<b>Installed base configuration</b> <ul style="list-style-type: none"> <li>&gt; Customer management</li> <li>Meter points</li> <li>Groups</li> <li>Summations</li> <li>Energy monitoring</li> <li>Calendars</li> </ul>						
<b>Installed base management</b> <ul style="list-style-type: none"> <li>&gt; Task management</li> <li>&gt; Data Management</li> <li>&gt; Reports</li> </ul>						
<b>Data collection</b> <ul style="list-style-type: none"> <li>&gt; Revenue protection</li> <li>&gt; <i>Meters in Stop Mode</i> <ul style="list-style-type: none"> <li>Energy Monitoring</li> <li>Probability of energy</li> <li>Check configuration</li> <li>Installed base status</li> </ul> </li> <li>&gt; Dashboard</li> </ul>						
Export:						
<b>List of ACE meters with measurement state Stop or unknown (58)</b>						
Serial number	Client	Location	Measurement state time	Measurement state		
00HT0543	Itron	Karachi - Hotel Ayesha		Unknown		
00HT0558	Itron	Karachi - Irfan steel		Unknown		
00HT0585	Itron	Karachi - Peoples fundation		Unknown		
00HT0627	Itron	Karachi - Faizan steel		Unknown		
00HT0685	Itron	Karachi - RS steel		Unknown		
01295430	Itron	HUNGARY		Unknown		
01295466	Itron	HONGRIE		Unknown		
10002060	Itron	ACTARIS Chasseneuil (OLD CPT0)		Unknown		
30060269	jchauvin	Test client		Unknown		
30060270	jchauvin	Test client		Unknown		
30318784	callain client	bureau callain		Unknown		
33017411	jchauvin			Unknown		
33036415	jchauvin	RTE		Unknown		
33038270	RTE			Unknown		
33038270	jchauvin			Unknown		
33045269	RTE	Clermont Ferrand		Unknown		
33046231	RTE			Unknown		
33046279	jchauvin			Unknown		
33046650	jchauvin	Aire sur adour		Unknown		
36015853	MDP	MDP 3		Unknown		
36015854	MDP	MDP 4		Unknown		
36026154	RTE	TEST GAZ		Unknown		
36027941	MDP	MDP 2		Unknown		
36044294	Philippe CORNET	Chine_1		Unknown		
36044295	Philippe CORNET	Chine_2		Unknown		

### 3.13.2. Energy Monitoring

Select Revenue Protection - Energy monitoring:

The screenshot shows the Itron ACE VISION web interface. At the top left is the Itron logo with the tagline 'Knowledge to Shape Your Future'. On the top right, there are navigation icons and the user profile 'LOGIN admin PROFILE Admin'. Below the header is a navigation bar with tabs: 'Tasks', 'Meters in stop (0)', 'Energy monitoring (0)', 'Probability of energy (1)', 'Check configuration (5)', and 'Installed base status'. The left sidebar menu is expanded to show 'Energy Monitoring' under 'Data collection'. The main content area displays the message: 'There are no current alerts.'

### 3.13.3. Probability of Energy

Select Revenue Protection - Energy Monitoring:

The screenshot shows the Itron ACE VISION web interface. At the top left is a 'Return to home page' button. On the top right, there are navigation icons and the user profile 'LOGIN admin PROFILE Admin'. Below the header is a navigation bar with tabs: 'Tasks', 'Meters in stop (0)', 'Energy monitoring (0)', 'Probability of energy (1)', 'Check configuration (5)', and 'Installed base status'. The left sidebar menu is expanded to show 'Probability of energy' under 'Data collection'. The main content area displays a table titled 'Meters with Alarm of probability of energy (1)'. The table has three columns: 'Serial number', 'Client', and 'Location'. There is one row of data. To the right of the table, there are 'Export' buttons for CSV and PDF.

Serial number	Client	Location
37000084	Itron	ACTARIS Chasseneuil (CPT0)

### 3.13.4. Check Configuration

Select Revenue Protection - Check configuration:

This screen will show the gaps between the reference configuration and the current configuration. This is an anti-fraud feature.

The screenshot shows the Itron ACE VISION software interface. The top header includes the Itron logo and the text "Knowledge to Shape Your Future". On the right, there are navigation icons and user information: "LOGIN admin" and "PROFILE Admin".

The left sidebar contains a navigation menu with the following sections:

- ACE Vision
- Administration
  - Communication media configuration
  - Users configuration
  - Data Base
  - Preferences
- Installed base configuration
  - Customer management
  - Meter points
    - Groups
    - Summations
    - Energy monitoring
    - Calendars
- Installed base management
  - Task management
  - Data Management
  - Reports
- Data collection
  - Revenue protection
    - Meters in Stop Mode
    - Energy Monitoring
    - Probability of energy
    - Check configuration**
    - Installed base status
  - Dashboard

The main content area shows a table titled "Meters with modified configuration (5)". The table has the following columns: Serial Number, Customer, Location, and Meters groups with differences. The table contains two rows of data:

Serial Number	Customer	Location	Meters groups with differences
30318784	callain client	bureau callain	Total Energy register (0;0;134;0;2;255 / 2) Calendar (0;0;11;0;0;255 / 2) Event manager (0;0;130;0;5;255 / 2) Communication (0;1;2;0;0;255 / 3, 0;1;2;0;0;255 / 4, 0;2;2;0;0;255 / 3, 0;2;2;0;0;255 / 4) Calendar (0;0;13;0;0;255 / 2, 0;0;13;0;0;255 / 7, 0;0;13;0;0;255 / 9, 0;0;13;0;0;255 / 8, 0;0;13;0;0;255 / 10, 0;0;11;0;0;255 / 2, 0;0;131;0;2;255 / 2, 0;0;1;0;0;255 / 9, 0;0;131;0;4;255 / 2, 0;0;131;0;6;255 / 2, 0;0;132;0;1;255 / 2, 0;0;131;0;3;255 / 2) Metrology (0;0;148;1;1;255 / 2, 0;0;148;2;2;255 / 2, 0;0;148;5;2;255 / 2, 0;0;148;4;1;255 / 2, 0;0;148;4;2;255 / 2, 0;0;148;2;3;255 / 2, 0;0;148;1;2;255 / 2) Energy register (0;0;133;0;1;255 / 2, 0;0;133;0;2;255 / 2) Event manager (0;0;130;0;6;255 / 2, 0;0;96;2;0;255 / 4, 0;0;96;2;10;255 / 4, 0;0;130;0;1;255 / 2, 0;0;130;0;4;255 / 2, 0;0;130;0;3;255 / 2) Data Base (1;0;0;0;2;255 / 2, 1;0;0;0;1;255 / 2, 1;0;0;0;2;255 / 2, 1;0;0;0;3;255 / 2, 1;0;0;0;4;255 / 2, 1;0;0;0;5;255 / 2, 1;0;0;0;6;255 / 2, 1;0;0;0;7;255 / 2, 1;0;0;0;8;255 / 2, 0;0;21;0;0;255 / 2) Control Input (0;0;138;0;1;255 / 2, 0;0;138;0;2;255 / 2) Control output (0;0;139;0;2;255 / 2, 0;0;139;0;1;255 / 2) Total Energy register (0;0;134;0;1;255 / 2)
36004247	Itron	ACTARIS Chasseneuil (CPT5)	Demand register (0;0;135;0;1;255 / 2, 0;0;135;0;2;255 / 2, 1;0;1;5;0;255 / 3, 1;0;1;5;1;255 / 3, 1;0;1;5;2;255 / 3, 1;0;1;5;3;255 / 3, 1;0;1;5;4;255 / 3, 1;0;1;5;5;255 / 3, 1;0;1;5;6;255 / 3, 1;0;1;5;7;255 / 3, 1;0;1;5;8;255 / 3, 1;0;1;5;9;255 / 3, 1;0;1;5;0;255 / 2, 1;0;1;5;1;255 / 2, 1;0;1;5;2;255 / 2, 1;0;1;5;3;255 / 2, 1;0;1;5;4;255 / 2, 1;0;1;5;5;255 / 2, 1;0;1;5;6;255 / 2, 1;0;1;5;7;255 / 2, 1;0;1;5;8;255 / 2, 1;0;1;5;9;255 / 2) Load Profile (0;0;136;0;1;255 / 2, 0;0;136;0;2;255 / 2) Billing period (0;0;137;0;1;255 / 2) Diagnostic (0;0;140;0;3;255 / 2, 0;0;140;0;1;255 / 2, 0;0;96;6;2;255 / 2) Communication (0;0;20;0;0;255 / 4, 0;0;20;0;0;255 / 5, 0;0;143;0;2;255 / 2, 0;1;2;2;0;255 / 2, 0;1;2;0;0;255 / 2, 0;1;2;0;0;255 / 3, 0;1;2;0;0;255 / 4, 0;2;2;2;0;255 / 2, 0;2;2;0;0;255 / 2, 0;2;2;0;0;255 / 3, 0;2;2;0;0;255 / 4, 0;0;143;0;16;255 / 2, 0;1;22;0;0;255 / 2, 0;1;22;0;0;255 / 3,

### 3.13.5. Installed Base Status

Failed tasks or meters can be selected over a period of between 1 and 31 days in predefined steps.

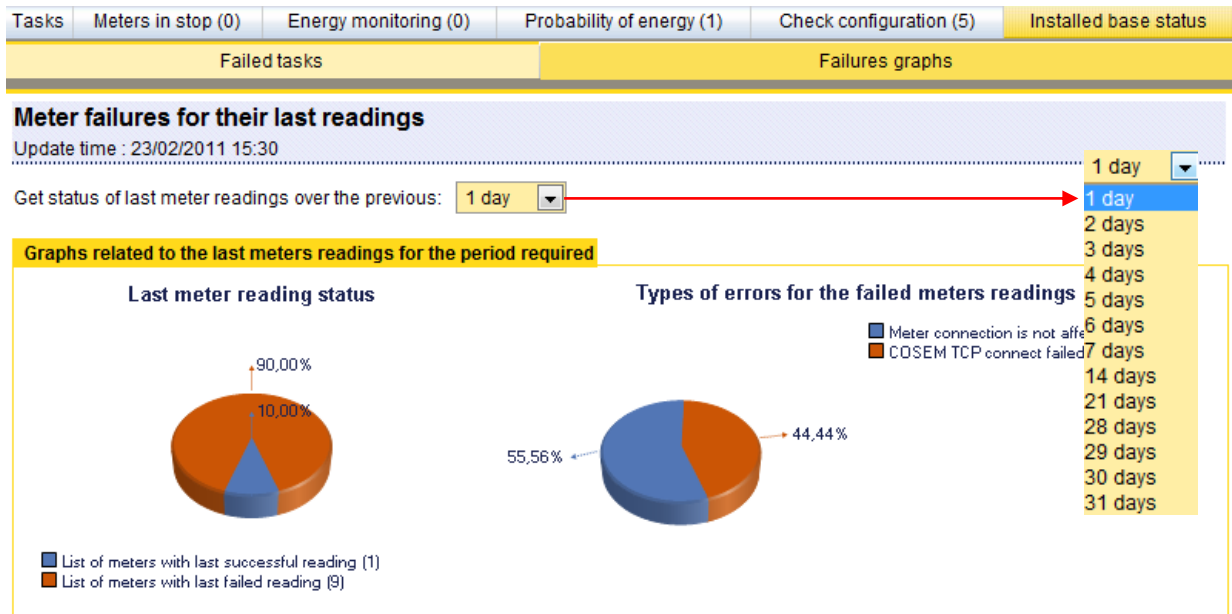
a) List of tasks:

The screenshot shows the Itron ACE VISION web interface. The left sidebar contains a navigation menu with categories like 'Administration', 'Installed base configuration', 'Installed base management', and 'Data collection'. The main content area is titled 'Failed tasks' and includes a dropdown menu for selecting a time range (1 day to 31 days). Below this is an 'Advanced search' section with input fields for 'Serial number', 'Client', and 'Author'. A table of failed tasks is displayed with columns for 'Serial number', 'Client', 'Author', 'Type of action', and 'Message'. A tooltip is visible over the table, showing a list of actions: 'Measurement check; Load profile reading; Log book reading; End Of Billing (EOB) data reading; Instantaneous data reading; Meter diagnostic data reading; Power quality data reading; Load profile reading'.

