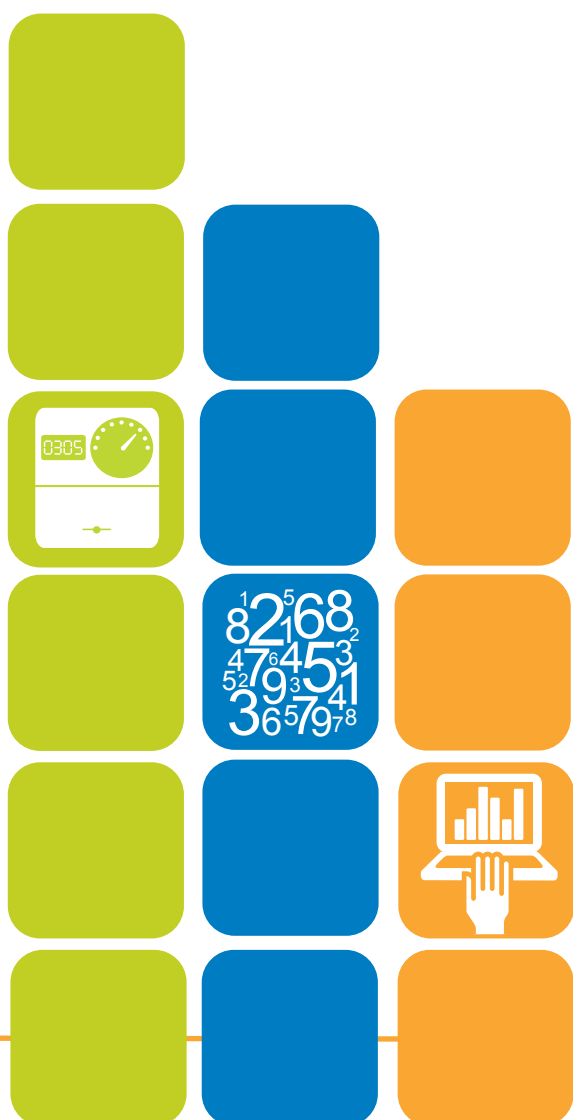




take control with EMP Multi Plus 8.0



dynamic. dependable. proven.

EMP Multi Plus delivers the power to take control of your utility consumption

smarter business management

Metering Dynamics is one of Australia's largest metering businesses. We deliver innovative multi-utility metering solutions to maximise energy and utility efficiency which assists with cost management and compliance reporting.

Metering Dynamics has built a range of innovative products as part of its core business, providing measurement, data and information solutions. One of the key solutions provided by Metering Dynamics is a software platform called EMP Multi Plus.

EMP Multi Plus is an essential tool that takes the complexity out of purchasing energy and delivers the power to take control of your utility consumption.

EMP Multi Plus

EMP Multi Plus is an integrated software platform specifically designed to monitor and manage energy and utility consumption. This can be achieved across multiple geographically dispersed facilities with diverse consumption profiles.

EMP Multi Plus is a user friendly and flexible platform that enables users to understand and investigate consumption anomalies.

The key components of EMP Multi Plus are as follows:

- Intuitive graphical user interface
- Innovative graphing functionality
- Flexible and powerful electricity billing engine
- Integrated threshold alarming functionality
- Flexible multi-utility consumption management functionality
- Raw and statistical data review functionality
- Site summary reporting functionality
- Multi site reporting capability
- Flexible export capability
- Scaleable data repository
- Automated data loading.

This enables users of EMP Multi Plus to deliver tangible value to their business by:

- Reviewing historical and current data trends for consumption management
- Calculating cost implications due to process changes
- Validating electricity accounts
- Benchmarking sites for utility efficiency
- Providing a multi-site and multi-utility data repository for current and future environmental compliance and management reporting
- Preparing for, and evaluating tenders.

EMP Multi Plus enables organisations to take control over planning, understanding and monitoring of utility consumption and costs. The system puts a powerful tool at the user's fingertips to help obtain sustainable cost reductions.

