

Creating sophisticated cost models to enhance your commercial business decisions

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

We can now supply sophisticated cost and profit analysis tools to telecommunications companies faced with competitive markets that require commercial management business decisions based on sound financial insights. These tools can also meet the demands set by 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.
- Full profit and loss analysis of products, customer segments, dealer channels, and tariff plan bundles.
- 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.
- A winning partnership: Ovum's telecoms industry and regulatory consulting expertise combined with Pilbara Group's software and consulting support.
- 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.

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

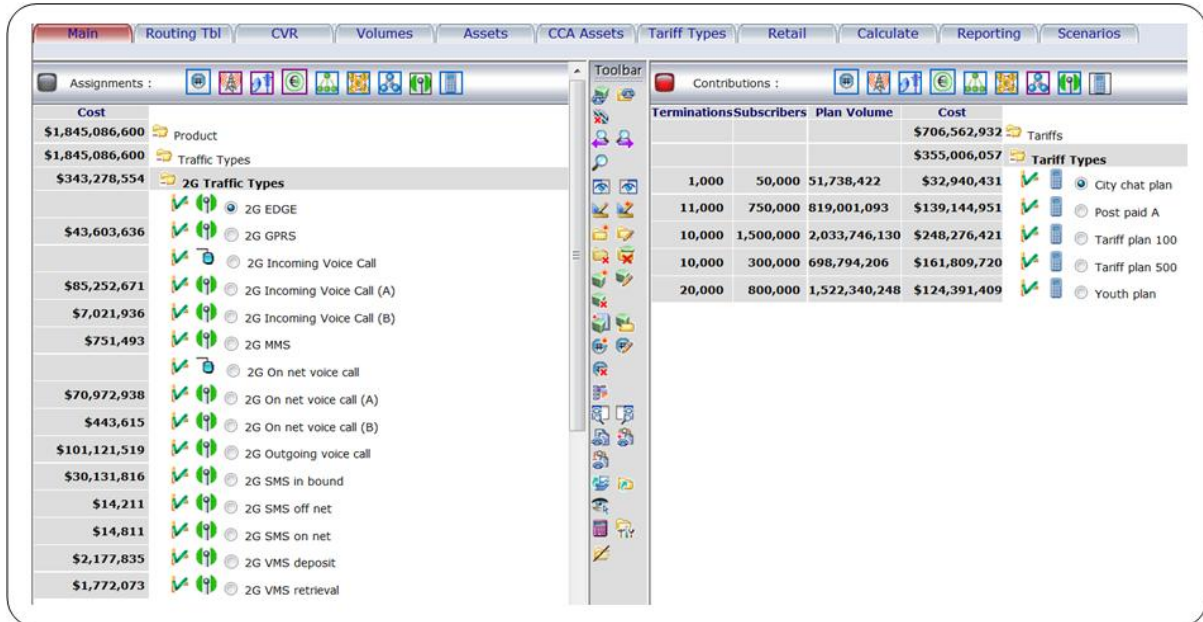
In the following section, we focus on commercially-driven issues. Regulatory applications of the solution are often similar – these are discussed in a separate white paper from Ovum and Pilbara Group.

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.

The user front end provides model navigation, configuration and analysis tools



As commercial pressures increase, sound decisions are vital

Investment and pricing decisions are increasingly complicated for telco companies facing increased competition and reduced margins. Services today are more often sold as tariff plans or “bundles” to increase customer satisfaction and reduce churn. However, such packages combine diverse services, each with different cost structures. Bundling in free services or some products at low cost increases business risk if the volumes of any sub-marginal products rise too much.

Additionally, networks are increasingly based on shared infrastructures – single Next Generation Network cores using IP for many services or single access links of fiber/copper to deliver triple or quad play service offerings. This makes the identification of individual service costs much more complicated than in the past when each service had its own dedicated network and system.

Sound measures are therefore needed to enable price and investment decisions. Profits and margins must be analyzed in many ways – direct revenues and costs are easy to verify but the true picture requires indirect and shared-network costs to be included. It is easy to sell one million products, but to sell one million and make 10% return on capital over time is a tougher challenge for sales, marketing, and pricing managers.

