

Eskom, South Africa

Gold Award, Middle East and Africa. Nominated by ciboodle, UK

EXECUTIVE SUMMARY / ABSTRACT

Eskom, South Africa's state-owned electricity company, operates across six regions. This complicated infrastructure led to an urgent need for a flexible, agile system to drive efficiencies and support the re-routing, escalation and monitoring of work.

The project, named Ubuso (the Zulu word for 'face') provided the means to control routing and monitoring of work over Eskom's vast operational arena and sharing workloads across their regional call centres. GT-X Workflow was also essential for campaign management, segmentation and customer profiling.

OVERVIEW

Eskom, South Africa's state-owned electricity company is in the top 13 utilities in the world in terms of generation capacity, and ninth in terms of sales. The utility company, whose revenue stands at ZAR 44,448 million (US \$5,756m), serves more than 4.1 million customers throughout South Africa. This vertically integrated utility generates 95% of the electricity used in South Africa and generates over 45% of the total electricity produced in Africa, making Eskom by far the continent's largest utility company.

Prior to 1988, Eskom supplied electricity principally to large customers, such as mines and municipalities. This placed them as one of the largest electricity generators in the world, with only 120,000 customers! However, in 1988, Eskom developed its "Electricity for All" concept and began to supply electricity directly to millions of domestic customers.

Eskom operates across six regions. This complicated infrastructure led to an urgent need for a flexible, agile system to drive efficiencies and support the re-routing, escalation and monitoring of work.

However, as with many utilities, efficiency was hampered by inconsistencies in the handling and recording of customer issues, and out-of-date information increased the potential for further customer dissatisfaction. The organisation's principal pain was its legacy technology, which was limiting operations in several core areas, including self-service, integration and automated workflow. The result was longer call-handling times with limited routing and self-help abilities. This led to repeated call backs from customers and significantly increased the overall call load. Inefficiencies were compounded by having very limited integration with other systems, such as the billing system.

Work began to extend Eskom's virtual contact centre philosophy in January 2004. The company overhauled and refurbished their existing contact centre infrastructure, creating seven state-of-the-art contact centre sites serving its six regions and providing 24 hour customer service.

Eskom's CRM systems traditionally consisted of non-integrated, predominantly manual processes, which were constraining the company by preventing automated workflow. The implementation of ciboodle's (formerly Graham Technology) workflow solution provided the means to control routing and monitoring of work

over Eskom's vast operational arena, sharing workloads across their seven call centre sites. GT-X Workflow was also essential for campaign management, segmentation and customer profiling. The implementation of a campaign management system enabled the company to give customers proactive notification of power outages in localised areas, which previously led to regional contact centres being inundated with fault calls.

Eskom highlighted customer segmentation as being particularly important, in order to identify 'sensitive' or VIP customers (e.g. hospitals).

Graham Technology ensured that tasks are now executed according to priority, with GT-X Contact History supporting this through a 'single customer view'. The presentation of information has been simplified by a central repository, which accesses customer details across multiple back-end sources. An electronic 'contact trail' of every customer now exists, and this capability provides efficient segmentation and targeting.

BUSINESS CONTEXT

In terms of technology issues, Eskom lacked an enterprise workflow management system. They had limited use of Calling Line Identity (CLI), no Computer Telephony Integration (CTI) and no automated outbound dialler. There was also no unified queue management for calls, faxes or emails.

A vital aspect sought from the project was the provision of a unified agent desktop providing the ability to manage customer information, all interactions and interaction history via one single interface. Eskom also required the ability to manage cases from opening of a request through to its closure. In addition, back office operations needed to be consolidated to achieve economies of scale.

Due to the lack of single customer view, staff competence and experience gaps were aggravated and staffing levels in the organisation were high compared to best practices.

As a result of the project, cases can now be tracked from opening, through to closure, rather than them disappearing off management's radar. Thus, a single customer view has been achieved. Agents and Managers can view all interactions that the organisation has had with the customer through one single interface.

Through the Ubuso project and the implementation of a CRM system, the customer experience was enhanced and customer service improved. The new system enabled overheads to be lowered as staffing costs reduced. Previously, the majorities of processes were non-integrated and were handled manually, therefore, training costs were extremely high.

