

Calendar No. 580

117TH CONGRESS 2D SESSION S. 4908

[Report No. 117-223]

To improve the visibility, accountability, and oversight of agency software asset management practices, and for other purposes.

IN THE SENATE OF THE UNITED STATES

September 21, 2022

Mr. Peters (for himself, Mr. Cassidy, Mr. Hagerty, and Mr. Tillis) introduced the following bill; which was read twice and referred to the Committee on Homeland Security and Governmental Affairs

DECEMBER 5, 2022

Reported by Mr. Peters, with an amendment

[Strike out all after the enacting clause and insert the part printed in italic]

A BILL

- To improve the visibility, accountability, and oversight of agency software asset management practices, and for other purposes.
 - 1 Be it enacted by the Senate and House of Representa-
 - 2 tives of the United States of America in Congress assembled,
 - 3 SECTION 1. SHORT TITLE.
 - 4 This Act may be cited as the "Strengthening Agency
 - 5 Management and Oversight of Software Assets Act".

1 **SEC. 2. DEFINITIONS.**

2	In this Act:
3	(1) Administrator.—The term "Adminis
4	trator" means the Administrator of General Serv-
5	ices.
6	(2) AGENCY.—The term "agency" has the
7	meaning given the term "establishment" in section
8	12 of the Inspector General Act of 1978 (5 U.S.C.
9	App.).
10	(3) CLOUD COMPUTING.—The term "cloud
11	computing" has the meaning given the term in Spe-
12	cial Publication 800–145 of the National Institute of
13	Standards and Technology, or any successor docu-
14	ment.
15	(4) CLOUD SERVICE PROVIDER.—The term
16	"cloud service provider" means an entity offering
17	eloud computing products or services to agencies.
18	(5) Comprehensive assessment.—The term
19	"comprehensive assessment" means a comprehensive
20	assessment conducted pursuant to section 3(a).
21	(6) DIRECTOR.—The term "Director" means
22	the Director of the Office of Management and Budg-
23	et.
24	(7) PLAN.—The term "plan" means the plan
25	developed by a Chief Information Officer, or equiva-

lent official, pursuant to section 4(a).

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1	(8) SOFTWARE ENTITLEMENT.—The term
2	"software entitlement" means any software that—
3	(A) has been purchased, leased, or licensed
4	by or billed to an agency under any contract or
5	other business arrangement; and
6	(B) is subject to use limitations.
7	(9) Software inventory.—The term "soft-
8	ware inventory" means the software inventory of an
9	agency required pursuant to—
10	(A) section 2(b)(2)(A) of the Making Elec-
11	tronic Government Accountable By Yielding
12	Tangible Efficiencies Act of 2016 (40 U.S.C.
13	11302 note; Public Law 114-210); or
14	(B) subsequent guidance issued by the Di-
15	rector of the Office of Management and Budget
16	pursuant to that Act.
17	SEC. 3. SOFTWARE ENTITLEMENT AND INVENTORY INTEG-
18	RITY.
19	(a) In General.—As soon as practicable, and not
20	later than 1 year after the date of enactment of this Act,
21	the Chief Information Officer of each agency, in consulta-
22	tion with the Chief Financial Officer, the Chief Procure-
23	ment Officer, and General Counsel of the agency, or the
24	equivalent officials of the agency, shall complete a com-

1	prehensive assessment of the software entitlements and
2	software inventories of the agency, which shall include—
3	(1) the current software inventory of the agen-
4	ey, including software entitlements, contracts and
5	other agreements or arrangements of the agency,
6	and a list of the largest software entitlements of the
7	agency separated by vendor;
8	(2) a comprehensive, detailed accounting of—
9	(A) any software deployed for the agency
10	as of the date of the comprehensive assessment,
11	including, to the extent identifiable, the con-
12	tracts and other agreements or arrangements
13	that the agency uses to acquire, deploy, or use
14	such software;
15	(B) information and data on software enti-
16	tlements—
17	(i) for which the agency pays;
18	(ii) that are not deployed or in use by
19	the agency; and
20	(iii) that are billed to the agency
21	under any contract or business arrange-
22	ment that creates redundancy in the de-
23	ployment or use by the agency; and
24	(C) the extent—

