Good afternoon Ladies and Gentlemen,

When I visited the United States in April of this year, as part of my review of open source exploitation within the UK Defence Intelligence Community, I felt obliged to meet the man who has done so much to stimulate discussion in this important subject area, even if I did not agree with everything he had to say Robert Steele generously gave up an afternoon to meet with me and, I might add, at no cost to Her Majesty's Government He did however, warn me that in return, I would be expected to 'sing for my supper' at this symposium In an attempt to avoid having to submit my views and recommendations to the scrutiny of such an illustrious gathering, I warned him that I would not be in a position to speak until after I had completed my review and my recommendations had been accepted and endorsed by senior management I had felt sure that this excuse would suffice, given how slowly the wheels of government usually turn. However, my review progressed far more smoothly then I had anticipated and not only has formal approval been given but we have already entered the implementation phase I, therefore, stand before you as an ex open source review director, free to offer my own personal perspective on the use of open source information for Defence Intelligence purposes and to outline some of the measures that we intend to take, to significantly improve OSINF utilisation within specific areas of the UK MOD

> 'Ever multiply the means of obtaining information, for no matter how imperfect and contradictory they may be, the truth may often be sifted from them'.
>
> Lt Gen Antoine-Henri Baron de Jomini, *Summary of the Art of War*, 1838

There can be no more profound exhortation of the necessity to exploit all available information, including open sources, to meet intelligence requirements, than the one offered so succinctly by

Jomini This quote also serves to remind us that the search for information from both secret and open sources is timeless The information revolution has not changed this fundamental requirement, it has simply provided us, for the first time, with the means to acquire and handle information from the widest possible range of global open sources, in a timely manner A goal that previous generations have never been able to achieve

I firmly believe that these tenets are fully understood and widely accepted by the vast majority of intelligence analysts in both the US and UK Intelligence Communities It, therefore, came as something of a surprise to discover, when I began my review late last year, that there had been such fierce criticism of the intelligence community's policy towards the use of open sources I had always taken it as read, that a professional intelligence analyst sought out and utilised all available information, including open sources, as Jomini had exulted Could I have been so wrong or does the problem lie elsewhere?

As far as the UK is concerned, the recent debate on this subject can be traced back directly to Robert Steele's visit to the MOD in 1993 His assertion that 80% of both policy makers and war fighters information needs could be meet 'faster' and 'at a quarter of the cost' by open source intelligence understandably grabbed the attention of those policy makers and senior war fighters within the MOD I have to admit that the initial reaction of many in the UK Intelligence Community was somewhat sceptical and far from complementary There was a tendency to brush aside what Robert had to say as the fundamentalist preaching of a sort of open source Billy Graham However, a more considered approach was necessary and a formal internal response was drafted that outlined both the strengths and limitations of open source material

The author of this report, a senior officer with extensive intelligence experience, stated that he had no doubt that the proliferation of open source material and the development of associated search and retrieval technology should be harnessed and exploited in order to enhance general knowledge and awareness levels and to contribute better to the all-source intelligence process. However, he cautioned that there are still a number of serious drawbacks with OSINF and limitations in its use for defence intelligence purposes For instance, he pointed out that OSINF is an excellent source of information regarding past and current developments of intelligence interest, particularly for a subject area that has previously had a low intelligence collection priority Unfortunately, OSINF will rarely provide sufficient information to make accurate assessments of future intentions and developments Secret sources are usually needed to provide the type of information required for predictive intelligence on subjects to which access is restricted or denied Which, of course, are often the subjects of most interest to governments During a crisis there is also no guarantee that OSINF will actually be available at the time required or in sufficient depth to meet operational requirements In the interests of national security we cannot place too great a reliance on an information channel that we cannot guarantee or control

As the author pointed out, the example of Saddam Hussain provides a salutary lesson He had unprecedented access to the world's media and other open sources, yet he was unable to identify the likely direction of the coalition forces Main Effort The field reports of hundreds of journalists and the pearls of wisdom of numerous studio experts failed to provide him with the information he so desperately required

