

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

SCALEMP, INC.,

Plaintiff,

v.

TIDALSCALE, INC., ISAAC NASSI, and
DAVID REED,

Defendants.

C.A. No. 18-CV-459-VAC-CJB

JURY TRIAL DEMANDED

FIRST AMENDED COMPLAINT

Plaintiff ScaleMP, Inc. (“ScaleMP”) submits this Complaint against Defendants TidalScale, Inc. (“TidalScale”), Dr. Isaac Nassi, and Dr. David Reed. Plaintiff alleges the following:

PARTIES

1. ScaleMP is a corporation duly organized and existing under the laws of the State of Delaware, with its corporate headquarters located at 2175 Lemoine Ave., Suite 401, Fort Lee, New Jersey 07024.
2. ScaleMP is an industry leader in virtualization for in-memory high-end computing and a pioneer in developing technologies enabling the integration of multiple processors and memories into shared-memory computers. By way of assignment, it is the owner of all right, title and interest in U.S. Patent Nos. 8,544,004 (the “’004 patent”), 8,832,692 (the “’692 patent”), and 9,020,801 (the “’801 patent”) (collectively, the “Patents-In-Suit”).
3. On information and belief, TidalScale is a Delaware corporation with its principal place of business at 1694 Dell Ave, Campbell, California 95008.

4. On information and belief, Dr. Isaac Nassi (“Nassi”) is a U.S. citizen domiciled in Los Gatos, California. On information and belief, Defendant Nassi is the Founder, Chairman of the Board, and Chief Technical Officer of TidalScale.

5. On information and belief, Dr. David Reed (“Reed”) is a U.S. citizen domiciled in Needham, Massachusetts. On information and belief, Defendant Reed is the Chief Scientist of TidalScale.

JURISDICTION AND VENUE

6. This action arises under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, and under the Defend Trade Secrets Act, 18 U.S.C. § 1836 *et seq.* This Court has subject matter jurisdiction over this patent infringement and trade secret action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has supplemental jurisdiction over ScaleMP’s state law claims pursuant to 28 U.S.C. § 1367 because the claims are so related to the federal claims that they form part of the same case or controversy under Article III of the United States Constitution.

8. This Court has personal jurisdiction over TidalScale because TidalScale is incorporated in the State of Delaware. This Court has personal jurisdiction over Defendants Nassi and Reed in their capacities as executives at TidalScale, a Delaware corporation.

9. Venue is proper in this federal judicial district pursuant to 28 U.S.C. § 1400(b) because Defendant TidalScale is incorporated in the State of Delaware and therefore “resides” in this judicial district and because Defendants Nassi and Reed are executives at TidalScale.

FACTUAL ALLEGATIONS

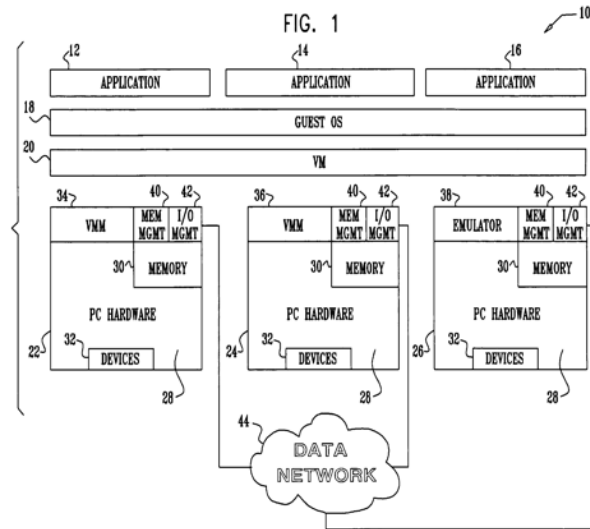
10. ScaleMP is an industry leader in virtualization for in-memory high-end computing and a pioneer in developing technologies enabling the integration of multiple processors and

memories into shared-memory computers. Among other innovations, ScaleMP developed the first virtualization program in which a single virtual computer aggregates numerous separate and independent computers consisting of processors and memories. These inventions dramatically reduce the cost and complexity of using large computer servers, including those optimized for mission critical and cloud environments.

11. The roots of ScaleMP's innovations lie in research conducted by its CEO and founder, Shai Fultheim, a veteran of the intelligence service of the Israel Defense Forces. In the early 2000's, Mr. Fultheim and his co-inventors, Herb Zlotogorski and Yaniv Romem, came to understand that the proliferation of cheap, small personal computers in the 1990's, mostly operating on Intel's X86 processing platform, created serious challenges and opportunities for managing their computing and memory capacities, challenges and opportunities that intensified in the late 1990's with increasing reliance on servers and, later, server farms. They recognized the missing link involved aggregating many smaller computers into a single large one to reduce the cost and time necessary to manage them. They also appreciated the opportunity to optimize the use of computing resources, which could vary wildly between peak and normal usage. In addition, they understood the limitations in the virtualization state of the art, including challenges in maintaining processor performance, sufficiently rapid communication between computers, and scalability.

