'us' - Utility Services – An Alliance between South East Water Ltd, Thiess Services and Siemens, Australia, Pacific Rim

Nominated by Interfacing Technologies Corporation, Canada

1. Executive Summary/Abstract

The 2009 executive team's strategic review of the 'us' – Utility Services IT projects identified an opportunity to increase the value that its projects were delivering by taking a more holistic approach. Many of our IT projects, as is likely the case in many companies, were very focused and delivered value to a single business group or function but not necessarily across the business. This reality was amplified in our case because we not only work across departments, but also across multiple companies within the Program Alliance. The review concluded that value would be significantly increased by integrating solutions across functions and business groups through a better understanding of our end-to-end processes.

In response to these findings, we established an innovative Business Process Management (BPM) Centre of Excellence (CoE) to 1) gain that understanding, and 2) integrate it into IT projects where appropriate. The CoE has positively affected several projects since its creation but the farthest reaching of them, and the focus of this study, is the Job Costing Improvement project. Herein referred to as Job Costing, the project has delivered reductions in cost and increases in data quality for financial and operational reporting through improvements across our core operations and maintenance processes. We expect cost reductions of 25% to...

...BPM CoE comprises a group of committed individuals who focus on how the processes of the firm drive bottom-line profitability and performance. Such a group is usually responsible for supporting a number of BPM projects across the business, and keeping momentum going across a broad front. They provide a group of resources that are well versed in the best practices of process improvement. (Miers, 2006) At 'us' – Utility Services, this role is taken on by the Business Information Services group.
50% in some cases and our cost recovery for chargeable works has already increased by 36%. Furthermore, it has initiated a cultural shift within the organisation as process owners take responsibility for the continuous improvement of not only the outputs from their processes, but their processes contribution to the outcome of the entire value stream.

2. Overview

The 2009 ‘us’ – Utility Services Strategic IT Plan identified several shortcomings that the introduction of our automated works management system, Montage, has not been able to address. Operational and financial reporting have remained manual and labour intensive and certain business groups continue to resist the use of the standard system.

‘us’ - Utility Services is a Program Alliance between South East Water, Thiess Services and Siemens. The Alliance operates, maintains and improves South East Water’s water and sewer networks, pump stations and treatment plants which serve over 1.3 million people in the Melbourne’s South East. Employees from the three companies operate within the ‘us’ – Utility Services organisation structure, essentially functioning as an independent company except that Thiess Services and Siemens invoice South East Water monthly for their labour, plant and material contributions to the Alliance.

Three years ago, we implemented a custom built system called Montage, which provided electronic control for all works and asset management processes. Montage is used to track work, either from public or internal requests, through planning, dispatching, execution, verification and closing. Preliminary analysis indicated variations in the way the system was being used by different business groups. Operational reporting was unreliable and financial reporting was manual and time consuming.

From the start, we knew our biggest challenge would be to gain consensus around responsibilities within the end-to-end value streams. All companies face this challenge, however it is amplified in our case. Our processes are highly complex not only due to the hand-offs between office staff, field crews and plant workers, but also because they often span across the three companies and three management systems.
In 2009, we created a BPM Centre of Excellence (CoE) (see footnote p.1) to add a human focus and better business understanding to our IT projects and, at the end of the year, we initiated the Job Costing Improvement project to address the reporting and business alignment challenges.

*Job Costing* provided an opportunity for ‘us’– Utility Services to improve the efficiency and quality of the end-to-end value streams of our core operations and maintenance processes. We could not have seized this opportunity without the big picture understanding and the skill set that the CoE contributed to the project.

A key component of the initiative, and a primary tool for the CoE and the business in general, was a powerful technology that allowed us to model in a collaborative environment and easily validate the work with process owners. Using the Interfacing Enterprise Process Center® (EPC), we modelled processes from both an enterprise-wide, value stream perspective and from the day-to-day task perspective. This was crucial not only to our analysis, but also for showing value, sustaining executive support and for validating our work with process actors and owners.