In certain cases further information about the type of action or messages are displayed when the mouse is held over the icon:

Serial number	Client	Author	Type of action	Message
30001500	Itron	admin	Measurement check Load profile reading	Meter connection is not affected to a communication port
30001501	Itron	admin	Measurement check Load profile reading	Meter connection is not affected to a communication port
30001503	Itron	admin	Measurement check Load profile reading	Meter connection is not affected to a communication port
36004247	Itron	admin	Measurement check Load profile reading	COSEM TCP connect failed
36004248	Itron	admin	Measurement check Load profile reading	COSEM TCP connect failed

b) Failed Task Graphs:



### **3.14. SYNCHRONISING ACE VISION TO AN HHU**

See relevant user guide of ACE-VISION Mobile



## 3.15. REPORTS

- ▶ Select **Installed base management - Reports** to access a list of pending tasks, to follow tasks in progress and to view failed tasks.

### 3.15.1. Pending Tasks

**Itron**  
Knowledge to Shape Your Future

LOGIN admin  
PROFILE Admin

ACE Vision

Pending tasks    Results    Failures

**Pending tasks**  
Update time : 13/03/2011 21:41

Identifier	Client	Author	Type of action	Activation date	Periodicity	State
36036106	Itron	admin	Load profile reading Load profile export CSV (Day) Log book reading End Of Billing (EOB) data reading End Of Billing (EOB) data export CSV	01/10/2011 03:00	Year	-
30318784	callain client	admin	Load profile reading	05/01/2011 12:54	Once	-
Test Sommaton	Itron	admin	Load profile export XML CSV PDF (Month)	06/03/2011 16:52	Month	-
Report sending		admin	Meters in stop	07/03/2011 07:00	Week	-
37109117	Itron	admin	Load profile reading Log book reading Instantaneous data reading Meter diagnostic data reading Power quality data reading Waveform capture reading	09/03/2011 00:00	Week	-
50014659	Production Chasseneuil	Prod	End Of Billing (EOB) data reading	09/03/2011 01:00	Week	-
Backup		admin	Backup	09/03/2011 07:00	Week	-
Chasseneuil (CPT0-6)	Itron	admin	Load profile reading Log book reading End Of Billing (EOB) data reading Instantaneous data reading Meter diagnostic data reading Power quality data reading Waveform capture reading Measurement check	12/03/2011 23:00	Day	-

### 3.15.2. Task Results

Pending tasks		Results		Failures				
<b>Results</b>							Scheduler status :	
<input checked="" type="checkbox"/> Automatic update							Server time : 15:45	
Identifier	Client	Author	Type of action	Activation date	Tests	Message		
36004248	Itron	admin	Measurement check	23/02/2011 01:18 (15)	3 Error	COSEM TCP connect failed		
			Load profile reading					
			Log book reading					
End Of Billing (EOB) data reading								
Instantaneous data reading								
Meter diagnostic data reading								
Power quality data reading								
				23/02/2011 01:08 (13)	2 Error			
				23/02/2011 01:03 (9)	1 Error			
50014659	Production Chasseneuil	Prod	End Of Billing (EOB) data reading	23/02/2011 01:15 (14)	3 Error	COSEM TCP connect failed		
							23/02/2011 01:05 (12)	2 Error
							23/02/2011 01:00 (24)	1 Error
30001501	Itron	admin	Meter diagnostic data reading	23/02/2011 01:03 (11)	* Error	Meter connection is not affected to a communication port		
30001501	Itron	admin	Measurement check	23/02/2011 01:03 (11)	* Error	Meter connection is not affected to a communication port		
			Load profile reading					
			Log book reading					
			End Of Billing (EOB) data reading					
			Instantaneous data reading					
Power quality data reading								
Measurement check								

➤ Check that the scheduler is activated:

✓ Scheduler activated : Etat du séquenceur : 

✓ Scheduler not activated : Etat du séquenceur : 

➤ To deactivate the scheduler click on the  button, to restart, click on the  button.

➤ Check that automatic update is enabled to be follow task execution in real time.

➤ Click the  button to remove the results of completed tasks.

### 3.15.3. Failures

⇒ See [Installed Base Status](#)

Pending tasks	Results	<b>Failures</b>
Failed tasks		Failures graphs

#### Failed tasks

Update time : 23/02/2011 15:54



Get the latest failed tasks on the previous days, and not scheduled for immediate execution:

**Advanced search**

Serial number  Client  Author



Filtered values 9 / 9

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Serial number	Client	Author	Type of action	Message
30001500	ltron	admin	⊗ Measurement check Load profile reading	⊗ Meter connection is not affected to a communication port
30001501	ltron	admin	⊗ Measurement check Load profile reading	⊗ Meter connection is not affected to a communication port
30001503	ltron	admin	⊗ Measurement check Load profile reading	⊗ Meter connection is not affected to a communication port
36004247	ltron	admin	⊗ Measurement check Load profile reading	⊗ COSEM TCP connect failed
36004248	ltron	admin	⊗ Measurement check Load profile reading	⊗ COSEM TCP connect failed
36036106	ltron	admin	⊗ Measurement check Load profile reading	⊗ Meter connection is not affected to a communication port

## 3.16. PREFERENCES

- ▶ This menu is used to configure general preference and user settings, to customise instantaneous and billing data and to configure widgets:

The screenshot shows the Itron ACE Vision web interface. The top header includes the Itron logo with the tagline "Knowledge to Shape Your Future", navigation icons, and user information: "LOGIN admin PROFILE Admin". Below the header is a navigation bar with tabs: "Configuration", "Your account", "Customisation of instant. data", "Customisation of End of Billing (EOB) data", and "Widget". The left sidebar contains a tree view of menu items, with "Preferences" highlighted under the "Administration" section. The main content area displays the following configuration settings:

Currency	€
Language	English
Number format	1.000,20
CSV separator	Semicolon
Table multi-pages lines	<input checked="" type="checkbox"/> Automatic
Welcome page	Welcome Page

### 3.16.1. Configuration

- ▶ Select the **Configuration** tab to define general settings:  
**Currency, Language, Number format, CSV separator, Table multi-page lines and Welcome page.**

This screenshot is identical to the one above, showing the Itron ACE Vision web interface with the "Configuration" tab selected in the navigation bar. The left sidebar menu is also visible, and the main content area displays the same configuration settings as described in the previous block.

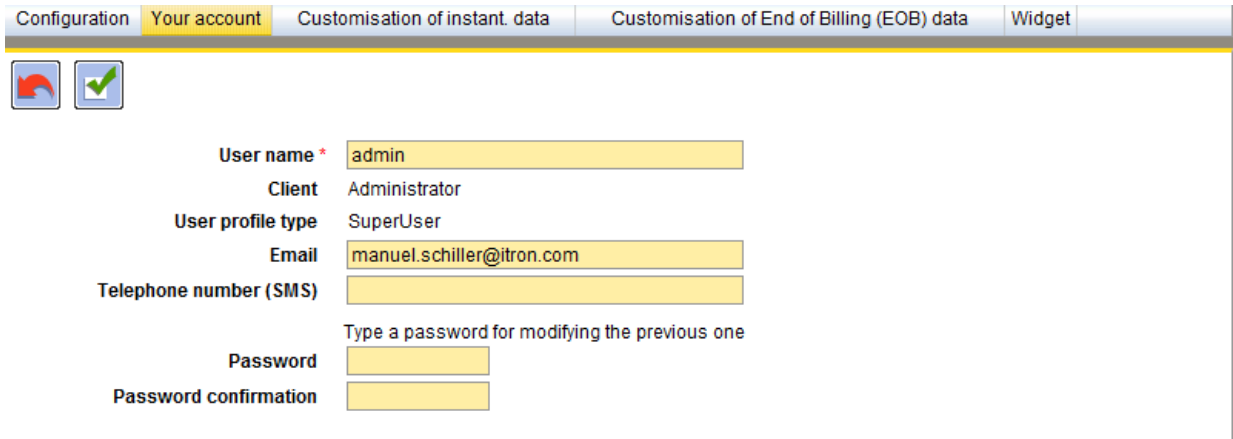
The welcome page can be a widget, which allows when when launching ACE Vision to have an immediate visualisation of the main indicators defined by the customer.

The function 'save time interval' has also been added, for some analysis on a specific time period. Value has to be put on 'Yes' to memorize the time interval. User can invalidate this function by reprogramming the value to 'No'.

Without this feature, the user had to enter the time interval of the load profile a wanted to visualize, for each meter.

### 3.16.2. Your Account

▶ This tab allows the user to modify certain user specific data. The user account password can also be changed here.



The screenshot shows a web-based configuration interface with a tabbed menu at the top. The 'Your account' tab is selected and highlighted in yellow. Below the tabs are two icons: a red arrow pointing left and a green checkmark. The main content area contains a form with the following fields:

<b>User name *</b>	<input type="text" value="admin"/>
<b>Client</b>	Administrator
<b>User profile type</b>	SuperUser
<b>Email</b>	<input type="text" value="manuel.schiller@itron.com"/>
<b>Telephone number (SMS)</b>	<input type="text"/>
<b>Password</b>	<input type="password"/>
<b>Password confirmation</b>	<input type="password"/>

Below the 'Telephone number (SMS)' field, there is a text label: "Type a password for modifying the previous one".

