FIRST INTERNATIONAL SYMPOSIUM:
"NATIONAL SECURITY & NATIONAL COMPETITIVENESS: OPEN SOURCE SOLUTIONS"

MCLEAN HITLON AT TYSONS CORNER, 1-3 DECEMBER 1992

WELCOMING REMARKS BY ROBERT D. STEELE, HOST

Welcome. Bienvenue. Sven-ska delta-gare varmt val-kommna.
Soshite, nihon kara no sankasha no minasama wo atatakaku kangei itashimasu. Queridos y estimados amigos, me complace darles la bienvenida.

It gives me special pleasure to welcome you all, because among the many effects your presence here today will have on the world, the one most important to me is that I get to stay married. It was with great concern that my wife agreed with my decision over a year ago to embark on this project.

There were others, senior individuals in the government, but fortunately not including my immediate supervisors within the marine corps, who were convinced that I had assured my place on the lunatic fringe when I undertook my crusade, beginning roughly in 1990, to jump start our open source policy and capabilities.

Well, there were also those--many of them--that did not think Governor Clinton would win the election. There is a direct relationship between the election of Governor Clinton and Senator Gore to their executive leadership positions, and this symposium. This symposium is dedicated to defining and enhancing the role of the intelligence community within the over-all information environment of the nation, and particularly in relation to the National Research and Education Network--NREN--as created and sponsored by Senator Gore.

I am very excited by both Senator Gore's initiative, and by our opportunities--in the intelligence community and in the information industry--to radically alter the way we do business, not only within the american information environment, but also--by extension--the international information environment. Senator Gore's initiative, in combination with what we do here and in the future under the leadership of the director of central intelligence's open source coordinator, will define our future. I believe that the NREN initiative represents one of those rare catalytic events which will change our lives.

Imagine an extended network of citizen analysts, competitive intelligence analysts in the private sector, and government intelligence analysts--each able to access one other, share unclassified files, rapidly establish bulletin boards on topics of mutual interest, and quickly pull together opinions, insights, and multi-media data which is all the more valuable for being immediately disseminable without restriction. This is where I think we need to go, and that is why we are in this room today--to begin the dialogue.

Let us begin by honoring a few special people. I do this at the beginning of the symposium because I want to single them out so that you may in turn engage them in

dialogue during the breaks and in the evening over the next three days.

01   First and foremost is Paul Wallner, Open Source Coordinator--I need say no more--
       this man will be the center of our world--at least in the intelligence community--and
       our key ally in explaining to congress and to executive controllers why we need to
       spend more money in the open source arena. I offered to turn this symposium over to
       Paul when he was appointed nine months into my planning cycle, and also invited him
       to open the symposium; he graciously declined, preferred to allow me to see my own
       vision through--still, I regard my effort as one whch is in direct support of Paul and
       his responsibilities.

02   Next--and he will be here tomorrow--today he must cover home base--is Robert Korte,
       Deputy Open Source Coordinator--my direct counter-part and friend; committed to
       these new directions, he will be the person we actually talk to from day to day.
       Robert will be in Paul's seat tomorrow, please do try to get to know him.

03   Robert Hansen, Department of State member of the Open Source Council, who
       worked hard to ensure that State was a full player in this symposium. There is no
       doubt in my mind that information trends are increasing State's authority and its
       ability to influence policy in many non-traditional areas. In my mind, State is facing
       a period of immense challenge as it comes to grip with the need to manage multi-
       media multi-lingual information in a timely fashion.

04   Ivian Smith, Federal Bureau of Investigation member of the Open Source Council,
       who also worked hard to see this symposium succeed. We are fortunate to have a
       number of FBI officers in our audience. I recently made a pilgrimage to the eighth
       annual hacker's conference, and have, through my direct acquaintance with Electronic
       Frontier Foundation personalities, and my electronic lurking on the network, become
       more sensitive to the privacy issues and the concerns of our civil libertarians. I am
       quite pleased that this is the only symposium ever held which puts Howard Rheingold,
       John Perry Barlow, and leaders of our intelligence and defense communities on the
       same podium. Only by coming together can we make good policy...I am grateful to
       the FBI for putting in such a strong showing.