On top of the quantifiable benefits such as a reduction in the time and resources required for reporting, increased operational efficiency and increased data quality, ‘us’ Utility Services is using the operational understanding and consensus from *Job Costing* to drive a cultural shift towards an environment of open communication and continuous improvement. Through the EPC web portal, process owners now take responsibility for the accuracy of the process documentation and end-users can easily reference their current processes and procedures. The explicit end-to-end value stream has also contributed to process standardization as process owners better understand similarities across business groups and, in our case, across companies.
3. **Business Context**

The ‘us’ Utility Services alliance delivers a range of design, engineering, construction, operations and maintenance services to South East Water’s infrastructure. The water and sewer networks, pump stations and treatment plants serve over 1.3 million people or 600,000 residential, business and industrial customers.

Our core operations and maintenance processes span across several business groups and, also across company lines between the Alliance partners. These processes were not well understood and reporting on them was manual and very time consuming. In order to create reports, members of the finance team had to collect financial data that was spread across the three companies financial systems and work through the data with the works coordinators.

The data issues were further affected because the mechanical and electrical groups resisted the use of Montage and were only using parts of the system. Therefore, the data captured in Montage for was unreliable and could not be merged with data from other business groups.

The goal of the *Job Costing* project was to introduce sustainable financial management for ‘us’- Utility Services that would satisfy business requirements and time and cost constraints by improving the quality of and capturing all field work related data and costs within the works management system. This would facilitate ad hoc reporting and simplify the end-of-month reconciliation reporting process. The processes that fell under the scope of *Job Costing* were documented and published to the business using Interfacing Enterprise Process Center® - EPC BPM software. This is to ensure clarity and consensus of processes and responsibilities among all the process stakeholders and actors.

4. **The Key Innovations**

Our key innovation has undoubtedly been the governance structure put in place to manage our BPM program.

‘us’ Utility Services operates in a complex regulatory and business environment. As the Operations and Maintenance provider for South East Water, we are required to work under a strict set of regulatory conditions. These guidelines are
licence requirements of South Eater Water that are set by the Victorian State Government. These conditions are actively monitored and can incur significant financial penalty through non-conformance.

In addition, there are governance constraints imposed by the alliance partner organisations. Due to the terms of the Alliance agreement, the individual finance systems of each partner organisation must be used to manage financial transaction for the Alliance. This has resulted in a number of process duplication issues, which has then resulted in duplicated reports. This creates a high level of confusion for users, increased costs and reduced profitability.

In response to this complex environment we created an innovative governance structure to strategically guide process improvement while ensuring effectiveness, agility and transparency. This structured approach will help any size company to improve the chances of success of a process improvement initiative.

The sponsor of this programme of works is the General Manager of ‘us’ - Utility Services. The responsibility for the application of the initiative is the Information Technology Council which meets monthly and is composed of executive-level representatives from the three companies, as well as IT specialists. The Council established a working group to oversee implementation and provide direction which meets every three months, or more often if required. The working group includes representatives from the business and the CoE project manager. The working group makes all necessary decisions regarding project priorities and direction but can refer a decision to the IT Council if deemed necessary. Finally, the project group is made up of several subject matter experts (SME) from the business that are cop-opted depending on the project, as well as members of the ‘us’ Utility Services BPM CoE, including a consultant from Interfacing Technologies, the vendor of the BPM software used throughout the process improvement work. The project group executes the work within the business.

The structure may seem heavier than needed, but when the responsibilities are well-defined, the outcome of this structure is highly engaged management that drives the cultural change towards BPM.
4.2 Business

‘us’- Utility Services is a customer driven organisation. This is demonstrated by the positive results of our regular monthly customer satisfaction surveys. The improvements in data quality will increase the accuracy of the information we can provide our customers during interactions at any point during the works process, in turn increasing customer satisfaction.