EMP Multi Plus has proven to be an effective solution and product of choice for many of Australia's leading corporations, manufacturers, facility managers, multi-nationals and household brands.

EMP Multi Plus is a must have business tool for Energy and Operations Management, Commercial Management, Financial Overview and Environmental Management.



utility operations management

EMP Multi Plus is a tangible business tool at your fingertips, enabling users to perform the following tasks with ease:

- Review load profile data for each measurement device, i.e. electricity, gas, water, temperature and humidity
- Estimate cost implications of process change without having to wait for the typical monthly bills to arrive
- Create and monitor benchmarking positions for organisation specified sites, groups of sites, etc
- Set alarm thresholds to monitor exceptions.

commercial management & financial overview

EMP Multi Plus provides organisations with the capability to:

- Accurately calculate and validate electricity accounts and select the optimum tariff for each site
- Analyse both current and future utility accounts
- Generate, print and save accounts or export as consolidated multi-site files for comparison
- Enter all billing parameters (e.g. energy, AEMO fees, network charges, metering charges, etc) into an easily configurable comprehensive accounting engine.

environmental reporting & management

Environmental reporting is fast becoming a major compliance requirement for business. There are various programs at state and federal levels including Energy Efficiency Opportunities (EEO), National Australian Built Environment Rating System (NABERS) Energy, National Greenhouse and Energy Reporting System (NGERS) and Green Star, with others emerging regularly.

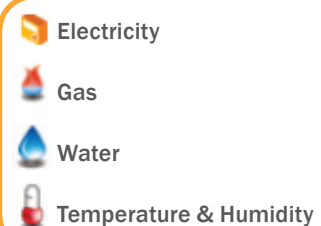
EMP Multi Plus assists Environmental Management by:

- Providing a multi-site, multi-utility data repository for archiving of current and future environmental compliance
- Enabling monitoring and comparison of usage performance within the organisations similar sites, groups of sites, etc
- Providing functionality to calculate greenhouse emissions
- Production of concise summary reports of monthly electricity usage in paper and electronic format
- Provides a cost effective and timely solution for optimising utility usage and consumption and dealing with exceptions to improve energy efficiency
- Range of detailed compliance reports designed for compliance programmes such as Energy Efficiency Opportunities, National Greenhouse Reporting and other state based programs.

utility consumption control & management

EMP Multi Plus is the solution to take control of your utility consumption, monitoring and compliance reporting management.

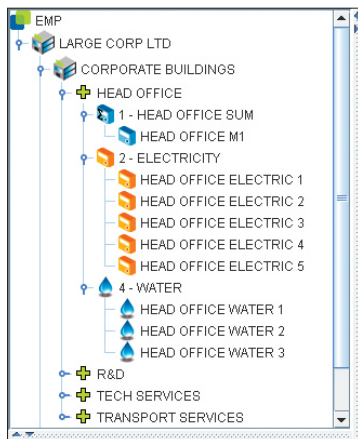
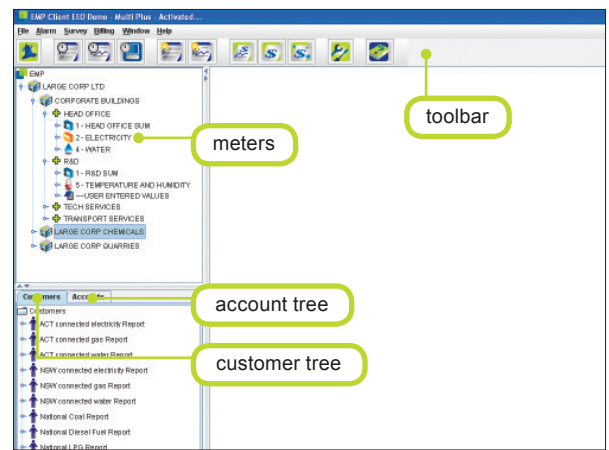
EMP Multi Plus puts collection, measurement, monitoring, archiving and analysis of the following at your fingertips in one easy to use platform:



With EMP Multi Plus the complex process of data collection, management and analysis is simple.

user friendly layout

EMP Multi Plus is designed for ultimate ease of use. The meter tree is expandable to multiple levels for quick access to relevant sites/meters.



flexible meter tree structure

EMP Multi Plus offers a flexible meter tree structure that suits individual customer requirements. Meters can be arranged and grouped in different ways, including:

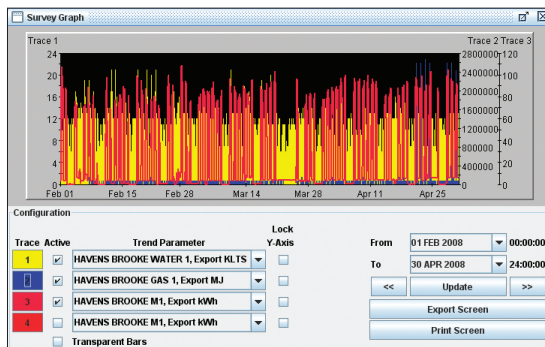
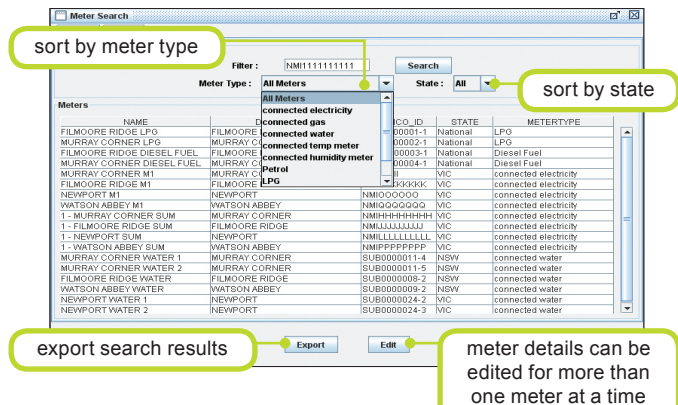
- National
- Energy Retailer and Network
- Facility, Sub-lease, Groups
- Groups of benchmarked facilities
- Business units and Cost centres
- Region, Department, Manager.

meter search functionality

With the meter search functionality of EMP Multi Plus, you can search for a meter within the entire meter tree.

Search Functionality provides you with the ability to:

- Edit multiple meters at the same time
- Sort search results by site location (State) or meter type (connected electricity). This also saves time when managing multiple sites
- Export search results as an Excel spreadsheet, enabling data to be shared for additional reporting requirements.



utility usage analysis

EMP Multi Plus has the ability to profile graphically or in tabular format the consumption of electricity, water, gas, temperature or humidity. Records are in either 15 or 30 minute intervals and can be scrutinised by profiling over a specified time period.

Profiling of utility usage allows for investigations into possible improved utility and/or efficiency and utility usage maximisation. It also allows identification of consumption with unusual usage patterns.

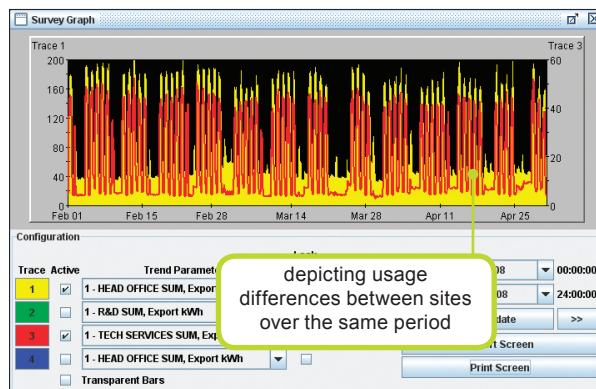
The graphical display shows the consumption for multiple utilities for a site over the same period of time. The display can be adjusted to zoom in or out daily, monthly or yearly.

benchmarking at your fingertips

The benchmarking function is known as survey graphing/tables in EMP Multi Plus. Survey Graphing/Tables allows users to view the consumption differences between two sites or types of utility (gas, water). The results can be viewed in different formats (e.g. graphs or tables).

