

116TH CONGRESS  
2D SESSION

**S.** \_\_\_\_\_

To require the Assistant Secretary of Commerce for Communications and Information to submit to Congress a plan for the modernization of the information technology systems of the National Telecommunications and Information Administration, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

Mr. WICKER (for himself, Ms. CANTWELL, Mr. INHOFE, and Mr. REED) introduced the following bill; which was read twice and referred to the Committee on \_\_\_\_\_

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**A BILL**

To require the Assistant Secretary of Commerce for Communications and Information to submit to Congress a plan for the modernization of the information technology systems of the National Telecommunications and Information Administration, 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 “Spectrum IT Mod-  
5 ernization Act of 2020”.

6 **SEC. 2. MODERNIZATION EFFORT.**

7 (a) DEFINITIONS.—In this section—

1 (1) the term “Assistant Secretary” means the  
2 Assistant Secretary of Commerce for Communica-  
3 tions and Information;

4 (2) the term “covered agency”—

5 (A) means any Federal entity that the As-  
6 sistant Secretary determines is appropriate; and

7 (B) includes the Department of Defense;

8 (3) the term “Federal entity” has the meaning  
9 given the term in section 113(l) of the National  
10 Telecommunications and Information Administration  
11 Organization Act (47 U.S.C. 923(l));

12 (4) the term “Federal spectrum” means fre-  
13 quencies assigned on a primary basis to a covered  
14 agency;

15 (5) the term “infrastructure” means informa-  
16 tion technology systems and information tech-  
17 nologies, tools, and databases; and

18 (6) the term “NTIA” means the National Tele-  
19 communications and Information Administration.

20 (b) INITIAL INTERAGENCY SPECTRUM INFORMATION  
21 TECHNOLOGY COORDINATION.—Not later than 90 days  
22 after the date of enactment of this Act, the Assistant Sec-  
23 retary, in consultation with the Policy and Plans Steering  
24 Group, shall identify a process to establish goals, including  
25 parameters to measure the achievement of those goals, for

1 the modernization of the infrastructure of covered agen-  
2 cies relating to managing the use of Federal spectrum by  
3 those agencies, which shall include—

4 (1) the standardization of data inputs, modeling  
5 algorithms, modeling and simulation processes, anal-  
6 ysis tools with respect to Federal spectrum, assump-  
7 tions, and any other tool to ensure interoperability  
8 and functionality with respect to that infrastructure;

9 (2) other potential innovative technological ca-  
10 pabilities with respect to that infrastructure, includ-  
11 ing cloud-based databases, artificial intelligence tech-  
12 nologies, automation, and improved modeling and  
13 simulation capabilities;

14 (3) ways to improve the management of covered  
15 agencies' use of Federal spectrum through that in-  
16 frastructure, including by—

17 (A) increasing the efficiency of that infra-  
18 structure;

19 (B) addressing validation of usage with re-  
20 spect to that infrastructure;

21 (C) increasing the accuracy of that infra-  
22 structure;

23 (D) validating models used by that infra-  
24 structure; and

1 (E) monitoring and enforcing requirements  
2 that are imposed on covered agencies with re-  
3 spect to the use of Federal spectrum by covered  
4 agencies;

5 (4) ways to improve the ability of covered agen-  
6 cies to meet mission requirements in congested envi-  
7 ronments with respect to Federal spectrum, includ-  
8 ing as part of automated adjustments to operations  
9 based on changing conditions in those environments;

10 (5) the creation of a time-based automated  
11 mechanism—

12 (A) to share Federal spectrum between  
13 covered agencies to collaboratively and dynami-  
14 cally increase access to Federal spectrum by  
15 those agencies; and

16 (B) that could be scaled across Federal  
17 spectrum; and

18 (6) the collaboration between covered agencies  
19 necessary to ensure the interoperability of Federal  
20 spectrum.

