



Doc ID: 6611740

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Research Initiatives



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22 December 2016

The overall classification of this briefing is:

Approved for Release by NSA on 02-22-2018

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Derived From: NSA/CSSM 1-52

Dated: 20130930

Declassify On: 20411201



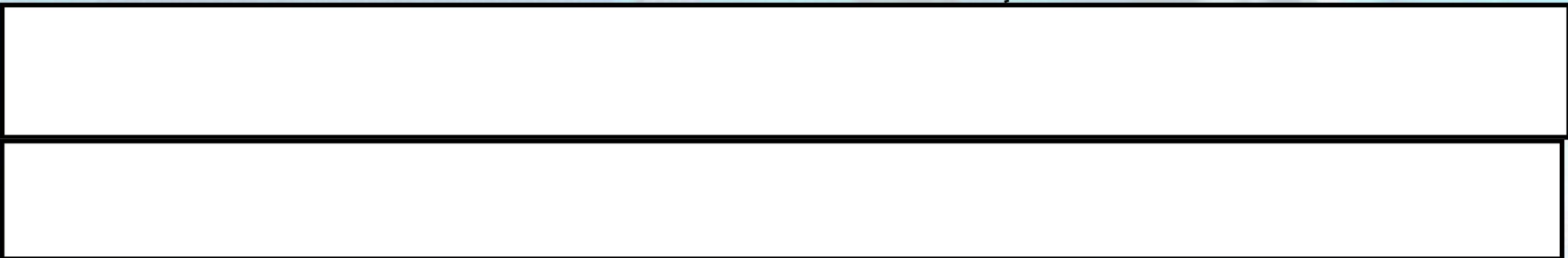
(U) Importance of R&D

(U) Critical to Mission Execution

- ~~(TS//NF)~~ **Produce bold technological advances** unknown to the rest of the world – we can create anticipatory advantage over adversaries
- ~~(U//FOUO)~~ **Enhance Effectiveness and Efficiency** via rapid scaling/leveraging of newer technologies – we accelerate integration for mission use
- ~~(U//FOUO)~~ **Transition ideas, perspectives, and technologies** across government and outside NSA – we drive national change

PL 86-36/50 USC 3605

(U) Strong NSA Commitment to Research



EO 1.4.(c)
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(U) Exemplar Research Investment Priorities: 2-6 Years to Fruition



- ~~(U//FOUO)~~ Analytic Research
 - Predictive analytics/anticipatory intelligence
 - Privacy/compliance sensitive methods
- ~~(C//REL TO USA, FVEY)~~ Crypto Math
 - Maintain superiority in code making and code breaking

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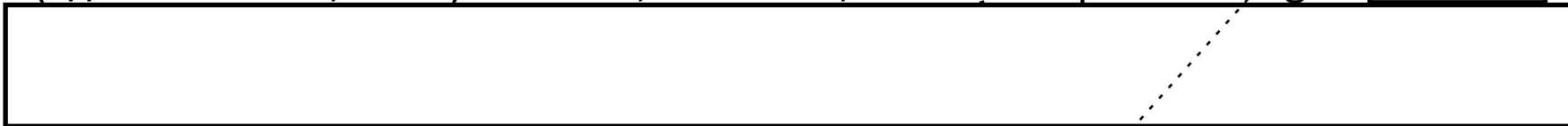