12. The Patents-in-Suit, which resulted from their collaboration, claim and disclose software systems that aggregate processors and memory from multiple physical computers, operating separately and independently, into a single virtual machine. In certain embodiments of the invention, the virtual machine is shared between multiple virtual machine implementers, is run by a single guest operating system, and communicates with the physical computing resources

using their respective input/output devices. In another aspect of the inventions in the Patents-in-Suit, the virtual machine presents the guest operating system with a single coherent shared memory using the physical memory from the physical computing nodes and the virtual machine implementer is configured to migrate a segment of the shared memory from one node to another. Figure 1 of the '801 Patent is illustrative:



13. The inventions in the Patents-in-Suit have resulted in a reduction in system management cost and complexity, a reduction in the cost of operating system licenses, a simplified operating environment enabling programs to operate in parallel without the need for an additional message-passing layer, and the ability to seamlessly use all system resources without modifying the operating system or application code. ScaleMP's inventions enable the transparent use of processors and memory on multiple component machines, unaltered programs and operating systems to run utilizing resources, and distributed programs to run in processes. In addition, ScaleMP's inventions reduce the time to market for superior commodity processor technology to find its way into multi-processor servers, dramatically lower the cost of designing, creating, procuring, and deploying multi-processor servers, and enable the use of existing

software assets without requiring intrusive changes such as recompilation and operating system modifications.

14. ScaleMP has partnered with numerous major computer manufacturers and OEMs, including Dell, Hewlett-Packard, IBM, Fujitsu, and Hitachi, to deploy the inventions in the Patents-in-Suit on thousands of servers around the world. The inventions have been used by hundreds of companies and deployed on more than 8,000 computers across more than 37 countries. In September 2017, Lenovo introduced its Scalable Solution for SAP AG's ("SAP") HANA data platform powered by ScaleMP's innovations, and in October 2017, Intel announced its new Optane line of processors would include ScaleMP's software solution.

15. In addition to the inventions in the Patents-in-Suit, ScaleMP has developed highly sensitive, proprietary methods of efficiently and effectively implementing the inventions, including in the areas of memory and processor migration, protocol tracing, cache line granularity, memory region permissions, integration with specific operating systems, the identification of system-appropriate shared memory applications, run-time decisions related to remote code execution (based on resource locality), and application tuning. ScaleMP has also developed highly sensitive, proprietary business practices, including pricing and customer lists, product discount programs, and sales and marketing strategies. This highly sensitive information provides ScaleMP with a substantial competitive advantage in the market for virtualization for in-memory high-end computing. This information is maintained in strict confidence by ScaleMP and has never been revealed publicly by ScaleMP.

THE ORIGINS OF THE ACCUSED PRODUCTS

16. ScaleMP filed the application that would mature into the '801 Patent on April 21, 2004, claiming priority to two provisional applications filed on September 2, 2003 and August 22, 2003. The application published on February 17, 2005.

17. On August 17, 2010, Nir Paikowsky, ScaleMP's Vice President of Services, met for the first time with Defendant Nassi, then the Executive Vice President and Chief Scientist of SAP and currently the Founder, Chairman of the Board, and Chief Technical Officer of TidalScale. The next day, Mr. Paikowsky sent Defendant Nassi an email enclosing a PowerPoint presentation about ScaleMP's technology. Shortly thereafter, on information and belief, Defendant Nassi took steps toward a ScaleMP software system through a reseller.

18. On October 25, 2010, Mr. Fultheim met with Defendant Nassi and Defendant Nassi's SAP group to discuss collaboration between ScaleMP and SAP. Defendant Nassi expressed SAP's intention to use a "scale-up" system for its future HANA data platform and expressed strong interest in deploying a ScaleMP system. Shortly thereafter SAP decided to move forward with purchasing a ScaleMP system with five nodes, each of which having four processors.

19. In December 2010, Defendant Reed, then a Senior Vice President at SAP in Defendant Nassi's group and currently Chief Scientist at TidalScale, began testing the ScaleMP system that had been newly deployed on SAP's platform, along with other members of Defendant Nassi's group.

20. On December 31, 2010, SAP signed a non-disclosure agreement with ScaleMP ("the NDA," attached hereto as Exhibit D) in connection with the evaluation of ScaleMP's system by Defendant Nassi, Defendant Reed, and their group.

21. According to the NDA, SAP and its “Representatives,” which the NDA defined to include “employees of SAP AG and those entities directly or indirectly owned by SAP AG,” agreed not to disclose any confidential information they received from ScaleMP during their discussions, including “product offerings, content partners, product pricing, product availability, technical drawings, algorithms, processes, ideas, techniques, formulas, data, schematics, trade secrets, know-how, improvements, inventions (whether patentable or not), marketing plans, forecasts, and strategies.” (Ex. D at 1.)

22. SAP agreed to “take all reasonable steps” to keep this information strictly confidential, not to “disclose or reveal any Confidential Information to any person other than its Representatives who are actively and directly participating in the Evaluation or who otherwise need to know the Confidential Information for the purposes of the Evaluation,” not to “use Confidential Information for any purpose other than in connection with the Evaluation,” and not to disclose to anyone outside of the evaluation “any information about the Evaluation, or the terms or conditions or any other facts relating thereto, including, without limitation, the fact that discussions are taking place with respect thereto or the status thereof.” (*Id.*)

23. On January 1, 2011, Defendant Reed reported that “[i]n general, it seems that the system seems to be functional as expected.”

24. On January 10-11, 2011, with the NDA in place, ScaleMP engaged in a “deep-dive” session with Defendant Nassi, Defendant Reed, and others on their team. During this deep-dive session, and at other times during the parties’ discussions, Mr. Fultheim and others at ScaleMP presented to Defendant Nassi, Defendant Reed, and others on their team, in visual, written, and oral form, a wide variety of highly sensitive and proprietary information that had never previously been disclosed to the public. This information included methods of efficiently

and effectively implementing the inventions, such as in the areas of memory and processor migration; protocol tracing, cache line granularity, memory region permissions, integration with specific operating systems, the identification of system-appropriate shared memory applications, run-time decisions related to remote code execution (based on resource locality), and application tuning. This information also included ScaleMP's highly sensitive pricing and customer lists, product discount programs, and sales and marketing strategies.