1	(i) to which any software paid for, in
2	use, or deployed throughout the agency is
3	interoperable; and
4	(ii) of the efforts of the agency to im-
5	prove interoperability of software assets
6	throughout the agency enterprise;
7	(3) a categorization of software licenses of the
8	agency by costs and volume;
9	(4) a list of any provisions in the software li-
10	censes of the agency that may restrict how the soft-
11	ware can be deployed or accessed, either on desktop
12	or server hardware or through a cloud service pro-
13	vider; and
14	(5) an analysis addressing—
15	(A) the accuracy and completeness of the
16	software inventory and software entitlements of
17	the agency before and after the comprehensive
18	assessment;
19	(B) management by the agency of and
20	compliance by the agency with all contracts or
21	other agreements or arrangements that include
22	or implicate software licensing or software man-
23	agement within the agency;

1	(C) the extent to which the agency accu-
2	rately captures the total costs of enterprise li-
3	censes agreements and related costs; and
4	(D) compliance with software license man-
5	agement policies of the agency.
6	(b) Contract Support.—
7	(1) AUTHORITY.—The head of an agency may
8	enter into 1 or more contracts to support the re-
9	quirements of subsection (a).
10	(2) No conflict of interest.—Contracts
11	under paragraph (1) shall not include contractors
12	with organization conflicts of interest.
13	(3) OPERATIONAL INDEPENDENCE.—Over the
14	course of a comprehensive assessment, contractors
15	hired pursuant to paragraph (1) shall maintain oper-
16	ational independence from the integration, manage-
17	ment, and operations of the software inventory and
18	software entitlements of the agency.
19	(c) Submission.—On the date on which the Chief In-
20	formation Officer, Chief Financial Officer, Chief Procure-
21	ment Officer, and General Counsel of an agency, or the
22	equivalent officials of the agency, complete the comprehen-
23	sive assessment, and not later than 1 year after the date
24	of enactment of this Act, the Chief Information Officer
25	shall submit the comprehensive assessment to—

1	(1) the head of the agency;
2	(2) the Director;
3	(3) the Administrator;
4	(4) the Comptroller General of the United
5	States;
6	(5) the Committee on Homeland Security and
7	Governmental Affairs of the Senate; and
8	(6) the Committee on Oversight and Reform of
9	the House of Representatives.
10	(d) Consultation.—In order to ensure the utility
11	and standardization of the comprehensive assessment of
12	each agency, including to support the development of each
13	plan and the Government-wide strategy described in sec-
14	tion 5, the Director, in consultation with the Adminis-
15	trator, may share information, best practices, and rec-
16	ommendations relating to the activities performed in the
17	course of a comprehensive assessment of an agency.
18	SEC. 4. ENTERPRISE LICENSING POSITIONING AT AGEN-
19	CIES.
20	(a) In General.—The Chief Information Officer of
21	each agency, in consultation with the Chief Financial Offi-
22	cer and the Chief Procurement Officer of the agency, or
23	the equivalent officials of the agency, shall use the infor-
24	mation developed pursuant to the comprehensive assess-

1	ment of the agency under section 3(a) to develop a plan
2	for the agency to—
3	(1) consolidate software licenses of the agency;
4	and
5	(2) to the greatest extent practicable, in order
6	to improve the performance of, or reduce unneces-
7	sary costs to, the agency, adopt enterprise license
8	agreements across the agency.
9	(b) PLAN REQUIREMENTS.—The plan of an agency
10	shall—
11	(1) include a detailed strategy for—
12	(A) the remediation of any software asset
13	management deficiencies found during the com-
14	prehensive assessment of the agency;
15	(B) the ongoing maintenance of software
16	asset management upon the completion of the
17	remediation; and
18	(C) maximizing the effectiveness of soft-
19	ware deployed by the agency, including, to the
20	extent practicable, leveraging technologies
21	that—
22	(i) provide in-depth analysis of user
23	behaviors and collect user feedback:

1	(ii) measure actual software usage via
2	analytics that can identify inefficiencies to
3	assist in rationalizing software spending;
4	(iii) allow for segmentation of the user
5	base; and
6	(iv) support effective governance and
7	compliance in the use of software;
8	(2) identify not fewer than 5 categories of soft-
9	ware the agency will prioritize for conversion to en-
10	terprise licenses as the software entitlements, con-
11	tracts, and other agreements or arrangements for
12	those categories come up for renewal or renegoti-
13	ation;
14	(3) provide an estimate of the costs to move to
15	enterprise, open-source, or other licenses that do not
16	restrict the use of software by the agency, and any
17	projected cost savings or efficiency measures;
18	(4) identify potential mitigations to minimize
19	software license restrictions on how such software
20	ean be deployed or accessed, either on desktop or
21	server hardware or through a cloud service provider
22	(5) include any estimates for additional re-
23	sources, services, or support the agency may need to
24	execute the enterprise licensing position plan; and

- 1 (6) include any additional information, data, or
- 2 analysis determined necessary by the Chief Informa-
- 3 tion Officer, or other equivalent official, of the agen-
- 4 cy.
- 5 (e) Support.—The Chief Information Officer, or
- 6 other equivalent official, of an agency may request support
- 7 from the Director and the Administrator for any analysis
- 8 or developmental needs to create the plan of the agency.
- 9 (d) Submission.—Not later than 120 days after the
- 10 date on which the Chief Information Officer, or other
- 11 equivalent official, of an agency submits the comprehen-
- 12 sive assessment pursuant to section 3(e), the head of the
- 13 agency shall submit to the Director, the Committee on
- 14 Homeland Security and Governmental Affairs of the Sen-
- 15 ate, and the Committee on Oversight and Reform of the
- 16 House of Representatives the plan of the agency.

17 SEC. 5. GOVERNMENT-WIDE STRATEGY.

- 18 (a) In General.—Not later than 2 years after the
- 19 date of enactment of this Act, the Director, in consultation
- 20 with the Administrator and the Federal Chief Information
- 21 Officers Council, shall submit to the Committee on Home-
- 22 land Security and Governmental Affairs of the Senate and
- 23 the Committee on Oversight and Reform of the House of
- 24 Representatives a strategy that includes—

- (1) proposals to support the adoption of Government-wide enterprise licenses on the most widely used and most costly software entitlements identified through the comprehensive assessment and plans, including, where appropriate, a cost-benefit analysis;
- (2) opportunities to leverage Government procurement policies and practices to increase interoperability of software entitlements acquired and deployed to reduce costs and improve performance;
- (3) the incorporation of data on spending by agencies on, the performance of, and management by agencies of software entitlements as part of the information required under section 11302(c)(3)(B) of title 40, United States Code;
- (4) where applicable, directions to agencies to transition to open-source software to obtain cost savings and performance improvement; and
- (5) any other information or data collected or analyzed by the Director.

20 (b) Budget Submission.—

(1) FIRST BUDGET. With respect to the first budget of the President submitted under section 1105(a) of title 31, United States Code, on or after the date that is 2 years after the date of enactment of this Act, the Director shall ensure that the strat-

egy required under subsection (a) of this section and the plan of each agency are included in the budget justification materials of each agency submitted in conjunction with that budget.

(2) Subsequent 5 Budgets.—With respect to the first 5 budgets of the President submitted under section 1105(a) of title 31, United States Code, after the budget described in paragraph (1), the Director shall—

(A) designate performance metrics for agencies for common software licensing, management, and cost criteria; and

(B) ensure that the progress of each ageney toward the performance metrics is included
in the budget justification materials of the
agency submitted in conjunction with that
budget.