THE KEY INNOVATIONS

Business

The project has had a major impact on the way Eskom does business with its customers. Previously, telephoning the Call Centre or visiting a Walk-in Centre were the only options available to the customer to make any enquiries about their account. However, now choice has been given back to the customers as they can select their preferred channel of interaction with the organisation, across phone, web, email and mobile. This means that the customer can now track their own cases from opening to closure, in the convenience of their own homes or offices.

Employees now have access to all the necessary information at their fingertips. As a result, agents have become more empowered to meet the needs of the customers. They are also dealing with more interesting tasks as low value cases are dealt

with by the customers themselves over the web, which also reduces costs. Higher value cases are put through to the most knowledgeable agents, allowing segmentation of customers and improved job satisfaction.

The contact centre is now able to track resources through analytics and allocate resource where it is needed most. This also has the benefit of ensuring no employees are left idle when there is work to be done. Similarly, agents with a large workload are not left struggling to cope.

Process

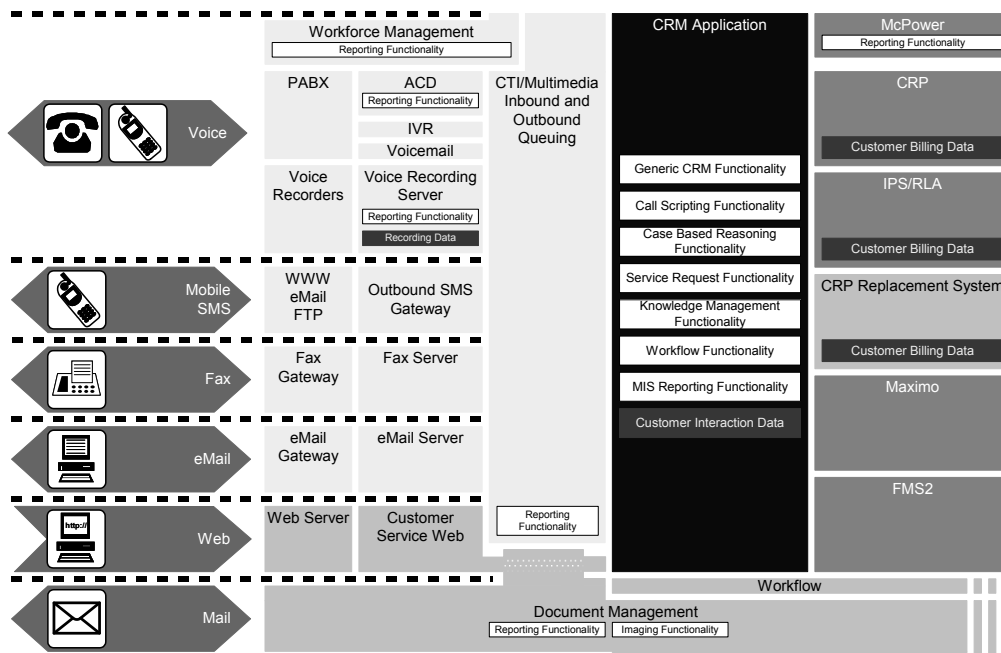
Prior to the project, the processes did not provide customer satisfaction. In order to improve the customer experience, the processes were developed to deliver a single point of contact, ownership of requests, feedback and closure and skills based routing. In terms of multimedia channels, the previous processes could simply cope with voice. They now enable interactions via voice, email, fax, SMS and Internet. In terms of architectural position, Eskom previously ran with islanded, individual call centres. They have now been moved to a distributed contact centre with shared software as a result of the Ubuso project.

The previous point-to-point integration methodology was changed to Enterprise Application Integration and the Implementation approach moved on from being a build approach to using Best-of-Breed commercially available packages.

Finally, Internet presence, which previously was purely informational, moved past transactional and became interactive. The service delivered to customers became more integrated into production systems, managed by workflow and with all interactions logged to provide an integrated view of customers and a consolidated data view.

As the company conducts its operations through multiple channels, a high quality service had to be delivered across all channels as standard. This introduced a more convenient way of working at a lower cost and also built in the ability for customers to self-serve.