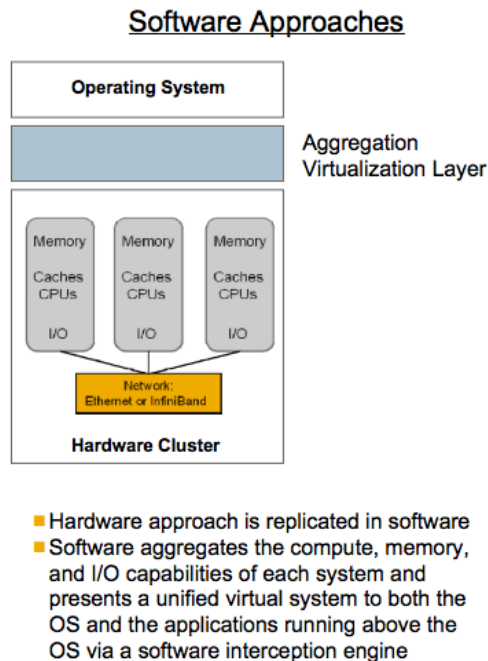
25. In addition, on or around January or February 2011, Defendants Nassi, Reed, and/or others at SAP acting at their direction agreed to ScaleMP's End User License Agreement ("EULA," attached hereto as Exhibit E), which accompanies the installation of all ScaleMP software systems.

26. The EULA defined as a "Licensed Work" ScaleMP's "Software, enhancements, translations, derivatives, updates, bug fixes or improvements and related user documentation related thereto." Under the terms of the EULA, Defendants Nassi and Reed acknowledged that the Licensed Work "contain[ed] substantial trade secrets of ScaleMP" and undertook to "employ reasonable security precautions to maintain the confidentiality of such trade secrets" and to "prevent disclosure or dissemination of trade secrets embodied therein to any person, firm, organization, or employee, except as necessary to exercise the rights granted to Licensee hereunder." (Ex. D.)

27. In addition, Defendants Nassi and Reed undertook not to "directly or indirectly, 'unlock,' decompile, modify or reverse-assemble the binary or object code portions or versions of the Licensed Work, as the terms are generally used in the trade," to "offer third parties any services, whether for a fee or for no cost, that are based on or related to Licensee's use of the Licensed Work," or to "directly or indirectly, copy, market, distribute, sublicense, lease,

encumber or otherwise transfer or attempt to transfer the Licensed Work or any portion thereof, or permit any third party to use or have access to the Licensed Work.” (*Id.*)

28. On February 8, 2011, Defendant Nassi presented the project’s status at the Hypertransport Conference. In that presentation, he praised the concept of “coherent shared memory” and included the following graphic:

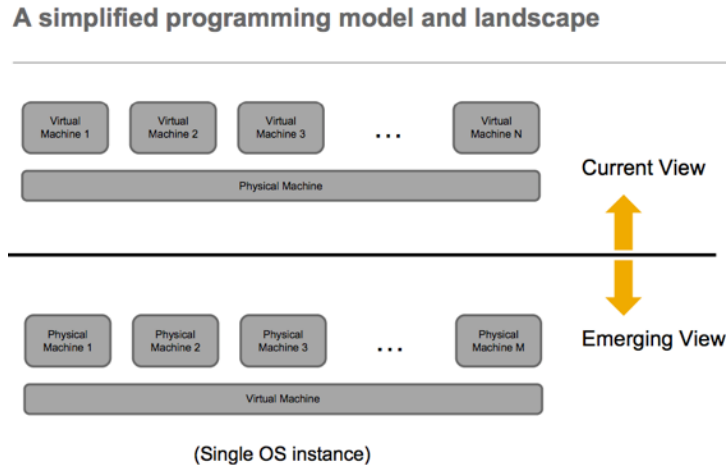


29. On March 16, 2011, Defendant Nassi met with Dan Barnea, ScaleMP’s Board Chairman, to discuss forming a strategic relationship between SAP and ScaleMP. Subsequently the parties exchanged business and technical information in writing and verbally, including the status of ScaleMP’s patent applications.

30. On May 9, 2011, Paul Hofmann, a vice president of research and development in Defendant Nassi’s group at SAP, presented the project at a conference on New Technologies for the Sustainable Enterprise, in which he acknowledged ScaleMP’s contributions to “Scalable coherent shared memory” in SAP’s new Big Iron deployment.

31. On September 27, 2011, Defendant Nassi announced he would be leaving SAP after October 28, 2011.

32. On October 24, 2011, while still at SAP, Defendant Nassi presented the project at the High Performance Transaction Systems Conference, again praising ScaleMP's contributions and using the following graphic:



33. On October 26, 2011, Mr. Fultheim and Defendant Nassi discussed collaboration over dinner, and Defendant Nassi suggested joining ScaleMP as Chief Technology Officer or a board advisor. Ultimately Defendant Nassi did not join ScaleMP.

34. At various times in 2012, Defendant Nassi delivered a presentation on enterprise supercomputers at the University of California, Santa Cruz in which he again praised ScaleMP's contributions to "[s]calable coherent shared memory" and presented the same graphic above.

35. In March 2012, ScaleMP was formally incorporated.

36. In December 2012, while still at SAP, Defendant Reed requested that ScaleMP extend its license agreement with SAP and noted that SAP was extending its application of ScaleMP's platform to research into big data and machine learning. In subsequent years, SAP

would continually purchase ScaleMP products, renew its support agreement with ScaleMP eleven times, and certify ScaleMP's software for use on SAP HANA.

37. In January 2013, Defendant Reed requested further sensitive pricing and technical information from ScaleMP. Shortly thereafter, Defendant Reed departed SAP.