Remark: After the first installation of the tool, the default login and password are admin / admin.

### 3.16.3. Customisation of Instantaneous Data

- ▶ The **Customisation of Instant data menu** is used to define in detail the data to be displayed in the customisation tab in the Meter points menu.

Instantaneous data is divided into several groups: **Total energy, Energy rate registers, Instant. Power, Power factor, RMS Value, Neutral, Phase angle and THD (Total Harmonic Distortion).**

Tick the box to add data to the customised data view.

Configuration	Your account	Customisation of instant. data	Customisation of End of Billing (EOB) data	Widget
<b>Power factor</b>				
		<b>Meter type</b>		<b>Selection</b>
L1 Power Factor		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
L2 Power Factor		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
L3 Power Factor		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
Average Power Factor		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input checked="" type="checkbox"/>
<b>RMS value</b>				
		<b>Meter type</b>		<b>Selection</b>
L1 Current		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input checked="" type="checkbox"/>
L2 Current		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
L3 Current		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
L1 Voltage		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input checked="" type="checkbox"/>
L2 Voltage		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
L3 Voltage		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
<b>Neutral</b>				
		<b>Meter type</b>		<b>Selection</b>
L0 Current		ACE 6000 (≥1,30), ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input checked="" type="checkbox"/>
L0 Voltage		ACE 6000 (≥1,30), ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input checked="" type="checkbox"/>
<b>Phase angle</b>				
		<b>Meter type</b>		<b>Selection</b>
Angles I(L1) To U(L1)		ACE 6000 (≥1,30), ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000		<input checked="" type="checkbox"/>

### 3.16.4. Customisation of EOB Data

- ▶ The **Customisation of End of Billing (EOB) Data** is to be displayed in the Customisation section of Meter points.

Billing data is divided into several groups: **Global data, Total energy, Energy rate registers, RMS Max, Maximum demands and Excess demand.**

Tick the box to add data to the customised data view.

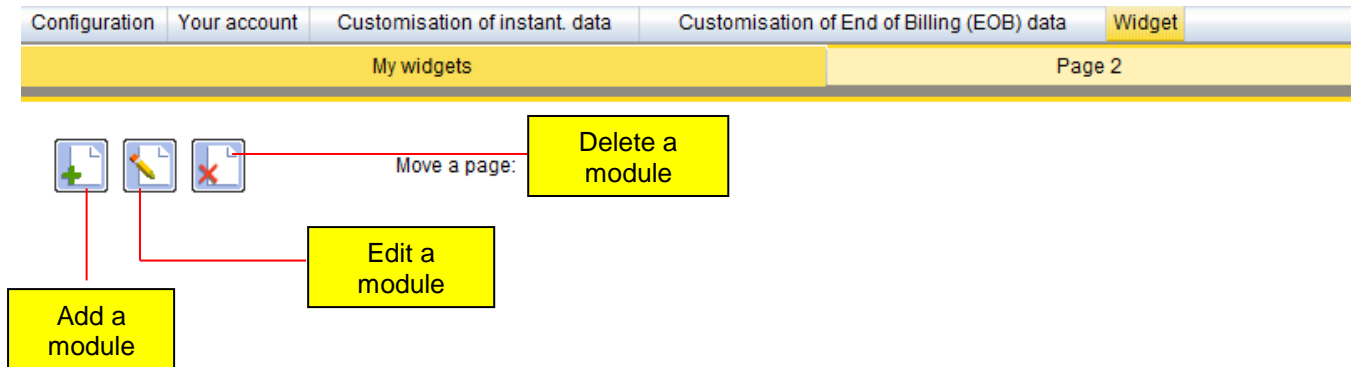
Configuration	Your account	Customisation of instant. data	Customisation of End of Billing (EOB) data	Widget
0 <sup>h</sup> Aggregate Energy		ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
1 <sup>h</sup> Energy		ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
12 <sup>h</sup> Energy		ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
13 <sup>h</sup> Energy		ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
1 <sup>h</sup> Aggregate Energy		ACE 7000 (781 type), ACE 8000		<input type="checkbox"/>
<b>Energy rate registers</b>		<b>Meter type</b>	<b>Selection</b>	
All energy rates registers		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000	<input checked="" type="checkbox"/>	
<b>RMS Max</b>		<b>Meter type</b>	<b>Selection</b>	
L1 Current Max 1		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000	<input type="checkbox"/>	
L2 Current Max 1		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000	<input type="checkbox"/>	
L3 Current Max 1		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000	<input type="checkbox"/>	
L1 Voltage Max 1		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000	<input type="checkbox"/>	
L2 Voltage Max 1		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000	<input type="checkbox"/>	
L3 Voltage Max 1		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000	<input type="checkbox"/>	
<b>Maximum demands</b>		<b>Meter type</b>	<b>Selection</b>	
All max demands		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000	<input checked="" type="checkbox"/>	
<b>Excess demand</b>		<b>Meter type</b>	<b>Selection</b>	
All excess demands		ACE 6000, ACE 6000 (664 type), SL 7000, ACE 7000 (781 type), ACE 8000	<input type="checkbox"/>	



### 3.16.5. Widgets

▶ Widgets can be selected and configured to allow the display of key information on a single screen. This menu is used to configure modules containing the widgets required.

To access widgets, **Select Dashboard – Widgets:**




- ↪ A module can contain up to 10 lines and 5 columns ( default value 2x3)
- ↪ The name of a module can be changed

Configuration | Your account | Customisation of instant data | Customisation of End of Billing (EOB) data | **Widget**

Module1 | Module | Module2

Page name :  Number of lines and columns  x

 **Add a widget**

Up to 7 widget types are available: Revenue protection, Load profile and Export or import energy table, Nox indicator charts, Nox indicator table, push panel control, or a standard image. To select a widget, click on the required option.

**Widget collection** X

▶ **Widgets**

**Revenue protection**

The revenue protection widget displays on a tabular format, the list of defective meters regarding energy monitoring and/ or probability check and / or check configuration and / or status of the installed base.

**Load profile**

This widget displays graphically a channel of load profile for a meter or a summation.



**Export or Import Energy table**

The widget for table display, shows a channel of load profile of a meter or a summation on a table format

↺ Every widget must be given a name.

↺ **Revenue protection** widgets can contain energy monitoring, probability of energy, check configuration and diagnostic information.



Revenue protection


 

Title	Monitoring
Energy monitoring	<input checked="" type="checkbox"/>
Probability of energy	<input checked="" type="checkbox"/>
Check configuration	<input checked="" type="checkbox"/>
Installed base status	<input checked="" type="checkbox"/>

↺ A **load profile** widget can contain information relating to a meter or a summation in the form of a graph or a histogram. A load profile widget requires prior configuration of various parameters:



CPT5 Meter Histogram


 

Title	CPT5 Meter Histogram
Granularity	Week <input type="text"/>
Depth	1 <input type="text"/>
Energy / Power	Power <input type="text"/>
Meter / Summation	Meter <input type="text"/>
Serial number	36004247 
Channel	LP1 - Import Active Power Aggregate <input type="text"/>
Graph Type	Histogram <input type="text"/>
Display the graph in 3D	<input checked="" type="checkbox"/>

↗ An **export or import energy table** widget contains information relevant to a meter or summation in table form. This widget requires prior configuration of various parameters:

CPT5 meter measurements

Title	CPT5 meter measurements
Granularity	Day
Depth	5
Energy / Power	Power
Meter / Summation	Meter
Serial number	36004247 
Channel	LP1 - Import Active Power Aggregate
Number of decimal places	2

↗ A **Nox indicator** widget contains the Nox information of a meter ( not available for a summation ). This indicator allows to evaluate periods of time during which the production site has been really hazardous (energy produced in 'basis' period), compared to the period of time non hazardous (energy produced in mode 'preset').

This widget is determined by the values of load profiles, with interval of 10min, and this is by these values that we will know the periods of hazardous and non-hazardous productions.

This requires the definition of two thresholds:



- coupling threshold: power in kW or MW
- Threshold NOx: power in kW or MW

The mode "basis" corresponds to a higher power produced, compared to NOx threshold. This is the normal operating mode.

The mode "Preset" corresponds to a generated power between the coupling threshold and the NOx threshold. This is the mode of reduced operation, global energy demand is lower than the normal operating mode.

This widget requires prior configuration of various parameters:


**NOx indicator : Meter**

Title

Granularity

Depth

Serial number  

Channel

Scalar

Coupling threshold

NOx threshold


Graph Type

Display the graph in 3D



Those indicators will show :

- The energy produced below and above the Nox threshold .
- The production duration below and above the Nox threshold
- The load-shedding duration ( duration when the power is below the load shedding threshold)

This widget could be displayed in graphical format or in tabular format.

 **An Image** widget could also be added : ( such as logo of company, photo of installation .. )

**Image**

Title

Image file

Accepted file extensions : JPG, JPEG, PNG, GIF or BMP. The size of the image file must be less than 1 MB

➤ Example configuration of a module containing 3 widgets :



Page Name :

Number of lines and columns

**CPT5 Meter Histogram**  

Granularity	Week
Depth	1
Energy / Power	Power
Serial number	36004247
Channel	LP1 - Import Active Power Aggregate
Graph Type	Histogram
Display the graph in 3D	<input checked="" type="checkbox"/>


**CPT5 meter measurements**  

Granularity	Day
Depth	5
Energy / Power	Power
Serial number	36004247
Channel	LP1 - Import Active Power Aggregate
Number of decimal places	2

**Monitoring**  

Energy monitoring	yes
Probability of energy	yes
Check configuration	yes
Installed base status	yes

- Display of example module containing 3 widgets:



**CPT5 Meter Histogram**  
 Import Active Power Aggregate (kW)  
 No measure in the time interval

**CPT5 meter measurements**  
 Import Active Power Aggregate (kW)  
 No measure in the time interval

**Monitoring**

Serial number	Client	Error
30001500	Ittron	Installed base status
30001501	Ittron	Installed base status
30001502	Ittron	Installed base status

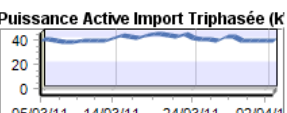
**Note:** It is possible to set the start page to display widgets.