The user simply selects the facilities or sites that are to be benchmarked and a variety of options are then available to benchmark against. For example:

- Graphically display sites or facilities with similar characteristics
- Various utility quantities can be specified



data review and alarming

EMP Multi Plus has a data review functionality which enables users to run daily and monthly reviews for individual or multiple sites.

Triggers can be configured for individual sites as per customer's requirements and exceptions are recorded using the Daily Alarm function.

The monthly review function tabulates all exceptions for a particular site.

☐ Daily Alarm Display

From: 01 JAN 2008 To: 30 APR 2008

00:00 24:00

☒ Electricity
 ☒ Gas
 ☒ Water

Date	NMI	Meter Name	Location	Parameter	Threshold	Value
2008-01-01 23:00	SUB80000027-1	HEAD OFFICE E	CORPORATE BUI	kW Demand_pf	0.0	17.00,0.00
2008-01-01 23:00	SUB80000027-1	HEAD OFFICE E	CORPORATE BUI	kW Demand_pf	0.0	18.00,0.00
2008-01-01 23:30	SUB80000027-1	HEAD OFFICE E	CORPORATE BUI	kW Demand_pf	0.0	13.80,0.00
2008-01-02 00:00	SUB80000027-1	HEAD OFFICE E	CORPORATE BUI	kW Demand_pf	0.0	13.20,0.00
2008-01-01 00:00	SUB80000027-1	HEAD OFFICE E	CORPORATE BUI	Max Daily	0.00	340.90

0%

☐ Monthly Review Display

From: 01 JAN 2008 To: 30 APR 2008

00:00 24:00

☒ Electricity
 ☒ Gas
 ☒ Water

Date	NMI	Meter Name	Location	Parameter	Threshold	Value
2008-01-25 07:30	NM1CCCCCCCC	HAVENS BROO	LARGE CORP QUAR	kW Demand_pf	N/A	224.42,0.65
2008-01-19 00:00	NM1CCCCCCCC	HAVENS BROO	LARGE CORP QUAR	Max Daily Use kWh	N/A	2108.10
2008-04-30 23:59	NM1CCCCCCCC	HAVENS BROO	LARGE CORP QUAR	Total kWh	N/A	131092.46
2008-01-25 07:30	NM1BBBBBBBB	1 - HAVENS BR	LARGE CORP QUAR	kW Demand_pf	N/A	224.42,0.65

0%

electricity account validation and analysis

EMP Multi Plus can be used to validate electricity accounts at client specified intervals (e.g. monthly, quarterly). Validation is simply done by matching periods of usage stated on the Energy Retailer invoice for the relevant sites. The example shows a complex bill that can be run from EMP Multi Plus. The format of the bill is similar to a retailer bill, resulting in ease of comparison.

EMP Multi Plus gives the customer the tools to compare the real price being offered by retailers. This feature benefits the decision making process when a tender is evaluated. Simply enter the different rates (provided by competitive Energy Retailers) into the Account editor to generate energy usage estimates over the same period of time.

Bill Print Preview

Full Account Bill

Account Details

Account : 12845678

623 Broadway Park Avenue

Atlanta :