38. On March 18, 2013, Mr. Fulheim, having heard rumors about a company called TidalScale, asked Defendant Nassi about the company and how it might relate to ScaleMP. In response, Defendant Nassi wrote: "I haven't given it much thought, and I'm open to suggestions. Of course, I acknowledge ScaleMP's contributions to the state of the art, and say only good things when I talk about our joint experiences at SAP."

39. On August 16, 2013, Defendant Nassi called Mr. Fulheim to inform him he had raised money for TidalScale.

THE ACCUSED PRODUCTS

40. On information and belief, TidalScale, under the leadership of Defendants Nassi and Reed, uses, makes, sells, offers to sell, and/or imports into the United States a suite of software products, including the TidalScale Software-Defined Server platform, the TidalScale HyperKernel, and the TidalScale Hypervisor Technology (collectively "the Accused Products"), induces others to make, use, sell, offer to sell, and/or import into the United States the Accused Products, and/or contributes to the making, using, selling, offering to sell, and/or importing into the United States by others of the Accused Products. Representative examples of the Accused Products, a complete list of which will be identified and provided as required during discovery, and a short summary of some of the ways they infringe are set forth below. ScaleMP's investigation and identification of the Accused Products is ongoing and will be expanded in discovery beyond the exemplars identified herein. The description of infringement in connection

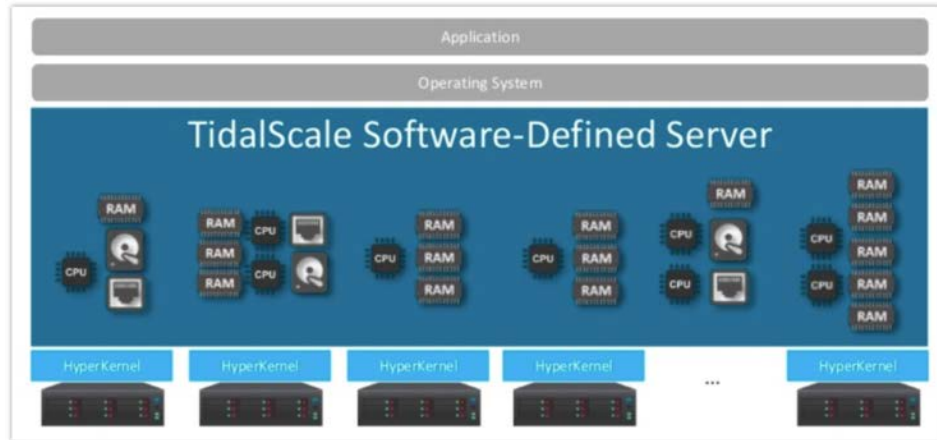
with these exemplars is also not intended to be limiting, but merely a summary that may omit certain detail to be provided in the course of litigation.

41. On information and belief, and on the basis of information available on TidalScale's website, in its user manuals, and in other publicly available presentations, YouTube videos, and marketing collateral, the Accused Products meet the limitations of many of the claims of the Patents-in-Suit.

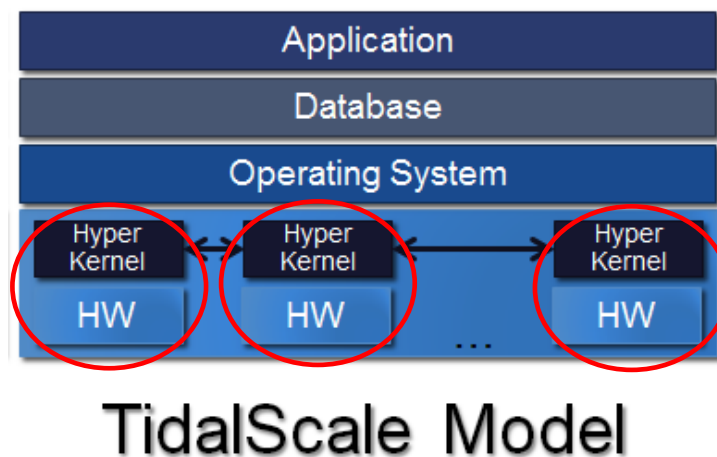
42. As a general matter, according to TidalScale's own description of the Accused Products, "[t]he HyperKernel binds multiple physical computers into a single, coherent virtual system that allows you to run an unmodified guest operating system, with no changes to your existing applications required."

TidalScale HyperKernel. The key to right-sizing servers on the fly is TidalScale's HyperKernel software. The HyperKernel binds multiple physical computers into a single, coherent virtual system that allows you to run an unmodified guest operating system, with no changes to your existing applications required. All the resources associated with the aggregated systems – memory, cores, storage and I/O – are available to you and your application. You can configure them as one system or several.

43. Specifically, as claimed in the Patents-in-Suit, the Accused Products include software that runs on a plurality of inter-communicating computers with hardware resources comprising memory and input/output devices:



44. In the Accused Products, as claimed in the Patents-in-Suit, multiple virtual machine implementers, which TidalScale labels “HyperKernels,” run separately and independently on each computer:

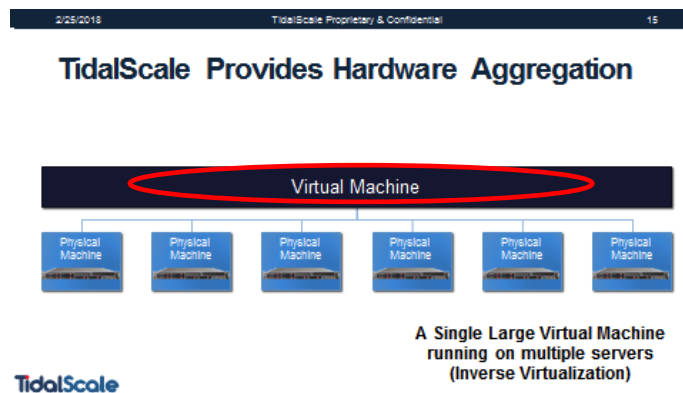


How?

