

## Creating sophisticated cost models to meet regulatory demands

Pilbara Group has developed a detailed, yet flexible, Activity Based Costing (ABC) solution designed specifically for the telecoms industry. This is supported by our partner firm, Telzed Ltd in the UK.

We can supply sophisticated cost and profit analysis tools to telecommunications companies faced with demands from National Regulatory Authorities (NRAs).

The solutions we offer:

- 'ACE' software - a flexible yet powerful platform that is able to deliver almost any cost or profit report required.
- Cost reports using FAC, LRIC, CCA, and HCA costing methods.
- Honest, straightforward advice.
- Regulatory accounting results by market, with transfer charges within the business.
- A model designed around a telco's actual needs.
- Simple IT interfaces to ERP systems.
- In-built online reporting functionality, or can link to a number of other reporting tools to supplement the ACE reporting tool, if required.
- Novel features that are difficult to implement in other platforms.
- A tool able to analyze Next Generation Networks (IP based) and fiber access services.
- A system design that can meet the needs of fixed, mobile, or converged businesses.
- A tool able to hold multiple years of data, allowing telcos to analyze data across different periods.
- Retail cost and information for cost control and pricing.
- A model that can be maintained and upgraded by your own staff.

We ensure value for money, rapid development and offer honest advice

In the following section, we focus on regulatory-driven issues. Commercial applications of our solution are often similar and are discussed in a separate white paper.

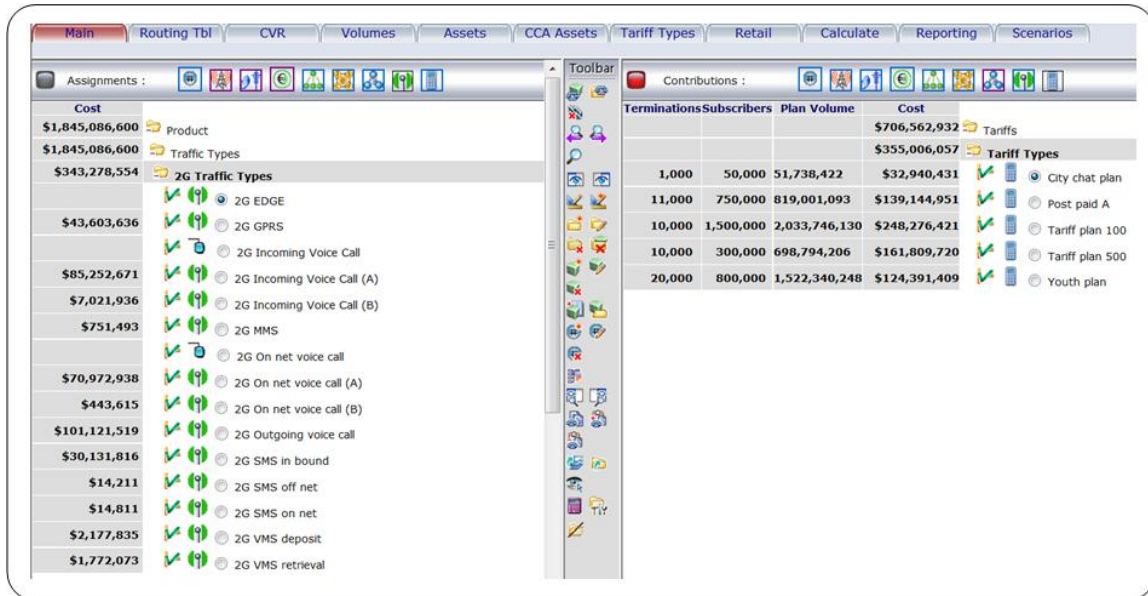
The key benefits of choosing the Pilbara Group approach include:

- The structure of the system can be quickly and easily tailored to your specific needs.
- Has been developed in close consultation with telecom regulatory experts to ensure the systems meet regulatory requirements.
- Our projects are adjusted to ensure that your needs for in-house involvement are met.
- Pilbara Group's involvement ensures personalized software developments such as customized screens and forms and purpose-built reports.

The diagram below shows a typical customized telco structure developed in ACE using our standard user-friendly front end interface. The navigation tabs along the top of the screen

can be easily added to assist with model management, provide alternate forms for data entry, and enable rapid navigation to key areas of the model.

**A user-friendly interface providing navigation, configuration and analysis tools**



**Regulatory demands must be met**

NRAs are under legal obligations to investigate telecommunications markets. Where there is market dominance, or where market competition is insufficient, NRAs may apply remedies. These vary, but can include setting prices or carrying out investigations as to whether prices are fairly set. Such actions require detailed cost analysis.

