Enterprise Imaging: drawing a complex enterprise

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About the authors

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Introduction

Enterprise Imaging is an approach to provide a two-dimensional visual depiction of a multi-organizational enterprise which provides products and/or service output. It does not show process flows, rather the resource owners and capabilities which come together to produce an output. It is divided into front and back offices, where the front office shows the interaction with the two major contract partners and the back office shows the supporting resources they provide to help the front office succeed.

This document introduces the concept of Enterprise Imaging and explains how to create an image for use in your organisation.

We are constantly looking to improve and update our methodology and learn from best practice. Please share your images with us. If you have employed Enterprise Imaging and modified the process please let us know; glenn.parry@uwe.ac.uk

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What is an Enterprise

'An Enterprise is a boundary defining lens which imposes a holistic management or research perspective on a complex system of interconnected and interdependent activities undertaken by a diverse network of stakeholders for the achievement of a common significant purpose.'

An Enterprise can be more than just a firm. It represents all the groups who work together to deliver a product or a service.

What is Enterprise Imaging?

As organisations specialise they frequently work with many other organisations to provide products and services. We call this multi-organizational grouping an 'enterprise'.

The customer and their resource is a necessary part of this enterprise. Customers and suppliers must integrate their sub-organisations to create value. We say that value is co-created. The EI helps share an understanding of how all the sub-organisations work together to co-create value

An Enterprise Image is a method of drawing a representation of a network of firms and sub-organisations who work together to deliver a product or service.

There are many different ways of creating a visual image of a company's engagement with another, including numerous different process mapping tools, rich pictures or organisational diagrams. As organisations become more complex a contract made between two parties can involve numerous organisations and sub-organisations whose images and maps also get complex, often to the point that 'reading' them and using them requires training. They can become too difficult to use and a barrier to communication and discussion - the opposite of their initial goal.

An Enterprise Image [EI] is a method developed to create a picture which captures all the salient sub-organizational units from a variety of provider and client organizations that collaborate to achieve a desired outcome.

An EI can be drawn on a single page and requires very limited explanation for others to understand and start to discuss and manipulate it.

Why would you do an Enterprise Image?

EI allows you to holistically see the diverse network of stakeholders who work together to achieve a common purpose. Only one part of a large company might be involved in a multi-organizational enterprise. For them, the picture makes it easier to explain their role and manage their operation within a complex system of interacting activities.

"...We were undertaking research on a contract between an aircraft manufacturer and their customer, specifically looking at aircraft service provision. There were many value stream maps which showed detailed processes. What was missing was a holistic image of all the parties which came together to enable these aircraft to fly.

Though the contract was notionally between two organisations, we found over 25 different sub-organisational units worked together. Some of these worked on the aircraft all the time and were part of linear process flows. However, other sub-organisational units were removed from the actual aircraft servicing and interacted rarely. These units were unfamiliar with the operational details, yet their decisions impacted upon the service provision. There was no method to include such organisation in an overview of the operation, and so Enterprise Imaging was developed as a solution. It has since been further developed and used in a diverse range of public and private sector organisations..."

A senior manager who led the creation an EI for his organisation summed up the benefits to him:

- "Helps operations managers to understand the cause of the complexity they face"
- "Agreeing on one image across a wide set of partners may be impossible but the discussion on where organizations fit on the image is invaluable".
- "A representation of the entire enterprise, makes it easier for non-operations staff to visualize all key functions relative to how they influence the patient's experience
- "EI leads to faster learning of the service operation"
- "Can be argued that it can provide help for the strategic management of the enterprise"

EI highlights organizational complexity in terms of the scope and interdependencies within multi-organisational networks. EI helps decision makers to quickly analyze how changes in back office and front office functions may affect desired outcomes. EI enables visibility of the different sub-organisations, their interdependencies and helps create a shared view for all stakeholders.

Practically EI provides managers with an evolving representation that stimulates understanding of the interdependencies between clients and providers and the need for front/back office co-ordination within providers and clients.