- TidalScale has developed a thin layer of software (a “hyperkernel”) that runs **directly below** the operating system and **directly above** the hardware
- The hyperkernel runs on each node in the cluster, and each hyperkernel communicates with the others
- They communicate via an inexpensive interconnect fabric (10GE)
- All the resources in the cluster are virtual and mobile, and can migrate over the interconnect. We automatically optimize this for best performance.

TidalScale

45. In addition, as claimed in the Patents-in-Suit the Accused Products run a virtual machine on the computers:



46. Moreover, as claimed in the Patents-in-Suit, the virtual machine in the Accused Products is shared between the virtual machine implementers using their input/output devices to intercommunicate:

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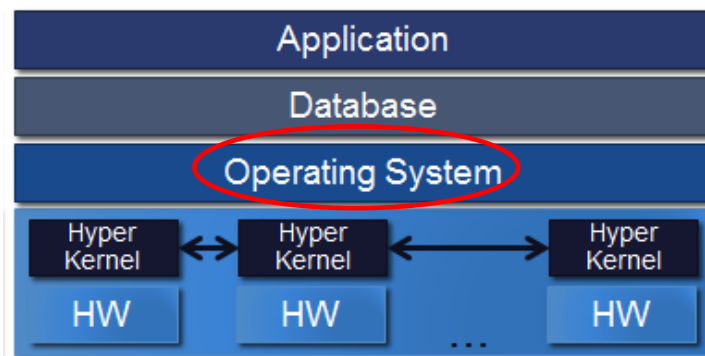
SYSTEM VIEW

- 60 cores (Ivy Bridge),
- 120 hyperthreads
- 1.2 TB main memory
- 12 TB disk storage
- 12 1Gb Ethernet
- 6 10Gb Ethernet
- 1 managed 10GbE switch
- 1 management console
- 3 DVD-ROM

TidalScale

But unlike traditional virtualization, where multiple virtual machines run on a single physical server, TidalScale provides a single virtual machine across multiple physical servers. Each Software-Defined Server appears as a single system, even though it may be comprised of dozens of individual servers. This is because the TidalScale HyperKernel couples those physical machines via a standard 10Gb Ethernet network that acts as the resource bus, causing the servers to behave like a single large server.

47. Furthermore, in the Accused Products, as claimed in the Patents-in-Suit, a guest operating system runs over the shared virtual machine:



TidalScale Model

48. Additionally, in accordance with other features claimed in the Patents-in-Suit, the Accused Products include software configured to run on computing nodes that include memory, a network interface device, and a CPU and to run a guest operating system on a shared virtual machine with instructions distributed for execution on the computing nodes as though the system were a single symmetric multiprocessing machine with shared memory:

But unlike traditional virtualization, where multiple virtual machines run on a single physical server, TidalScale provides a single virtual machine across multiple physical servers. Each Software-Defined Server appears as a single system, even though it may be comprised of dozens of individual servers. This is because the TidalScale HyperKernel couples those physical machines via a standard 10Gb Ethernet network that acts as the resource bus, causing the servers to behave like a single large server.

49. In addition, in accordance with yet other features claimed in the Patents-in-Suit, the Accused Products include software that comprising a virtual machine implementer than is configured to cause a migration of a segment of memory from one computing node to another:

→ **Self-optimizes.** HyperKernel uses patented machine learning technology to automatically migrate memory pages and virtual CPUs to where the application needs them to optimize performance.

50. In addition, on information and belief, the Accused Products contain, embody and were developed using ScaleMP's proprietary and highly sensitive information, documents, and other materials relating to its methods of efficiently and effectively implementing the invention, including in the areas of memory and processor migration, protocol tracing, cache line granularity, memory region permissions, integration with specific operating systems, the identification of system-appropriate shared memory applications, run-time decisions related to remote code execution (based on resource locality), and application tuning.

51. In addition, on information and belief, Defendants Nassi and Reed or others at their direction at Defendant TidalScale unlocked, decompiled, modified, reverse-assembled, copied, marketed, distributed, sublicensed, leased, encumbered or otherwise transferred or

attempted to transfer ScaleMP's Licensed Work during the development of the Accused Products.

52. Moreover, on information and belief, TidalScale sells and markets the Accused Products in accordance with and using ScaleMP's proprietary and highly sensitive pricing and customer lists, product discount programs, and sales and marketing strategies.

COUNT ONE: INFRINGEMENT OF THE '004 PATENT

(As to Defendant TidalScale)

53. U.S. Patent No. 8,544,004 (the "'004 patent"), entitled "Cluster-Based Operating System-Agnostic Virtual Computing System," was duly and legally issued by the United States Patent and Trademark Office on September 24, 2013 after a full and fair examination. ScaleMP owns the '004 patent by assignment. The named inventors on the '004 patent are Shai Fultheim, Herb Zlotogorski, and Yaniv Romem. A true and correct copy of the '004 patent is attached hereto as Exhibit A.

54. The '004 patent is valid and enforceable. TidalScale does not have a license to practice any of the inventions claimed in the '004 patent.

55. TidalScale directly infringes at least claim 1 of the '004 patent by making, using, selling, offering to sell, and/or importing the Accused Products, which meet every limitation of at least claim 1 of the '004 patent.