‘us’– Utility Services is now also able to be more pro-active with our suppliers. All works data and costs are now recorded within Montage, the works management system, and we can use the work order from Montage as the purchase order for sub contractors and suppliers. Previously, we were reliant on the subcontractor or supplier invoice as the record of work. The new pro-active approach will allow us to confirm the costs suppliers are claiming.
Finally, ‘us’- Utility Services is now in a better position to manage our labour costs. Previously, the systems of reference for labour were the Thiess Services and Siemens payroll systems which were, of course, managed by the owner organisations respectively. The fact that the works data and costs are now recorded within Montage is changing the dynamic of the relationship by moving the system of reference for labour under the management of ‘us’- Utility Services. We are now in a much better position to report on labour costs and to resolve any discrepancies.

4.3 Process

The process modelling approach we chose was strategic. We have two Process sets within the EPC, one that categorises processes in the cross-industry, APQC Process Classification Framework (PCF), which is available pre-built in EPC, and a second that displays the processes as value streams based on our products and services.

The processes were first defined within the PCF which is divided along functional lines, with a category for sales and marketing, a category for finance, a category for customer support, production, etc. These process definitions are quite low-level and include tasks and decisions to complete the processes but do not include the actors. The PCF process set is used by business analysts to store the process definitions to ensure no duplication of processes.

Extensive consultation was done with the business groups to determine the structure of the value streams process set. The goals were firstly to have a structure that the business users can easily navigate and secondly to display the processes within the end-to-end value stream of the business. The end result is a process set broken down by type of work, or service, e.g. Water Reactive Work, Electrical Planned Maintenance and more. Within each of these work types, we used a standard, very structured approach to the process modelling, analysing three distinct levels of detail, L0, L1 and L2. The L0 is the same for each work type and based on a standard work process of identify, plan, schedule, execute, finalise. This was done deliberately to encourage standardisation across the business groups and to highlight the similarities between the work that the different partners contribute to the alliance.
There is variation in the processes starting at the L1 level. This is because the processes which identify Water Reactive work, for example, are different to the processes used to identify Sewer Planned Maintenance. The L2, which is the lowest level of detail, are references to the definitions in the APQC PCF process set. This way, the same process definition, for example creating a Montage work order, appears in several of the value streams with all the same activities. The only variation is the actor performing the tasks and any specialized document such as guidelines for defining priorities. This approach facilitates the modelling exercise and ensures that standard processes are being used across the business which, in turn increase quality of service and data quality.
Figure 3: 'us’ – Utility Services L1 Water Reactive End-to-End Value Stream Work Process (9/23/10)
Our approach of re-using process definitions across multiple value streams has enabled us to standardise core processes such as:

- work order creation
- work order assigning
- work order finalising/closing
- invoice handling
- recording materials used
- chargeable works

Furthermore, through field staff training and site visits, we identified crews and even whole sections of business groups who were not using field terminals. There were different reasons for this, including lack of proper training, technical difficulties and others. The Job Costing project has enabled us to standardise on the use of field terminals across all field staff which further increases the accuracy and completeness of our works data.

Through *Job Costing*, we have also introduced the RACI responsibility matrix to our processes, clearly identifying the roles that are involved in each process, whether Responsible, Accountable, Consulted or Informed. The key point in our RACI matrix is that a single person is accountable for the outcome of each process. This person is the process owner and is responsible for ensuring process documentation is up-to-date and for initiating further process improvements. We have exposed the processes and all supporting documents through the EPC web portal, which provides a personalised view of relevant processes and documents for each user. This interactive portal has brought the processes to life by creating consensus around the inner workings, requirements and responsibilities of the business and by making them transparent to all involved.