Unfortunately, cost account data within a telco ERP system is rarely structured to comply with an NRA’s requirements. This often means that a number of new costing tools or “models” must be developed to meet the NRA’s fluctuating demands. In some cases, processing the existing financial data with database or spreadsheet platforms provides the required information. More often, however, large operators facing complex regulatory demands require a cost model that is able to show:

- Cost breakdowns of many hundreds or even thousands of products, showing cost types and sources of costs.
- Product calculations using different cost calculation bases. Results based on Historic Cost Accounts (HCA), Current Cost Accounts (CCA), Fully Allocated Costs (FAC), or Long Run Incremental Cost (LRIC) are often required.
- Balance sheet information. This is needed for the whole business but also for service sub-markets or business units.
- Analysis of both cost and revenue data to enable a comparison based on either full or marginal costs.
- Alternative treatments of costs. For example, central business costs can be spread or “marked up” to products using several different methods.

A system that is powerful yet flexible enough to respond to new product lines and business

- Internal supply and transfer charges. This is particularly important in cases where an organization’s wholesale unit transfers products internally to a retail unit. The effective prices and cost transfers must be measured and presented in reports.

In some cases, an operator is not required by a NRA to have a cost accounting model, but must still supply basic data to the NRA to support its own cost model. We recommend that a full model is still made. If an operator does not have its own full counter-factual model, then the NRA’s results are much harder to influence. A full costing system can therefore have major benefits, even if not specified by the NRA.

Increasingly, competition authorities or NRAs are investigating Anti-Competitive Pricing, and the potential penalties can be extreme. The ability to respond to such investigations is vital.

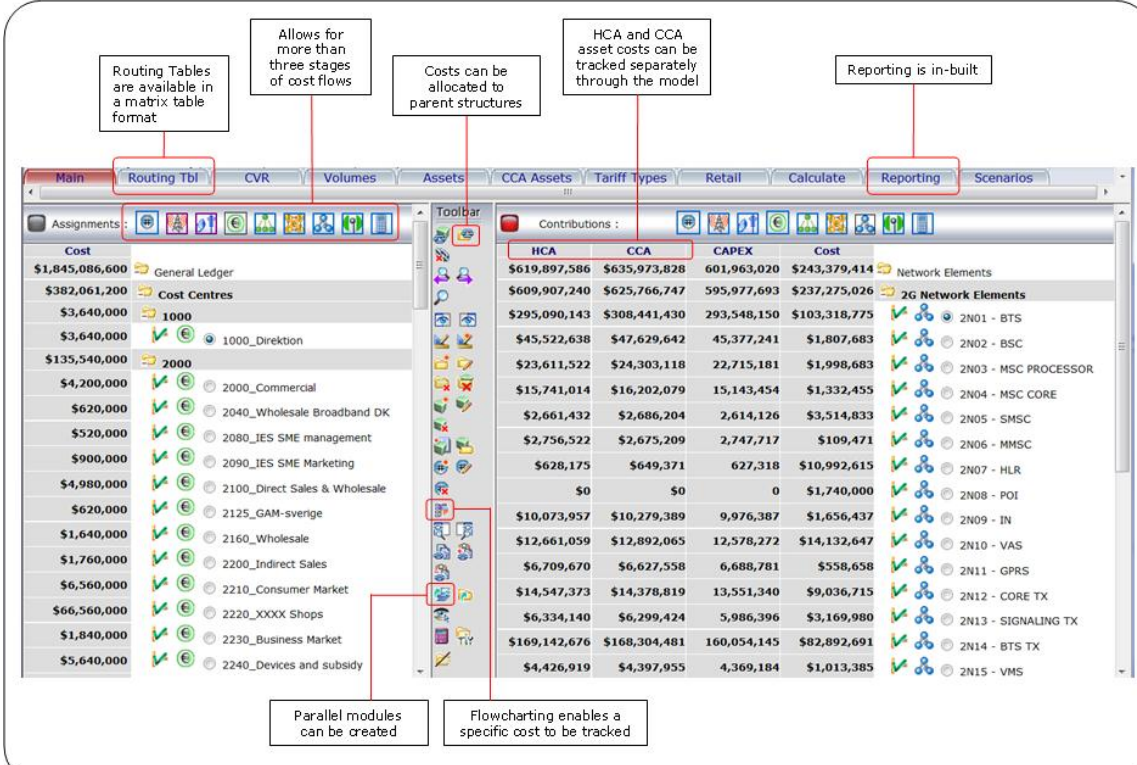
### The ‘ACE’ ABC system has the functionality required by telcos

#### A powerful ABC-based IT tool is needed

Activity Based Costing (ABC) tools are commonly used to provide central processing platforms. The Pilbara Group ACE system is a leading software suite that provides a flexible and powerful platform to rival any ABC tool. Like most ABC tools, it is a general purpose platform suitable for many industries. Unlike some other systems, however, it has a number of inherent features that make it ideally suited to a telco’s unique requirements.