The act of creating and using an EI begins a process that motivates discussions within and across the enterprise. Partners increase their understanding of one another and their roles in delivering desired outcomes. This can lead to more holistic enterprise management, especially in respect to improvement activity and innovation.

Many sub-organisations or resource owners and managers, even from within one company, can be distant from an operation yet their decisions impact on the outcome. Back office sub-organisations frequently have no visibility of the whole. The EI lets them see the potential impact of their decisions on their partners – both internal and external to their firm.

<p align="center">"The map is not the territory" Alfred Korzybski</p>

Conceptually, an EI is a picture which is useful as a guide. It is an abstraction of what we understand the enterprise to be and so it must not be a fixed object, as a complex enterprise is constantly changing.

The picture is not established 'fact', but unfolds as it is used and discussed by management teams who change and modify it. It prompts questions, some of which are answered while others provide new avenues of inquiry. An EI appears to be emergent and will adjust to reflect the priorities of the stakeholders over time.**

We think an EI articulates the coordination problem but not the answer – that is a matter for co-creation between stakeholders who appreciate the problem

When would you use an Enterprise Image?

Enterprise Imaging is best applied during contract design for complex multi-organisational service, though it has also been applied post contract to illustrate the need for enterprise-level management processes focused on long-term and sustainable service improvement.

Enterprise Imaging shows great potential during consideration of outsourcing complex multi organisational services in, for example, Defence, Justice, and Health.

The aim is to first *recognise* and second *mitigate* the potential effects of the detailed dependencies between client and provider organisations and sub-organisations. This is particularly relevant where client and provider "back offices" support functions are extensive and the client cannot or will not outsource the whole requirement. This scenario generates multiple dependencies at multiple interfaces. Enterprise Imaging is an enabler as it provides a structured mapping of the sub organisations of clients and providers whose co-operation is required for high performance service provision and to deliver ongoing, sustainable improvement

Imaging is not so useful when something is totally outsourced i.e. the provider fulfils the whole service with minimal dependencies on the client - a situation where the provider(s) can be held fully accountable for the performance of the contract. In a business to business setting many clients aim for contracts of this type.

There are significant benefits when clients and providers are new to complex service provision. Enterprise Images may provide: improved understanding of the roles of clients and providers within such contracts; the need for holistic, enterprise management of the network of organisations involved; facilitation of service improvement that includes explicit enterprise level objectives in addition to the necessary objectives of the individual organisation and sub-organisations involved.

When complex multi-organisational contracts are novel Enterprise Images illustrate mutual dependence within partnerships. Effective management requires both client and provider front offices adapt their roles and behaviours, as relationships can become confrontational, particularly when things go wrong.

How do you draw an Enterprise Image?

The Standard Framework

The EI is created upon a standard framework of three separate areas. One area representing each contracting partner and a third area representing where both organisations work together.

To define the areas, the EI uses the concept of "back office" and "front office". These terms define separate but co-ordinated areas within the enterprise that represent the space where Provider and Client interact (front office) and Client and Provider organizations which support the service delivery but where the partners have no visibility of each other's operations [back office].