- Other examples of widgets display :


Site Production Indicateur NOx ACE6000 MAAS Center Push Push V2 EDFSEI Module

**Production Journaliere Photo**

Puissance Active Import Triphasée (K)

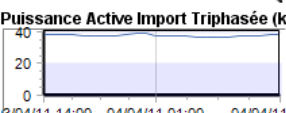


**Topologie Réseau**



**Production Totale Réseau**

Puissance Active Import Triphasée (K)



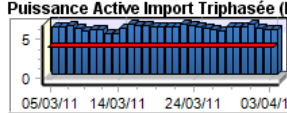
**Production Journalière**

Puissance Active Import Triphasée (K)

Date de début	KW
03/04/2011	38,0
02/04/2011	38,0
01/04/2011	38,0

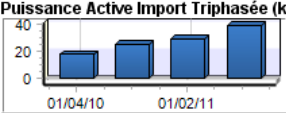
**Production Eolienne Site Indu**

Puissance Active Import Triphasée (K)



**Production Mensuelle Thermic**

Puissance Active Import Triphasée (K)



**Ratio Aléatoire/Totale**

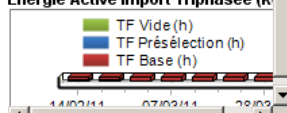
Dernier Push reçu : 04/04/2011 14:20

18,10 %


0 30 MW

**Indicateur NOX Lucciana**

Energie Active Import Triphasée (K)



**Type de Production**

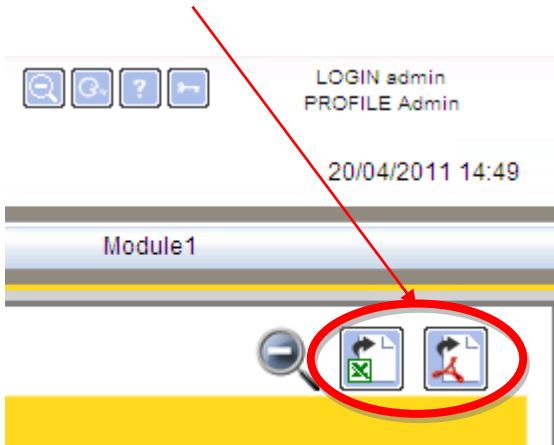


## 3.17. EXPLOITATION OF WIDGETS

### 3.17.1. Exports CSV et PDF

In full screen mode, there is a possibility to export the widgets in CSV or PDF format. In CSV, the export will be tabular, but in PDF the export will be tabular and graphical

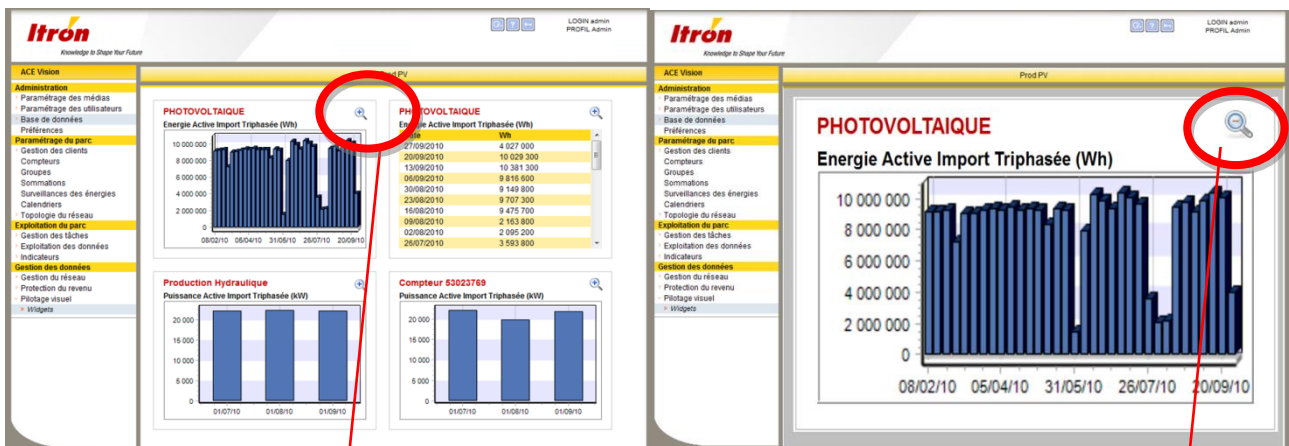
For that, 2 buttons have been added



This feature is available only in case of relevant widget ( no need to export a image widget ! )

### 3.17.2. Full screen display

To better visualize one widget of a given page, a zoom – unzoom feature is added.

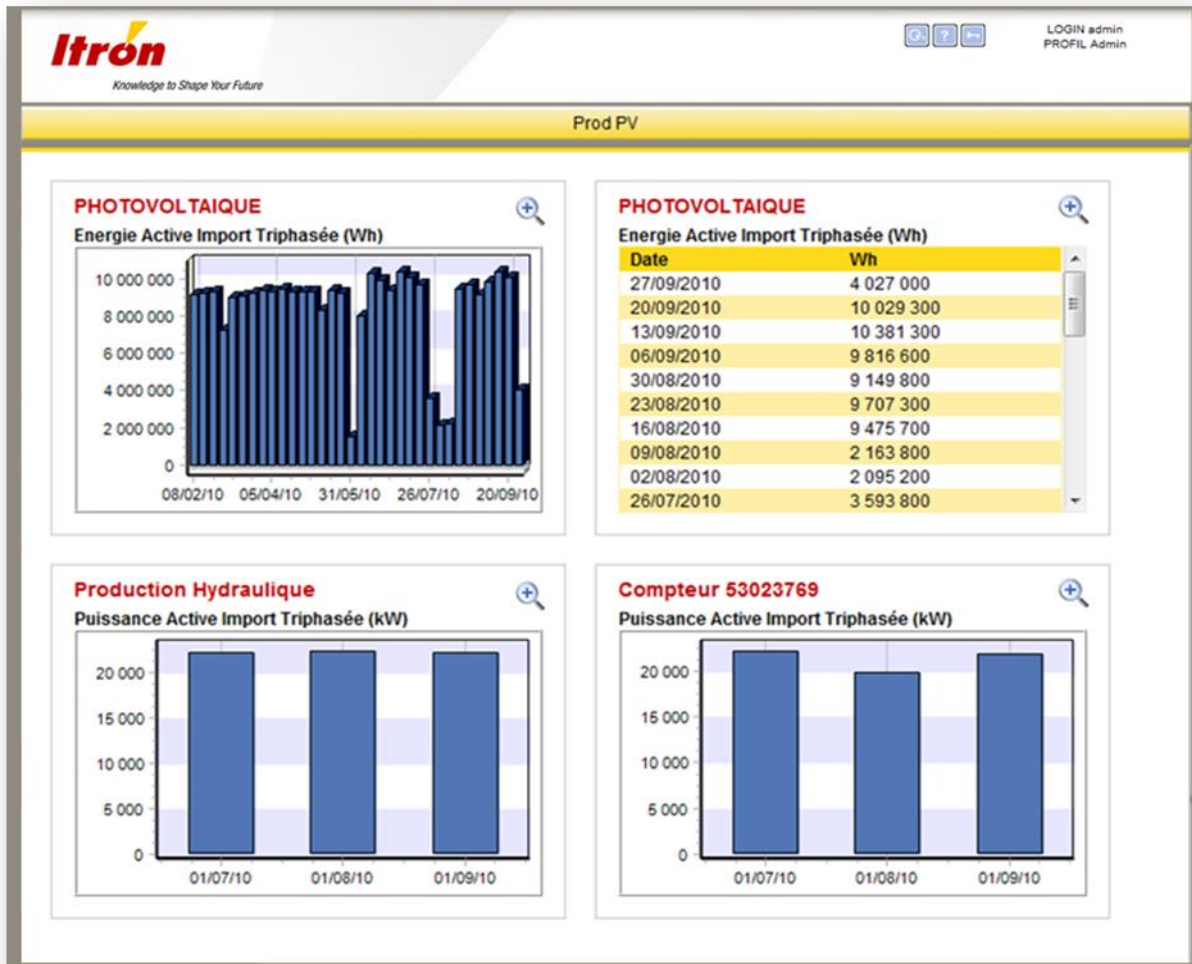
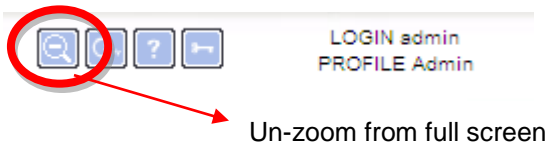


Mode widget standard with zoom button

Mode widget « full screen » with unzoom button



Then in the main menu, or the welcome page, a full screen feature is added. It allow to display one page in full screen ( removing the left hand menu ) . To come back to the standard page, the un-zoom menu should be used ( the one in the upper banner )



Full screen mode

## **3.18. WEB SERVICES**

### **3.18.1. Objectif**

ACE VISION Database (MySQL) is not accessible to the customers.

The webservice function allows customer to access the ACE VISION database in order to personalize the data. Customer will be able to:

- Read
- Modify
- Create
- Delete

datas inside the database

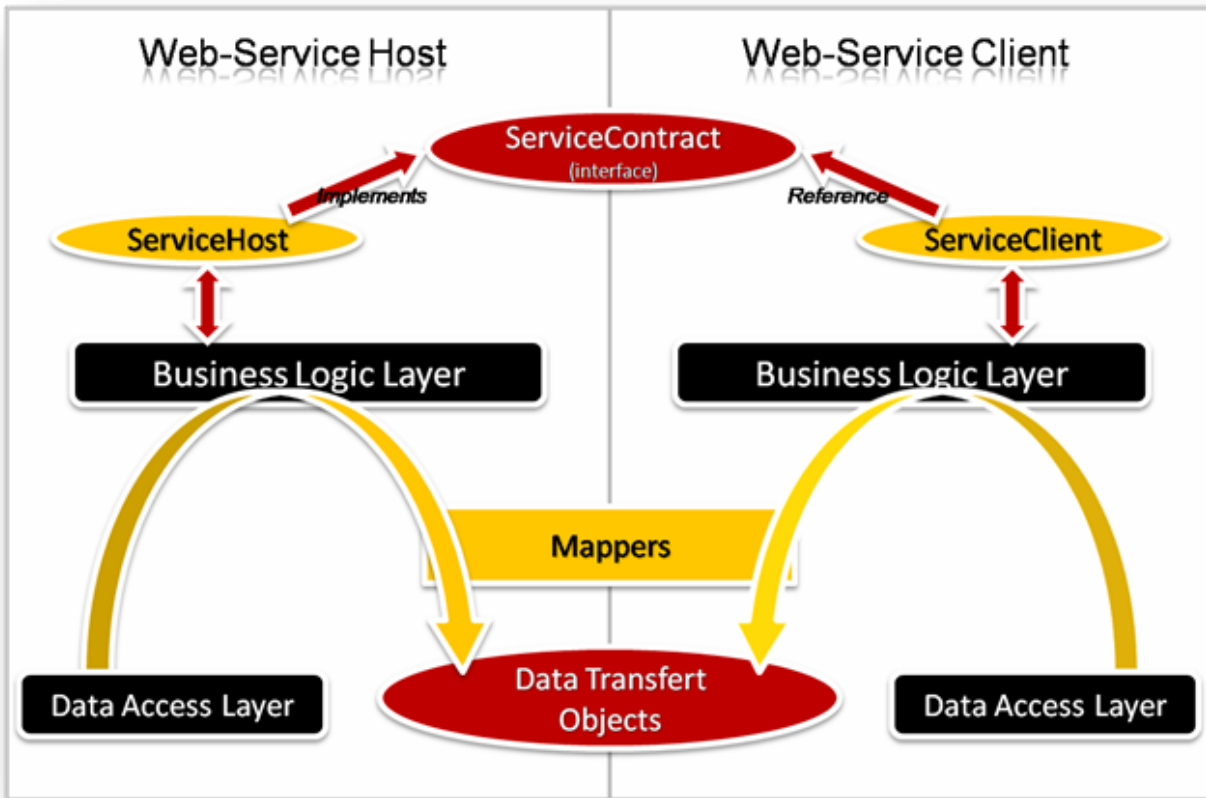
Big interest is that the customer can base the development of external tools based on these webservices, without any new adaptation of his tools when a new version of ACE VISION is available.