ACE can be configured for any telco and can calculate the cost of any service. In the following section we describe some typical techniques that the system facilitates in order to meet regulatory costing requirements.

#### ACE is easily configured have both standard and telco-bespoke features



The screenshot shows the ACE software interface with several callouts highlighting key features:

- Routing Tables are available in a matrix table format**: Points to the 'Routing Tbl' tab in the top menu.
- Allows for more than three stages of cost flows**: Points to the 'Contributions' table.
- Costs can be allocated to parent structures**: Points to the 'Cost Centres' list on the left.
- HCA and CCA asset costs can be tracked separately through the model**: Points to the 'HCA' and 'CCA' columns in the 'Contributions' table.
- Reporting is in-built**: Points to the 'Reporting' tab in the top menu.
- Parallel modules can be created**: Points to the 'Toolbar' on the left.
- Flowcharting enables a specific cost to be tracked**: Points to the 'Flowcharting' icon in the 'Toolbar'.

Contributions :	HCA	CCA	CAPEX	Cost
General Ledger	\$619,897,586	\$635,973,828	601,963,020	\$243,379,414
Cost Centres	\$609,907,240	\$625,766,747	595,977,693	\$237,275,026
1000	\$295,090,143	\$308,441,430	293,548,150	\$103,318,775
1000_Direktion	\$45,522,638	\$47,629,642	45,377,241	\$1,807,683
2000	\$23,611,522	\$24,303,118	22,715,181	\$1,998,683
2000_Commercial	\$15,741,014	\$16,202,079	15,143,454	\$1,332,455
2040_Wholesale Broadband DK	\$2,661,432	\$2,686,204	2,614,126	\$3,514,833
2080_JES SME management	\$2,756,522	\$2,675,209	2,747,717	\$109,471
2090_JES SME Marketing	\$628,175	\$649,371	627,318	\$10,992,615
2100_Direct Sales & Wholesale	\$0	\$0	0	\$1,740,000
2125_GAM-sverige	\$10,073,957	\$10,279,389	9,976,387	\$1,656,437
2160_Wholesale	\$12,661,059	\$12,892,065	12,578,272	\$14,132,647
2200_Indirect Sales	\$6,709,670	\$6,627,558	6,688,781	\$558,658
2210_Consumer Market	\$14,547,373	\$14,378,819	13,551,340	\$9,036,715
2220_XXXX Shops	\$6,334,140	\$6,299,424	5,986,396	\$3,169,980
2230_Business Market	\$169,142,676	\$168,304,481	160,054,145	\$82,892,691
2240_Devices and subsidy	\$4,426,919	\$4,397,955	4,369,184	\$1,013,385

### Multiple stages give a flexible architecture

Whilst ACE can incorporate as many modules (stages) as needed, ABC tools traditionally only have three modules: Resource, Activity, and Cost Object, which are not fully reflective of/specific enough to address telco requirements. Experience shows that telco models are easier to develop and manage with additional stages, such as:

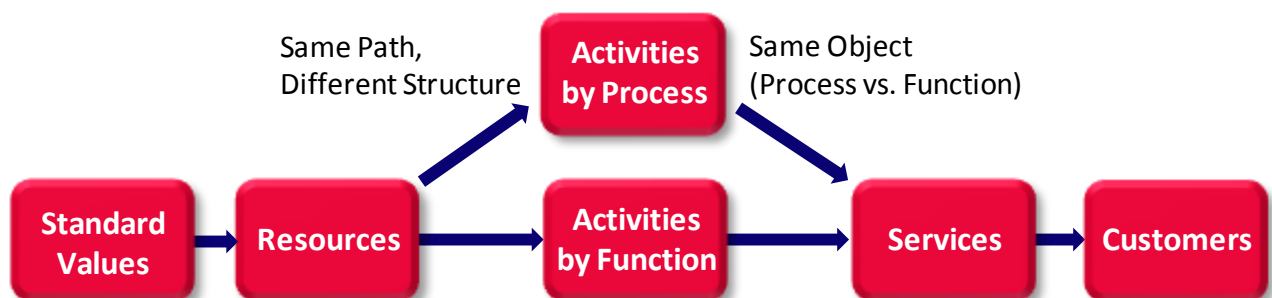
- A stage to allocate and process input costs (assets and operational accounts) as well as a separate stage that defines the supporting activities and internal service supply. This simplifies initial account processing and clearly identifies supporting services.
- Main operational activities that can be identified in their own specific stage.
- Network costs need a stage to ensure clarity of cost allocation to the final network elements that deliver the basic products.
- The basic products can be modeled using routing table structures to allocate the network element costs to products.
- The basic products can then be processed into retail and wholesale products which can be combined with sales costs and common cost mark-ups.



