

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Office of the Secretary Of Defense **Date:** February 2019

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303140D8Z I <i>Information Systems Security Program</i>
---	---

COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	38.455	19.074	17.899	67.631	-	67.631	56.355	55.655	10.857	10.857	Continuing	Continuing
140: <i>Information Systems Security Program</i>	38.455	19.074	17.899	67.631	-	67.631	56.355	55.655	10.857	10.857	Continuing	Continuing

Note

The FY2019 funding request was reduced by 2.133 million to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

The DoD CIO Information Systems Security Program (ISSP) provides for focused research, development, testing and integration of technology and technical solutions critical to the Defense Cybersecurity and Information (CS&IA) Assurance Program to meet the requirements of 10 USC 2224 (Defense Information Assurance Program), 44 USC 3544, (Federal Information Security Management Act of 2002), OMB Circular A-130, and DoD Directives/Instructions 8500, 8510, 8520, 8530, and 8540. This program is funded under Budget Activity 7, Operational System Development, because it integrates technology and technical solutions to the Defense CS&IA Program.

ISSP RDT&E funds support the DoD CIO and its mission partners: on architecting, engineering, and technical matters for developing governance processes and structures; on evolving and enabling a more integrated and synchronized Joint Information Environment (JIE) to provide the means for more integrated information sharing and collaboration that also endeavors to close identified gaps across all mission areas with a shared network of core enterprise services; on the continued development of the U.S. Government’s ability to prevent and defend against adversarial and/or commercial information and communications technology supply-chain attacks on its mission critical systems, networks, and devices; on improving oversight of the life-cycle management of cybersecurity risks; and on the integration of cybersecurity standards, methods, and procedures across the DoD for a more robust and resilient cybersecurity posture.

As specified below, the DoD CIO’s investments in: the information assurance scholarship program; the integration of policies with the risk management framework to strengthen cybersecurity controls; cyber secure cloud computing; inclusion of cybersecurity considerations in hardware, software, and firmware early in the acquisition life-cycle; and analyses to develop artificial intelligence (AI) and machine learning to model network behavior, improve cyber threat detection, and transform information security – these investments all directly support the National Defense Strategy affirmed need to continue to modernize our capabilities in resilient cyber defenses, in artificial intelligence and machine learning, and the cultivation and development of workforce expertise in cybersecurity and information assurance to improve cyber capabilities across all military operations and support domains.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Office of the Secretary Of Defense **Date:** February 2019

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303140D8Z / <i>Information Systems Security Program</i>
---	---

B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	9.415	7.940	11.631	-	11.631
Current President's Budget	19.074	17.899	67.631	-	67.631
Total Adjustments	9.659	9.959	56.000	-	56.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	10.000	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.323	-			
• FFRDC Reduction	-0.018	-0.041	-	-	-
• Classified Add	-	-	56.000	-	56.000

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 140: *Information Systems Security Program*

Congressional Add: *Information Assurance Scholarship Program*

	FY 2018	FY 2019
Congressional Add Subtotals for Project: 140	10.000	10.000
Congressional Add Totals for all Projects	10.000	10.000

Change Summary Explanation

FY 2018: Congressional Add Information Assurance Scholarship Program 10.000 million, FFRDC reduction -0.018 million, SIBR/STTR Reduction -0.323 million.

FY 2019: FFRDC Reduction -0.041 million.

FY 2020: Classified Increase 56.000 Million.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense										Date: February 2019		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0303140D8Z / <i>Information Systems Security Program</i>				Project (Number/Name) 140 / <i>Information Systems Security Program</i>			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
140: <i>Information Systems Security Program</i>	38.455	19.074	17.899	67.631	-	67.631	56.355	55.655	10.857	10.857	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The DoD CIO Information Systems Security Program (ISSP) provides for focused research, development, testing and integration of technology and technical solutions critical to the Defense Cybersecurity and Information (CS&IA) Assurance Program to meet the requirements of 10 USC 2224 (Defense Information Assurance Program), 44 USC 3544, (Federal Information Security Management Act of 2002), OMB Circular A-130, and DoD Directives/Instructions 8500, 8510, 8520, 8530, and 8540. This program is funded under Budget Activity 7, Operational System Development, because it integrates technology and technical solutions to the Defense CS&IA Program.