Customer service segmentation was also achieved across all channels, allowing prioritisation of customer queuing, and differentiated service standards. It means that customers can be served through their preferred channel and resource can be allocated accordingly.



The above diagram is the technology architecture that was achieved for Eskom's Ubuso project. This technology architecture provides Eskom with a centralised platform for the contact centres in the various regions.

The the left hand column of the diagram shows the multiple channels (voice, mobile SMS, email, wed and mail) which can be utilised by Eskom customers to get in touch with the contact centres. The second, third and fourth columns show the technologies that enable communication via these channels.

The fifth column represents GT-X and the functionality that it has provided, such as workflow.

Back end applications that provide the integration data required by the call centre agents are represented in the last column.

Organisation

Eskom's managers have now gained the power of visibility and control. Every work item received is dealt with by a common set of business processes. This consistency means that it is simple to compare performance across its regions.

Eskom has increased the flexibility of its business processes, which is critical to reaching their internal targets and especially for increasing their 'one call to complete' resolution rate.

The company has an internal committee, the OCI (Optimise Customer Interactions) Value Chain committee, which decides SLAs and expected resolution dates. These targets are now achievable.

GT-X has provided this huge and complex organisation with the ability to quickly understand any one of millions of customers' situations; to communicate in an informed, prompt manner; initiate the appropriate action; and to cater for each customer's needs.

Finally, additional benefits gleaned by Eskom through working with Graham Technology were as follows:

- ownership and ease of customization as a consequence of the intuitive GT-X development environment;
- the flexibility of GT-X deployed Eskom business processes; and
- the GT knowledge transfer approach to allow for self-reliance upon roll-out.

The GT-X solution was implemented, on time and on budget, at all seven call centre sites, in the back office and at regional customer service area offices. Eskom's total number of users has reached in excess of 2000; the legacy system has been decommissioned; and all users have been brought on line. The GT-X solution is highly scalable and offers room for significant growth, as Eskom's business needs demand.

Employees are now empowered with all the information they need, available at their fingertips. Customer service levels are higher. Through the introduction of the web channel, employees are challenged through dealing with more complex interactions and more repetitive tasks are met by customers themselves.

Graham Technology also had a full technical team on site, completely focused on Eskom and resolving any issues as they arose across each of the dispersed locations.

“Superior customer service is seen as a ‘win-win’ situation: Eskom is now easier to do business with, at a realistic cost to Eskom.”

Kevin von Berg, Corporate Specialist (Customer Service), Eskom

HURDLES OVERCOME

Management

The main hurdle overcome in this project was the improving the collaboration between business and IT within the organisation. This was a major cultural change as change was previously handled by a typical ‘waterfall’ method where a concept was raised then went through a change management process before it was put into effect.

As a result of the new technology adoption, Eskom have been able to introduce a change champion culture to ensure buy in from key individuals throughout the process.

Business

In order to ensure the project had a successful go-live, extensive training was provided to all employees. As Eskom employees were previously working with manual processes, technical training was a hurdle that had to be overcome at this stage.

A hurdle, often evident in this sort of project, is that buy in from all areas of the business can be difficult to achieve. In order to overcome this challenge, focus groups were held with stakeholders from all areas of the business. This was an opportunity to gauge attitude to the change and gather any specific requirements.

Organization Adoption

Graham Technology has been able to provide support and guidance throughout the implementation process as we have implemented similar projects with large organisations in the past. Graham Technology has worked closely with key stakeholders in both the business and IT communities at each of the key project milestones to ensure there were no unexpected issues or surprises along the way.

As well as providing technical training to all employees, focus groups were held to gather requirements prior to the implementation. A soft go-live took place before the launch to test the system, identify any problems and resolve any issues.

BENEFITS

“We wanted the best system: one that had proved itself globally; had the flexibility to meet Eskom’s requirements; and had all the features we wanted to deliver on our Customer Service vision.”