### **3.18.2. Associated rules**

Implementation of the WEB SERVICE shall respect the following rules:

- The type of service WCF (Windows Communication Foundation) will be hosted as a Windows service on the same server than ACE Vision
- The WCF Web Service has to be "standard / basic" in order to comply with the W3C standard and be compatible with any development language.
- Authentication to the Web Service will be done with ACE Vision user account. It must have the necessary rights to access the Web Service. Multiple connections with the same user account must be carried out simultaneously.
- The only possible access right in this version in a user profile is:
  - o Read only
- Access to the Web Service functionality will be subject to a new license option.
- In order to avoid at the maximum to return labels, we use codes (enumerations for example) which will be described in the SDK (software development kit) and the Web Services User Guide. In the case of exceptions, messages will be by default in English or the language of the user connected to the Web service (if known).
- The data returned by the Web service must be pre-treated and not be raw data as in database. It must be possible to link data retrieved from a Web Service method to components (charts, graphs or other) without having to re-form data

### **3.18.3. Architecture**



### 3.18.4. Methods

A library with all the functions has been developed. It allows to access in ACE Vision database all data listed below:

Methods	
Meter	Access to the list of meters
	Access to the list of meters linked to a customer (name or ID)
	Access to a meter, from its ID or serial number
Customer	Access to list of customer
	Access to a customer, from its ID or name
Meter data	Access to load profile information (configuration of LP, configuration of channels)
	Access to the description of a load profile channel, from its ID (ID retrieved from LP information above)
	Access to a LP channel, for a specific ID : measurements and events (ID of the channel retrieved from the channel description above)

	Access to a load profile channel and values estimated for a Push meter for a specific channel ID : measurements and events (ID of the channel retrieved from the channel description above)
	Access to a list of EOB (ID and date) from a date interval
	Access to all the data of an EOB, from its ID or a specified date.
	Access to datas of personalized EOB, from its ID or a fixed date
ADI	Access to Push ratio
	Access to power margin
	Access to the list of producer (ID and meter name) to disconnect

### 3.18.5. Structure of data used by web services

#### 3.18.5.1. Meter

Field	Type	Comments
MeterID	Int	Identification of meter
ParentCustomerId	Int	ID number of customer
SerialNumber	String	Serial number of meter. Used for modem connection, mediation & registration server.
MeterType	MeterType	List of meter types
ConnectionId	Int	Identification number of the connection dedicated to the meter
MeterConnectionType	ConnectionType	List of connection type
PasswordReading	String	Password used for readings
PasswordWriting	String	Password used for configuration writing
Comments	String	Comments
PhoneNumber	String	Phone number for modem connection
Location	String	Localization (country, town, area, company, ...)
Address	String	Address
PhysicalAddress	Int	Example : 17
IpAddress	String	IP@
IpClientPort	Int	Example : 703
IpServerPort	Int	Example : 10703
FirmwareVersion	String	Example : "4.55"
MeterDaysFirstLoadLP	Int	Number of days to read for the first reading of load profiles
MeterCountFirstLoadEOB	Int	Number of EOB to read for the first reading of EOB
CurrentType	CurrentType	List of connection type (CT, DC)

GPSLatitude	String	Latitude GPS. Example : "46.66030"
GPSLongitude	String	Longitude GPS. Example : "0.37260"
StatBegin	DateTime	Starting date for statistical calculations
StatLastSuccess	DateTime	Date of last successful reading
StatLastError	DateTime	Date of last reading in error
StatLastErrorMessage	String	Error message of last reading in error.
StatCountTry1	Int	Number of successful communications after 1st attempt
StatCountTry2	Int	Number of successful communications after 2nd attempt
StatCountTry3	Int	Number of successful communications after 3rd attempt
StatCountTry4	Int	Number of successful communications after 4th attempt
VoltageQualityDate	DateTime	Date of last voltage quality reading
THDDefectNumberCurrent	Int	Number of THD Defect History Current
THDDefectNumberVoltage	int	Number of THD Defect History Voltage
IsMeterModemCLO	Bool	Indicate if this is a CLO modem
WaveformSamplingPeriod	Float	Sampling period of waveforms in secondes
NominalFrequency	Int	Nominal frequency of meter (50 or 60 Hz)
CurrentRatingIb	Int	Nominal current of meter (used for waveforms calculation)
DeviceAddress	String	Address de peripheral (used by Indigo+)
IsPushMeter	Bool	Indicate if meter used the PUSH function
ProviderType	MeterProviderType	List of types of producers (Wind, Sun, Main, etc)
PowerTheory	Int	Installed power available in kW (used for the PUSH)
PowerNextEstimated	Int	Power (in kW) to use for next estimated power (used for the PUSH)
PushInsert	DateTime	Date of setting queue (used for the PUSH)
CreationDate	DateTime	Date of meter commissioning
MeterMeasurementDate	DateTime	Date/hour of the last identification of the meter state (measurements started)
MeasurementStatus	WorkingMode	Indicate the last state known regarding meter measurements
Notification	String	Notification message
PortableTerminalID	Int	Identification of portable terminal associated to the meter

### 3.18.5.2. Customer

Field	Type	Comments
CustomerID	Int	ID of customer
Name	String	Name of customer
AccountNumber	String	Customer reference
PhoneNumber	String	Customer phone number
Address	String	Customer address
Email	String	Customer email
Comments	String	Comments

### 3.18.5.3. Load profile information

Field	Type	Comments
LoadProfileId	Int	Identification of load profile
LoadProfileConfigId	Int	Identification of the configuration of the load profile
ConfigRecordingInterval	Int	In minutes (between 1 and 60, and divider of 60)
EnergyRecordingFormat	EnergyRecordingFormat	List of basis for power calculation of a COSEM value
ConfigBegin	DateTime	Date of first value
ConfigEnd	DateTime	Date of last measurement (PUSH or PULL)
ConfigEndPull	DateTime	Date of last measurement read in PULL only
Channels	Int[]	Table of LP Channel ID

### 3.18.5.4. Load profile Channel

Field	Type	Comments
ChannelId	Int	Load Profile Channel ID
Energy	ChannelEnergy	List of energy types
Scaler	Sbyte	Exponent of 2 or of 10, to apply for the measurement calculation
WorkingMode	WorkingMode	Calculation mode
Unit	Unit	List of units
IsExcessEnergy	Bool	

### 3.18.5.5. Data from a load profile channel

Field	Type	Comments
ChannelId	Int	Load Profile Channel ID
DateArray	DateTime[]	Date (sorted by order of reading)
ValueArray	Decimal[]	Values (sorted by order of reading)
EventArray	EventType[]	events (sorted by order of reading)

### 3.18.5.6. Data from a PUSH load profile channel (estimated values for PUSH)

Field	Type	Comments
ChannelId	Int	Load Profile Channel ID
MesureEndArray	DateTime[]	End of measurements date (sorted by order of reading)
EstimatedReasonArray	EstimatedReason[]	Estimate reason (sorted by order of reading)
EstimatedTypeArray	EstimatedType[]	Type of estimate (sorted by order of reading)
EstimatedValueArray	UInt[]	Value of PUSH in kW (sorted by order of reading)

### 3.18.5.7. EOB

Field	Type	Comments
EndOfBillingId	Int	EOB identification

MeterId	Int	ID of meter linked to this EOB
Date	DateTime	Date of EOB
Reason	EndOfBillingReason	Reason of EOB
DaysCount	EndOfBillingDays	Number of days for this EOB
ResetsCount	EndOfBillingResets	Number of EOB generated
IntegrationPeriod	int	Integration period in minutes
MaxMode	EnfOfBillingMaxMode	MaxDemandMode : 0: max request mode, 1: max excess mode
ExcessMode	EndOfBillingExcessMode	0: no management, 1: end of integration period, 2: rising value, 3: projection
ReadDate	DateTime	Date/Hour of EOB reading
TotalOperatingTime	Int	Total operating time
GlobalValueArray	CValue[]	Global data
BillingTotalArray	CValue[]	Total energy
BillingRateArray	CValue[]	Energies per rate
BillingMaxArray	CValue[]	Max Power
BillingRMSMaxArray	CValue[]	RMS Max values
BillingExcessArray	CEndOfBillingExcess[]	Excess power

### 3.18.6. ACE VISION REFLECT

To use the web service offered by ACE VISION, an Ace Vision Reflect tool will be installed if you choose the complete installation.