Cost account data within a telco ERP system is rarely structured to comply with all commercial management requirements. This often means that a number of new costing tools or “models” must be developed. Many already exist in telcos – especially where revenues are analyzed (these are usually easy to relate to products and tariff plans). In some cases, processing the existing financial data with database or spreadsheet platforms provides the required information. More often, though, large operators facing complex business 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. CCA and LRIC provide better data for forward-looking commercial decisions.
- Analysis of both cost and revenue data to enable a comparison based on either full or marginal costs.
- Central and shared network costs must be analyzed for the full and the marginal costs, in order to ensure cost recovery. *All* products cannot be at marginal cost.
- Alternative treatments of costs. For example, central business costs can be spread or “marked up” to products using several different methods.
- Retail costs must be recovered. There are alternative approaches to how these are dealt with. The approach depends on business needs, price-elasticity, and competitive market pressures.
- Insights into basic product costs, customer segments, tariff plans, and dealer channels (channels to market).
- 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.

Increasingly, competition authorities or NRAs investigate pricing that is either too far above, or too far below, a fair cost level. If the operators are seen as having Significant Market Power (the incumbent or dominant player) either could indicate Anti-Competitive Pricing and the potential penalties can be extreme. The ability to respond to such investigations is critical. It is vital that retail prices have a “gating approval process” to ensure they will pass future ex-post investigations. Commercial business managers need regulatory-finance and legal insights.

Major investments and pricing decisions are being faced by many operators (fiber to home or to the cabinet, NGN, mobile data, IP TV, LTE) so the risks are large. The many telco failures seen some 10 years ago could well be repeated unless careful decisions are made with the best possible understanding of the business. Just because a competitor sells data at 1c per Mbyte does not mean another business should do the same if its marginal cost is 5c – perhaps it is better to sell less at 6c and make a profit to stay in business!

Commercial decisions can also benefit from up-to-date and historic cost and revenue data. KPIs and rewards set by profit margin motivate different outcomes than sales volumes or revenue targets. Predictive costs must be considered for many commercial decisions. This requires the ability to vary costs and to define the fixed and variable elements.

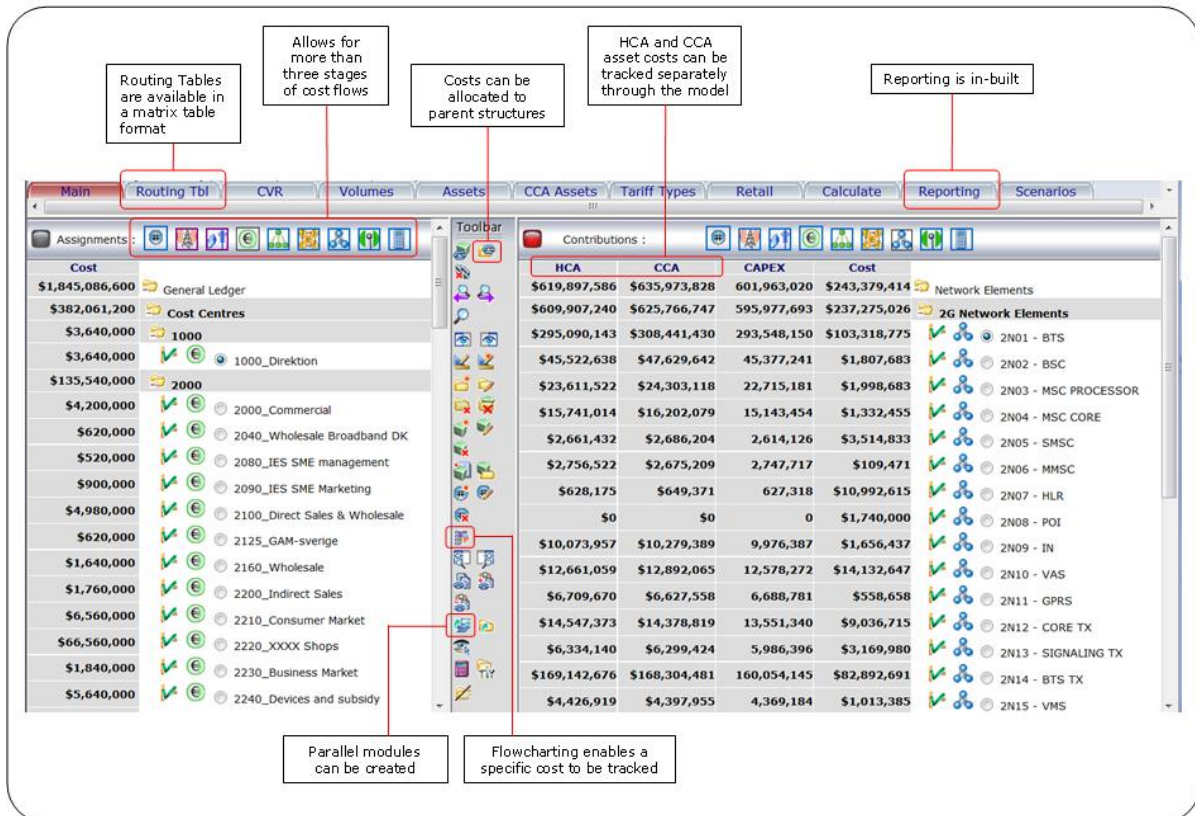
The ‘ACE’ ABC system has the functionality required by telcos