18 SEC. 6. GAO REPORT.

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Not later than 3 years after the date of enactment of this Act, the Comptroller General of the United States shall submit to the Committee on Homeland Security and Covernmental Affairs of the Senate and the Committee on Oversight and Reform of the House of Representatives a report on Government-wide trends, comparisons among agencies, and other analyses of plans and the strategy re-

1	quired under section 5(a) by the Comptroller General of
2	the United States.
3	SECTION 1. SHORT TITLE.
4	This Act may be cited as the "Strengthening Agency
5	Management and Oversight of Software Assets Act".
6	SEC. 2. DEFINITIONS.
7	In this Act:
8	(1) Administrator.—The term "Adminis-
9	trator" means the Administrator of General Services.
10	(2) AGENCY.—The term "agency" has the mean-
11	ing given the term "establishment" in section 12 of
12	the Inspector General Act of 1978 (5 U.S.C. App.).
13	(3) CLOUD COMPUTING.—The term "cloud com-
14	puting" has the meaning given the term in Special
15	Publication 800–145 of the National Institute of
16	Standards and Technology, or any successor docu-
17	ment.
18	(4) CLOUD SERVICE PROVIDER.—The term
19	"cloud service provider" means an entity offering
20	cloud computing products or services to agencies.
21	(5) Comprehensive assessment.—The term
22	"comprehensive assessment" means a comprehensive
23	assessment conducted pursuant to section $3(a)$.
24	(6) Director.—The term "Director" means the
25	Director of the Office of Management and Budget.

1	(7) Plan.—The term "plan" means the plan de-
2	veloped by a Chief Information Officer, or equivalent
3	official, pursuant to section 4(a).
4	(8) Software entitlement.—The term "soft-
5	ware entitlement" means any software that—
6	(A) has been purchased, leased, or licensed
7	by or billed to an agency under any contract or
8	other business arrangement; and
9	(B) is subject to use limitations.
10	(9) Software inventory.—The term "software
11	inventory" means the software inventory of an agency
12	required pursuant to—
13	(A) section $2(b)(2)(A)$ of the Making Elec-
14	tronic Government Accountable By Yielding
15	Tangible Efficiencies Act of 2016 (40 U.S.C.
16	11302 note; Public Law 114–210); or
17	(B) subsequent guidance issued by the Di-
18	rector pursuant to that Act.
19	SEC. 3. SOFTWARE ENTITLEMENT AND INVENTORY INTEG-
20	RITY.
21	(a) In General.—As soon as practicable, and not
22	later than 1 year after the date of enactment of this Act,
23	the Chief Information Officer of each agency, in consulta-
24	tion with the Chief Financial Officer, the Chief Procure-
25	ment Officer, and General Counsel of the agency, or the

1	equivalent officials of the agency, shall complete a com-
2	prehensive assessment of the software entitlements and soft-
3	ware inventories of the agency, which shall include—
4	(1) the current software inventory of the agency,
5	including software entitlements, contracts and other
6	agreements or arrangements of the agency, and a list
7	of the largest software entitlements of the agency sepa-
8	rated by vendor and category of software;
9	(2) a comprehensive, detailed accounting of—
10	(A) any software deployed for the agency as
11	of the date of the comprehensive assessment, in-
12	cluding, to the extent identifiable, the contracts
13	and other agreements or arrangements that the
14	agency uses to acquire, deploy, or use such soft-
15	ware;
16	(B) information and data on software enti-
17	tlements, which shall include information on any
18	additional fees or costs for the use of cloud serv-
19	ices that is not included in the initial costs of the
20	contract, agreement, or arrangement—
21	(i) for which the agency pays;
22	(ii) that are not deployed or in use by
23	the agency; and
24	(iii) that are billed to the agency under
25	any contract or business arrangement that

1	creates redundancy in the deployment or
2	use by the agency; and
3	(C) the extent—
4	(i) to which any software paid for, in
5	use, or deployed throughout the agency is
6	interoperable; and
7	(ii) of the efforts of the agency to im-
8	prove interoperability of software assets
9	throughout the agency enterprise;
10	(3) a categorization of software licenses of the
11	agency by cost, volume, and type of software;
12	(4) a list of any provisions in the software li-
13	censes of the agency that may restrict how the soft-
14	ware can be deployed, accessed, or used, including
15	any such restrictions on desktop or server hardware
16	or through a cloud service provider; and
17	(5) an analysis addressing—
18	(A) the accuracy and completeness of the
19	software inventory and software entitlements of
20	the agency before and after the comprehensive as-
21	sessment;
22	(B) management by the agency of and com-
23	pliance by the agency with all contracts or other
24	agreements or arrangements that include or im-

