

THE HONORABLE JAMES L. ROBERT

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UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF WASHINGTON  
AT SEATTLE

CRAY INC.

Plaintiff,

v.

RAYTHEON COMPANY,

Defendant.

Case No.: 2:15-cv-1127-JLR

**FIRST AMENDED COMPLAINT FOR  
DECLARATORY JUDGMENT OF  
PATENT NON-INFRINGEMENT;  
DECLARATORY JUDGMENT OF  
PATENT UNENFORCEABILITY FOR  
INEQUITABLE CONDUCT;  
DECLARATORY JUDGMENT OF  
PATENT UNENFORCEABILITY FOR  
UNCLEAN HANDS; BREACH OF  
CONTRACT; CORRECTION OF  
INVENTORSHIP; CONVERSION;  
UNJUST ENRICHMENT**

**DEMAND FOR JURY TRIAL**

Cray Inc. (“Cray”), through its attorneys, hereby alleges this complaint against Defendant Raytheon Company (“Raytheon”) on personal knowledge as to its own activities and on information and belief as to the activities of others, as follows:

**THE PARTIES**

1. Cray is a corporation organized and existing under the laws of the State of Washington with its principal place of business at 901 Fifth Avenue, Suite 1000, Seattle, WA 98164. Cray is a worldwide leader in advanced supercomputing, with extensive experience in analyzing and developing computing, big data storage, and analytic solutions for a wide range of needs.

1           2.       On information and belief, Defendant Raytheon is a corporation organized and  
2 existing under the laws of the State of Delaware, with its principal place of business at 870  
3 Winter Street, Waltham, MA 02451. On information and belief, Raytheon regularly conducts  
4 business in the State of Washington.

### 5    NATURE OF THE ACTION

6           3.       This is an action for (i) a declaratory judgment that Cray does not infringe any  
7 claim of United States Patent Nos. 7,475,274 (“the ’274 patent”), 8,190,714 (“the ’714  
8 patent”), 8,335,909 (“the ’909 patent”), and 9,037,833 (“the ’833 patent”) (collectively, “the  
9 Raytheon Patents”); (ii) a declaratory judgment that the Raytheon Patents are unenforceable  
10 for inequitable conduct; (iii) a declaratory judgment that the Raytheon Patents are  
11 unenforceable for unclean hands; (iv) breach of contract; (v) correction of inventorship; (vi)  
12 unjust enrichment; and (vii) conversion.

13           4.       A true and correct copy of the ’274 patent is attached hereto as Exhibit A.

14           5.       A true and correct copy of the ’714 patent is attached hereto as Exhibit B.

15           6.       A true and correct copy of the ’909 patent is attached hereto as Exhibit C.

16           7.       A true and correct copy of the ’833 patent is attached hereto as Exhibit D.

### 17    JURISDICTION AND VENUE

18           8.       This First Amended Complaint brings claims pursuant to the Declaratory  
19 Judgment Act, codified at 28 U.S.C. §§ 2201 *et seq.* and 35 U.S.C. § 261, as well as tort and  
20 contract claims. As discussed in detail below, declaratory judgment jurisdiction is proper  
21 because there is a case or controversy between Cray and Raytheon. This action includes  
22 claims arising under the patent laws of the United States, including, without limitation, 35  
23 U.S.C. § 1 *et seq.* Jurisdiction is proper in this Court pursuant to 28 U.S.C. §§ 1331, 1332,  
24 1338(a) and 1367.

25           9.       As described below, Raytheon obtained confidential and proprietary  
26 information from Cray concerning high performance computing (“HPC”) systems, misused

1 that information in procuring the Raytheon Patents and developing its own technology, and  
2 now seeks to assert those same patents against Cray. Raytheon worked directly with Cray  
3 employees in Washington and misappropriated confidential and proprietary information from  
4 those employees in Washington.

5 10. Raytheon has entered into non-disclosure agreements with Cray, a resident of  
6 Washington, requested and received confidential information from Cray, including from its  
7 employees in Washington, and misused information obtained from Cray in procuring the  
8 Raytheon Patents.

9 11. Through written and in-person communications sent to or occurring in Seattle,  
10 Washington, Raytheon has expressly accused Cray of infringing specific claims of numerous  
11 of the Raytheon Patents by manufacturing and/or selling Cray's products, including, for  
12 example, the Cray XE6, Cray XC40, and XC30, among others. Raytheon also informed Cray  
13 that it would communicate specific infringement contentions for the remainder of the  
14 Raytheon Patents at a later date.

15 12. Based on the foregoing communications, a substantial controversy exists  
16 between parties of sufficient immediacy and reality to warrant the issuance of a declaratory  
17 judgment. Hence, an actual case and controversy exists between the parties within the scope  
18 of this Court's jurisdiction pursuant to 28 U.S.C. § 2201.

19 13. On information and belief, Raytheon maintains continuous and systematic  
20 contacts with this judicial district and regularly conducts business within this judicial district.

21 14. On information and belief, Raytheon is registered with the Washington  
22 Secretary of State to do business in Washington and maintains offices and employees in this  
23 judicial district.

24 15. This court has personal jurisdiction over Raytheon at least through its  
25 misconduct directed at Cray in the State of Washington, its misappropriation of confidential  
26

1 and proprietary information from residents of Washington, and its entering into agreements  
2 with Cray, a Washington resident.

3 16. Venue is proper in this district pursuant to 28 U.S.C. § 1391(b) and (c).