ISSP RDT&E funds support the DoD CIO and its mission partners: on architecting, engineering, and technical matters for developing governance processes and structures; on evolving and enabling a more integrated and synchronized Joint Information Environment (JIE) to provide the means for more integrated information sharing and collaboration that also endeavors to close identified gaps across all mission areas with a shared network of core enterprise services; on the continued development of the U.S. Government’s ability to prevent and defend against adversarial and/or commercial information and communications technology supply-chain attacks on its mission critical systems, networks, and devices; on improving oversight of the life-cycle management of cybersecurity risks; and on the integration of cybersecurity standards, methods, and procedures across the DoD for a more robust and resilient cybersecurity posture.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2018	FY 2019	FY 2020
Title: Information Systems Security Program Plans and Accomplishments	9.074	7.899	67.631
FY 2019 Plans:			
<ul style="list-style-type: none"> • Support analyses on various aspects of cybersecurity for cloud-based computing for the DoD, analyses and refinement of applicable risk factors, and continual refinement of mitigation controls as part of the risk management framework regime in support of DoD CIO’s goal of accelerating the adoption of cloud computing within the department. Robust and comprehensive Cloud Risk Management will assist the DoD community b addressing security requirements for systems transitioning to the commercial cloud. • Continued support for the DoD Information Assurance Scholarship Program (IASP), providing resourcing for scholarships for current students and recruitment of new students • Continue refinement and integration of policies with the risk management framework (RMF), supportive standards, guidance, efficiency in application of controls, and web-based processes to strengthen controls and protections for information systems. • Continue to improve mission assurance, mitigation analyses, and vulnerability detection (hardware and software testing) for acquisitions to build-in cybersecurity early (i.e., cybersecurity built in vice bolted on), especially key acquisition programs-of-record 			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140D8Z / <i>Information Systems Security Program</i>	Project (Number/Name) 140 / <i>Information Systems Security Program</i>

B. Accomplishments/Planned Programs (\$ in Millions)

(i.e., Major Automated Information Systems; Major Defense Acquisition Programs, and other special interest developmental and acquisition activities). Investments include Program Protection, Systems Engineering, and Acquisition standards.

- Continue to develop and refine policies to support strategies for acquisition program protection and oversight. Develop strategies, standards, and tools to address supply chain risk management, and continue to collaborate with private industry for commercially acceptable global sourcing and supply chain standards.
- Continue to evaluate cyber activities for more efficient mitigation investment decisions, to include metrics focused on the cybersecurity domain, and support for policy development and refinement, policy oversight and formulation of programmatic advice, and participation in various collaborative advisory and governance bodies.
- Continue development and engineering support for critical Joint Information architectures, C4I tactical networks, coalition, and mission partner's networks. Support includes implementing the joint information environment single security architecture and strategy, related metrics, analyses, Joint Information Environment Single Security Architecture (SSA) policies, architectures, and capabilities to ensure best value architectural decisions are made early to affect the most impact, while increasing mission and security for the entire DoD enterprise.
- Continue to develop and implement strategies for successful defenses and operations in the event of sophisticated cyber adversaries and large-scale cyber incidents, to include threat-based system-security-engineering efforts and development of critical design artifacts (threat analyses, risk analyses, system-of- system-security architectures), having demonstrated applications to space systems and mission partner environment (MPE).
- Continue to develop, publish, and refine DoD mobility strategy, processes for use of commercial Cloud providers, Cloud security guidance and procedures for use by potential commercial Cloud service providers, and continued oversight of policies and capabilities to support comprehensive cybersecurity capability for the Joint Information Environment (JIE).

FY 2020 Plans:

\$56.000 million: Classified Add

\$11.631 million:

- Support analyses that would develop artificial intelligence (AI) and machine learning to model network behavior and improve cyber threat detection, and AI capabilities that would enhance and potentially transform information security.

FY 2018	FY 2019	FY 2020

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140D8Z / <i>Information Systems Security Program</i>	Project (Number/Name) 140 / <i>Information Systems Security Program</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2018	FY 2019	FY 2020
<ul style="list-style-type: none"> • Continue to develop and refine policies to support strategies for acquisition program protection and oversight. Develop strategies, standards, and tools to address supply chain risk management, and continue to collaborate with private industry for commercially acceptable global sourcing and supply chain standards. • Continue to evaluate cyber activities for more efficient mitigation investment decisions, to include metrics focused on the cybersecurity domain, and support for policy development and refinement, policy oversight and formulation of programmatic advice, and participation in various collaborative advisory and governance bodies. • Accelerate the means for use of commercial Cloud providers, related Cloud security guidance and procedures by commercial Cloud service providers, and continued refinement and oversight of policies and capabilities to support comprehensive cybersecurity capability for secure mobility processes in the Joint Information Environment. • Continue development and engineering support for critical Joint Information architectures, C4I tactical networks, coalition, and mission partner's networks. Support includes implementing the joint information environment single security architecture and strategy, related metrics, analyses, Joint Information Environment Single Security Architecture (SSA) policies, architectures, and capabilities to ensure best value architectural decisions are made early to affect the most impact, while increasing mission and security for the entire DoD enterprise. • Continue to develop and implement strategies for successful defenses and operations in the event of sophisticated cyber adversaries and large-scale cyber incidents, to include threat-based system-security-engineering efforts and development of critical design artifacts (threat analyses, risk analyses, system-of- system-security architectures), having demonstrated applications to space systems and mission partner environment (MPE). • Support analyses on various aspects of cybersecurity for cloud-based computing for the DoD, applicable risk factors, and continual refinement of mitigation controls as part of the risk management framework regime in support of DoD CIO's goal of accelerating the adoption of cloud computing within the department. Robust and comprehensive Cloud Risk Management will assist the DoD community with addressing security requirements for systems transitioning to the commercial cloud. • Continue refinement and integration of policies with the risk management framework (RMF), supportive standards, guidance, efficiencies, and web-based processes to strengthen controls and protections for information systems. • Continue to improve mission assurance, mitigation analyses, and vulnerability detection (hardware and software testing) for acquisitions to build-in cybersecurity early (i.e., cybersecurity built in vice bolted on), especially key acquisition programs-of-record 			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140D8Z / Information Systems Security Program	Project (Number/Name) 140 / Information Systems Security Program