The author concluded that, for the foreseeable future, a large part of the overall defence intelligence information requirement would remain 'someone's else's secret' As a result, it was felt that the overall value of open source material for defence intelligence purposes was considerably less than 80% This officer also issued the reminder that open source material needs to be considered as but one element of an all-source information spectrum, the sum total of which is developed into intelligence, efficiently and cost effectively, by dedicated all-source analysts

I fully concur with the views of this officer However, you should not see this as community attempt to discredit OSINF Rather it is a view that had to be expressed to redress the balance, following the somewhat overstated claims being made for OSINF during the early period of this debate. We do acknowledge the greatly increased value of OSINF and accept that we need to maximise its potential but we must always bear in mind its limitations Incidently, the officer who took this pragmatic approach to OSINF exploitation has been at the forefront of our current effort to radically improve open source utilisation within the UK MOD

The debate did not end there of course and in the summer of 1994, as part of the MOD-wide Defence Cost Study, a review of UK Defence Intelligence was undertaken A principal conclusion of this review was that the system was failing to fully exploit the maximum potential of open sources for defence intelligence purposes That such a statement was forthcoming was not in its self a major revelation or surprise, given the adverse comment that had preceded it That this criticism had been voiced by an official review team was far more significant, acknowledging as it did, that shortcomings do exist To be fair to the community however, an earlier internal study, initiated before the Defence Cost Study Team had begun its own investigations, also came to a similar conclusion.

In response to this criticism, both official and unofficial, I was tasked to undertake a comprehensive review of OSINF exploitation My terms of reference were simple, to identify exactly where these shortcomings existed and to recommend appropriate solutions

Before I go on to discuss my findings and observations I would like to clarify one very important point You will have already noted that I have so far used the term Open Source Information and the abbreviation OSINF rather than the more commonly accepted term Open Source Intelligence or OSCINT This is a deliberate decision on my part and a very important distinction, because I do not consider information collected from open sources to be intelligence As I am sure you are aware the DoD defines intelligence as follows

> 'The product resulting from the collection, processing, integration, analysis, evaluation and interpretation of available information .. .'

Whereas it defines information as

> 'In intelligence usage, unevaluated material of every description that may be used in the production of intelligence'

Our view, is that material collected from open sources does not become intelligence until it has been through the all-source process outlined in the DoD definition I include within this caveat all material that has been through some form of commercial open source evaluation process In defence intelligence terms, this data has not been assessed against all available information but is rather value-added OSINF For these reasons, I will continue to use the term Open Source Information or OSINF during the remainder of my presentation

I began my own investigations by reexamining the case for the prosecution There appeared to be a number of different theories as to why the intelligence community was failing to exploit the full potential of open sources By far the most common, was articulated by Mert McGill, a Nexis/Lexis VP, in his article for the International Journal of Intelligence and Counter Intelligence, he said

> 'The intelligence community has generally been able to ignore these (open) sources as it developed its own channels for collection, analysis, and dissemination of data'

On the surface this appeared to be a very plausible argument but was it really the case? I do not believe so I have encountered no evidence what so ever of any official or unofficial policy that discriminates in favour of existing channels and against open sources In fact the reverse is the case The tremendous expansion in the availability of open sources has actually coincided with significantly increased pressure on the level of resources dedicated to the collection of 'secret' information It also comes at a time when the range and diversity of risks to national security has multiplied As a result, it has for some time been officially recognised that every effort should be made to ensure that scare covert collection assets are focussed more cost effectively This included official recognition that better use should be made of OSINF.