4 **BACKGROUND**

5 17. Cray's history extends back to 1972, when the legendary Seymour Cray, the  
6 "father of supercomputing," founded Cray Research, Inc. Since that time, Cray Research and  
7 its successors through Cray Inc. have been leaders in the high performance computing  
8 ("HPC") industry.

9 18. In approximately September 2002, Cray entered into a contract with Sandia  
10 National Laboratories ("Sandia") for the Red Storm Computing Development Program, which  
11 was a project for Sandia to create an HPC system referred to as "Red Storm." As stated on  
12 its website, "Sandia National Laboratories is operated and managed by Sandia Corporation, a  
13 wholly owned subsidiary of Lockheed Martin Corporation. Sandia Corporation operates  
14 Sandia National Laboratories as a contractor for the U.S. Department of Energy's National  
15 Nuclear Security Administration (NNSA) and supports numerous federal, state, and local  
16 government agencies, companies, and organizations."

17 19. During the development of the Red Storm system, as well as during the pre-  
18 contract bidding process, Cray submitted to Sandia and its designated representatives  
19 confidential and proprietary information of Cray relating to, among other things, the design  
20 and operation of the proposed Red Storm system, as well as Cray's SeaStar interconnect chip.  
21 Such representatives included an oversight committee. The oversight committee was  
22 responsible for validating and challenging Cray's design of Red Storm.

23 20. James Ballew—a named inventor on the '833 and '909 patents—was an  
24 external member of Sandia's oversight committee. In his role as a member of the oversight  
25 committee, Cray disclosed to Mr. Ballew confidential and proprietary details concerning its  
26 design of the Red Storm system. Such information included technical details concerning the

1 interconnect of the Red Storm system, as well as the composition of the compute nodes of the  
2 system.

3 21. For example, prior to the award of the Red Storm contract, Cray submitted a  
4 detailed proposal regarding its proposed design for the Red Storm system. Following the  
5 award of the contract, Cray submitted detailed specifications of the Red Storm system, as well  
6 as progress reports, to the oversight committee, including Mr. Ballew.

7 22. Mr. Ballew worked and interacted with Cray employees residing in its Seattle,  
8 Washington office, among others. In fact, the Cray personnel primarily responsible for the  
9 SeaStar interconnect design that was incorporated into the Red Storm system resided and  
10 worked in Washington.

11 23. During his participation on the oversight committee, Mr. Ballew was an  
12 employee of Raytheon. Emails sent and received by Mr. Ballew in his role as a member of  
13 oversight committee used a “raytheon.com” email address.

14 24. As a member of the oversight committee, Mr. Ballew maintained an obligation  
15 to hold Cray’s confidential and proprietary information in confidence.

16 25. On November 18, 2003, Cray entered into a non-disclosure agreement with  
17 Raytheon (“the 2003 NDA”). The 2003 NDA specifies that Cray is a Washington  
18 corporation. Under the terms of the NDA, Cray was to disclose confidential and proprietary  
19 information “relating to Cray’s current and future products and product plans for the purpose  
20 of User evaluating the potential purchase or license of Cray products.” Upon information and  
21 belief, Cray disclosed confidential and proprietary information concerning the Red Storm  
22 system and associated SeaStar interconnect chip.

23 26. On February 19, 2004, Cray entered into a non-disclosure agreement with  
24 Raytheon (“the February 19 NDA”). The February 19 NDA also recites that Cray is  
25 Washington corporation and that its principal office is located in Seattle, Washington. The  
26

1 agreement also specified that Cray was to disclose its proprietary information to Raytheon for  
2 Raytheon's evaluation.

3 27. On February 20, 2004, Cray entered into a non-disclosure agreement with  
4 Raytheon Intelligence and Information Systems, a division of Raytheon ("the February 20  
5 NDA"). Upon information and belief, Raytheon Intelligence and Information Systems was an  
6 agent of Raytheon. The February 20 NDA specifies that Cray is a Washington corporation.  
7 Pursuant to the agreement, Cray was to disclose to Raytheon "Confidential Information"  
8 regarding "Cray's Red Storm system and related information for the purpose of evaluation by  
9 Raytheon of the suitability of the Red Storm system for Raytheon's use."

10 28. During the development of the Red Storm system, Cray disclosed extensive  
11 confidential and proprietary information to Raytheon, both to Mr. Ballew and others at  
12 Raytheon. Upon information and belief, Mr. Ballew began receiving Cray's confidential and  
13 proprietary information concerning the Red Storm system in 2001. Cray's disclosures to  
14 Raytheon regarding its design for the Red Storm system continued through April 15, 2004—  
15 the date on which U.S. Patent Application No. 10/824,874 ("the '874 application"), which  
16 was the patent application leading to the '909 and '833 patents, was filed by Mr. Ballew and  
17 Raytheon.

18 29. Following Cray's extensive disclosure of confidential and proprietary  
19 information concerning its Red Storm system, including the associated SeaStar interconnect  
20 chip, Raytheon filed the '874 application on April 15, 2004. The '874 application contained  
21 technical information similar or identical to information disclosed to Mr. Ballew and  
22 Raytheon by Cray concerning the Red Storm system. Mr. Ballew and others at Raytheon  
23 intentionally acquired a substantial portion of this information from Cray and its employees  
24 located in Washington. Those unlawful acts were intentionally aimed at Washington and  
25 were intended to cause harm to Cray in Washington.