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 ideal for meeting 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 commercial cost and profit analysis requirements.

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



The screenshot shows the ACE software interface with several callouts pointing to specific features:

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

	HCA	CCA	CAPEX	Cost
	\$619,897,586	\$635,973,828	601,963,020	\$243,379,414
	\$609,907,240	\$625,766,747	595,977,693	\$237,275,026
	\$295,090,143	\$308,441,430	293,548,150	\$103,318,775
	\$45,522,638	\$47,629,642	45,377,241	\$1,807,683
	\$23,611,522	\$24,303,118	22,715,181	\$1,998,683
	\$15,741,014	\$16,202,079	15,143,454	\$1,332,455
	\$2,661,432	\$2,686,204	2,614,126	\$3,514,833
	\$2,756,522	\$2,675,209	2,747,717	\$109,471
	\$628,175	\$649,371	627,318	\$10,992,615
	\$0	\$0	0	\$1,740,000
	\$10,073,957	\$10,279,389	9,976,387	\$1,656,437
	\$12,661,059	\$12,892,065	12,578,272	\$14,132,647
	\$6,709,670	\$6,627,558	6,688,781	\$558,658
	\$14,547,373	\$14,378,819	13,551,340	\$9,036,715
	\$6,334,140	\$6,299,424	5,986,396	\$3,169,980
	\$169,142,676	\$168,304,481	160,054,145	\$82,892,691
	\$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:

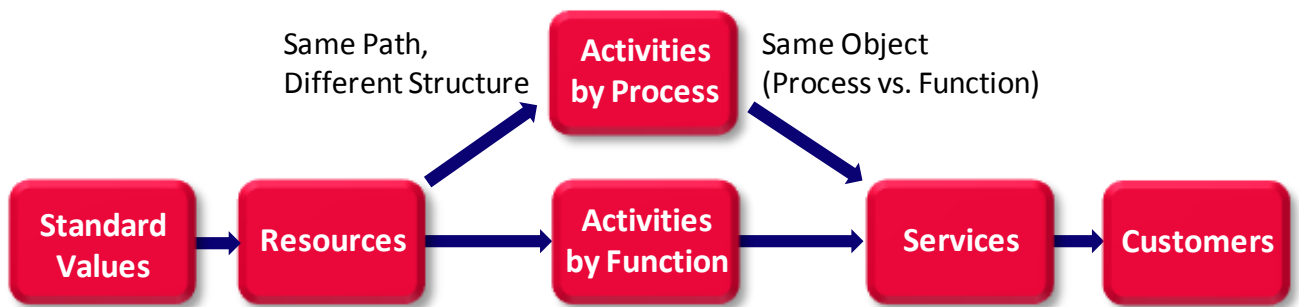
- A stage to allocate and process input costs (assets and operational accounts) as well as a separate stage that defines the supporting activities and internal service supply. This simplifies initial account processing and clearly identifies supporting services.
- Main operational activities that can 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

Commercial business models need to consider different costs in diverse ways for different reports. The ACE model allows multiple cost inputs to be easily 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 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 report. Our tags enable Access, Network, Mobile, International, and Datacoms business units to be defined at any stage. This can be useful for regulatory reporting but also for commercial purposes where a business has integrated business-data-services or mobile and fixed service business units, yet share common central platforms and shared ERP platforms.

Fixed and variable cost analysis

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

- Tagging fixed and variable cost percentages to cost pools – enabling 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.