Hugh McGibbon, Divisional Customer Service Manager, Eskom Distribution

COST SAVINGS

A significant number of cost savings have been made as a result of Graham Technology’s implementation:

- Reduction in training costs – Graham Technology’s CRM System Solution has enabled agents to focus on customer service, rather than the system. Due to the process-centric nature of the CRM System Solution and the ability to provide an intuitive process-driven front-end, the agents are led through the process rather than presented with a wide variety of fields where they have to learn to input the information, or worse, switch between applications. The CRM System Solution consolidates all existing front-end systems, therefore, there is only one system to learn. All processes can be completed using the same look and feel, thus eliminating the need to be trained in other applications.
- Costs are lower for people skills because a single front-end, results in only one skill-set being required. Graham Technology’s CRM Software Solution conforms to industry standards, therefore, these skill-sets are easy to find (e.g. JavaScript).
- Reduced cost per customer interaction

EFFICIENCY IMPROVEMENT

The implementation of the Graham Technology solution at Eskom has also delivered a number of benefits with regard to Efficiency:

- Efficiency from Reduction in Average Call Handling Time. The CRM solution is process driven and front ends all the relevant processes, pulling information from any system to enable the call to be handled from a common front-end. This means that the agent does not need to navigate between different systems. By having this information more readily available, the call time is reduced.
- Efficiency from First Call Resolution (reduction in despatched items) - All calls that do not need to involve a separate point of contact can be handled on first resolution. This includes a wide variety of call types and agents are able to handle a wider variety of calls following implementation of the CRM software solution because it can integrate to all relevant systems and can present these in an easy-to-use process.
- Efficiency from One Call Resolution (reduction in repeat calls) – Handling the call right first time means fewer repeat calls as the customer is served – and satisfied – at the outset and has no need to call back to chase up his request.

COST SAVINGS

There have been a number of significant cost savings since the implementation of the Ubuso project. Staff training and support has seen key cost reductions. Web-site interactions have also served to reduce costs as customers are able to self-serve.

Some of the specific Returns on Investment are detailed below.

Item	Benefit over 5 years (US \$)
Efficiency from self service channels	\$1,653,158
Efficiency from first call resolution (reduction in despatched items)	\$3,725,891
Efficiency from one call resolution (reduction of repeat calls)	\$1,293,980
Efficiency resulting from decreased AHT	\$2,976,155
Efficiency from improved Case Management	\$15,092,016
Reduction in training costs	\$209,931
Efficiency from flexibility for process changes	\$1,452,977
Total Estimated Savings	\$26,412,219

Financial quantification

There are a number of strategic and tactical benefits that will be realised through the implementation of the CRM System Solution. These benefits cannot be quantified, but will have an impact on Eskom’s strategic readiness for future industry changes as well as improved customer services.

The table below indicates the benefits that can be financially quantified and related to the eight key benefits that have been identified:

	2005	2006	2007	2008	2009
Benefits	\$2,004,597	\$4,825,872	\$5,587,177	\$6,480,784	\$7,527,201
Accumulated benefits	\$2,005,170	\$6,827,897	\$12,417,422	\$18,901,758	\$26,427,332

Productivity Improvements

- Efficiency from Flexibility for Process Changes - The CRM System Solution will significantly enhance the ability to change, modify or delete processes. This flexibility is attributed to the architecture of the CRM System Solution framework where processes are mapped into a ‘flow-chart’ used in the CRM System Solution software. Each process can be dragged and dropped to change process flow, incorporate new processes or delete redundant ones. This increased flexibility offered by the CRM System Solution is particularly noticeable for organisations that have previously experienced ‘hard-coded’ packages.
- Efficiency from self-service channels
- Efficiency from improved Case Management - This is all be handled through the Workflow system. There have been significant efficiencies gained by automating the Case Management Process. By making it more effective, customer service has clearly been increased by cutting out the need for various people to check things have been done and passing work around in an inefficient manner. The CRM Software Solution automates

all this, based on the specific procedures that best suit Eskom. Again, these processes can be improved through time to continually increase efficiency.