The areas are separated by a line of visibility.
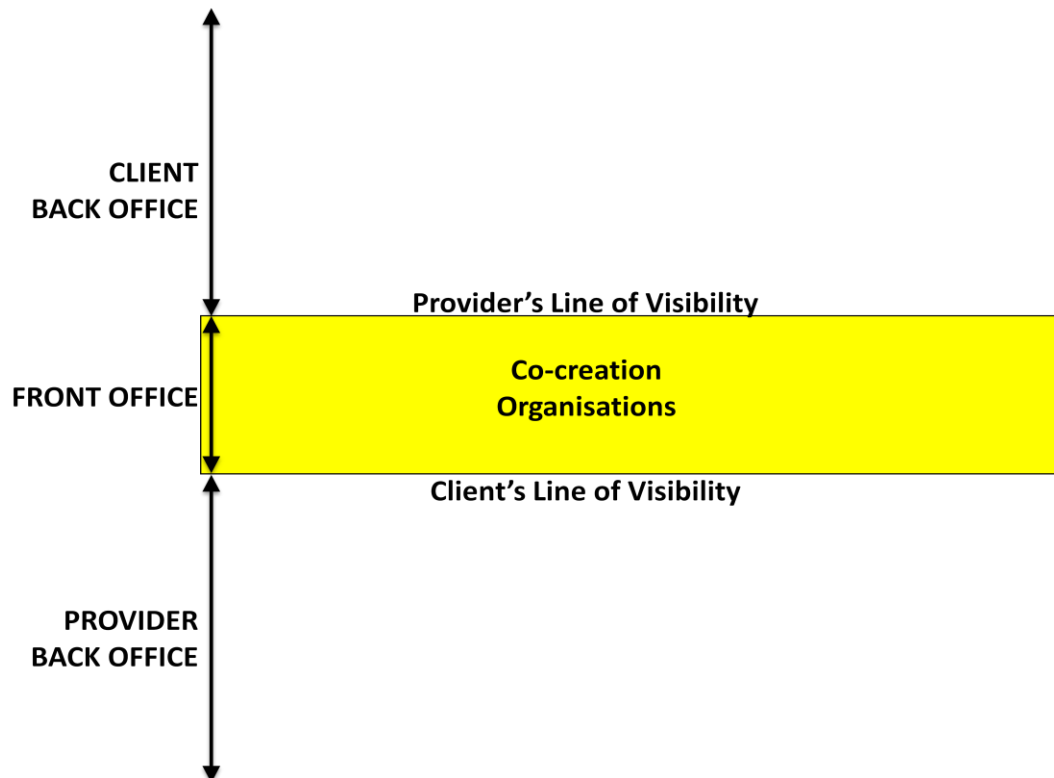
Organisational Types and Shapes

There are a number of different types of sub-organisation which make up an enterprise. Distinct shapes represent different types of sub-organizational units. The shapes are given particular colour codes if shaded, but if black and white images are required they can all be shown with no shading. Guidance is given as to their placement on the framework.

Front Office sub-organisations

|	
Partnered direct Organisations	*Partnered service focused organizations [rectangle – white where coloured]* These organizations are located in the front office where the operational services are delivered. They are staffed by both Provider and Client.
Contract focused non-partnered Organisations	*Non-partnered Outcome Focused organizations [Oval – orange where coloured]* These are sub-organizations that are co-ordinated by either the prime service provider or the Client. They are focused on the delivery of the desired enterprise service outcomes They are placed either wholly in the front office or appropriately placed across the line of visibility to represent how visible they are in the front office
Customer Voice	*Customer representative organisations [Hexagon- white where coloured]* Customer representatives are routes of communication with particular groups such as workers, the customers or public. They are placed either wholly in the front office or appropriately placed across the line of visibility to represent how visible they are in the front office
Third party direct	*Third party service delivery organizations [Octagon- grey where coloured]* Usually manifested as commercial contractors, who may not be contracted with one or other main partner but deliver significant inputs to achieving desired service outcome They are placed either wholly in the front office or appropriately placed across the line of visibility to represent how visible they are in the front office
Third Party indirect	*Third party indirect resource [diamond]* This group represents independently managed, co-ordinated resources. They may not be directly engaged in the contract, but have a direct influence on outcome. Examples include education, transport and healthcare organisations.

Back Office sub-organisations

Internal support resources [parallelogram]: Owned and managed directly by the Client or Provider. They are typically shared organizations that provide services such as billing or shipping and are focused more broadly than the particular Enterprise captured by the image.
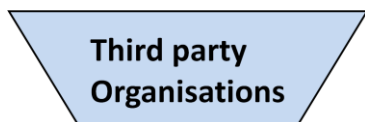
Third party organizations [rhombus]: Important suppliers of resources key to the provision of the service, but not normally visible to the opposite party.

Governance organizations [triangle]: Functional organizations that determine the resources available and dictate their co-ordination. Governance organizations may not be aware of the detail of the particular operation, but as the deciders of how operations are conducted they impact upon the enterprise's ability to realize its value proposition.