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 telcos:

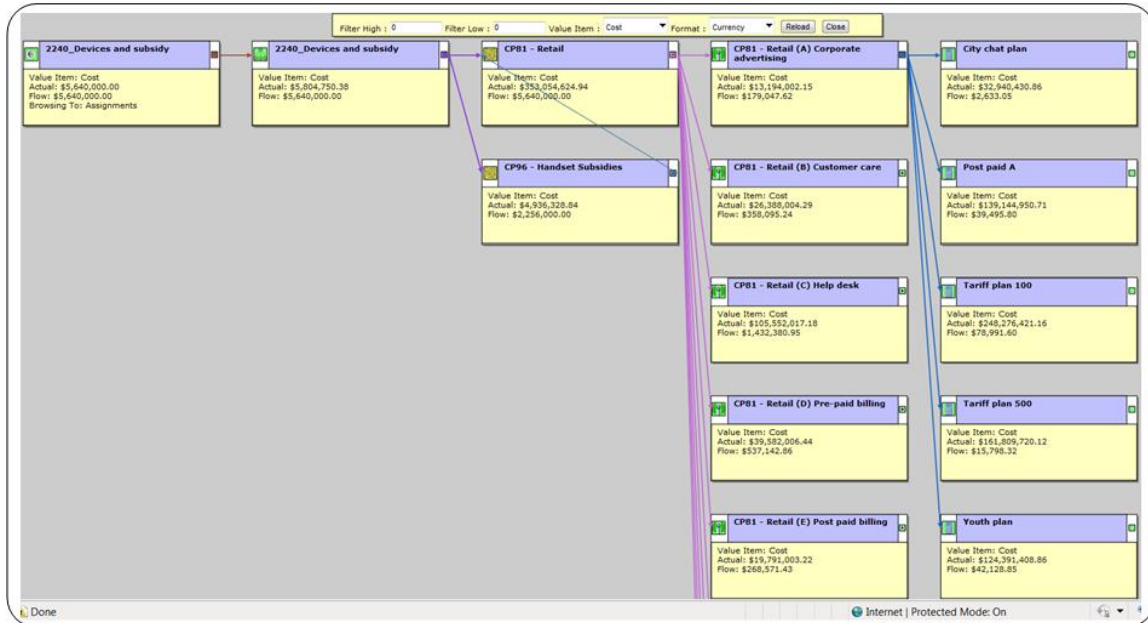
- **Allocated costs can be specified to be an exact value.** It is common that some internal transfer costs must be at a specific price with the resulting payment fixed by the volume. International call fees to specific countries are similarly defined. ACE is able to calculate these exact cost transfers, with residual costs (representing losses in internal supply) being allocated as residual or reconciling costs. These techniques enable accurate internal transfer payments and realistic P&L reports that would be impossible to produce within most ERP systems.
- **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 to operational or capital costs. Commercial (and regulatory) tools need these methods for “mark-ups” of common costs.

In-built reporting and reconciliation

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

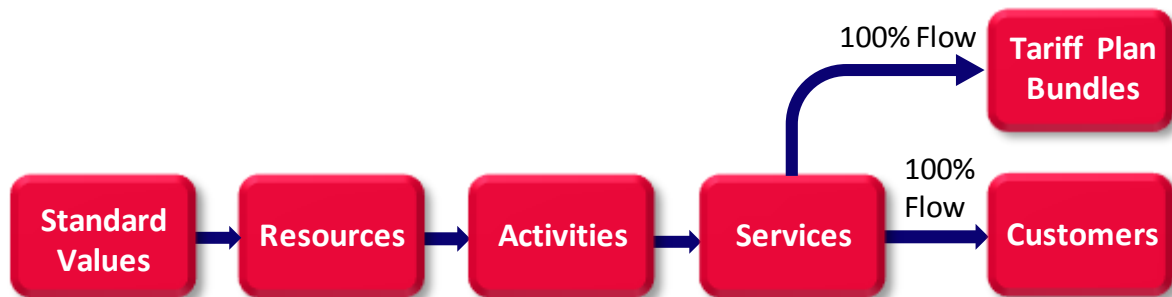
Trace/flowcharting tools allow costs to be traced down or back through many stages. The outputs can also link to spreadsheets or other reporting tools with ease.

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 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 with parallel modules using ACE, greatly saving on the amount of maintenance needed.

ACE parallel stages provide a powerful feature for alternative analysis and they avoid maintaining multiple model versions.

Next steps

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

Lea Patterson +61 (0)7 3137 0190

lea.patterson@pilbaragroup.com

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

System specification and license options

The ACE software suite can be utilized as a 'hosted' solution – “ACE on-Demand”, or 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.