**4.4 Organisation**

There is now much more importance put on data quality at all levels of the organisation. This is most evident through the core work processes which were the focus of the *Job Costing* project and this has significantly changed day-to-day operations for much of the workforce. The five main areas affected by this change are:

- Work order creation
- Field crew operational data
- Closing the work order
- Financial reporting
- Timesheet processing
Work Requests are received from several sources; namely councils, the general public, planned bodies of work, scheduled works, observations from our field crews, and follow up to prior work. Depending on the origin of the request and on the group that will perform the work, work orders within Montage are created by different people. The creator can be a call centre operator, a sewer works coordinator, a water reactive supervisor. By using the EPC web portal to distribute and gather feedback on the work order creation sub process of the end-to-end works management process, we have been able to increase standardisation of the work orders.

As with all works management systems, the data recorded within Montage about a work order is very extensive. It includes the location (property or GIS coordinates) of the problem, origin of the request, any related work orders, priority, the asset to be investigated etc. Before Job Costing, the work order was seen simply as a reference number for communicating the work that had to be done but it was understood that not all data was correct. For example, if a crew working on a blocked sewer discovered a faulty manhole cover nearby that should be replaced; an extra task would often be created under the same work order using the logic that the work is at the same location. The downside to this is that when reporting on the cost of repairing blocked sewers, the labour and materials from the manhole replacement would be included, obviously corrupting the figures. Exposing the end-to-end process, including reporting, to the call centre operators and the works coordinators, has increased the understanding of how the data is used and, therefore, why it is important for it to be accurate. It is now well understood that in the previous example, when opportunistic maintenance is discovered, it should have its own work order so that cost will relate to the correct cost centre.

Field Crews have field terminals (tough laptops) that are kept in the trucks and the Dispatchers transmit work orders to them, whilst the field crews record works data and actions in real-time. The data capture potential of the field terminals had never been used to its full potential. It was almost accepted that the data relating to labour times, plant usage and materials used was unsuitable for reporting purposes because there was too much variation in how the system was being used. For some crews, the data was entirely accurate but for others it was not. Job Costing has significantly changed the expectation that the data surrounding their work should be accurate. This includes, travel times, work times, materials used, plant items used and description of the work done. The facility to record almost all this data was already built into the works management system but, because the info was not used consistently, there was

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no requirement on field crews to ensure it was accurate. As part of Job Costing, field crews were provided with refresher training in using the features on Montage to capture data, combined with a change management session on the new importance of data quality and subsequent field visits to reinforce behaviour. The field crews are now capturing data to a quality standard of above 95% as compared with the end-of-month reconciled data in all business groups.

For the same reasons that data quality had not been a priority for field crews, it had not been a priority for works coordinators and business group supervisors. By standardising the work order closing process, with the works coordinators as process owners, they are now responsible for the accuracy and completeness of the data within a work order once it is closed. As part of the changes to their roles, the works coordinators now collaborate with the data quality officer to identify data capture issues and propose remedial training with field crews.

Finally, through documenting and analysing processes, we uncovered a stand-alone system being used to capture labour times for part of the business. This functionality was clearly overlapping with the works management system but, for historical reasons, had been in use for several years. Furthermore, almost a complete full time equivalent was dedicated to data entry and validation from timesheets into this system when the labour data should be being captured directly via the field terminals by the field crews. Through training and redesign of the process, the stand-alone system has been eliminated, and with it, the data entry role. This has also seen an increase in data quality and accuracy as there is less dependence on manual data capture and entry.

As the organisation shifts to a more process-centric view, the role of the BIS team has become that of a BPM Centre of Excellence. Responsibilities also include system support (Montage, GT Viewer, Field Terminals, etc.)

The team is made up of a project manager, two business analysts both with extensive experience in BPM and EPC and a system support officer. As required, consulting services are used for business intelligence and reporting tasks.

The challenge for us moving forward is to balance the team’s workload as the backlog of process improvement projects that were uncovered throughout Job Costing is daunting. The approach, as it has been to date, will be for priorities to be driven by the IT Council and the BPM working group in order to deliver maximum business value.
5. **Hurdles Overcome**

Though the innovative governance structure that ‘us’- Utility Services put in place for the process improvement program has helped gather tremendous executive support and momentum, we have clearly had our share of hurdles to overcome.