56. In addition, TidalScale has actively induced and continues to actively induce others to directly infringe the '004 patent by making, using, selling, offering to sell, and/or importing the Accused Products. Moreover, TidalScale has known of and/or should have known of the '004 patent, at least by the date of the patent's issuance, such that TidalScale knew and

should have known that it was and would be inducing infringement. To the extent TidalScale was not previously aware of the '004 patent, it is aware of it as of the filing of this complaint.

57. Moreover, on information and belief, TidalScale has contributed to the infringement of the '004 patent by the Accused Products. On information and belief, TidalScale has known and continues to know that the Accused Products include components that work in concert to perform specific, intended functions. Such specific, intended functions, carried out by these components, are a material part of the inventions of the '004 patent and are not staple articles of commerce suitable for substantial non-infringing use. To the extent TidalScale was not previously aware of the '004 patent, it is aware of it as of the filing of this complaint.

58. In addition, Defendant Nassi, TidalScale's Founder, Chairman, Chief Technical Officer, and Chief Executive Officer from 2012-16, and Defendant Reed, its Chief Scientist, have been intimately familiar with the claimed inventions since at least as early as 2011 when they learned about ScaleMP's technology under non-disclosure agreements when they installed ScaleMP's software on SAP's systems in connection with potential strategic business ventures. Thus, on information and belief, from at least as early as the issuance of the '004 Patent, and in no event later than the filing of this complaint, TidalScale has infringed, induced others to infringe, and/or contributed to the infringement by others of the Accused Products with knowledge of and/or willful blindness to the fact that such use infringes the '004 patent, has disregarded an objectively high likelihood of infringement of the '004 patent, and has acted, and continues to act, willfully, wantonly, and in deliberate disregard of ScaleMP's rights.

59. As the direct and proximate result of TidalScale's conduct, ScaleMP has suffered and, if TidalScale's conduct is not stopped, will continue to suffer, severe competitive harm, irreparable injury, and significant damages, in an amount to be proven at trial. Because

ScaleMP's remedy at law is inadequate, ScaleMP seeks, in addition to damages, injunctive relief. ScaleMP's business operates in a competitive market and will continue suffering irreparable harm absent injunctive relief.

60. ScaleMP is entitled to injunctive relief and damages of no less than a reasonable royalty in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

61. TidalScale's conduct, including its infringement of the '004 patent, is exceptional and entitles ScaleMP to attorney fees and costs under 35 U.S.C. § 285.

62. From at least as early as the filing of this complaint, TidalScale has been on notice of its infringement of the '004 patent, and its infringement has been and continues to be willful and egregious, entitling ScaleMP to enhanced damages in accordance with 35 U.S.C. § 284.

COUNT TWO: INFRINGEMENT OF THE '692 PATENT

(As to Defendant TidalScale)

63. U.S. Patent No. 8,832,692 (the "'692 patent"), entitled "Cluster-Based Operating System-Agnostic Virtual Computing System," was duly and legally issued by the United States Patent and Trademark Office on September 9, 2014 after a full and fair examination. ScaleMP owns the '692 patent by assignment. The named inventors on the '692 patent are Shai Fultheim, Herb Zlotogorski, and Yaniv Romem. A true and correct copy of the '692 patent is attached hereto as Exhibit B.

64. The '692 patent is valid and enforceable. TidalScale does not have a license to practice any of the inventions claimed in the '692 patent.

65. TidalScale directly infringes at least claim 1 of the '692 patent by making, using, selling, offering to sell, and/or importing the Accused Products, which meet every limitation of at least claim 1 of the '692 patent.

66. In addition, TidalScale has actively induced and continues to actively induce others to directly infringe the '692 patent by making, using, selling, offering to sell, and/or importing the Accused Products. Moreover, TidalScale has known of and/or should have known of the '692 patent, at least by the date of the patent's issuance, such that TidalScale knew and should have known that it was and would be inducing infringement. To the extent TidalScale was not previously aware of the '692 patent, it is aware of it as of the filing of this complaint.

67. Moreover, on information and belief, TidalScale has contributed to the infringement of the '692 patent by the Accused Products. On information and belief, TidalScale has known and continues to know that the Accused Products include components that work in concert to perform specific, intended functions. Such specific, intended functions, carried out by these components, are a material part of the inventions of the '692 patent and are not staple articles of commerce suitable for substantial non-infringing use. To the extent TidalScale was not previously aware of the '692 patent, it is aware of it as of the filing of this complaint.

68. In addition, Defendant Nassi, TidalScale's Founder, Chairman, Chief Technical Officer, and Chief Executive Officer from 2012-16, and Defendant Reed, its Chief Scientist, have been intimately familiar with the claimed inventions since at least as early as 2011 when they learned about ScaleMP's technology under non-disclosure agreements when they installed ScaleMP's software on SAP's systems in connection with potential strategic business ventures. Thus, on information and belief, from at least as early as the issuance of the '692 Patent, and in no event later than the filing of this complaint, TidalScale has infringed, induced others to infringe, and/or contributed to the infringement by others of the Accused Products with knowledge of and/or willful blindness to the fact that such use infringes the '692 patent, has

disregarded an objectively high likelihood of infringement of the '692 patent, and has acted, and continues to act, willfully, wantonly, and in deliberate disregard of ScaleMP's rights.

69. As the direct and proximate result of TidalScale's conduct, ScaleMP has suffered and, if TidalScale's conduct is not stopped, will continue to suffer, severe competitive harm, irreparable injury, and significant damages, in an amount to be proven at trial. Because ScaleMP's remedy at law is inadequate, ScaleMP seeks, in addition to damages, injunctive relief. ScaleMP's business operates in a competitive market and will continue suffering irreparable harm absent injunctive relief.