The set of shapes presented have been used to represent a broad range of complex enterprises. Though the set may not be exhaustive, we believe that they should be interpreted such that they are able to cover most organising units found in public and private sectors. However, we are still learning and would welcome dialogue with anyone who thinks we require additional units.

Locating Units on the Framework

The Enterprise Image is 'read' starting in the front office where co-creation resources are located, the operating core, and working outwards into back office shared resources and to the individual firm strategic core. Resources are located following the overall logic of the chronology of operations from earliest operations on the left to final on the right. However, as linear flows are frequently absent within service enterprise, clarity of visualisation is more important that precise placement of resources, either vertically or horizontally.

The generic figure below provides guidance as to where to locate of organising units.
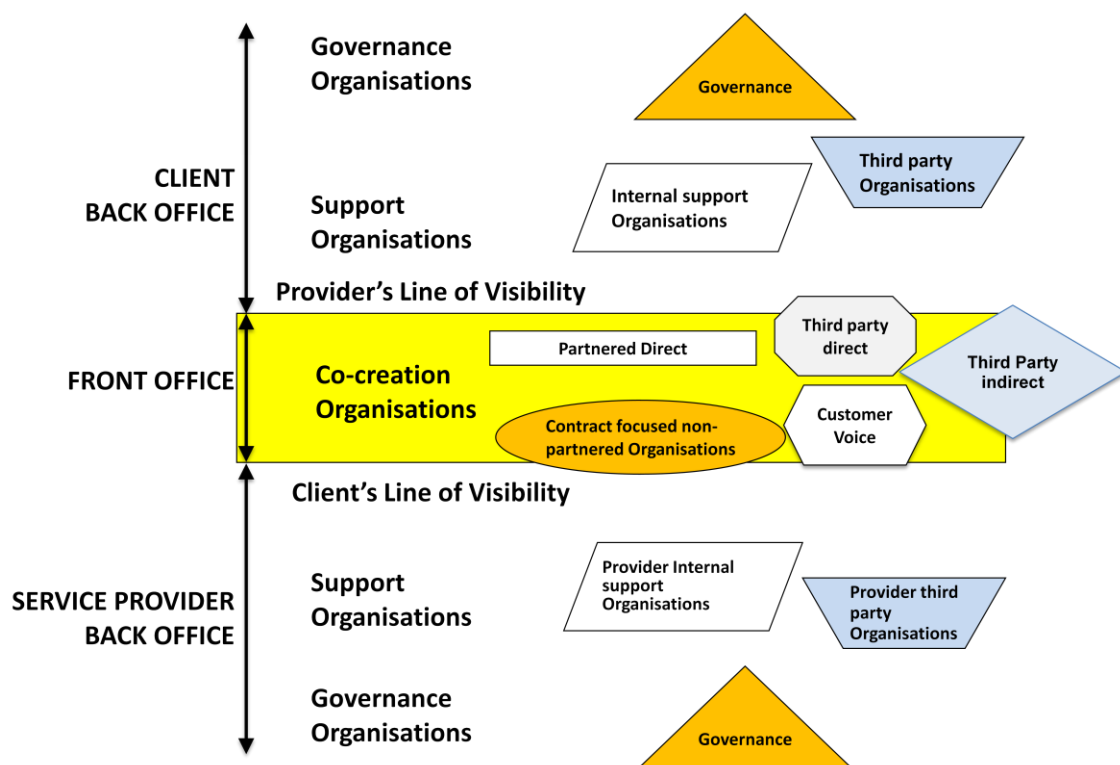
Practical Guidance on Creating an Enterprise Image

Who should draw the Enterprise Image

The two main partners should draw the Enterprise Image since the debate, discussion, sharing of perspectives and understanding arising from drawing the boundaries forms a valuable platform for the co-production and co-creation and coordination activities necessary to mobilise complex service delivery.