I further discovered that within the MOD, approximately 30% of all material used in the production of intelligence was already derived from open sources There were of course significant variations higher and lower but I believe that this was fair average figure It was also clear that many analysts were spending a disproportionate amount of their time processing open source material Indeed many were already complaining that they were beginning to 'drown in a data deluge'

However, there remains the inescapable fact that the intelligence community has failed to make the maximum use of open sources Policy has not been translated into effective action In my opinion, the real problem is not that alternative channels continue to be over utilised as a matter of policy or simply because of outdated common practice Rather, that basic technical and procedural shortcomings currently exist that inhibit any significant improvement in OSINF utilisation, despite the best intentions of the policy makers

The first significant problem I identified was that much of the open source material used in the production of intelligence is still largely acquired in hard copy form As a direct result, the range of open sources currently being exploited is artificially limited and excludes most electronically disseminated data However. I am convinced that the most important sources are being collected

As we all known, the handling of hard copy material is extremely labour intensive, as all data must be physically scanned in order to sift out extraneous data and identify items of potential value It was clear that considerable efforts are being made to exploit the numerous new hard copy information sources that have become available in recent times but in many ways this has simply compounded the problem A declining number of analysts are becoming even more overburdened with ever larger quantities of hard copy OSINF Much of which, it has to be said, is usually discovered to be of little or no intelligence value.

The second problem I encountered is directly related to the first. Fully exploiting the maximum potential of OSINF in an efficient and cost-effective manner requires direct and easy access to the newly expanded world of electronically disseminated information However, such access brings with it the problems of identifying, searching and acquiring information from a wide range of diverse sources and subsequently, filtering, storing and disseminating the vast volumes of data that are collected As the volume increases so does the difficulty of separating high quality information form the irrelevant and inaccurate Unfortunately, our capability to exploit electronically disseminated material is currently very limited and no mechanisms or systems are in place to collect and automatically process and filter large quantities of soft copy OSINF We are also, only just now, beginning to develop the integrated systems required to electronically distribute this material to every analyst's desk When it comes to the information superhighway it is fair to say that we are still crawling up the approach ramp and barely out of first gear

The third significant problem I identified was a general lack of awareness as to the full extent of recent open source developments Most managers and analysts have only a very basic understanding of how much more potentially useful OSINF is now available to them Indeed, a small number of analysts remain locked into the information dark ages I believe that this lack of awareness has arisen primarily because there has been no central focus for OSINF matters within the UK Defence Intelligence Community No one single authority has been responsible for publicising OSINF, reeducating staff or coordinating the development of an improved OSINF capability Any improvements have been largely uncoordinated and fragmentary in nature

As a combined result of all of these problems it cannot be said that open sources are uniformly 'the information of first resort' although it is now widely accepted that they should be It is , therefore, probable that 'secret' sources are not always tasked as efficiently as they should be However, I pleased to say that having become more aware of our specific shortcomings, we are now making every effort to significantly improve our utilisation of open sources

Before I move on, I would like to make one further point. Although, I am confident that a radical improvement in our utilisation of open sources will ensure that increasingly limited covert collection assets are focussed more efficiently and cost-effectively, I don't believe that this will lead to commensurate savings being found from the collectors budgets As Robert Steele has said recently, OSINF is only one part of the all-source solution There will remain significant intelligence gaps that can only be filled by the intelligence collectors Even if the percentage of OSINF used in the production of intelligence were eventually to reach the levels first suggested by Robert Steele, the degree of investment required to fill that remaining vital intelligence gap would be very similar to today's What I believe we will be able to do, having improved OSINF utilisation, is firstly, to refocus covert collection assets to fill real intelligence gaps that have, if anything, widened in this increasingly unstable New World Order and secondly, to demonstrate to policy makers and our nations taxpayers that we are making the best possible use of the expensive assets they have authorised and funded in the interests of national security

That is not to say that there won't be further cuts in the collectors budgets However, if these do take place, I believe that it will probably be as a result of political, budgetary or operational considerations, rather than the increased availability of OSINF.