### Limitless Modules

A multiple stage model is inherently easier to design and manage, facilitating effective data analysis and reporting.

Two stages can also be defined in parallel within one model, creating an alternative set of allocation paths. This allows two versions of a processing stage to be managed in one model.



### Alternate Modules

#### Identification of multiple cost inputs

Regulatory models need to consider different costs for different reports. In ACE, multiple cost inputs can easily be passed through the model. This enables:

- Different time period costs

- Costs based on historic accounts
- Costs based on accounts that are re-valued using current cost accounting or other methods
- Each may be processed and reported on separately – providing the benefit of one system for different regulatory account reports.

In addition, the system allows for reporting on individual input cost accounts, so complex profit and loss reports can be built with ease.

### **Definition of cost pools**

Any cost element (or “cost pool”) in a model may need to be assigned to a business unit in a regulatory accounts report. Our tags enable Access, Network, Mobile, International, and Datacoms business units to be defined at any stage. This ensures that the system can easily be adapted to regulatory accounting demands. Experience shows that these demands can change over time, so flexibility is vital.

### **Fixed and variable cost analysis**

Marginal costs or full incremental costs are vital economic measures for regulatory investigations, as well as for commercial pricing and product evaluation. ACE can measure these by using various techniques, including:

- Tagging fixed and variable cost percentages to cost pools. This enables results with a breakdown to the cost-variables.
- In-built cost volume relationships. Altering the input service volumes can have a resulting effect on the costs in the model. This enables variable cost and future costs (with next year’s volumes) to be evaluated. Avoidable costs (if the service was not supplied) can be defined.

### **Complex product modeling**

Almost all telco cost models use routing tables to allocate network costs to products. A large telco needs routing tables for fixed and mobile traffic, leased lines, data services, access line services (broadband, TV, phone line rental), etc. ACE accepts matrix table structures as a standard input, allowing users to have several input tables, making the management of the model much easier. This table structure makes data-entry as simple as using a spreadsheet.

The product modeling also allows IP and traditional services to be modeled. We provide leading thinking on the best method to define the cost drivers for different services sharing common IP networks or sharing access fiber links.

### **Cost allocation features**

A number of special allocation features make the ACE system ideally suited to a telco:

- **Allocated costs can be specified to be an exact value.** It is common that some internal transfer costs must be at a specific price with the resulting payment fixed by the volume. International call fees to specific countries are similarly defined. ACE is able to calculate these exact costs transfers, with residual costs (representing losses in internal supply) being allocated as residual or reconciling costs. These techniques enable accurate calculation of regulatory accounts and internal transfer payments.