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2018	FY 2019	FY 2020
(i.e., Major Automated Information Systems; Major Defense Acquisition Programs, and other special interest developmental and acquisition activities). Investments include Program Protection, Systems Engineering, and Acquisition standards.			
FY 2019 to FY 2020 Increase/Decrease Statement: The FY2019 funding request was reduced to account for the availability of prior year execution balances. The funding was re-phased in FY2020 and FY2021. FY2020 \$56.000 classified add.			
Accomplishments/Planned Programs Subtotals	9.074	7.899	67.631

	FY 2018	FY 2019
Congressional Add: Information Assurance Scholarship Program	10.000	10.000
FY 2018 Accomplishments: Information Assurance Scholarship Program		
FY 2019 Plans: Information Assurance Scholarship Program		
Congressional Adds Subtotals	10.000	10.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• 0303140D8Z O&M DW: Information System Security Program	14.294	16.033	9.809	-	9.809	10.029	10.199	10.402	10.658	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

- Annual FISMA metrics
- Evolving JIE cybersecurity metrics

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Office of the Secretary Of Defense **Date:** February 2019

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140D8Z / <i>Information Systems Security Program</i>	Project (Number/Name) 140 / <i>Information Systems Security Program</i>
--	---	---

Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analysis	Option/ Various	Various : Various	1.756	0.911	Jul 2018	0.936	Jul 2019	1.962	Jul 2020	-		1.962	Continuing	Continuing	-
Technical Engineering Services	Option/ Various	Various : Various	15.970	7.187	Jul 2018	6.580	Jul 2019	56.000	Jul 2020	-		56.000	Continuing	Continuing	-
Services Support	Option/ Various	Various : Various	1.086	10.000	Jul 2018	10.000	Jul 2019	0.194	Jul 2020	-		0.194	Continuing	Continuing	-
Subtotal			18.812	18.098		17.516		58.156		-		58.156	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Option/ Various	Various : Various	1.173	0.508	Jul 2018	0.155	Jul 2019	0.394	Jul 2020	-		0.394	Continuing	Continuing	-
Engineering Support	Option/ Various	Various : Various	12.520	0.200	Jul 2018	0.100	Jul 2019	6.923	Jul 2020	-		6.923	Continuing	Continuing	-
Research & Development	Option/ Various	Various : Various	5.950	0.268	Jul 2018	0.128	Jul 2019	2.158	Jul 2020	-		2.158	Continuing	Continuing	-
Subtotal			19.643	0.976		0.383		9.475		-		9.475	Continuing	Continuing	N/A

Remarks
NA

	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	38.455	19.074	17.899	67.631	-	67.631	Continuing	Continuing	N/A

Remarks
NA

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140D8Z / <i>Information Systems Security Program</i>	Project (Number/Name) 140 / <i>Information Systems Security Program</i>

R4
PE: 0303140D8Z/ *Information Systems Security Program*

Funding supports focused research, development, testing and integration of technology and technical solutions critical to the Defense Information Assurance Program (10 USC 2224) through pilot programs and technology demonstration; investment in high leverage, near-term programs that offer immediate Information Assurance (IA) benefit.

	10/1/2018	10/1/2019	10/1/2020	10/1/2021	10/1/2022	10/1/2023	10/1/2024	10/1/2025
FY2018 Program Execution	Yellow	Yellow						
FY2019 Program Execution		Yellow	Yellow					
FY2020 Program Execution			Yellow	Yellow				
FY2021 Program Execution				Yellow	Yellow			
FY2022 Program Execution					Yellow	Yellow		
FY2023 Program Execution						Yellow	Yellow	
FY2024 Program Execution							Yellow	Yellow

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140D8Z / <i>Information Systems Security Program</i>	Project (Number/Name) 140 / <i>Information Systems Security Program</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
*** SUBPROJECT TITLE ***				
FY 2019 Projected Execution	1	2019	2	2020
FY 2020 Projected Execution	1	2020	2	2021
FY 2021 Projected Execution	1	2021	2	2022
FY 2022 Projected Execution	1	2022	2	2023
FY 2023 Projected Execution	1	2023	2	2024