1 **COUNT II**

2 **(Declaratory Judgment of Non-Infringement of United States Patent No. 8,190,714)**

3 36. Cray realleges and incorporates by reference paragraphs 1 through 35, as  
4 though fully set forth herein.

5 37. On information and belief, Raytheon claims to be the owner of all right, title  
6 and interest in the '714 patent, including the right to assert all causes of action arising under  
7 that patent and the right to any remedies for infringement of it.

8 38. The use, offer for sale, and/or sale in the United States and/or importation into  
9 the United States of Cray's products does not infringe either directly, or indirectly, by  
10 inducing or contributing to the infringement of, any claim of the '714 patent either literally or  
11 under the doctrine of equivalents.

12 39. An actual and justiciable controversy exists between Cray and Raytheon as to  
13 Cray's non-infringement of the '714 patent.

14 40. Pursuant to the Federal Declaratory Judgment Act, 28 U.S.C. §§ 2201, *et seq.*,  
15 Cray requests that this Court enter a judgment that Cray does not infringe, under any theory of  
16 infringement, any claim of the '714 patent.

17 **COUNT III**

18 **(Declaratory Judgment of Non-Infringement of United States Patent No. 8,335,909)**

19 41. Cray realleges and incorporates by reference paragraphs 1 through 40, as  
20 though fully set forth herein.

21 42. On information and belief, Raytheon claims to be the owner of all right, title  
22 and interest in the '909 patent, including the right to assert all causes of action arising under  
23 that patent and the right to any remedies for infringement of it.

24 43. The use, offer for sale, and/or sale in the United States and/or importation into  
25 the United States of Cray's products does not infringe either directly, or indirectly, by  
26



1 inducing or contributing to the infringement of, any claim of the '909 patent either literally or  
2 under the doctrine of equivalents.

3 44. An actual and justiciable controversy exists between Cray and Raytheon as to  
4 Cray's non-infringement of the '909 patent.

5 45. Pursuant to the Federal Declaratory Judgment Act, 28 U.S.C. §§ 2201, *et seq.*,  
6 Cray requests that this Court enter a judgment that Cray does not infringe, under any theory of  
7 infringement, any claim of the '909 patent.

8 **COUNT IV**

9 **(Declaratory Judgment of Non-Infringement of United States Patent No. 9,037,833)**

10 46. Cray realleges and incorporates by reference paragraphs 1 through 45, as  
11 though fully set forth herein.

12 47. On information and belief, Raytheon claims to be the owner of all right, title  
13 and interest in the '833 patent, including the right to assert all causes of action arising under  
14 that patent and the right to any remedies for infringement of it.

15 48. The use, offer for sale, and/or sale in the United States and/or importation into  
16 the United States of Cray's products does not infringe either directly, or indirectly, by  
17 inducing or contributing to the infringement of, any claim of the '833 patent either literally or  
18 under the doctrine of equivalents.

19 49. An actual and justiciable controversy exists between Cray and Raytheon as to  
20 Cray's non-infringement of the '833 patent.

21 50. Pursuant to the Federal Declaratory Judgment Act, 28 U.S.C. §§ 2201, *et seq.*,  
22 Cray requests that this Court enter a judgment that Cray does not infringe, under any theory of  
23 infringement, any claim of the '833 patent.

**COUNT V**

**(Declaratory Judgment of Inequitable Conduct as to U.S. Patent No. 8,335,909)**

1  
2  
3 51. Cray realleges and incorporates by reference paragraphs 1 through 50, as  
4 though fully set forth herein.

5 52. On April 15, 2004, Raytheon filed U.S. Patent Application No. 10/824,874  
6 (“the ’874 application”) naming James D. Ballew, Gary R. Early, and Shannon V. Davidson  
7 as inventors. Together with the application, Raytheon filed oaths of inventorship by Messrs.  
8 Ballew, Early, and Davidson. The oaths of inventorship stated as follows: “I am an original,  
9 first, and joint inventor of the subject matter which is claimed and for which a patent is sought  
10 on the invention entitled HIGH PERFORMANCE COMPUTING SYSTEM AND METHOD,  
11 filed on April 15, 2004, as U.S. Application No. 10/824,874.”

12 53. On November 19, 2004, Raytheon filed an “Amendment and Petition for  
13 Correction of Inventorship in a Patent Application Under 37 C.F.R. § 1.48” withdrawing  
14 Shannon V. Davidson as a named inventor on the ’874 application.

15 54. As set forth above, well before the ’874 application was filed, Mr. Ballew  
16 served on the oversight committee for the Red Storm system designed by Cray. Through his  
17 role on the oversight committee for the Red Storm system, Mr. Ballew obtained confidential  
18 and proprietary information from Cray, including from Cray’s Washington office and  
19 employees, concerning the Red Storm system, including Cray’s SeaStar interconnect.

20 55. Upon information and belief, at least Mr. Ballew used the confidential and  
21 proprietary information obtained from Cray concerning its Red Storm system and SeaStar  
22 interconnect, in conceiving the alleged inventions contained in the ’874 application and ’909  
23 patent. Upon information and belief, at least Mr. Ballew falsely stated in the oath of  
24 inventorship filed on April 15, 2004 that he was an inventor of the inventions of the ’874  
25 application and/or concealing that one or more Cray employees were also inventors.  
26

1           56. Raytheon and the inventors also maintained an obligation to disclose all  
2 material prior art known to them during the prosecution of the '874 application. Messrs.  
3 Ballew and Early recognized this obligation in the oaths of inventorship filed on April 15,  
4 2004 by stating the following: "I have reviewed and understand the contents of the above-  
5 identified specification, including the claims; and I acknowledge my duty to disclose to the  
6 U.S. Patent and Trademark Office all information known to me to be material to patentability  
7 as defined in 37 C.F.R. § 1.56. I acknowledge the duty to disclose to the U.S. Patent and  
8 Trademark Office all information known to me to be material to patentability as defined in 37  
9 C.F.R. § 1.56."

