



(S//SI//REL) RT10: Getting Information to the Front Lines in Time to Make a Difference

FROM: Dr. James E. Heath, Director's Science Advisor
Unknown
Run Date: 04/18/2007

(S//SI//REL) NSAers: Have you heard about RT10? It is a very high-priority initiative at NSA right now, and has also attracted much attention elsewhere in the Intelligence Community - in fact, when the DNI visited the Agency recently, he specifically asked to be briefed on the topic.

(S//SI//REL) So what is it, exactly? The goal of RT10 is to get essential NSA cryptologic capabilities to the military front lines in a matter of seconds and minutes ("real-time"), not hours and days. These capabilities are essential to detecting threats and opportunities in time to make a difference. "RT" stands for "real-time," and "10" refers to reducing the time between collection and the generation of actionable intelligence an order of magnitude in each spin of the project.

(S//SI//REL) Designing Real-Time Capabilities for Iraq



(U) US soldiers force open door in Iraq. (Reuters)

(S//SI//REL) How can we achieve this goal? **The solution hinges upon forward-deploying systems (called National-Tactical Gateways, or NTG)** capable of rapidly storing very large volumes of collection for immediate evaluation. RT10's first priority was to stand up operations in Iraq, where agile adversaries communicate on heavily loaded commercial networks. Accordingly, a first-article RT10 National-Tactical Gateway was deployed to Baghdad, and it is now providing real-time SIGINT collection feeds and advanced analytical tools to front-line war-fighters.

(S//SI//REL) Before the start of NTG operations in Baghdad, war-fighters seeking access to data from in-theater national-level collection assets were required to connect to national databases at NSA-Washington. Because latencies associated with transmitting and ingesting collection into these national databases can sometimes reach several hours, war-fighters had little hope of consistently receiving timely information on their targets.

(S//SI//REL) Additionally, fragmented theater architectures and limited communications bandwidth resulted in large percentages of the data being filtered out. By contrast, because the Baghdad NTG is "local," it is positioned to absorb far greater volumes of collection than are customarily sent to NSA-Washington for storage and eventual retrieval. Collection that would otherwise have been discarded because it could not be directly linked to a known target is now subjected to analytic algorithms that can reveal new targets of interest. The NTG also absorbs in-theater tactical collection and makes it available to tactical and national-level analysts.

(U) Baghdad Environment: Sheer Volume of Communications

(S//SI//REL) In order to provide a comprehensive real-time view of the SIGINT environment in Baghdad (a population of roughly 4 to 5 million residents), an NTG must be able to ingest 100 million call events* per day, plus 1 million voice cuts** per day. In addition, it should be sized to ingest 100 million Digital Network Intelligence events per day. At this level of performance, **an NTG can reduce traditional SIGINT timelines from 1000 minutes to 1 minute**, an improvement of three orders of magnitude.

(U) Crucial Implications for the SIGINT System

(S//SI//REL) While the National-Tactical Gateway capability is an essential element of RT10, optimum real-time cryptologic performance can't be realized without improvements in other components of the SIGINT Enterprise. This is driving changes to NSA's collection, processing,

analysis and information-technology systems. It is also driving changes to the way NSA and its clients, particularly military ones, fuse their activities to outmaneuver threats to America or her interests.

(U) Next Steps

(S//SI//REL) It is expected that a second NTG will be deployed to Baghdad in June, and a third NTG will go to Afghanistan in August, 2007. With adequate funding, additional NTGs will be integrated into the remaining Combatant Commands by FY '08 or FY '09. Enhancements to component systems (collection, processing, etc.) will need to be completed in step with the NTG deployments.

(S//SI//REL) For more information about the NTG, see the [National-Tactical Gateway slide](#).

(U) Notes:

*(S//SI//REL) A "call event" refers to information **about** an intercepted phone call. This includes phone numbers and other metadata, such as time of call, duration of call, etc.

** (S//SI//REL) A "voice cut" is the **phone conversation itself** that is recorded and stored for future analysis.

(U//FOUO) *RT10 is an Agency program under the leadership of the Director's Science Advisor, Dr. James E. Heath.*

(U//FOUO) Do you have thoughts on this topic? Post them on the [SID today blog](#).

"(U//FOUO) SIDtoday articles may not be republished or reposted outside NSANet without the consent of S0121 ([DL sid comms](#))."