Contract# 1 Account: P&I Account		From: 01-Jan-2000 To: 31-Mar-2000		
Charge	Date	Unit	UNIT	TOTAL \$
Energy Charge:				
Day	1.0 @ 0.00000/Day	34420.00 @ 0.385	2452.38	3494.04
Off Day	1.0 @ 0.00000/Day	34420.00 @ 0.00	46.73	4.47
	SubTotal			3498.51
Demand Charge				
Peak	0.250000/Day	336 @ 0.00	0.00	3.00
Off Peak	0.17-Jan-2000 22:00	402 @ 0.00	3436.38	3436.38
Day	1.0 @ 0.00000	438 @ 0.00	4380.00	4380.00
	SubTotal			7819.38
Network and Metering Charge				
Network Voltage Drop		24420.00 @ 0.00		2442.00
Network	1.0 @ 0.00000/Day	18420.00	2042.42	2020.00
Off Peak		1.80	0.00	3.00
Network Voltage Drop Off Peak		1.80	0.00	3.00
	SubTotal		\$468.00	\$474.00
Service Charge				
MEMO	30.00000 @ 0.00	0.00	0.00	0.00
	SubTotal		\$0.00	\$0.00
TOTAL				
			\$10950.31	\$10950.31

electricity account estimation

EMP Multi Plus provides functionality to estimate monthly accounts. An incomplete billing period date range can be selected, and EMP Multi Plus will estimate the missing data for the period bill, based on the real billing data available for the nominated period.

Estimating allows users to identify process changes that have favourable or unfavourable effects on your monthly energy costs.

Estimating allows businesses to better manage cash flow by better estimating the anticipated monthly energy costs.

The screenshot shows the 'EIS Print Preview' window. On the left, a tree view lists customers under 'Customers' and 'Accounts'. The 'Accounts' section is expanded, showing a list of accounts including 'HAWENS BROOKE BLUM', 'HAWENS BROOKE MT', 'MT TUCKET QUARRY', 'MT TUCKET QUARRY BLUM', 'MT TUCKET QUARRY MT', 'JAC', 'WATER', 'WATER ENTERED VALUES', 'PLUMB', and 'STONE MORE QUARRY'. A red circle highlights the 'MT TUCKET QUARRY MT' account, with a callout bubble saying 'select site(s) to generate the bill'. On the right, a preview of a generated electricity bill is shown. The bill is for 'connected electricity MT TUCKET QUARRY M1 (ID 17)'. It includes account details, a table of charges, and a total amount. A red circle highlights the 'From' and 'To' date fields in the bill preview, with a callout bubble saying 'select period'. The bill preview also shows a table of charges with columns for 'Energy Charged', 'Unit', 'Rate', and 'Amount'.

data warehousing and delivery

A very important part of EMP Multi Plus is the data warehousing and delivery. All EMP Multi Plus data is stored locally within the customer's IT environment. The most up-to-date data is automatically delivered to the EMP Multi Plus server via a customer hosted e-mail account. The data is automatically updated and synchronised thereby enabling the user to investigate consumption abnormalities or accurately validate electricity utility bills with incredible ease.

All consumption data is backed up for disaster recovery purposes. This data is stored to national market standards within Metering Dynamics.

data delivery architecture

The diagram below shows the general architecture of data delivery. The most up to date consumption data is sent to customers systems via email everyday. The data sets are usually integrated with meter readings taken at either 15 minute or 30 minute intervals.

compatibility

EMP Multi Plus is compatible with the following Operating Systems:

- Windows® XP
- Windows® Server 2003
- Windows® Vista

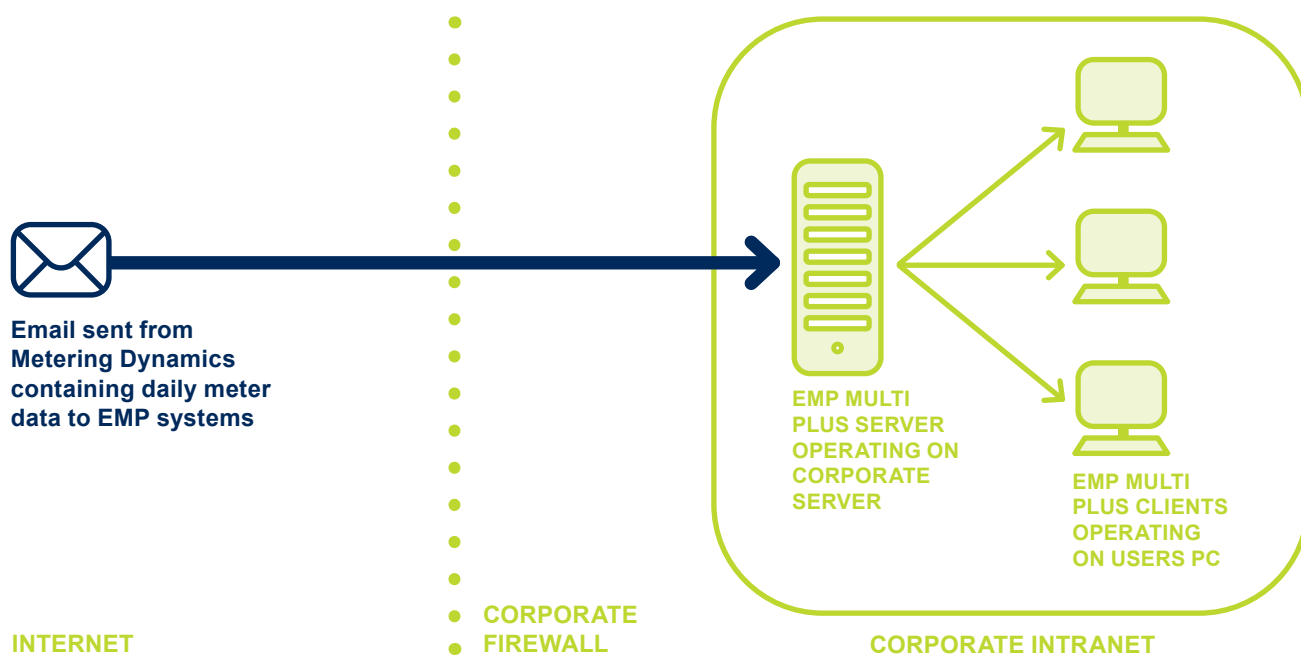
access and security

Whether your EMP Multi Plus application requires a single workstation or a full-featured system of networked computers, EMP Multi Plus platform offers a variety of functions to simplify managing and analysing your utility costs.

EMP Multi Plus is a client/ server application that enables enterprise wide access to utility usage data via WAN and LAN (Local Area Network) using TCP/IP protocols. The client/server are two separate applications. Client access to the server is controlled via a security model held at the server.

User accounts, each with a unique name and password, are provided to control application access.

EMP Multi Plus system architecture



IT requirements – typical system

The IT requirements for a typical system are as follows:

- PC Server – P4 – 1GB RAM, 80 GB H/D, 100 Mb/sec TCP/IP Network Card
- PC Client – P4 – 1GB RAM, 10 GB H/D, 100 Mb/sec TCP/IP Network Card
- EMP Multi Plus uses the POP3 email, exchange server or FTP to retrieve the data from a customer hosted email account.
- EMP Multi Plus has been extensively tested over LAN and WAN using either static IP or DHCP.

Note: A typical system usually consists of 400 sites or less

Our existing customers have already seen the difference that Metering Dynamics and EMP Multi Plus has made to their operations. Find out what Metering Dynamics and EMP Multi Plus can do for you by contacting us.

Call **1300 792 611**

Email **sales@meteringdynamics.com.au**

Visit **www.meteringdynamics.com.au**

Metering Dynamics Business Support Pty Ltd ABN 58 087 082 764 trading as Metering Dynamics.

© All contents copyright Metering Dynamics Business Support Pty Ltd 2017.

® The Metering Dynamics word and device are registered trademarks of Metering Dynamics Business Support Pty Ltd

ABN 58 087 082 764.

All information supplied by Metering Dynamics in this document is to be considered commercial in confidence and must not be disclosed to any third party without the prior written consent of Metering Dynamics.

All rights reserved. Information contained herein is subject to change without notice.

8700 29.11.2017