70. ScaleMP is entitled to injunctive relief and damages of no less than a reasonable royalty in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

71. TidalScale's conduct, including its infringement of the '692 patent, is exceptional and entitles ScaleMP to attorney fees and costs under 35 U.S.C. § 285.

72. From at least as early as the filing of this complaint, TidalScale has been on notice of its infringement of the '692 patent, and its infringement has been and continues to be willful and egregious, entitling ScaleMP to enhanced damages in accordance with 35 U.S.C. § 284.

COUNT THREE: INFRINGEMENT OF THE '801 PATENT

(As to Defendant TidalScale)

73. U.S. Patent No. 9,020,801 ("the '801 patent"), entitled "Cluster-Based Operating System-Agnostic Virtual Computing System," was duly and legally issued by the United States Patent and Trademark Office on April 28, 2015 after a full and fair examination. ScaleMP owns the '801 patent by assignment. The named inventors on the '801 patent are Shai Fultheim, Herb Zlotogorski, and Yaniv Romem. A true and correct copy of the '801 patent is attached hereto as Exhibit C.

74. The '801 patent is valid and enforceable. TidalScale does not have a license to practice any of the inventions claimed in the '801 patent.

75. TidalScale directly infringes at least claim 1 of the '801 patent by making, using, selling, offering to sell, and/or importing the Accused Products, which meet every limitation of at least claim 1 of the '801 patent.

76. In addition, TidalScale has actively induced and continues to actively induce others to directly infringe the '801 patent by making, using, selling, offering to sell, and/or importing the Accused Products. Moreover, TidalScale has known of and/or should have known of the '801 patent, at least by the date of the patent's issuance, such that TidalScale knew and should have known that it was and would be inducing infringement. To the extent TidalScale was not previously aware of the '801 patent, it is aware of it as of the filing of this complaint.

77. Moreover, on information and belief, TidalScale has contributed to the infringement of the '801 patent by the Accused Products. On information and belief, TidalScale has known and continues to know that the Accused Products include components that work in concert to perform specific, intended functions. Such specific, intended functions, carried out by these components, are a material part of the inventions of the '801 patent and are not staple articles of commerce suitable for substantial non-infringing use. To the extent TidalScale was not previously aware of the '801 patent, it is aware of it as of the filing of this complaint.

78. In addition, Defendant Nassi, TidalScale's Founder, Chairman, Chief Technical Officer, and Chief Executive Officer from 2012-16, and Defendant Reed, its Chief Scientist, have been intimately familiar with the claimed inventions since at least as early as 2011 when they learned about ScaleMP's technology under non-disclosure agreements when they installed ScaleMP's software on SAP's systems in connection with potential strategic business ventures.

Thus, on information and belief, from at least as early as the issuance of the '801 Patent, and in no event later than the filing of this complaint, TidalScale has infringed, induced others to infringe, and/or contributed to the infringement by others of the Accused Products with knowledge of and/or willful blindness to the fact that such use infringes the '801 patent, has disregarded an objectively high likelihood of infringement of the '801 patent, and has acted, and continues to act, willfully, wantonly, and in deliberate disregard of ScaleMP's rights.

79. As the direct and proximate result of TidalScale's conduct, ScaleMP has suffered and, if TidalScale's conduct is not stopped, will continue to suffer, severe competitive harm, irreparable injury, and significant damages, in an amount to be proven at trial. Because ScaleMP's remedy at law is inadequate, ScaleMP seeks, in addition to damages, injunctive relief. ScaleMP's business operates in a competitive market and will continue suffering irreparable harm absent injunctive relief.

80. ScaleMP is entitled to injunctive relief and damages of no less than a reasonable royalty in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

81. TidalScale's conduct, including its infringement of the '801 patent, is exceptional and entitles ScaleMP to attorney fees and costs under 35 U.S.C. § 285.

82. From at least as early as the filing of this complaint, TidalScale has been on notice of its infringement of the '801 patent, and its infringement has been and continues to be willful and egregious, entitling ScaleMP to enhanced damages in accordance with 35 U.S.C. § 284.

COUNT FOUR: VIOLATION OF THE DEFEND TRADE SECRET ACT, 18 U.S.C. § 1836 ET SEQ.

(As to all Defendants)

83. ScaleMP's proprietary and highly sensitive information, documents, and other materials relating to its methods of efficiently and effectively implementing the invention –

including in the areas of memory and processor migration, protocol tracing, cache line granularity, memory region permissions, integration with specific operating systems, the identification of system-appropriate shared memory applications, run-time decisions related to remote code execution (based on resource locality), and application tuning, as well as its pricing and customer lists, product discount programs, and sales and marketing strategies individually and collectively constitute trade secrets under the Defend Trade Secrets Act, 18 U.S.C. § 1836 *et seq.*

84. ScaleMP's trade secrets derive independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, another person who can obtain economic value from the disclosure or use of the information.

85. ScaleMP has taken reasonable steps to maintain the confidentiality of its trade secrets, including through contractual restrictions and electronic and physical security systems.

86. On information and belief, Defendants have acquired, disclosed, and/or used ScaleMP's trade secrets under circumstances that constitute misappropriation of trade secrets in violation of 18 U.S.C. § 1836 *et seq.*

87. On information and belief, Defendants misappropriated, or have continued to misappropriate, ScaleMP's trade secrets after enactment of the Defend Trade Secrets Act of 2016 on May 11, 2016.