**Management**

Front-line managers were very concerned that middle and upper management would not accept the results from the improved data quality. Because management’s focus had not been based on an end-to-end processes view of the business, the business groups’ performance metrics were compartmentalised, focused on small tasks within the end-to-end process. Pressure from upper management to meet and exceed these compartmentalised metrics encouraged front line managers to narrow the definition of the costs that should be attributed to these small tasks. The rest of the costs would be attributed to the operating budget. The result was continuously lowering costs for certain tasks at the expense of an ever growing operating budget which made planning and budgeting very difficult.

It was identified that front line managers’ resistance, the existing performance metrics and upper management’s potential reaction to improved data quality as big risks for the Job Costing project. We mitigated these risks by continuously communicating the progress of the project and, through the governance structure, having mid-level and upper managers re-affirming their commitment to the project as these issues were arising. Instead of front line managers being scrutinized, as they had feared, this actually led to a review and redefinition of the performance metrics to better align with the end-to-end process paradigm.

**Business**

As has been discussed throughout this report, ‘us’- Utility Services is an alliance between three independent companies which leads to a range of challenges. Each company manages its own general ledger, financial system, end of month reporting and, possibly the most challenging reality is that each company has its own corporate culture and identity.
It was a challenge to satisfy the requirements of the three financial systems and processes, however, from a technical standpoint, it simply required more thorough analysis and rigorous implementation. The real challenge was that the different corporate cultures and identities were obstacles to process standardisation. This was evident through the comment from many workshops, “yes but what we do is completely different from what they do.”

The approach in tackling this challenge was to use a standardised high level work order management process as the basis for the end-to-end processes for all the business groups. The process (identify work, plan work, schedule work, execute work, finalise work) provides a view of the work we do that is irrespective of the type of work, e.g. water maintenance, treatment plant shutdown, etc. Through the EPC process hierarchy, the different business groups are continuously viewing their processes in a context that highlights the similarities and their resistance to standardising processes has been entirely overcome.

**Organisation Adoption**

We have integrated change management principals and strategy into every phase of our process improvement work. From defining and sticking to a high-level change management strategy, to the structure governing the work, the process frameworks, the training and extensive communications, each step has helped encourage organisational adoption.

Two specific hurdles stand out and both are inherent to the core business of asset operations and maintenance because the majority of our work force is made up of technicians.

The first hurdle is a huge variation in computer literacy throughout the work force. The field crews and works coordinators range from tradesmen who have completed a technical course thirty years ago to electrical engineers with Ph.D.s. The EPC presents processes and supporting documentation in a very visual and easy to use format. This was crucial in facilitating the rollout because, even staff members with very little knowledge of computers have been able to actively use the EPC web portal to consult, review and contribute to the process improvements.
The second hurdle was the phrase "My job is to fix the burst water main! Now, I’ll be spending half my day doing data entry!" The resistance from field crews and works coordinators was completely understandable and expected. The administrative work is a part of their job that most do not enjoy and they perceive it to be secondary responsibility for them. The reaction was clearly an exaggeration but the resistance was real.

The change management strategy was critical in overcoming this challenge. The strategy, which, as previously mentioned, was integrated to all aspects of the Job Costing project, focused on empowering the organisation to understand the need for change and to contribute to the improved processes. Through workshops, training sessions and site visits with the field crews and works coordinators, we worked through examples of day-to-day applications of the new processes. Throughout these sessions, commentary was gathered and used, where appropriate, to improve the change in business processes. This was facilitated by the EPC interactive web portal. Finally, when the to-be process was deployed into production, field crews and works coordinators had experienced working with it enough to understood the processes and what is now required of them.

6. Benefits

Internally, the project has made a huge contribution to unifying the 'us' - Utility Services staff by standardising the business processes. Because the business groups within the Alliance are loosely divided along the three parent company lines, there has always been a disconnect between the business groups. For example, between Water Operations and Maintenance and the Mechanical and Electrical Operations and Maintenance. The standardising of work processes has helped solidify the 'us' – Utility Services identity, which in turn contributes to better cooperation and communication across the business groups.