05   George Thompson, Defense Intelligence Agency member of the Open Source Council,
       and also their representative to the Advanced Information Processing and Analysis
       Steering Group for the intelligence community--I must complement George for not
       only bringing his science & technology people to the table, but for extending his
       helping hand to the general military intelligence community--GMI has a lot of
       catching up to do in the open source exploitation arena.

06   LtGen Linc Faurer, USAF(ret), a member of the National Military Intelligence
       Association Board of Directors and also a member of the initial executive committee
       for the symposium-- he provided some hard-hitting good ideas and early critical

comments that were very important to me.

07   Mr. Roy Jonkers, Editor of the <u>American Intelligence Journal</u> and President of the Intelligence Scholarship Foundation. I owe Roy a great deal, for it is he that got me to publish under my own name instead of ghost-writing, he that encouraged me in my notion that a symposium such as this was needed sooner rather than later, and he that secured the support of the nmia board of directors for my symposium early on-- without their helping hand very early on I would not have had the courage to proceed.

08   Mr. Art Andritis, a leader of the Potomac Chapter of NMIA, and manager of the symposium itself--i could not have pulled this off without art, and I most certainly could not have attended to our speakers without such a mature and steady partner able to take on the extremely complex and often overwhelming details associated with actually getting us all registered, fed, and generally cared for. Let me also say that Art is in charge now--go to him with any requirements or problems you may have during this symposium--I want to focus exclusively on the speakers. God bless you, Art, and thank you for being my partner in hosting this event.

09   Robert Hall, Editor of <u>Jane's Intelligence Review</u>, picked up where his predecessor Henry Dodds left off--Henry went off to china for a grand tour--and has provided absolutely superb support in the international advertising department. Robert and I have also worked together to conceptualize Jane's new country profile series, tentatively titled "SENTINEL", and we have worked together to increase the focus of <u>Jane's Intelligence Review</u> on the Third World and non-traditional intelligence topics and targets, to include the environment. I consider <u>Jane's Intelligence Review</u> essential reading for both government and business intelligence professionals, and I urge you all to visit Jane's display room. I also want to mention that Robert will be giving a special slide show in the jane's room during the afternoon display sessions...As it addresses how <u>Jane's Intelligence Review</u> is adjusting its collection, processing, and production to new threats and new requirements, I believe it can serve in some ways as a model for all of us to consider.

10   Bonnie Carroll, President of Information International, past president of other significant organizations, and the person behind the scenes supporting Kurt Molholm's CENDI effort which you will be hearing about later. Bonnie was instrumental in teaching me about CENDI--the quasi official consortium of key information managers from the Departments of Commerce and Energy, the National Aeronautics and Space Administration, the National Medical Library, and the Departments of Defense and Interior--about its objectives, and Bonnie helped shape this symposium in subtle but meaningful ways.

11   Helen Burwell, of Burwell Enterprises, whose materials outside will explain everything. I am indebted to her for showing me the path into the independent information broker community.

12   Janet Gotkin, President of the Association of Independent Information Producers, also providing us with informative material outside. We must do much better at harnessing the talent and deep knowledge available to us through her members.