21 (c) SPECTRUM INFORMATION TECHNOLOGY MOD-  
22 ERNIZATION.—

23 (1) IN GENERAL.—Not later than 240 days  
24 after the date of enactment of this Act, the Assist-  
25 ant Secretary shall submit to Congress a report that

1 contains the plan of the NTIA to modernize and  
2 automate the infrastructure of the NTIA relating to  
3 managing the use of Federal spectrum by covered  
4 agencies so as to more efficiently manage that use.

5 (2) CONTENTS.—The report required under  
6 paragraph (1) shall include—

7 (A) an assessment of the current, as of the  
8 date on which the report is submitted, infra-  
9 structure of the NTIA described in that para-  
10 graph;

11 (B) an acquisition strategy for the modern-  
12 ized infrastructure of the NTIA described in  
13 that paragraph, including how that modernized  
14 infrastructure will enable covered agencies to be  
15 more efficient and effective in the use of Fed-  
16 eral spectrum;

17 (C) a timeline for the implementation of  
18 the modernization efforts described in that  
19 paragraph;

20 (D) plans detailing how the modernized in-  
21 frastructure of the NTIA described in that  
22 paragraph will—

23 (i) enhance the security and reliability  
24 of that infrastructure so that such infra-  
25 structure satisfies the requirements of the

1 Federal Information Security Management  
2 Act of 2002 (Public Law 107–296; 116  
3 Stat. 2135);

4 (ii) improve data models and analysis  
5 tools to increase the efficiency of the spec-  
6 trum use described in that paragraph;

7 (iii) enhance automation and  
8 workflows, and reduce the scope and level  
9 of manual effort, in order to—

10 (I) administer the management  
11 of the spectrum use described in that  
12 paragraph; and

13 (II) improve data quality and  
14 processing time; and

15 (iv) improve the timeliness of spec-  
16 trum analyses and requests for informa-  
17 tion, including requests submitted pursu-  
18 ant to section 552 of title 5, United States  
19 Code;

20 (E) an operations and maintenance plan  
21 with respect to the modernized infrastructure of  
22 the NTIA described in that paragraph;

23 (F) a strategy for coordination between the  
24 covered agencies within the Policy and Plans  
25 Steering Group, which shall include—

1 (i) a description of—

2 (I) those coordination efforts, as  
3 in effect on the date on which the re-  
4 port is submitted; and

5 (II) a plan for coordination of  
6 those efforts after the date on which  
7 the report is submitted, including with  
8 respect to the efforts described in sub-  
9 section (d);

10 (ii) a plan for standardizing—

11 (I) electromagnetic spectrum  
12 analysis tools;

13 (II) modeling and simulation  
14 processes and technologies; and

15 (III) databases to provide tech-  
16 nical interference assessments that  
17 are usable across the Federal Govern-  
18 ment as part of a common spectrum  
19 management infrastructure for cov-  
20 ered agencies;

21 (iii) a plan for each covered agency to  
22 implement a modernization plan described  
23 in subsection (d)(1) that is tailored to the  
24 particular timeline of the agency;

1           (G) identification of manually intensive  
2 processes involved in managing Federal spec-  
3 trum and proposed enhancements to those proc-  
4 esses;

5           (H) metrics to evaluate the success of the  
6 modernization efforts described in that para-  
7 graph and any similar future efforts; and

8           (I) an estimate of the cost of the mod-  
9 ernization efforts described in that paragraph  
10 and any future maintenance with respect to the  
11 modernized infrastructure of the NTIA de-  
12 scribed in that paragraph, including the cost of  
13 any personnel and equipment relating to that  
14 maintenance.

15 (d) INTERAGENCY INPUTS.—

16           (1) IN GENERAL.—Not later than 1 year after  
17 the date of enactment of this Act, the head of each  
18 covered agency shall submit to the Assistant Sec-  
19 retary and the Policy and Plans Steering Group a  
20 report that describes the plan of the agency to mod-  
21 ernize the infrastructure of the agency with respect  
22 to the use of Federal spectrum by the agency so that  
23 such modernized infrastructure of the agency is  
24 interoperable with the modernized infrastructure of  
25 the NTIA, as described in subsection (c).