In the second half of my presentation I would like to move away from our past shortcomings and a debate that I believe is now over and look to the near future, laying out in general terms the positive steps that we are taking

As an analyst rather than a outside consultant I knew, when making my recommendations, that I would be returning to the bosom of the organisation I was reporting on This concentrates the mind wonderfully, as I knew all to well that I would actually have to live with the consequences of my recommendations I was assisted in my task by one of the better government initiatives of recent times, the policy of Best Business Practice This initiative required me to examine the working practices of other government departments, allies and the private sector

I discovered both to my relief and disappointment, that many private sector information user's are as far behind the power curve as we are, including some organisations that have, in the past, been critical of the intelligence community Most of the companies and organisations I visited continue to rely far too heavily on hard copy information sources and outdated manual or semi automatic collection and processing systems. Some, but by no means all, have begun to exploit electronically disseminated information but none are systematically exploiting all available information sources It also became clear that few, if any, are faced with the challenge of collecting, on a 24 hour 7 day basis, data from all available information sources and then sorting, filtering, storing and disseminating this material to hundreds of individual users who then have to fuse this information with similar amounts of additional data

I discovered that the Academic world, as one would expect, was generally making greater efforts to exploit the latest information sources and associated search and retrieval technology However, these were largely small scale undertakings designed to meet specific research requirements and were very often constrained by budgetary limitations.

I also examined, at some length, the OSINF capabilities of the US Intelligence Community and for this I must thank the good offices of COSPO and in particular Mr Paul Wallner, an excellent guide and tutor. It became clear to me, that the US agencies have developed vastly improved

OSINF exploitation capabilities over the last three years and I was particularly impressed with the level of inter-agency cooperation Something that is not always obvious in other operational and policy areas To outsiders, who do not have to live with the same conflicting operational, political, bureaucratic and budgetary pressures, the pace of reform can seem somewhat pedestrian However, as a fellow government servant I believe the achievements of the US Intelligence Community, in this area, have been remarkable For instance, there has been a discernible sea change in attitudes and working practices which now ensures that the policy of utilising OSINF as 'the information of first resort' is being implemented by many analysts I know all to well that this can be a painful process and certainly cannot be achieved overnight

That is not to say that there is any room for complacency There is more that can and should be done, particularly in key areas such as, the development of common standards and tools. the centralised purchasing of information, raising the standard of IT literacy and selling the OSINF message to all remaining sceptics However, I am sure that the mechanisms are now in place to make these improvements a reality, although never as fast as the critics and those with something to sell would like

Having carried out this review of Best Business Practice it became apparent that there are two favoured methods for providing information users with an improved OSINF service Direct individual access, an option particularly popular with academia or alternatively the development of a centralised OSINF collection and processing facility This system appears to be the favoured option of most large information users

Wherever I encountered the direct access approach, I observed far more disadvantages than advantages In the first instance, the all-source intelligence analyst is an information user not a collector or researcher We do not expect them to collect and process raw SIGINT, IMINT and HUMINT, neither should we expect them to do the same with OSINF It is simply not a cost-effective option Locating information on an individual basis is both costly and time consuming and diverts the analyst from his core task of information assessment It also requires a level of expertise not common amongst most analysts and would, therefore, impose a significant training burden. There is also no guarantee that the analyst will actually discover anything of value An eminent London Times IT journalist described her experience of undertaking unaided research on the INTERNET as like landing at JFK, spending two weeks sightseeing in the Bronx and at the end of it wondering why New York had such a good write up I believe this experience is likely to befall most analysts required to undertake their own OSINF research

At the operational level, it is also very difficult to control and coordinate collection which is undertaken on an individual basis Yet this is essential in order to ensure that economies of scale are achieved and that collected data is distributed to all users with a need to know. Human nature being what it is, there is also the very real danger of staff disappearing into cyberspace never to be seen again Seduced by the challenge of the information search or simply the attractions of the salacious and intriguing data that they will discover, analysts can be easily diverted from their designated tasks. Finally, for defence intelligence purposes direct access throws up very significant security problems which are difficult and costly to overcome

This may sound like a very negative assessment but I believe that this is realistic I am however, optimistic that things will improve in the longer term A new, more IT literate, generation of analysts will eventually be recruited And, more importantly, advanced and simpler to use, fully automated, search and retrieval tools will be developed