plicate software licensing or software manage-						
ment within the agency;						
(C) the extent to which the agency accu-						
rately captures the total cost of enterprise li-						
censes agreements and related costs, including						
the total cost of upgrades over the life of a con						
tract, cloud usage cost per user, and any other						
cost associated with the maintenance or servicing						
of contracts; and						
(D) compliance with software license man						
agement policies of the agency.						
(b) Contract Support.—						
(1) AUTHORITY.—The head of an agency may						
enter into 1 or more contracts to support the require-						
ments of subsection (a).						
(2) No conflict of interest.—Contracts						
under paragraph (1) shall not include contractors						
with organization conflicts of interest.						
(3) Operational independence.—Over the						
course of a comprehensive assessment, contractors						
hired pursuant to paragraph (1) shall maintain oper-						
ational independence from the integration, manage-						
ment, and operations of the software inventory and						

 $software\ entitlements\ of\ the\ agency.$

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(c) Submission.—On the date on which the Chief In-1 formation Officer, Chief Financial Officer, Chief Procurement Officer, and General Counsel of an agency, or the 3 equivalent officials of the agency, complete the comprehensive assessment, and not later than 1 year after the date 5 of enactment of this Act, the Chief Information Officer shall 6 submit the comprehensive assessment to— 8 (1) the head of the agency; 9 (2) the Director; 10 (3) the Administrator; 11 (4) the Comptroller General of the United States; 12 (5) the Committee on Homeland Security and 13 Governmental Affairs of the Senate; and (6) the Committee on Oversight and Reform of 14 15 the House of Representatives. 16 (d) Consultation.—In order to ensure the utility and standardization of the comprehensive assessment of each agency, including to support the development of each 18 plan and the Government-wide strategy described in section 5, the Director, in consultation with the Administrator, may share information, best practices, and recommendations relating to the activities performed in the course of 23 a comprehensive assessment of an agency.

1	SEC. 4. ENTERPRISE LICENSING POSITIONING AT AGEN-						
2	CIES.						
3	(a) In General.—The Chief Information Officer of						
4	each agency, in consultation with the Chief Financial Offi-						
5	cer and the Chief Procurement Officer of the agency, or th						
6	equivalent officials of the agency, shall use the information						
7	developed pursuant to the comprehensive assessment of the						
8	agency to develop a plan for the agency—						
9	(1) to consolidate software licenses of the agency;						
10	and						
11	(2) to the greatest extent practicable, in order						
12	improve the performance of, or reduce unnecessary						
13	costs to, the agency, to adopt enterprise license agree-						
14	ments across the agency, by type or category of soft						
15	ware.						
16	(b) Plan Requirements.—The plan of an agency						
17	shall—						
18	(1) include a detailed strategy for—						
19	(A) the remediation of any software asset						
20	management deficiencies found during the com-						
21	prehensive assessment of the agency;						
22	(B) the ongoing maintenance of software						
23	asset management upon the completion of the re-						
24	mediation; and						

1	(C) maximizing the effectiveness of software
2	deployed by the agency, including, to the extent
3	practicable, leveraging technologies that—
4	(i) provide in-depth analysis of user
5	behaviors and collect user feedback;
6	(ii) measure actual software usage via
7	analytics that can identify inefficiencies to
8	assist in rationalizing software spending;
9	(iii) allow for segmentation of the user
10	base;
11	(iv) support effective governance and
12	compliance in the use of software; and
13	(v) support interoperable capabilities
14	$between\ software;$
15	(2) identify not fewer than 5 categories of soft-
16	ware the agency will prioritize for conversion to en-
17	terprise licenses as the software entitlements, con-
18	tracts, and other agreements or arrangements for
19	those categories come up for renewal or renegotiation;
20	(3) provide an estimate of the costs to move to
21	enterprise, open-source, or other licenses that do not
22	restrict the use of software by the agency, and any
23	projected cost savings or efficiency measures through-
24	out the total software lifecycle;