10           57. Raytheon and Mr. Ballew knowingly failed to disclose prior art material to the  
11 patentability of the claims ultimately issued in the '909 patent.

12           58. Raytheon filed Information Disclosure Statements ("IDS") on April 15, 2004;  
13 August 1, 2005; August 15, 2005; October 10, 2005; March 8, 2006; May 8, 2006; October  
14 13, 2006; November 13, 2006; December 29, 2006; March 2, 2007; March 26, 2007; May 18,  
15 2007; January 9, 2008; January 30, 2008; March 14, 2008; March 26, 2008; October 10,  
16 2008; February 9, 2009; March 19, 2009; March 31, 2009; May 5, 2009; July 14, 2009;  
17 October 19, 2009; October 20, 2009; March 24, 2010; May 5, 2010; May 20, 2010; July 15,  
18 2010; August 25, 2010; November 16, 2010; December 20, 2010; January 18, 2011; January  
19 26, 2011; April 15, 2011; April 29, 2011; August 5, 2011; September 2, 2011; November 22,  
20 2011; and March 27, 2012. Despite having knowledge of Cray's Red Storm system,  
21 including Cray's SeaStar interconnect chip, Raytheon and Mr. Ballew failed to disclose  
22 information concerning the Red Storm system, including Cray's SeaStar interconnect chip, to  
23 the USPTO.

24           59. Particularly given the arguments made by Raytheon to traverse office actions  
25 rejecting claims based on prior art references, Cray's Red Storm system, including Cray's  
26 SeaStar interconnect chip, constitutes material prior art. For example, in an office action July

1 11, 2008, the Examiner rejected the pending claims in light of Karpoff, U.S. Patent  
2 Application No. US 2001/0049740 A1 (“Karpoff”).

3 60. On January 12, 2009, Raytheon filed a response to the July 11, 2008 office  
4 action. That response, however, was not fully responsive, and per a notice dated April 28,  
5 2009, the Examiner instructed Raytheon to file a compliant response.

6 61. On May 28, 2009, Raytheon filed its revised response to the July 11, 2008  
7 office action. In that response, Raytheon amended the pending claims, including the pending  
8 independent claims. For example, Raytheon amended pending claim 9 as follows:

9 9. (Currently Amended) A system comprising a plurality of interconnected  
10 nodes, each node comprising:

11 a first motherboard;

12 ~~a switch comprising eight or more ports, the switch integrated on the~~  
13 ~~motherboard and operable to interconnect at least a subset of the plurality of~~  
14 ~~nodes; and~~

15 ~~at least two processors, each processor communicably coupled to the~~  
16 ~~integrated switch and integrated on the motherboard.~~

17 at least two first processors integrated onto the first motherboard and  
18 operable to communicate with each other via a direct link between them:  
19 and

20 a first switch integrated onto the first motherboard, the first processors  
21 communicably coupled to the first switch, the first switch operable to  
22 communicably couple the first processors to at least six second  
23 motherboards that each comprise at least two second processors integrated  
24 onto the second motherboard and a second switch integrated onto the second  
25 motherboard operable to communicably couple the second processors to the  
26 first motherboard and at least five third motherboards that each comprise at  
least two third processors integrated onto the third motherboard and a third  
switch integrated onto the third motherboard;

the first processors operable to communicate with particular second  
processors on a particular second motherboard via the first switch and the  
second switch on the particular second motherboard;

1           the first processors operable to communicate with particular third processors  
2           on a particular third motherboard via the first switch, a particular second  
3           switch on a particular second motherboard between the first motherboard  
4           and the particular third motherboard, and the third switch on the particular  
              third motherboard without communicating via either second processor on  
              the particular second motherboard.

5           62.     The other pending independent claims contained substantially similar  
6           limitations.

7           63.     In its Remarks in response to the Examiner’s obviousness rejection under 35  
8           U.S.C. § 103, Raytheon argued that the pending claims were patentable over the prior art  
9           because the “cited references fail to teach, suggest, or disclose ‘the first processors operable to  
10          communicate with particular third processors on a particular third motherboard via the first  
11          switch, a particular second switch on a particular second motherboard between the first  
12          motherboard and the particular third motherboard, and the third switch on the particular third  
13          motherboard.’” Raytheon also argued that the prior art references “fail to teach, suggest, or  
14          disclose a ‘first motherboard,’ a ‘second motherboard,’ or a ‘third motherboard.’”

15          64.     Raytheon and Mr. Ballew knowingly failed to disclose to the Examiner that  
16          this configuration was wrongfully taken from Cray and its employees residing in Washington.  
17          Raytheon and Mr. Ballew also knowingly failed to disclose to the Examiner the Red Storm  
18          system, including SeaStar interconnect, which substantially predated the filing date for the  
19          ’874 application. Mr. Ballew and Raytheon possessed detailed knowledge concerning the  
20          design of Cray’s Red Storm system and SeaStar interconnect.