Initially a leader or individual with experience of the organization should create an Enterprise Image of the enterprise as they see it, perhaps aided by someone with experience. This 'straw man' image can then be modified by individuals from across the enterprise until it reaches a generally agreed form.

How to begin drawing

For each organisation identified, name it and specify the service it provides that delivers the required support. We have found that a first image is best created on paper or a white board with post-it notes. Draw the generic framework. Write the detail of each organisation and its type on a post-it and place it on the framework. These can then be easily moved around. Regularly take a digital photo of the image (post-it notes fall off). Once an initial image is created, Microsoft PowerPoint is a suitable tool for drawing images. The EI is a tool to stimulate discussion and common access facilitates use and creates a sense of shared ownership. Most people have PowerPoint on their machines and know how to use it to a level that will let them manipulate an image.

Where are the boundaries drawn?

The definition of boundaries is important for scoping the potential partners to include in the image, since the degree of comprehensiveness and holism in the image will alternatively limit or expand the scope for service improvement. Priority setting will be important. We have found that organisations which have a strong relationship with other parties should be included as they add to the understanding of the enterprise function and operation.

It is tempting to include physical spaces in an Enterprise Image, for example, parks, warehouses, office buildings etc. However, these are not organizations that can directly influence the service, even though they can be a strong influence upon a service as a result of the environment or 'service scape' they create. Thus the image draws boundaries according to the relevant (as judged by partners) formal organizations present, and located according the front and back offices of the major partners.

Who should be involved?

Ideally equivalent representatives from client and provider organisations should be present who have knowledge on the detailed current operation of the service, its problems, and its relationships with other organisations key to this service provision

and its improvement. Third party organisations also frequently provide insight to the structure of the enterprise.

How long does it take?
This depends on the number and complexity of the services desired to be combined in an outsource - at this stage we have little experience on this thus a planning meeting prior to the workshop is recommended to enable larger outsources to be broken down into focussed workshops and appropriate participants to be selected.

Some examples of Enterprise Images

Local Community Safety

The 'Safer Sutton Partnership Service [SSPS]' is an initiative linking Sutton Borough Council in London with the Metropolitan police and local groups with a stated aim "to make Sutton the safest borough in London". This is an example of a complex service where a public sector local authority is attempting to improve the perception of safety in a region of South London. The London Borough of Sutton is a globally typical middle class affluent suburb which could be found in any large city. Whilst overall described as affluent, areas of the North of the borough would be described as deprived based on many different public metrics such as teenage pregnancy, though not necessarily crime. Due to its overall affluent nature Sutton borough is not eligible for any special government funds to deal with specific issues. SSPS is primarily a Police and local Council initiative, with two hundred and fifty staff working in a holistic blended organisation framework, but which consumes only half a percent of the boroughs total revenue budget. The Enterprise Image is shown below.
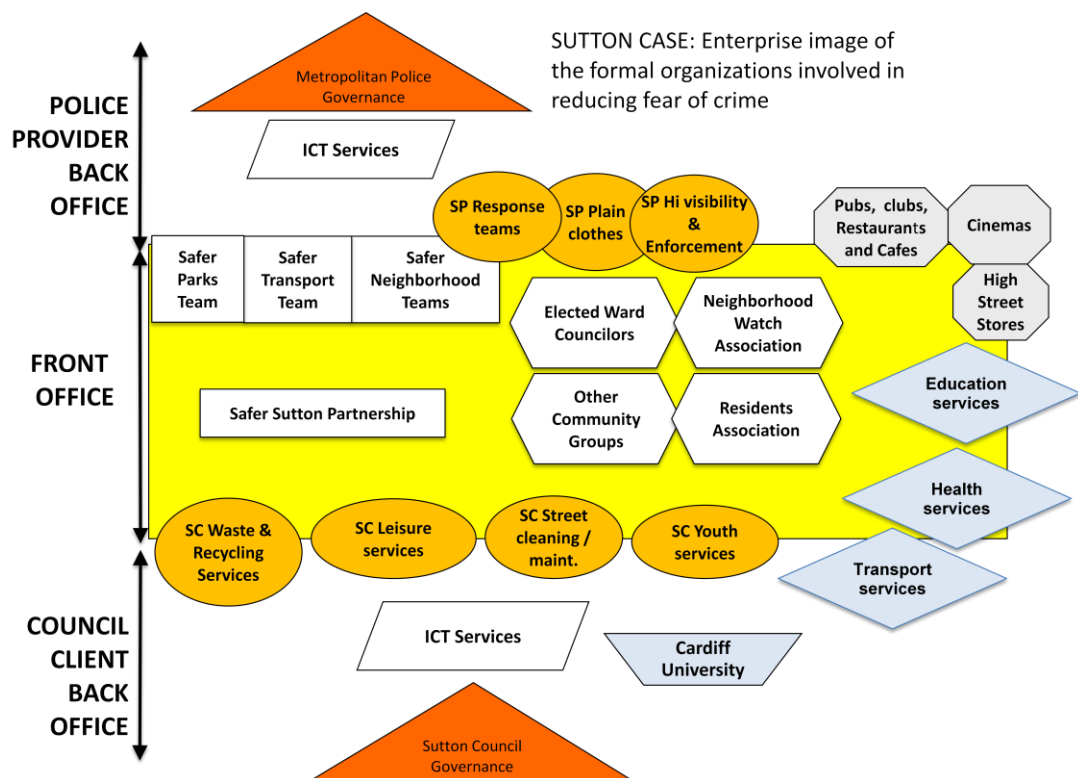