88. The trade secrets above are used and intended to be used in interstate commerce.

89. Pursuant to 18 U.S.C. § 1836, ScaleMP is entitled to preliminary and permanent injunctive relief, including injunctions enjoining Defendants from actual and threatened misappropriation and unlawful use of ScaleMP's trade secrets.

90. ScaleMP is further entitled to damages adequate to compensate it for both the actual loss and unjust enrichment caused by Defendants' misappropriation and unlawful use of ScaleMP's trade secrets.

COUNT FIVE: BREACH OF CONTRACT (NDA)

(As to Defendants Nassi and Reed)

91. ScaleMP and Defendants Nassi and Reed are parties to the NDA, a binding written contract.

92. ScaleMP duly performed its obligations and the conditions required of it under the agreement, except to the extent any such obligations or conditions have been excused, prevented or waived by Defendants Nassi's and/or Reed's acts and omissions.

93. Defendants Nassi and Reed breached their contractual obligations, including by improperly disclosing, revealing, using, misappropriating and/or failing to maintain the confidentiality of the highly sensitive business information ScaleMP disclosed to them pursuant to the NDA, or otherwise by violating the terms of the NDA.

94. ScaleMP has been irreparably harmed by the actions of Defendants Nassi and Reed and is entitled to preliminary and permanent injunctive relief.

95. In addition, ScaleMP has suffered damages as a proximate result of Defendants Nassi's and Reed's conduct, in an amount to be proved at trial.

COUNT SIX: BREACH OF CONTRACT (EULA)

(As to Defendants Nassi and Reed)

96. ScaleMP and Defendants Nassi and Reed are parties to the EULA, a binding written contract.

97. ScaleMP duly performed its obligations and the conditions required of it under

the agreement, except to the extent any such obligations or conditions have been excused, prevented or waived by Defendants Nassi's and/or Reed's acts and omissions.

98. Defendants Nassi and Reed breached their contractual obligations, including by improperly disclosing, revealing, using, misappropriating and/or failing to maintain the confidentiality of the highly sensitive business information ScaleMP disclosed to them pursuant to the EULA, by unlocking, decompiling, modifying, reverse-assembling copying, marketing, distributing, sublicensing, leasing, encumbering or otherwise transferring or attempting to transfer ScaleMP's Licensed Work, by offering others products or services based on ScaleMP's highly sensitive business information, or otherwise by violating the terms of the EULA.

99. ScaleMP has been irreparably harmed by the actions of Defendants Nassi and Reed and is entitled to preliminary and permanent injunctive relief.

100. In addition, ScaleMP has suffered damages as a proximate result of Defendants Nassi's and Reed's conduct, in an amount to be proved at trial.

COUNT SEVEN: TORTIOUS INTERFERENCE WITH CONTRACT

(As to Defendant TidalScale)

101. As set forth above, Defendants Nassi and Reed breached numerous provisions of the NDA and EULA.

102. On information and belief, Defendant TidalScale had knowledge of those provisions and intentionally instigated or induced the breaches thereof.

103. On information and belief, TidalScale had no justification for doing so and did so with the malicious intent that Defendants Nassi and Reed breach their respective contractual obligations.

104. On information and belief, TidalScale did so with the purpose of misappropriating or otherwise improperly acquiring or using ScaleMP's trade secrets and confidential and proprietary information.

105. ScaleMP has been irreparably harmed by the actions of TidalScale.

106. ScaleMP is entitled to preliminary and permanent injunctive relief, as well as to damages adequate to compensate it for the actions of TidalScale.

DEMAND FOR JURY TRIAL

ScaleMP hereby demands a jury trial on all issues triable to a jury.

PRAYER FOR RELIEF

WHEREFORE, ScaleMP respectfully prays for entry of judgment in its favor on each and every count recited above, including the following:

- a) That TidalScale has directly and indirectly infringed, and continue to infringe, one or more claims of the Patents-in-Suit;
- b) That TidalScale be ordered to provide an accounting;
- c) That ScaleMP is entitled to, and should recover from TidalScale, all damages to which ScaleMP is entitled under 35 U.S.C. § 284, but in no event less than a reasonable royalty;
- d) That TidalScale be permanently enjoined from further infringement of the Patents-in-Suit;
- e) That ScaleMP, as the prevailing party, shall recover from TidalScale all taxable costs of court;
- f) That ScaleMP shall recover from TidalScale all pre- and post-judgment interest on the damages award, calculated at the highest interest rates allowed by law;

- g) That TidalScale's conduct was willful and that ScaleMP should therefore recover treble damages, including attorneys' fees, expenses, and costs incurred in this action and an increase in the damage award pursuant to 35 U.S.C. § 284;
- h) That this case is exceptional and that ScaleMP shall therefore recover its attorney fees and other recoverable expenses, under 35 U.S.C. § 285;
- i) That Defendants have misappropriated ScaleMP's trade secrets or have otherwise violated the Defend Trade Secrets Act with respect to ScaleMP's trade secrets;
- j) That ScaleMP is entitled to, and should recover from Defendants, all damages adequate to compensate ScaleMP for both the actual loss and unjust enrichment caused by their misappropriation of ScaleMP's trade secrets and other violations of the Defend Trade Secrets Act;
- k) That Defendants be permanently enjoined from further misappropriation, use, and/or disclosure of ScaleMP's trade secret, confidential and proprietary information and from other violations of the Defend Trade Secrets Act;
- l) That Defendants be permanently enjoined from further breaches of their contractual obligations;
- m) That Defendants return all of ScaleMP's trade secret, confidential, and proprietary information in their possession to ScaleMP;
- n) That ScaleMP shall recover from Defendants such other and further relief as the Court deems appropriate.

Dated: May 29, 2018

Respectfully submitted,

/s/ Douglas D. Herrmann

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