13   And finally, Glenn Tenney, the master of ceremonies and keeper of the candle for the annual hacker's conference. Glenn read my article in whole earth review--which by the way was a quid pro quo for Howard Rheingold's speaking here--and then started following me around the network. When he decided I was for real and not spoofing, he invited me to attend Hackers 8.0. My life will never be the same. I consider it a privilege to have gotten to know some of the brilliant people that were able to make it to the 1992 hacker's conference. I have read a great deal about hackers and related issues. Those of you who have read Shirley Terkle's book. Second Self, and other books in that vein, will know that "the good hack" refers to an elegant, smart piece of work. Hackers are not criminals or trespassers--they are innovators, pushing the edge of whatever envelope they are in. "Crackers", by contrast, are vicious and destructive, perhaps juvenile and immature, electronic trespassers that give hackers a bad name. The hackers that I and Glenn know represent a source of power for this nation. Even crackers, if reformed, represent a source of talent that we cannot afford to ignore. We need a national policy and flexible attitudes on dealing with people who have out-distanced the ability of the law, and of law enforcement, to define proper boundaries. Forgive the long commercial--I take the time to lay this out because I think our information industry will self-destruct if we don't think of ways to give talented people the running room they need to be inventive. I hope that you will all approach Glenn and give him a sense of anything innovative which you are doing. All the money in the world will not buy you a seat at Hackers 9.0, But if Glenn likes what you are doing, you are guaranteed a very intense weekend--thank you, Glenn, for giving me that experience.

These people helped shape this symposium, and they are each substantive experts in their own right. Please take advantage of their presence and approach them individually as opportunity permits.

Now I wish to honor three individuals whom I consider unique.

13   The first, Stevan Dedijer, is a veteran of the Office of Strategic Services, a tried and true airborne veteran, and a professor, for now in Sweden, who has made extraordinary contributions to the theory and literature of competitive intelligence. The book on the table outside, about the privatization of intelligence and the development of corporate intelligence capabilities, is dedicated to Stevan. There is a form next to the book where--if you write in your name and address--you may be assured of receiving a copy and billing by mail. His biography is in with the speakers' biographies--I hope you will all read it and engage him in conversation during the breaks. Stevan, we are honored by your participation.

14   Next is George Marling, the god-father of open sources within the American intelligence community; since the early 1980's George has been working away steadily; getting the bureaucracy to understand the issues and the opportunities. Now with The MITRE Corporation, working in direct support of the Office of the Open Source Coordinator, George is finally seeing his early visions come alive. I chose not to establish an open source awards program this year, preferring to defer that responsibility to the Open Source Coordinator and the collective judgement of the Open Source Council, but if I were to give an award, George would get the first one. George works for and with Bill Ruh of mitre--one of our speakers--and I am very pleased that they have a display room full of things to show you. By taking George on, MITRE cornered the market on institutional memory.

15   Last, and certainly not least despite a more diminutive frame, is Diane Webb, a brilliant person whose efforts to develop the CATALYST project at CIA--Computer Aided Tools for the Analysis of Science and Technology--have made a lasting impression on me. The document she authored, and the pyramid of integrated functionality she created, still stand as the best all-source fusion station requirements document in existence. Now, lured away from government by ESL, she is working to bring CATALYST to market through the PROMETHIUS project. ESL also has a room to itself. Do not miss the opportunity to visit Diane and PROMETHIUS.

I will not embarrass our congressional staff or media guests by asking them to stand-- and, as you can imagine, with their responsibilities many of them will be slipping in and out over the next three days. They are easily identified by the green or yellow dots on their badges--green for the hill, yellow for media. When you get right down to it, they are the primary audience for this symposium. I urge each of you, when encountering congressional staff and media representatives during the breaks, to be aggressive and impart to them . whatever insights you feel would be helpful as they program funds for the fiscal year 1994 program and beyond in the case of congressional staff, or cover these issues for the public in the case of media.

[Administrative remarks deleted]

With that let me begin my official remarks. I tried to get Arthur Elias, author/editor of a marvelous little book, the Yearbook of the Information Industry, to take this slot, but he was--to my great disappointment--not available. I recommend the book, published by the National Federation of Abstracting and Information Services. It really covers all the bases in a very succinct and professional manner. I won't try to summarize this excellent work. Nor will I repeat any of the thinking I have already published. In volume I of the Proceedings you have a very fine selection of materials intended to stimulate discussion and your own papers for volume II of the Proceedings. I also included several of my published papers, and two working papers, as a means of pulling together in one place the only articles I know of that focus directly on what the intelligence community needs to do in the open source arena, and on how the intelligence community and the information industry might better support the

rest of government and the private sector as we all strive to improve national competitiveness.