On the image all the different organisational forms can be seen. Front office Partnered Direct Organisations undertake the day-to-day operations [white rectangles]. A number of different Customer Voice [white hexagons] organisations represent the views of the community. Both the local government and police have Contract Focussed [orange oval] services which help in meeting the needs of the

community and have a visibility within it contribute towards its security. It is noted that cleanliness and good infrastructure are contributors to perceptions of security. The image therefore includes representative organisations of the councils cleaning and maintenance groups [orange oval], third party indirect providers who own and operate the local shops, public houses, cinemas etc [grey octagon], and third party indirect infrastructure providers [blue diamond] who provide health, transport and education.

Whilst both council and police have extensive back offices, the scope of the image was limited to those impacting upon the case of SSPS, so the manager limited internal support organisations [white parallelogram] to the ICT function from both parties which helped to maintain website communication. Cardiff University were included as a Third party back office provider [rhombus] by the council. The university provided a borough-wide intelligence gathering interview exercise, known as the "Intelligence through Neighbourhood Security Interviews" (INSI) which provided detailed information of the community safety problems across the borough. The remaining back office structure and hierarchy is represented by Governance.

Aircraft Servicing

ATTAC: Enterprise image of the formal organizations involved in delivering availability
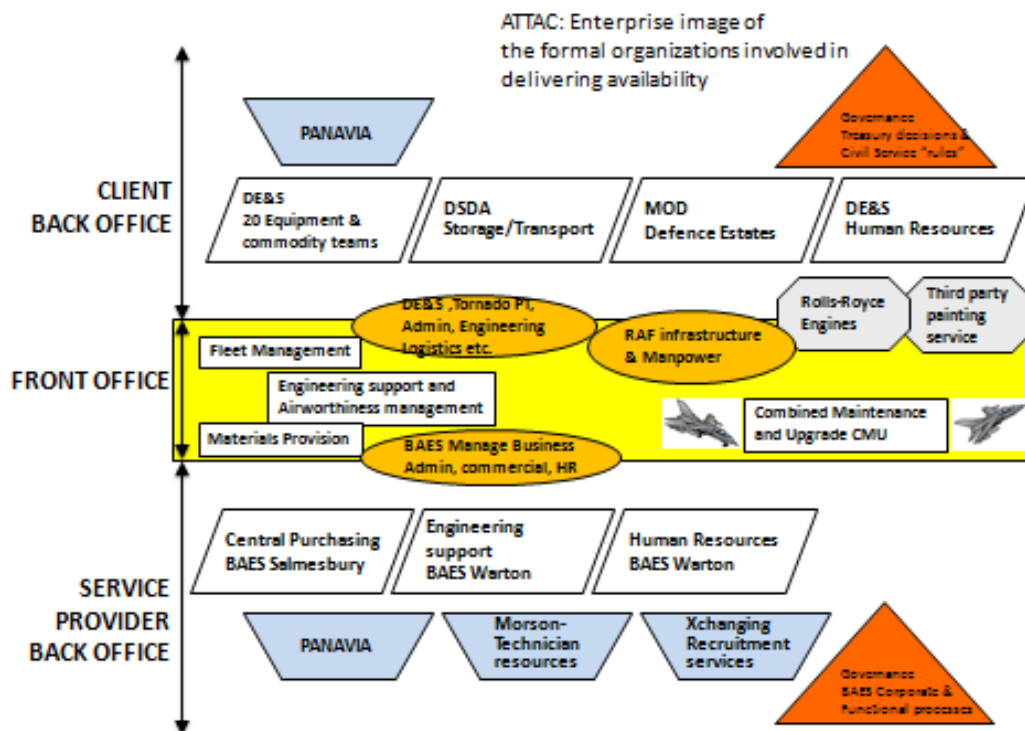
This enterprise image shows the main organising units who work together and keep the RAF Tornado Aircraft flying. The image represents the ATTAC contract (Availability Transformation: Tornado Aircraft Contracts). ATTAC is a long term, whole-aircraft availability contract between BAE Systems and UK MoD, where BAE Systems took prime responsibility to support the RAF Tornado aircraft, delivering defined levels of available aircraft, spares and technical support at a target cost.

The front office organizations are managed by BAE Systems, but are mainly located on MoD property – at the RAF airbases - where the operational services are delivered. The front office activities are staffed jointly by the service provider, in this case BAE Systems and the client staff, in this case the RAF.

Rolls-Royce provide and maintain the engines under contract to the MoD and are a third party resource. The engine, as a major component of an aircraft, means that Rolls-Royce are critical to the success of the enterprise.

It can be seen that both organizations have extensive back office operations. Many of those working in the back offices may not be aware of the detail of ATTAC operations, yet their decisions may have impact upon the outcome.

NHS Psychiatric Intensive Care Service Provision
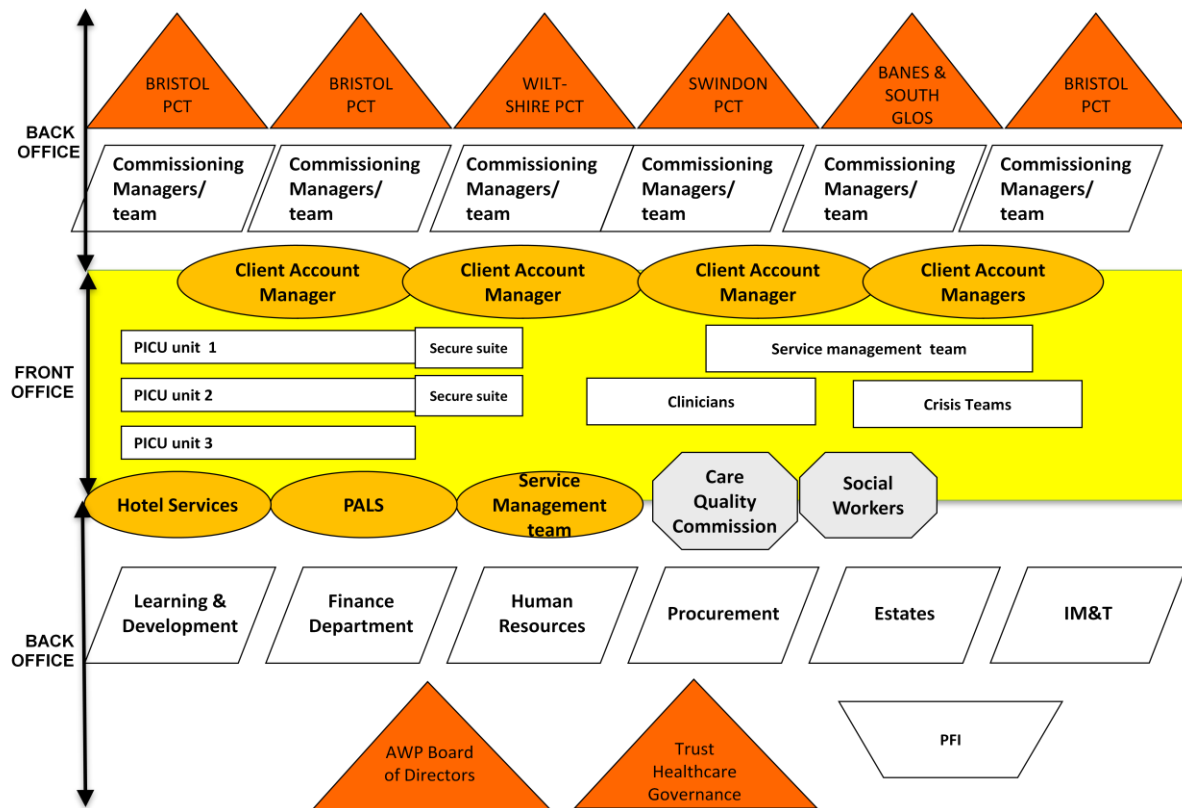
Psychiatric Intensive Care Unit Service provided by Avon &
Wiltshire Mental Health Partnerships (Part of the NHS)