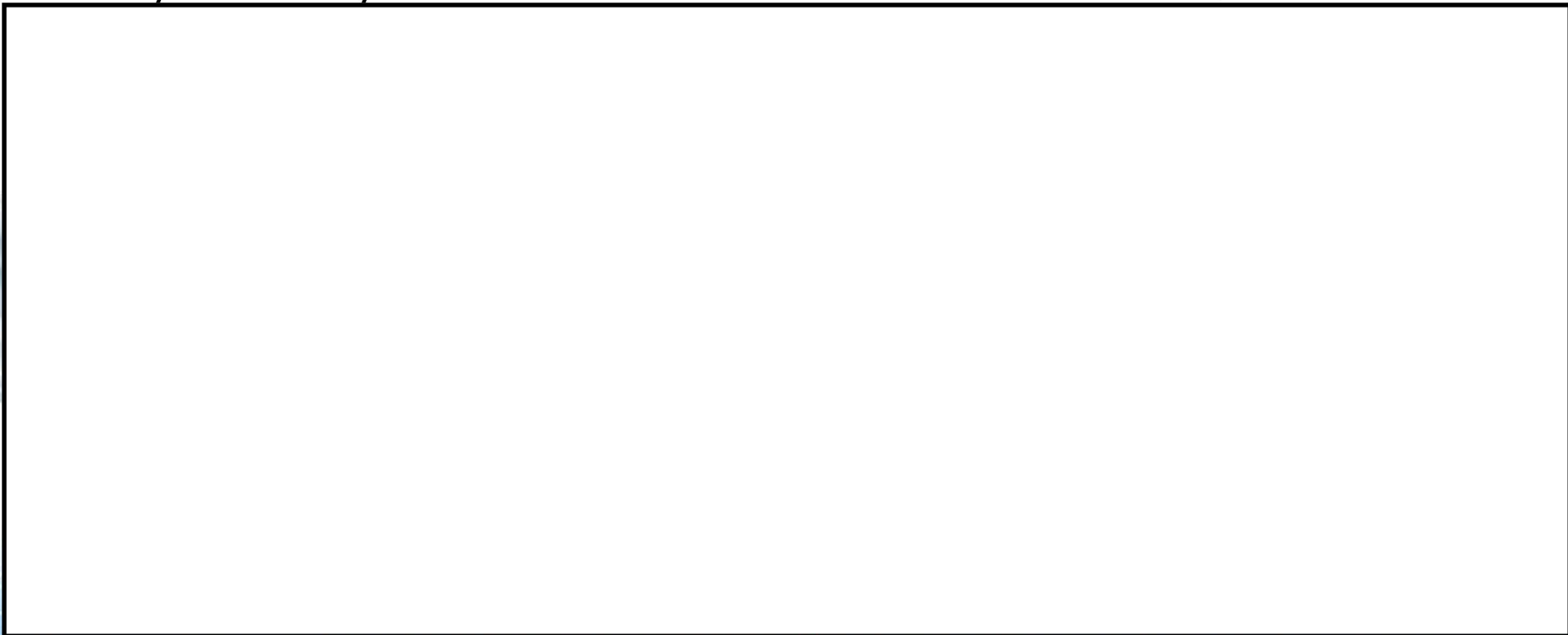
(U) High Performance Computing

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- ~~(S//REL TO USA, FVEY)~~ Invest in, influence, and develop technologies



- ~~(S//REL TO USA, FVEY)~~ Emphasis on cryptanalytic, data analytic, and cybersecurity outcomes



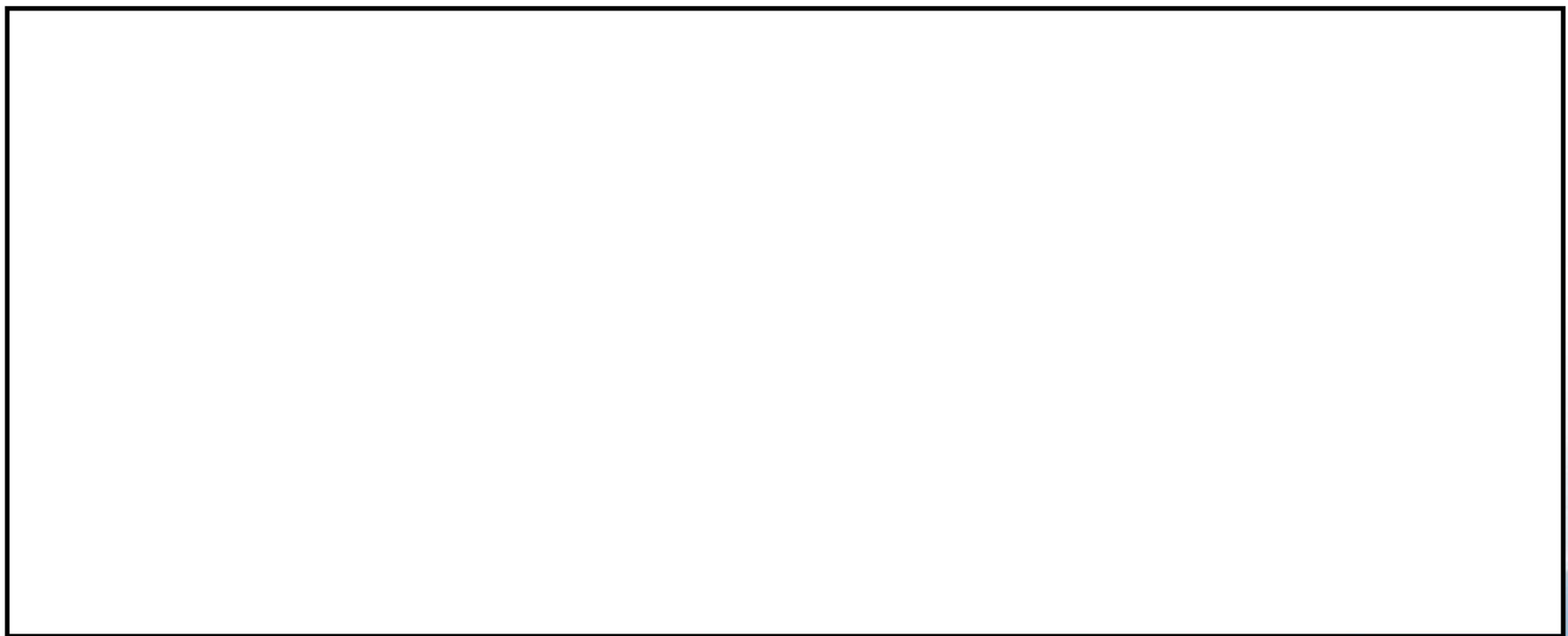
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(U//~~FOUO~~) Way Ahead



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- (U//~~FOUO~~) Fundamental Research (and Development) investments remain critical to the future of the IC.

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(U) Big Data Analysis

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(U) The Challenge

- (U) IC analysts need to address an increasingly skyrocketing volume and velocity of data in languages and across a gamut of media.

(U) Research Impact on Mission: Examples

- (U) Early NSA Research work on large data warehouses pre-dated advances in commercial capabilities.



(U) Research Approach

- (U) Enable Analysis
- (U) Create peta-scale data warehouses to store mission data coming in at increasing rates.
- (U) Create analytics to deal with data
 - Images & video
 - Speech & text
 - Geolocation data
 - Technical data (Tech SIGINT)
- (U) Create data correlation techniques to spot target behavior & emerging trends.
- (U) Create new approaches for visualizing complex information.

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(U) Projected Research Outcomes





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Questions?

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