Our speakers will have a great deal more to say about needs and trends, but there are few points I want to highlight:

On consumer needs: the military consumer in particular, but all government consumers as a rule, have made their needs clear: they want unclassified information that is timely, "good enough", and easy to share (i.E. No classification or handling restrictions).

I base this comment on direct experience. In 1988 it was my privilege to return to the Marine Corps as a civilian; as the Special Assistant to the Director, and Deputy Director; of the new USMC Intelligence Center at Quantico. Over the course of two years, in attempting to meet Marine Corps needs for basic encyclopedic intelligence about the Third World, including such details as those associated with bridge loading and tunnel clearance, I learned two things: that much of what we needed was not in the national (classified) databases because of decades of focusing exclusively on the Soviet Union; and that much of what we needed was in fact available from private sector sources.

It was this experience--reinforced by my participation in Technology Initiatives Game 1992, a superb effort sponsored by the U.S. Navy's Director of Test and Evaluation and Technology Requirements to test information handling concepts developed by the U.S. Navy's Director of Space and Electronic Warfare--which persuaded me that expeditionary/littoral operations, and particularly those dealing with humanitarian assistance missions to the Third World, could be relatively well served through the collection, processing, analysis, and dissemination of unclassified information: what we in national intelligence call "open sources". This was especially true in the case of threat support to acquisition, where strategic generalizations about conditions and threats could provide useful unclassified insights into how best to train, equip, and organize for future missions.

Regarding data changes: there is a positive trend and a negative trend. On the positive side, vastly more data is available for digitization, and multi-media data is electronically available. On the negative time, data management methods are antiquated, and no commitment to this area is being shown by government or the private sector. A national knowledge architecture, with international exchange agreements in all areas, is as urgent a national priority as strategic nuclear deterrence once was.

I am disappointed by the fact that the Clinton-Gore transition team does not have a cluster group person dedicated to the information arena. Leon Fuerth would be an obvious candidate for this enormously important position--the success of all the other cluster members will depend, in one way or the other, on whether or not the Clinton-Gore administration can get a handle on inter-agency information handling and establish effective means of exchanging unclassified information between government and the private sector. For this reason I believe it is essential that the transition team immediately establish a focal point for information policy without regard to functional or organizational boundaries.

On the positive side, I must say that the transition team appears to be focusing on these issues as a matter or course. Two of our speakers, Bob Kahn and John Gage, are heavily involved in supporting transition team thinking in this area. Others, including myself, are contributing to electronic calls for input which have gone out from the transition team to everyone on the network--to my knowledge this is the first incoming administration in history to include citizens in its transition process, and to do so via direct inter-active electronic links.

On technology changes: the hardware appears relatively stable and I agree with Dr. Negroponte from MIT that most of the hard problems have been cracked. I would however cite two that still concern me: emissions control remains beyond us; I am very concerned about the biological effects of electro-magnetic emissions; and we still don't have a lightweight reprogrammable antenna able to make reprogrammable mobile radios and computers truly reprogrammable. We need some radical changes in our concepts, doctrine, architecture, and applied technologies if we are to create an effective infrastructure for moving and handling vast amounts of multi-media information without burning out--literally-- the humans in the loop.

Major changes are occurring in software, and specifically software able to convert and fuse multi-media data. "Smart" software is coming along more slowly, in part because we have not been aggressive about debriefing "experts" and developing heuristics. We need to do much, much more in the area of knowledge base building, even if it means--as some have done so effectively in the signals environment--that we must capture hundreds of man-years of heuristics against the day when we can quickly convert these heuristics into exploitable software. Implicit in the rapid pace of technical change is a radical increase in the role of the private sector, as space-based collection becomes a commercial capability no longer dominated by government.