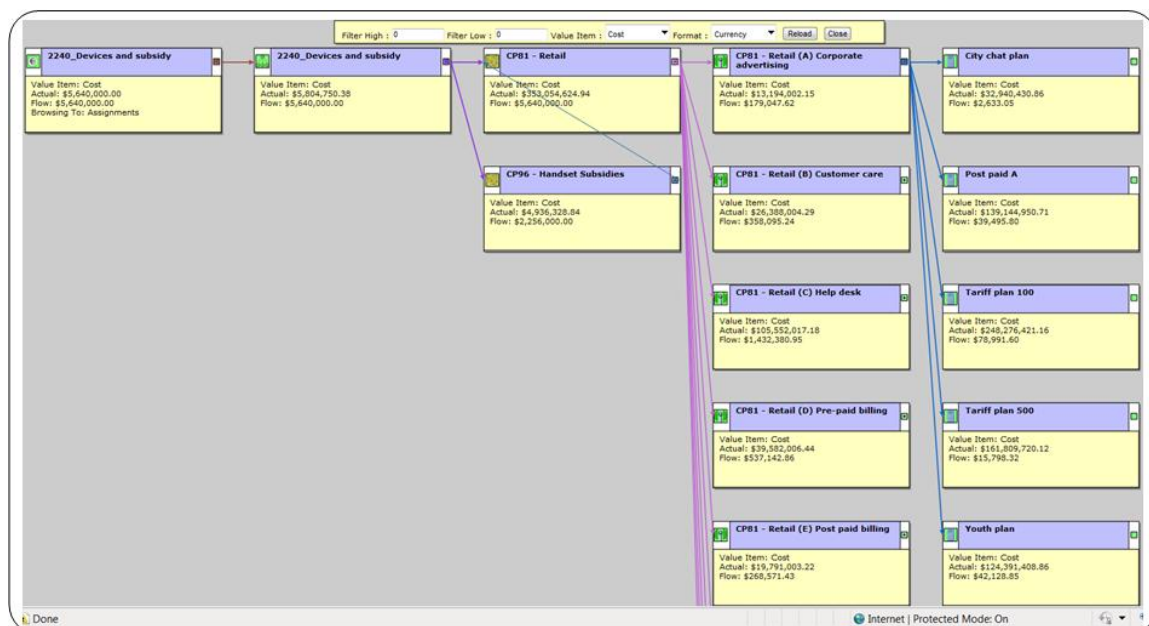
- **Simplified automated cost allocations.** It is a common requirement to allocate many cost pools in the same way. This leads to large numbers of allocations that must be entered and maintained. ACE allows one allocation to be pre-defined for many pools using a parent-pool type of allocation. This greatly reduces user workloads and avoids errors if new accounts and pools are created, as the parent allocations are automatically applied.
- **Allocation based on the destination cost types.** Many cost types are allocated to cost pools. Often, some costs must be allocated in proportion to operational costs or capital costs. ACE makes it simple to define these allocations, avoiding the need to create many smaller cost pools specific for operational or capital costs. Regulatory (and commercial) tools need these methods for “mark-ups” of common costs.

### In-built reporting and reconciliation

ACE has in-built OLAP reporting to enable rapid and simple report creation. Each module or stage can be summarized and reported on to simplify reconciliation.

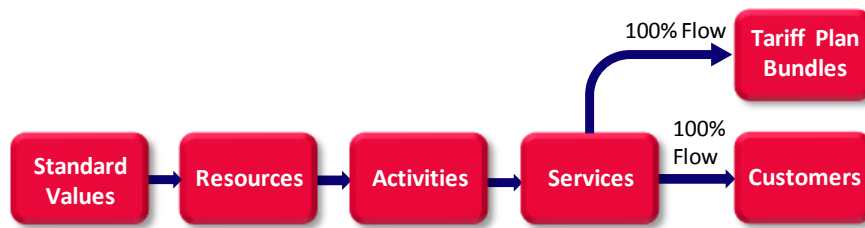
Trace/flowcharting tools allow costs to be traced down or back through many stages. The outputs can also link to spreadsheets or other reporting tools with ease.

### A general account’s final destinations can be analyzed using the trace tool



### Parallel modules

It is common for a user to need different versions of a stage within a model. One set of processing will be used for NRA reporting, another for internal use, while another might be used for budgets and “what if” scenarios. While the rest of the model remains the same, ACE allows for parallel versions of any stage so that the user can alternate between the different model results.



Layers (parallel modules)

As an example, retail product cost (and profit) analysis requires examination of basic product costs, but also examination of the results by tariff plan bundles or by dealer channels. This requires allocations of the same basic costs into various output views. This can be simplified by parallel modules using ACE, greatly saving on the amount of maintenance needed.

ACE parallel stages therefore provide a powerful feature for alternative analysis and they avoid needing to maintain multiple model versions.

### Next steps

For further details on the solutions that we can offer, please contact:

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For information about Pilbara Group and the ACE software suite, please visit:

[www.pilbaragroup.com](http://www.pilbaragroup.com).

For details of telecom specific solutions please contact Telzed Limited (a Pilbara Partner):

Roger Steele +44 (0) 777 178 76007. [www.telzed.com](http://www.telzed.com).

### System specification and license options

The ACE software suite can be utilized as a ‘hosted’ solution – “ACE on-Demand,” or can be installed within your network – “ACE on-Premise.” Each option has its own benefits:

#### ACE on-Demand:

- Software is leased on a monthly basis, not purchased, allowing the use of OPEX funds in lieu of CAPEX.
- Software is hosted by Pilbara Group with no location installation required, allowing access to be configured for new customers within hours, not weeks.
- Users only need an internet browser and internet access to start creating their model, bypassing the need for in-house IT procurement and testing.
- Attractive discounts are given for upfront 12 or 24 month payments.

#### ACE on-Premise

- Software is purchased and installed on internal network servers.
- Users still access the software via their internet browser, with no desktop installation required.

Both versions of the software come with a range of licensing options.

The system has a host of IT and user features, for example to control access rights or to monitor changes. Details are available on request.