- 1 (4) identify potential mitigations to minimize 2 software license restrictions on how such software can 3 be deployed, accessed, or used, including any mitiga-4 tions that would minimize any such restrictions on 5 desktop or server hardware or through a cloud service 6 provider;
 - (5) include any estimates for additional resources, services, or support the agency may need to execute the enterprise licensing position plan;
 - (6) provide information on the prevalence of software products in use across multiple software categories; and
- 13 (7) include any additional information, data, or 14 analysis determined necessary by the Chief Informa-15 tion Officer, or other equivalent official, of the agency.
- 16 (c) SUPPORT.—The Chief Information Officer, or other 17 equivalent official, of an agency may request support from 18 the Director and the Administrator for any analysis or de-
- velopmental needs to create the plan of the agency.
 (d) SUBMISSION.—Not later than 120 days after the
- 21 date on which the Chief Information Officer, or other equiv-22 alent official, of an agency submits the comprehensive as-
- 23 sessment pursuant to section 3(c), the head of the agency
- 24 shall submit to the Director, the Committee on Homeland
- 25 Security and Governmental Affairs of the Senate, and the

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Committee on Oversight and Reform of the House of Representatives the plan of the agency. 3 SEC. 5. GOVERNMENT-WIDE STRATEGY. 4 (a) In General.—Not later than 2 years after the date of enactment of this Act, the Director, in consultation with the Administrator and the Federal Chief Information 6 Officers Council, shall submit to the Committee on Home-8 land Security and Governmental Affairs of the Senate and the Committee on Oversight and Reform of the House of Representatives a strategy that includes— 10 11 (1) proposals to support the adoption of Govern-12 ment-wide enterprise licenses on the most widely used 13 and most costly software entitlements identified 14 through the comprehensive assessments and plans, in-15 cluding, where appropriate, a cost-benefit analysis; 16 (2) opportunities to leverage Government pro-17 curement policies and practices to increase interoper-18 ability of software entitlements acquired and deployed 19 to reduce costs and improve performance; 20 (3) the incorporation of data on spending by 21 agencies on, the performance of, and management by 22 agencies of software entitlements as part of the infor-23 mation required under section 11302(c)(3)(B) of title 40. United States Code: 24

1	(4) where applicable, directions to agencies to ex-					
2	amine options and relevant criteria for transitioning					
3	to open-source software; and					
4	(5) any other information or data collected or					
5	analyzed by the Director.					
6	(b) Budget Submission.—					
7	(1) First budget.—With respect to the first					
8	budget of the President submitted under section					
9	1105(a) of title 31, United States Code, on or after					
10	the date that is 2 years after the date of enactment					
11	of this Act, the Director shall ensure that the strategy					
12	required under subsection (a) of this section and the					
13	plan of each agency are included in the budget jus-					
14	tification materials of each agency submitted in con-					
15	junction with that budget.					
16	(2) Subsequent 5 Budgets.—With respect to					
17	the first 5 budgets of the President submitted under					
18	section 1105(a) of title 31, United States Code, after					
19	the budget described in paragraph (1), the Director					
20	shall—					
21	(A) designate performance metrics for agen-					
22	cies for common software licensing, management,					
23	and cost criteria; and					
24	(B) ensure that the progress of each agency					
25	toward the performance metrics is included in					

- 1 the budget justification materials of the agency
- 2 submitted in conjunction with that budget.

3 SEC. 6. GAO REPORT.

- 4 Not later than 3 years after the date of enactment of
- 5 this Act, the Comptroller General of the United States shall
- 6 submit to the Committee on Homeland Security and Gov-
- 7 ernmental Affairs of the Senate and the Committee on Over-
- 8 sight and Reform of the House of Representatives a report
- 9 on Government-wide trends, comparisons among agencies,
- 10 and other analyses of plans and the strategy required under
- 11 section 5(a) by the Comptroller General of the United
- 12 States.

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A BILL

To improve the visibility, accountability, and oversight of agency software asset management practices, and for other purposes.

December 5, 2022

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