The only viable alternative to this method, at present, appears to be the creation of a central open source information centre, usually through the development of an existing 'in-house' library I believe that there are significant advantages to this approach The analysts is left free to produce intelligence having first outlined his or her specific information requirements OSINF is identified and collected by information specialists adept at manipulating sources efficiently and cost-effectively Collection is centrally coordinated ensuring that economies of scale are achieved and data is widely distributed within the organisation Security constraints can be more easily managed and the training burden is greatly reduced It is also still possible to offer analysts, with a genuine need, a path directly onto the information superhighway but with the guidance and under the supervision of an expert 'super-searcher' On balance then, I consider this to be the best approach and, therefore, have used it as a model for my own recommendations I would now like to conclude by briefly outlining these

In order to systematically exploit the widest possible range of open sources to meet the information requirements of the UK Defence Intelligence Community I believe that a small highly automated Open Source Information Centre (OSINFCEN) should be established This centre would act as the interface between the open source domain and the intelligence analyst This centre would be equipped with the latest COTS search and retrieval tools designed to facilitate the coordinated, identification, collection, processing and distribution of vast quantities of open source data The centre would be staffed by security cleared professional information specialists adept at handling both soft and hard copy information

I believe that such a centre should offer the following services and capabilities

Direct and easy access to the widest possible range of on-line, off- line, INTERNET and hard copy open sources, where necessary, on a 24 hour/7 day basis

Mechanisms for the manual/and or automated collection of all types of open source material including text, cartographic, audio and visual data

A fully automated processing system, based on a COTS search engine, designed to match all incoming material against either coarse or highly detailed (and classified) information profiles, in order to filter out extraneous and unrelated information

The delivery of selected material directly to the appropriate analyst via an integrated computer network

The indexing and storage of open source material on a suitable corporate database and the provision of effective search and retrieval tools to allow analysts easy access to this database

An on-line machine translation capability to allow for the 'rough and dirty' initial translation of foreign language data

Perhaps the most important element of this centre would be the staff that manage and run it It is essential that these, security cleared, staff have extensive experience in the management of both hard and soft copy information They must be able to undertake detailed research work utilising the latest technology to meet standing and ad hoc information requirements These staff would also require the necessary expertise to create and modify complex electronic profiles which would then be used to filter all incoming data to meet an analyst's specific information requirements In addition, these staff must be capable of managing the OSINF database which would quickly become a valuable corporate resource There would also be a requirement for these staff to work closely with analysts to establish an effective quality control regime for OSINF

The task of establishing such a centre is made all the more easier because we do not have an internal library to reorganise and reequip or staff to be retrained or made redundant We are in effect starting with a clean sheet of paper A significant disadvantage however, is that we do not have any 'in-house' personnel skilled in the collection and processing of open sources or in the negotiation of charging and copyright agreements with information vendors

I, therefore, believe that there is considerable scope for private sector involvement in this project and I am excited by the prospect of harnessing the best that both the UK MOD and industry have to offer in this vital area I certainly feel that the advantages of commercial involvement may well outweigh the disadvantages However, it should be noted that we would not, under any circumstances, considering contracting out intelligence assessment, as some recent press articles would suggest. We consider that the most cost-effective and operationally efficient use of OSINF is as part of the all-source assessment process To add another layer of single source assessment is both unnecessary and wasteful.

Ladies and Gentlemen that concludes my presentation Whilst I don't expect you to agree with everything I have said, I hope you will agree that we have now grasped the nettle, identified and accepted our shortcomings and are attempting to implement a plan that meets our particular needs I might add that I believe that the information centre I have proposed can act as a model for any intelligence, security or law enforcement agency with a limited budget. I will be happy to answer any questions you might have on any of the issues I have raised, after today's proceedings are concluded

OSS '95: THE CONFERENCE Proceedings, 1995 Volume II Fourth International Symposium on Global Security & Global Competitiveness: O - Link Page

Previous	OSS '95 Colonel Richard F. Ricardelli, former G-2, 82nd Airborne Division, OSINT in Support of Haiti Invasion (Slides),
Next	OSS '95 Andrew Garfield, UK, Update on the UK MoD OSINT Programme (Slides),

Return to Electronic Index Page