As long as we are talking about hardware, let me just point out that the best technology--and I will give you a hint, it is human--has been described by one wag as a cost-effective, durable, carbon-based, self-contained, self-propelled, non-automated, homeostatic intelligence collection platform that combines state-of-the-art analog/digital non-artificial intelligence with interactive realtime cross-cueing of onboard acoustic, optical, tactile, olfactory, and gustatory sensors. In other words, your mark I human being. I am very pleased to have with us my friends from E-2G, a unique English enterprise with global reach, and recommend you talk to them.

Organizational changes: the biggest change appears to be the trend toward the privatization of intelligence, and the availability of virtually any information desired from a private sector source. That is especially helpful now, as we attempt to transition from an intelligence community focused narrowly on a single major conventional threat, to one able to deal with a wide variety of non-traditional emerging threats.

In this vein, and to give emphasis to the value of privatized capabilities, let me

reiterate the distinction drawn by the former Commandant of the Marine Corps, General Alfred M. Gray, between conventional threats and emerging threats.

The conventional threat of the past has generally been associated with a specific government; consisted of conventional and nuclear "things" with relatively static orders of battle; developed new capabilities in a linear fashion--moving steadily from research to operational testing to fielding; accepted clear rules of engagement including easy to follow uniforms and equipment markings; followed a known doctrine; provided ample strategic warning; and been supported by relatively well marked intelligence assets.

The emerging threat, by contrast, is generally non-governmental; non-conventional in nature; dynamic or random in its emergence, lifespan, and actions; is non-linear in the development of its capabilities, buying or stealing what it needs when it needs it, and disposing of the equipment once utilized for a single mission; accepts no "conventions" or rules of engagement; has no known doctrine; is almost impossible to detect in time for warning of attack; and has an unlimited fifth column in the form of criminals, druggies, and plain scared citizens that will provide one time support in extremis.

In the face of such challenges, which include "passive" threats such as environmental degradation and non-military "attacks" on the environment by specific individuals and organizations, it is our task to develop proposals which integrate the strengths of the intelligence community with those of the information industry, and to develop specific strategic and operational plans for executing specific open source collection, processing, analysis, and dissemination initiatives in fiscal years 1994 and beyond. It is my belief that we cannot succeed in this effort if we do not broaden the consumer base for intelligence community products.

In particular, I believe we must re-think the role of the intelligence community in supporting the non-defense sectors of government, and the private sector. In most cases--for instance in providing greater support to the departments of agriculture, education, and transportation; and to the environmental protection agency--this translates into a requirement for increased emphasis on open source collection and unclassified intelligence production.

I do not believe we should be in the business of providing classified information to the private sector, even when we discover cases of foreign government subsidies or joint foreign government-private sector industrial espionage against domestic american enterprises. The world is too international--and ownership of enterprises too cloudy--to permit those judgements to be made with any consistency or justice.

I do believe that our Nation--and other nations--desperately require increased government investment in information technology, and in the collection, processing, analysis, and dissemination of unclassified multi-media, multi-lingual information. For too many years I have seen enormous waste in our collection of open sources, both in terms of what we capture and spill, and in terms of the vast quantities we do not capture; and also enormous

waste as each of our compartmented intelligence programs has attempted to develop the "ultimate" all source fusion workstation--each workstation developed in isolation from all others and the private sector, not because of their functionality, but because of the particular (and classified) information domain with which it was associated. This must stop.

Vice-president-elect Al Gore's National Research and Education Network initiative is a superb starting point from which to consider the establishment of an intelligence community network for receiving and disseminating unclassified information. We in the intelligence community have an obligation to support NREN by participating in an expanded version of this national information infrastructure.