- Real-time updates customer requests for front-line agents significantly reducing volume of process handoffs
- Integrated eight business-critical systems into a single view for agents, providing real-time access to details of customer interactions
- Allowed prompt, accessible and cost-effective self-service access channels, such as Web and IVR systems, to deal with simple tasks, such as account balances and automated fault reporting

BEST PRACTICES, LEARNING POINTS AND PITFALLS

Best Practices

- ✓ *Training Academy – Full training provided to all employees in advance of go-live*
- ✓ *Inclusion of key stakeholders in the organisation in planning stages to ensure all requirements are met by the implementation. It was essential to have complete buy in from both Business and IT within the organisation for successful implementation.*
- ✓ *Create internal committees to manage the change effectively. For example, at Eskom, The OCI (Optimise Customer Interactions) Value Chain governance committee was tasked to decide Service Level Agreements (SLAs) and ensure targets are achieved*

Pitfalls

- ✗ *A potential pitfall could result from cultural differences around the world with regard to technology. In South Africa, the majority of citizens have mobile phones, however, a much smaller proportion have access to the Internet. As a result, more focus was placed on the mobile channel. Web may be considered more important in other regions.*
- ✗ *Implementing a solution without business wide consultation to ensure buy in from all stakeholders*

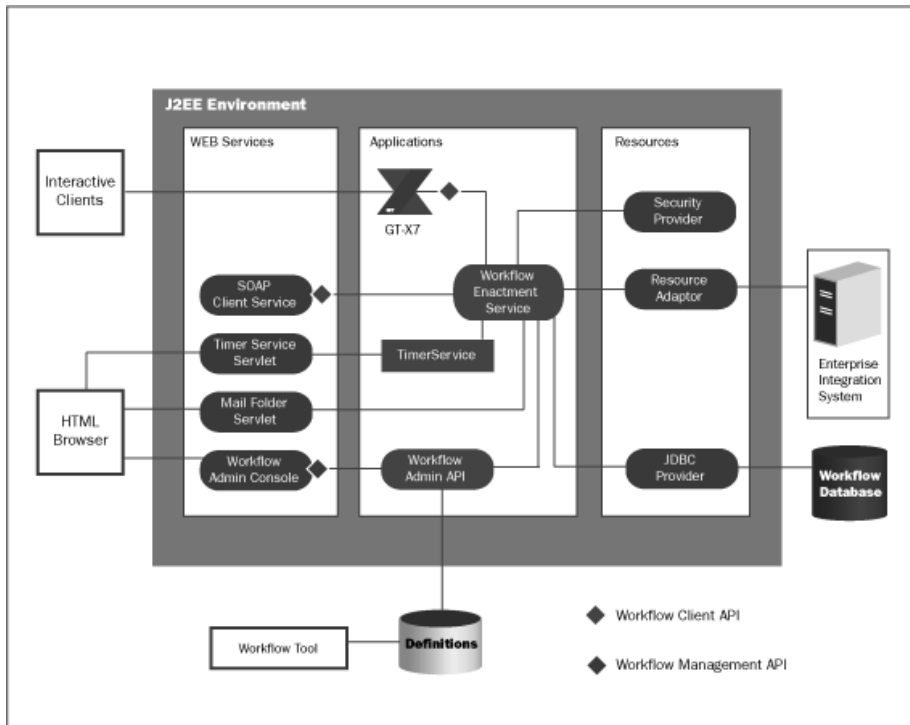
COMPETITIVE ADVANTAGES

Business Process Management software manages processes; Graham Technology manages customer interaction processes. These are very specialised types of processes and require a platform designed to deliver capabilities such as high volume concurrency running to tens of thousands of agents. Rich process composition is accessed through a unified interface, and collaboration features promote the best use of knowledge and personnel. Presentation capabilities allow processes to be accessed by all known channels and devices.

The Graham Technology Process Modelling Toolkit can be changed dependent on organisational need. Changes to processes can be done within the business community, or the IT community to give the user control of the change. A suitable user is able to update a process, insert new steps and decision points and rules. The process can be re-saved, the version incremented and the change fully audited. The changed process is then exposed across all channels. The change can be piloted prior to deployment using the simulation tool. This could be used to check the process, the cost of the change and discover any bottlenecks that may exist. The product is built for change, is adaptable to the business context and is information rich.