1           (2) CONTENTS.—Each report submitted by the  
2 head of a covered agency under paragraph (1)  
3 shall—

4           (A) include—

5                   (i) an assessment of the current, as of  
6 the date on which the report is submitted,  
7 management capabilities of the agency  
8 with respect to the use of frequencies that  
9 are assigned to the agency, which shall in-  
10 clude a description of any challenges faced  
11 by the agency with respect to that manage-  
12 ment;

13                   (ii) a timeline for completion of the  
14 modernization efforts described in that  
15 paragraph; and

16                   (iii) a description of potential innova-  
17 tive technological capabilities for the man-  
18 agement of frequencies that are assigned  
19 to the agency, as determined under sub-  
20 section (b);

21                   (iv) identification of agency-specific  
22 requirements or constraints relating to the  
23 infrastructure of the agency;

24                   (v) identification of any existing, as of  
25 the date on which the report is submitted,

1 systems of the agency that are duplicative  
2 of the modernized infrastructure of the  
3 NTIA, as proposed under subsection (c);  
4 and

5 (vi) with respect to the report sub-  
6 mitted by the Secretary of Defense—

7 (I) a strategy for the integration  
8 of systems or the flow of data among  
9 the Armed Forces, the military de-  
10 partments, the Defense Agencies and  
11 Department of Defense Field Activi-  
12 ties, and other components of the De-  
13 partment of Defense;

14 (II) a plan for the implementa-  
15 tion of solutions to the use of Federal  
16 spectrum by the Department of De-  
17 fense involving information at multiple  
18 levels of classification; and

19 (III) a strategy for addressing,  
20 within the modernized infrastructure  
21 of the Department of Defense de-  
22 scribed in that paragraph, the ex-  
23 change of information between the  
24 Department of Defense and the NTIA  
25 in order to accomplish required proc-

1                   essing of all Department of Defense  
2                   domestic spectrum coordination and  
3                   management activities; and

4                   (B) be submitted in an unclassified format,  
5                   with a classified annex, as appropriate.

6                   (3) NOTIFICATION OF CONGRESS.—Upon sub-  
7                   mission of the report required under paragraph (1),  
8                   the head of each covered agency shall notify Con-  
9                   gress that the head of the covered agency has sub-  
10                  mitted the report.

11                  (e) GAO OVERSIGHT.—The Comptroller General of  
12                  the United States shall—

13                   (1) not later than 90 days after the date of en-  
14                   actment of this Act, conduct a review of the infra-  
15                   structure of covered agencies, as that infrastructure  
16                   exists on the date of enactment of this Act;

17                   (2) after all of the reports required under sub-  
18                   section (d) have been submitted, conduct oversight  
19                   of the implementation of the modernization plans  
20                   submitted by the NTLA and covered agencies under  
21                   subsections (c) and (d), respectively;

22                   (3) not later than 1 year after the date on  
23                   which the Comptroller General begins conducting  
24                   oversight under paragraph (2), and annually there-  
25                   after, submit a report regarding that oversight to—

1 (A) with respect to the implementation of  
2 the modernization plan of the Department of  
3 Defense, the Committee on Armed Services of  
4 the Senate and the Committee on Armed Serv-  
5 ices of the House of Representatives; and

6 (B) with respect to the implementation of  
7 the modernization plans of all covered agencies,  
8 including the Department of Defense, the Com-  
9 mittee on Commerce, Science, and Transpor-  
10 tation of the Senate and the Committee on En-  
11 ergy and Commerce of the House of Represent-  
12 atives; and

13 (4) provide regular briefings to—

14 (A) with respect to the application of this  
15 section to the Department of Defense, the Com-  
16 mittee on Armed Services of the Senate and the  
17 Committee on Armed Services of the House of  
18 Representatives; and

19 (B) with respect to the application of this  
20 section to all covered agencies, including the  
21 Department of Defense, the Committee on  
22 Commerce, Science, and Transportation of the  
23 Senate and the Committee on Energy and Com-  
24 merce of the House of Representatives.