21          65.     In its present dispute with Cray, Raytheon asserts that substantially identical  
22          systems of Cray infringe the ’909 patent. Indeed, the systems that Raytheon now accuses of  
23          infringement built upon the Red Storm system and SeaStar interconnect. With respect to the  
24          arguments Raytheon made to the Examiner identified above, the Red Storm system and  
25          SeaStar interconnect do not materially differ from the products Raytheon now accuses of  
26

1 infringement. As such, Cray's prior art Red Storm system and SeaStar interconnect constitute  
2 material prior art.

3 66. In the same May 28, 2009 response, Raytheon also took issue with the  
4 Examiner's assertion that "integrating all of the elements onto a motherboard is well known."  
5 Raytheon opposed that conclusion and criticized the Examiner for failing to identify any prior  
6 art of record to support the statement. With respect to the integration of elements on a  
7 motherboard, the systems that Raytheon now accuses of infringement do not materially differ  
8 from the Red Storm system and SeaStar interconnect. Raytheon and Mr. Ballew, however,  
9 failed to disclose that system to the Examiner.

10 67. Raytheon further argued that the prior art "fails to teach, suggest, or disclose  
11 'the first processors' integrated onto the first motherboard being 'operable to communicate  
12 with particular third processors on a particular third motherboard via the first switch'  
13 integrated onto the first motherboard." With respect to this configuration, the systems that  
14 Raytheon now accuses of infringement do not materially differ from the Red Storm system  
15 and SeaStar interconnect. Raytheon and Mr. Ballew, however, concealed that system from  
16 the Examiner.

17 68. Raytheon further argued that the prior art "fails to teach, suggest, or disclose 'a  
18 particular second switch on a particular second motherboard between the first motherboard  
19 and the particular third motherboard.'" With respect to this configuration, the systems that  
20 Raytheon now accuses of infringement do not materially differ from the Red Storm system  
21 and SeaStar interconnect. Raytheon and Mr. Ballew, however, concealed that system from  
22 the Examiner.

23 69. Upon information and belief, Raytheon and Mr. Ballew were also aware of  
24 Cray's T3E system. Upon information and belief, Raytheon and Mr. Ballew were aware of  
25 the T3E through their interactions with Cray, including interactions with Cray's employees in  
26 Washington. The T3E system was introduced in approximately 1995, almost a decade before

1 Raytheon and Mr. Ballew filed the '874 application. The T3E system was widely known  
2 throughout the HPC industry, as evidenced by the significant number of publications relating  
3 to the system.

4 70. The T3E system comprised multiple motherboards, including a first  
5 motherboard, second motherboard, and third motherboard. Each motherboard comprised  
6 multiple processors and switching elements integrated onto the motherboard. In addition, a  
7 processor on the first motherboard could communicate with a processor on the third  
8 motherboard via the switching elements associated with each processor.

9 71. Upon information and belief, Raytheon and Mr. Ballew intentionally withheld  
10 materials concerning the T3E system from the Examiner. The T3E system constitutes  
11 material prior art at least because disclosure of the system would have undermined  
12 Raytheon's arguments identified above, and would have enabled the Examiner to reject the  
13 claims of the '874 patent either as anticipated or obvious in light of the T3E system.

14 72. Upon information and belief, Raytheon and Mr. Ballew intentionally withheld  
15 all of the above information concerning Cray's prior art systems from the Examiner with the  
16 intent of misleading the Examiner with respect to the state of the prior art. That information  
17 was material to patentability at least because disclosure of Cray's prior art would have  
18 undermined the arguments made by Raytheon in traversing rejections by the Examiner.  
19 Indeed, but for Raytheon's and Mr. Ballew's intentional concealment of Cray's prior art, the  
20 claims of the '909 patent would not have issued.

21 73. The specific examples of inequitable conduct described above are intended to  
22 be exemplary only. Upon information and belief, Raytheon and Mr. Ballew committed  
23 additional acts of inequitable conduct during the prosecution of the '874 application.

24 74. In light of Raytheon's and Mr. Ballew's inequitable conduct described above,  
25 Cray requests that the claims of the '909 patent and all related patents be declared  
26 unenforceable.

1 **COUNT VI**

2 **(Declaratory Judgment of Inequitable Conduct as to U.S. Patent No. 9,037,833)**

3 75. Cray realleges and incorporates by reference paragraphs 1 through 74, as  
4 though fully set forth herein.

5 76. The '833 patent is rendered unenforceable in light of the inequitable conduct  
6 committed by Raytheon and Mr. Ballew during the prosecution of the parent '874 application,  
7 as described above in Count V.

8 77. In addition, Raytheon and Mr. Ballew committed inequitable conduct during  
9 the prosecution of U.S. Patent Application No. 13/712,451 (“the '451 application”), filed on  
10 December 12, 2012, which led to the issuance of the '833 patent. The '451 application  
11 named James D. Ballew and Gary R. Early as inventors.

12 78. On July 8, 2013, Messrs. Ballew and Early stated the following: “I believe I  
13 am the original inventor or an original joint inventor of a claimed invention in the above-  
14 identified application.”

15 79. As set forth above, well before the '451 application was filed, Mr. Ballew  
16 served on the oversight committee for the Red Storm system designed by Cray. Through his  
17 role on the oversight committee for the Red Storm system, Mr. Ballew obtained confidential  
18 and proprietary information from Cray, including from Cray’s Washington office and  
19 employees, concerning the Red Storm system, including Cray’s SeaStar interconnect.