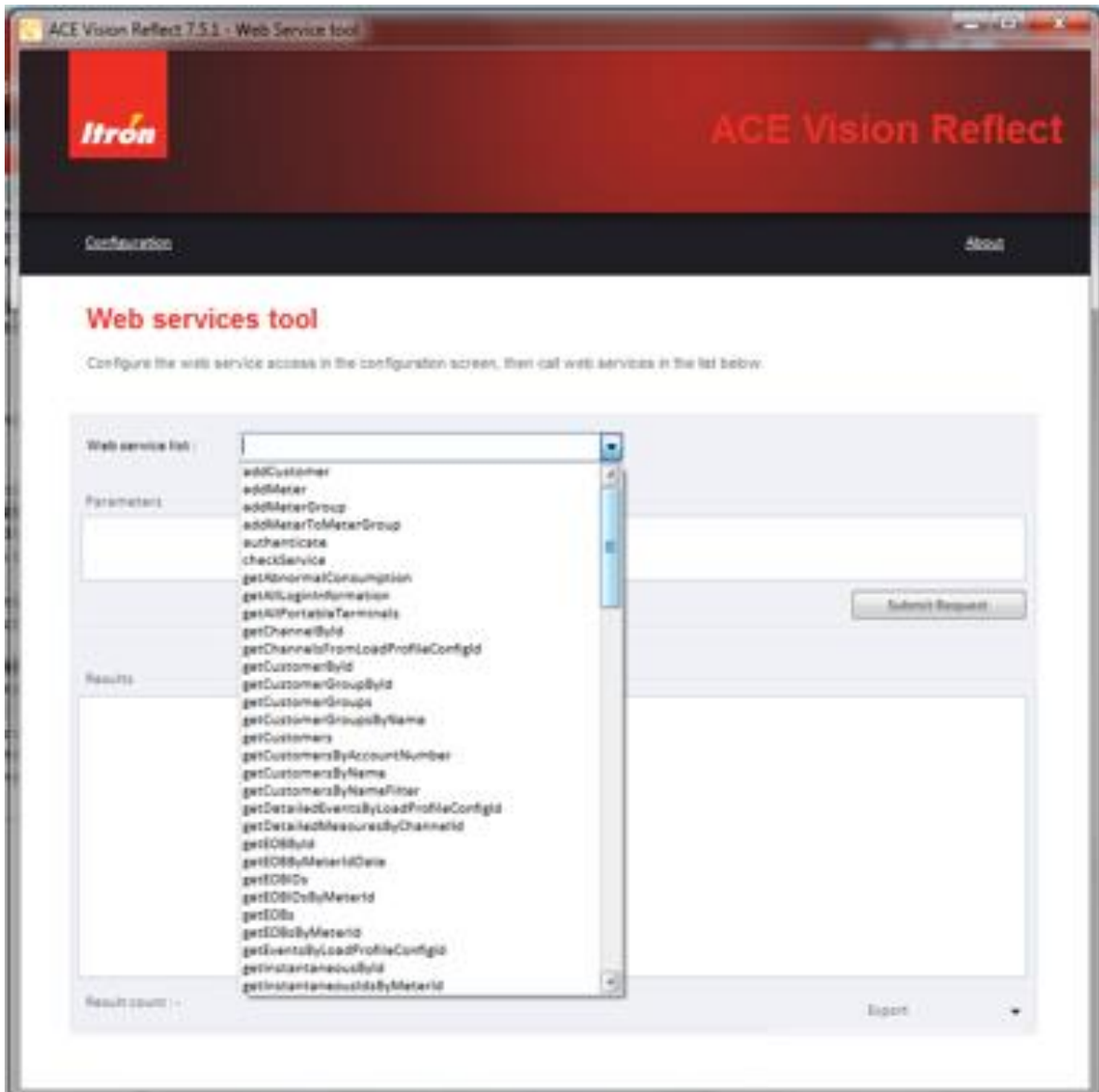
- Documentation in English describing all methods exposed by the Web service with the format of the recovered data (CHM, and PDF)
- A web service usage example in .Net:
  - o The tool is as generic as possible and rely on the contract to recover automatically the name of the web methods and associated parameters.
  - o The addition of a new method of web service should not require recompilation of this tool.
  - o The test tool will authorize the data entry of all the fields (method parameters) of web services methods. An help may be considered depending on the parameter type

Example:

- Date & Time in a proposed calendar
- Boolean proposed a checkbox
- Character set ASCII standard proposed entry
- List proposed inside a combo
- Numerical value => a "ultranumericeditor"
- .....

The result will be visible in a table (that will allow to export automatically)

After entering the login information to the ACE VISION database, VISION REFLECT home page will offer the user the library of available functions.





## 3.19. ACE VISION CONFIGURATION

The purpose of this chapter is the use of ACE VISION configuration tool. The parameters to adjust or possible actions are:

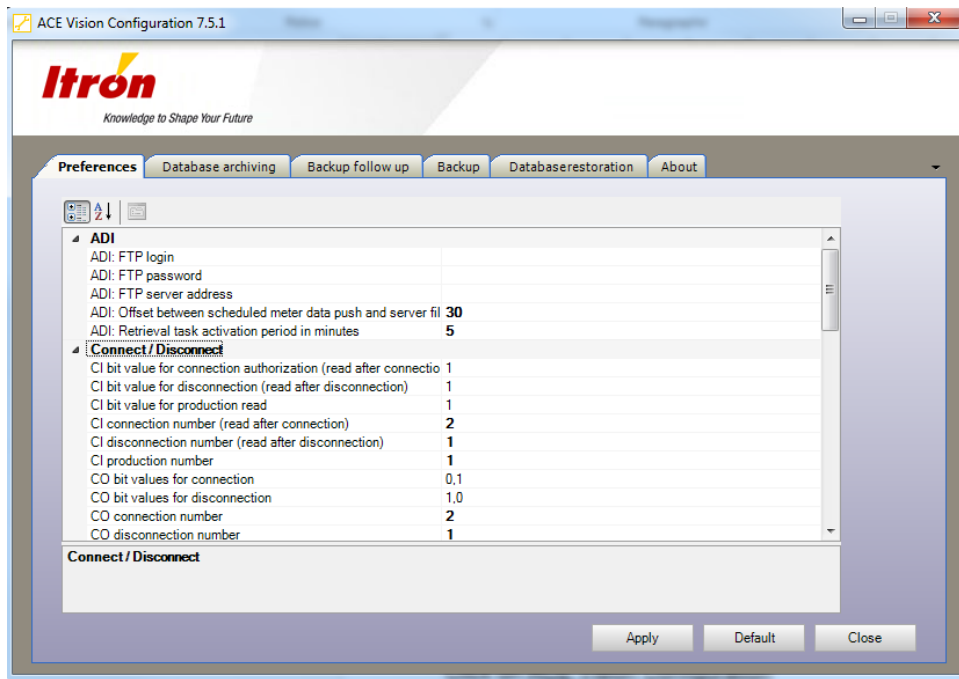
- Preferences (all adjustable parameters belong to this option)
- Backup (database)
- Archiving Backups
- Archiving track changes
- Restoring the database
- About

### 3.19.1. LAUNCHING ACE VISION CONFIGURATION

This tool is available in the directory below:

C:\Program Files (x86)\Itron\ACE Vision\Tools\Configuration\

Click on [ACE Vision Configuration](#)

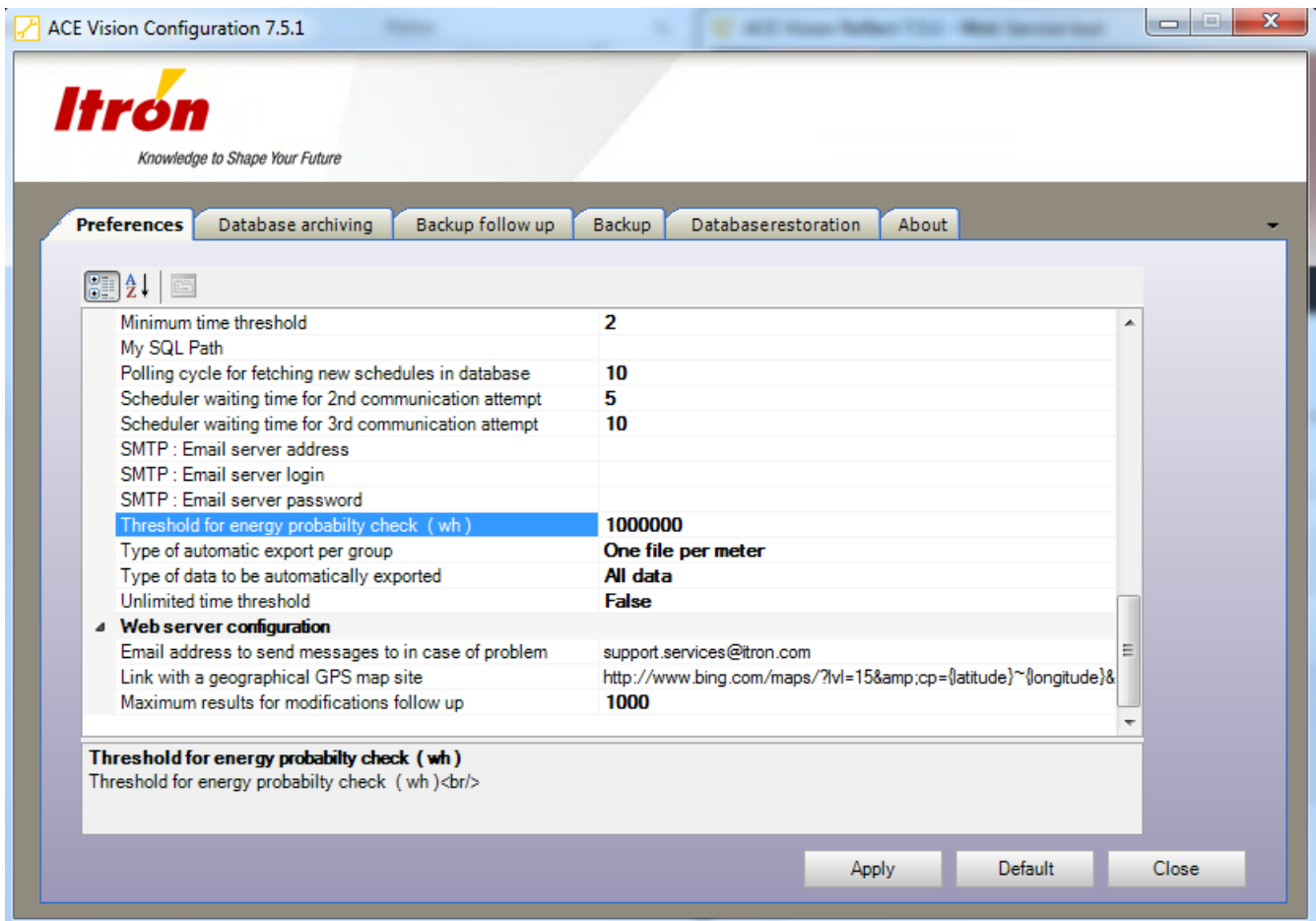


#### 3.19.1.1. Preferences

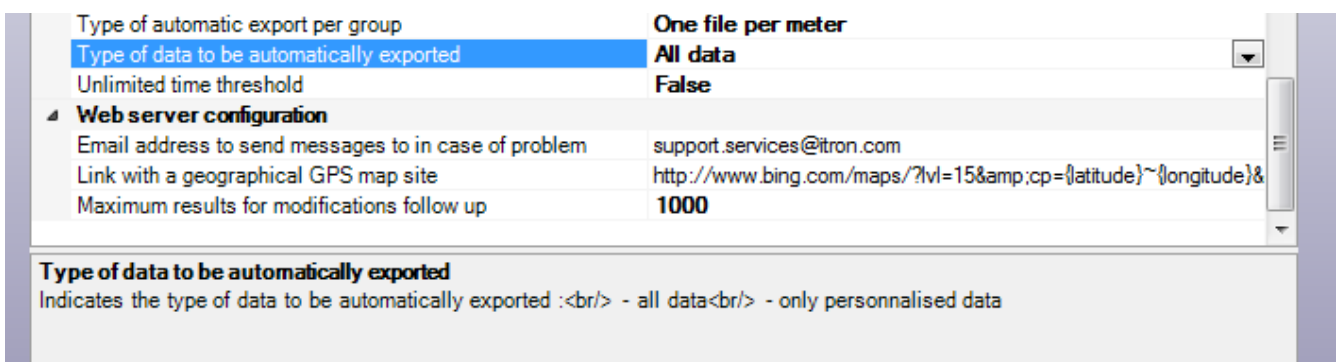
This section allows to adjust some parameters. It is highly recommended to not modify parameters. Only the following parameters have to be updated:

- Push offset: it is advisable to put this offset at 180 s (instead of 30s which is the value per default inside the configuration) to be sure that data pushed by the meter is well arrived on the FTP site
- Push FTP:
  - o URL to indicate: localhost or IP of the server
  - o Login: Acevision
  - o Password: Acevision
  - o This is the FTP account dedicated to populate ACE Vision Database with the data pushed by meters

- Threshold for energy probability check. This is important to know the consumption profile, in order to configure correctly this threshold. A comparison inside the last EOB between the value of total import energy register and the sum of the 3 phases has to be done, before the generation of the next EOB. If the difference is higher than the threshold, then the sum of the phases is not compliant, and meters that are concerned will be displayed by ACE Vision interface.