Enterprise Imaging was used as a central contribution to a project undertaken by an NHS manager to evaluate and recommend the best overall strategy for the future of Psychiatric Intensive Care Unit (PICU) service provision and approaches to address specific operational challenges. These included expected increase in demand, cost pressure in particular through the secure suites. The case is included here to demonstrate the broad applicability of the Enterprise Imaging technique and no reference to service performance will be made.

In the case example a number of front office Partnered Direct Resources were identified which represent the psychiatric intensive care wards service provision in three geographically spread locations and the clinical, service management and crisis teams. Non-partnered outcome focussed resource groupings included a number of different client managers, each assigned to a Primary Care Trust (PCT) client. Food services, catering for the dietary needs of the patients and the service management team who ensure the service deliver to patient and PCT priorities. Patient Advice and Liaison Service represents the customer voice resource, providing channel for communication of services and customer complaint. Third party

direct resource providers included Social Workers who may refer patients to the units and the Care Quality Commission (CTQ) who oversees the quality of care. Each PCT client has a commissioning team managing their ICU provision, and a separate Governance structure. On the provider side, a number of geographically dispersed internal support resources (Finance, HR, Procurement etc.) were identified. One of the PICU had been established as part of a Private Finance Initiative, identified as a back office third party resource provider. The provider had two Governance structures: one relating directly to their organisation with its board of directors and also a Healthcare Trust who funded their operation and had its own Governance.

Further Reading

- Purchase, V., Parry, G.C., Valerdi, R. Nightingale, D. and Mills, J. (2011) "Enterprise Transformation: what is it, what are the challenges and why are we interested?", MIT *Journal of Enterprise Transformation*, 1(1) pp14-33

- Chapter 8: Purchase, V., Mills, J., Parry, G., "A multi-organisational approach to service delivery" in Macintyre, M., Parry, G., Angelis, J. (2011) *Service Design and Delivery*, Springer: New York. ISBN 9781441983206

- Mills, J., Purchase, V., Parry, G. (2012) "Enterprise Imaging: Raising the necessity of Value Co-creation in Multi-organizational Service Enterprises", *International Journal of Operations and Production Management*

- Chapter 2: Mills, J., Parry, G., Purchase, V. "Enterprise Imaging" in Ng, I., Parry, G., Wilde, P., McFarlane, D., Tasker, P. (2011) *Complex Engineering Service Systems: Concepts and Research*, Springer: London ISBN 9780857291882