20 80. Upon information and belief, at least Mr. Ballew used the confidential and  
21 proprietary information obtained from Cray concerning its Red Storm system, including  
22 Cray’s SeaStar interconnect, in conceiving the alleged inventions contained in the '451  
23 application and '833 patent. Upon information and belief, at least Mr. Ballew falsely stated in  
24 the oath of inventorship filed on July 8, 2013 that he was an inventor of the alleged inventions  
25 of the '451 application.



1           81. Raytheon and the inventors also maintained an obligation to disclose all  
2 material prior art known to them during the prosecution of the '451 application. Messrs.  
3 Ballew and Early recognized this obligation in the oaths of inventorship filed on July 8, 2013  
4 by stating the following: "I acknowledge the duty to disclose to the United States Patent  
5 Office all information known to me to be material to the patentability of the above-identified  
6 application."

7           82. Raytheon and Mr. Ballew knowingly failed to disclose prior art material to the  
8 patentability of the claims ultimately issued in the '833 patent.

9           83. Raytheon filed Information Disclosure Statements ("IDS") on January 24,  
10 2014 and August 14, 2014. Despite having knowledge of Cray's Red Storm system,  
11 including Cray's SeaStar interconnect chip, Raytheon and Mr. Ballew failed to disclose  
12 information concerning the Red Storm system, including Cray's SeaStar interconnect chip, to  
13 the USPTO.

14           84. Particularly given the arguments made by Raytheon to traverse office actions  
15 rejecting claims based on prior art references, Cray's Red Storm system and Cray's SeaStar  
16 interconnect chip constitute material prior art. For example, in an office action December 19,  
17 2013, the Examiner rejected the pending claims of the '451 application. In its response filed  
18 on March 19, 2014, Raytheon argued that the pending claims of the '451 application were  
19 patentable over the prior art because "each of the  $n > 8$  interconnected nodes has its own  
20 switch to facilitate message passing between nodes without additional devices therebetween."

21           85. Raytheon and Mr. Ballew knowingly failed to disclose to the Examiner that  
22 this configuration was wrongfully taken from Cray and its employees residing in Washington.  
23 Raytheon and Mr. Ballew also knowingly failed to disclose to the Examiner the Red Storm  
24 system and SeaStar interconnect, which substantially predated the filing date for the '451  
25 application. Mr. Ballew and Raytheon possessed detailed knowledge concerning the design  
26 of Cray's Red Storm system and SeaStar interconnect.

1           86. In its present dispute with Cray, Raytheon asserts that products of Cray that are  
2 substantially identical to the Red Storm system and SeaStar interconnect, as they relate to the  
3 arguments made to the Examiner, infringe the '833 patent. Indeed, the systems that Raytheon  
4 now accuses of infringement build upon the Red Storm system and SeaStar interconnect.  
5 With respect to the arguments Raytheon made to the Examiner identified above, the Red  
6 Storm system and SeaStar interconnect do not materially differ from the products Raytheon  
7 now accuses of infringement. As such, Cray's prior art Red Storm system and SeaStar  
8 interconnect constitute material prior art.

9           87. Upon information and belief, Raytheon and Mr. Ballew were also aware of  
10 Cray's T3E system. Upon information and belief, Raytheon and Mr. Ballew were aware of  
11 the T3E through their interactions with Cray, including interactions with Cray's employees in  
12 Washington. The T3E system was released in or around November 1995, almost a decade  
13 before Raytheon and Mr. Ballew filed the application to which the '451 application claims  
14 priority.

15           88. The T3E system comprised multiple motherboards, including a first  
16 motherboard, second motherboard, and third motherboard. Each motherboard comprised  
17 multiple processors and switching elements integrated onto the motherboard. In addition, a  
18 processor on the first motherboard could communicate with a processor on the third  
19 motherboard via the switching elements associated with each processor.

20           89. Upon information and belief, Raytheon and Mr. Ballew intentionally withheld  
21 materials concerning the T3E system from the Examiner. The T3E system constitutes  
22 material prior art at least because disclosure of the system would have undermined  
23 Raytheon's argument identified above, and would have enabled the Examiner to reject the  
24 claims of the '451 patent either as anticipated or obvious in light of the T3E system.

25           90. Upon information and belief, Raytheon and Mr. Ballew intentionally withheld  
26 all of the above information concern Cray's prior art systems from the Examiner with the

1 intent of misleading the Examiner with respect to the state of the prior art. That information  
2 was material to patentability at least because disclosure of Cray's prior art would have  
3 undermined the arguments made by Raytheon in traversing rejections by the Examiner.  
4 Indeed, but for Raytheon's and Mr. Ballew's intentional concealment of Cray's prior art, the  
5 claims of the '833 patent would not have issued.

6 91. The specific examples of inequitable conduct described above are intended to  
7 be exemplary only. Upon information and belief, Raytheon and Mr. Ballew committed  
8 additional acts of inequitable conduct during the prosecution of the '451 application.

9 92. In light of Raytheon's and Mr. Ballew's inequitable conduct described above,  
10 Cray requests that the claims of the '833 patent and all related patents be declared  
11 unenforceable.

12 **COUNT VII**

13 **(Declaratory Judgment of Unenforceability of U.S. Patent No. 8,335,909 for Unclean  
14 Hands)**

15 93. Cray realleges and incorporates by reference paragraphs 1 through 92, as  
16 though fully set forth herein.