- Type of data to be automatically exported: It is possible to select only the 'personalized data', instead of 'all data'. We can also select one export file per meter, or a global file with all meters.



- Data publishing:
  - o Indicate the URL (localhost or IP@ or FTP server)
  - o Login

- Password
- Data publishing concerns only the revenue protection function

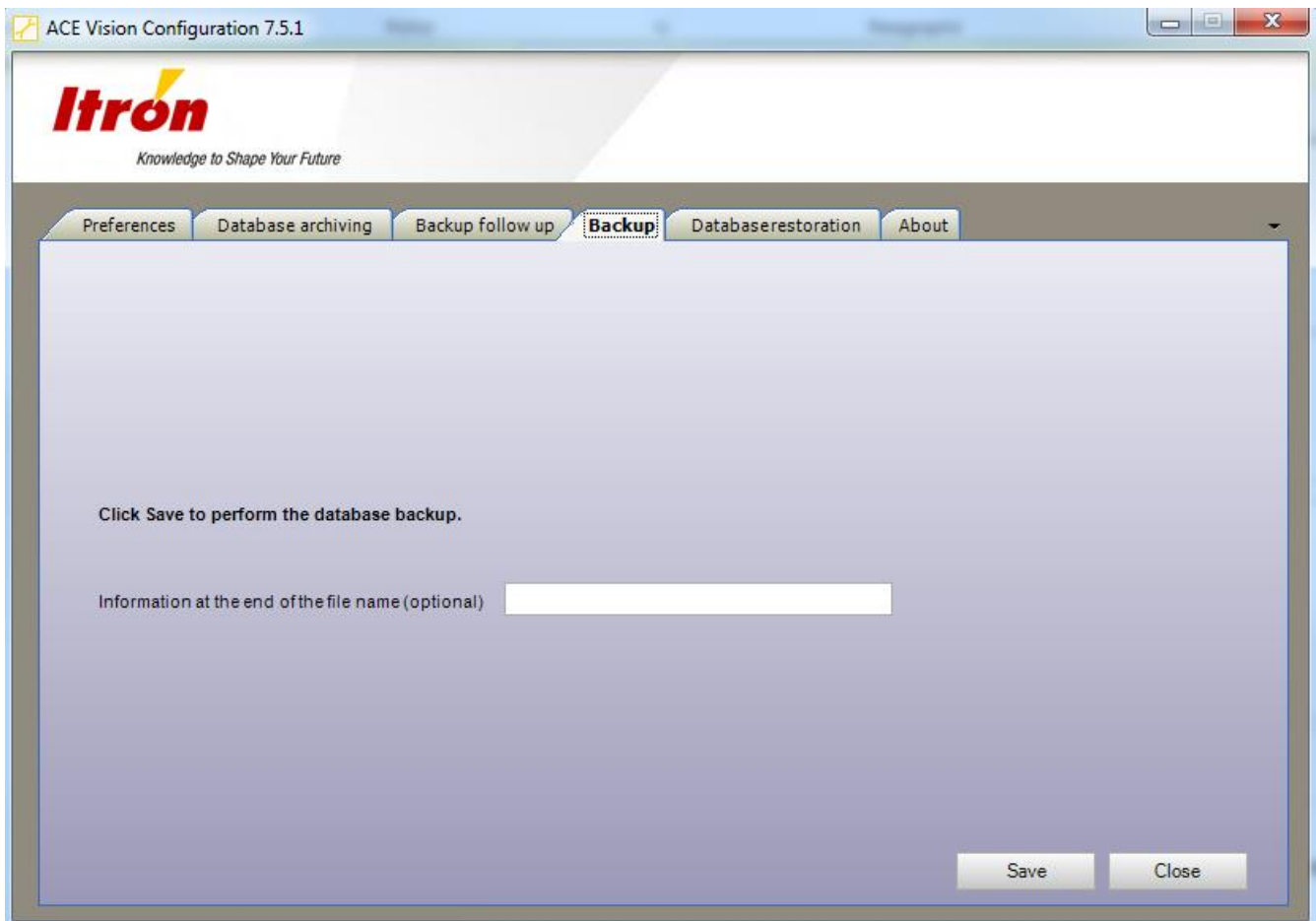
<p><b>Data publishing</b></p> <p>Publishing on FTP : Identifier used to connect to the FTP serv</p> <p>Publishing on FTP : Password used to connect to FTP server</p> <p>Publishing on FTP : URL address used to connect to the FTP</p>
---

Remark: In the preference module for each item, there is some indication at the bottom of the screen, often enough to understand what has to be completed for each field.

### 3.19.1.2. Back up

It is possible to perform a database back up, as with ACE Vision web application:

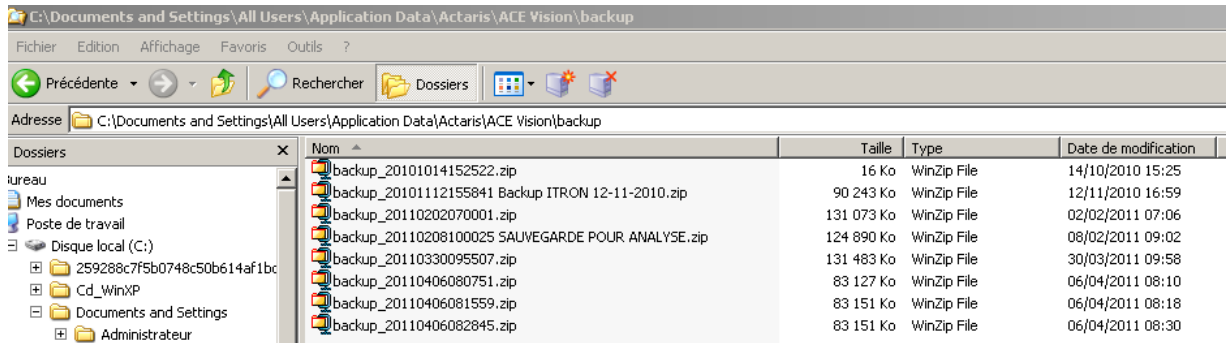
- Give a name at the end of the back up file name (optional).
- Click on Save



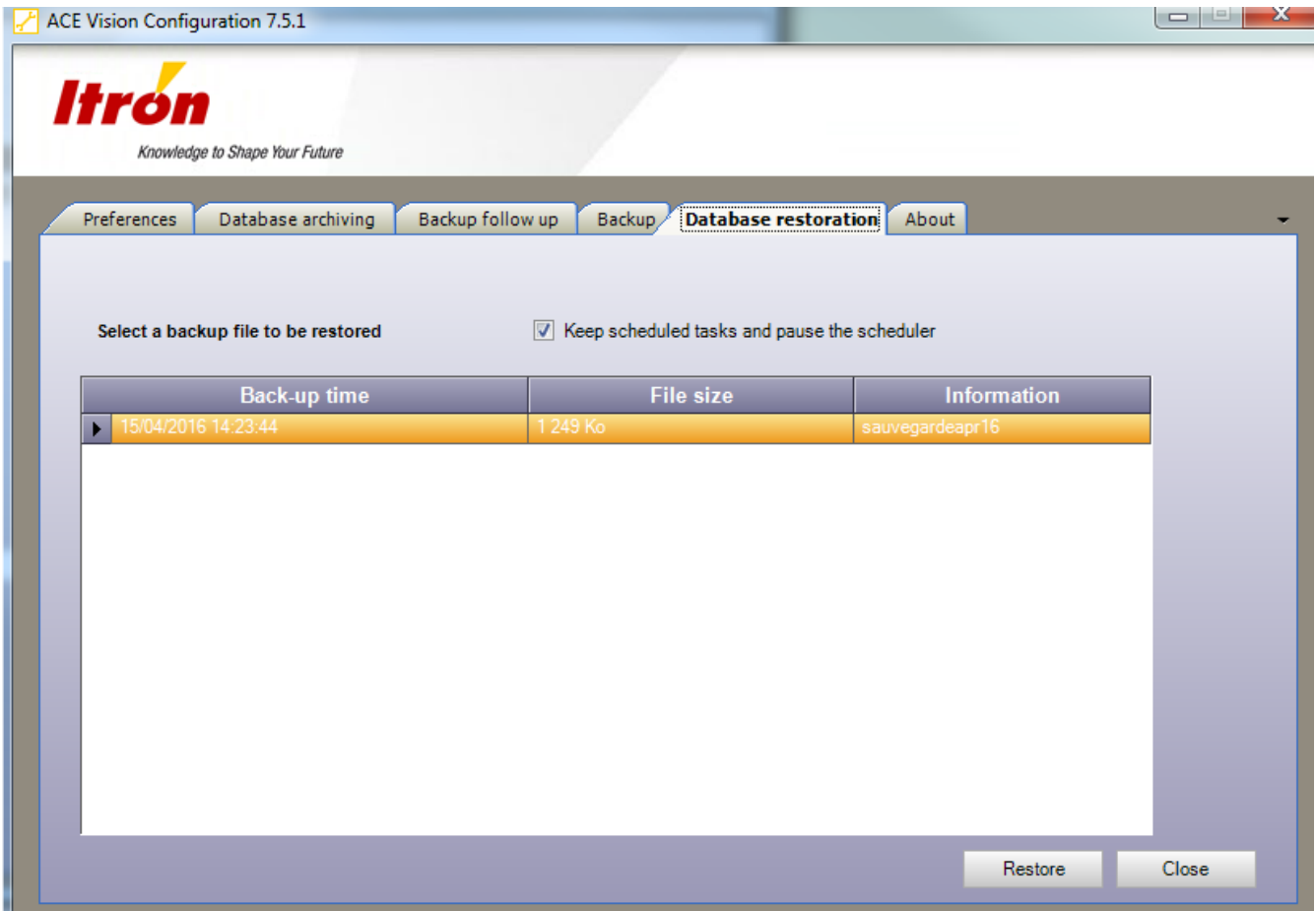
### 3.19.1.3. Database Restoration

It is possible to perform a restoration of the database:

- First of all the backup file has to be put in the directory below :



- Chose the file to restore
- Click on 'Restore'

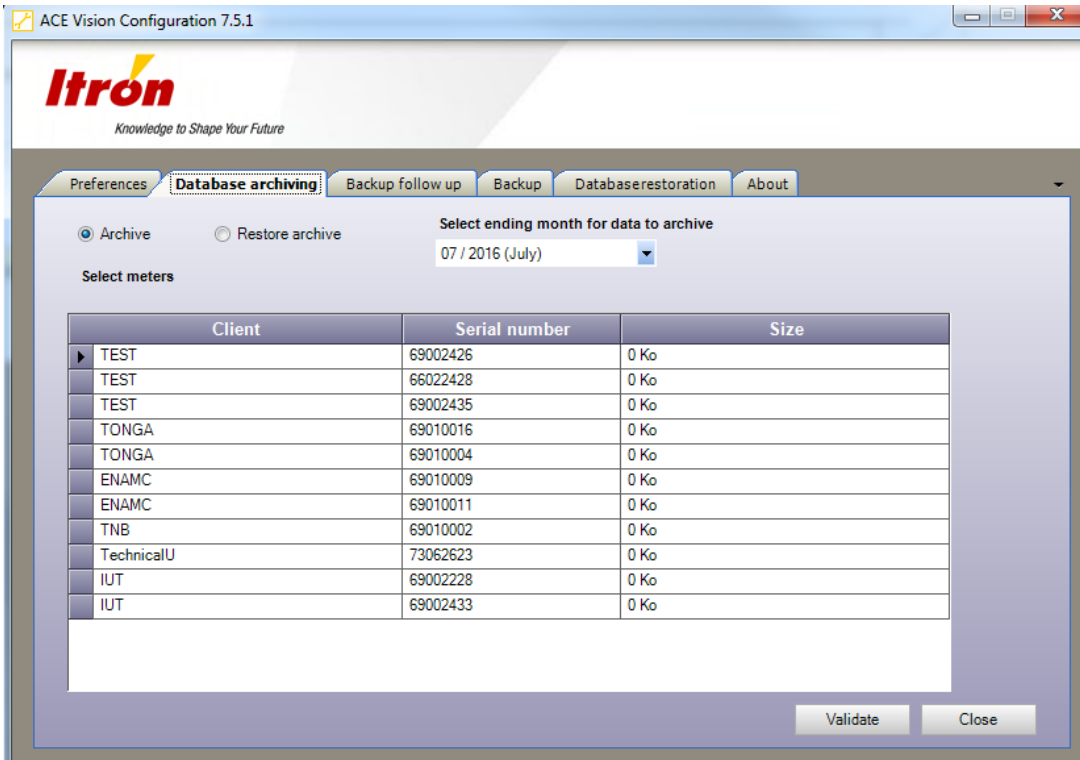


This restore operation can take some time, depending on the size of the database.

### 3.19.1.4. Database Archiving

It is possible to archive some elements of the database:

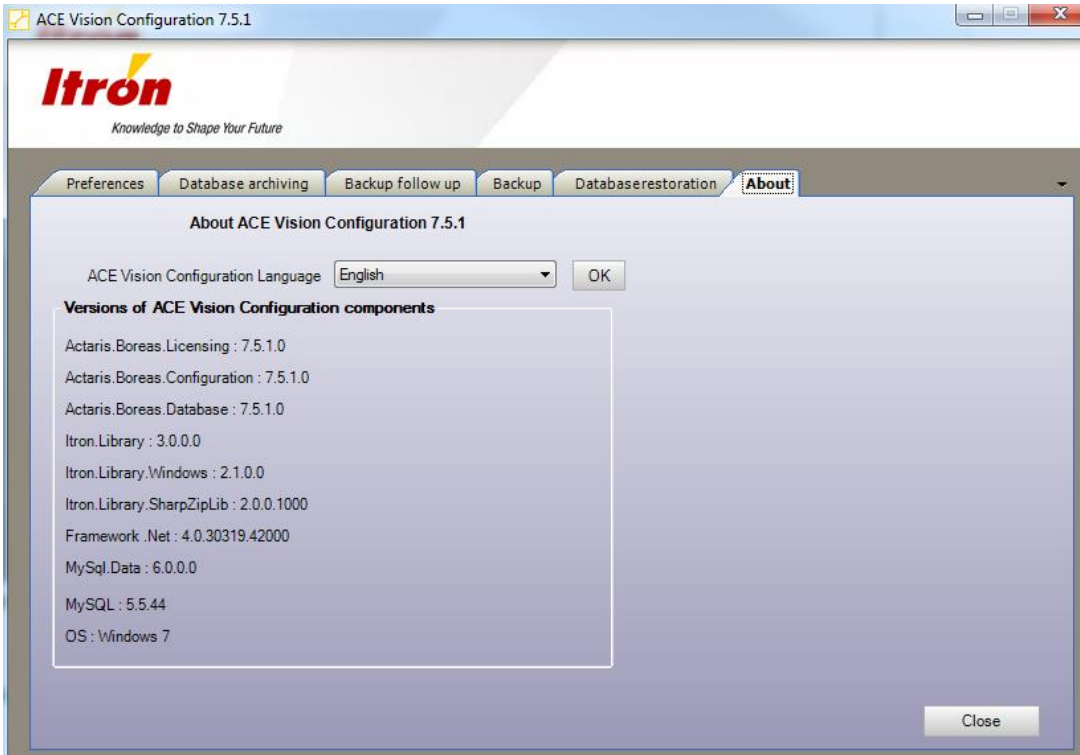
- Click on 'archive'



It is possible to extract the archive , and chose the month to archive

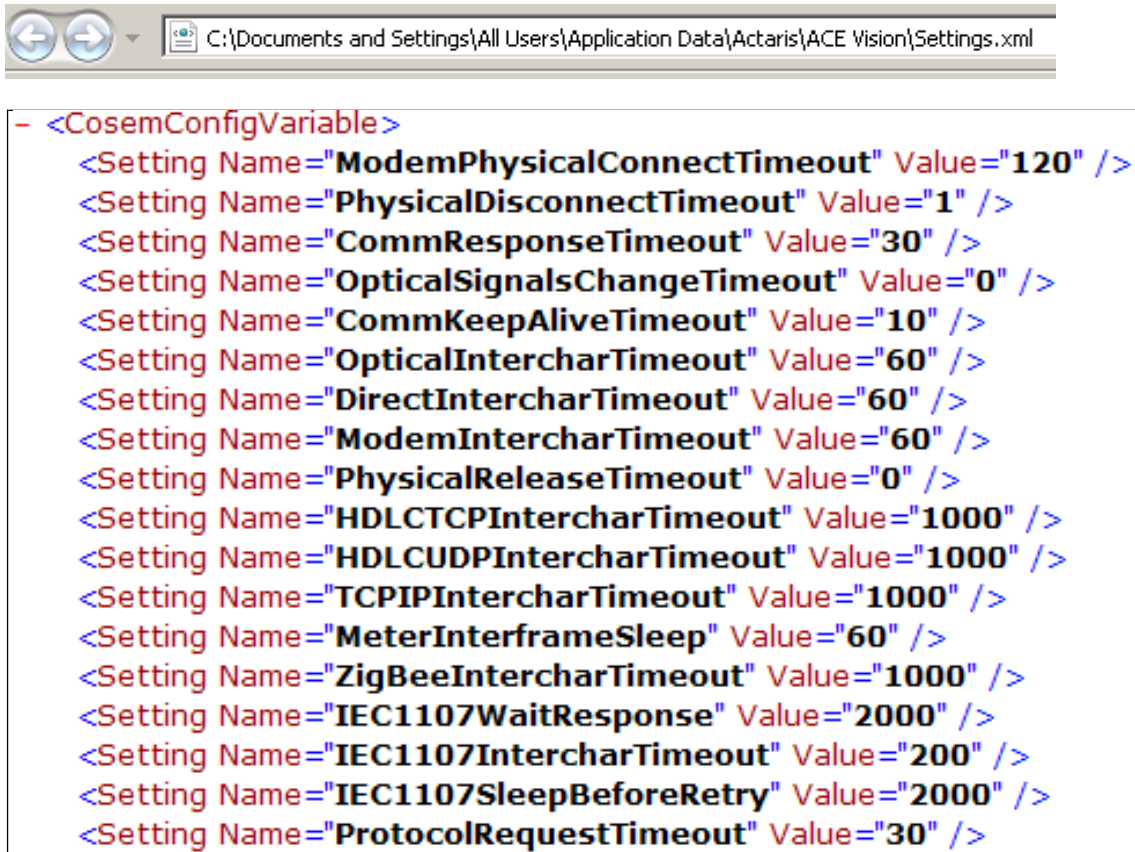
### 3.19.1.5. About

This screen provides information about ACE Vision configuration version, and allows to choose the language.



### 3.20. ADAPTATION OF COMMUNICATION TIME OUT

These time out can be modified only when some communication troubles are seen between ACE Vision and the meters.



```
- <CosemConfigVariable>
  <Setting Name="ModemPhysicalConnectTimeout" Value="120" />
  <Setting Name="PhysicalDisconnectTimeout" Value="1" />
  <Setting Name="CommResponseTimeout" Value="30" />
  <Setting Name="OpticalSignalsChangeTimeout" Value="0" />
  <Setting Name="CommKeepAliveTimeout" Value="10" />
  <Setting Name="OpticalIntercharTimeout" Value="60" />
  <Setting Name="DirectIntercharTimeout" Value="60" />
  <Setting Name="ModemIntercharTimeout" Value="60" />
  <Setting Name="PhysicalReleaseTimeout" Value="0" />
  <Setting Name="HDLCTCPIntercharTimeout" Value="1000" />
  <Setting Name="HDLUDPIntercharTimeout" Value="1000" />
  <Setting Name="TCPIPIntercharTimeout" Value="1000" />
  <Setting Name="MeterInterframeSleep" Value="60" />
  <Setting Name="ZigBeeIntercharTimeout" Value="1000" />
  <Setting Name="IEC1107WaitResponse" Value="2000" />
  <Setting Name="IEC1107IntercharTimeout" Value="200" />
  <Setting Name="IEC1107SleepBeforeRetry" Value="2000" />
  <Setting Name="ProtocolRequestTimeout" Value="30" />
```