Because all works data and costs are now recorded within Montage, the works management system, we are now in a position to use the work orders from Montage as the purchase order for sub contractors and suppliers. Previously, we have been reliant on the sub contractor’s or supplier’s invoices as the record of work. The new pro-active position is clearly better and, though the full benefits of this improvement have yet to be measured, the expectation is a reduction of 25% to 50% in labour costs due to increased traceability.
6.1 Cost Savings

One Timesheet officer role no longer exists which means an immediate cost saving of $60,000/year. Furthermore, the abolishment of the redundant labour-capturing system that this role was using means a savings of $15,000/year in support costs. This cost reduction is in addition to the potential savings of mitigating the risks associated with a stand-alone system that only one user understands and has access to.

The month end reconciliation process before Job Costing involved 17 people and spread over 25.5 days (1.5 days per person), or, 204 person-hours. The centralising of all works data, including supplier and sub contractor costs into Montage has reduced the process duration to 102 person hours. This means a savings of 102 person-hours every month.

The ramifications for financial reporting are great but the single most important factor is that 25% of monthly costs previously attributed to “Operating Costs” are now defined specifically. By assembling all works data and costs into the works management system and using this for reporting purposes, the portion of costs attributed to “Operating Costs” have diminished to 8% and is expected to drop to 5% as the processes become more engrained. These costs are, instead, being attributed to the actual activities and, in turn, to the original requests for work that are triggering them. This is providing management with the appropriate knowledge to lower costs through better strategic decisions. Specifically, managers are looking into when to engage sub contractors and how best to respond to specific types of work requests from customers.

6.2 Time Reductions

This report has discussed the amount of time required for end of month reconciliation reporting, but the same issues affect any requests for ad hoc reporting. Extensive time was previously spent assembling data from multiple systems to create ad hoc reports. The centralisation of the data into Montage means that managers can get accurate and up-to-date reports, many through self-service using the Montage built-in reporting facility. In cases where the query is more complex, it is still much faster for the Business Information Systems team to create the report only having to query the single system.
6.3 Increased Revenues

When a third party, whether an individual or a company, damages South East Water’s infrastructure, the work to repair the asset is chargeable. Prior to Job Costing, many jobs that should have been chargeable would not be marked as such. A job could be deemed too small, the job may be deemed too large, the party responsible for the damage may not be known or they may not accept responsibility etc. There was no defined process for the decision of whether the work would be charged so, in some cases, the call centre operator taking the original request would decide that the work was not chargeable, other times, the field crew arriving on site would make the decision, it could also fall to the works coordinator reviewing completed works or even through to the finance team deciding not to charge a customer. By standardising the works process, all works that are suspected of being chargeable are now completed as such and it is up to the finance team to make the decision whether or not to charge the customer. The expectation is that this will increase the cost recovery for chargeable work by 36%.

6.4 Productivity Improvements

A second timesheet officer role has been transformed into a data quality officer. The role previously provided minimal value as a data entry position. The Data Quality officer provides much higher value by analysing data quality issues and working with field crews and supervisors to review and correct the issues and ensure they don’t persist. It therefore represents a significant improvement in productivity.

The data that has been centralised into the works management system, Montage, includes working times for vehicles and plant items such as excavators, compressors and crane trucks which was not being systematically tracked until Job Costing. Specifically, managers are reviewing the use of plant items and vehicles to determine whether they should be purchased or hired.

Finally, having documented up-to-date processes with the process owners responsible for the execution and the outcome of the processes, we now have a baseline to work from. Process owners were involved through the analysis and process re-design phases and their recommendations are what have led to the improvements listed throughout this report. This empowerment will continue thanks to the availability and dynamic nature of the processes through the EPC Web Portal.