17 94. As set forth above, Mr. Ballew acquired extensive confidential and proprietary  
18 information concerning Cray's Red Storm system, including SeaStar interconnect. Mr.  
19 Ballew subsequently improperly used that information in filing the '874 application, which  
20 ultimately issued as the '909 patent.

21 95. Mr. Ballew's misappropriation of Cray's confidential and proprietary  
22 information and attempt to claim it as his own invention was conducted in bad faith and with  
23 the intent of harming Cray.

24 96. Given Mr. Ballew's intentional misappropriation of Cray's confidential and  
25 proprietary information concerning Cray's Red Storm system, including SeaStar interconnect,  
26 Cray requests an order declaring the '909 patent unenforceable for unclean hands.

1 **COUNT VIII**  
2 **(Declaratory Judgment of Unenforceability of U.S. Patent No. 9,037,833 for Unclean**  
3 **Hands)**

4 97. Cray realleges and incorporates by reference paragraphs 1 through 96, as  
5 though fully set forth herein.

6 98. As set forth above, Mr. Ballew acquired extensive confidential and proprietary  
7 information concerning Cray's Red Storm system, including SeaStar interconnect. Mr.  
8 Ballew subsequently improperly used that information in filing the '451 application, which  
9 ultimately issued as the '833 patent.

10 99. Mr. Ballew's misappropriation of Cray's confidential and proprietary  
11 information and attempt to claim it as his own invention was conducted in bad faith and with  
12 the intent of harming Cray.

13 100. Given Mr. Ballew's intentional misappropriation of Cray's confidential and  
14 proprietary information concerning Cray's Red Storm system, including SeaStar interconnect,  
15 Cray requests an order declaring the '833 patent unenforceable for unclean hands.

16 **COUNT IX**  
17 **(Correction of Inventorship Pursuant to 35 U.S.C. § 256 as to U.S. Patent No. 8,335,909)**

18 101. Cray realleges and incorporates by reference paragraphs 1 through 100, as  
19 though fully set forth herein.

20 102. As set forth above, the '909 patent identifies Messrs. Ballew and Early as the  
21 named inventors. The '909 patent, however, result from the work of one or more employees  
22 of Cray on the Red Storm system and SeaStar interconnect, including at least Robert  
23 Alverson. Mr. Alverson resided and worked in Washington during all relevant times.

24 103. Cray maintains a concrete financial interest in the '909 patent because its  
25 employees are obligated to assign any inventions to Cray.  
26

1 104. Given that the claims of the '909 patent result from the work of at least one  
2 Cray employee, Cray requests an order correcting inventorship on the '909 patent to add one  
3 or more Cray employees, including at least Mr. Alverson.

4 **COUNT X**

5 **(Correction of Inventorship Pursuant to 35 U.S.C. § 256 as to U.S. Patent No. 9,037,833)**

6 105. Cray realleges and incorporates by reference paragraphs 1 through 104, as  
7 though fully set forth herein.

8 106. As set forth above, the '833 patent identifies Messrs. Ballew and Early as the  
9 named inventors. The '833 patent, however, result from the work of one or more employees  
10 of Cray on the Red Storm system and SeaStar interconnect, including at least Robert  
11 Alverson. Mr. Alverson resided and worked in Washington during all relevant times.

12 107. Cray maintains a concrete financial interest in the '833 patent because its  
13 employees are obligated to assign any inventions to Cray.

14 108. Given that the claims of the '833 patent result from the work of at least one  
15 Cray employee, Cray requests an order correcting inventorship on the '833 patent to add one  
16 or more Cray employees, including at least Mr. Alverson.

17 **COUNT XI**

18 **(Unjust Enrichment)**

19 109. Cray realleges and incorporates by reference paragraphs 1 through 108, as  
20 though fully set forth herein.

21 110. Cray disclosed its confidential and proprietary information concerning its Red  
22 Storm system and SeaStar interconnect to Raytheon at least through Mr. Ballew during his  
23 tenure on the oversight committee for the Red Storm project.

24 111. Mr. Ballew and Raytheon knew of and appreciated the value of Cray's  
25 confidential and proprietary information, so much so that they used it to file patent  
26

1 applications leading to the '909 and '833 patents. On information and belief, Mr. Ballew and  
2 Raytheon also used Cray's confidential and proprietary information to develop competing  
3 HPC systems.

4 112. Raytheon benefitted from its use of Cray's confidential and proprietary  
5 information at least by obtaining the '909 and '833 patents, as well as entering into licenses  
6 with companies for technology comprising or based on Cray's confidential and proprietary  
7 information.

8 113. It would inequitable to permit Raytheon to retain the benefits that it received as  
9 a result of its misuse of Cray's confidential and proprietary information.

10 114. Cray, therefore, requests all proceeds—including any sales of HPC systems  
11 and licensing fees—that Raytheon received as a result of its use of Cray's confidential and  
12 proprietary information, as well as an order transferring title of the '909 and '833 patents to  
13 Cray.

14 **COUNT XII**  
15 **(Conversion)**

16 115. Cray realleges and incorporates by reference paragraphs 1 through 114, as  
17 though fully set forth herein.

18 116. Raytheon misappropriated Cray's confidential and proprietary information in  
19 obtaining the '909 and '833 patents. As such, Raytheon deprived Cray of intellectual  
20 property rightfully belonging to Cray.

21 117. Cray has suffered damages as a result Raytheon's improper misappropriation  
22 of its confidential and proprietary information, at least in the form of loss of goodwill.