TECHNOLOGY

This following figure shows the Workflow Model and its various components:



The components of the Workflow Model are as follows:

- **Workflow Enactment Service (Workflow Kernel):** The Workflow Administration API interprets the Workflow definition, and controls how Workflows are instantiated and Activities are sequenced. It adds work items to the user and role work lists, maintains internal data, and invokes applications and tools as necessary.
- **Workflow Tool:** The Workflow Tool is used to create the Workflow description, which is written as an XML definition file, based on the GT-X7 definitions.
- **Definitions:** The Workflow definition, once loaded, is stored in the Workflow database, and contains all necessary information to allow the Workflow Kernel to execute the Workflow, which includes:
 - Completion conditions
 - Activities and rules for navigating between completion conditions
 - Tasks for users to undertake
 - Any required field definitions
 - Set of permitted users and roles
- **Workflow Database:** The Workflow Kernel maintains a persistent state which controls:
 - Data the system uses to manage system state (for example, the names and locations of Workflow definitions).
 - Internal state information associated with the various Workflow sessions and Activityinstances that are being executed.

All this information is stored in a database, used by the Workflow Kernel, and only accessed by a GT-X7 Administrator.

- **Workflow Administration API:** The Workflow Administration API provides a number of supervisory operations. These operations enable the supervisor to identify and modify participants for a specific role, to track Workflow sessions, to trace the history of a particular Workflow session, and to enquire about incomplete work and other statistics. The administrator uses the Workflow Administration Console to access the state of the Workflow system. This console allows you to:
 - Load a Workflow
 - Delete a Workflow
 - Terminate or suspend a Workflow
 - Resume a Workflow
 - Add, delete and modify system properties.

You can access the Workflow Administration Console using any standard Web browser.

- **Clients:** A client can be either a single user or a participant in an organisational role. The client logs on the Workflow system and then can request the list of all available work that matches the client's roles, or just the next scheduled item of work. The GT-X7 Process Kernel communicates with the Workflow Kernel via the Workflow Client API. The GTWClient Object allows GT-X7 Processes to gain access to the client API.
- **SOAP Client Service:** If you want to use Workflow functionality without using a GT-X7 client, you can access the Workflow Kernel using a SOAP client service, which permits access to the Workflow client API.
- **Timer Service:** The Workflow Kernel has many functions that are time-critical. For this reason, the GT Workflow model uses a custom-built timer service to handle all time-dependant functions. The timer service creates and stores all timers used to drive the Kernel. The administrator uses the timer service servlet to monitor timers from the database. You can access the Timer Service Servlet using any standard Web browser.
- **Security Provider:** J2EE environments have standard built-in security features. In addition, the Workflow system also allows connections to GT-X7 Security Providers, and to custom Security Providers as required.
- **Resource Adapter:** J2EE environments use resource adapters to connect to back-end systems. You can also add resource adapters to the Workflow service to allow connections to other systems. For example, a resource adapter can be used to run JavaBeans.
- **JDBC Provider:** All connections to databases are performed using the J2EE JDBC providers. This offers built-in transaction support, allowing greater stability and recovery from errors.
- **Workflow Monitoring:** You can use Workflow monitoring to record the values of Workflow fields at specified stages in the Navigation. GT-X7 provides a default monitor class, but you can also use a custom monitor.
- **Gateways:** The Gateway through which work is submitted creates a Workflow message to encapsulate each piece of work. The Gateway appends the target Workflow to the Workflow message. So, when a Workflow is instantiated the Workflow Kernel knows which messages to pass it. When a Workflow Session is started, the Workflow Kernel will pass it the appropriate Workflow messages.

THE TECHNOLOGY & SERVICE PROVIDERS

- ciboodle (www.ciboodle.com)

ciboodle, formerly Graham Technology, is a wholly owned subsidiary of Sword Group. Specialists in process centric customer interaction software for contact centres, our unique approach to customer interaction gives agents a comprehensive view of customer data across multiple channels, and is the only enterprise scale BPM based CRM product to focus exclusively on contact centres.

ciboodle helps large organisations across North America, EMEA and Asia Pacific drive operational efficiency and improve customer experience.

Headquartered in the UK, ciboodle has offices in Australia, Indonesia, South Africa and North America.

Customer References: Vodafone, Standard Bank, Eskom, BT, ScottishPower, Friends Provident, Pacificorp, Ergon Energy, Pacificorp.

- Accenture (www.accenture.com)