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7. **BEST PRACTICES, LEARNING POINTS AND PITFALLS**

7.1 **Best Practices and Learning Points**

- Set up a governance structure to institutionalise business process improvement
- The governance structure must include executive sponsorship
- Get stakeholders to re-affirm commitment throughout the process – “this will be a hard road, are you sure you want to go down this road?”
- Start with a project charter with explicit goals and as issues are discovered, manage scope very pro-actively!
- Change management - You cannot focus too much on the human-side of process improvement
- Start small, scale quickly
- Business ownership
- Use standards and industry frameworks, where possible and appropriate

7.2 **Pitfalls**

- Do not impose a solution. Though that may be the end result stakeholders must be involved and feel a part of the process.
- Avoid partial roll-outs. An interim solution can often end up becoming the long term solution whether you like it or not. If you are going to roll-out an interim solution, be sure you can live with it for a while.
- Avoid secrecy or elitist information sharing. People need to know what is going on throughout process improvement work. Communication is key!
- Avoid a light switch system or process change-over. Allow time to change. Over-lapping of systems or processes from as-is to to-be is good because it not only gives people comfort, provides a backup in case any important details were missed during the analysis.
- Do not become a solution looking for a problem – there must be a clearly established business need for change
- Do not invent or create new standards – there are plenty of good ones that can be adopted to suit the business
8. **Competitive Advantages**

The water industry in Australia is a very complex context. Due to environmental challenges, South East Water is one of the few organisations who asks and works with our customers to help them use less of our product whilst, at the same time, charging them more for using it. In this environment, two goals have helped ‘us’- Utility Services become leaders in the industry and maintain that position over the past four years:

- Being a customer driven organisation
- Being industry innovators

The strategic partnership between South East Water, Thiess Services and Siemens has allowed us to consistently deliver excellent innovative service at lower costs. This business process improvement initiative will further streamline the collaboration as partners and solidify the best in class culture of ‘us’- Utility Services.

9. **Technology**

‘us’- Utility Services has implemented the Interfacing Enterprise Process Center® business process management software in support of our innovative business process improvement program. Differing from conventional process repositories, EPC’s ‘smart’ process repository allows users to manage all objects from one central location, create and reuse process definitions across multiple value streams, view all object uses and process touch points, reuse objects across processes, create user defined attributes on all objects, conduct impact analyses, and much more. EPC enables users to effectively take a step back from their business processes and view all related process components, providing a blueprint of their business operations. Using EPC, we have been able to visualise and analyse our end-to-end processes and establish a clear path towards process standardisation.

Enterprise Process Center® is easy to use, requiring little or no training for rollout therefore lowering resistance especially from our employees who are less computer literate. Furthermore, EPC functionality allowed us to:

- Map processes graphically in the easily understood Business Process Modelling Notation (BPMN).
- Comprehensively document end-to-end processes, capturing critical handoffs between business groups.
- View process related documents, resources, assets, and all process touch points.
- Assign responsibility, accountability and ownership at all levels (RACI).
- Easily manage the entire lifecycle of a process - from documentation, review and approval to communication of change and ongoing feedback.
- Maintain transparency for compliance and governance within a complex regulatory environment.

Figure 4: Interfacing Enterprise Process Center® Modules
Figure 5: Interfacing Enterprise Process Center® Architecture
10. THE TECHNOLOGY AND SERVICE PROVIDERS

Interfacing Technologies Corporation (founded in 1983) is a leading international provider of Business Process Management (BPM) software that allows organization to ensure compliance and governance by easily managing the entire lifecycle of processes, policies and controls. Interfacing's software and consulting services span the entire process maturity model: from static process modelling in their Free BPMN Modeller for MS Visio®, to their multidimensional collaborative BPM suite the Interfacing Enterprise Process Center® (EPC). Interfacing EPC is targeted at business users and supports a range of process management initiatives; alignment, analysis, governance, automation, monitoring and audit. Interfacing’s solutions focus on tying the organization into the overall architecture in order to motivate users and create a sustainable process improvement culture. (www.interfacing.com).

11. REFERENCES