23 118. Cray, therefore, requests damages in an amount to be determined at trial and/or  
24 the return of the property—the '909 and '833 patents—rightfully belonging to it.  
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**COUNT XIII**  
**(Breach of Contract)**

119. Cray realleges and incorporates by reference paragraphs 1 through 118, as though fully set forth herein.

120. Cray and Raytheon entered into a number of valid NDAs as described above. Pursuant to those NDAs, Raytheon maintained an obligation to use any confidential or proprietary information disclosed by Cray solely for the purpose of evaluating Cray's products.

121. Upon information and belief, in violation of one or more of those NDAs, Raytheon misappropriated confidential and proprietary information disclosed by Cray under those NDAs for the purpose developing its own HPC technology and/or obtaining the '909 and '833 patents.

122. Upon information and belief, Raytheon's breach of one or more of the NDAs is the proximate and actual cause of damage to Cray, at least in the forms of the loss of goodwill and not receiving adequate compensation for the use of its confidential and proprietary information.

123. Cray, therefore, requests damages in amount to be determined at trial.

**PRAYER FOR RELIEF**

WHEREFORE, Cray prays that the Court enter judgment as follows:

(a) Declaring that Cray does not infringe either directly, or indirectly by inducing or contributing to the infringement of, literally or by the doctrine of equivalents, any claim of the Raytheon Patents;

(b) Declaring that Raytheon and its officers, agents, employees, representatives, counsel, and all persons in active concert or participation with any of them, directly or indirectly, be enjoined from threatening or charging infringement of, or instituting or

1 continuing any action for infringement of the Raytheon Patents against Cray, its suppliers,  
2 customers, distributors, or users of its products;

3 (c) Declaring the '909 and '833 patents unenforceable for inequitable conduct;

4 (d) Declaring the '909 and '833 patents unenforceable against Cray for unclean  
5 hands;

6 (e) Granting Cray title to the '909 and '833 patents;

7 (f) Declaring one or more Cray employees at least to be joint inventor(s) on the  
8 Raytheon Patents;

9 (g) Awarding Cray damages in an amount to be determined at trial;

10 (h) Disgorging all proceeds received by Raytheon resulting from its  
11 misappropriation of Cray's confidential and proprietary information;

12 (i) Declaring this case an exceptional case under 35 U.S.C. § 285;

13 (j) Awarding Cray its costs and reasonable attorneys' fees; and

14 (k) Granting such other and further relief as this Court deems just and proper.  
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**DEMAND FOR JURY TRIAL**

Plaintiff demands a trial by jury on all issues so triable.

Dated: October 16, 2015

Respectfully submitted,

**FENWICK & WEST LLP**

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*Attorneys for Plaintiff*  
**CRAY INC.**

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**CERTIFICATE OF SERVICE**

I, Nicole Otis, hereby certify that on October 16, 2015, I caused PLAINTIFF’S FIRST AMENDED COMPLAINT to be served on the following parties as indicated below:

<p><b>Steven W. Fogg, WSBA No. 23528</b>  <b>David E. Edwards, WSBA No. 44680</b>                  CORR CRONIN MICHELSON                  BAUMGARDNER FOGG &amp; MOORE LLP                  1001 Fourth Avenue, Ste. 3900                  Seattle, WA 98154-1051</p> <p><i>Attorneys for Defendants Raytheon Company</i></p>	<p><input type="checkbox"/> By United States Mail  <input type="checkbox"/> By Legal Messenger  <input checked="" type="checkbox"/> <b>By Electronic CM/ECF</b>  <input type="checkbox"/> By Overnight Express Mail  <input type="checkbox"/> By Facsimile  <input type="checkbox"/> By Email [by agreement of counsel]                  sfogg@corrchronin.com                  dedwards@corrchronin.com</p>
<p><b>Thomas J. Filarski (admitted pro hac vice)</b>  <b>Brian Fahrenbach (admitted pro hac vice)</b>                  STEPTOE &amp; JOHNSON LLP                  115 South LaSalle St., Ste. 3100                  Chicago, IL 60603</p> <p><i>Attorneys for Defendants Raytheon Company</i></p>	<p><input type="checkbox"/> By United States Mail  <input type="checkbox"/> By Legal Messenger  <input checked="" type="checkbox"/> <b>By Electronic CM/ECF</b>  <input type="checkbox"/> By Overnight Express Mail  <input type="checkbox"/> By Facsimile  <input type="checkbox"/> By Email [by agreement of counsel]                  tfilarski@steptoe.com                  bfahrenbach@steptoe.com</p>
<p><b>Sanjeet Dutta (admitted pro hac vice)</b>                  STEPTOE &amp; JOHNSON LLP                  1891 Page Mill Road, Ste. 200                  Palo Alto, CA 94304</p> <p><i>Attorneys for Defendants Raytheon Company</i></p>	<p><input type="checkbox"/> By United States Mail  <input type="checkbox"/> By Legal Messenger  <input checked="" type="checkbox"/> <b>By Electronic CM/ECF</b>  <input type="checkbox"/> By Overnight Express Mail  <input type="checkbox"/> By Facsimile  <input type="checkbox"/> By Email [by agreement of counsel]                  sdutta@steptoe.com</p>

Dated: October 16, 2015

By: s/Nicole Otis  
 For David K. Tellekson, WSBA No. 33523  
 FENWICK & WEST LLP