INFORMATION CONCEPTS & DOCTRINE FOR THE FUTURE

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Policy

♦ At the policy and decision-making level, the timeliness of communication and the manner of presentation is far more important than the content.

♦ The strategic objective of C^{4}I should be <u>productivity</u>--the optimization of knowledge, time, product mix, process mix, and organizational structure--all with the goal of getting the right information to the right person at the right time. Conceptualizing needed change in this arena is the first most important task for C^{4}I managers.

♦ The greatest threat to the value of information is information itself-- both the quantity of competing data, and the ease with which electronic data can be manipulated to deceive the viewer/reader.

♦ The information architecture must be global, decentralized, interactive, and based on a strong commitment to maximizing data entry. Any architecture which fails to meet these requirements is by definition constrained and deficient.

♦ Information based on data, and "intelligence" based on evaluated information, is of long-term value only when it is communicated to the right people in the right way at the right time, and as part of a long-term educational campaign with clear strategic objectives.

♦ The value of classified information drops dramatically with each increase in level of classification--the more classified the document, the more restricted the dissemination, the less useful the information.

♦ Information can be substituted for natural and capital resources-- fighting smarter may often conserve bullets, beans, and band-aids. Explaining this to national and defense resource managers is the second most important task of C^{4}I managers.

♦ Information is the "blood" of our complex public and private eco- system. Information handling systems must be developed which improve accountability, reduce requirements for bureaucracy, enhance

budgeting efficiency, facilitate change and adaptation, nurture cultural consensus, alter our organizational design, enable understanding of our multi-dimensional environments, and improve our decision-making.

People

♦ There is a significant disconnect between policy-makers and decision-makers who cannot define what and when they want to know something, and the data collectors and processors who--in the absence of guidance to the contrary--dump what they have on the consumer while failing to scan the full range of available information.

♦ There is no substitute for human insight in the intelligence profession. Intuition founded on experience and understanding are the "essence" of intelligence, and no amount of computer and communications equipment is going to replace that "essence". Intuition, however, can be drowned by noise, and that is where the tools come into play.

♦ How we handle information will impact directly on the quality of our people--the best people will go to those organizations that provide the best information handling tools. The best people will not tolerate an information-starvation diet, a marginal information technology architecture, or managers who do not understand that knowledge workers are partners and free spirits, not assembly line serfs.

♦ Mastery of information sources and information handling tools is going to become more important that mastery of a single domain area.

♦ Failures in information handling lead to human costs above and beyond drops in productivity. Burnout, divorce, suicide, and drug abuse are all symptoms of a system which refuses to invest in good tools, training, and management.

♦ Middle management has died in place. Instead of middle managers monitoring individual actions thorough a downward hierarchy, we need an information-smart upper management able to foster communication--authority is no longer downward--authority is situational, multi-dimensional, and must be earned by the manager.

♦ Knowledge workers, or "gold collar" workers, need work that is inherently information-rich and productive, management that provides real-time feedback, and opportunities for internal revitalization through continuous education.

Problems

◆ Besides the physical communication problem, finding enough bandwidth to move increasingly large amount of multi-media data, our greatest problem is the conceptual communication problem--managers and employees in all mission areas, including our own, who simply do not understand the changing nature of information and how it can and must be handled.

◆ The greatest obstacle to a global information architecture is the cost of data entry. The solution to this problem lies in a partnership with businesses and other nations, and increasing emphasis on unclassified information as the foundation for our encyclopedic databases.

◆ The next greatest obstacle to a global information architecture is the cost of global interactive retrieval across multiple levels of security. The solution to this problem lies in standardizing user interfaces within an advanced workstation package, relying heavily on unclassified sources of information to produce and disseminate unclassified products; and standardizing intelligence production at the SECRET level. Security will come from speed of exploitation, not from compartmentation and dissemination restrictions.

◆ The third greatest obstacle to a global information architecture is the lack of management emphasis on data policy and data management. Individuals are evaluated in terms of their actions and not in terms of their contribution to the over-all knowledge base. The solution to this problem lies in developing a means of evaluating and rewarding individual contributions to the over-all knowledge base--a paragraph accessed by thousands is worth more than a monograph skimmed by a handful of people.

◆ There are a number of information handling choke-points in the intelligence community:

    -- The requirements system is broken; the individual disciplines are not responsive to individual customers or ad hoc tasking below the national level

    -- Information overload, combined with information fragmentation, is preventing our work force from screening 80% of the available information, and results in mastery of less than 2% of the available information (informed speculation).

--   Incompatible reporting formats and data handling
      protocols render the 20% of the information that does
      reach our workforce from being useful to more than 2%
      of the workforce--the others don't have the electronic or
      security access they need.

--   This 2% of accessible data is further fragmented by
      differences in location and media--between Washington
      and different Embassies; between sections in the same
      organization or Embassy; and between different media
      such as hard-copy, electronic message, or micro-fiche.

◆   The two greatest challenges facing the intelligence community as it
     prepares for operations in the next century are:

--   Cultural unwillingness to recognize that structural change
      (including cross-agency restructuring) must be
      undertaken; and

--   Commensurate unwillingness to coordinate research &
      development expenditures to achieve generic information
      handling objectives apart from domain and compartment
      objectives

◆   Information handling progress responsive to needs of intelligence
     community must be made in the architectural, doctrinal, and technical
     arenas.

--   Architecturally we need a new paradigm--a completely
      new definition and approach to what information we
      need, how we handle it, and how it is delivered to the
      user.

--   Doctrinally we need to change our concept of C^4I to back
      away from system or command-driven approaches to
      information handling, while extending our architectural
      concept to integrate unanticipated short-term coalitions,
      media operations, C^4I oversight over weapons system
      design and employment concepts, new data requirements
      for precision targeting, unclassified data requirements for
      real-time and coalition or disaster relief operations, and a
      very broad understanding of needed developments in
      concealment, deception, covert communications, and
      "truth" validation.

--   Technically our short-term emphasis must be on processing and dissemination practices which provide for standardized transparent access to multi-media data at multiple levels of security. In the mid-term, exploitation of open sources and commercial capabilities must be addressed. In the long-term, world-wide electronic connectivity between individual citizens and their government analysts--the creation of a global knowledge network--should be our goal.

Future

♦   Over time, national intelligence must define itself less in terms of "secrets" and more in terms of actionable knowledge. National security must be defined less in terms of current intelligence about conventional threats, and more in terms of across-the-board understanding of "whole earth" relationships and imbalances requiring redress. National competitiveness must be defined less in terms of seeking competitive advantage without regard to external diseconomies, and more in terms of "value added" contributions to international knowledge exchanges which are by definition inexhaustible, convertible, and inherently constructive.

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