It is our challenge to help establish standards, to help establish generic requirements, and to establish free exchanges of information--not only between the U.S. Government and its private sector, but also between different U.S. Government agencies, between the U.S. Government and foreign governments, and between U.S. and foreign enterprises and institutions. Every serious student of intelligence, and the leaders of the intelligence community, accepts the fact that intelligence "pipelines" are no longer affordable, and are in fact counterproductive to the creation of fused all-source intelligence. Unclassified information, and unrestricted networks, must become the "source of first resort" within the intelligence community, and the foundation for value-added fusion of classified imagery, signals, and clandestine human intelligence.

For those concerned about the "value" of information, the "security" of information, and the merits of concealing information for competitive advantage--my judgement is that it is far more advantageous to pursue a policy of openness than one of restriction. The value of information is such that one achieves excellence through handling more and more information quickly and effectively, not through attempting to hoard selected information.

This is nothing more than cybernetics 101. "Security" comes from being better at handling information than others, from having a shorter feedback loop, a more refined capability for informed action.

In this era of changing threats and circumstances, when "linear" forecasting is impossible as well as counter-productive, only the broadest possible sensor string, one which takes in multi-media multi-lingual information and disseminates it to the right person in the right format at the right time, can offer the kind of protection previously provided by highly technical, highly focused (and highly expensive) systems dedicated to a single "known" threat.

Open source information is the only kind of information that is cheap, flexible, and readily exchangeable among allies and private sector partners. It offers enormous returns on investment, both in terms of national security, and in terms of national competitiveness.

In this era of global warming, with increasing risks of global epidemics from

uncontrolled population growth and attendant disease; as we confront the realities of global environmental degradation, the re-tribalization of some once-sovereign nations, and other non-traditional threats, it is information--information as a substitute for violence, wealth, capital, labor, time, and space--that offers us each the opportunity to be competitive into the future. Being competitive is not an absolute "zero sum" game--because information is such an enormously powerful substitute for capital, labor, time, and space, being competitive through smart information policy can mean the achievement of prosperity without conflict.

There are two areas where I think the private sector can make a significant contribution.

First, the world-wide data entry problem is clearly beyond the government's ability. While the foreign broadcast information service has worked hard to meet needs in this area, I do not believe government can cover all the bases, and feel that there is a great does more that the private sector can accomplish in this area. In essence, I believe that the market for raw multi-media multi-lingual data is there, and that the private sector needs take on this challenge.

I also believe we have been seriously remiss in failing to put time and space tags on data as it is collected. Although print media offers some hooks, and even television, with its over-typed text for the hearing impaired is now "sortable" to an extent, I believe we need to develop more sophisticated means of labeling data in relation to the specific time and geographic location associated with both its content, and its genealogy. Data today generally does not have an understandable --that is to say--machine readable--time and space "context". Something to think about.

Let me share with you my perception of the bottom line: cybernetics, and the concept of the feedback loop, force us to come to grips with a basic fact, and it is this.

Classification of information, and attempts to restrict the dissemination of information, are inherently counter-productive because they slow the feedback loop to the point that the classified information is relatively useless in comparision to open source information that is timely and immediately disseminable through all available channels. The pendumlum has swung. Our warfighters, and I include our economic warriors, have made clear their belief that classified intelligence, with all its handling constraints, is too slow and too late in many instances, while at the same time establishing that unclassified information, while not perfect, is good enough and--I stress this--better than classified intelligence in many instances because of its timeliness and its flexibility, i.e. in dissemination.

Each of our speakers will help us understand this topic and its nuances. Each display has been carefully chosen to represent an aspect of the solution. Neither the agenda nor the displays are comprehensive or definitive. This symposium is but a first step, the foundation for a dialogue that must deepen and accelerate in the years ahead of us.

I am very pleased that each of you is participating in this, the first international symposium on "National Security & National Competiveness: Open Source Solutions". Thank you for joining us.

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